Yukon

Wetland Ecosites of the Yukon

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Ecological field sampling throughout the Yukon began in the mid-1970s. The federal government (Department of Indian Affairs and Northern Development, DIAND) conducted expansive forest inventory, mensuration and mapping programs throughout the southern half of the Yukon from 1975-82. Key contributors to this early work on ecological classification in Southern Lakes were Ed Oswald, John Senyk and Barry Brown, based out of the Pacific Forestry Research Centre, Canadian Forest Service, in Victoria, BC. From 1978 to 2024, field data was collected under the auspices of various inventory programs by the territorial government, federal government and First Nations governments. Key projects that contributed to wetland data inventory include local and broad scale wetland mapping and wetland reference condition assessment.

Private consulting companies completed intensive biophysical inventory and mapping programs for various resource development projects to support the environmental assessment process.

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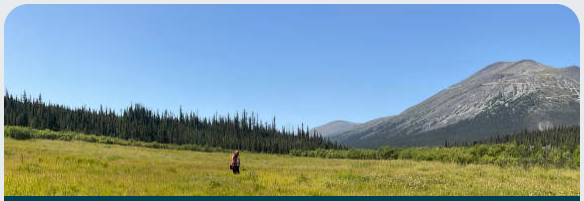
1.0 Introduction

1.1 Guide content

This guide contains six chapters:



1.0 **Introduction**

2.0 **Bog ecosites**

3.0 **Fen ecosites**

4.0 **Swamp ecosites**

5.0 **Marsh ecosites**

6.0 **Shallow water ecosites**

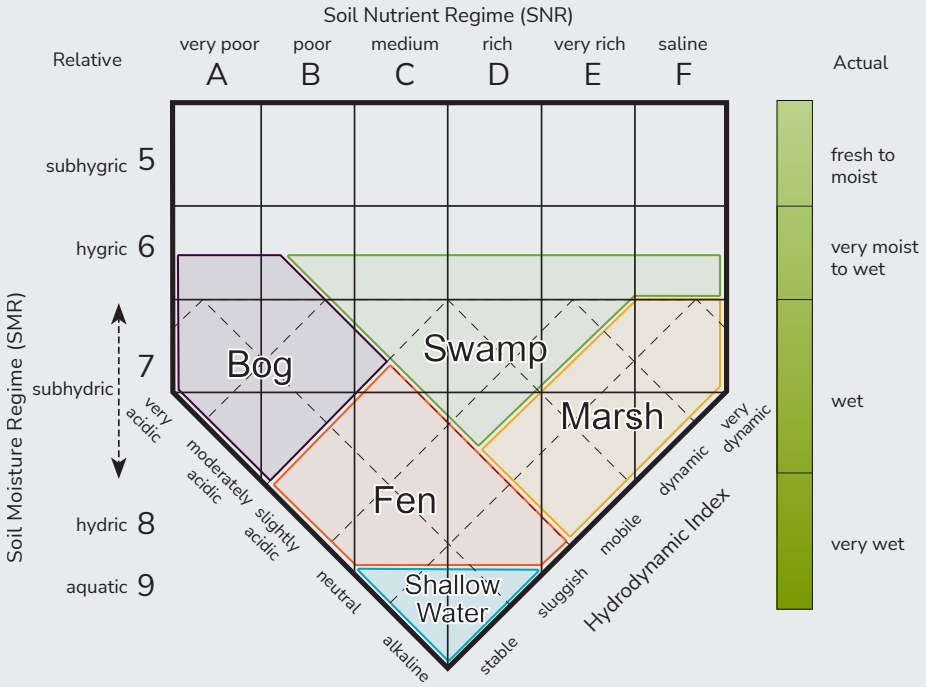
1.2 **Objective/scope**

The purpose of this guide is to describe the wetland ecosites of Yukon and provide tools for their identification. This guide has been designed to be used in tandem with the Yukon Wetland Classification Standards (2025), which provides technical information regarding wetlands and describes higher-level wetland units. The Ducks Unlimited Yukon Wetland Field Guide (2024), which has been designed for a broad spectrum of users, also provides high level information regarding wetland classification.

There are five wetland classes: bogs, fens, swamps, marshes and shallow water wetlands. Figure 1 shows these five classes on a multidimensional grid that considers soil moisture regime, soil nutrient regime, acidity (pH) and water table dynamics (hydrodynamic index) (see Appendix A for descriptions of the classes of each of these factors). As these classes are described in the two guides noted above, and tools are provided to identify the classes, they are not described in detail at the broad level. However, the wetland ecosites are presented and described within each class.

FIGURE 1

Wetland edatopic grid displaying wetland classes



1.3 **Names and codes**

Wetland ecosites are assigned a three-character alphanumeric code, which is comprised of a capital letter followed by a number. The letter refers to the wetland class as follows: bog (B), fen (F), swamp (S), marsh (M) or shallow water (W). The following two-digit number is simply an identifier. A percent sign (%) appended to the code indicates a provisional ecosite (based on limited data).

Wetland ecosites are named by one or more dominant plant species (all with first letter in caps), in order of strata from highest to lowest, followed by the wetland type, e.g., Peat moss bog. For tree species, codes are used to shorten the names, e.g., Sb – Lichen bog (Black spruce – Lichen bog (see Table 2.1). All plant names are separated by an en dash(–) but tree codes are combined, e.g., SbSw.

Vegetation associations are assigned an alphanumeric code that begins with a tree species code (for treed associations – see Table 1.1) or a four-character genus-species code where the association is not treed (first two letters of genus and first two letters of species, with some modification where two species would have the same code). The numeric portion of the codes are assigned by moisture regime where higher numbers are assigned to associations of moister/wetter sites.

A percent sign (%) appended to the code indicates a provisional association. Designation of the association is tentative and may change based on future plot information.

TABLE 1.1

Alpha characters: treed association codes

ALPHA CHARACTERS	TREED ASSOCIATION
A	Aspen
B	Balsam poplar
F	Fir
L	Larch
P	Pine
Sb	Black Spruce
Sw	White Spruce
W	White birch (Paper, Alaska)

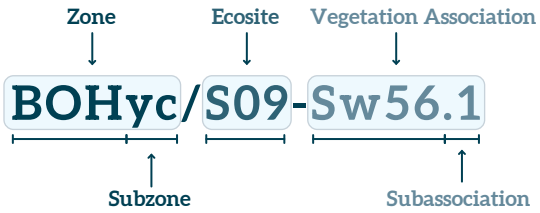
TABLE 1.2

Numeric codes used in vegetation associations

NUMERIC CODE	LANDSCAPE CONTEXT	SOIL MOISTURE CONDITION
01-14	Dry upland	Xeric to dry
15-39	Moist upland and some treed bogs and swamps	Slightly dry to very moist
40-49	Bogs, swamps	Very moist to wet
50-69	Bogs, fens, marshes, swamps	Wet
70-79	Shallow water	Wet

TABLE 2.1

Ecosite coding format used for naming an ecosite within the Yukon Bioclimate Ecosystem Classification system



Vegetation associations are named according to one or more dominant and/or indicator species. Species of different "strata" — e.g., tree, shrub, herb or moss/lichen — are separated by a forward slash (/). Species within the same layer are separated by an en dash (–). Vegetation subassociations can be used to characterize variation in species composition that is not considered significant enough to be an association. Wetland subassociations have been indicated by appending a period and numeric code to the association. The numeric portion of the vegetation association code is a two-digit number that represents the relative soil moisture condition of the association. It also provides a sense of the landscape context of the vegetation association, as occurring on an upland or wetland site. In general, upland sites occur in numeric series of 0-30 and wetland sites occur in the numeric series of 30-80.

Each vegetation association is assigned an alphanumeric code. The vegetation association/subassociation code can be appended to an ecosite code, to further describe the current vegetation conditions on an ecosite, or used separately (e.g., where ecosites have not yet been characterized).

1.4 How to identify wetland ecosites

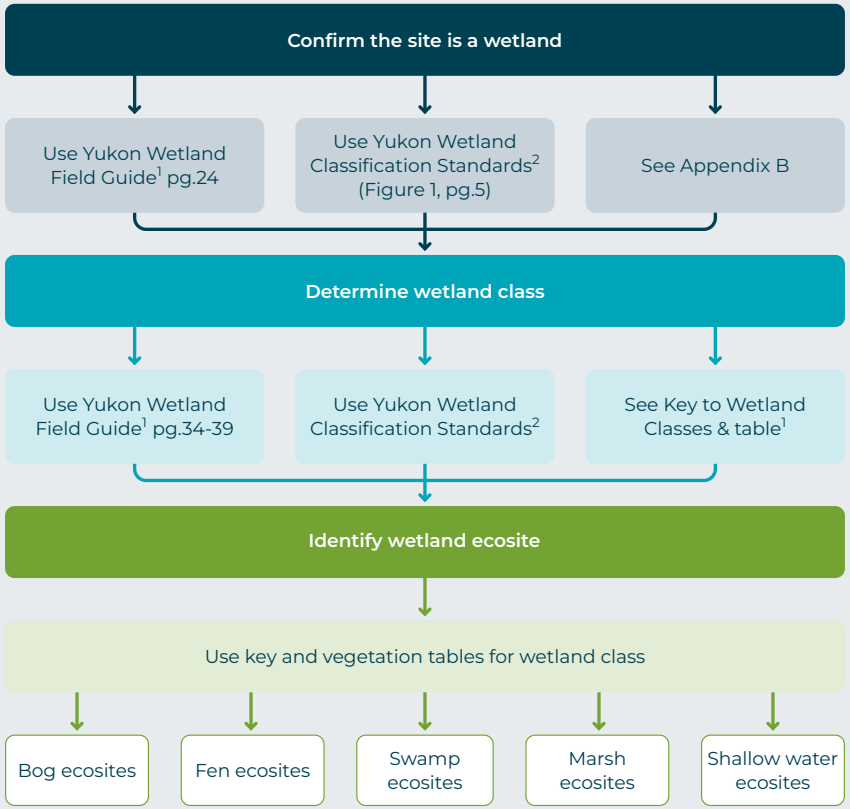
Figure 2 presents the steps to identify a wetland. This guide presumes that the user is trying to identify a wetland to a lower level of classification, e.g., the wetland ecosite. If the user is unsure if a site is a wetland, Yukon Wetland Classification Standards and Ducks Unlimited Yukon Wetland Field Guide will assist. Appendix B of this guide presents the decision key from the Yukon Wetland Classification Standards.

As the wetland ecosite descriptions in this guide are presented by wetland class, users must first determine the wetland class. Both the Yukon Wetland Classification Standards and Ducks Unlimited Yukon Wetland Field Guide present decision tools to identify the class and descriptive information to confirm the determination. Once the class is known, the user would navigate to the corresponding wetland class chapter and use the decision tools and descriptions to identify and confirm the wetland ecosite.

The vegetation of wetland ecosites is characterized by one or more vegetation associations. Where there are multiple vegetation associations in a wetland ecosite, a vegetation summary table is provided to assist with determining the unit. The vegetation summary table for each ecosite shows the relative abundance and frequency of a species within an association or association. Highlighting within the vegetation summary table is used to draw attention to important species that characterize the association or subassociation.

FIGURE 2

Flowchart on how to use this guide to identify a wetland ecosite



[1] Ducks Unlimited [2024]
[2] Wetland Classification Technical Working Group [2024]

KEY TO WETLAND CLASSES

1.	**ASSESS AVERAGE PEAT DEPTH***	
1a.	Average peat depth > 30 cm	Go to 2
1b.	Average peat depth < 30 cm	Go to 4
2.	**ORGANIC WETLANDS (PEATLANDS)**	
2a.	Peat poorly decomposed (Of horizon; von Post < 5**); site raised above water table; pH < 5; vegetation ground cover dominated by peat mosses (sometimes lichens) typically with stunted black spruce; other woody species also common; peat surface usually dry; permafrost close to the surface	Bog
2b.	Peat poorly decomposed; pH 4 to 5; water at the surface; surrounded by dry permafrost bog (collapse scar bog)	Bog
2c.	Not as above	Go to 3
3.	**ORGANIC WETLANDS (PEATLANDS)**	
3a.	Peat poorly to moderately decomposed (Of or Om horizon; von Post ≥4); site influenced by slow moving to sluggish subsurface water; pH variable, usually >5; ground vegetation dominated by sedges (≥10%) and brown mosses or peat mosses; shrubs and trees are present on drier fens; permafrost is common	Fen
3b.	Peat well decomposed (Om or Oh; von Post > 5), may be mossy or woody; site influenced by mineral-enriched seepage; site characterized by fluctuating water table; vegetation dominated by woody species (trees > 10% cover or shrubs > 20% cover); peat mosses, if present, are those of rich sites; brown mosses may occur	Swamp
3c.	Not as above	Go to 4
4.	**MINERAL WETLANDS**	
4a.	Vegetation characterized by woody species (trees ≥ 10% cover or shrubs ≥ 20% cover)	Swamp
4b.	Not as above	Go to 5
5.	**MINERAL WETLANDS (GRAMINOID TYPES)**	
5a.	Vegetation characterized by ≥25% sedges, grasses or emergent forbs; trees < 10% cover; shrubs < 20% cover	Marsh
5b.	Not as above	Go to 6
6.	**MINERAL WETLANDS (AQUATIC TYPES)**	
6a.	Vegetation primarily floating or submersed aquatic plants, algae, or aquatic mosses; emergent or woody species < 25% cover; water table persistent above surface and up to 2 m deep (includes shallow water margins of deeper water bodies)	Shallow water
6b.	Mudflats with <25% emergent plants and characterized by seasonal or periodic water <2m in depth	Shallow water
6c.	Water > 2 m deep	Deep water (lake or pond)

* Average peat depth: average several to many measurements of depth of peat, measuring range of microsite conditions, e.g., hollows and hummocks/tussocks. Weight towards predominant micro-site condition.

** Evaluate von Post in middle of the dominant surface peat layer (see Appendix C, Table C-9)

TABLE 1: SUMMARY OF CHARACTERISTICS OF WETLAND CLASSES

Class	Types and Forms	Soil	Vegetation	Water regime	Nutrient regime	Landscape setting
Bog [B]	TYPES: Treed [T], Shrubby [S], Open [O] FORMS: Coniferous [C]	• Poorly decomposed* organic soil (peat) ≥ 30 cm • Near-surface (30 to 60 cm) permafrost usually present * Von Post < 5	• Plants in bogs are adapted to low nutrients and high acidity • Characterized by a groundcover of sphagnum (peat) mosses and/or lichen, and stunted black spruce (occasionally white spruce) • Shrub birch and ericaceous shrubs such as Labrador tea, lowbush and bog cranberries, and cloudberry are common • Plant diversity is relatively low • Physiognomy treed, shrubby or open (mossy)	• Water inputs primarily from precipitation • Relatively stable water table usually within 30 cm of the ground surface • Stagnant to very slow water flow	• Acidic (pH typically less than <5) (limited data) • Poor	• Elevated (or domed) above the surrounding terrain due to peat accumulation or permafrost formation • Generally found on flat to gentle slopes • May occur on some very steep cold aspect slopes • Commonly referred to as muskeg
Fen [F]	TYPES: Treed [T], Shrubby [S], Graminoid [G], Mossy [M] FORMS: Coniferous [C]	• Poorly to moderately decomposed* organic soil (moss and sedge peat) ≥ 30 cm • Permafrost often present * Von Post ≥ 4	• Characterized by diverse graminoid species including sedges, tussock cottongrass, and sphagnum and brown mosses • Buckbean or three-leaved Solomon's-seal (SE Yukon) are indicators when present • Shrubs (0.5-2 m) such as shrub birch, willows, or leatherleaf are typical of drier fens often with sparse to open stunted black and white spruce (and sometimes larch) on hummocks of the driest fens. • Physiognomy treed, shrubby or open (mossy)	• Variety of water inputs (precipitation, surface water, groundwater) • Consistently high (near-surface) water table • Slow-moving flow, including both surface and subsurface water movement (when wet, significant flow is possible)	• Varying pH (> 5) • Nutrient status ranges from poor to rich	• Gently sloping to level landscape positions, often integrated into larger wetland complexes • Hummocky microtopography caused by moss and sedge tussocks creates microhabitats • Commonly referred to as muskeg
Swamp	TYPES: Treed [T], Shrubby [S] FORMS: Coniferous [C], Mixedwood [M], Deciduous [D]	• Mineral soils (clay, silt or sand) within 30 cm of surface or occasionally with organic soils with highly decomposed* peat • Mineral soils are wet (hydric to subhydric), with indicators such as mottling and gleying and often a mossy and woody peaty surface horizon < 20 to 30 cm • When peat > 30 cm it will be highly decomposed (organic wetland) • Permafrost may be present * Von Post > 5	• Diverse systems characterized by either black or white spruce, larch, birch, and balsam poplar trees, or tall or medium shrubs such as alders and willows • Understorey typically forbs, grasses, and bryophytes (i.e., moss and liverwort) cover • Physiognomy treed or shrubby • Tree species ≥10% and/or shrubs ≥20% cover	• Variety of water inputs (precipitation, surface water or groundwater) • Water table fluctuates within the rooting zone of plants • Fluctuating water levels often cause seasonal flooding • Slow moving flow including both surface and subsurface water movement: however, when wet, significant flow is possible	• Nutrient regime variable; reflects nutrients in mineral-enriched water	• Variable; common in floodplains or other transitions between creeks, rivers, lakes and uplands; toe and lower slopes; margins of peatlands; and perched water tables over permafrost • Swamps may exhibit hummocky microtopography with water pooling in depressions in springtime • Located in transition to uplands and floodplains • Swamps adjacent to rivers and lakes are often referred to as riparian areas

CONTINUES

Class	Types and Forms	Soil	Vegetation	Water regime	Nutrient regime	Landscape setting
Marsh [M]	TYPES: Graminoid [G] FORMS: N/A	• Mineral soils (clay, silt, sand) within 30 cm of surface • Mineral soils are wet (subhydric to hydric), with indicators such as mottling and gleying • If peat is present, it is usually < 30 cm and moderately to highly decomposed	• Characterized by water-tolerant, often emergent graminoid species such as sedges, grasses, reeds, and rushes, and forbs including horsetails • ≥25% emergent species, tree species <10%, shrubs <25%	• Variety of water inputs (precipitation, surface water, groundwater) • Fluctuating water levels frequently cause seasonal flooding • Usually no permafrost due to dynamic subsurface water flow	• Rich	• Marshes are adjacent to rivers and streams, often found at lake shorelines and as transition zones to shallow open water bodies
Shallow Water [W]	TYPES: Aquatic [Aq], Open Water [O] FORMS: N/A	• Soils are wet (hydric to aquatic), usually under water, with clear gley indicators • In dry regions, shallow water may dry up exposing mudflats • Soils usually have limnic sedimentary peat • In northern wetland complexes, drained ponds sequence from shallow water to marsh to swamp to bog	• Characterized by submersed and/or floating aquatic vegetation in open water • <25% emergent or woody species • Common plants are pondweeds, hornwort, pond lily, water milfoil, mare's tail, bladderwort, muskgrass (Chara spp.), water moss or macroalgae	• Open water less than 2 m deep • May be shallower parts of deep-water lakes • Dynamic systems often with seasonally fluctuating water levels • Includes some shallow water which may dry up periodically leaving exposed mud during drawdown	• Usually rich • May include some more acidic organic wetland ponds	• Found in landscape depressions, commonly referred to as ponds and sloughs • May also be found within bog, fen, marsh or swamp complexes

*Fig von Post scale of decomposition: see Appendix C, Table C-8.

**pH: when referring to pH in this and following key, it is the pH of the rooting zone; pH values can vary throughout the soil profile and within the rooting zone

2.0 **Bog ecosites**

Bogs are characterized as nutrient-poor peatlands with a rooting zone typically isolated above the mineral-enriched groundwater and surrounding wetlands. Bogs in Yukon are usually frozen (have permafrost) and can have treed, shrubby or moss-dominated vegetation, with the moss layer primarily peat moss. The water regime of bogs is primarily precipitation-based, as the surface peat is above the water table. Capillary action of peat moss can draw moisture from water sitting above the permafrost table. Water movement is stagnant or very gradual and the soil drainage is poor to very poor. The soil moisture regime is hygric or subhydric and the soil nutrient regime is very poor to poor. Bogs are sensitive to fire and other disturbances which can result in the thawing of permafrost and subsequent collapse of the ground surface.[1]

The guide describes eight bog ecosites:

TREED BOGS

- B02 SbL – Leatherleaf – Peat moss bog
- B03 Sb – Labrador tea – Peat moss bog
- B04 Sb – Lichen bog
- B05 SbL – Peat moss bog
- B06 Sb – Sloping bog
- B08 Palsa bog[2]

SHRUB BOGS

- B07 Labrador tea – Peat moss bog
- B08 Palsa bog[2]

OPEN BOGS

- B09 Peat moss bog

The following key and vegetation table are to aid in identification of the bog ecosites. Ecosite descriptions follow, which include tables of the vegetation associations that comprise the ecosite.

[1] From: Modified slightly from Yukon Wetland Classification Standards (2025)
[2] Mature vegetation can be treed or shrubby

2.1 **Key to bog ecosites**

1A. TREE COVER > 10% (TREED BOGS)

2a. Tree cover dominated by black spruce

- 3a. Sites on moderate to steep slopes — B06
- 3b. Sites level or very gently sloped
  - 4a. Larch of low to moderate cover
    - 5a. Leatherleaf present — B02
    - 5b. Leatherleaf absent — B05
  - 4b. Larch absent or only sparse cover
    - 5a. Reindeer lichens dominate over peat mosses and feathermosses — B04
    - 5b. Peat mosses or feathermosses dominate — B03

2b. Tree cover dominated by white spruce or larch

- 6a. Tree cover dominated by larch
  - 7a. Leatherleaf present — B02
  - 7b. Leatherleaf absent — B05
- 6b. Tree cover dominated by white spruce on palsa landform — B08

1B. TREE COVER < 10% OR ABSENT (SHRUB & OPEN BOGS)

8a. Tree and shrub cover low, peat moss is dominant vegetation — B09

8b. Labrador teas and/or shrub birch dominate the shrub layer

- 9a. Labrador teas and peat mosses dominate — B07
- 9b. Labrador teas and shrub birch dominate, peat mosses absent or sparse, on palsa landform — B08

2.2 **Bog vegetation table**

Layer	Bog ecosite	B02	B03	B04	B05	B06	B07	B08	B09	English name
	Number of plots	6	39	52	6	14	11	5	2	
Tree	Picea mariana	■■■■	■■■■	■■■■	■■■■■	■■■■	■■■			black spruce
	Picea glauca								■■■	white spruce
	Larix laricina	■■■			■■■					larch
Shrub	Chamaedaphne calyculata	■■■■						□	■	leatherleaf
	Betula glandulosa	■■■	■■■	■■■	■■■■	■■■	■■■■	■■■		shrub birch
	Rhododendron spp.	■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■		Labrador teas
	Vaccinium uliginosum	□	■■	□□	■■	■■■	■	■■■		blueberry
Ground shrub	Andromeda polifolia	■■■■		□			□□		■■■	bog rosemary
	Empetrum nigrum	□	■■■	□□	□□□	■■	□□	□□□		crowberry
	Rubus chamaemorus	■■■	■■■■	■■■	■■■■	■■	■■■	■■■	■■■	cloudberry
	Vaccinium oxycoccos	■■■	■■	■	■■■	■	■		■	bog cranberry
	Vaccinium vitis-idaea	□	■■■	■■■	■■■	■■■	■■■	■■■		lowbush cranberry
Graminoid	Carex aquatilis	■■■			□				■	water sedge
Forb	Drosera anglica								■■	English sundew
	Maianthemum trifolium	■■■								three-leaved false Solomon's-seal
Bryophyte	Sphagnum spp.	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	□□□□	■■■■■	peat mosses
	Hylocomium / Pleurozium		■■■■	□□□	■■■■	■■■■■	□□□	■■■■		feathermosses
Lichen	Cladina spp.	□□□	■■■■	■■■■■	■■■	■■■	■■■	■■■■		reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

2.3 **Bog ecosites and vegetation associations**

Wetland code	Ecosite name	Association code	Association name
B02	SbL – Leatherleaf – Peat moss bog	SbL45	Black spruce – Larch / Leatherleaf / Peat moss
B03	Sb – Labrador tea – Peat moss bog	Sb41	Black spruce / Labrador tea / Sedge / Peat moss
		Sb43	Black spruce / Labrador tea / Feathermoss – Peat moss
		Sb44	Black spruce / Labrador tea / Cloudberry – Lowbush cranberry / Peat moss
B04	Sb – Lichen bog	Sb42	Black spruce / Labrador tea / Lichen – Peat moss
		Rhto51	Northern Labrador tea / Reindeer lichen – Peat moss
B05	SbL – Peat moss bog	SbL44	Black spruce – Larch / Labrador tea / Peat moss
B06	Sb – Sloping bog	Sb43s	Black spruce / Labrador tea / Feathermoss – Peat moss; slope phase
B07	Labrador tea – Peat moss bog	Rhod55	Labrador tea / Peat moss
B08	Palsa bog	Sw32	White spruce / Willow / Red bearberry / Brown moss
		Begl49	Shrub birch – Labrador tea / Cloudberry
B09	Peat moss bog	Spfu54	Bog rosemary / Brown peat moss

B02
SbL – Leatherleaf – Peat moss bog

GENERAL DESCRIPTION

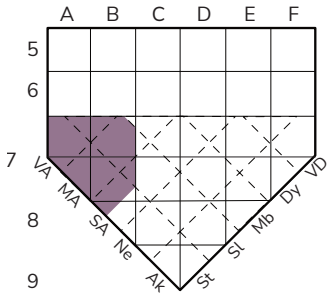
SbL – Leatherleaf – Peat moss bog is common in the Boreal Low zone of southeast Yukon. It also occurs in the Subarctic Woodland of northeastern Yukon, in the Porcupine and Peel River drainages.

