A FIELD GUIDE TO FOREST SITE IDENTIFICATION AND INTERPRETATION FOR THE CARIBOO FOREST REGION

O. A. Steen and R. A. Coupé

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Chapter 6.34 to 6.37

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PART 2

[1] Subsection numbers are the same as for the equivalent biogeoclimatic unit in Section 6. Missing subsections indicate biogeoclimatic units for which silviculture considerations have not yet been prepared.

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FIGURES

SBSdw1
SUB-BOREAL SPRUCE
DRY WARM SUBZONE
HORSEFLY VARIANT

The SBSdw1 extends across the Cariboo Forest Region as a diagonal band from the Lac des Roches area in the southeastern corner of the Region to the confluence of the Blackwater and Fraser rivers in the north-central portion of the Region. It extends for a short distance into both the Kamloops and Prince George forest regions. The SBSdw1 landscape is a gently rolling plateau at elevations from about 750 to 1250 m.

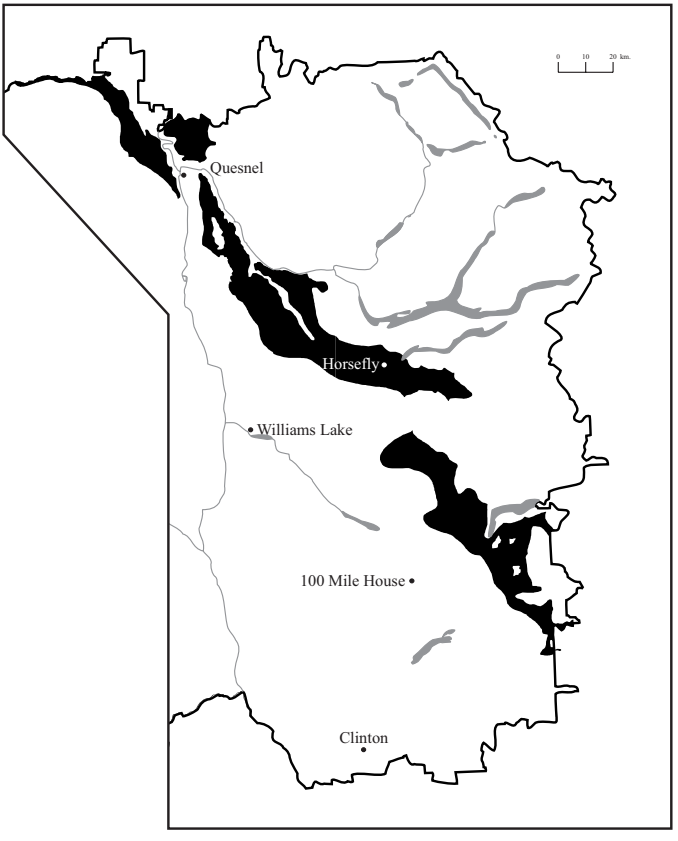
Distinguishing Adjacent Units from the SBSdw1

The **SBSdw2** occurs at similar elevations and on similar terrain west of the SBSdw1 where precipitation amounts are slightly less. The **SBPSmk** occurs at similar elevations but on gentler, lower-relief terrain with poor cold air drainage, west of the SBSdw1. It also borders the upper elevations of the SBSdw1 near the northern limits of the SBSdw1. The **ICHmk3** occurs at similar elevations and on similar terrain east of the SBSdw1 where precipitation is higher due to closer proximity to the Quesnel Highland and Cariboo Mountains. The **ICHdk** occurs at similar elevations near Canim Lake at the south end of the Quesnel Highland where precipitation is greater than in the SBSdw1 but less than in the ICHmk3. The **SBSmw** occurs at similar elevations east of the SBSdw1 in northern parts of the Region where precipitation is increased by proximity to the Quesnel Highland but where temperatures are cooler than in the ICH. The **SBSmh** borders low elevations of the SBSdw1 in the valleys of the Fraser and Quesnel rivers. The **IDFmw2** is a very small unit that borders the SBSdw1 at low elevations in the Canim Lake valley. The **SBSmc1** borders upper elevations of the SBSdw1 throughout most of its distribution east of the Fraser River.

In the **SBSdw2**, zonal sites have:
- little or no falsebox or subalpine fir;
- less diverse shrub layer;
- more abundant pinegrass and occasional kinnikinnick.

In the **SBPSmk**, zonal sites have:
- kinnikinnick;
- no thimbleberry, wild sarsaparilla, trailing raspberry, falsebox, or highbush-cranberry;
- little or no subalpine fir or cat's-tail moss.

Distribution of SBSdw1 Variant in the Cariboo Forest Region



In the **ICHmk3** and **ICHdk**, zonal sites have:
• western redcedar in regeneration layers;
• three-leaved foamflower, rosy twistedstalk, and five-leaved bramble;
• little or no pinegrass.

In the **SBSmw**, zonal sites have:
• rosy twistedstalk and one-leaved foamflower;
• occasional five-leaved bramble;
• no pinegrass or blue wildrye.

In the **SBSmh**, zonal sites have:
• beaked hazelnut;
• no pinegrass or black huckleberry;
• little or no lodgepole pine.

In the **IDFmw2**, zonal sites have:
• Douglas-fir as the climax tree species;
• western redcedar in regeneration layers or subcanopy of mature stands.

In the **SBSmc1**, zonal sites have:
• occasional five-leaved bramble;
• subalpine fir common in canopy;
• little or no saskatoon, falsebox, prince's pine, or wild sarsaparilla.

Site Units of the SBSdw1

Zonal Site Series **01 SxwFd - Pinegrass Site Series** dominates the SBSdw1 landscape, occurring on most gentle to moderately steep slopes from upper to lower slope position. Soils are developed primarily in loamy morainal deposits and are primarily Brunisolic Gray Luvisols. The canopy of the climax forest is dominated by hybrid white spruce, together with a significant component of Douglas-fir. However, due to a history of frequent wildfires, most natural stands are less than 150 years old and dominated by Douglas-fir or lodgepole pine. In contrast to the IDF, the Douglas-fir stands are generally even-aged and single-storied. Hybrid white spruce and subalpine fir are principal species in the understory. The undergrowth is characterized by a relatively large number of shrub and herbaceous species and nearly complete vegetation cover. Principal shrub species include thimbleberry, black huckleberry, highbush-cranberry, Sitka alder, and prickly rose. Pinegrass, rough-leaved ricegrass, sarsaparilla, bunchberry, and twinflower dominate the herb layer, while the nearly continuous moss layer is dominated by red-stemmed feathermoss, knight's plume, and electrified cat's-tail moss.

Drier Sites Sites drier than those of the zonal site series occur primarily on steep slopes and on local ridge crests and bedrock outcrops. They account for a small proportion of the landscape. Compared to the /01 site series, the vegetation has more kinnikinnick and less frequent wild sarsaparilla, queen's cup, and trailing raspberry.

02 FdPl - Cladonia Site Series occurs on hilltops and ridge crests where bedrock is near (<50 cm) the surface. It occupies a small proportion of the landscape. The forest canopy is relatively open and dominated by slow-growing Douglas-fir or lodgepole pine. Several dry-forest shrub species are present including saskatoon, birch-leaved spirea, and soopolallie. Herbaceous species cover is relatively sparse overall and patchy. Moss cover is also patchy and incomplete. Abundant soil lichens distinguish the vegetation of this site series.

03 Fd - Saskatoon - Pinegrass Site Series occurs on steep (>30%) south- or west-facing slopes at mid to upper slope positions. It includes the warmest forested sites of the SBSdw1. The mature forest canopy is most often relatively open and dominated by Douglas-fir or occasionally lodgepole pine. It may be single-storied or multi-storied. Several stands have large dominant and codominant Douglas-fir trees and smaller Douglas-fir stems in a wide range of sizes. Low shrubs, especially saskatoon, prickly rose, birch-leaved spirea, and soopolallie, are moderately abundant. A moderate cover of pinegrass, together with twinflower and some rough-leaved ricegrass, dominates the herbaceous layer. Moss cover is patchy. The undergrowth is distinguished from the /06 by relatively abundant saskatoon but sparse thimbleberry.

04 Pl - Pinegrass - Feathermoss Site Series occurs primarily on sandy glaciofluvial soils, especially level terraces. It also occurs on some dry ridge crests with loamy soils. The forest canopy is dominated by lodgepole pine, usually with a minor component of hybrid white spruce or Douglas-fir. Tree regeneration is usually sparse. The undergrowth is distinguished by abundant velvet-leaved blueberry or kinnikinnick. Other common shrubs are soopolallie, saskatoon, and birch-leaved spirea. Pinegrass is usually abundant, and dominates the herb layer. Moss cover is well developed and dominated by red-stemmed feathermoss and wavy-leaved moss.

05 SxwFd - Ricegrass Site Series occurs on steep north- or east-facing slopes. These are relatively dry but cool sites. The mature forest canopy is more closed than that of other dry sites and is typically

dominated by even-sized Douglas-fir with a variable component of lodgepole pine and hybrid white spruce. The undergrowth is distinguished by a relatively sparse cover of vascular plants but a well-developed, carpet-like moss layer. Principal moss species are red-stemmed feathermoss, knight's plume, and step moss. A sparse cover of several shrub and herbaceous species is present.

Wetter Sites Wetter sites are small but common, occurring at the base of slopes, on localized seepage areas, and in riparian habitats at the edge of wetlands and streams. Most often dominated by hybrid white spruce, they frequently contain subalpine fir and are distinguished by the presence of oak fern, palmate coltsfoot, common mitrewort, or black twinberry.

06 SxwFd - Thimbleberry Site Series is relatively uncommon, occurring primarily on small moist sites near the base of south- or west-facing slopes. These are warm, moist sites distinguished by very abundant and vigorous thimbleberry as well as the presence of black gooseberry, black twinberry, and red-osier dogwood. Several moist-site herbaceous species are also present. The forest canopy is usually dominated by Douglas-fir with minor spruce and paper birch.

07 Sxw - Twinberry - Coltsfoot Site Series occurs on moist sites with intermittent to persistent seepage and morainal soils. They are relatively common at the base of slopes, on seepage areas, and on moist, low-lying flats. Soils are often mottled, indicating temporary water saturation. The forest canopy is moderately closed, and dominated by hybrid white spruce or, less commonly, by Douglas-fir. The undergrowth has moderately high covers of shrubs (especially black twinberry, prickly rose, and common snowberry) and herbaceous species. These sites are distinguished from drier sites by abundant palmate-leaved coltsfoot and leafy mosses, and sparse pinegrass. They are distinguished from /08 sites by little or no oak fern.

08 Sxw - Twinberry - Oak fern Site Series is similar to the /07 Site Series but typically occurs on finer-textured soils developed primarily in lacustrine or alluvial deposits. It is common in streamside riparian habitats. The vegetation is distinguished from the /07 unit by the presence of oak fern, greater cover of black twinberry, absence of pinegrass, and smaller cover of shrub species other than black twinberry and prickly rose. Hybrid white spruce is the principal species of the forest canopy and understory. Douglas-fir is uncommon.

09 Sxw - Horsetail - Glow moss Site Series includes wet forested depressions and level areas with a near-surface (<50 cm) water table. The soil surface is usually hummocky. The forest canopy is dominated by hybrid white spruce, which is usually widely spaced. Trees and natural regeneration typically occur on raised microsites. The undergrowth is distinguished by abundant common horsetail and soft-leaved sedge. Shrubs, especially black twinberry and red-osier dogwood, form a relatively well-developed shrub layer rooted primarily on raised microsites. Wetter soils between the raised microsites support mostly wet-site forbs and graminoids.

Non-forested Sites The natural landscape of the SBSdw1 is mostly forested. Several small wetlands are present, but cover a relatively small proportion of the landscape. These wetlands are primarily fens, marshes, and swamps. Grasslands are very uncommon and when present are small. They occur primarily on dry, steep, south or west aspects.

Key to Site Units of the SBSdw1

1a. Soils shallow (<50 cm) to bedrock, bedrock outcrops often present; slope position crest or upper; moisture regime very xeric to subxeric.
SBSdw1/02 FdPl - Cladonia

1b. Soils deeper, bedrock outcrops absent; slope position generally not crest except on subdued hills; moisture regime subxeric or wetter.

2a. Slope gradient >30%.

3a. Slope aspect SE, S, SW, or W; carpet-like moss cover not present.