Both larch (Larix laricina) and black spruce (Picea mariana) are characteristic trees with ground cover varying from low to high. Leatherleaf (Chamaedaphne calyculata) of low to high cover is also characteristic. Bog rosemary (Andromeda polifolia) and bog cranberry (Vaccinium oxycoccus) are consistently present. Most sites have shrub birch (Betula glandulosa) and Labrador teas, with Rhododendron groenlandicum most common in the south and R. tomentosum in the north. Peat mosses (Sphagnum spp.) dominate the ground cover.

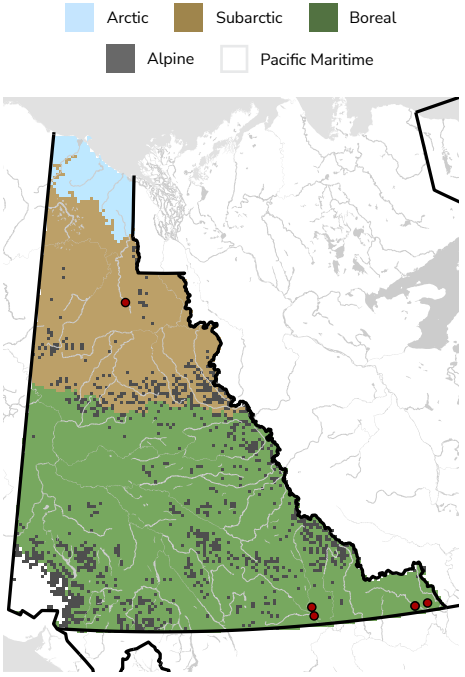
The SbL – Leatherleaf – Peat moss bog ecosite occurs on poor to very poorly drained sites, mostly with a hydric to subhydric moisture regime and a poor nutrient regime. Soils mostly are comprised of fibric organic peat, with some mesic peat at depth. Although detailed soil information is limited, soils likely have permafrost and could be classified as Organic Cryosols.

B02-SbL45 (Black spruce – Larch / Leatherleaf / Peat moss)

EDATOPIC GRID

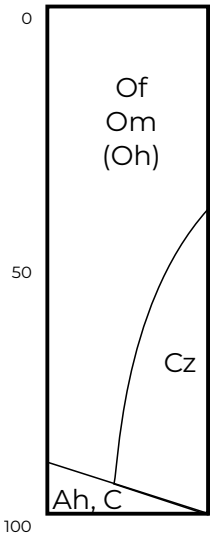


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	6	**Soil texture**	fibric, mesic
Moisure regime	subhygric to hydric [7 – 8]	**Soil classification**	Organic Cryosols
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	greater than 30 cm
Aspect	none	**Soil drainage**	mostly very poor
Slope aspect	level	**Seepage / water table**	seepage may be present on top of permafrost
Surficial material	organic	**Permafrost**	present in subarctic, at depth (> 70 cm) in SE Yukon



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite B02:

SbL45
Black spruce – Larch / Leatherleaf / Peat moss

Layer	Vegetation association	SbL45	English name
	Number of plots	6	
Tree	Larix laricina	■■■	larch
	Picea mariana	■■■■	black spruce
Shrub	Chamaedaphne calyculata	■■■■	leatherleaf
	Betula glandulosa	■■■	shrub birch
	Rhododendron spp.	■■■	Labrador teas
Ground shrub	Andromeda polifolia	■■■■	bog rosemary
	Rubus chamaemorus	■■■	cloudberry
	Vaccinium oxycoccos	■■■	bog cranberry
Graminoid	Carex aquatilis	■■■	water sedge
Forb	Maianthemum trifolium	■■■	three-leaved false Solomon's-seal
Bryophyte	Sphagnum spp.	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B03
Sb – Labrador tea – Peat moss bog

GENERAL DESCRIPTION

The Sb – Labrador tea – Peat moss bog is a common bog ecosystem, occurring throughout boreal and subarctic Yukon, although mostly in the Boreal Region—BOL and BOH (Appendix C).

These bogs are characterized by sparse to open, often stunted, stands of black spruce (Picea mariana) with peat mosses (Sphagnum spp.) dominating the ground cover. Labrador teas (Rhododendron groenlandicum, R. tomentosum) are the dominant shrub. Common ground shrubs are lowbush cranberry (Vaccinium vitis-idaea), cloudberry (Rubus chamaemorus), bog cranberry (Vaccinium oxycoccos) and crowberry (Empetrum nigrum). Reindeer lichens (Cladina spp.) are consistently present, with lower cover than peat mosses. Peat mosses are dominated by Sphagnum fuscum with patches of S. capillifolium and S. angustifolium. Feathermosses (Hylocomium splendens, Pleurozium schreberi) are sometimes of high cover (see Sb43) and may dominate over peat mosses, especially on somewhat drier sites with greater tree cover.

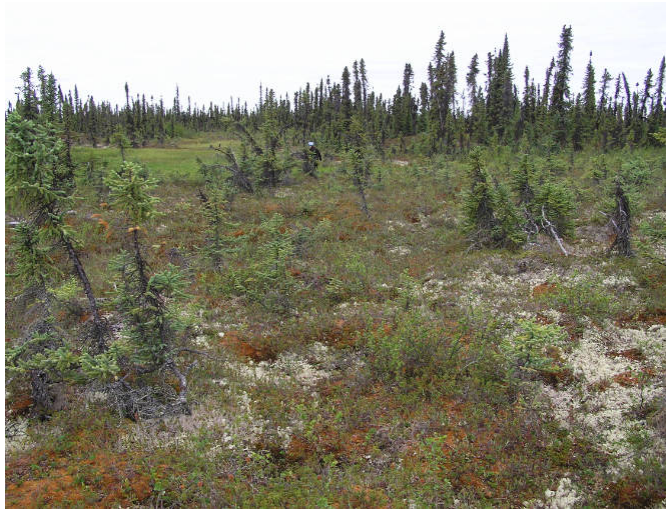
This ecosite primarily develops on more than 40 cm of poorly decomposed peat, with permafrost starting at 20 to 55 cm in depth. Soils are usually Organic Cryosols, though occasionally non-Organic Cryosols are recorded with 30 to 40 cm of peat. Sites are level or nearly so, and occur in wetland complexes on sites that are slightly raised above the other wetlands.

COMMENTS

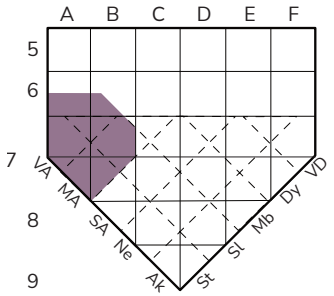
The three vegetation associations of B03 are included in CNVC00314 Black Spruce / Shrub Birch / Lowbush Cranberry / Peat Mosses association.

B03 includes B01 from the BOLsl ecosite field guide (Department of Environment, Government of Yukon, 2017).

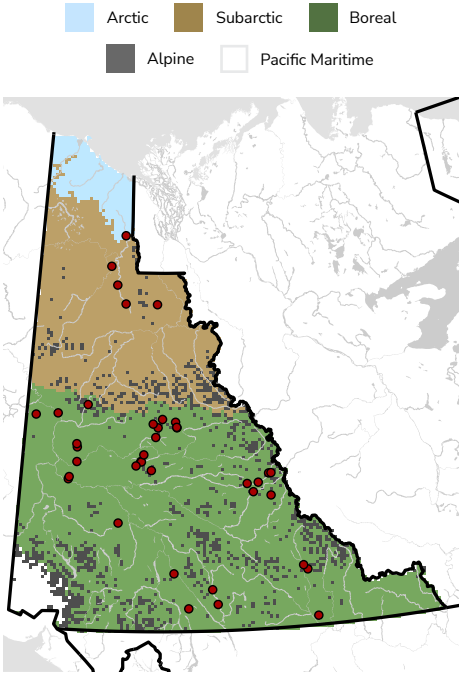
B03-Sb44 (Black spruce / Labrador teas / Cloudberry – Lowbush cranberry / Peat moss)



EDATOPIC GRID

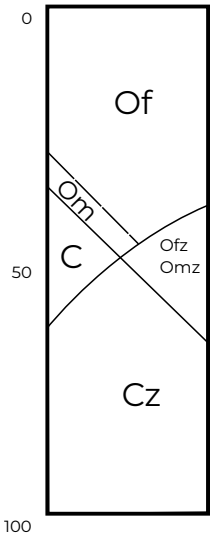


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	39	**Soil texture**	usually fibric
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Organic Cryosols (also Turbic or Static Cryosols)
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	greater than 40 cm
Aspect	none (to variable)	**Soil drainage**	imperfect to poor, occasionally very poor
Slope aspect	level	**Seepage / water table**	seepage may occur on top of permafrost
Surficial material	organic	**Permafrost**	present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite B03:

Sb41
Black spruce / Labrador teas / Sedge / Peat moss

Sb43
Black spruce / Labrador teas / Feathermoss – Peat moss

Sb44
Black spruce / Labrador teas / Cloudberry – Lowbush cranberry / Peat moss

Layer	Vegetation association / Number of plots	Sb41 3	Sb43 6	Sb44 30	English name
Tree	Picea mariana	■■■■	■■■■	■■■■	black spruce
Shrub	Salix spp.	■■■■	■■■■	□□	willows
	Rhododendron spp.	■■■■■	■■■■■	■■■■	Labrador tea
	Betula glandulosa		■■■	■■■	shrub birch
	Vaccinium uliginosum	■■■	■■■	■■	blueberry
Ground shrub	Empetrum nigrum	■■■■	■■	■■■	crowberry
	Rubus chamaemorus	■■■	■■■■	■■■■	cloudberry
	Vaccinium oxycoccos	■■	■	■■	bog cranberry
	Vaccinium vitis-idaea	■■■	■■■	■■■	lowbush cranberry
Graminoid	Carex spp.	■■■■			sedges
Bryophyte	Hylocomium / Pleurozium	■■■	■■■■■	■■■	feathermosses
	Sphagnum spp.	■■■■■	■■■■	■■■■■	peat mosses
Lichen	Cladina spp.	■■■■	■■■■	■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B04
Sb – Lichen bog

GENERAL DESCRIPTION

Sb – Lichen bog occurs commonly throughout Boreal and Subarctic Yukon. Permafrost bogs in northern Yukon are generally dominated by lichens.

B04 bogs have a sparse to open black spruce (Picea mariana) tree or shrub cover and a groundcover dominated by Labrador teas (mostly Rhododendron groenlandicum in the south or R. tomentosum in the north) and reindeer lichens (Cladina rangiferina, C. stellaris, C. mitis). Shrub birch (Betula glandulosa) and ground shrubs such as cloudberry (Rubus chamaemorus), bog cranberry (Vaccinium oxycoccus) and lowbush cranberry (Vaccinium vitis-idaea) are usually present. Peat mosses (Sphagnum spp.) are generally the most abundant mosses, however feathermosses (Pleurozium schreberi, Hylocomium splendens) are sometimes of high cover.

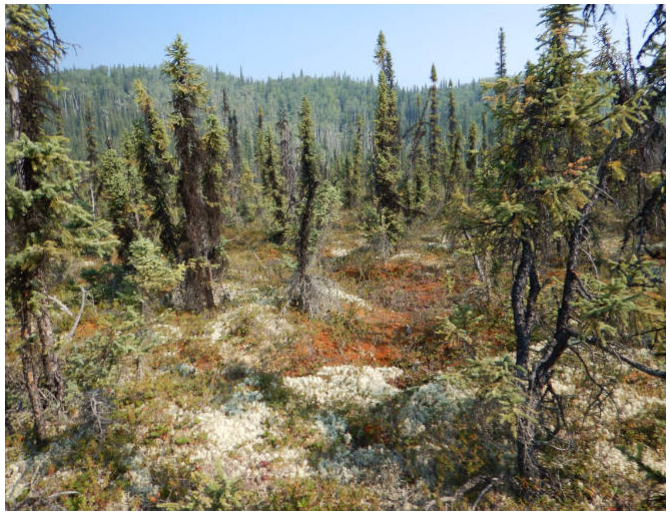
The Sb – Lichen bog ecosite occurs on hygric or subhydric sites with a poor nutrient regime. Soils are organic with 30 to 40 cm or more of fibric peat and permafrost at 30 to 55 cm in depth. Soils are mostly Typic Organic Cryosols in the Subarctic and Terric Organic Cryosols in the south, although Static Cryosols also occur.

COMMENTS

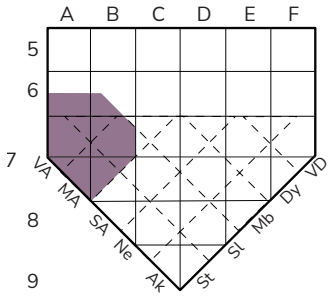
Sb42 is a component of CNVC00314 Black Spruce / Glandular Birch / Lowbush Cranberry / Peat Mosses.

Permafrost bogs, especially in the north, are commonly lichen-dominated and as permafrost thaws, bogs may get wetter with less lichen cover. Feathermosses may be associated with deeper active layers, possibly increasing following forest fires.

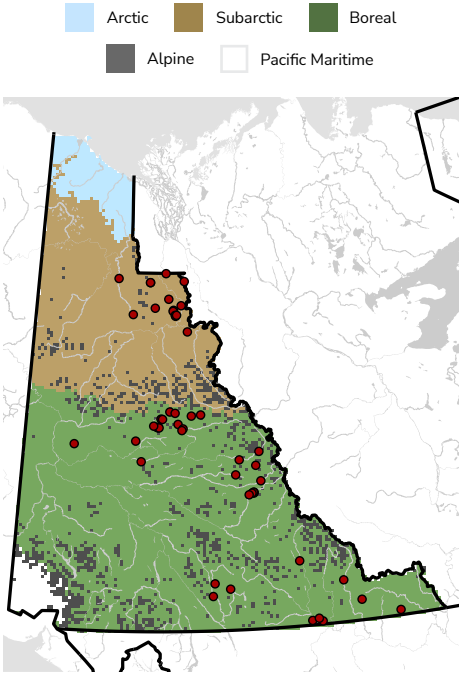
B04-Sb42 (Black spruce / Labrador teas / Lichen – Peat moss)



EDATOPIC GRID

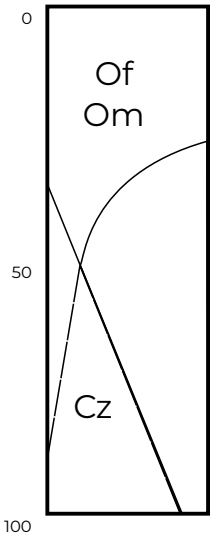


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	52	**Soil texture**	usually fibric
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Organic Cryosols (Static Cryosols)
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	greater than 30 cm
Aspect	none (or variable)	**Soil drainage**	imperfect to poor, occasionally very poor
Slope aspect	level (to gentle)	**Seepage / water table**	seepage may be present following precipitation events or where drainage has changed
Surficial material	organic	**Permafrost**	present within 30 to 55 cm (may be deeper in SE Yukon)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite B04:

Rhto51
Northern Labrador tea / Reindeer lichen – Peat moss

Sb42
Black spruce / Labrador teas / Lichen – Peat moss

	Vegetation association	Rhto51	Sb42	
Layer	**Number of plots**	9	43	**English name**
Tree	Picea mariana	■■■	■■■■	black spruce
Shrub	Rhododendron spp.	■■■■■	■■■■	Labrador teas
	Betula glandulosa	■■■	■■■	shrub birch
Ground shrub	Andromeda polifolia	▪	□	bog rosemary
	Rubus chamaemorus	■■■	■■■	cloudberry
	Vaccinium oxycoccos	□	▪	bog cranberry
	Vaccinium vitis-idaea	■■	■■■	lowbush cranberry
Bryophyte	Sphagnum spp.	■■■■	■■■■■	peat mosses
	Hylocomium / Pleurozium		▪▪▪	feathermosses
Lichen	Cladina spp.	■■■■■	■■■■■	reindeer lichens
	Cladonia spp.	■	▪▪	clad lichens
	Cetraria spp.	■■■	▪▪	Iceland lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B05
SbL – Peat moss bog

GENERAL DESCRIPTION

The SbL – Peat moss bog is common in the Boreal Low zone of southeast Yukon. It also occurs in the Subarctic Woodland of northeastern Yukon, in the Porcupine and Peel River drainages.

Both larch (Larix laricina) and black spruce (Picea mariana) are characteristic trees with cover varying from low to high. Shrub birch (Betula glandulosa) and Labrador teas, with Rhododendron groenlandicum most common in the south and R. tomentosum in the north, dominate the shrub layer. Bog cranberry (Vaccinium oxycoccus), cloudberry (Rubus chamaemorus) and lowbush cranberry (Vaccinium vitis-idaea) are common ground shrubs. Peat mosses (Sphagnum spp.) dominate the ground cover although feathermosses and reindeer lichens (Cladina spp.) commonly occur.

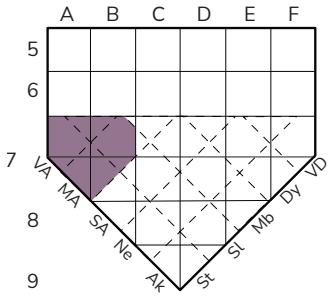
The SbL – Peat moss bog ecosite occurs on poorly drained sites, mostly with a subhydric to hygric moisture regime and a poor nutrient regime. Soils are mostly comprised of fibric organic peat overlying mesic peat. Although detailed soil information is limited, the soils in southeast Yukon may have permafrost, whereas soils in the subarctic surely will have permafrost. Soils would be classified as Organic Cryosols if permafrost is present within 1 metre of the ground surface. Otherwise, they would be Fibrisols or Mesisols.

COMMENTS

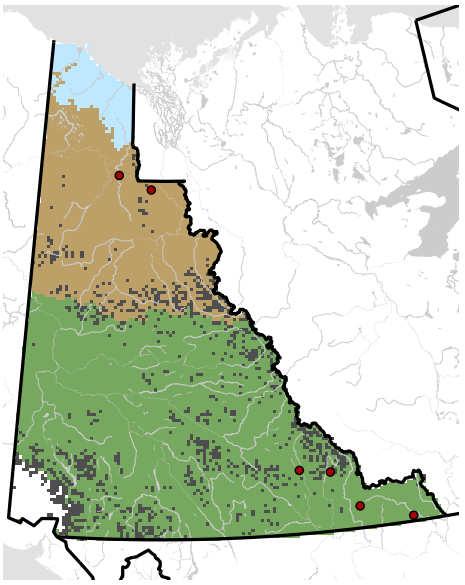
SbL44 is likely a component of CNVC00314 Black Spruce / Glandular Birch / Lowbush Cranberry / Peat Mosses association, but this has not been confirmed formally.

B05-SbL44 (Black spruce – Larch / Labrador teas / Peat moss)

EDATOPIC GRID

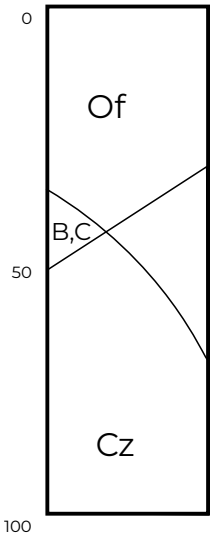


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	6	**Soil texture**	fibric, mesic
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Organic Cryosols
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	greater than 30 cm
Aspect	none	**Soil drainage**	mostly very poor
Slope aspect	level	**Seepage / water table**	water may be present on top of permafrost
Surficial material	organic	**Permafrost**	present in subarctic, at depth (> 70 cm) in SE Yukon



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite B05:

SbL44
Black spruce – Larch / Labrador teas / Peat moss

	Vegetation association	SbL44	
Layer	**Number of plots**	6	**English name**
Tree	Larix laricina	■■■	larch
	Picea mariana	■■■■	black spruce
Shrub	Betula glandulosa	■■■■	shrub birch
	Rhododendron spp.	■■■■■	Labrador teas
	Vaccinium uliginosum	■■	blueberry
Ground shrub	Rubus chamaemorus	■■■■	cloudberry
	Vaccinium oxycoccos	■■■	bog cranberry
	Vaccinium vitis-idaea	■■■	lowbush cranberry
Bryophyte	Sphagnum spp.	■■■■■	peat mosses
	Pleurozium schreberi	■■■■	red-stemmed feathermoss
Lichen	Cladina spp.	■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B06
Sb – Sloping bog

GENERAL DESCRIPTION

The Sb – Sloping bog occurs on cool aspect slopes, mostly in the Boreal Low and High of central Yukon, although it may be wider ranging. Although B06 has vegetation that fits the Sb43 association, it occurs on very different site conditions than the Sb43 in ecosite B03—on slopes instead of level or depressional sites—so is classified as a separate ecosite.

These bogs are characterized by open, generally stunted stands of black spruce (Picea mariana). Common ground shrubs are lowbush cranberry (Vaccinium vitis-idaea), cloudberry (Rubus chamaemorus), bog cranberry (Vaccinium oxycoccos) and crowberry (Empetrum nigrum). Reindeer lichens (Cladina spp.) are usually present, with low cover Labrador teas (Rhododendron groenlandicum, R. tomentosum), peat mosses (Sphagnum spp.) and feathermosses (Hylocomium splendens, Pleurozium schreberi) dominating the understorey. Peat mosses and feathermosses are usually about equal in cover.

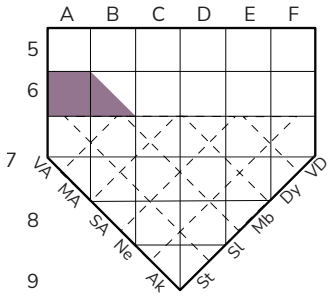
B06 occurs on moderate to steep, cool-aspect slopes. It develops on more than 30 to 40 cm of poorly decomposed peat, with permafrost usually starting at a depth of 40 to 50 cm. Soils are usually Terric Organic Cryosols with shallow, fibric organic material.

COMMENTS

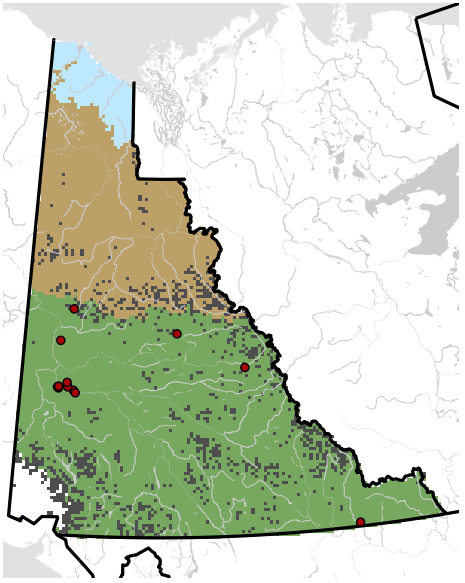
Sb43s is a component of CNVC00314 Black Spruce / Glandular Birch / Lowbush Cranberry / Peat Mosses association.

B06-Sb43s (Black spruce / Labrador teas / Feathermoss – Peat moss; slope phase)

EDATOPIC GRID

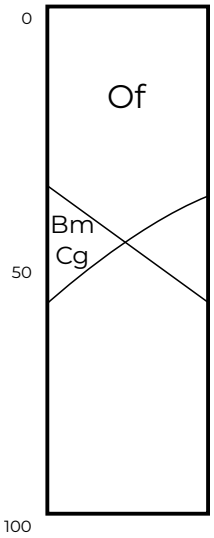


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	14	**Soil texture**	fibric
Moisure regime	hygric [6]	**Soil classification**	Organic Cryosols
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	middle to lower	**Humus depth**	30 to 50 cm
Aspect	cool (N to NE)	**Soil drainage**	imperfect to poor
Slope aspect	moderate to steep	**Seepage / water table**	seepage may occur on top of the permafrost during or following precipitation events
Surficial material	organic	**Permafrost**	usually present within 30 to 60 cm



VEGETATION SUMMARY

This vegetation subassociation characterizes the species composition of ecosite B06:

Sb43s
Black spruce / Labrador teas / Feathermoss – Peat moss; slope phase

Layer	Vegetation association	Sb43s	English name
	Number of plots	14	
Tree	Picea mariana	■■■■	black spruce
Shrub	Betula occidentalis	▪▪	water birch
	Rhododendron spp.	■■■■■	Labrador teas
	Betula glandulosa	▪▪▪▪	shrub birch
	Vaccinium uliginosum	▪▪▪	blueberry
Ground shrub	Vaccinium vitis-idaea	■■■	lowbush cranberry
	Empetrum nigrum	▪▪	crowberry
	Rubus chamaemorus	■■■	cloudberry
	Vaccinium oxycoccos	▪	bog cranberry
Bryophyte	Hylocomium / Pleurozium	■■■■■	feathermosses
	Sphagnum spp.	■■■■■	peat mosses
Lichen	Cladina spp.	■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B07
Labrador tea – Peat moss bog

GENERAL DESCRIPTION

The Labrador tea – Peat moss bog occurs infrequently throughout Boreal and Subarctic Yukon.

These bogs are dominated by Labrador teas (Rhododendron groenlandicum, R. tomentosum) and peat mosses (Sphagnum spp.). Northern Labrador tea (R. tomentosum) is most common in the subarctic, while common Labrador tea (R. groenlandicum) occurs in more southern locations. Some scattered, stunted black spruce (Picea mariana) occur, but they are of very low cover (up to 7%). Other common species are shrub birch (Betula glandulosa), cloudberry (Rubus chamaemorus), lowbush cranberry (Vaccinium vitis-idaea) and bog cranberry (Vaccinium oxycoccos). Reindeer lichens (Cladina spp.) often occur with low cover.

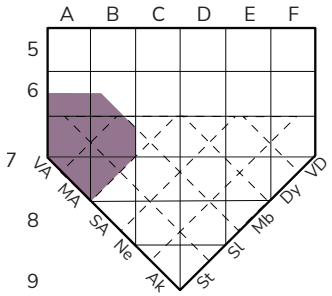
This ecosite primarily develops on more than 30 cm of poorly decomposed peat, with permafrost starting at a depth of about 35 to 45 cm, and shallower in the subarctic. Soils are Organic Cryosols. Sites are level, or nearly so, and occur in wetland complexes on sites that are slightly raised above the other wetlands.

COMMENTS

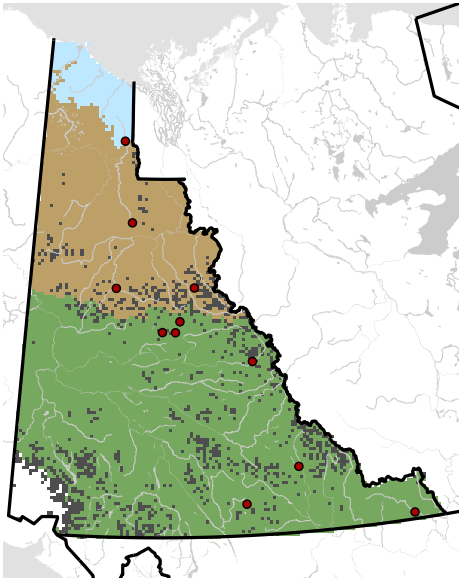
These shrub bogs are similar in species composition to B03, but black spruce cover is <10%.

B07-Rhod55 (Labrador teas / Peat moss)

EDATOPIC GRID

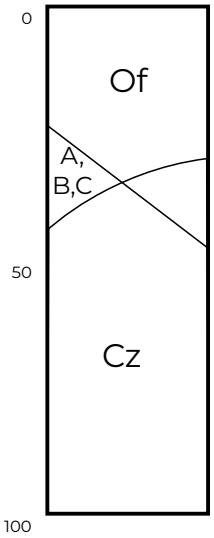


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	11	**Soil texture**	fibric
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Organic Cryosols
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	greater than 30 – 40 cm
Aspect	none (to variable)	**Soil drainage**	poor to very poor
Slope aspect	level	**Seepage / water table**	water may occasionally pool on top of permafrost
Surficial material	organic	**Permafrost**	present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite B07:

Rhod55
Labrador teas / Peat moss

	Vegetation association	Rhod55	
Layer	**Number of plots**	11	**English name**
Tree	Picea mariana	■■■	black spruce
Shrub	Salix spp.	■■■■	willows
	Rhododendron spp.	■■■■■	Labrador teas
	Betula glandulosa	■■■■	shrub birch
	Vaccinium uliginosum	■	blueberry
Ground shrub	Rubus chamaemorus	■■■■	cloudberry
	Vaccinium oxycoccos	■	bog cranberry
	Vaccinium vitis-idaea	■■■	lowbush cranberry
Bryophyte	Sphagnum spp.	■■■■■	peat mosses
Lichen	Cladina spp.	■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B08
Palsa bog

GENERAL DESCRIPTION

Palsa bog is a frequent bog ecosystem, occurring in central to northern Yukon on palsa mounds. These are peaty ice cored mounds occasionally found in the centre of ponds or at the edges of lakes.

The vegetation can be variable due to varying site conditions on different parts of a mound. White spruce (Picea glauca) is the main tree species, which may occur only sparsely in some parts of the palsa. Shrub birch (Betula glandulosa) sometimes dominates the shrub overstorey. Labrador teas (Rhododendron groenlandicum / tomentosum), crowberry (Empetrum nigrum), cloudberry (Rubus chamaemorus), blueberry (Vaccinium uliginosum) and lowbush cranberry (Vaccinium vitis-idaea) are common. Feathermosses dominate the moss cover although reindeer lichens (Cladina spp.) can be of moderately high cover.

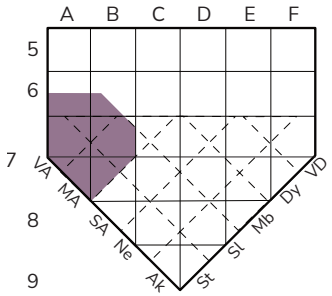
Soils usually consist of greater than 40 cm of peat over an ice core and are classified as Organic Cryosols.

COMMENTS

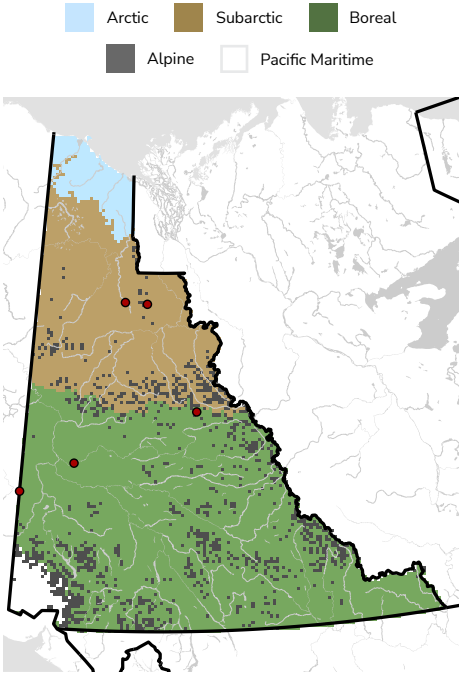
Palsa bogs are not particularly wet at the surface but occur on peat overlying a core of ice, peat and sometimes mineral soil. Ice forms as water from the surrounding wetland migrates to the cold icy core, which is protected from melting by a drier peat surface protruding above the surrounding unfrozen wetland. Permafrost is close to the surface. Most palsas contain thermokarst cracks and collapsing margins.

B08-Begl49 (Shrub birch – Labrador teas / Cloudberry)

EDATOPIC GRID

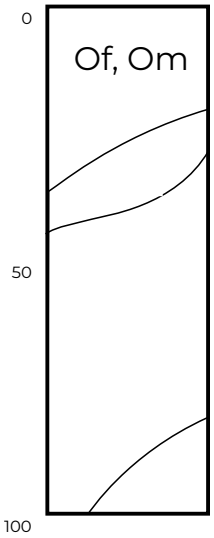


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	5	**Soil texture**	usually fibric
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Organic Cryosols (also Turbic Cryosols)
Nutrient regime	poor to very poor [A – B]	**Humus form**	wet mor
Meso slope position	level or crest	**Humus depth**	> 40 cm
Aspect	none (to variable)	**Soil drainage**	imperfect to poor
Slope aspect	level (to moderate or steep)	**Seepage / water table**	absent
Surficial material	organic	**Permafrost**	present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite B08:

Begl49
Shrub birch – Labrador teas / Cloudberry

Sw32
White spruce / Willow / Red bearberry / Brown moss

	Vegetation association	Begl49	Sw32	
Layer	**Number of plots**	3	2	**English name**
Tree	Picea glauca	□□	■■■■	white spruce
Shrub	Salix bebbiana		■■	Bebb's willow
	Betula glandulosa	■■■■		shrub birch
	Rhododendron spp.	■■■■■	■■■	Labrador teas
	Salix spp.	□	■■■	willows
	Salix myrtillifolia	■		blueberry willow
	Vaccinium uliginosum	□	■■■■	blueberry
Ground shrub	Andromeda polifolia	■		bog rosemary
	Empetrum nigrum	□□□□	■■	crowberry
	Rubus chamaemorus	■■■	■	cloudberry
	Vaccinium vitis-idaea	■■■	■■■■	lowbush cranberry
	Arctous rubra		■■■	red bearberry
Graminoid	Calamagrostis canadensis		■	bluejoint reedgrass
Bryophyte	Aulacomnium turgidum		■■■■	mountain groove moss
	Hylocomium / Pleurozium	■■	■■■■■	feathermosses
Lichen	Cetraria spp.	■■■		Iceland lichens
	Cladina spp.	■■■■	■	reindeer lichens
	Peltigera ssp.		■■	pelt lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

B09
Peat moss bog

GENERAL DESCRIPTION

The Peat moss bog occurs infrequently in the Subarctic region.

These open bogs are characterized by sparse vegetation other than peat moss. English sundew (Drosera anglica) and bog rosemary (Andromeda polifolia) are usually present.

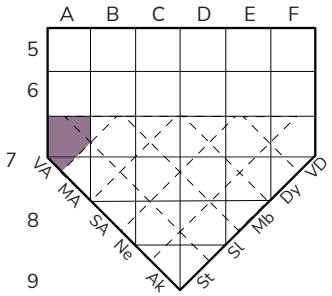
This ecosite develops in thermokarst depressions or collapse scars, within peat plateau bogs with abundant ice. The collapse scars are small depressions that are much wetter than the surrounding peat plateau. Soils are composed of greater than 1 metre of loose fibric peat and water, and are classified as Organic. Because collapse scars are isolated from surrounding water drainage flow, the water pH is commonly 4 to 4.5.

COMMENTS

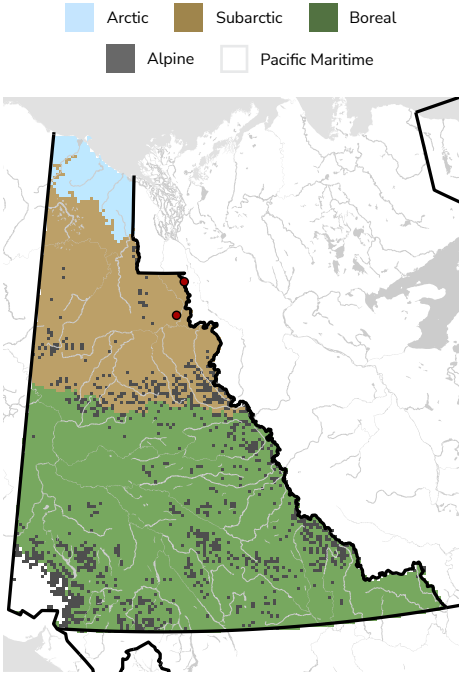
Brownish peat mosses typical of collapse scars, pools and extensive peat mats in bogs and poor fens include brown peat moss (Sphagnum fuscum), Lindberg's peat moss (Sphagnum lindbergii – Arctic and N. Boreal) and olive peat moss (S. majus – N. Boreal). Other 'brown peat mosses' may be loose Sphagnum from thawed peat.

NO PHOTO AVAILABLE

EDATOPIC GRID

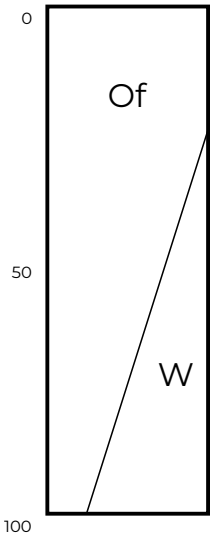


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	2	**Soil texture**	fibric
Moisure regime	subhydric [7]	**Soil classification**	Fibrisols
Nutrient regime	poor [A]	**Humus form**	wet mor
Meso slope position	level	**Humus depth**	> 1 m
Aspect	none	**Soil drainage**	very poor
Slope aspect	level	**Seepage / water table**	water table at the surface
Surficial material	organic	**Permafrost**	may be present > 100 cm



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite B09:

Spfu52
Bog rosemary / Brown peat moss

	Vegetation association	Spfu52	
Layer	**Number of plots**	2	**English name**
Ground shrub	Andromeda polifolia	■■■	bog rosemary
Forb	Drosera anglica	■■	English sundew
Bryophyte	Sphagnum spp.	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

3.0 **Fen ecosites**

Fens are peatlands where the rooting zone is influenced by mineral-enriched groundwater. With a ground cover dominated by sedges and brown mosses, fens can have treed, shrubby, sedge-dominated, or moss-dominated vegetation structure. The water table movement in fens is typically stagnant or fluctuates very gradually and soil drainage is poor to very poor. Although the driest fens are treed, fens are generally very wet with the wettest dominated by sedges or mosses. Fens occur in basins fed by groundwater, on gently sloping seepage slopes, on perched water tables over permafrost, or on lake or pond margins where there is very limited wave action or drawdown over the growing season. Mineral soils may lie below peat and, if observed, they are typically gleyed and/or strongly mottled and may contain permafrost. Fire disturbances can affect fens by altering species composition and increasing the depth of the active layer, creating drier conditions.[1]

The guide describes 21 fen ecosites:

TREED FENS

- F04 SbSw – Water sedge fen
- F05 Sb – Tussock sedge fen
- F14 SbL – Water sedge fen

[1] Modified from Yukon Wetland Classification Standards (2025).

SHRUBBY FENS

- F02 Shrub birch – Water sedge fen
- F03 Willow – Water sedge fen
- F06 Shrub birch – Tussock sedge fen
- F07 Leatherleaf – Peat moss fen
- F16 Sweet gale fen

GRAMINOID FENS

- Sedge dominated (Carex) fens:
  - F01 Water sedge fen
  - F08 Slender sedge – Beaked sedge fen
  - F09 Creeping sedge fen[2]
  - F10 Livid sedge – Mud sedge fen
  - F12 Lesser panicled sedge – Water sedge fen
  - F15 Mud sedge – Buckbean fen
  - F19 Silvery sedge fen
- Other sedge (non-Carex) dominated fens:
  - F11 Clubrush – Sedge fen
  - F18 Russet cottongrass fen
  - F21 Narrow-leaved cottongrass fen[3] (see also Wf02 from Arctic guide)
- F13 Water horsetail – Sedge fen
- F20 Wild calla fen

MOSSY FENS

- F17 Peat moss fen

[2] See also Wf03 from Arctic guide—Mackenzie, Kennedy and Flynn. 2022
[3] MacKenzie, W.H., C.E. Kennedy and N. Flynn. 2022. Ecosystems of the Yukon Arctic Region: a guide to identification. Department of Environment, Fish and Wildlife Branch, Government of Yukon, Whitehorse, Yukon. viii + 236 pp.

The following key and Fen Vegetation Tables 1-4 are intended to aid in identification of the fen ecosites. Ecosite descriptions follow these aids, including tables of the vegetation associations of the ecosite where applicable.

3.1 Key to fen ecosites

1A. TREE COVER > 10% (TREED FENS)
› **See Fen vegetation table 1**

2a. Tree cover includes larch — F14

2b. Tree cover dominated by white or black spruce; no larch

3a. Tussock sedges (spruce muskeg sedge or tussock cottongrass) dominate graminoids — F05

3b. Water sedge dominates graminoids — F04

1B. TREE COVER < 10%

4a. Shrub cover 20% or more (Shrubby fens)
› **See Fen vegetation table 2**

5a. Shrub birch dominates

6a. Graminoids dominated by water sedge — F02

6b. Graminoids dominated by tussock sedges (spruce muskeg sedge or tussock cottongrass) — F06

5b. Other shrubs dominate (willows, leatherleaf, sweet gale)

7a. Willows dominate — F03

7b. Leatherleaf dominates — F07

7c. Sweet gale dominates — F16

4b. Shrub cover < 20% (Graminoid or mossy fens)

8a. Sedges (Carex spp.) ≤ 10% cover; fen dominated by cottongrass, clubrush, water horsetail, buckbean, wild calla or peat moss
› **See Fen vegetation table 3**

9a. Water horsetail dominates — F13

9b. Clubrushes dominate — F11

9c. Cottongrasses dominate graminoid cover

10a. Russet cottongrass dominates — F18

10b. Narrow-leaved cottongrass dominates — F21

9d. Wild calla dominates — F20

9e. Mud sedge present, usually with buckbean — F15

9f. None of the above; peat mosses of high cover — F17

10b. Sedges (Carex spp.) > 10% cover – **See Fen vegetation table 4**

11a. Clubrushes usually dominate; cover either ≥ 20% or > sedge cover — F11

11b. Water horsetail cover > sedge cover — F13

11c. Narrow-leaved cottongrass dominates graminoid cover — F21

11d. Wild calla > sedge cover — F20

11e. Sedges dominate

12a. Silvery sedge ≥ 20% cover, usually dominant — F19

12b. Slender sedge ≥ 20% cover, usually dominant — F08

12c. Lesser panicled sedge ≥ 20% cover or dominant sedge — F12

12d. Creeping sedge ≥ 10% cover, other sedges may dominate — F09

12e. Mud sedge dominant or co-dominant in sedge cover

13a. Livid sedge present, usually dominant — F10

13b. Livid sedge absent or, if present, of low cover, and buckbean present — F15

12f. Buckbean ≥ 25% cover — F15

12g. Water sedge or beaked sedge dominates — F01

3.2 **Fen vegetation tables**

FEN VEGETATION TABLE 1: TREED FENS

Layer	Fen ecosite	F04	F05	F14	English name
	Number of plots	33	116	16	
Tree	Picea glauca	■■■■	□□□	□□	white spruce
	Picea mariana	□□□	■■■■	■■■	black spruce
	Larix laricina			■■■	larch
Shrub	Rhododendron spp.	▪▪▪	■■■■	■■■	Labrador teas
	Betula glandulosa	■■■■	▪▪▪	■■■	shrub birch
	Dasiphora fruticosa	■■	□	□	shrubby cinquefoil
	Salix spp.	■■■■	▪▪▪	■■■	willows
	Salix myrtillifolia	▪▪▪		□□□	blueberry willow
	Vaccinium uliginosum	□□	▪▪▪	▪▪	blueberry
Ground shrub	Empetrum nigrum	▪▪▪	□□	□	crowberry
	Arctous rubra	▪▪▪	□□	▪▪	red bearberry
	Rubus chamaemorus		▪▪	□	cloudberry
	Vaccinium vitis-idaea	▪▪	■■■	▪▪	lowbush cranberry
Graminoid	Carex aquatilis	■■■■		■■■■	water sedge
	Carex bigelowii ssp. lugens		▪▪▪▪		spruce muskeg sedge
	Eriophorum vaginatum		▪▪▪▪		tussock cottongrass
Forb	Pedicularis labradorica			▪	Labrador lousewort
Bryophyte	Aulacomnium / Tomentypnum	■■■■	▪▪▪▪	■■■■■	brown mosses
	Hylocomium / Pleurozium	□□□	■■■■	□□□	feathermosses
	Sphagnum spp.	□□□	■■■■	■■■■	peat mosses
Lichen	Cladina spp.	□□	▪▪▪	▪	reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

FEN VEGETATION TABLE 2: SHRUBBY FENS

Layer	Fen ecosite	F02	F03	F06	F07	F16	English name
	Number of plots	46	48	78	31	12	
Shrub	Betula glandulosa	■■■■	■■■	■■■■■	□□	■■■	shrub birch
	Chamaedaphne calyculata				■■■■	■■■	leatherleaf
	Myrica gale					■■■■■	sweet gale
	Rhododendron tomentosum			■■■■		□	northern Labrador tea
	Salix spp.	■■■	■■■■■	■■■		□	willows
	Vaccinium uliginosum	□		■■■		□□□	blueberry
Ground shrub	Rubus chamaemorus			■■		□	cloudberry
	Vaccinium vitis-idaea			■■■			lowbush cranberry
	Vaccinium oxycoccos	□			■■	■	bog cranberry
Graminoid	Carex aquatilis	■■■■	■■■■■		■■■	■■■	water sedge
	Carex bigelowii ssp. lugens			■■■■			spruce muskeg sedge
	Eriophorum vaginatum			■■■■			tussock cottongrass
Bryophyte	Sphagnum spp.	■■■■	■■■■	■■■■	■■■■■	■■■■■	peat mosses
	Amblystegiaceae (mostly)	■■■■	■■■■■	□□□			brown mosses
	Hylocomium / Pleurozium	□□		■■■■			feathermosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

FEN VEGETATION TABLE 3: MOSSY FEN AND GRAMINOID FENS WITH LOW CAREX COVER

Layer	Fen ecosite	F11	F13	F15	F17	F18	F20	F21	
	Number of plots	30	10	73	9	6	4	3	**English name**
Ground shrub	Andromeda polifolia	■■				■■			bog rosemary
	Vaccinium oxycoccos	■			■	■		□	bog cranberry
Graminoid	Trichophorum cespitosum / alpinum	■■■■■							tufted / alpine clubrush
	Eriophorum russeolum					■■■■			russet cottongrass
	Eriophorum angustifolium							■■■■■	narrow-leaved cottongrass
	Carex aquatilis	□□□	□□	■■■	□□	■■	■■■	■■■■	water sedge
	Carex utriculata						■■■		beaked sedge
	Carex limosa			■■■■					mud sedge
Forb	Calla palustris						■■■■		wild calla
	Comarum palustre		□□□				■■■■	□□	marsh cinquefoil
	Menyanthes trifoliata			■■■■					buckbean
	Equisetum fluviatile		■■■■■						water horsetail
	Cicuta bulbifera						■		bulbous water-hemlock
Bryophyte	Sphagnum spp.	■■■■		■■■■	■■■■■	■■■■■	■■■	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

FEN VEGETATION TABLE 4: GRAMINOID FENS

Layer	Fen ecosite	F01	F08	F09	F10	F11	F12	F13	F15	F19	F20	F21	English name
	Number of plots	135	3	7	8	30	12	11	73	3	4	3	
Graminoid	Eriophorum angustifolium		□□	■■						□□□		■■■■■	narrow-leaved cottongrass
	Carex aquatilis / utriculata	■■■■■	■■■■	■■■■		□□□	■■■■	■■■	■■■	■■■	■■■■	■■■■	water sedge / beaked sedge
	Carex diandra						■■■■				□□□		lesser panicled sedge
	Carex lasiocarpa		■■■■■		□□								slender sedge
	Carex chordorrhiza		□	■■■■									creeping sedge
	Carex limosa		■	■■■■	■■■■	□□□			■■■■				mud sedge
	Carex livida				■■■■								livid sedge
	Carex canescens									■■■■■			silvery sedge
	Trichophorum cespitosum				■■■	■■■■■							tufted clubrush
Forb	Menyanthes trifoliata		□□		■■■	□□	■■■■		■■■■		□□		buckbean
	Equisetum fluviatile		□	□□				■■■■■					water horsetail
	Calla palustris										■■■■		wild calla
	Comarum palustre	□□	□	□□			■■■	□□□		■■	■■■■	□□	marsh cinquefoil
	Drosera anglica				■■■	□□□			□				English sundew
Bryophyte	Sphagnum spp.	□□□□		□□□		■■■■			■■■■		■■■		peat mosses
	Amblystegiaceae (mostly)	■■■		■■■■■	□□□□	■■■■	■■■■		□□□□	■■■■■		□□□	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

3.3 **Fen ecosites and vegetation associations**

Wetland code	Ecosite name	Association code	Association name
F01	Water sedge fen	Caaq55	Water sedge – Beaked sedge
		Caut55	Beaked sedge – Marsh cinquefoil
F02	Shrub birch – Water sedge fen	Begl50	Shrub birch – Willow / Water sedge
F03	Willow – Water sedge fen	Sasp58	Willow / Water sedge
		Sasp59	Willow / Beaked sedge
F04	SbSw – Water sedge fen	Sb54	Black spruce / Water sedge / Brown moss
		SbSw56	Black spruce – White spruce / Water sedge / Brown moss
		Sw50	White spruce / Water sedge / Golden fuzzy fen moss
		Sw51	White spruce / Shrub birch / Water sedge
F05	Sb – Tussock sedge fen	Sb50	Black spruce / Spruce muskeg sedge
		Sb51	Black spruce / Shrub birch / Spruce muskeg sedge
		Sb52	Black spruce / Leatherleaf / Spruce muskeg sedge
		W54	Alaska birch / Leatherleaf / Spruce muskeg sedge
		Sb55	Black spruce / Tussock cottongrass
		SbSw55	Black spruce – White spruce / Leatherleaf / Tussock cottongrass
		W55	Alaska birch / Leatherleaf / Tussock cottongrass
		SbW50	Black spruce – Alaska birch / Tussock cottongrass
		Sb56	Black spruce / Close-sheathed cottongrass
F06	Shrub birch – Tussock sedge fen	Begl51	Shrub birch / Tussock cottongrass / Peat moss
		Begl52	Shrub birch / Spruce muskeg sedge
		Begl53	Shrub birch – Leatherleaf / Spruce muskeg sedge
		Begl54	Shrub birch / Spruce muskeg sedge – Bluejoint reedgrass
		Sasp57	Willow / Spruce muskeg sedge
		Sasp56	Willow / Tussock cottongrass

CONTINUES

Wetland code	Ecosite name	Association code	Association name
F07	Leatherleaf – Peat moss fen	Chca51	Leatherleaf / Bog rosemary / Peat moss
		Anpo55	Bog rosemary / Peat moss
F08	Slender sedge – Beaked sedge fen	Cala53	Slender sedge – Beaked sedge
F09	Creeping sedge fen	Cach50	Creeping sedge – Beaked sedge
F10	Livid sedge – Mud sedge fen	Cali52	Livid sedge – Mud sedge
F11	Clubrush – Sedge fen	Tral51	Alpine clubrush – Peat moss
		Trce51	Tufted clubrush – Sedge
F12	Lesser panicled sedge – Water sedge fen	Cadi50	Lesser panicled sedge – Water sedge
F13	Water horsetail – Sedge fen	Eqfl56	Water horsetail – Sedge
F14	SbL – Water sedge fen	SbL50	Black spruce – Larch / Shrub birch / Water sedge / Glow moss – Peat moss
		SbL52%	Larch / Buckbean / Peat moss
F15	Mud sedge – Buckbean fen	Cali58	Mud sedge / Peat moss
		Metr55	Buckbean – Mud Sedge
		Scpa55	Marsh scheuchzeria – Mud sedge
F16	Sweet gale fen	Myga55	Sweet gale / Peat moss
F17	Peat moss fen	Spha57	Peat moss
F18	Russet cottongrass fen	Erru55	Russet cottongrass / Peat moss
F19	Slivery sedge fen	Caca58	Silvery sedge / Brown moss
F20	Wild calla fen	Capa59	Wild calla – Marsh cinquefoil
F21	Narrow-leaved cottongrass fen	Eran54	Narrow-leaved cottongrass – Water sedge / Peat moss

F01
Water sedge fen

GENERAL DESCRIPTION

F01, the Water sedge fen, is one of the most common fen ecosystems and occurs throughout boreal and subarctic Yukon, mostly in the BOL, BOH and SUW zones. This graminoid fen is often a component of wetland complexes.