4a. Moisture regime subxeric or submesic, no evidence of significant seepage input; moisture-shedding sites; black gooseberry, red-osier dogwood, black twinberry, and bunchberry usually absent.
SBSdw1/03 Fd - Saskatoon - Pinegrass

4b. Moisture regime mesic or subhygric; evidence of intermittent seepage may be present; moisture-receiving sites; black gooseberry, red-osier dogwood, and black twinberry usually present; bunchberry abundant.
SBSdw1/06 SxwFd - Thimbleberry

3b. Slope aspect NW, N, NE, or E; nearly continuous carpet-like moss layer present.

SBSdw1/05 SxwFd - Ricegrass

2b. Slope gradient 30% or less.

5a. Moisture regime submesic or mesic; slope position upper to lower; seepage inputs intermittent; oak fern, black gooseberry, leafy mosses, and common horsetail absent or incidental (<1% cover).

6a. Soil texture sand or loamy sand; parent materials usually fluvial; velvet-leaved blueberry or kinnikinnick abundant.

SBSdw1/04 Pl - Pinegrass - Feathermoss

6b. Soil texture loamy, silty, or clayey; parent materials usually morainal; velvet-leaved blueberry and kinnikinnick absent or incidental (<1% cover).

SBSdw1/01 SxwFd - Pinegrass

5b. Moisture regime subhygric to subhydric; slope position lower, toe, depression, or level; evidence of persistent seepage water or water table within 1 m of surface; oak fern, black gooseberry, leafy mosses, or common horsetail cover >1%.

7a. Common horsetail cover >5%; persistent seepage water flow or water table within 30 cm of surface.

SBSdw1/09 Sxw - Horsetail - Glow moss

7b. Common horsetail absent or incidental; no evidence of persistent seepage or water table within 30 cm of surface.

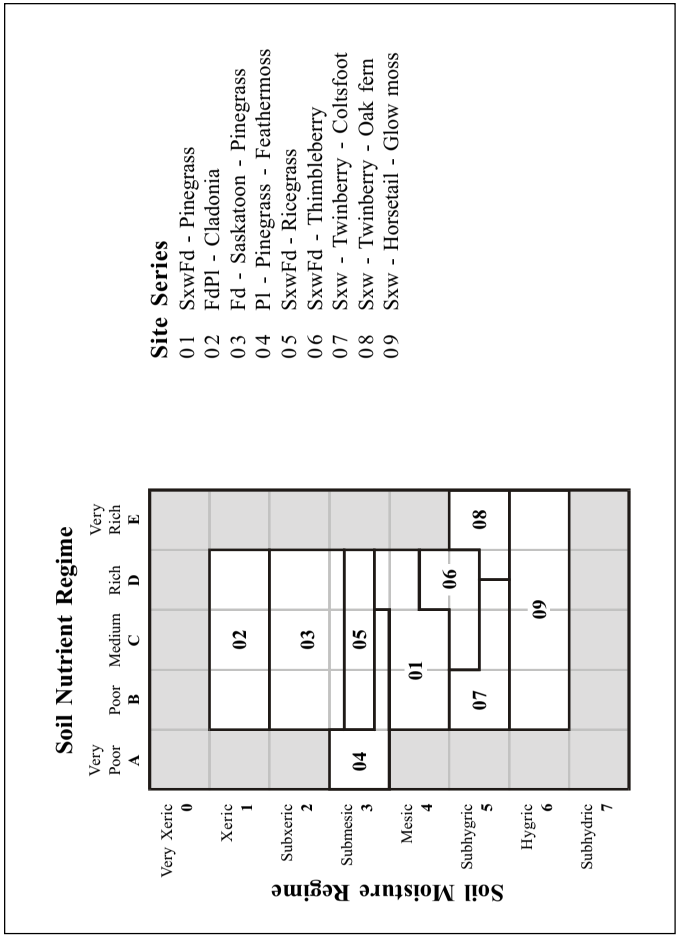
8a. Oak fern cover >5%; soil parent materials usually fluvial or lacustrine.

SBSdw1/08 Sxw - Twinberry - Oak fern

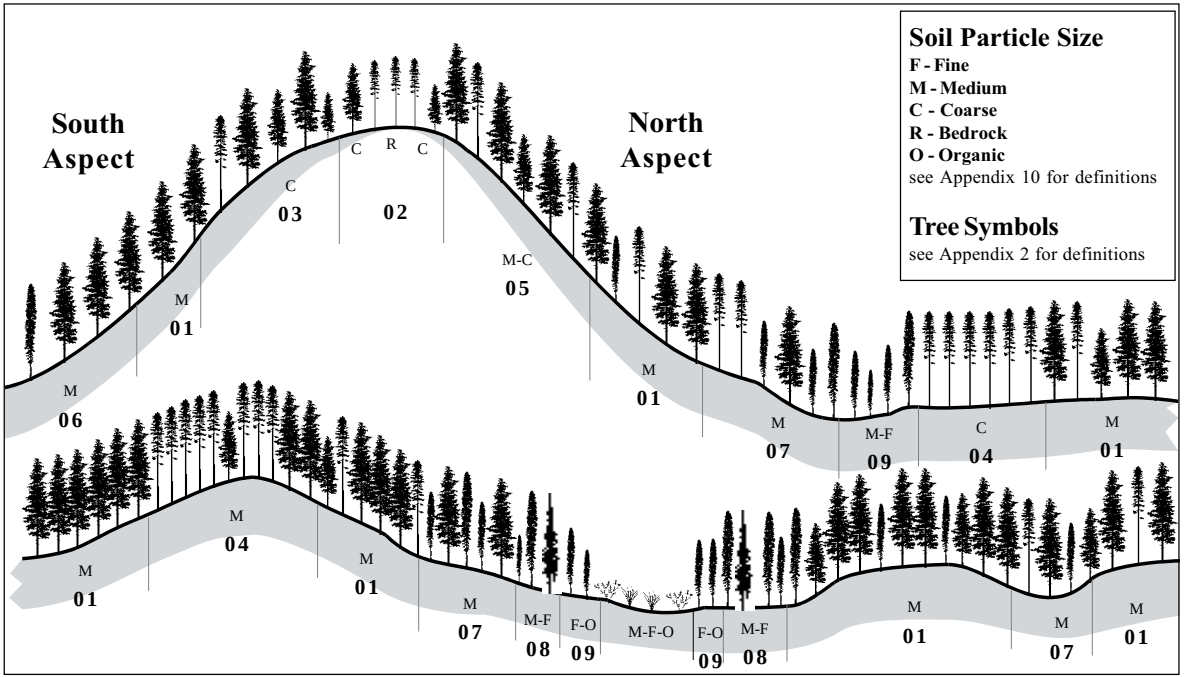
8b. Oak fern absent or scarce; soil parent materials usually morainal.

SBSdw1/07 Sxw - Twinberry - Coltsfoot

SBSdw1 Edatopic Grid



SBSdw1 Landscape Profile



Site Features of SBSdw1 Site Series

Site Series	01	02	03	04	05
Key Features	zonal and other gently to moderately sloping sites with mesic or near-mesic moisture regime	hill crests and ridge tops with shallow (< 50 cm) soils over bedrock	middle and upper slope positions on steep (> 30%) S- and W-facing slopes; loamy soils	gently sloping to level sites with sandy soils; also some dry upper slopes and crests with deep soils; mostly fluvial terraces	steep (> 30%) N- and E-facing slopes with loamy soils
Soil Moisture / Nutrient Regimes	submesic, mesic / poor - rich	xeric / poor - rich	subxeric, submesic / poor - rich	submesic / very poor - medium	submesic / poor - rich
Slope Position	upper - lower	crest (upper)	mid, upper	level (upper, crest)	upper, mid
Aspect	all	all	SE, S, SW, W	all	NW, N, NE, E
Slope Grade (%)	0 - 30	0 - 10 (30)	> 30	< 10	30 - 70; mostly > 40
Soil Texture	gravelly loamy	gravelly loamy	gravelly loamy	sand, gravelly loamy	gravelly loamy
Humus Form and Thickness (cm)	Hemimor, Mormoder 3 - 7	Xeromor (Hemimor) 1 - 4	Xeromor, Hemimor 2 - 6	Hemimor 3 - 7	Hemimor, Mormoder 2 - 6
Occurrence / Size / Distribution	predominant / large / wide	common / small / wide	common / moderate / wide	uncommon / moderate / wide	common / moderate / wide

Site Features of SBSdw1 Site Series (continued)

Site Series	06	07	08	09
Key Features	moist sites near base of S- and W-facing slopes; also on some moist level to gentle slopes with intermittent seepage	moist lower and toe slope positions with gravelly morainal soils; seldom adjacent to streams	moist lower and toe slope positions mostly on alluvial or lacustrine soils; often adjacent to streams	wet toe slope positions and depressions with near-surface (< 50 cm) water table
Soil Moisture / Nutrient Regimes	mesic, subhygric / medium, rich	subhygric / poor - rich	subhygric / rich, very rich	hygric (subhydric) / poor - rich
Slope Position	lower (toe)	lower (middle, toe)	lower, toe, level	toe, depression
Aspect	all, primarily S or W	all	all	N/A
Slope Grade (%)	(5 - 19) 20 - 50	< 15	< 5	< 5
Soil Texture	loamy	gravelly loamy	loamy, silty	loamy, silty, organic
Humus Form and Thickness (cm)	Mormoder, Hemimor 4 - 7	Mormoder 3 - 9	Mormoder 7 - 20	Hydromoder, Hydromor 5 - 40
Occurrence / Size / Distribution	uncommon / small / wide	common / small / wide	uncommon / small / wide	common / small / wide

SBSdw1 Vegetation Table[a]

	Site Unit	02	03	04	05	01	06	07	08	09	
Tree Layer	*Pinus contorta*	▮▮▮▮▮	▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮		▮▮▮			lodgepole pine
	Pseudotsuga menziesii	▮▮▮▮	▮▮▮▮▮	▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮			Douglas-fir
	Populus tremuloides					▮		▮▮▮			trembling aspen
	Picea engelmannii x *glauca*			▮		▮▮▮▮		▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	hybrid white spruce
	Betula papyrifera						▮	▮			paper birch
	Abies lasiocarpa					▮			▮▮▮▮	▮	subalpine fir
Shrub Layer	*Vaccinium membranaceum*	▮▮▮		▮	▮▮	▮▮▮					black huckleberry
	Vaccinium myrtilloides			▮▮▮▮▮							velvet-leaved blueberry
	Pachistima myrsinites	▮▮	▮▮▮	▮▮▮▮	▮▮▮	▮▮▮	▮	▮			falsebox
	Shepherdia canadensis	▮	▮▮▮	▮▮▮▮	▮	▮	▮▮	▮▮▮			soopolallie
	Rosa acicularis	▮▮	▮▮▮	▮▮▮	▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮▮	prickly rose
	Amelanchier alnifolia	▮▮▮	▮▮▮	▮▮▮	▮▮	▮▮▮	▮▮	▮▮▮	▮	▮	saskatoon
	Symphoricarpos albus		▮▮▮			▮	▮▮▮	▮▮▮	▮		common snowberry
	Rubus parviflorus				▮	▮▮▮▮	▮▮▮▮▮	▮	▮		thimbleberry
	Cornus stolonifera				▮	▮	▮▮	▮	▮	▮▮▮	red-osier dogwood
	Lonicera involucrata					▮▮	▮	▮▮▮	▮▮▮▮	▮▮▮▮	black twinberry
Herb Layer	*Arctostaphylos uva-ursi*		▮	▮▮▮							kinnikinnick
	Lycopodium complanatum			▮▮▮							ground-cedar
	Calamagrostis rubescens	▮	▮▮▮▮	▮▮▮▮▮	▮▮▮	▮▮▮	▮▮▮	▮			pinegrass
	Linnaea borealis	▮▮	▮▮▮	▮▮▮▮	▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮	▮▮▮	twinflower
	Oryzopsis asperifolia		▮▮▮	▮▮▮	▮	▮▮	▮▮▮	▮▮▮			rough-leaved ricegrass
	Cornus canadensis			▮▮▮▮	▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮	bunchberry
	Aralia nudicaulis		▮		▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮	▮	▮▮▮	wild sarsaparilla
	Rubus pubescens					▮▮	▮▮▮	▮▮▮	▮▮	▮▮▮	trailing raspberry
	Clintonia uniflora			▮		▮▮▮	▮	▮▮			queen's cup
	Mitella nuda					▮	▮	▮▮	▮▮	▮▮▮	common mitrewort
	Petasites palmatus							▮▮▮	▮▮	▮▮	palmate coltsfoot
	Gymnocarpium dryopteris								▮▮▮▮▮	▮	oak fern
	Equisetum arvense								▮	▮▮▮▮▮	common horsetail
	Geum rivale									▮▮▮	water avens
	Carex disperma									▮▮▮▮	soft-leaved sedge
Moss Layer	*Peltigera malacea*	▮▮▮									apple pelt
	Polytrichum spp.	▮▮▮					▮				haircap mosses
	Cladina spp.	▮▮▮	▮	▮							reindeer lichens
	Cladonia spp.	▮▮▮	▮▮								cladonia lichens
	Pleurozium schreberi	▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮	red-stemmed feathermoss
	Ptilium crista-castrensis	▮▮	▮	▮	▮▮▮▮	▮▮▮▮	▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮	knight's plume
	Rhytidiadelphus triquetrus		▮▮		▮▮▮	▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮▮	electrified cat's-tail moss
	Hylocomium splendens				▮▮▮▮	▮	▮▮▮	▮	▮	▮▮▮	step moss
	Mnium spp.						▮	▮▮▮	▮▮▮▮	▮▮▮▮	leafy mosses