F01 is dominated by large water sedges, mostly commonly water sedge (Carex aquatilis), however, beaked sedge (C. utriculata) frequently dominates. In addition to the sedge cover, peat mosses (Sphagnum spp.) or brown mosses, including golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre), hook mosses (Drepanocladus spp.) or water moss (Calliergon sp.) are common and can be abundant. Shrubs such as shrub birch (Betula glandulosa) or various willows, may occur, but are of low cover.

F01 occurs on peaty, subhydric to hydric sites. Water can be near, at or above the ground surface, depending upon the time of season and run-off. Organic layers are variable in depth—greater than 30 cm and often greater than 100 cm. Soils are usually classified as Fibrisols or Mesisols, but in the Subarctic Region and in central Yukon, where permafrost is more common, soils may be classified as Organic Cryosols.

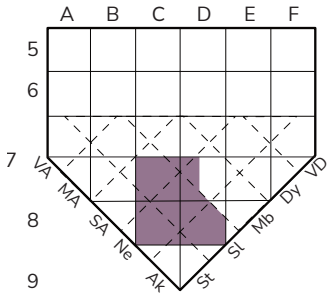
COMMENTS

F01 can be differentiated from most other graminoid wetlands by the dominance of water sedge and/or beaked sedge. Beaked sedge or water sedge also dominate wetland M01, but it occurs on mineral soils with little to no peat build-up and usually has a fluctuating water table.

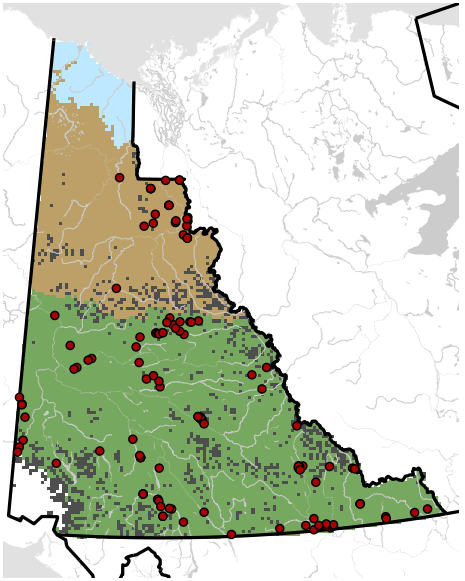
F01 is equivalent to Wf01 in British Columbia (Mackenzie and Moran 2004).

F01-Caaq55 (Water sedge – Beaked sedge)

EDATOPIC GRID

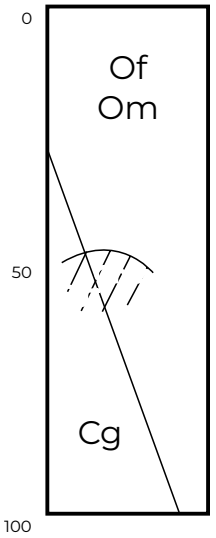


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	135	**Soil texture**	mesic, fibric
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol or Organic Cryosol
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	mesimor or fibrimor, 30 to 150 cm
Meso slope position	depression or level	**Soil drainage**	very poor (poor)
Aspect	none	**Seepage / water table**	at or near surface
Slope aspect	level to very gently sloping	**Permafrost**	sometimes in the subarctic and boreal of central Yukon
Surficial material	organic	**Open water**	usually present (5 to 35%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F01:

Caaq55
Water sedge – Beaked sedge

Caut55
Beaked sedge – Marsh cinquefoil

	Vegetation association	Caaq55	Caut55	
Layer	**Number of plots**	110	25	**English name**
Graminoid	Carex aquatilis	■■■■■	□□	water sedge
	Carex utriculata		■■■■■	beaked sedge
Forb	Comarum palustre	□	■■■	marsh cinquefoil
Bryophyte	Sphagnum spp.	■■■■		peat mosses
	Amblystegiaceae (mostly)	■■■	■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F02
Shrub birch – Water sedge fen

GENERAL DESCRIPTION

The Shrub birch – Water sedge fen occurs throughout boreal Yukon, primarily in the BOH zone and at higher elevations of the BOL.

This shrub fen is dominated by shrub birch (Betula glandulosa) in the overstorey, along with various willows (Salix pseudomyrsinites, S. glauca, S. myrtillifolia, S. planifolia, S. Barclayi and others). Water sedge (Carex aquatilis) is the dominant and diagnostic understorey species. Net-veined willow (S. reticulata) is common on the ground layer, which also has moss cover characterized by brown mosses, mostly golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre) and/or hook mosses (Drepanocladus spp.), along with varying amounts of peat moss (Sphagnum spp.).

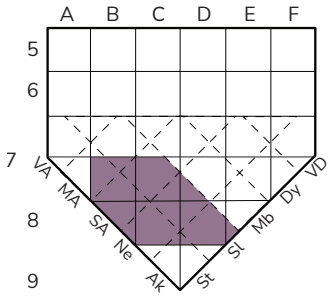
F02 occurs on cool valley bottom sites with subhydric to hydric moisture regimes and poor to rich nutrient regimes. Organic layers are more than 30 cm deep and are often greater than 50 or 100 cm. The poor to very poorly drained soils are usually classified as Fibrisols or Mesisols, but when frozen within 1 to 2 metres of the surface they would be classified as Cryosols.

COMMENTS

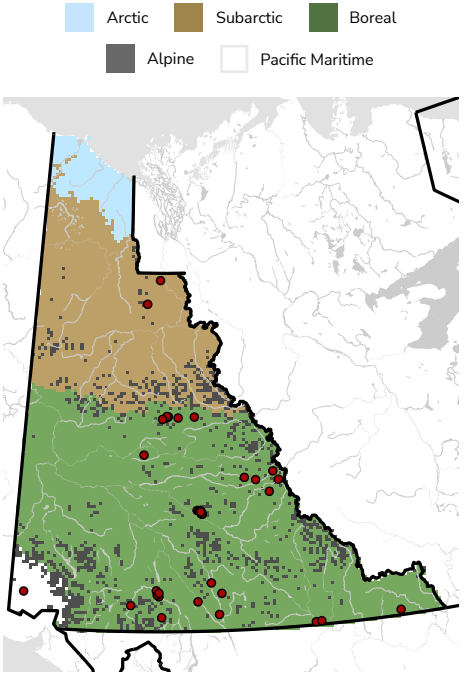
Wetland F02 is similar to Wf02 in British Columbia (MacKenzie and Moran 2004).

F02-Begl50 (Shrub birch – Willow / Water sedge)

EDATOPIC GRID

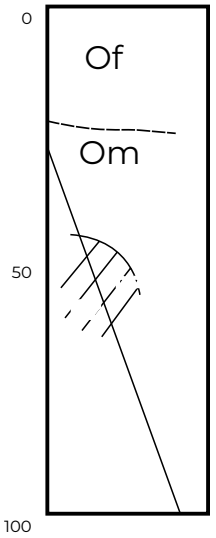


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	46	**Soil texture**	fibric and mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol, Organic or Turbic Cryosol, Gleysol
Nutrient regime	poor to rich [B – D]	**Humus form and depth**	fibric and mesic, 30 to 150+ cm
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	sometimes present
Surficial material	organic (organic veneer)	**Open water**	not applicable



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F02:

Begl50
Shrub birch – Willow / Water sedge

Layer	Vegetation association	Begl50	English name
	Number of plots	46	
Shrub	Betula glandulosa	■■■■	shrub birch
	Salix spp.	■■■	willows
Graminoid	Carex aquatilis	■■■■	water sedge
Bryophyte	Amblystegiaceae (mostly)	■■■■	brown mosses
	Sphagnum spp.	■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F03
Willow – Water sedge fen

GENERAL DESCRIPTION

The Willow – Water sedge fen is a shrub fen which occurs throughout boreal Yukon, primarily in the BOH and BOL zones.

Willows (such as Salix planifolia, S. athabascensis, S. glauca and S. pseudomyrsinites) dominate the shrub cover. Water sedge (Carex aquatilis), or sometimes beaked sedge (C. utriculata), dominates the herb layer. Brown mosses (e.g., Tomentypnum nitens, Aulacomnium palustre, Drepanocladus spp.) usually dominate the moss cover, often with some peat moss (Sphagnum spp.), although peat mosses or other wetland mosses can dominate on some sites.

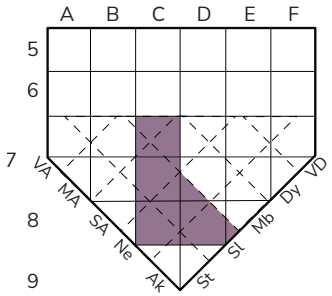
This poor to very poorly drained wetland most frequently develops on organic soils. Soils are likely classified as Fibrisols, Mesisols or Gleysols (with peaty surface horizons) and occasionally Cryosols. Permafrost may be present.

COMMENTS

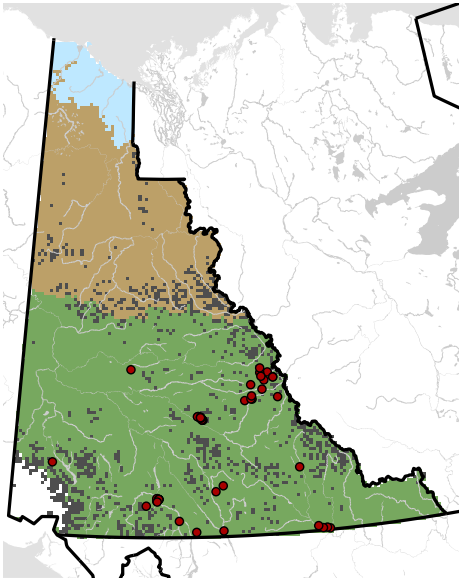
Ecosite S03 also has a willow shrub overstorey and sedge ground cover but it does not have the organic soils that typify F03.

F03-Sasp58 (Willow / Water sedge)

EDATOPIC GRID

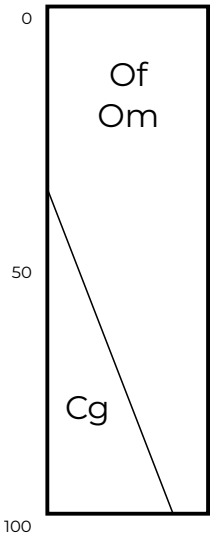


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	50	**Soil texture**	fibric and mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol, Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	wet mor, 30 to 100 cm
Meso slope position	level or depression (lower slope)	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level (gentle)	**Permafrost**	usually absent
Surficial material	organic	**Open water**	usually present (5 to 20%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F03:

Sasp58
Willow / Water sedge

Sasp59
Willow / Beaked sedge

Layer	Vegetation association	Sasp58	Sasp59	English name
	Number of plots	44	4	
Shrub	Salix spp.	■■■■■	■■■■■	willows
	Betula glandulosa	■■■	□	shrub birch
	Chamaedaphne calyculata		■■	leatherleaf
Graminoid	Carex aquatilis	■■■■■		water sedge
	Carex utriculata		■■■■	beaked sedge
Forb	Comarum palustre		■■■	marsh cinquefoil
	Scheuchzeria palustris		■■	marsh scheuchzeria
Bryophyte	Amblystegiaceae (mostly)	■■■■■	■■■■■	brown mosses
	Sphagnum spp.	■■■■	□□	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F04
SbSw – Water sedge fen

GENERAL DESCRIPTION

The SbSw – Water sedge fen, a treed fen, occurs primarily in the Boreal Low zone.

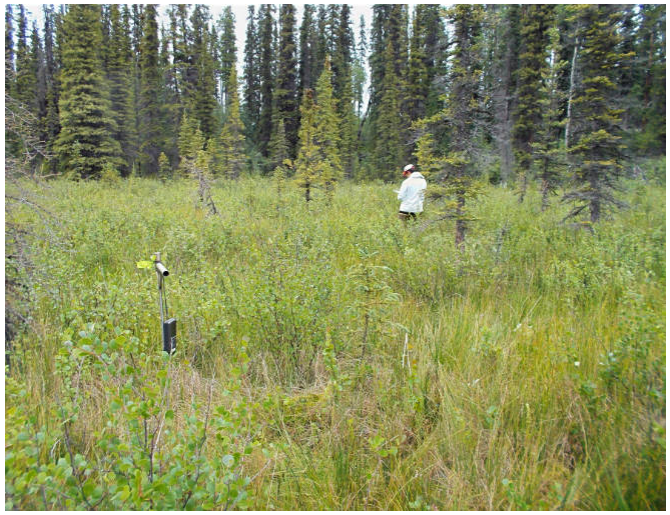
Black spruce (Picea mariana) and/or white spruce (Picea glauca) form in a sparse to open canopy. A low to high cover of willows (Salix myrtilifolia, S. glauca, S. arbusculoides, S. bebbiana, S. planifolia) is typical. Shrub birch (Betula glandulosa) and common Labrador tea (Rhododendron groenlandicum) are also common shrubs. A moderate to high cover of sedges, typically dominated by water sedge (Carex aquatilis), is characteristic, often with some sparse cover of other sedges (e.g., C. gynocrates, C. capitata, C. diandra). Brown mosses, mostly golden fuzzy fen moss (Tomentypnum nitens) and glow moss (Aulacomnium palustre), dominate the bryophyte layer, but step moss (Hylocomium splendens) and peat mosses (Sphagnum spp.) are common associates.

The SbSw – Water sedge fen ecosite often occurs in channels between uplands and along the margins of larger wetland complexes where it is found on hygric to subhydric sites with medium nutrient regime. Deep peat or organic veeners are found over fluvial or lacustrine parent materials. Soils are organic and classified as Typic or Terric Mesisols and Fibrisols, or sometimes Cryosols or Gleysols. Permafrost is occasionally present.

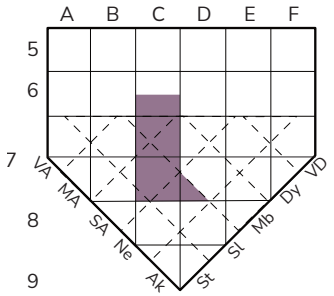
COMMENTS

Sw50 and Sw51 are included in CNVC00355 White Spruce / Glandular Shrub Birch / Water Sedge.

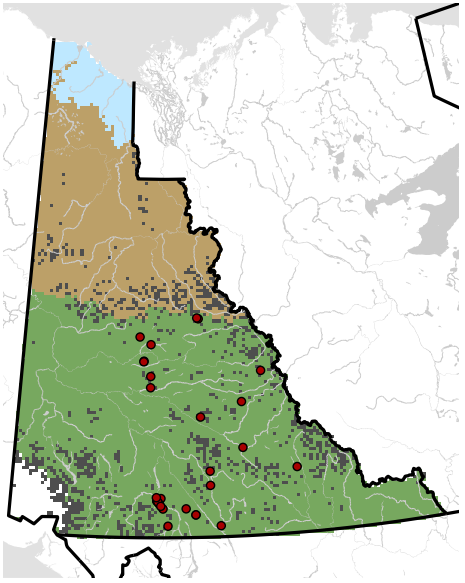
F04-Sw51 (White spruce / Shrub birch / Water sedge)



EDATOPIC GRID

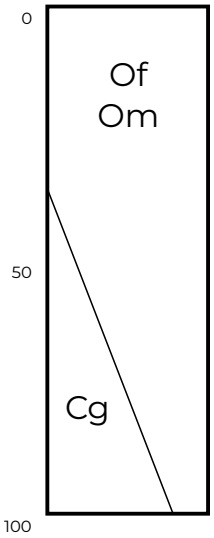


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	33	**Soil texture**	fibric, mesic, (humic, silty)
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Mesisol, Fibrisol, Cryosol (peaty Gleysol)
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	fibrimor, mesimor, 30 to 170 cm
Meso slope position	level or depression (lower to toe slopes)	**Soil drainage**	poor (very poor)
Aspect	none to variable	**Seepage / water table**	at or within 40 cm of the surface
Slope aspect	level (gentle)	**Permafrost**	occasional
Surficial material	organic, often veneer	**Open water**	not applicable



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F04:

Sb54
Black spruce / Water sedge / Brown moss

SbSw56
Black spruce – White spruce / Water sedge / Brown moss

Sw50
White spruce / Water sedge / Golden fuzzy fen moss

Sw51
White spruce / Shrub birch / Water sedge

Layer	Vegetation association / Number of plots	Sb54 (8)	SbSw56 (4)	Sw50 (8)	Sw51 (13)	English name
Tree	Picea mariana	■■■■	■■■■			black spruce
	Picea glauca		■■■■	■■■■	■■■■	white spruce
Shrub	Betula glandulosa	■■■■	■■■	■■	■■■■	shrub birch
	Salix spp.	■■■■	■■■	■■■■	■■■■	willows
	Salix myrtillifolia		■■■	■■■■	▪▪▪▪	blueberry willow
	Rhododendron groenlandicum	▪▪▪	■■■■	■■■■	□□□	common Labrador tea
	Dasiphora fruticosa	□	■■	▪▪	■■■	shrubby cinquefoil
	Vaccinium uliginosum	■■■	■■	□		blueberry
Ground shrub	Arctous rubra	▪▪	■■■■	▪▪▪	▪▪▪	red bearberry
	Empetrum nigrum	▪▪▪	■■■	▪▪	□□□	crowberry
	Vaccinium vitis-idaea	▪▪▪	■■■	▪▪		lowbush cranberry
Graminoid	Carex aquatilis	■■■	■■■■	■■■■	■■■■	water sedge
Forb	Equisetum arvense	□□	■■■	□□		common horsetail
	Equisetum scirpoides		■■■	□	□	dwarf scouring rush
	Tofieldia pusilla		■	□		small tofieldia
Bryophyte	Aulacomnium / Tomentypnum	■■■■	■■■■■	■■■■■	■■■■■	brown mosses
	Sphagnum spp.	■■■■	■■■		□□□	peat mosses
	Hylocomium splendens	□□□□	■■■			step moss
Lichen	Cladina spp.	▪▪	■■■■			reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F05
Sb – Tussock sedge fen

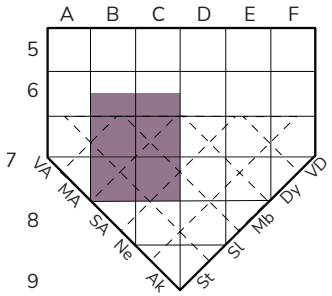
GENERAL DESCRIPTION

The Sb – Tussock sedge fen is a treed fen which occurs in the colder northern and western parts of the boreal region, primarily in the Boreal Low zone and in the subarctic in the Peel River drainage.

This fen is mostly characterized by an open canopy of stunted black spruce (Picea mariana), often with some minor white spruce (P. glauca) and Alaska birch (Betula neoalaskana). Sometimes white spruce replaces the black spruce or is co-dominant. Some stands are dominated by Alaska birch. The shrub layer is characterized by shrub birch (Betula glandulosa) and/or leatherleaf (Chamaedaphne calyculata). Other common shrubs are willows (Salix spp.), Labrador teas (Rhododendron tomentosum, R. groenlandicum) and blueberry (Vaccinium uliginosum) in varying amounts. Lowbush cranberry (Vaccinium vitis-idaea) and cloudberry (Rubus chamaemorus) often occur with low cover. The understorey features either tussock cottongrass (Eriophorum vaginatum) and/or spruce muskeg sedge (Carex bigelowii ssp. lugens). Both species are tussock sedges, giving the wetland a “tussocky” microtopography. Other sedges can be present with low to moderate cover. The moss layer is variable, comprised of peat mosses (Sphagnum spp.), feathermosses (mostly Hylocomium splendens), glow moss (Aulacomnium palustre) and golden fuzzy fen moss (Tomentypnum nitens).

The Sb – Tussock sedge fen occurs primarily on level to gently sloping sites, of hygric to subhydric moisture regimes that are underlain by shallow permafrost. F05 sometimes occurs on moderate to steep slopes on cool aspects. Soils are usually Turbic Cryosols or Organic Cryosols, characterized by an organic surface horizon that is sometimes 20 cm thick but often reaches 30–40 cm overlying mineral soil. Depth is greater under tussocks and less between tussocks, although deeper peat is also found. The active layer is usually about the same depth, with seepage often present on top of the permafrost, sometimes to the surface. Seepage often increases during and following precipitation events.

EDATOPIC GRID



COMMENTS

Sb50 is in CNVC00461 Black Spruce / Two-coloured Sedge / Peat Mosses association; Sb55 is part of CNVC00462 Black Spruce / Northern Labrador tea / Tussock Cottongrass / Peat Mosses association.

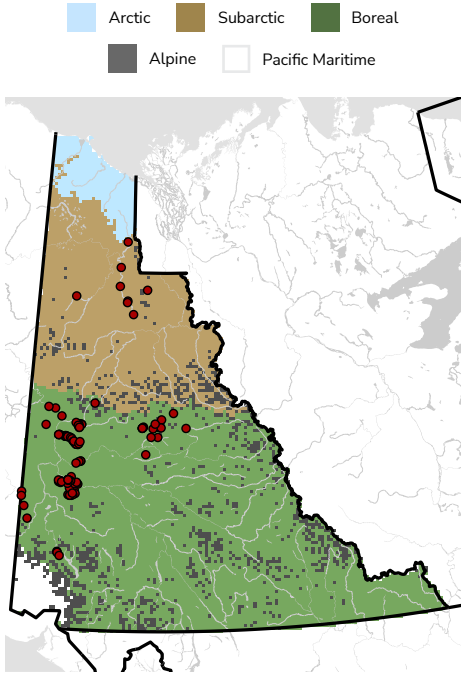
Ecosite F06 is also characterized by spruce muskeg sedge and/or tussock cottongrass, but F06 ecosites are non-treed fens (trees, if present, are sparse).

Peat depth is variable on F05 sites with shallower peat between tussocks and often significantly deeper peat under tussock vegetation. Soil descriptions are usually conducted between tussocks, so organic material is likely deeper than it seems from the data.

Based on casual observations, there may be more close-sheathed cottongrass (Eriophorum brachyantherum) in these wetlands than indicated by the data.

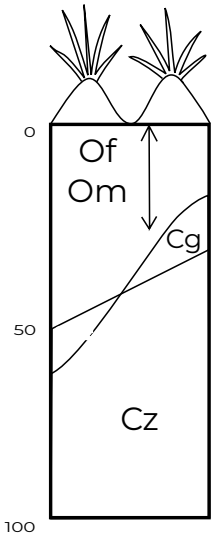
F05-Sb56 (Black spruce / Close-sheathed cottongrass)

BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	116	**Soil texture**	fibric, mesic
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Turbic and Organic Cryosol
Nutrient regime	poor to medium [B – C]	**Humus form and depth**	mesimor, fibrimor, 30 to 70 cm
Meso slope position	level or lower to toe (mid)	**Soil drainage**	poor (imperfect, very poor)
Aspect	none or usually cool	**Seepage / water table**	usually within 40 cm, at surface of permafrost
Slope aspect	level to steep	**Permafrost**	present
Surficial material	organic veneer	**Open water**	not applicable



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F05:

Sb50
Black spruce / Spruce muskeg sedge

Sb51
Black spruce / Shrub birch / Spruce muskeg sedge

Sb52
Black spruce / Leatherleaf / Spruce muskeg sedge

W54
Alaska birch / Leatherleaf / Spruce muskeg sedge

Sb56
Black spruce / Close-sheathed cottongrass

Sb55
Black spruce / Tussock cottongrass

SbSw55
Black spruce – White spruce / Leatherleaf / Tussock cottongrass

SbW50
Black spruce – Alaska birch / Tussock cottongrass

W55
Alaska birch / Leatherleaf / Tussock cottongrass

	Vegetation association	Sb50	Sb51	Sb52	Sb56	Sb55	SbSw55	SbW50	W54	W55	
Layer	**Number of plots**	36	17	7	5	36	3	7	3	2	**English name**
Tree	Picea mariana	■■■■	■■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■		black spruce
	Picea glauca	□□□	□□□	□□□			■■■■			■	white spruce
	Betula neoalaskana		□	□	□□		□	■■■	■■■■	■■■■	Alaska birch
Shrub	Betula glandulosa	■■	■■■■■	■■■■	■■■	■■■	■■■■	□□	□□□		shrub birch
	Rhododendron spp.	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■■	■■■	■■■■	Labrador teas
	Salix spp.	■■■	■■■	■■■	■■	■■■	■■■■	■■	■■■■	■■■■	willows
	Vaccinium uliginosum	■■■	■■■	■■■	■■■	■■■	■■■■■	■■■	■■■	■■	blueberry
	Chamaedaphne calyculata			■■■■■			■■■■■	□	■■■	■■■■■	leatherleaf
Ground shrub	Arctous rubra	■■■	□	□□	■■				■■	■	red bearberry
	Rubus chamaemorus	■■	■■■	□□	■■	■■		■■■	■	■■	cloudberry
	Vaccinium oxycoccos	□			■■	□		■		■	bog cranberry
	Vaccinium vitis-idaea	■■■	■■■■	■■■■	■■■■	■■■	□□□	■■■■	■■■		lowbush cranberry
Graminoid	Carex bigelowii ssp. lugens	■■■■	■■■■	■■■■	■■■		■■■■	■■■■	■■■■		spruce muskeg sedge
	Eriophorum brachyantherum				■■■■						close-sheathed cottongrass
	Eriophorum vaginatum	□□				■■■■■	■■■■	■■■■	■■■	■■■■■	tussock cottongrass
	Poaceae	■■	■■	■■	□□□	□□	□	□	□	■■	grasses
Bryophyte	Aulacomnium / Tomentypnum	■■■■	■■■■	■■■	■■■■	□□□	□□□		■■■■	■	brown mosses
	Sphagnum spp.	■■■■	■■■	■■■■	■■■■	■■■■	■■	■■■■■	□□□	■■■	peat mosses
	Hylocomium / Pleurozium	■■■■	■■■■■	■■■■	■■■	■■■■	■■■■	■■■■■	■■■■	■■■	feathermosses
Lichen	Cladina spp.	■■■■	■■■	□	□	■■■		■■■■			reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F06
Shrub birch – Tussock sedge fen

GENERAL DESCRIPTION

The Shrub birch – Tussock sedge fen is a shrub fen which occurs in boreal and subarctic regions.

Shrub birch (Betula glandulosa) is generally the most conspicuous shrub of the F06 although willows (Salix spp.) or leatherleaf (Chamaedaphne calyculata) can dominate the shrub layer. Tussock cottongrass (Eriophorum vaginatum) and/or spruce muskeg sedge (Carex bigelowii ssp. lugens) dominate the herb layer. These are both tussock sedges, giving the wetland a "tussocky" microtopography. Labrador teas (Rhododendron tomentosum, R. groenlandicum) commonly occurs and scattered spruce (Picea mariana, P. glauca) may be present. The moss layer is generally dominated by peat mosses (Sphagnum spp.). Other mosses include glow moss (Aulacomnium palustre), golden fuzzy fen moss (Tomentypnum nitens), feathermosses (Hylocomium splendens, Pleurozium schreberi) and/or hook mosses (Drepanocladus spp.).

F06 occurs mostly on level or gently to moderately sloped, hygric to subhygric sites with poor to very poor drainage. Permafrost is always present, usually within 25 to 40 cm of the ground surface. Soils are Turbic, Static or Organic Cryosols with peat at shallow to moderate depths (usually 30 to 60 cm but sometimes deeper) overlying silty reworked loess or fluvial deposits.

COMMENTS

F06 be differentiated from other fen ecosites as follows:

- F05 is also characterised by spruce muskeg sedge and/or tussock cottongrass, but F05 ecosites are treed fens.
- F06 may occupy the centre of a wetland surrounded by F05.

The Shrub birch – Tussock sedge fen is similar toWb01 of the Yukon Arctic report (MacKenzie, W.H., C.E. Kennedy and N. Flynn. 2022).

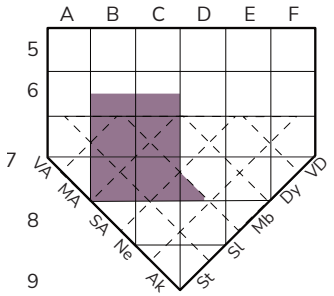
Peat depth is variable on these sites with shallower peat between tussocks and often significantly deeper peat under tussock vegetation. Soil descriptions are usually conducted between tussocks, so organic material is likely deeper than it seems from the data.

Bluejoint reedgrass is the dominant understorey in Begl54. These are likely sites with some past disturbance that allowed the reedgrass to become established and the high cover may be limiting the establishment or expansion of other species.

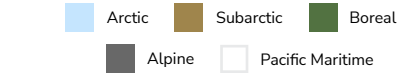
Some F06 sites have very low moss cover, which may be due to past fires which burned off some peat.

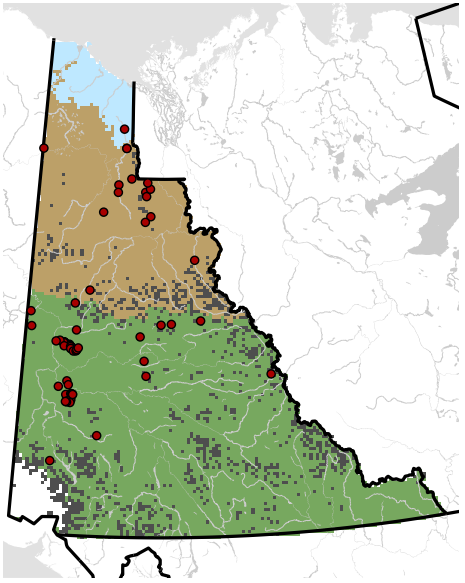
F06-Begl51 (Shrub birch / Tussock cottongrass / Peat moss)

EDATOPIC GRID



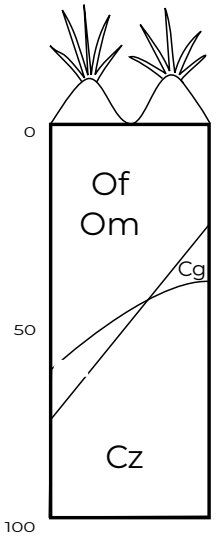
BIOCLIMATE REGION





SITE AND SOILS

Plots in unit	78	**Soil texture**	usually mesic
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Turbic, Static and Organic Cryosol
Nutrient regime	poor to rich [B – D]	**Humus form and depth**	mor, moder, usually 30 to 60 cm, may be > 100 cm
Meso slope position	level or mid to toe	**Soil drainage**	poor to very poor
Aspect	none or variable	**Seepage / water table**	within 35 cm, often near the surface
Slope aspect	level (gentle to moderate)	**Permafrost**	present
Surficial material	organic veneer	**Open water**	not applicable



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F06:

Begl51
Shrub birch / Tussock cottongrass / Peat moss

Begl52
Shrub birch / Spruce muskeg sedge

Begl53
Shrub birch – Leatherleaf / Spruce muskeg sedge

Begl54
Shrub birch / Spruce muskeg sedge – Bluejoint reedgrass

Sasp56
Willow / Tussock cottongrass

Sasp57
Willow / Spruce muskeg sedge

	Vegetation association	Begl51	Sasp56	Begl52	Sasp57	Begl54	Begl53	
Layer	**Number of plots**	33	3	27	5	5	5	**English name**
Tree	Picea mariana	□	■■	■■		□	■■	black spruce
Shrub	Betula glandulosa	■■■■■	■■■	■■■■■	■■■	■■■■■	■■■■■	shrub birch
	Salix spp.	■■	■■■■	■■■	■■■■■	■■■■	■■■	willows
	Chamaedaphne calyculata		□				■■■■■	leatherleaf
	Rhododendron spp.	■■■■	■■■	■■■■	□□		□□□	Labrador teas
	Vaccinium uliginosum	□□□	□□	■■■	□□□		■■■■	blueberry
Ground shrub	Rubus chamaemorus	■■■	□□	□			■	cloudberry
	Vaccinium vitis-idaea	■■■	■■■	■■■				lowbush cranberry
	Vaccinium oxycoccos	□	□				■■	bog cranberry
Graminoid	Calamagrostis canadensis		□	□	□□	■■■■■		bluejoint reedgrass
	Carex bigelowii ssp. lugens	□□	■■■	■■■■■	■■■■■	■■■■	■■■	spruce muskeg sedge
	Eriophorum vaginatum	■■■■■	■■■■					tussock cottongrass
Bryophyte	Sphagnum spp.	■■■■■	■■■■■	■■■	■■■■		■■■	peat mosses
	Amblystegiaceae (mostly)		■■■		□□		□□□□	brown mosses
	Hylocomium / Pleurozium	■■■		■■■■	□□□	□□□	□□□	feathermosses
Lichen	Cladina spp.	■■■	■■	■■				reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F07
Leatherleaf – Peat moss fen

GENERAL DESCRIPTION

The Leatherleaf – Peat moss fen, a shrub fen, occurs in boreal and subarctic regions, in the Boreal Low and Subarctic Woodland zones.

A low to high cover of leatherleaf (Chamaedaphne calyculata) is diagnostic of the F07, although some sites have little leatherleaf and are dominated by bog rosemary (Andromeda polifolia). Water sedges (Carex aquatilis, C. utriculata) and mud sedge (C. limosa) are usually present, sometimes with high cover. Other sedges often occur. Buckbean (Menyanthes trifoliata) is sometimes abundant. Peat mosses (Sphagnum spp.) dominate the moss layer of all sites. Brown mosses, including glow moss (Aulacomnium palustre), golden fuzzy fen moss (Tomentypnum nitens) and hook mosses (Drepanocladus spp.), often occur and may sometimes dominate over peat mosses.

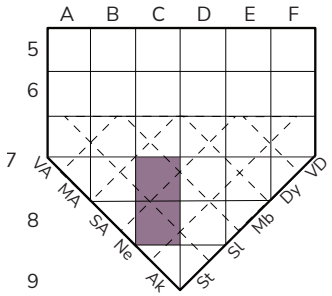
The Leatherleaf – Peat moss fen ecosite is found in subhydric to hydric moisture regimes in deeper peat deposits. These sites may be collapse scar fens, thermokarst trenches over thawing ice wedges, or channels within frozen peatlands with high ice content. They are very poorly drained with water at or near the surface. Depth to permafrost, if present, can vary from 55 cm to greater than 170 cm.

COMMENTS

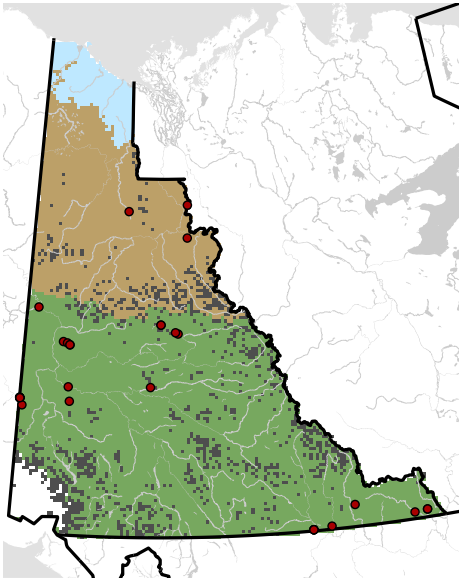
F07 exhibits similar site conditions and species to wetland B02, but the B02 is treed and occurs on sites with less water movement.

F07-Chca51 (Leatherleaf / Bog rosemary / Peat moss)

EDATOPIC GRID

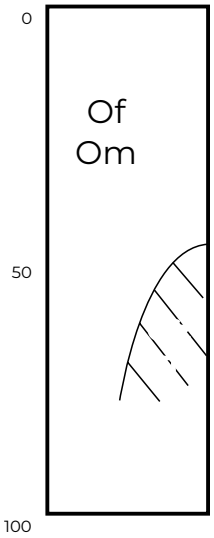


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	31	**Soil texture**	fibric, mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol (Organic Cryosol)
Nutrient regime	medium [C]	**Humus form and depth**	fibrimor, mesimor, may be 1 m or more
Meso slope position	level	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	sometimes present
Surficial material	organic	**Open water**	not applicable



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F07:

Anpo55
Bog rosemary / Peat moss

Chca51
Leatherleaf / Bog rosemary / Peat moss

	Vegetation association	Anpo55	Chca51	
Layer	**Number of plots**	4	27	**English name**
Shrub	Chamaedaphne calyculata	■■	■■■■■	leatherleaf
Ground shrub	Andromeda polifolia	■■■■	■■	bog rosemary
	Vaccinium oxycoccos	■■	□□	bog cranberry
Graminoid	Carex aquatilis	■■■■	■■■	water sedge
	Carex limosa	■■■	□□□	mud sedge
Bryophyte	Sphagnum spp.	■■■■■	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F08
Slender sedge – Beaked sedge fen

GENERAL DESCRIPTION

The Slender sedge – Beaked sedge fen is a graminoid fen which occurs in the boreal region and is only known from the Klondike Plateau Boreal Low subzone (BOLkp).

This ecosite is characterized by a high cover of slender sedge (Carex lasiocarpa), although beaked sedge (C. utriculata) may be co-dominant on some sites.

The Slender sedge – Beaked sedge fen ecosite occupies hydric sites in the southern portion of the BOLkp. The ecosite occurs on level, very poorly drained sites bordering small pools in bog-fen complexes.

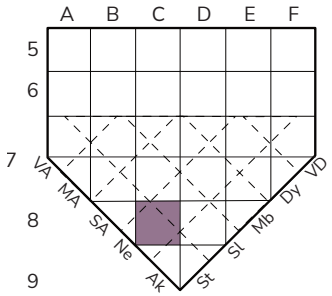
COMMENTS

Soils data is unavailable, so the table has been completed using expert knowledge.

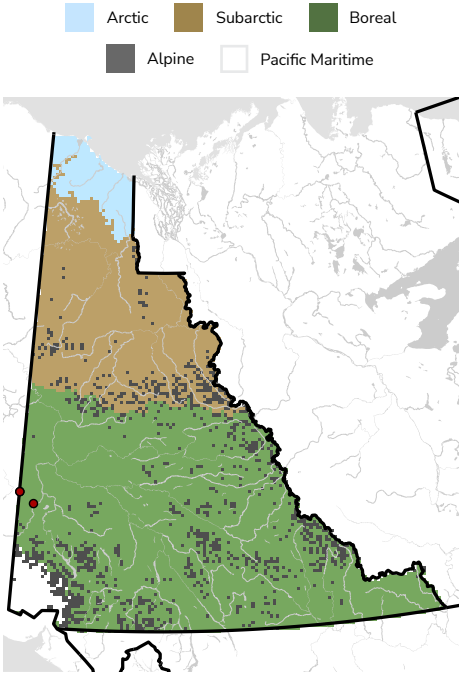
All three plots are from the same wetland complex.

NO PHOTO AVAILABLE

EDATOPIC GRID

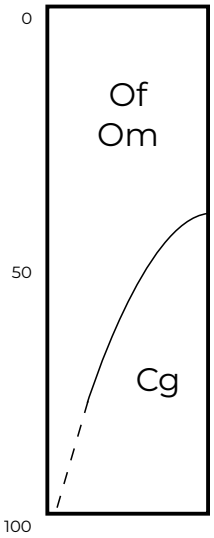


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	3	**Soil texture**	fibric, mesic
Moisure regime	hydric [8]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	medium [C]	**Humus form and depth**	fibrimor, mesimor, > 40 cm
Meso slope position	level	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	none
Surficial material	organic	**Open water**	usually present (up to 30%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F08:

Cala53
Slender sedge – Beaked sedge

	Vegetation association	Cala53	
Layer	**Number of plots**	3	**English name**
Graminoid	Carex lasiocarpa	■■■■■	slender sedge
	Carex limosa	■	mud sedge
	Carex utriculata	■■■■	beaked sedge
Forb	Utricularia intermedia	■■	flat-leaved bladderwort

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F09
Creeping sedge fen

GENERAL DESCRIPTION

The Creeping sedge fen is a graminoid fen which occurs in the boreal and subarctic Regions. It is presently known from the Klondike Plateau Boreal Low subzone (BOLkp) and the SUW near Old Crow Flats.

Creeping sedge (Carex chordorrhiza) of moderate to high cover is characteristic. It occurs with other sedges, primarily mud sedge (C. limosa) and/or beaked sedge (C. Utriculata). Water sedge (C. aquatilis) and/or narrow-leaved cottongrass (Eriophorum angustifolium) can occur. Mosses are reasonably abundant and include brown mosses (Calliergon, Campylium, Hamatocaulis and Scorpidium species) and peat mosses (Sphagnum spp.).

F09 occurs on hydric sites and is associated with deep peat. Soils are very poorly drained with the water table at or near the surface. The soils are organic, consisting of fibric to mesic peat, 70 to 130 cm deep. Soils data do not indicate the presence of near-surface permafrost, but as this wetland occurs in the zone of continuous permafrost, there may be permafrost at depth (> 1 m).

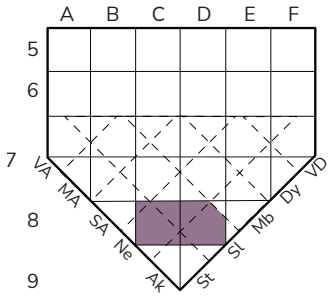
COMMENTS

Creeping sedge has a distinctive appearance due to the prostrate stems (stolons) that produce new shoots the next year.

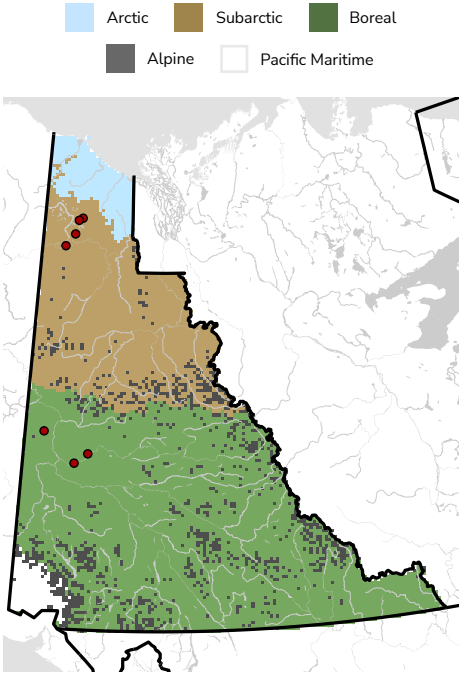
This wetland is similar to Wf03 in Arctic report (MacKenzie, W.H., C.E. Kennedy and N. Flynn. 2022).

NO PHOTO AVAILABLE

EDATOPIC GRID

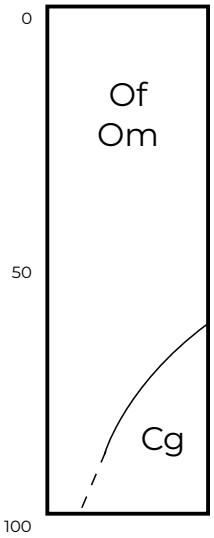


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	7	**Soil texture**	fibric, mesic
Moisure regime	hydric [8]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	fibrimor, mesimor, 70 to 130 cm
Meso slope position	level	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	likely at depth in the subarctic
Surficial material	organic	**Open water**	usually present (up to 25%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F09:

Cach50
Creeping sedge – Beaked sedge

	Vegetation association	Cach50	
Layer	**Number of plots**	7	**English name**
Graminoid	Carex chordorrhiza	■■■■	creeping sedge
	Carex limosa	■■■■	mud sedge
	Carex utriculata	■■■	beaked sedge
	Eriophorum angustifolium	■■	narrow-leaved cottongrass
Bryophyte	Amblystegiaceae	■■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F10
Livid sedge – Mud sedge fen

GENERAL DESCRIPTION

The Livid sedge – Mud sedge fen, a graminoid fen, occurs occasionally in the boreal and subarctic regions. It is known from the Klondike Plateau Boreal Low subzone (BOLkp) and the SUW in the Peel River drainage.

This fen is dominated by livid sedge (Carex livida) and mud sedge (C. limosa), sometimes with slender sedge (C. lasiocarpa) or tufted clubrush (Trichophorum cespitosum). English sundew (Drosera angelica) and buckbean (Menyanthes trifoliata) are common associates. Flat-leaved bladderwort (Utricularia intermedia) often occurs. Wetland mosses such as hook mosses (Drepanocladus spp.) and hooked scorpion moss (Scorpidium scorpioides) are usually present.

The Livid sedge – Mud sedge fen occurs on level, hydric, nutrient medium sites which are very poorly drained.

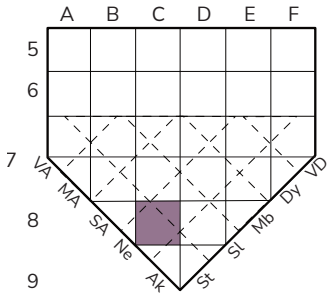
COMMENTS

All plots in F10 were located in a depressional wetland near the southern boundary of the BOLkp near Beaver Creek and along Brown Bear Creek in the Peel River drainage.

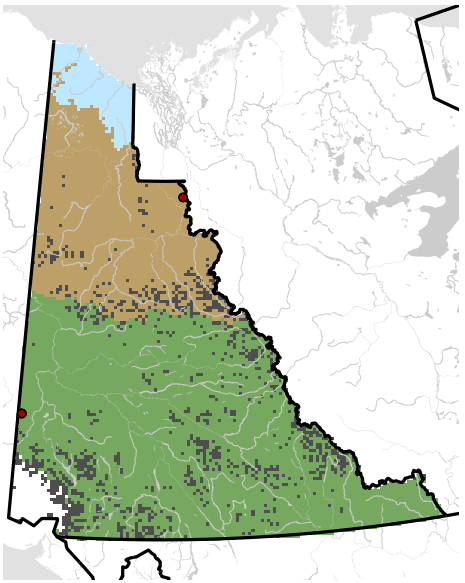
Soils data are not available. Some entries in the table have been completed using expert knowledge.

NO PHOTO AVAILABLE

EDATOPIC GRID

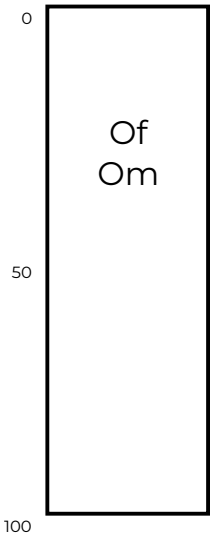


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	8	**Soil texture**	fibric, mesic
Moisure regime	hydric [8]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	medium [C]	**Humus form and depth**	fibrimor, mesimor, > 40 cm
Meso slope position	level, depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	could be present at depth
Surficial material	organic	**Open water**	usually present (10 to 60%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F10:

Cali52
Livid sedge – Mud sedge

	Vegetation association	Cali52	
Layer	**Number of plots**	8	**English name**
Graminoid	Carex limosa	■■■■	mud sedge
	Carex livida	■■■■	livid sedge
	Trichophorum cespitosum	■■■	tufted clubrush
Forb	Drosera anglica	■■■	English sundew
	Menyanthes trifoliata	■■■	buckbean
	Triglochin maritima	■	seaside arrow-grass
	Utricularia intermedia	■	flat-leaved bladderwort

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F11
Clubrush – Sedge fen

GENERAL DESCRIPTION

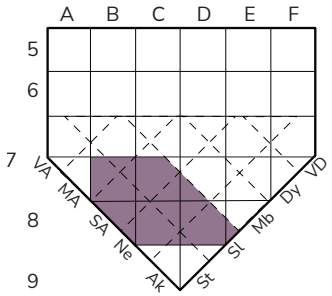
The Clubrush – Sedge fen, a graminoid fen, occurs in boreal and subarctic regions, including the BOL, BOH, SUW and SUS zones.

Clubrush (Tricophorum alpinum, T. caespitosum), usually of moderately high to high cover, is diagnostic of F11. Occasional black spruce (Picea mariana) or larch (Larix laricina) trees may occur. Also present may be various shrubs of low cover, including shrub birch (Betula glandulosa) or shrubby cinquefoil (Dasiphora fruticosa). Clubrush is often associated with sedges including water sedge (C. aquatilis) and/or mud sedge (C. limosa). Moss cover and composition vary and either brown mosses (mostly Drepanocladus spp., Aulacomnium palustre, Scorpidium spp., Calliergon giganteum, or Tomentypnum nitens) or peat mosses (Sphagnum spp.) can dominate.