[a] Species abundance: ▮ present in 40–60% of plots surveyed; ▮▮ >60% of plots, mean cover <1%; ▮▮▮ >60% of plots, mean cover 1–7%; ▮▮▮▮ >60% of plots, mean cover >7–15%; ▮▮▮▮▮ >60% of plots, mean cover >15%

SBSdw2
SUB-BOREAL SPRUCE
DRY WARM SUBZONE
BLACKWATER VARIANT

The SBSdw2 is a narrow diagonal band along the west side of the SBSdw1 in the central and northern portions of the Cariboo Forest Region. It does not extend as far south as the SBSdw1 but occurs further northward into the Prince George Forest Region. The SBSdw2 landscape is a gently rolling plateau with elevations ranging primarily from 750 to 1200 m.

Distinguishing Adjacent Units from the SBSdw2

The **SBSdw1** occurs at similar elevations east of the SBSdw2 where the climate is slightly wetter and warmer. It also borders the lower elevations of the SBSdw2 in the Fraser and Blackwater river valleys. The **IDFdk3** occurs at similar elevations on the plateau south and west of the SBSdw2 where precipitation is less. The **SBPSmk** occurs at similar elevations southeast of the SBSdw2 on the low-relief plateau where cold air drainage is less well developed. It also occurs at higher elevations on the low hills west of the SBSdw2 in the north-central part of the Region. The **SBPSdc** occurs northwest of the SBSdw2 in the Nazko–Euchiniko area where cold air drainage is poor. The **SBSmc1** borders the upper elevations of the SBSdw1 east of the Fraser River, while the **SBSmc2** occurs at higher elevations west of the Fraser River. The **SBSmh** occurs below the SBSdw2 in the Fraser River valley, north of about Alexandria, while the **IDFxm** occurs below the SBSdw2 in the Fraser River valley south of Alexandria.

In the **SBSdw1**, zonal sites have:
- falsebox;
- common subalpine fir, especially in regeneration layers;
- more diverse and higher cover of low shrubs;
- less pinegrass and no kinnikinnick.

In the **IDFdk3**, zonal sites have:
- climax forest dominated by Douglas-fir with little or no spruce (scattered spruce occasionally present near SBS boundary);
- very common kinnikinnick;
- no bunchberry or black twinberry, and little or no knight's plume moss.

Distribution of SBSdw2 Variant in the Cariboo Forest Region

In the **SBPSmk** and **SBPSdc**, zonal sites have:
- very common kinnikinnick;
- no thimbleberry, wild sarsaparilla, trailing raspberry, or highbush-cranberry;
- little or no electrified cat's-tail moss.

In the **SBSmc1 and SBSmc2**, zonal sites have:
- rosy twistedstalk and one-leaved foamflower;
- occasional five-leaved bramble;
- common subalpine fir in forest canopy;
- little or no saskatoon, prince's pine, or wild sarsaparilla.

In the **SBSmh**, zonal sites have:
- beaked hazelnut;
- no pinegrass or black huckleberry;
- little or no lodgepole pine.

In the **IDFxm**, zonal sites have:
- Douglas-fir as climax tree species;
- no lodgepole pine, bunchberry, wild sarsaparilla, black twinberry, or black huckleberry.

Site Units of the SBSdw2

Zonal Site Series **01 SxwFd - Pinegrass Site Series** is the predominant site series of the SBSdw2 landscape. It occurs on most gentle to moderately steep slopes from upper to lower slope positions. Soils are primarily Luvisols developed in loamy morainal deposits. The old forest canopy is dominated by hybrid white spruce and Douglas-fir but, due to frequent wildfires in the past, stands less than 150 years old are common and have an even-aged Douglas-fir– or lodgepole pine–dominated canopy. Tree regeneration is primarily Douglas-fir and spruce but sometimes includes subalpine fir. The undergrowth has a moderate to high cover of pinegrass, a sparse to moderate cover of low shrubs, and a nearly complete moss cover dominated by red-stemmed feathermoss and knight's plume. Principal shrubs include prickly rose, birch-leaved spirea, and Sitka alder.

Drier Sites Sites drier than those of the zonal site series occur on hill crests, steep slopes, south- and west-facing slopes, and coarse soils. They are moderately common. Compared to zonal and other mesic

sites, they have more dry-site shrubs such as common juniper and soopolallie, more frequent kinnikinnick, and little or no black twinberry.

02 FdPl - Cladonia Site Series includes small sites on ridge tops, hill crests, and upper slopes where bedrock is near (<50 cm) the surface and frequently exposed. Overlying soils are thin, typically rocky and dry. The forest canopy is dominated by either Douglas-fir or lodgepole pine. The undergrowth vegetation includes few species and only partially covers the soil surface. Dry-site low shrubs, especially common juniper and birch-leaved spirea, are usually abundant. A sparse cover of pinegrass and low forbs occurs among the shrubs. Lichens, especially cladonia lichens, are relatively abundant and distinguish the vegetation.

03 Pl - Kinnikinnick - Wavy-leaved moss Site Series is uncommon. It includes sites with coarse gravelly sand soils, mostly on gentle to moderately sloping south- or west-facing slopes. The forest canopy is dominated by relatively slow-growing lodgepole pine with hybrid white spruce in the understory. The undergrowth is distinguished from that of the /01 site series by very abundant (>30% cover) kinnikinnick. Other low shrubs, including velvet-leaved blueberry and saskatoon, are scattered throughout the stand, and herbaceous species, including pinegrass and twinflower, have a sparse cover. Wavy-leaved moss and red-stemmed feathermoss dominate the discontinuous moss/lichen layer.

04 Fd - Pinegrass - Aster Site Series occurs on steep (>30%) south- or west-facing slopes with loamy, silty, or sandy soils. These are hot, dry sites, but available nutrients are probably greater than in the /03 unit. As a result, the mature forest canopy is nearly always dominated by large, relatively open-grown Douglas-fir. Lodgepole pine and trembling aspen are usually present. The undergrowth has a moderate cover of low shrubs, including common juniper, soopolallie, kinnikinnick, and saskatoon. Several herbaceous species are present but total cover of these as well as mosses is low. The vegetation is distinguished by the presence of common juniper and spike-like goldenrod, less kinnikinnick than in the /03 unit, and the absence of step moss and knight's plume.

05 SxwFd - Cat's-tail moss Site Series occurs on steep (>30%) north- and east-facing slopes. On these cool, dry sites the forests are distinguished by a relatively thick, well-developed moss carpet and a relatively low cover of vascular plants. Dominant mosses are step

moss, red-stemmed feathermoss, electrified cat's-tail moss, and knight's plume. The forest canopy is typically dominated by either Douglas-fir or hybrid white spruce, with both species present in the regeneration layers. The cover of shrubs and herbaceous plants is generally so sparse that it does not obscure the well-developed moss layer that distinguishes these sites.

06 Pl - Pinegrass - Feathermoss Site Series includes a wide range of submesic sites: level to gently sloping sites with sandy soils, moderately steep (<30%) south-facing slopes with loamy soils, and moderately steep north-facing slopes with sandy soils. The undergrowth vegetation is distinguished from that of other sites by the presence of velvet-leaved blueberry and kinnikinnick, and by relatively abundant step moss. Black spruce is absent and the canopy is dominated by lodgepole pine or Douglas-fir. The undergrowth has a moderate cover of low shrubs, pinegrass, twinflower, and kinnikinnick. Several other species are present but have low cover. The moss layer, dominated by red-stemmed feathermoss and wavy-leaved moss, covers most of the forest floor.

07 PlSb - Feathermoss Site Series occurs on slightly dry to mesic sites in cold air accumulation areas such as valley bottoms and small topographic basins. Soils are typically cold compared to those in surrounding areas. The vegetation is distinguished from that on other mesic or near-mesic sites by black spruce. The forest canopy and tree regeneration layers are primarily black spruce but also often include lodgepole pine and scattered hybrid white spruce. The undergrowth has a well-developed moss cover, and scattered low shrubs and herbaceous species including velvet-leaved blueberry, prickly rose, birch-leaved spirea, pinegrass, and heart-leaved arnica.

Wetter Sites Sites wetter than mesic are moderately common at the toe of slopes, on seepage areas, and adjacent to streams and wetlands. In this relatively dry climate, seepage slopes are generally small and occur primarily on north- or east-facing slopes. Forests on these wetter sites are typically dominated by hybrid white spruce and are distinguished by relatively abundant black twinberry, oak fern, and common horsetail.

08 Sxw - Twinberry Site Series has a localized distribution on moist, gently sloping to level sites at the base of slopes. It is typically in valley bottoms and along stream channels where cold air collects. The forest canopy is typically open, and dominated by hybrid white spruce. Tree regeneration is predominantly hybrid white spruce and is

usually sparse. Shrubs, especially black twinberry, are abundant. The herb layer is relatively sparse but contains several species including wild sarsaparilla, common mitrewort, and palmate coltsfoot. The undergrowth vegetation is distinguished by abundant black twinberry and the presence of oak fern, Canada violet, common horsetail, and leafy mosses.

09 Sxw - Devil's club - Knight's plume Site Series is uncommon, occurring locally on moist seepage sites, primarily near the base of north- or east-facing slopes. It does not occur on level sites where cold air accumulates. These are among the most productive sites for forest vegetation in the SBSdw2. The forest canopy is typically a mixture of hybrid white spruce, Douglas-fir, subalpine fir, and paper birch. Tree regeneration is often sparse, due probably to the dense shrub layer. The undergrowth includes a vigorous shrub layer dominated by devil's club, and a diverse herbaceous layer containing oak fern and frequently lady fern. Abundant devil's club distinguishes these sites.

10 Sxw - Horsetail Site Series is common and includes most forested sites in wet depressions with a near-surface (<50 cm) water table. The forest canopy is dominated by relatively open-grown hybrid white spruce, often established on raised microsites. Subalpine fir is commonly present in the subcanopy. The undergrowth is characterized by abundant common horsetail. Shrubs are abundant, especially black twinberry, but highbush-cranberry, red-osier dogwood, and northern black currant are also present. Common herbs in addition to horsetails are common mitrewort, palmate coltsfoot, and trailing raspberry.

11 Sb - Soft-leaved sedge - Sphagnum Site Series includes forested wetlands that occur at the perimeter of non-forested fens and fen-bogs. It typically has a very open forest canopy dominated by short (<15 m), small-diameter black spruce. Hybrid white spruce and lodgepole pine are also often present. The undergrowth is distinguished by the presence of Labrador tea, sphagnum moss, soft-leaved sedge, and common horsetail. Other common wet-site species include water avens, dwarf nagoonberry, and Bebb's willow. Soils are often organic.

Non-forested Sites The natural landscape of the SBSdw2 is mostly forested but includes several small wetlands that are primarily sedge fens, shrub fens, marshes, and swamps. Grasslands are very uncommon and small but can be found on moderate to steep, south and west aspects.

Key to Site Units of the SBSdw2

1a. Soils shallow (<40 cm) to bedrock, bedrock usually exposed; moisture regime very xeric or xeric.
SBSdw2/02 FdPl - Cladonia

1b. Soils deeper, bedrock usually not exposed; moisture regime subxeric or wetter.

2a. Moisture regime subxeric to mesic; site not in moisture-receiving position or if so then soils coarse textured (sand); mountain alder, soft-leaved sedge, common horsetail, and sweet-scented bedstraw absent or incidental (<1% cover).

3a. Slope gradient >30%.

4a. Slope aspect NW, N, NE, or E; moisture regime mesic or submesic; undergrowth dominated by continuous moss cover.
SBSdw2/05 SxwFd - Cat's-tail moss

4b. Slope aspect SE, S, SW, or W; moisture regime subxeric; undergrowth not dominated by continuous moss cover.
SBSdw2/04 Fd - Pinegrass - Aster

3b. Slope gradient 30% or less.

5a. Black spruce present; prince's pine and Douglas-fir absent or incidental.
SBSdw2/07 PlSb - Feathermoss

5b. Black spruce absent; prince's pine and Douglas-fir usually present.

6a. Moisture regime subxeric or submesic; soil texture sand or loamy sand, or slope aspect SE, S, SW, or W; kinnikinnick present.

7a. Moisture regime subxeric; kinnikinnick abundant (>30% cover) and short-awned ricegrass present.
SBSdw2/03 Pl - Kinnikinnick - Wavy-leaved moss

7b. Moisture regime submesic; kinnikinnick cover <10%; short-awned ricegrass absent or incidental.
SBSdw2/06 Pl - Pinegrass - Feathermoss

6b. Moisture regime mesic or occasionally submesic; soil texture loamy or silty and slope aspect NW, N, NE, or E, or site level; kinnikinnick absent or incidental.
SBSdw2/01 SxwFd - Pinegrass

2b. Moisture regime subhygric to subhydric; sites in moisture-receiving position; water table or evidence of seepage within 1 m of soil surface; mountain alder, soft-leaved sedge, common horsetail, or sweet-scented bedstraw present.

8a. Moisture regime subhygric (rarely hygric); water table usually more than 50 cm below soil surface; sphagnum moss absent and common horsetail cover <10%.

9a. Devil's club and either lady fern, Douglas maple, or foamflower present; black twinberry cover <5%; slope aspect NW, N, NE, or E.
SBSdw2/09 Sxw - Devil's club - Knight's plume

9b. Devil's club, lady fern, Douglas maple, and foamflower absent or incidental; black twinberry cover >5%; slope aspect various.
SBSdw2/08 Sxw - Twinberry

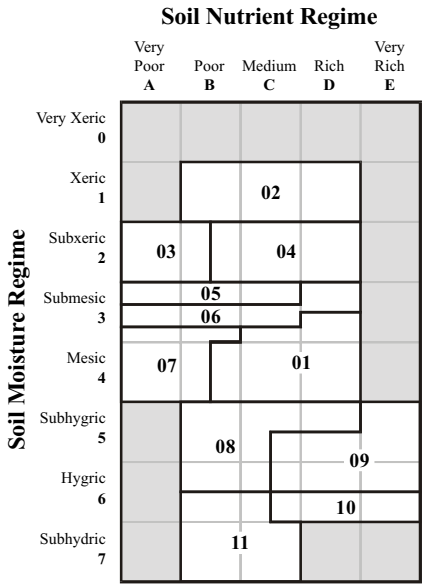
8b. Moisture regime hygric or subhydric; water table often within 50 cm of soil surface in mid summer; sphagnum moss present or common horsetail cover >10%.

10a. Common horsetail abundant (>10% cover); sarsaparilla, baneberry, enchanter's nightshade, and oak fern usually present; black spruce, Labrador tea, dwarf scouring-rush, sphagnum moss, and soft-leaved sedge absent or incidental.
SBSdw2/10 Sxw - Horsetail

10b. Common horsetail not abundant (<10% cover); sarsaparilla, baneberry, enchanter's nightshade, and oak fern usually absent; black spruce, Labrador tea, dwarf scouring rush, sphagnum moss, and soft-leaved sedge usually present.

SBSdw2/11 Sb - Soft-leaved sedge - Sphagnum

SBSdw2 Edatopic Grid



Site Series

01 SxwFd - Pinegrass
02 FdPl - Cladonia
03 Pl - Kinnikinnick - Wavy-leaved moss
04 Fd - Pinegrass - Aster
05 SxwFd - Cat's-tail moss
06 Pl - Pinegrass - Feathermoss
07 PlSb - Feathermoss
08 Sxw - Twinberry
09 Sxw - Devil's club - Knight's plume
10 Sxw - Horsetail
11 Sb - Soft-leaved sedge - Sphagnum

SBSdw2 Landscape Profile

Site Features of SBSdw2 Site Series

Site Series	01	02	03	04
Key Features	zonal and other gently to moderately sloping sites with mesic or near-mesic moisture regime	very dry ridge crests and upper slopes with shallow (< 50 cm) soils over bedrock	gentle to moderately steep SE-, S-, SW-, and W- facing slopes with gravelly sandy soils	steep SE-, S-, SW-, and W-facing slopes on mid and upper slope positions; loamy or sandy soils
Soil Moisture / Nutrient Regimes	submesic, mesic / poor - rich	xeric / poor - rich	subxeric / very poor, poor	subxeric / poor - rich
Slope Position	upper - lower, level	crest, upper	mid, upper	mid, upper
Aspect	all	all	SE, S, SW, W	SE, S, SW, W
Slope Grade (%)	< 30 (rarely to 70)	< 10	< 30	> 30
Soil Texture	gravelly loamy (sandy)	gravelly loamy	gravelly sand, loamy sand	loamy, silty, sandy
Humus Form and Thickness (cm)	Hemimor 3 - 6	Xeromor (Hemimor) 0 - 3	Xeromor, Hemimor 1 - 4	Xeromor, Hemimor 1 - 4
Occurrence / Size / Distribution	predominant / large / wide	uncommon / small / wide	uncommon / small / wide	common / small / wide

Site Features of SBSdw2 Site Series (continued)

Site Series	05	06
Key Features	steep NW-, N-, NE-, and E-facing slopes on mid to upper slope position	wide range of submesic sites: low crests, moderate (<30%) N aspects with sandy soils, moderate S aspects with loamy soils
Soil Moisture / Nutrient Regimes	submesic / very poor-medium	submesic / very poor-rich
Slope Position	mid, upper	mid, upper, level
Aspect	NW, N, NE, E	all but mostly SE, S, SW, W
Slope Grade (%)	>30	0-35
Soil Texture	loamy, silty, sandy	gravelly loamy, sandy
Humus Form and Thickness (cm)	Hemimor 3-7	Hemimor 3-7
Occurrence / Size / Distribution	common / small / wide	common / moderate / wide

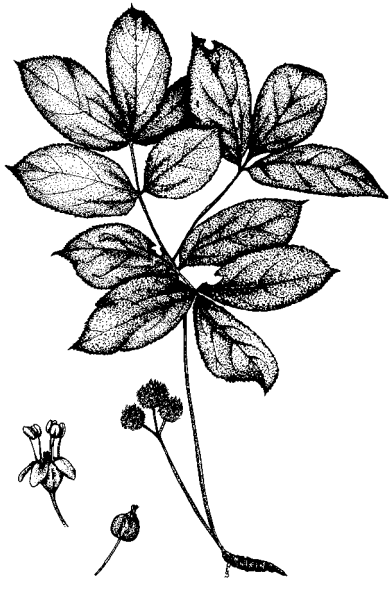
Site Features of SBSdw2 Site Series (continued)

Site Series	09	10	11
Key Features	moist seepage sites on lower slopes; mostly N aspects; not cold air accumulation sites	wet sites at the toe of slopes and in depressions where water table is near (< 50 cm) the surface.	very wet sites at the toe of slopes and in depressions; water table near (< 50 cm) the surface; forested wetlands
Soil Moisture / Nutrient Regimes	subhygric, hygric / medium - very rich	hygric (subhydric) / medium - very rich	hygric, subhydric / poor, medium
Slope Position	lower, toe	toe, level, depression	toe, level, depression
Aspect	NW, N, NE, E	N/A	N/A
Slope Grade (%)	< 30	< 5	< 5
Soil Texture	loamy	loamy, silty	loamy, silty, peaty organic
Humus Form and Thickness (cm)	Hemimor, Hydromoder, Hydromor 7 - 15	Hydromor, Hydromoder, Hemimor 4 - 20	Hydromor, Hydromull, Histomoder Organic soil
Occurrence / Size / Distribution	very uncommon / small / wide	uncommon / small / wide	common / small - moderate / northern areas

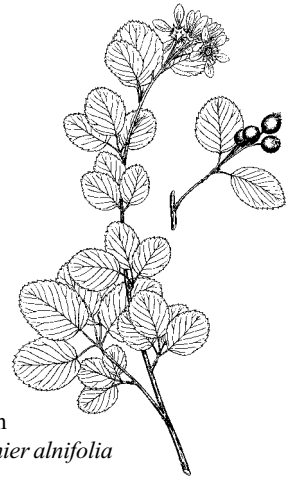
SBSdw2 Vegetation Table[a]

	Site Unit	02	03	04	05	01	07	08	09	10	11	
Tree Layer	*Pinus contorta*		▮▮▮▮▮	▮	▮▮▮	▮▮▮▮▮	▮▮▮▮▮				▮▮▮▮	lodgepole pine
	Pseudotsuga menziesii	▮▮▮		▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮			▮▮▮			Douglas-fir
	Picea engelmannii x *glauca*	▮▮▮▮▮			▮▮▮▮▮	▮▮▮	▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮▮		hybrid white spruce
	Betula papyrifera				▮▮▮	▮▮▮						paper birch
	Picea mariana						▮▮▮				▮▮▮▮▮	black spruce
	Abies lasiocarpa								▮▮▮	▮		subalpine fir
Shrub Layer	*Juniperus communis*		▮▮▮	▮▮▮								common juniper
	Shepherdia canadensis	▮▮▮▮▮	▮▮▮	▮▮▮	▮	▮						soopolallie
	Amelanchier alnifolia	▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮▮		▮				saskatoon
	Vaccinium myrtilloides		▮▮▮▮			▮	▮▮▮					velvet-leaved blueberry
	Lonicera involucrata					▮▮		▮▮▮▮▮	▮▮▮	▮▮▮▮▮	▮▮▮	black twinberry
	Alnus tenuifolia							▮▮▮	▮▮▮	▮		mountain alder
	Oplopanax horridus								▮▮▮▮▮	▮		devil's club
	Ledum groenlandicum										▮▮▮	Labrador tea
Herb Layer	*Festuca saximontana*			▮								Rocky Mountain fescue
	Oryzopsis pungens	▮▮▮	▮▮▮									short-awned ricegrass
	Carex richardsonii	▮▮▮	▮▮▮	▮								Richardson's sedge
	Calamagrostis rubescens	▮▮	▮▮▮	▮▮▮▮	▮	▮▮▮▮	▮▮▮					pinegrass
	Arctostaphylos uva-ursi	▮▮▮	▮▮▮▮▮	▮▮▮			▮▮					kinnikinnick
	Lathyrus ochroleucus		▮▮▮	▮▮	▮	▮		▮				creamy peavine
	Linnaea borealis		▮▮▮		▮▮▮	▮▮▮	▮▮	▮▮▮		▮▮	▮▮▮	twinflower
	Solidago spathulata		▮	▮▮▮								spike-like goldenrod
	Aralia nudicaulis				▮▮▮	▮▮▮		▮▮▮	▮▮	▮▮		wild sarsaparilla
	Mitella nuda				▮▮	▮		▮▮▮	▮▮	▮▮▮	▮▮▮	common mitrewort
	Gymnocarpium dryopteris							▮▮▮	▮▮▮	▮▮▮		oak fern
	Rubus pedatus								▮▮▮			five-leaved bramble
	Streptopus amplexifolius							▮	▮▮▮	▮▮▮	▮▮▮	clasping twistedstalk
	Equisetum arvense							▮▮▮	▮▮▮	▮▮▮▮▮	▮▮▮	common horsetail
	Cinna latifolia									▮▮	▮▮▮	nodding wood-reed
	Circaea alpina							▮		▮▮		enchanter's nightshade
	Carex disperma									▮	▮▮▮▮▮	soft-leaved sedge
Moss Layer	*Polytrichum juniperinum*											juniper haircap moss
	Dicranum polysetum	▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮	▮▮▮	▮▮▮▮				▮▮▮	wavy-leaved moss
	Cladonia spp.	▮▮▮		▮▮▮						▮		cladonia lichens
	Pleurozium schreberi	▮▮▮	▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮▮	red-stemmed feathermoss
	Hylocomium splendens	▮▮▮			▮▮▮▮▮	▮▮▮▮	▮▮▮	▮▮▮		▮▮▮▮	▮▮▮▮▮	step moss
	Ptilium crista-castrensis				▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮	knight's plume
	Rhytidiadelphus triquetrus				▮▮▮▮▮	▮▮▮		▮▮▮▮	▮▮	▮▮▮▮	▮▮▮	electrified cat's-tail moss
	Mnium spp.							▮▮▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮	leafy mosses
	Sphagnum spp.										▮▮▮▮▮	sphagnum mosses