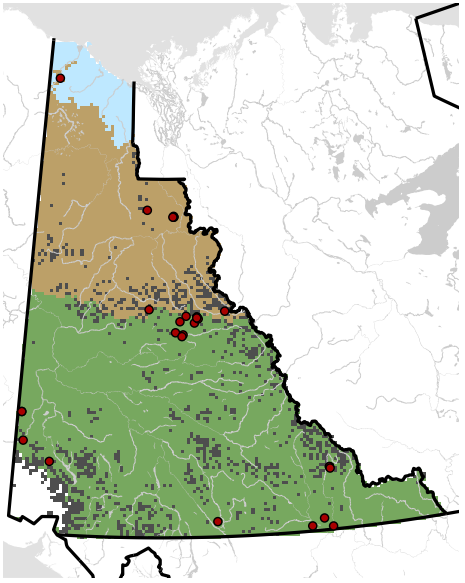
The Clubrush – Sedge fen occurs on poor to very poorly drained organic soils. Soils data are somewhat limited but indicate that soils are mostly classified as Typic Mesisols and Fibrisols. Permafrost occurs sometimes. If it is present, soils are then Cryosols.

F11-Tral51 (Alpine clubrush – Peat moss)

EDATOPIC GRID

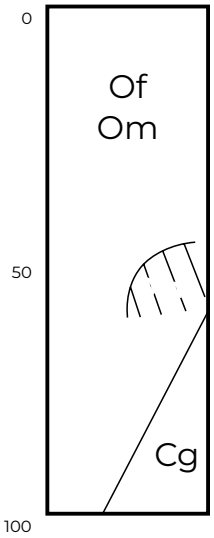


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	30	**Soil texture**	fibric, mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol (Cryosol)
Nutrient regime	poor to medium (rich) [B – C (D)]	**Humus form and depth**	fibrimor, mesimor, > 40 cm, often > 100 cm
Meso slope position	level, depression	**Soil drainage**	very poor (poor)
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	sometimes present within 1 m, likely present at depth in the subarctic
Surficial material	organic	**Open water**	usually present (5 to 25%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F11:

Tral51
Alpine clubrush – Peat moss

Trce51
Tufted clubrush – Sedge

	Vegetation association	Tral51	Trce51	
Layer	**Number of plots**	10	20	**English name**
Shrub	Betula glandulosa	□	■■	shrub birch
Ground shrub	Andromeda polifolia	□□	■■	bog rosemary
Graminoid	Trichophorum alpinum	■■■■■		alpine clubrush
	Trichophorum cespitosum		■■■■■	tufted clubrush
	Carex limosa		■■■	mud sedge
	Carex aquatilis	□□□	■■■	water sedge
Forb	Drosera anglica	■■■	□□	English sundew
	Menyanthes trifoliata	■■■	□□	buckbean
Bryophyte	Amblystegiaceae	■■■■	■■■■	brown mosses
	Sphagnum spp.	■■■■	■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F12
Lesser panicled sedge – Water sedge fen

GENERAL DESCRIPTION

The Lesser panicled sedge – Water sedge fen is a graminoid fen which occurs in the boreal region, in the BOL zone.

Lesser panicled sedge (Carex diandra) is diagnostic and is usually the most abundant sedge, although sometimes water sedge (C. aquatilis) or beaked sedge (C. utriculata) are of higher cover. Lesser panicled sedge sometimes forms tussocks. Some sites have a tussocky microtopography due to this sedge, as well as tussock cottongrass (Eriophorum vaginatum) on others. Marsh cinquefoil (Comarum palustre) of low cover is present. Buckbean (Menyanthes trifoliata) often occurs and can be of high cover.

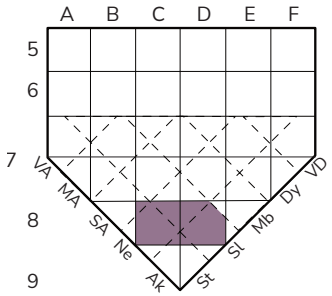
The Lesser panicled sedge – Water sedge fen is associated with organic blankets and veneers (usually over fluvial material), that vary from 30 to 200 cm in thickness. Soils are usually classified as Mesisols or Organic Cryosols. Permafrost may be present at 40 to 50 cm.

COMMENTS

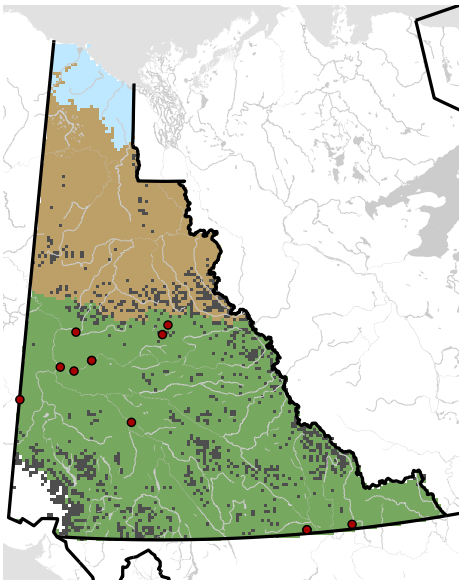
Peat depth is variable on these sites.

F12-Cadi50 (Lesser panicled sedge – Water sedge)

EDATOPIC GRID

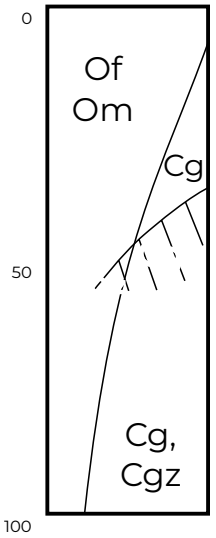


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	12	**Soil texture**	fibric, mesic
Moisure regime	hydric [8]	**Soil classification**	Fibrisol, Mesisol (Cryosol)
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	fibrimor, mesimor, > 30 cm
Meso slope position	level or depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	may be present
Surficial material	organic, organic veneer	**Open water**	usually present (5 to 15%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F12:

Cadi50
Lesser panicled sedge – Water sedge

	Vegetation association	Cadi50	
Layer	**Number of plots**	12	**English name**
Graminoid	Carex diandra	■■■■	lesser panicled sedge
	Carex aquatilis	■■■	water sedge
	Carex utriculata	■■■	beaked sedge
Forb	Comarum palustre	■■■	marsh cinquefoil
	Menyanthes trifoliata	■■■■	buckbean
Bryophyte	Amblystegiaceae	■■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F13
Water horsetail – Sedge fen

GENERAL DESCRIPTION

The Water horsetail – Sedge fen is a graminoid fen which occurs in the boreal region, in the BOL zone.

F13 is characterized by a moderate to high cover of water horsetail (Equisetum fluviatile). Sedges, mostly beaked sedge (Carex utriculata) and sometimes water sedge (C. aquatilis), are also present. Low to moderate amounts of other wetland graminoid and forb species commonly occur. Various brown mosses also occur, often with high cover, including hook mosses (Drepanocladus spp.) and water mosses (Calliergon spp.).

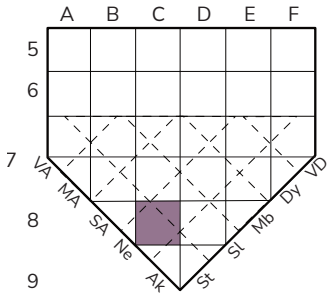
The Water horsetail – Sedge fen occurs on hydric, nutrient-medium sites. The surface organic layer is greater than 30 cm and usually more than 40 cm. Rooting appears to be primarily within the organic horizons. Soils are classified as Mesisols, Fibrisols or peaty Gleysols.

COMMENTS

Water horsetail is also a dominant plant in M02, but M02 sites are on mineral soils, whereas F13 is on peaty (organic) soils.

F13-Eqfl56 (Water horsetail – Sedge)

EDATOPIC GRID



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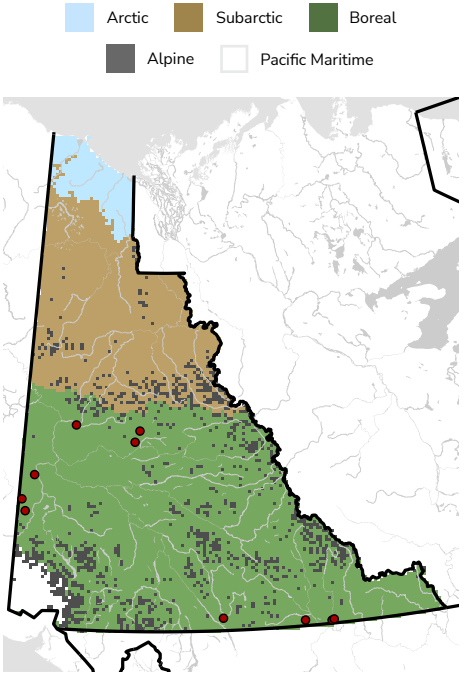
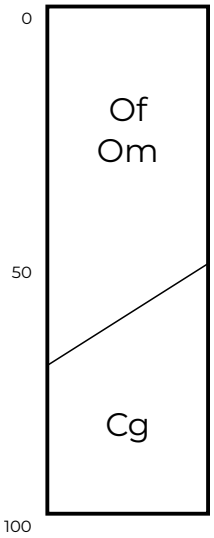


SITE AND SOILS

Plots in unit	11	**Soil texture**	fibric, mesic
Moisure regime	hydric [8]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	medium [C]	**Humus form and depth**	fibrimor, mesimor, > 40 cm
Meso slope position	level or depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	water table at the surface
Slope aspect	level	**Permafrost**	none
Surficial material	organic	**Open water**	usually present (25 to 70%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F13:

Eqfl56
Water horsetail – Sedge

	Vegetation association	Eqfl56	
Layer	**Number of plots**	10	**English name**
Forb	Equisetum fluviatile	■■■■■	water horsetail
Graminoid	Carex aquatilis / utriculata	■■■	water / beaked sedge

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F14
SbL – Water sedge fen

GENERAL DESCRIPTION

The SbL – Water sedge fen is a treed fen which occurs primarily in the Boreal Low zone, BOLlh subzone. It is sometimes found in the BOH or Subarctic Woodland zones.

The SbL – Water sedge fen is characterized by a sparse to open cover of larch (Larix laricina), with varying amounts of black spruce (Picea mariana) or sometimes white spruce (P. glauca). Shrub birch (Betula glandulosa), common Labrador tea (Rhododendron groenlandicum) and various willows (mostly Salix myrtilifolia or S. planifolia) dominate the shrub layer. Sedges, mostly water sedge (Carex aquatilis), are usually present with a moderate cover. On some sites, buckbean (Menyanthes trifoliata) is abundant. Brown mosses (Aulacomnium palustre, Tomentypnum nitens, Drepanocladus spp.) and peat mosses (Sphagnum spp.) dominate the ground surface.

F14 occurs mostly on subhydric sites that are nutrient rich. Sites are poor to very poorly drained organic materials with greater than 30 cm of fibric or mesic peat. Soils are usually classified as Organic, Organic Cryosols or Gleysols.

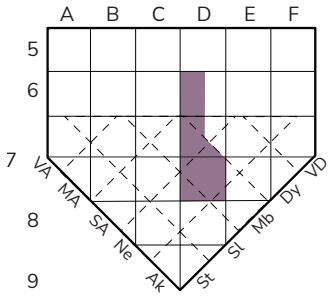
COMMENTS

S14 also has a mix of larch and black and white spruce but is characterized by taller trees, usually non-organic soils, and low or no cover of sedges.

SbL52% is a provisional vegetation association, as it is based on few plots.

F14-SbL50 (Black spruce – Larch / Shrub birch / Water sedge / Glow moss – Peat moss)

EDATOPIC GRID



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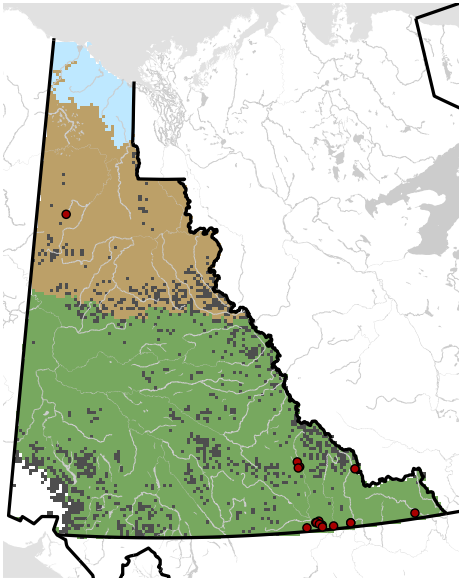
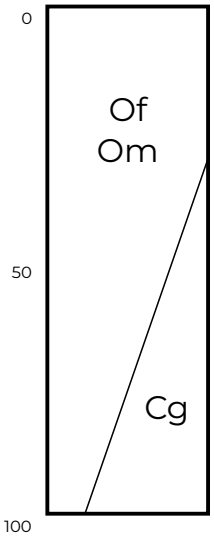


SITE AND SOILS

Plots in unit	16	**Soil texture**	mesic, fibric
Moisure regime	subhydric (hygric) [7 (6)]	**Soil classification**	Organic, Gleysol, Cryosol
Nutrient regime	rich [D]	**Humus form and depth**	fibrimor, mesimor, > 30 cm
Meso slope position	level or depression (lower to toe)	**Soil drainage**	poor to very poor
Aspect	variable	**Seepage / water table**	water table usually close to the surface
Slope aspect	level to gentle (moderate)	**Permafrost**	likely in subarctic
Surficial material	organic, organic veneer	**Open water**	not applicable



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F14:

SbL50
Black spruce – Larch / Shrub birch / Water sedge / Glow moss – Peat moss

SbL52%
Larch / Buckbean / Peat moss

Layer	Vegetation association	SbL50	SbL52%	English name
	Number of plots	14	2	
Tree	Larix laricina	■■■	■■■	larch
	Picea mariana	■■■	▪▪	black spruce
	Picea glauca	□□	▪	white spruce
Shrub	Rhododendron groenlandicum	■■■	▪▪	common Labrador tea
	Betula glandulosa	■■■	■■■	shrub birch
	Salix spp.	■■■■	■■■	willows
	Vaccinium uliginosum	▪▪	▪	blueberry
	Chamaedaphne calyculata		▪▪▪	leatherleaf
Ground shrub	Arctous rubra	▪▪▪	▪	red bearberry
	Andromeda polifolia	□□	▪▪	bog rosemary
	Vaccinium vitis-idaea	■■		lowbush cranberry
Graminoid	Carex aquatilis / utriculata	■■■■	▪▪	water sedges
	Carex diandra		▪▪▪▪	lesser panicled sedge
	Carex limosa		■■■	mud sedge
Forb	Menyanthes trifoliata		■■■■■	buckbean
	Equisetum fluviatile		■■■	water horsetail
	Utricularia intermedia		■■	flat-leaved bladderwort
Bryophyte	Amblystegiaceae	▪▪▪▪▪	■■■■	brown mosses
	Aulacomnium palustre	▪▪▪	▪▪	glow moss
	Sphagnum spp.	▪▪▪▪	■■■■■	peat mosses
	Hylocomium / Pleurozium	▪▪▪▪		feathermosses

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F15
Mud sedge – Buckbean fen

GENERAL DESCRIPTION

The Mud sedge – Buckbean fen is a graminoid fen which occurs primarily in the Subarctic Woodland zone. It also occurs in the BOL, mostly in the BOLlh, and occasionally in the BOH.

The Mud sedge – Buckbean fen is characterized by mud sedge (Carex limosa), which occurs on almost all sites, although its cover is highly variable. Other sedges such as water sedge (C. aquatilis), beaked sedge (C. utriculata) and silvery sedge (C. canescens), among others, may be present usually in low or trace amounts. Buckbean (Menyanthes trifoliata) is also found on most sites and can dominate (see Metr55 association). Marsh scheuchzeria (Scheuchzeria palustris) dominates on sites included in the Scpa55 association. A high cover of brown mosses such as hook mosses (Scorpidium revolvens, Drepanocladus spp.), yellow starry fen moss (Campylium stellatum), golden fuzzy fen moss (Tomentypnum nitens) or glow moss (Aulacomnium palustre) can occur. Peat moss (Sphagnum spp.) can also be abundant.

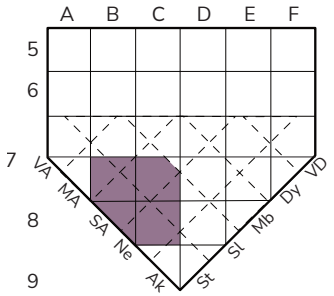
F15 occurs on subhydric to hydric sites often in thermokarst depressions surrounded by peat plateau, with medium to poor nutrient status. The water table is usually at or close to the surface. Soils are usually classified as Fibrisols and occasionally Organic Cryosols.

COMMENTS

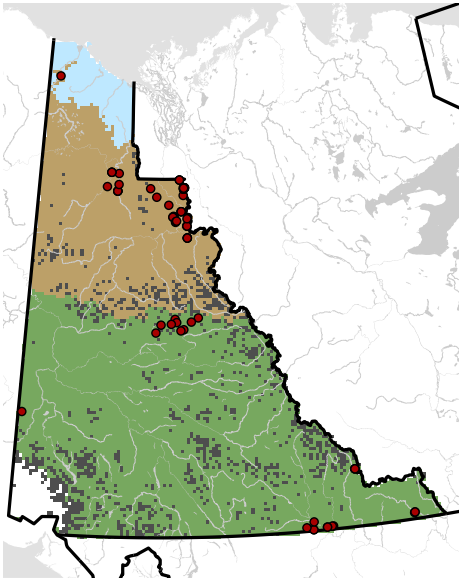
Wetland F15 is similar to Wf08 in British Columbia (MacKenzie and Moran 2004).

F15-Cali58 (Mud sedge / Peat moss)

EDATOPIC GRID

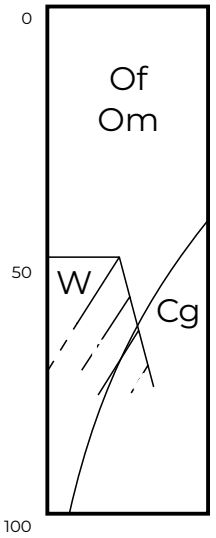


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	73	**Soil texture**	fibric, mesic, loamy
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Organic Cryosol
Nutrient regime	poor to medium [B – C]	**Humus form and depth**	fibrimor (mesimor), often > 100 cm, except in BOLlh
Meso slope position	level or depression	**Soil drainage**	very poor (poor)
Aspect	none	**Seepage / water table**	water table at or near the surface
Slope aspect	level	**Permafrost**	occasionally (likely at depth in subarctic)
Surficial material	organic (organic veneer)	**Open water**	usually present (5 to 40%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite F15:

Cali58
Mud sedge / Peat moss

Metr55
Buckbean – Mud Sedge

Scpa55
Marsh scheuchzeria – Mud sedge

Layer	Vegetation association	Cali58	Metr55	Scpa55	English name
	Number of plots	49	21	3	
Graminoid	Carex limosa	■■■■	■■■	■■■■	mud sedge
	Carex aquatilis	■■■	■■■	□	water sedge
Forb	Menyanthes trifoliata	■■■	■■■■■	■■	buckbean
	Scheuchzeria palustris			■■■■■	marsh scheuchzeria
Bryophyte	Sphagnum spp.	■■■■	□□□□		peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F16
Sweet gale fen

GENERAL DESCRIPTION

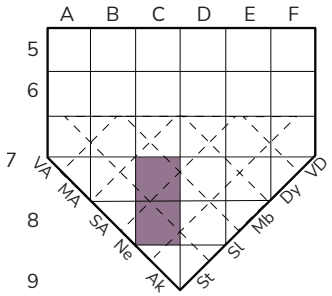
The Sweet gale fen is a shrub fen which occurs primarily in the Subarctic Woodland zone. It also occurs occasionally in the boreal region, both BOL and BOH, extending from southeast to west central Yukon.

F16 is characterized by sweet gale (Myrica gale), which varies in cover from low to high. Leatherleaf (Chamaedaphne calyculata) and shrub birch (Betula glandulosa) generally occur in the shrub layer as well, with very low to moderate cover. Various sedges are present, including water sedge (Carex aquatilis), mud sedge (C. limosa), beaked sedge (C. utriculata) and others. Clubrushes (Trichophorum spp.) can sometimes be of high cover, as can buckbean (Menyanthes trifoliata). Peat mosses (Sphagnum spp.) dominate the moss cover, which varies from moderate to high.

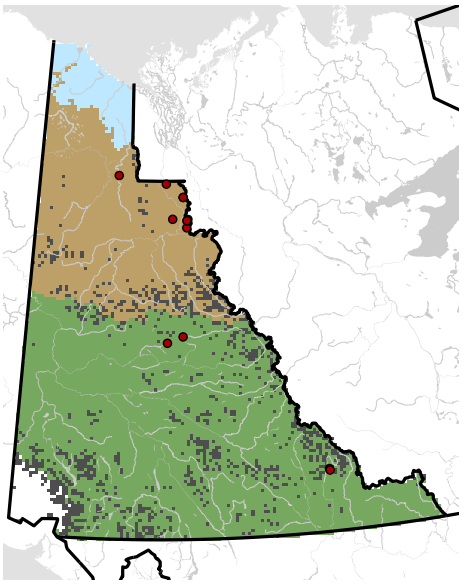
The Sweet gale fen occurs along shorelines of ponds, on strings of patterned fens, between bogs and graminoid fens, and on floating organic mats. Organic layers are generally deep (over 1 m) and soils are poor to very poorly drained, with the water table at or near the surface. Soils are classified as Fibrisols or Mesisols, or when permafrost is present, as Organic Cryosols.

F16-Myga55 (Sweet gale / Peat moss)

EDATOPIC GRID

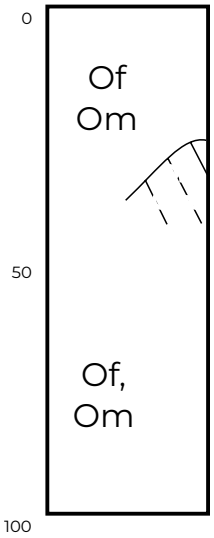


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	12	**Soil texture**	fibric and mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol, Organic Cryosol
Nutrient regime	medium [C]	**Humus form and depth**	fibrimor, mesimor, usually deep
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	sometimes present
Surficial material	organic (organic veneer)	**Open water**	may be present (10 to 25%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F16:

Myga55
Sweet gale / Peat moss

	Vegetation association	Myga55	
Layer	**Number of plots**	12	**English name**
Shrub	Myrica gale	■■■■■	sweet gale
	Betula glandulosa	■■■	shrub birch
	Chamaedaphne calyculata	■■■	leatherleaf
Ground shrub	Vaccinium oxycoccos	■	bog cranberry
Graminoid	Carex aquatilis	■■■	water sedge
Forb	Menyanthes trifoliata	■■	buckbean
Bryophyte	Sphagnum spp.	■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F17
Peat moss fen

GENERAL DESCRIPTION

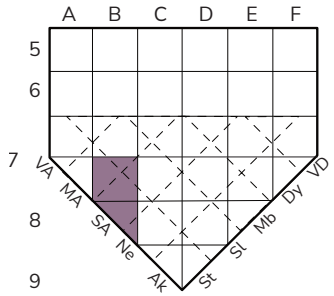
The Peat moss fen is a mossy fen which occurs in the Subarctic Woodland zone. It is known only from the Peel River Lowlands.

Peat mosses (Sphagnum spp.) dominate the vegetation. Other vegetation is of very low to low cover. Scattered sedges are present, including water sedge (Carex aquatilis), mud sedge (C. limosa) and silvery sedge (C. canescens). Scattered cottongrasses (Eriophorum vaginatum, E. russeolum) may occur.

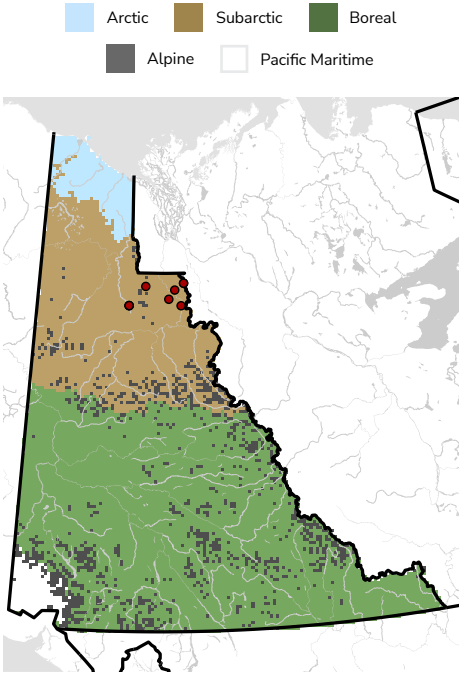
Site and soil data for F17 are very limited. This ecosite is known to occur in thermokarst depressions and oxbows, where the peat mat is often “floating”. Permafrost is likely present at depth although not within 100 cm of the surface.