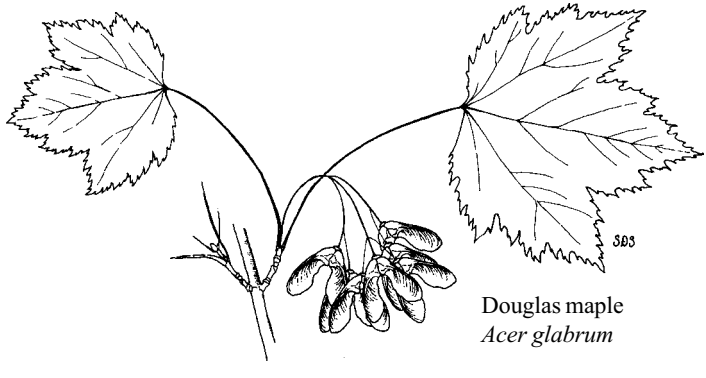
[a] Species abundance: ▮ present in 40–60% of plots surveyed; ▮▮ >60% of plots, mean cover <1%; ▮▮▮ >60% of plots, mean cover 1–7%; ▮▮▮▮ >60% of plots, mean cover >7–15%; ▮▮▮▮▮ >60% of plots, mean cover >15%



Wild sarsaparilla
Aralia nudicaulis



Saskatoon
Amelanchier alnifolia



Douglas maple
Acer glabrum

SBSmc1
SUB-BOREAL SPRUCE
MOIST COLD SUBZONE
MOFFAT VARIANT

The SBSmc1 is a small biogeoclimatic unit (419 km^2 in the Cariboo Forest Region) that occurs on local heights-of-land on the Fraser Plateau, east of the Fraser River. It occurs in the vicinity of Bowers Lake, Little Timothy Mountain, upper Moffat Creek, and Dragon Mountain. Elevations are predominantly 1250–1350 m.

Distinguishing Adjacent Units from the SBSmc1

Lower elevations of the SBSmc1 border the **SBSdw1** on gently rolling and hilly terrain, and the **SBPSmk** on low-relief, level to gently undulating terrain. The **ESSFwk1** occurs at higher elevations in the Quesnel Highland, north of Canim Lake, while the **ESSFdc2** occurs at higher elevations on the edge of the Shuswap Highland, south of Canim Lake. A very small area of **ICHmk3** borders the lower elevation boundary of the SBSmc1, south of Canim Lake.

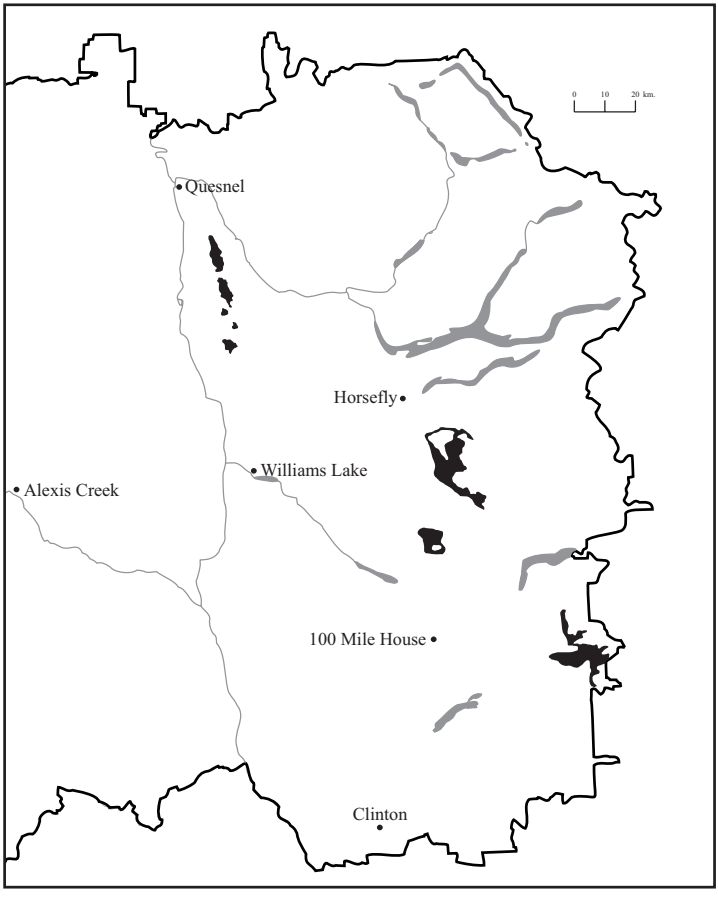
In the **SBSdw1**, zonal sites have:
- wild sarsaparilla and abundant thimbleberry;
- no five-leaved bramble, rosy twistedstalk, or one-leaved foamflower;
- uncommon subalpine fir in forest canopy.

In the **SBPSmk**, zonal sites have:
- abundant pinegrass;
- little or no subalpine fir;
- no five-leaved bramble, queen's cup, rosy twistedstalk, one-leaved foamflower, or bluejoint.

In the **ESSFwk1** and **ESSFdc2**, zonal sites have:
- white-flowered rhododendron, Sitka valerian, Indian hellebore, or red elderberry;
- no pinegrass.

In the **ICHmk3**, zonal sites have:
- western redcedar;
- common wild sarsaparilla, prince's pine, electrified cat's-tail moss, and Douglas-fir.

Distribution of SBSmc1 Variant in the Cariboo Forest Region



Site Units of the SBSmc1

Zonal Site Series **01 Sxw - Huckleberry Site Series** dominates the SBSmc1 landscape, occurring on gentle to moderately steep slopes on all slope aspects. The climax forest canopy is dominated by hybrid white spruce and subalpine fir but, due to past fire history, most stands are younger and dominated by lodgepole pine with spruce and subalpine fir regeneration. Douglas-fir is occasionally present in the forest canopy at low elevations. The undergrowth has a sparse to moderate cover of low shrubs, primarily black huckleberry. The moss layer is nearly continuous and only partially obscured by a sparse to moderate cover of low herbaceous plants, primarily bunchberry, queen's cup, and twinflower. Pinegrass is often present but cover values are typically low. Three phases are recognized. The Shallow Phase has 50 cm or less of soil over bedrock, but, due to intermittent seepage water from upslope areas, vegetation is similar to the Typic Phase, which has generally deeper soils. The Sandy Phase occurs primarily on north or east aspects, but occasionally on level sites, with sand or loamy sand soils.

Drier Sites Sites drier than the zonal site series are uncommon in the SBSmc1 landscape and are found primarily on steep south and west aspects and on upper slopes and ridge crests. The vegetation is distinguished by little or no subalpine fir in the forest canopy, the presence of soopolallie or saskatoon in the shrub layer, the presence of pelt lichens in the moss/lichen layer, and the absence of queen's cup and palmate coltsfoot in the herb layer.

02 Pl - Cladonia - Haircap moss Site Series occurs on ridge crests with shallow (<50 cm) soils over bedrock. Bedrock is often exposed. The forest canopy is dominated by lodgepole pine and is usually relatively open. Tree regeneration is sparse to moderate and predominantly subalpine fir. The undergrowth vegetation includes a moderate cover of low shrubs, and several low herbaceous species with small percent covers. Principal shrubs are black huckleberry, birch-leaved spirea, and soopolallie. Pinegrass is the principal herbaceous species but cover is typically less than 5%. The vegetation is distinguished by the relatively small cover of mosses, the presence of cladonia and pelt lichens, and the absence of queen's cup, black twinberry, and Douglas-fir.

03 Fd - Pinegrass - Aster Site Series occurs on steep south- and west-facing slopes and is the only site series in the SBSmc1 that typically has Douglas-fir in the canopy and regeneration layers. The forest canopy is typically relatively open and includes large Douglas-fir and smaller lodgepole pine trees. The undergrowth vegetation has scattered low shrubs, (especially prickly rose, common juniper, and birch-leaved spirea), a moderate cover of herbaceous plants including showy aster and pinegrass, and a relatively small cover of mosses.

Mesic and Near-mesic Sites Not Included in Zonal Site Series

04 Sxw - Huckleberry - Labrador tea Site Series occurs on submesic to subhygric sites in cold air accumulation basins, primarily on level to gently sloping areas removed from the influence of persistent seepage. Soils may be moistened by intermittent seepage. The mature forest canopy is a mixture of lodgepole pine, hybrid white spruce, and subalpine fir. Shrub cover is moderate and predominantly black huckleberry and Labrador tea. Herbaceous species have a sparse cover dominated by twinflower, queen's cup, and rosy twistedstalk. Moss cover is nearly continuous and predominantly red-stemmed feathermoss. The presence of Labrador tea and creeping-snowberry distinguish the vegetation from that on other sites.

Wetter Sites Sites wetter than the zonal site series are common on lower slopes and seepage areas, and at the perimeter of streams and wetlands. The vegetation is generally distinguished from mesic and drier sites by abundant black twinberry and the presence of moist- or wet-site herbaceous species including common mitrewort, trailing raspberry, Sitka valerian, common horsetail, and glow moss.

05 Sxw - Spirea - Glow moss Site Series is relatively uncommon. It occurs on moist sites in cold air accumulation areas, generally on toe slope positions in the bottoms of small valleys. The mature forest canopy is dominated by lodgepole pine or by hybrid white spruce and subalpine fir. A moderate to relatively high percent cover of shrubs and a relatively large number of herbaceous species are usually present. The undergrowth vegetation is distinguished from other moist to wet sites by the presence of pinegrass, scrub birch, and Indian hellebore, and the absence of common horsetail, oak fern, and devil's club.

06 Sxw - Oak fern Site Series is the most common site series on moist lower slopes in the SBSmc1. Seepage water is often present near the soil surface following snowmelt and rainy periods but not continuously throughout the summer. The mature forest canopy is dominated by hybrid white spruce and occasionally by Douglas-fir or lodgepole pine. The undergrowth includes vigorous shrub and herb layers and is distinguished by the presence of palmate-leaved coltsfoot, western meadowrue, oak fern, and common mitrewort, and the absence of devil's club, common horsetail, glow moss, and leafy mosses.

07 Sxw - Devil's club - Step moss Site Series is uncommon, occurring on moist lower slopes where seepage water input is more persistent than in the /06 site series. These are moist, rich, and very productive sites. The vegetation of mature forests is distinguished from all other SBSmc1 site series by abundant devil's club. Other species most common in this site series are lady fern and three-leaved foamflower. The mature forest canopy is dominated by hybrid white spruce.

08 Sxw - Horsetail - Glow moss Site Series is a common site series that occurs on wet toe slope positions and wet depressions that have a near-surface (<50 cm) water table throughout the summer. The forest canopy is dominated by hybrid white spruce, typically on raised microsites. Lodgepole pine and subalpine fir are often present in the canopy. The undergrowth vegetation is distinguished by abundant horsetails, either common, wood, or meadow horsetail. Shrubs are moderately abundant; the most common species are black twinberry, black gooseberry, and black huckleberry.

Non-forested Sites Wetlands are common on the floor of small valleys and along gently sloping drainage channels. However, they are generally less abundant than on many other parts of the Fraser Plateau since the SBSmc1 landscape is predominantly well-drained, hilly terrain. Fens dominate the wetland area, although swamps are also present. Grasslands are virtually absent and nearly all of the uplands are forested.

Key To Site Units of the SBSmc1

1a. Moisture regime mesic or drier (rarely subhygric in /04); no evidence of persistent seepage or water table within 1 m of the surface; trailing raspberry, sweet-scented bedstraw, common mitrewort, leafy mosses, and sphagnum moss absent or incidental.

2a. Slope gradient >30% **and** slope aspect SE, S, SW, or W (135–280°).

SBSmc1/03 Fd - Pinegrass - Aster

2b. Slope gentler **or**, if steep, then slope aspect NW, N, NE, or E.

3a. Soils shallow (<50 cm) to bedrock; moisture regime xeric or subxeric (occasionally submesic in /01b).

4a. Cladonia or cladina lichens abundant (total ground cover >5%); red-stemmed feathermoss cover <30% and knight's plume moss absent or incidental (<1% cover); primarily crest slope position.

SBSmc1/02 Pl - Cladonia - Haircap moss

4b. Cladonia and cladina lichens not abundant; red-stemmed feathermoss cover usually >30% and knight's plume present (cover often >10%); mostly upper slope position.

SBSmc1/01 Sxw - Huckleberry;
/01b Shallow Phase

3b. Soils deeper; moisture regime subxeric to mesic (rarely subhygric in /04).

5a. Creeping-snowberry, Labrador tea, and dwarf blueberry present; valley-bottom sites where cold air accumulates; primarily upper Moffat Creek area.

SBSmc1/04 Sxw - Huckleberry - Labrador tea

5b. Creeping snowberry, Labrador tea, and dwarf blueberry absent or incidental; generally on slopes rather than in cold air accumulation sites; widely distributed.

SBSmc1/01 Sxw - Huckleberry;
/01a Typic Phase (not sand soils)
/01c Sand Phase (sand soils)

1b. Moisture regime subhygric or wetter; evidence of persistent seepage water or water table within 1 m of surface; trailing raspberry, sweet-scented bedstraw, common mitrewort, leafy mosses, or sphagnum moss present.

6a. Moisture regime subhygric (rarely hygric in /07)); water table usually not present within 30 cm of surface; baneberry, pinegrass, queen's cup, western meadowrue, devil's club, or bracted lousewort present; Sitka valerian and sphagnum mosses absent.

7a. Devil's club abundant (>10% cover); palmate coltsfoot and trailing raspberry absent or incidental.

SBSmc1/07 Sxw - Devil's club - Step moss

7b. Devil's club not abundant; palmate coltsfoot and trailing raspberry usually present.

8a. Slope position toe (<10% slope gradient) in valley bottom with poor cold air drainage; yarrow, bracted lousewort, Scouler's willow, glow moss, and golden fuzzy fen moss usually present; oak fern absent.

SBSmc1/05 Sxw - Spirea - Glow moss

8b. Slope position lower; site usually adjacent to small drainages and, if in valley bottom, then slope gradient generally >10% and cold air drained from site; yarrow, bracted lousewort, Scouler's willow, glow moss, and golden fuzzy fen moss absent; oak fern often present.

SBSmc1/06 Sxw - Oak fern

6b. Moisture regime subhydric or occasionally hygric; water table usually within 30 cm of surface during summer; baneberry, pinegrass, queen's cup, western meadowrue, devil's club, and bracted lousewort absent or incidental; Sitka valerian or sphagnum moss usually present.

SBSmc1/08 Sxw - Horsetail - Glow moss

SBSmc1 Edatopic Grid

Site Series

01 Sxw - Huckleberry
02 Pl - Cladonia - Haircap moss
03 Fd - Pinegrass - Aster
04 Sxw - Huckleberry - Labrador tea
05 Sxw - Spirea - Glow moss
06 Sxw - Oak fern
07 Sxw - Devil's club - Step moss
08 Sxw - Horsetail - Glow moss

SBSmc1 Landscape Profile

Site Features of SBSmc1 Site Series

Site Series	01	02	03	04
Key Features	a) zonal and other mesic or near-mesic gently to steeply sloping sites; b) upper slopes with shallow soils and intermittent seepage; c) moderately steep N- and E-facing slopes and some level sites with sandy soils	crest slope positions with shallow soils (< 50 cm) over bedrock	middle and upper slope positions on steep (> 30%) S- and W-facing slopes	mesic, level, or gently sloping (< 10%) sites in cold air accumulation areas; commonly fluvial terraces
Soil Moisture / Nutrient Regimes	subxeric - mesic / poor - rich	xeric, subxeric / poor - rich	xeric, subxeric / poor - rich	submesic - subhygric / very poor, poor
Slope Position	upper - lower, level	crest, upper	upper, mid	mid, level
Aspect	all, but, if steep, then primarily N or E	all	SE, S, SW, W	all
Slope Grade (%)	0 - 70	< 10 (crest) 30 - 70 (upper)	> 30	< 10
Soil Texture	gravelly loamy, sand	gravelly loamy, sand	gravelly loamy	gravelly sandy and loamy
Humus Form and Thickness (cm)	Hemimor, Mormoder 3 - 13	Xeromor 1 - 2	Xeromor, Hemimor 1 - 5	Hemimor, Mormoder 3 - 16
Occurrence / Size / Distribution	predominant / large / wide	uncommon / small / wide	uncommon / small / wide	uncommon / small / primarily upper Moffat Creek drainage

Site Features of SBSmc1 Site Series (continued)

Site Series	05	06	07	08
Key Features	moist, level to gentle slopes in valley bottoms with poor cold air drainage; moist, cold sites	moist lower slope positions with intermittent near-surface seepage water; not cold air ponding sites	very moist lower slope positions with persistent near-surface seepage input; primarily N or E aspects	wet toe slope sites and depressions with near-surface (< 30 cm) water table; wet, cold sites
Soil Moisture / Nutrient Regimes	subhygric / poor, medium	subhygric / medium - very rich	subhygric, (hygric) / rich, very rich (medium)	hygric, subhydric / poor - very rich
Slope Position	toe, lower	lower, toe (mid)	lower, mid, toe	toe, depression
Aspect	all	all	all, but mostly N or E	all
Slope Grade (%)	< 10	0 - 30	0 - 20	0 - 10
Soil Texture	loamy	gravelly loamy	loamy	loamy, silty, clayey, organic
Humus Form and Thickness (cm)	Hemimor, Mormoder 5 - 15	Mormoder 6 - 50	Mormoder 5 - 30	Hydromor, Hydromoder 5 - 50
Occurrence / Size / Distribution	uncommon / small / Mt. Timothy area	common / medium / wide	very uncommon / small / wide	common / small / wide

SBSmc1 Vegetation Table[a]

	Site Unit	02	03	04	01	05	06	07	08	
Tree	*Pseudotsuga menziesii*		▮▮▮▮					▮▮▮		Douglas-fir
Layer	*Pinus contorta*	▮▮▮▮▮	▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮		▮▮▮▮	lodgepole pine
	Picea engelmannii x *glauca*			▮▮▮	▮▮▮	▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	hybrid white spruce
	Abies lasiocarpa				▮▮▮	▮▮	▮▮▮▮	▮▮▮	▮	subalpine fir
Shrub	*Shepherdia canadensis*	▮▮▮	▮							soopolallie
Layer	*Amelanchier alnifolia*	▮▮	▮							saskatoon
	Rosa acicularis	▮▮▮	▮▮▮			▮▮▮				prickly rose
	Spiraea betulifolia	▮▮▮	▮		▮▮▮	▮▮▮	▮			birch-leaved spirea
	Vaccinium membranaceum	▮▮▮▮	▮	▮▮▮	▮▮▮	▮▮▮	▮▮		▮▮▮	black huckleberry
	Ledum groenlandicum			▮▮▮						Labrador tea
	Lonicera involucrata			▮▮▮	▮	▮▮▮	▮▮▮	▮▮	▮▮▮	black twinberry
	Ribes lacustre			▮	▮▮	▮▮▮	▮▮▮	▮▮	▮▮▮	black gooseberry
	Oplopanax horridus							▮▮▮▮▮		devil's club
Herb	*Trisetum spicatum*	▮▮	▮							spike trisetum
Layer	*Hieracium albiflorum*	▮▮		▮						white-flowered hawkweed
	Calamagrostis rubescens	▮▮▮	▮▮▮▮▮		▮▮▮	▮▮▮▮				pinegrass
	Vaccinium caespitosum	▮▮	▮	▮▮		▮▮▮				dwarf blueberry
	Clintonia uniflora			▮▮▮	▮▮▮	▮▮	▮▮			queen's cup
	Gaultheria hispidula			▮▮▮						creeping-snowberry
	Petasites frigidus var *palmatus*			▮▮		▮▮▮	▮▮		▮▮	palmate coltsfoot
	Actaea rubra					▮▮	▮▮▮			baneberry
	Thalictrum occidentale					▮▮▮	▮▮			western meadowrue
	Galium triflorum					▮▮	▮▮	▮▮	▮▮	sweet-scented bedstraw
	Rubus pubescens					▮▮▮	▮▮▮		▮▮▮	trailing raspberry
	Mitella nuda					▮▮▮	▮▮		▮▮	common mitrewort
	Cinna latifolia							▮▮	▮▮	nodding wood-reed
	Valeriana sitchensis							▮▮	▮▮▮	Sitka valerian
	Gymnocarpium dryopteris						▮		▮▮▮	oak fern
	Equisetum spp.					▮▮▮			▮▮▮▮▮	horsetails
Moss	*Cladina* spp.	▮▮▮								reindeer lichens
Layer	*Peltigera* spp.	▮▮▮▮	▮▮▮							pelt lichens
	Cladonia spp.	▮▮▮		▮						cladonia lichens
	Pleurozium schreberi	▮▮▮▮	▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮	red-stemmed feathermoss
	Ptilium crista-castrensis		▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮	knight's plume
	Rhytidiadelphus triquetrus					▮▮▮	▮	▮▮▮		electrified cat's-tail moss
	Hylocomium splendens						▮▮▮▮	▮▮▮▮▮	▮	step moss
	Aulacomnium palustre					▮▮▮▮			▮	glow moss
	Sphagnum spp.								▮▮▮▮	sphagnums
	Mnium spp.								▮▮▮▮▮	leafy mosses

[a] Species abundance: ▮ present in 40–60% of plots surveyed; ▮▮ >60% of plots, mean cover <1%; ▮▮▮ >60% of plots, mean cover 1–7%; ▮▮▮▮ >60% of plots, mean cover >7–15%; ▮▮▮▮▮ >60% of plots, mean cover >15%

SBSmc2
SUB-BOREAL SPRUCE
MOIST COLD SUBZONE
BABINE VARIANT

The SBSmc2 is a relatively large biogeoclimatic unit that occurs primarily in the Prince Rupert and Prince George forest regions. In the Cariboo Forest Region (1205 km^2), it occurs on local heights-of-land west of the Fraser River in the north-central portion of the Fraser Plateau. It is primarily above the SBPS Zone at elevations of 1200–1500 m.

Distinguishing Adjacent Units from the SBSmc2 (Cariboo Forest Region only)

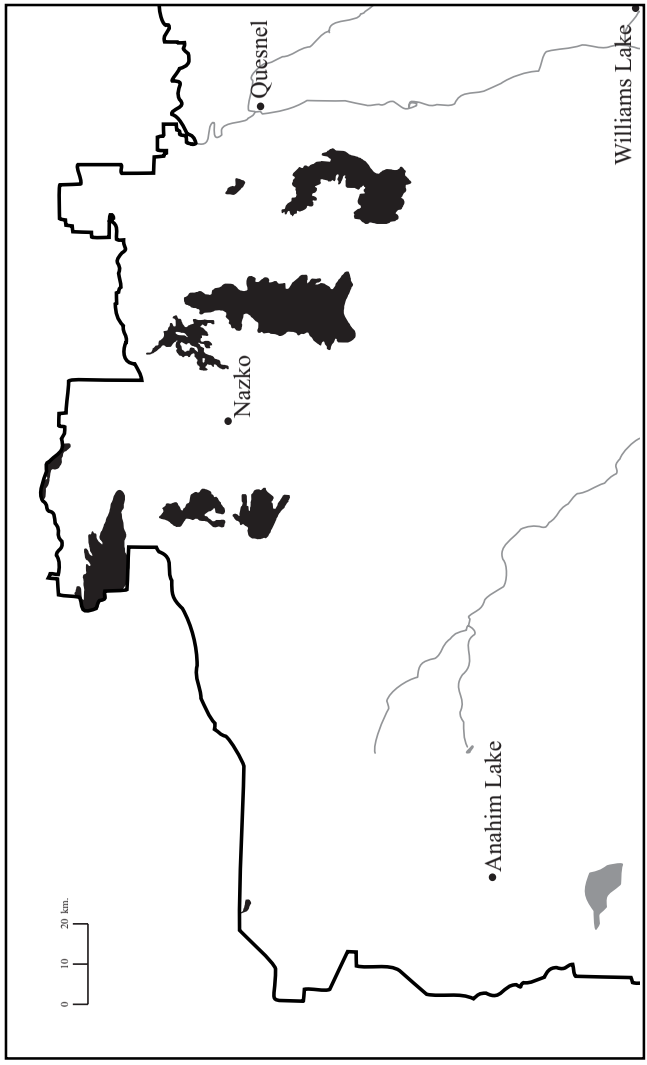
The **MSxv** replaces the SBSmc2 at similar elevations where the climate is drier, primarily where the rainshadow effect of the Itcha and Ilgachuz mountains is more pronounced than in the SBSmc2. The **ESSFmv1** occurs very locally at elevations above the SBSmc2. Low elevations of the SBSmc2 are bordered primarily by the **SBPSmk** east of the Nazko River, and by the **SBPSdc** west of the Nazko River. The **SBSdw2** occurs below the SBSmc2 at its eastern extent, near the Fraser River valley.