NO PHOTO AVAILABLE

EDATOPIC GRID

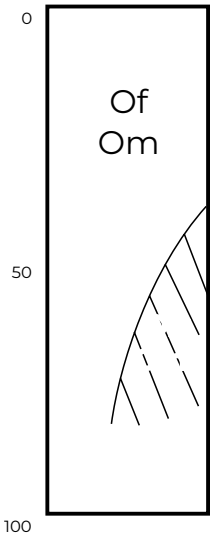


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	7	**Soil texture**	fibric and mesic
Moisure regime	hydric (subhydric) [8 (7)]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	poor [B]	**Humus form and depth**	fibrimor, mesimor, usually deep
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	likely present at depth
Surficial material	organic	**Open water**	not applicable



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F17:

Spha57
Peat moss

	Vegetation association	Myga55	
Layer	**Number of plots**	9	**English name**
Ground shrub	Vaccinium oxycoccos	■	bog cranberry
Graminoid	Carex spp.	■■■	sedges
Graminoid	Eriophorum spp.	■■	cottongrasses
Bryophyte	Sphagnum spp.	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F18
Russet cottongrass fen

GENERAL DESCRIPTION

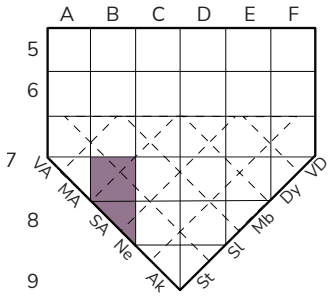
The Russet cottongrass fen is a graminoid fen which occurs in the Subarctic Woodland zone. It is known only from the Peel River Lowlands.

Russet cottongrass (Eriophorum russeolum) characterizes the vegetation of F18, although mosses, mostly peat mosses (Sphagnum spp.), dominate the vegetation. Some sedges occur, including water sedge (Carex aquatilis), mud sedge (C. limosa) and silvery sedge (C. canescens). Scattered leatherleaf (Chamaedaphne calyculata) usually occurs.

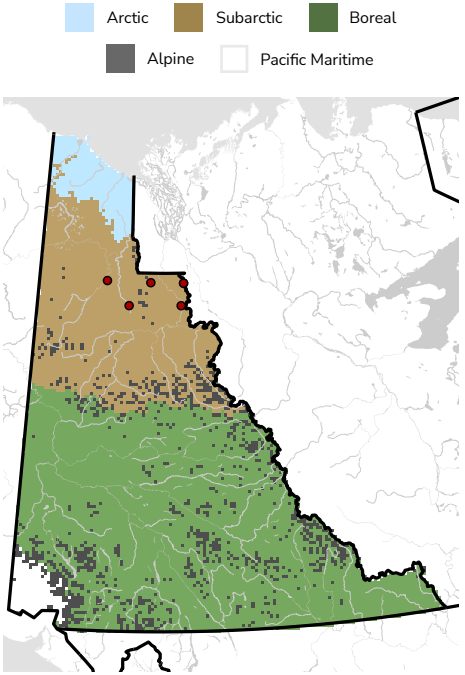
Site and soil data for F18 are very limited. F18 is known to occur in thermokarst depressions as shore fens and in patterned fens.

NO PHOTO AVAILABLE

EDATOPIC GRID

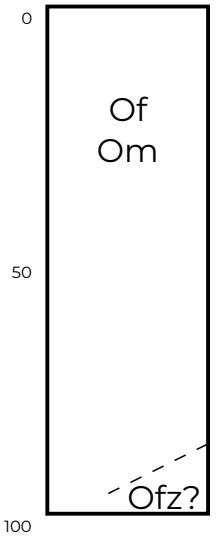


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	6	**Soil texture**	fibric and mesic
Moisure regime	subhydric (hydric) [7 (8)]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	poor [B]	**Humus form and depth**	fibrimor, mesimor, usually deep
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	perhaps at depth
Surficial material	organic	**Open water**	not applicable



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F18:

Erru55
Russet cottongrass / Peat moss

	Vegetation association	Erru55	
Layer	**Number of plots**	6	**English name**
Shrub	Chamaedaphne calyculata	■■	leatherleaf
Ground shrub	Andromeda polifolia	▪▪	bog rosemary
	Vaccinium oxycoccos	▪	bog cranberry
Graminoid	Eriophorum russeolum	■■■■	russet cottongrass
	Carex aquatilis	▪▪	water sedge
Bryophyte	Sphagnum spp.	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F19
Silvery sedge fen

GENERAL DESCRIPTION

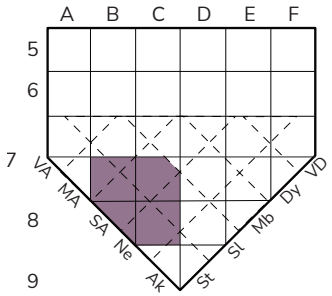
The Silvery sedge fen is a graminoid fen which occurs in the boreal region, both in the BOL and BOH. It is known only from the Beaver River region of central Yukon.

Silvery sedge (Carex canescens) is the dominant species. Water sedge (C. aquatilis) often occurs as well. Brown mosses, including glow moss (Aulacomnium palustre) and water mosses (Calliergon spp.) dominate the moss layer.

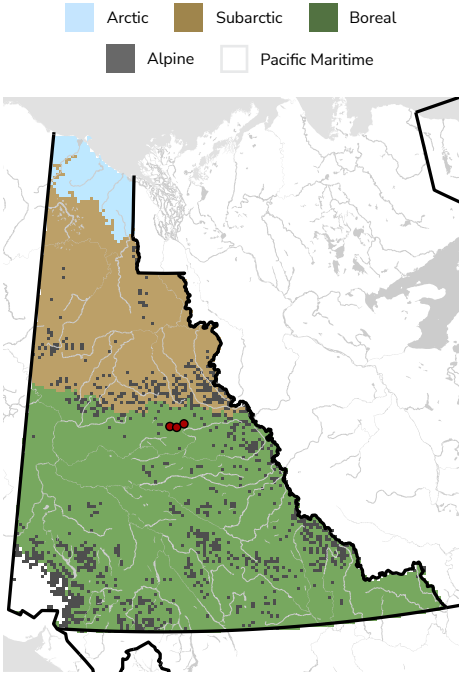
Site and soil data for F19 are very limited. This ecosite is known to occur adjacent to lakes, ponds and backchannels.

NO PHOTO AVAILABLE

EDATOPIC GRID

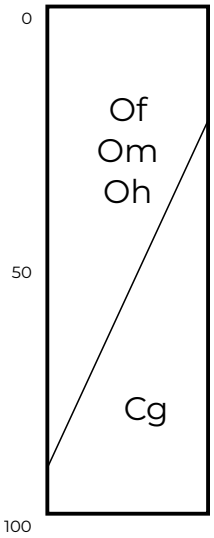


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	3	**Soil texture**	fibric and mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol, Gleysol
Nutrient regime	poor to medium [B – C]	**Humus form and depth**	fibrimor, mesimor, > 30 cm
Meso slope position	level	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	at or near surface, fluctuating
Slope aspect	level	**Permafrost**	possibly at depth
Surficial material	organic, organic veneer	**Open water**	may be present (up to 15%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F19:

Caca58
Silvery sedge / Brown moss

	Vegetation association	Caca58	
Layer	**Number of plots**	3	**English name**
Graminoid	Carex canescens	■■■■■	silvery sedge
	Carex aquatilis	■■■	water sedge
Forb	Comarum palustre	■■	marsh cinquefoil
	Epilobium palustre	■	marsh willowherb
Bryophyte	Amblystegiaceae (mostly)	■■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F20
Wild calla fen

GENERAL DESCRIPTION

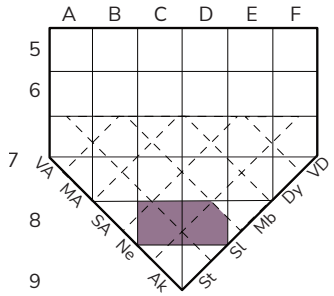
The Wild calla fen is a graminoid fen which occurs in the Subarctic Woodland zone. It is known only from the Peel River Lowlands.

Wild calla (Calla palustris) characterizes the vegetation of F20 and usually is the dominant species. Sedges vary in species and cover—they include water sedge (Carex aquatilis), beaked sedge (C. utriculata) and lesser panicled sedge (C. diandra). Marsh cinquefoil (Comarum palustre) is also consistently present with low to moderate cover. Peat mosses (Sphagnum spp.) are often present.

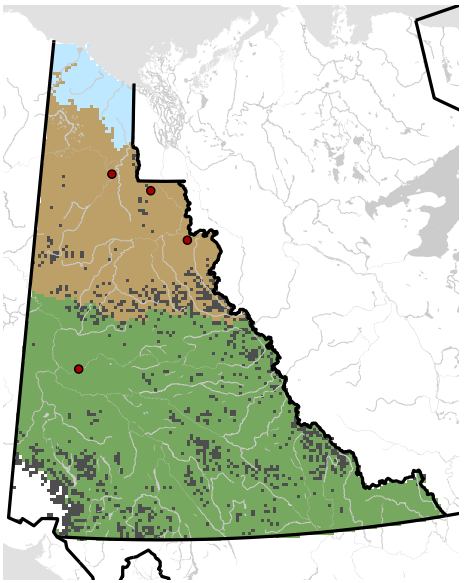
Site and soil data for F20 are very limited. This ecosite is known to occur in thermokarst depressions and along shorelines.

NO PHOTO AVAILABLE

EDATOPIC GRID

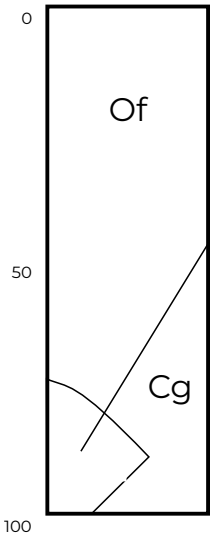


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	4	**Soil texture**	fibric and mesic
Moisure regime	subhydric [8]	**Soil classification**	Fibrisol, Mesisol (Organic Cryosol)
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	fibrimor, mesimor, usually deep
Meso slope position	level or depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	possibly at depth
Surficial material	organic	**Open water**	15 to 30%



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F20:

Capa59
Wild calla – Marsh cinquefoil

	Vegetation association	Capa59	
Layer	**Number of plots**	4	**English name**
Graminoid	Carex aquatilis	■■■	water sedge
	Carex utriculata	■■■	beaked sedge
Forb	Calla palustris	■■■■	wild calla
	Comarum palustre	■■■■	marsh cinquefoil
	Cicuta bulbifera	■	bulbous water-hemlock
	Hippuris vulgaris	■	common mare's-tail
Bryophyte	Sphagnum spp.	■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

F21
Narrow-leaved cottongrass fen

GENERAL DESCRIPTION

The Narrow-leaved cottongrass fen, a graminoid fen, occurs in the Subarctic Woodland, Boreal High and Boreal Subalpine zones.

Narrow-leaved cottongrass (Eriophorum angustifolium) dominates and characterizes the vegetation of F21. Water sedge (Carex aquatilis) also occurs with moderate to high cover. Although peat mosses (Sphagnum spp.) dominate the moss layer, brown mosses (e.g., Scorpidium revolvens) can occur. Known peat mosses are Warnstorf's peat moss (S. warnstorfii) and brown peat moss (S. fuscum).

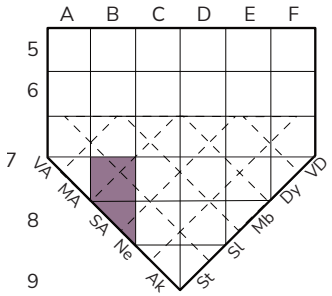
Site and soil data for this ecosite are very limited. F21 is known to occur in thermokarst depressions as shore fens and in patterned fens.

COMMENTS

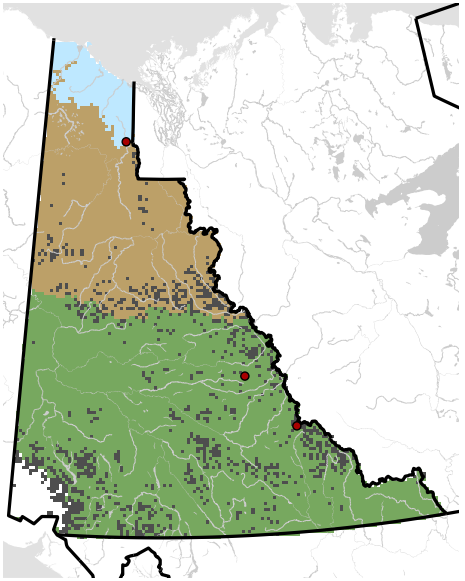
F21 has some similarities in composition to the Yukon Arctic wetland Wf02 (MacKenzie, W.H., C.E. Kennedy and N. Flynn. 2022).

F21-Eran54 (Narrow-leaved cottongrass – Water sedge / Peat moss)

EDATOPIC GRID

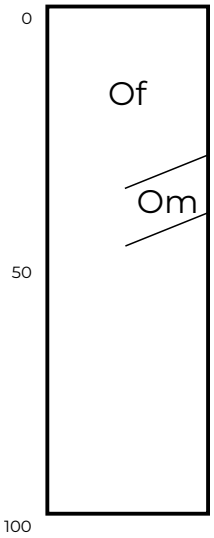


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	3	**Soil texture**	fibric and mesic
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Fibrisol, Mesisol
Nutrient regime	poor [B]	**Humus form and depth**	fibrimor, mesimor, usually deep
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	likely at depth
Surficial material	organic	**Open water**	usually present (5 to 25%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite F21:

Eran54
Narrow-leaved cottongrass – Water sedge / Peat moss

	Vegetation association	Eran54	
Layer	**Number of plots**	3	**English name**
Shrub	Betula glandulosa	■■■	shrub birch
Graminoid	Eriophorum angustifolium	■■■■■	narrow-leaved cottongrass
	Carex aquatilis	■■■■	water sedge
Bryophyte	Sphagnum spp.	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

4.0 **Swamp ecosites**

Swamps are minerotrophic wetlands that are typically treed or shrub-dominated and influenced by mineral-rich groundwater. They occur on a variety of terrain types, including lowlands, valleys and the base of slopes. They are typically found on mineral soil, but may also occur on well-decomposed organic soils. The nutrient regime in swamps can vary, but they are generally richer than surrounding ecosystems due to their inputs of mineral-rich groundwater, seepage or flood waters. Swamps are common along smaller creeks, on floodplains of larger rivers, at the base of slopes, along the margins of peatlands and other wetlands, and associated with perched water tables on permafrost. Soil water movement in swamps is characterized by fluctuating water tables and seasonal flooding, which can range from slow-moving to dynamic. Fire can disturb swamps, leading to an increase in the active permafrost layer depth, drying out of the ground surface and creating site conditions favourable for species adapted to drier conditions.[1]

The guide describes 22 swamp ecosites:

TREED SWAMPS

- S07 Sb – Labrador tea – Peat moss swamp
- S08 SbSw – Red bearberry – Brown moss swamp
- S09 Sw – Shrub birch – Grass swamp
- S10 SbSw – Shrub birch – Feathermoss – Brown moss swamp
- S11 SbSw – Leatherleaf – Peat moss swamp
- S13 Sw – Willow – Horsetail swamp
- S14 SbL – Brown moss swamp
- S15 SbSw – Alder – Labrador tea – Peat moss swamp
- S16 Sw – Sedge – Fen moss swamp
- S17 SbF – Peat moss – Feathermoss swamp
- S18 FSw – Peat moss – Feathermoss swamp

SHRUBBY SWAMPS

- S01 Willow – Bluejoint swamp
- S02 River alder – Willow swamp
- S03 Willow – Water sedge swamp
- S04 Willow – Horsetail swamp
- S05 Willow – Shrub birch – Water sedge swamp
- S06 Willow – Shrub birch – Peat moss swamp
- S12 Sweet gale – Willow swamp
- S20 Diamond-leaved willow – Water sedge swamp
- S21 Shrub birch – Willow – Net-veined willow swamp
- S22 Willow – Groundsel – Reedgrass – Sedge swamp
- S23 Labrador tea – Peat moss – Brown moss swamp

[1] Modified from Yukon Wetland Classification Standards (2025)

4.1 Key to swamp ecosites

1A. TREE SPECIES COVER > 10%
› See Swamp vegetation table 1

2a. Tree cover includes Alaska birch or other tree birch ≥ 5%

- 3a. Leatherleaf low to high cover — S11
- 3b. Peat moss low to high cover, Labrador teas moderate to high.
  - 4a. Alder ≥ 5% — S15
  - 4b. No alder — S07

2b. Tree cover dominated by fir; peat moss present — S18

2c. Tree cover is mixed wood of Sw and fir; Labrador tea and peat moss understorey — S18

2d. Tree cover is mixed wood Sb and fir; Labrador tea and peat moss — S17

2e. Tree cover includes larch (L, SbL or SwSbL); understorey diverse, ground hummocky — S14

2f. Tree cover dominated by black spruce

- 5a. Leatherleaf low to high cover — S11
- 5b. Alder ≥ 5%; peat moss present — S15
- 5c. Shrub birch ≥ 5% — S10
- 5d. Understorey willow and common horsetail — S13
- 5f. Moss cover dominated by brown moss — S08
- 5e. Peat moss has moderate to high cover — S07

2g. Tree cover dominated by white spruce

- 6a. Leatherleaf ≥ 5% — S11
- 6b. Alder ≥ 5%, peat moss present — S15
- 6c. Shrub birch ≥ 5%
  - 4a. Grass ≥ 10% — S09
  - 4b. Sedges ≥ 10% and sedge cover > horsetail cover — S16
  - 4c. Low or no grass or sedge — S10
- 6d. Brown mosses dominate the moss layer — S08
- 6e. Understorey dominated by willow and horsetail — S13

1B. TREE COVER < 10% OR ABSENT AND SHRUBS >20%
› See Swamp vegetation table 2

7a. Sweet gale dominates or co-dominates — S12

7b. Alder (usually river alder) ≥ 5% — S02

7c. Shrub birch cover ≥ 5%

- 8a. Diamond-leaved willow dominates — S20
- 8b. Arrow-leaved groundsel present, BOH, SUW, or BOS zones — S22
- 8c. Net veined willow present, sedges common — S21
- 8d. Peat moss ≥ 20% or is the dominant moss — S06
- 8e. Brown mosses dominate groundcover — S05

7d. Willows dominate the shrub layer

- 9a. Alder also present — S02
- 9b. Diamond-leaved willow dominates — S20
- 9c. Arrow-leaved groundsel present, BOH, SUW, or BOS zones — S22
- 9d. Net veined willow present — S21
- 9e. Peat moss ≥ 20% is the dominant bryophyte — S06
- 9f. Grass ≥ 10% — S01
- 9g. Sedges dominate the groundcover (≥10%) — S03
- 9h. Horsetail (common or others) low-high cover — S04

7e. Labrador tea is dominant shrub overall (may be other low shrubs) — S23

4.2 **Swamp vegetation tables**

SWAMP VEGETATION TABLE 1: TREED SWAMPS

Layer	Swamp ecosite	S07	S08	S09	S10	S11	S13	S14	S15	S16	S17	S18	English name
	Number of plots	46	39	14	24	13	30	18	40	14	33	13	**English name**
Tree	Abies lasiocarpa										■■■■	■■■■	fir
	Larix laricina							■■■					larch
	Picea mariana	■■■■	■■■■	□□□	▪▪▪▪	■■■■	▪▪▪	■■■■	■■■■		■■■■		black spruce
	Picea glauca		▪▪▪▪	■■■■	■■■■	▪▪▪▪	■■■■■	□□□	□□□	■■■■	□□	▪▪▪	white spruce
Shrub	Chamaedaphne calyculata					■■■■							leatherleaf
	Rhododendron groenlandicum	■■■■	■■■■	□□□	■■■■	▪▪▪▪	▪▪▪	■■■■	■■■■	□□□	■■■	▪▪▪	common Labrador tea
	Salix spp.	▪▪▪	■■■	■■■■	■■■■	■■■	■■■■	■■■	■■■■	■■■■	▪▪▪	■■■■	willows
	Betula glandulosa	■■■	□	■■■■■	■■■■	□□□	□□	▪▪▪	□□□	■■■■	■■■■	▪▪▪	shrub birch
	Vaccinium uliginosum	▪▪	□□	□□	▪▪▪	□□□	▪▪	▪▪▪	▪▪▪	▪▪▪	■■■	▪▪	blueberry
	Alnus alnobetula / incana					□□□			■■■				green / river alder
	Dasiphora fruticosa		□	▪▪	□□		▪▪	□□		■■■			shrubby cinquefoil
Ground shrub	Rubus chamaemorus	■■■	□	□	□□	□□			▪▪▪		■■■	□□□	cloudberry
	Empetrum nigrum	▪▪	▪▪	□□	■■■		▪▪	▪▪	□□□	□	■■■	▪▪	crowberry
	Vaccinium vitis-idaea	■■■	▪▪▪	▪▪▪	▪▪▪	□□□	▪▪	■■	■■■■		■■■	▪▪	lowbush cranberry
	Arctous rubra	□□	■■■		▪▪▪		▪▪▪	▪▪▪	□□	▪▪▪			red bearberry
Graminoid	Poaceae	□	▪▪	■■■■	▪▪	▪▪▪▪	▪▪	▪▪▪	▪▪	▪▪	▪▪	□	grasses
	Carex spp.	▪▪		□		□□				■■■■			sedges
Forb	Equisetum arvense		□		□□		■■■■		□□□	■■			common horsetail
Bryophyte	Hylocomium / Pleurozium	■■■■■	■■■■■	■■■■■	■■■■	□□□□	■■■■■	▪▪▪▪	▪▪▪▪	▪▪▪	■■■■	■■■■■	feathermosses
	Sphagnum spp.	■■■■	□□	▪▪▪	□□□	■■■■		■■■■■	■■■■■		■■■■	■■■■	peat mosses
	Aulacomnium / Tomentypnum	▪▪▪	■■■■	□□□	■■■■	□□	■■■■	■■■■	□□□	■■■■■		□□	brown mosses
	Cladina spp.	■■■■	■■■	□□□	▪▪▪	□□□	□□	▪▪▪	▪▪▪▪	□□	■■■■	□□□	reindeer lichens
	Peltigera spp.	□	■■	■■■	▪		▪▪	■■	□	□	▪	□□	pelt lichens
	Nephroma arcticum	□									■■■	□□	greenlight paw lichen

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

SWAMP VEGETATION TABLE 2: SHRUBBY SWAMPS

Layer	Swamp ecosite	S01	S02	S03	S04	S05	S06	S12	S20	S21	S22	S23	English name
	Number of plots	40	34	81	38	17	12	7	28	24	9	7	**English name**
Shrub	Myrica gale							■■■■■					sweet gale
	Salix pulchra								■■■■■				diamond-leaved willow
	Alnus incana		■■■■					□					river alder
	Salix spp.	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■■	■■■■		■■■■■	■■■■■	■■	willows
	Betula glandulosa					■■■■	■■■■	■■■	▪▪▪	■■■	□□□	■■	shrub birch
	Rhododendron groenlandicum						▪▪▪	□		□		■■■■	common Labrador tea
	Vaccinium uliginosum					□□□	□□	□	□	▪▪▪		■■■	blueberry
Ground shrub	Salix reticulata									■■■■	□□□	□□	net-veined willow
Graminoid	Poaceae	■■■■	▪▪▪	□□□	■■■	▪▪	■■■■	■■	▪▪▪	▪▪▪	■■■■■	■■	grasses
	Carex aquatilis / utriculata	□□	□□□	■■■■■	□□	■■■■		■■■	▪▪▪▪	▪▪▪▪	▪▪▪▪		water / beaked sedge
Forb	Equisetum arvense	□	■■■■		■■■■■				□□	□□□	□□□	▪	common horsetail
	Senecio triangularis										■■■■		arrow-leaved groundsel
	Mertensia paniculata									□	■■■	□	tall bluebells
Bryophyte	Hylocomium / Pleurozium		□□□				□□□			□□□	▪▪▪▪	■■■■■	feathermosses
	Sphagnum spp.	□□□□	□□			▪▪▪▪	▪▪▪▪	□□□	□□□□	▪▪▪	▪▪▪	■■■	peat mosses
	Amblystegiaceae			□□□		□□□	▪▪▪		▪▪▪▪	▪▪▪▪	■■■■	▪▪▪▪	brown mosses
	Bryophyta	■■■■	■■■■	■■■■	■■■■■	▪▪▪▪	▪▪▪	□	□□□□		□□□	□□□	mosses
Lichen	Cladina spp.											■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

4.3 **Swamp ecosites and vegetation associations**

Swamp code	Ecosite name	Association code	Association name
S01	Willow – Bluejoint swamp	Sasp50	Willow / Bluejoint reedgrass
		Sasp52	Willow / Grass
S02	River alder – Willow swamp	Alin55	River alder – Willow / Horsetail
		Alin56	River alder – Willow – Red-osier dogwood / Horsetail
		Alin57	River alder (Willow) / Bluejoint
		Sasp69	Willow – River alder / Water sedge
		Sasp70	Willow – River alder / Common horsetail
S03	Willow – Water sedge swamp	Saba57	Barclay's willow / Water sedge
		Sagl57	Grey-leaved willow / Water sedge
		Sapl57	Tea-leaved willow / Water sedge
		Sasp60	Willow / Water sedge
S04	Willow – Horsetail swamp	Saal50	Alaska willow / Horsetail
		Sasp63	Willow / Horsetail
S05	Willow – Shrub birch – Water sedge swamp	Begl62	Shrub birch – Willow / Water sedge
		Sasp65	Willow – Shrub birch / Water sedge / Brown moss
		Sasp67	Willow – Shrub birch / Water sedge / Peat moss
S06	Willow – Shrub birch – Peat moss swamp	Sasp68	Willow – Shrub birch / Moss
		Begl63	Shrub birch – Willow / Peat moss
		Sasp55	Willow – Shrub birch / Grass
S07	Sb – Labrador tea – Peat moss swamp	Sb34	Black spruce / Labrador tea / Lowbush cranberry / Feathermoss – Peat moss
		Sb36	Black spruce / Labrador tea / Lowbush cranberry / Lichen – Peat moss
		SbW35	Black spruce – Alaska birch / Labrador tea – Blueberry / Peat moss
S08	SbSw – Red bearberry – Brown moss swamp	SbSw32	Black spruce (White spruce) / Red bearberry / Feathermoss – Brown moss
		SbSw38	Black spruce (White spruce) / Labrador tea / Red bearberry / Feathermoss – Brown moss
		Sw32	White spruce / Blueberry willow / Red bearberry / Brown moss