In the **MSxv**, zonal sites have:
- crowberry and grouseberry;
- no five-leaved bramble, rosy twistedstalk, queen's cup, one-leaved foamflower, or bluejoint.

In the **SBPSmk**, zonal sites have:
- abundant pinegrass;
- little or no subalpine fir;
- no five-leaved bramble, queen's cup, rosy twistedstalk, one-leaved foamflower, or bluejoint.

In the **ESSFmv1**, zonal sites have:
- white-flowered rhododendron, Sitka valerian, or Indian hellebore.

In the **SBSdw2**, zonal sites have:
- Douglas-fir, prince's pine, wild sarsaparilla, and saskatoon;
- abundant pinegrass;
- moss layer generally obscured by herbaceous layer.


Distribution of SBSmc2 Variant in the Cariboo Forest Region
0
10
20 km.
Nazko
Quesnel
Williams Lake
Anahim Lake

Site Units of the SBSmc2

Zonal Site Series **01 Sxw - Huckleberry Site Series** dominates the SBSmc2 landscape, occurring on gentle to moderately steep slopes on all slope aspects and from lower to crest slope positions. Soils are primarily loamy and occasionally sandy. The climax forest canopy is dominated by hybrid white spruce and subalpine fir but, due to past fire history, most stands are younger and dominated by lodgepole pine with spruce and subalpine fir regeneration. The undergrowth has a sparse to moderate cover of shrubs, primarily black huckleberry and Sitka alder. The moss layer is nearly continuous and only partially obscured by a sparse to moderate cover of low herbaceous plants, primarily bunchberry, queen's cup, and twinflower. Pinegrass is often present but percent cover values are typically very small. Two phases are recognized in the Cariboo Forest Region. The Shallow Phase (/01b) occurs on shallow (25–50 cm) soils over bedrock, usually on upper slope positions where soils are moistened by intermittent seepage. The Typic Phase (/01a) occurs on deeper soils.

Drier Sites Sites drier than the /01 site series are primarily those with coarse (usually glaciofluvial) soils and those on crest slope positions with shallow soils over bedrock. Steep south aspects and pronounced crest slope positions with deep soils are also included but are not common in the Cariboo Forest Region SBSmc2. All of these sites are included in one site series with two phases.

02 Pl - Huckleberry - Cladonia Site Series includes all sites drier than those of the /01 site series. The Typic Phase (/02a) includes sites with shallow soils on upper and crest slope positions, steep south aspects on mid to upper slope positions, and dry crests with deeper soils. The Sand Phase (/02b) includes all subxeric and drier sites with coarse sandy soils. The vegetation is distinguished by the presence of common juniper and abundant lichens as well as by the absence or incidental occurrence of black twinberry, knight's plume, and five-leaved bramble. The mature forest canopy is typically dominated by lodgepole pine. Shrubs have a moderate cover consisting primarily of black huckleberry, common juniper, birch-leaved spirea, and soopolallie. Herbaceous plants are relatively sparse. The moss/lichen layer is dominated by lichens, especially cladonia and cladina lichens. Red-stemmed feathermoss has a low to moderate, patchy cover on most sites.

Mesic and Near-mesic Sites Not Included in Zonal Site Series

03 SbPl - Feathermoss Site Series occurs in the Prince Rupert and Prince George forest regions but has not been noted in the Cariboo Forest Region. It occurs primarily on mid to lower slope positions on north aspects where cold air collects. The forest canopy is typically dominated by lodgepole pine but includes a significant component of black spruce. The undergrowth vegetation has a moderate cover of low shrubs, including Labrador tea and black huckleberry, and a moderate to high cover of low herbs, especially dwarf blueberry, bunchberry, and creeping-snowberry. Feathermosses are abundant. The vegetation is distinguished by the presence of black spruce and absence of moist- to wet-site shrubs such as black twinberry, mountain alder, and scrub birch.

Wetter Sites Sites wetter than those of the zonal site series are moderately common, occurring primarily on lower slopes and on riparian areas adjacent to streams and wetlands. The vegetation is distinguished by the presence of common mitrewort, palmate coltsfoot, oak fern, lady fern, or horsetails.

04 Sxw - Huckleberry - Dwarf blueberry Site Series is moderately common in the Cariboo Forest Region on mid to lower slope positions. Intermittent seepage volumes and duration are low and, as a result, are often not evidenced by soil mottles. This unit occurs primarily in areas of low to moderate relief where cold air drainage is poor. The mature forest canopy is dominated by hybrid white spruce or lodgepole pine with a significant component of subalpine fir. Tree regeneration is moderately dense and primarily subalpine fir and spruce. The undergrowth is dominated by a nearly continuous moss layer with scattered low herbs and low shrubs. Principal shrubs are black huckleberry (<50 cm tall) along with scattered black twinberry and Sitka alder. The undergrowth is distinguished by the presence of dwarf blueberry, trailing raspberry, common mitrewort, and palmate coltsfoot, and the absence or only incidental occurrence of oak fern, bluejoint, leafy mosses, and horsetails.

05 Sxw - Twinberry - Coltsfoot Site Series is common in the Prince Rupert Forest Region but has not been observed in the Cariboo Forest Region. It occurs on moist mid and lower slope positions, often on warm aspects. The undergrowth vegetation is distinguished by abundant thimbleberry and black twinberry but no oak fern or devil's club.

06 Sxw - Oak fern Site Series is present in the Cariboo Forest Region but is not common. It occurs on moist mid and lower slope positions, especially on north-facing slopes. Topographic relief is typically greater than in the /04 unit and sufficient to provide rapid drainage of cold air. The canopy of mature forests is dominated by lodgepole pine or hybrid white spruce, and the tree regeneration layers by spruce and subalpine fir. This site series is distinguished by abundant oak fern and little or no horsetail. The shrub layer is characterized by a sparse to moderate cover of black twinberry and a small number of other moist-site species. Bunchberry, bluejoint, and trailing raspberry are typical species of the herbaceous layer. Feathermosses dominate the nearly continuous moss cover.

07 Sxw - Scrub birch - Feathermoss Site Series has not been observed in the Cariboo Forest Region but may be present at the perimeter of wetlands in cold air accumulation basins. It is uncommon in the Prince Rupert Forest Region at the border of fens and bogs. These are moist sites with a fluctuating water table, cold soils, and frequent summer frost. The canopy of mature forests is dominated by lodgepole pine, hybrid white spruce, and subalpine fir. The undergrowth vegetation is distinguished by relatively abundant scrub birch, willows, black twinberry, and glow moss.

08 Sxw - Twinberry - Oak fern Site Series occurs in the Cariboo Forest Region on moist to wet slopes and depressions in cold air accumulation areas. In contrast to the /07 unit, it typically does not occur at the border of non-forested wetlands but rather on lower and toe slopes in a forested matrix, especially adjacent to streams. These sites are generally colder and wetter than those of the /05 Site Series. The forest canopy is dominated by relatively widely spaced, large hybrid white spruce and subalpine fir. The shrub layer is vigorous and diverse. The vegetation is distinguished by abundant black twinberry and oak fern.

09 Sxw - Devil's club Site Series has not been observed and is not expected to occur in the Cariboo Forest Region. It is found primarily in the mountainous western part of the SBSmc2 in the Prince Rupert Forest Region. It is distinguished by abundant devil's club.

10 Sxw - Horsetail Site Series has not been observed in the Cariboo Forest Region but is very similar to the /11 Site Series. It is relatively common in the Prince Rupert Forest Region and differs from the /11 Site Series by greater cover of mountain alder and highbush-cranberry.

11 Sxw - Horsetail - Glow moss Site Series occurs in the Cariboo Forest Region on wet toe slope positions and depressions where a water table or persistent seepage is present within 50 cm of the soil surface. The forest canopy is dominated by hybrid white spruce, subalpine fir, or lodgepole pine. Black spruce is occasionally present. Trees are typically large and widely spaced and tree regeneration is typically sparse. The undergrowth vegetation is distinguished by abundant horsetail, less mountain alder than in /10, little or no devil's club, and less black twinberry and oak fern than in /08.

12 SbSxw - Scrub birch - Sedge Site Series is a forested wetland that occurs in the Prince Rupert Forest Region but has not been observed in the Cariboo Forest Region. It is characterized by clumps of poorly growing black spruce and white spruce, interspersed with a variety of wet-site shrubs.

Non-forested Sites Wetlands are common on the floor of small valleys and along gently sloping drainage channels, but are generally less abundant than on other parts of the Fraser Plateau due to the predominance of well-drained, hilly terrain. Sedge fens and shrub fens dominate the wetlands, although swamps are also present. Grasslands are virtually absent and nearly all of the upland terrain is forested.

Key to Site Units of the SBSmc2 (Cariboo Forest Region only)

Note: SBSmc2/03, /05, /07, /09, /10, and /12 have not been observed in the Cariboo Forest Region and are not included in this key.

1a. Moisture regime mesic or drier; no evidence of persistent seepage water or water table within 1 m of soil surface; trailing raspberry, palmate coltsfoot, common mitrewort, sweet-cicely, and stepmoss absent or incidental.

2a. Moisture regime subxeric or drier; cladonia and cladina lichens abundant (>5% cover); common juniper present.

SBSmc2/02 Pl - Huckleberry - Cladonia;

/02a Typic Phase (very shallow soils or steep S or SW aspect on upper slope position or dry crests with deep soils);

/02b Sand Phase (sand or loamy sand soils)

2b. Moisture regime submesic or mesic; cladonia and cladina lichens absent or with small (<5%) cover; common juniper absent.

SBSmc2/01 Sxw - Huckleberry;

/01a Typic Phase (soils >50 cm to bedrock);

/01b Shallow Phase (soils <50 cm to bedrock)

1b. Moisture regime mesic to subhydric; evidence of intermittent or persistent seepage or water table within 1 m of surface; trailing raspberry, palmate coltsfoot, common mitrewort, sweet-cicely, or stepmoss present.

3a. Moisture regime subhygric (occasionally mesic); horsetail species not abundant (<1% cover), and soft-leaved sedge absent; persistent seepage or water table not present within 50 cm of surface (seepage often present early in growing season and following heavy rains).

4a. Oak fern cover >15%; leafy mosses, one-leaved foamflower, or bluejoint present; pinegrass and dwarf blueberry absent or incidental; cold air usually rapidly drained from site.

SBSmc2/06 Sxw - Oak fern

4b. Oak fern, leafy mosses, one-leaved foamflower, and bluejoint absent or incidental; pinegrass or dwarf blueberry usually present; cold air drainage usually poor.

SBSmc2/04 Sxw - Huckleberry - Dwarf blueberry

3b. Moisture regime hygric or subhydric (occasionally subhygric); horsetail species abundant (>10% cover); soft-leaved sedge present; persistent seepage water or water table within 50 cm of soil surface.

5a. Black twinberry abundant (usually >15% cover) and horsetail species cover <20%; slope position generally toe; persistent seepage often within 50 cm of surface; soils often mottled but not strongly gleyed (dull colours).

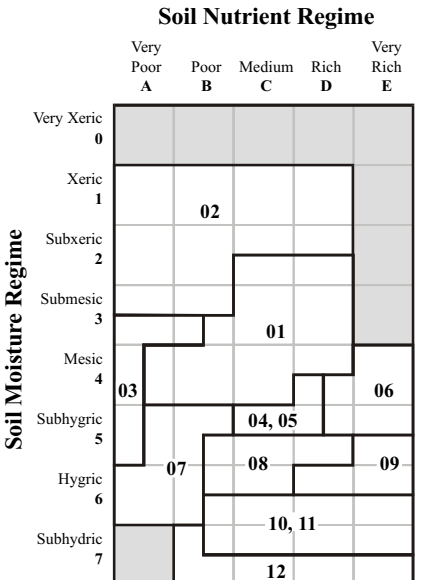
SBSmc2/08 Sxw - Twinberry - Oak fern

5b. Black twinberry not abundant (<5% cover), and horsetail species cover >20%; slope position usually depression or flats with near-surface (<50 cm) water table; soils usually strongly gleyed (dull colours) and mottled.

SBSmc2/11 Sxw - Horsetail - Glow moss

Black huckleberry
Vaccinium membranaceum

SBSmc2 Edatopic Grid

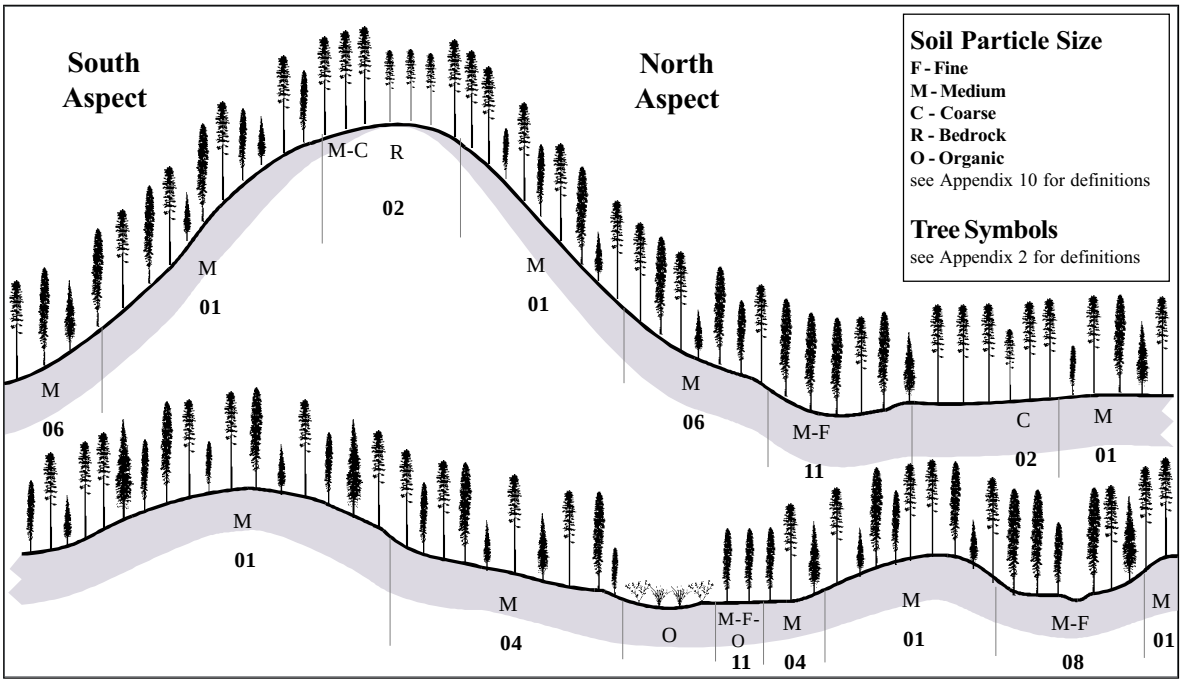


Site Series

01 Sxw - Huckleberry
02 Pl - Huckleberry - Cladonia
04 Sxw - Huckleberry - Dwarf blueberry
06 Sxw - Oak fern
08 Sxw - Twinberry - Oak fern
11 Sxw - Horsetail - Glow moss

Note: Site Series 03, 05, 07, 09, 10, and 12 occur in the Prince George Forest Region or Prince Rupert Forest Region but have not been noted in the Cariboo Forest Region.

SBSmc2 Landscape Profile (Cariboo Forest Region Units Only)



Site Features of SBSmc2 Site Series (Cariboo Forest Region only)

Site Series	01	02	04
Key Features	/01a: zonal and other mesic or submesic gently to steeply sloping sites with deep soils; /01b: submesic and mesic upper slopes with shallow (< 50 cm) soils	/02a: crest slope positions with shallow (< 50 cm) soils over bedrock and upper slope position on steep S- or SW-facing slopes; /02b: very dry sites with coarse sandy soils	mesic to moist, mid and lower slope positions; seepage water may be present early in season and following heavy rains; soils often not mottled; cold air drainage limited by low-relief topography
Soil Moisture / Nutrient Regimes	(subxeric) submesic, mesic / very poor - rich	xeric - submesic / very poor - rich	mesic, subhygric / medium, rich
Slope Position	upper, mid, level, and low broad crests	/02a: crest, upper; /02b: level (upper - toe)	mid, lower, level
Aspect	all	all	all
Slope Grade (%)	0 - 30	a) 0 - 60 b) < 5 (0 - 30)	0 - 30
Soil Texture	loamy	a) gravelly loamy b) gravelly sandy	loamy
Humus Form and Thickness (cm)	Hemimor 3 - 8	Xeromor 2 - 3	Hemimor, Humimor, Mormoder 4 - 10
Occurrence / Size / Distribution	predominant / large / wide	common / small - moderate / wide	common / moderate / wide

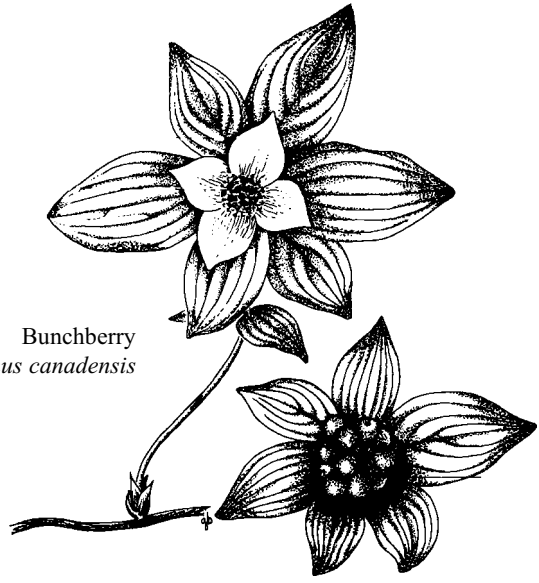
Site Features of SBSmc2 Site Series (Cariboo Forest Region only) (continued)

Site Series	06	08	11
Key Features	moist, mid to lower slope positions with intermittent seepage; generally occurs on terrain with more effective cold air drainage than /04	moist to wet, lower and toe slope positions with persistent seepage within 50 cm of soil surface; usually in cold air accumulation areas	wet toe slope positions, depressions and flats with persistent seepage or water table within 50 cm of surface; generally wetter than /08 unit
Soil Moisture / Nutrient Regimes	mesic, subhygric / rich, very rich	subhygric, hygric / poor - rich	hygric, subhydric / poor - very rich
Slope Position	mid, lower	lower, toe (depression)	depression, level, toe
Aspect	all, but primarily NW, N, NE, or E	all	N/A
Slope Grade (%)	0 - 30	0 - 10	0 - 5
Soil Texture	loamy	loamy, silty	silty, loamy, organic
Humus Form and Thickness (cm)	Hemimor, Mormoder 3 - 8	Mormoder, Hydromoder 10 - 25	Hydromoder, Hydromull 10 - 40
Occurrence / Size / Distribution	uncommon / moderate / wide	common / moderate / wide	common / small / wide

SBSmc2 Vegetation Table[a]

	Site Unit	02	01	04	06	08	11	
Tree Layer	*Pinus contorta*	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮	▮▮▮▮▮		▮▮▮	lodgepole pine
	Abies lasiocarpa		▮	▮		▮▮▮	▮▮▮	subalpine fir
	Picea engelmannii x *glauca*		▮▮▮	▮▮▮▮▮	▮▮▮	▮▮▮▮▮	▮▮▮▮	hybrid white spruce
Shrub Layer	*Juniperus communis*	▮▮▮						common juniper
	Spiraea betulifolia	▮▮▮	▮▮▮	▮▮▮	▮			birch-leaved spirea
	Alnus crispa		▮▮▮▮	▮▮▮	▮			green alder
	Vaccinium membranaceum	▮▮▮	▮▮▮▮	▮▮▮	▮▮▮▮		▮▮▮	black huckleberry
	Rosa acicularis	▮▮	▮	▮▮	▮	▮▮	▮	prickly rose
	Rubus idaeus				▮▮	▮▮		red raspberry
	Lonicera involucrata		▮	▮▮▮	▮▮▮	▮▮▮▮	▮▮▮	black twinberry
	Ribes lacustre			▮	▮▮▮	▮▮	▮▮▮	black gooseberry
Herb Layer	*Vaccinium caespitosum*	▮▮		▮▮▮				dwarf blueberry
	Linnaea borealis	▮▮▮	▮▮▮	▮▮▮	▮▮▮	▮▮	▮▮	twinflower
	Arnica cordifolia	▮▮▮	▮▮▮	▮▮	▮▮▮	▮▮	▮	heart-leaved arnica
	Abies lasiocarpa	▮▮▮	▮▮▮	▮▮▮	▮	▮▮▮	▮	subalpine fir
	Cornus canadensis	▮▮▮	▮▮▮	▮▮▮	▮▮▮▮	▮▮▮	▮▮▮	bunchberry
	Orthilia secunda		▮▮	▮▮	▮		▮	one-sided wintergreen
	Rubus pedatus		▮▮▮	▮▮▮	▮▮▮▮	▮▮	▮	five-leaved bramble
	Listera cordata			▮▮	▮▮		▮▮	heart-leaved twayblade
	Mitella nuda			▮▮	▮	▮▮	▮▮▮	common mitrewort
	Petasites palmatus			▮▮▮	▮▮	▮▮	▮▮	palmate coltsfoot
	Rubus pubescens			▮▮	▮	▮▮▮	▮▮▮	trailing raspberry
	Streptopus amplexifolius			▮	▮	▮▮	▮▮▮	clasping twistedstalk
	Calamagrostis canadensis				▮▮▮▮	▮▮▮	▮▮▮	bluejoint
	Tiarella trifoliata var *unifoliata*				▮▮▮		▮	one-leaved foamflower
	Tiarella trifoliata var *trifoliata*					▮▮		three-leaved foamflower
	Gymnocarpium dryopteris				▮▮▮▮▮	▮▮▮▮	▮	oak fern
	Athyrium filix-femina				▮		▮▮▮	lady fern
	Equisetum spp.				▮▮	▮▮▮▮	▮▮▮▮▮	horsetails
	Carex disperma					▮▮	▮▮▮	soft-leaved sedge
Moss Layer	*Cladina* spp.	▮▮▮▮▮	▮▮					reindeer lichens
	Cladonia spp.	▮▮▮▮	▮▮					cladonia lichens
	Polytrichum spp.	▮▮▮	▮					haircap mosses
	Cetraria islandica	▮▮						Icelandmoss lichen
	Dicranum polysetum	▮▮▮▮	▮			▮▮		wavy-leaved moss
	Peltigera spp.	▮▮▮					▮	pelt lichens
	Pleurozium schreberi	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮	red-stemmed feathermoss
	Hylocomium splendens			▮▮▮▮▮		▮▮▮▮	▮	step moss
	Ptilium crista-castrensis		▮▮▮▮▮	▮▮▮▮▮	▮▮▮▮▮	▮▮▮	▮▮▮▮▮	knight's plume
	Mnium spp.				▮	▮▮▮▮	▮▮▮▮	leafy mosses

[a] Species abundance: ▮ present in 40–60% of plots surveyed; ▮▮ >60% of plots, mean cover <1%; ▮▮▮ >60% of plots, mean cover 1–7%; ▮▮▮▮ >60% of plots, mean cover >7–15%; ▮▮▮▮▮ >60% of plots, mean cover >15%



Bunchberry
Cornus canadensis

Oak fern
Gymnocarpium dryopteris