CONTINUES

Swamp code	Ecosite name	Association code	Association name
S09	Sw – Shrub birch – Grass swamp	Sw52	White spruce / Shrub birch / Bluejoint reedgrass
		Sw56.1	White spruce / Shrub birch / Grass
		Sw56.2	White spruce / Shrub birch / Bluejoint reedgrass / Peat moss
S10	SbSw – Shrub birch – Feathermoss – Brown moss swamp	SbSw41	Black spruce – White spruce / Shrub birch / Feathermoss – Brown moss
		Sw41	White spruce / Shrub birch / Feathermoss – Brown moss
S11	SbSw – Leatherleaf – Peat moss swamp	SbSw54	Black spruce – White spruce / Leatherleaf / Peat moss
		SbSw53	Black spruce – White spruce / Leatherleaf / Bluejoint reedgrass
		SbSwW54%	Black spruce – White spruce – Alaska birch / Leatherleaf / Peat moss
S12	Sweet gale – Willow swamp	Myga50	Sweet gale – Willow
S13	Sw – Willow – Horsetail swamp	Sw39	White spruce / Willow / Horsetail / Brown moss
		SbSw39	White spruce – Black spruce / Willow / Horsetail / Brown moss
S14	SbL – Brown moss swamp	SbL51	Black spruce – Larch / Labrador tea / Feather moss – Glow moss
		SbLW51%	Black spruce – Larch – Alaska birch / Labrador tea / Brown moss
S15	SbSw – Alder – Labrador tea – Peat moss swamp	Sb35	Black spruce / Alder – Labrador tea / Lichen – Peat moss
		SbW36	Black spruce – Alaska birch / Alder – Labrador tea / Peat moss
		Sw37	White spruce / Alder / Feathermoss – Brown moss
		SwW37	White spruce – Alaska birch / Alder / Peat moss
S16	Sw – Sedge – Fen moss swamp	Sw50	White spruce / Water sedge / Golden fuzzy fen moss
		Sw54	White spruce / Shrub birch / Sedge / Golden fuzzy fen moss
S17	SbF – Peat moss – Feathermoss swamp	SbF41	Black spruce – Fir / Labrador tea / Feathermoss – Peat moss
S18	FSw – Peat moss – Feathermoss swamp	F33	Fir / Crowberry / Step moss – Peat moss
		FSw35	Fir – White spruce / Shrub birch – Labrador tea / Step moss – Peat moss

CONTINUES

Swamp code	Ecosite name	Association code	Association name
S20	Diamond-leaved willow – Water sedge swamp	Sw52	Diamond-leaved willow / Water sedge
		Sw56.1	Diamond-leaved willow / Reedgrass
		Sw56.2	Diamond-leaved willow / Moss
S21	Shrub birch – Willow – Net-veined willow swamp	SbSw41	Shrub birch / Net-veined willow / Water sedge
		Sw41	Willow / Net-veined willow / Brown moss
		SbSw54	Willow – Shrub birch / Net-veined willow / Water sedge
S22	Willow – Groundsel – Reedgrass – Sedge swamp	SbSw53	Willow / Arrow-leaved Groundsel – Reedgrass – Water sedge
S23	Labrador tea – Peat moss – Brown moss swamp	SbSwW54%	Labrador tea / Feathermoss – Brown moss – Peat moss

S01
Willow – Bluejoint swamp

GENERAL DESCRIPTION

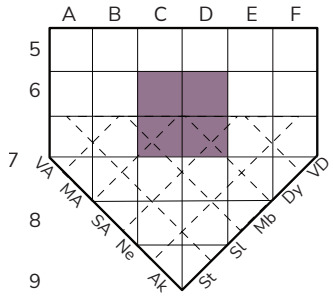
The Willow – Bluejoint swamp is common at lower and mid elevations throughout southern and central Yukon and occasionally in the subarctic.

Willows, most often tea-leaved (Salix planifolia) or grey-leaved willow (S. glauca) and sometimes Alaska willow (S. alaxensis), dominate the shrub layer, but other willows also occur. The ground cover is usually dominated by bluejoint reedgrass (Calamagrostis canadensis). Sometimes the bluejoint is accompanied or replaced by slim-stemmed reedgrass (C. stricta), Lapland reedgrass (C. lapponica), alpine bluegrass (Poa alpina), Kentucky bluegrass (P. pratense) or tufted hairgrass (Deschampsia cespitosa). Various forbs, horsetails and rushes occur with low cover. A moderate but variable bryophyte cover can include hook mosses (Drepanocladus spp.), golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre), leafy mosses (Mniaceae), little tree moss (Climacium dendroides) and others.

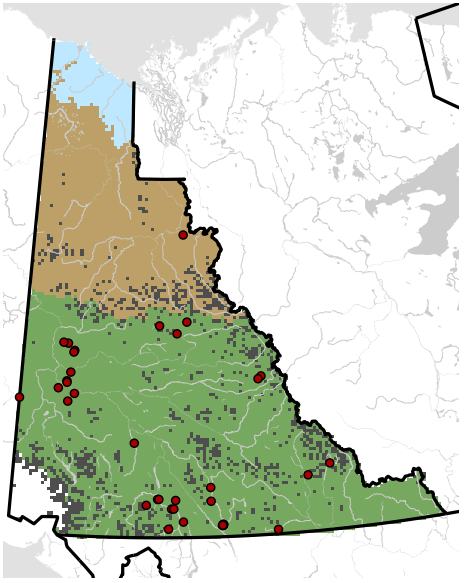
This ecosite is associated with poorly drained, loamy or sandier fluvial soils on lower bench fluvial sites, but it also occurs on sites with disturbance, both natural and anthropogenic. The variable loamy or sandy soils are often flooded and are classified as Gleysols, Cryosols and rarely Organic.

S01-Sasp50 (Willow / Bluejoint reedgrass)

EDATOPIC GRID

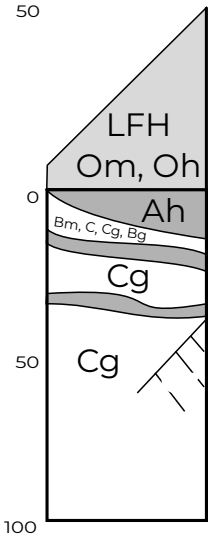


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	41	**Soil texture**	fibric or mesic peat over loamy soil
Moisure regime	usually hygric to subhydric [6 – 7]	**Soil classification**	Gleysol (Organic, Cryosol)
Nutrient regime	medium to rich [C – D]	**Humus form**	wet moder, sometimes mor
Meso slope position	level (depression, lower slope)	**Humus depth**	usually 10 to 30 cm
Aspect	none or northerly	**Soil drainage**	poor
Slope aspect	level to gentle	**Seepage / water table**	often within 30 to 50 cm of the surface
Surficial material	fluvial (lacustrine)	**Permafrost**	Occasionally present in central and northern Yukon



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S01:

Sasp50
Willow / Bluejoint reedgrass

Sasp52
Willow / Grass

	Vegetation association	Sasp50	Sasp52	
Layer	**Number of plots**	33	8	**English name**
Shrub	Salix planifolia	■■■■	□□	tea-leaved willow
	Salix spp.	■■■■■	■■■■■	willows
Graminoid	Calamagrostis canadensis	■■■■■		bluejoint reedgrass
	Poaceae		■■■■	grasses
Bryophyte	Bryophyta	■■■■	■■■■	mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S02
River alder – Willow swamp

GENERAL DESCRIPTION

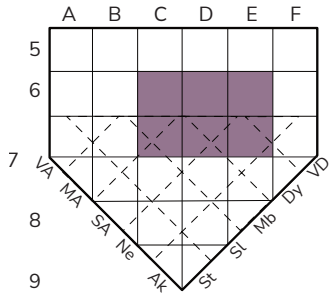
The River alder – Willow swamp occurs throughout boreal and subarctic Yukon.

This ecosite is characterized by a cover of at least 5% river alder (Alnus incana) but may be dominated by alder or by various willows, including little-tree willow (Salix arbusculoides), tea-leaved willow (S. planifolia), park willow (S. monticola), Barclay's willow (S. barclayi) and others. River alder may be replaced in the subarctic, BOH or colder (BOLkp) regions by green alder (A. alnobetula). Shrubs commonly include various currants (Ribes spp.). Red-osier dogwood (Cornus sericea) occurs sometimes in southeast Yukon and the Klondike, occurring with low to high cover, often accompanied by highbush cranberry (Viburnum edule). Bluejoint reedgrass (Calamagrostis canadensis) or sedges (Carex spp.) may be abundant. Horsetails (Equisetum spp.) characterize the ground cover, mostly common (E. arvense) or meadow horsetail (E. pratense), but water horsetail (E. fluviatile) and variegated scouring-rush (E. variegatum) also occur. A low to sparse cover of forbs commonly includes yellow anemone (Anemonastrum richardsonii), wormwood (Artemisia spp.), fireweed (Chamaenerion angustifolium) or arctic raspberry (Rubus arcticus).

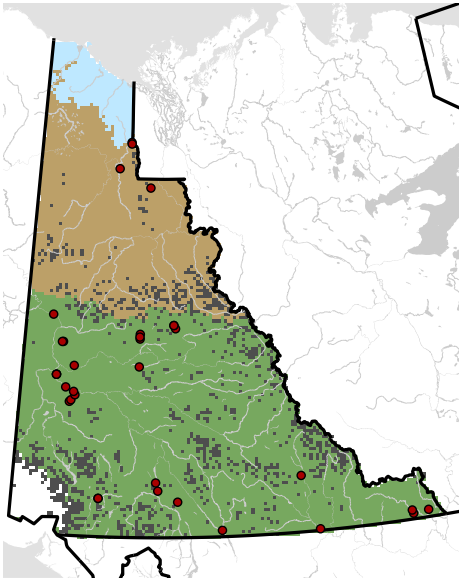
These nitrogen and nutrient-rich swamps occur on fluvial and sometimes lake sediments subject to flooding and fluctuating water tables. The rooting zone is saturated for part of the growing season but is also aerated at times. Soils are classified as Gleyed or Cumulic Regosols, Gleysols, or Cryosols in the north.

S02-Sasp69 (Willow – River Alder / Water sedge)

EDATOPIC GRID

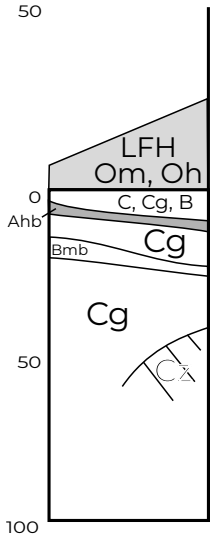


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	34	**Soil texture**	loamy to sandy
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Regosol, Cryosol
Nutrient regime	medium to very rich [C – E]	**Humus form**	mor (moder, mull)
Meso slope position	level, toe slopes	**Humus depth**	0 to 15 cm
Aspect	variable	**Soil drainage**	poor to very poor
Slope aspect	level to gentle (moderate)	**Seepage / water table**	may be present
Surficial material	fluvial (lacustrine)	**Permafrost**	common in BOL of central Yukon, also in SUW



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S02:

Alin55
River alder – Willow / Horsetail

Alin56
River alder – Willow – Red-osier dogwood / Horsetail

Alin57
River alder (Willow) / Bluejoint

Sasp69
Willow – River alder / Water sedge

Sasp70
Willow – River alder / Common horsetail

	Vegetation association	Alin55	Alin56	Alin57	Sasp69	Sasp70	
Layer	**Number of plots**	9	5	2	5	13	**English name**
Tree	Picea glauca	□□	■		■■	■■	white spruce
Shrub	Alnus incana	■■■■■	■■■■	■■■■■	■■■■	■■■■	river alder
	Alnus alnobetula	□□□		■■■■	□□□	□□□	green alder
	Salix spp.	■■■■	■■■■	■■■	■■■■■	■■■■■	willows
	Salix arbusculoides	■■■	□□□		□□□		little-tree willow
	Cornus sericea		■■■■		□		red-osier dogwood
	Rosa acicularis	□□□	■■		□	□	prickly rose
	Viburnum edule		■■				highbush cranberry
Graminoid	Calamagrostis canadensis	■■■■		■■■■■	□	□□	bluejoint reedgrass
	Carex aquatilis	□□		■■	■■■■■		water / beaked sedge
	Carex spp.				■■■		sedges
Forb	Equisetum spp.	■■■■	■■■■	■■	□	■■■■	common / meadow horsetails
	Rubus arcticus	■■			■■■	□	arctic raspberry
	Comarum palustre				■■		marsh cinquefoil
Bryophyte	Bryophyta	■■■■	■■■■	■■	■■■■	■■■■	mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S03
Willow – Water sedge swamp

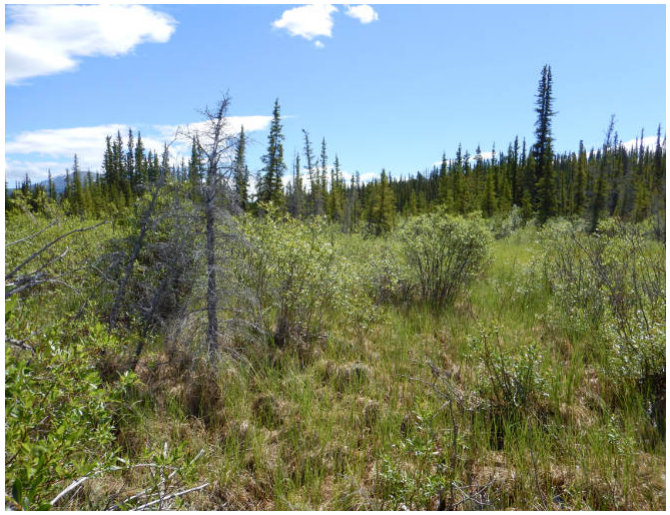
GENERAL DESCRIPTION

The Willow – Water sedge swamp is common in the Boreal Low zone of south and central Yukon, but it can also occur at higher elevations.

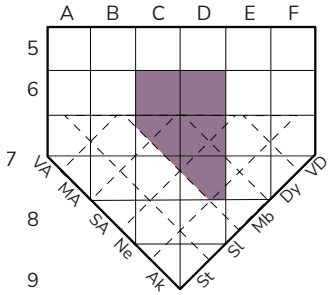
S03 is usually dominated by tea-leaved willow (Salix planifolia), but grey-leaved willow (S. glauca) or Barclay's willow (S. barclayi) can also dominate. Blueberry willow (S. myrtillifolia), Pacific willow (S. lasiandra) and others also occur. The understorey is dominated by a moderate to high cover of water sedge (Carex aquatilis) or beaked sedge (C. utriculata), often with other sedges. A low cover of bluejoint reedgrass (Calamagrostis canadensis), other grasses, or horsetails (Equisetum spp.) is common but, if present, their cover is less than that of the sedges. A sparse to moderate cover of marsh cinquefoil (Comarum palustre), arctic raspberry (Rubus arcticus) and other forbs may also be present. Mosses are generally of high cover, with various brown or leafy mosses present.

This moderate to rich ecosite is common along smaller creeks and other drainages. The water table is usually close to the surface (sometimes at the surface) and flooding is common. Soils are Gleysols, Regosols and sometimes Cryosols. A higher moss cover is often associated with near surface permafrost and Cryosolic soils.

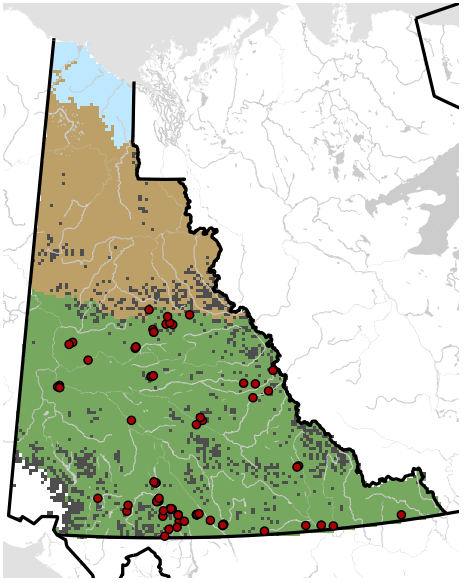
S03-Sagl57 (Grey-leaved willow / Water sedge)



EDATOPIC GRID

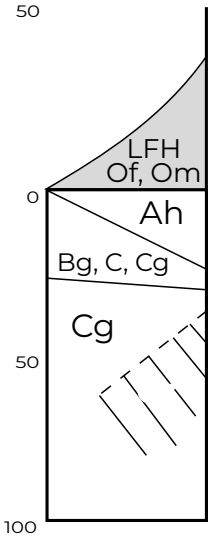


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	79	**Soil texture**	mesic or fibric peat over loamy mineral soil
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Regosol, Cryosol
Nutrient regime	medium to rich (C – D)	**Humus form**	mor, moder, mull
Meso slope position	level, toe (lower)	**Humus depth**	usually 10 to 30 cm
Aspect	variable	**Soil drainage**	poor to very poor
Slope aspect	level (gentle)	**Seepage / water table**	fluctuating water table within 50 cm of the surface
Surficial material	organic veneer over fluvial or lacustrine	**Permafrost**	common under deeper peat and in central Yukon



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S03:

Saba57
Barclay's willow / Water sedge

Sagl57
Grey-leaved willow / Water sedge

Sapl57
Tea-leaved willow / Water sedge

Sasp60
Willow / Water sedge

Layer	Vegetation association	Saba57	Sagl57	Sapl57	Sasp60	English name
	Number of plots	9	8	36	26	
Shrub	Salix barclayi	■■■■■				Barclay's willow
	Salix glauca	□	■■■■■			grey-leaved willow
	Salix planifolia		■■	■■■■■		tea-leaved willow
	Salix spp.	□□□			■■■■■	willows
Graminoid	Carex aquatilis / utriculata	■■■■	■■■■	■■■■■	■■■■■	water sedges
Forb	Comarum palustre	□□	□	■■■	□□□	marsh cinquefoil
Bryophyte	Bryophyta	■■■■■	■■■■■	■■■■■	■■■■■	mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S04
Willow – Horsetail swamp

GENERAL DESCRIPTION

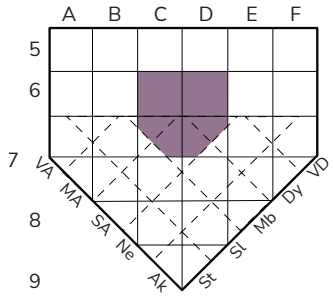
The Willow – Horsetail swamp occurs most commonly in the Boreal Low zone of south and central Yukon but extends into the Boreal High. This swamp also occurs in the Arctic.

Dense willow shrubs with a horsetail understorey are diagnostic. Alaska and Pacific willow (Salix alaxensis, S. lasiandra) dominate the floodplain of the Nisutlin Delta. Grey-leaved willow (S. glauca), tea-leaved willow (S. planifolia) and park willow (S. monticola) are more dominant on other floodplains. The understorey vegetation of this swamp is quite sparse, except for a moderate to high cover of common horsetail (Equisetum arvense). Other horsetails can occur and sometimes dominate, including meadow horsetail (E. pratense), marsh horsetail (E. palustre), water horsetail (E. fluviatile) and variegated scouring-rush (E. variegatum). Coltsfoot (Petasites spp.) is sometimes present, along with sparse sedges, grasses, ground shrubs or other forbs. Various brown mosses, hook mosses (Drepanocladus spp.) and leafy mosses (Mniaceae) comprise the sparse to moderate or high cover moss layer.

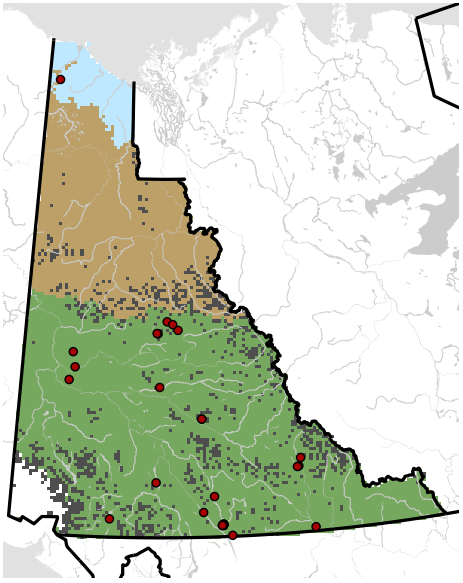
This medium to rich ecosite is common on floodplains and deltas of rivers and creeks at low to middle elevations. Sites are frequently or annually flooded. Soils are usually classified as Gleysols, but Regosols also occur. The usually loamy and sandy soils are frequently covered by a thin organic surface layer. Permafrost is usually absent.

S04-Saal50 (Alaska willow / Horsetail)

EDATOPIC GRID

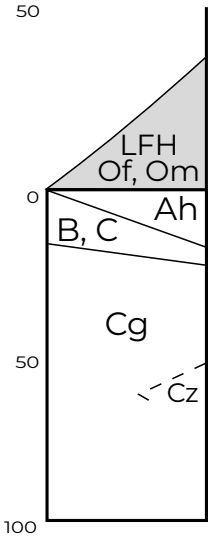


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	38	**Soil texture**	clay loam, silt and sand
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysols
Nutrient regime	medium to rich [C – D]	**Humus form**	mor (moder)
Meso slope position	level (toe)	**Humus depth**	up to 30 cm
Aspect	variable	**Soil drainage**	poor to very poor
Slope aspect	level, gentle	**Seepage / water table**	seepage or water table usually within 50 cm
Surficial material	fluvial, may have shallow peat at the surface	**Permafrost**	usually absent but may occur in central Yukon, likely at depth in BOH



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S04:

Saal50
Alaska willow / Horsetail

Sasp63
Willow / Horsetail

Layer	Vegetation association	Saal50	Sasp63	English name
	Number of plots	10	28	**English name**
Shrub	Salix alaxensis	■■■■■		Alaska willow
	Salix lasiandra	▪▪▪		Pacific willow
	Salix planifolia	▪▪▪	□□□	tea-leaved willow
	Salix spp.	▪▪▪	■■■■■	willows
	Salix glauca		▪▪▪▪	grey-leaved willow
Graminoid	Calamagrostis stricta	■■		slim-stemmed reedgrass
Forb	Equisetum arvense	■■■■■	■■■■■	common horsetail
Bryophyte	Bryophyta	■■■■■	■■■■■	mosses

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S05
Willow – Shrub birch – Water sedge swamp

GENERAL DESCRIPTION

The Willow – Shrub birch – Water sedge swamp is common in the BOH and the BOL zones of central Yukon. It occurs on the Peel Plateau in the Subarctic Woodland zone and can also be found in valleys subject to cold air drainage in the BOLlh and BOLsl.

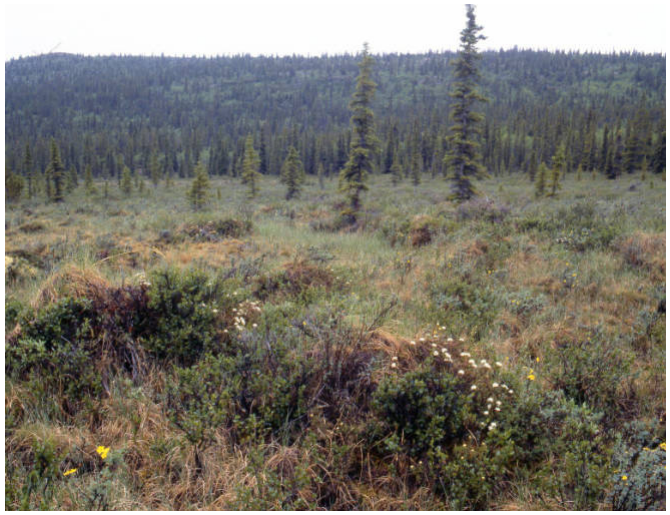
This wetland is characterized by a shrub birch (Betula glandulosa) and willow (Salix spp.) overstorey, but specific species dominance varies. Shrub birch occurs with greater than 5% cover. The most common willows are tea-leaved (S. planifolia), grey-leaved (S. glauca), Barclay's (S. barclayi) and blueberry willow (S. myrtillifolia). Blueberry (Vaccinium uliginosum) and shrubby cinquefoil (Dasiphora fruticosa) can occur with low to high cover. The graminoid layer is characterized by water sedge (Carex aquatilis) but other sedges (Carex spp.) can also occur. A low cover of bluejoint reedgrass (Calamagrostis canadensis), other grasses (Poaceae) and arctic raspberry (Rubus arcticus) is common. Peat mosses can dominate the variable moss cover but brown mosses, including golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre), water mosses (Calliergon spp.) and hook mosses (Drepanocladus spp.), can also dominate.

S05 occurs on a variety of parent materials. The texture of the rooting zone can vary from fine loamy to sandy and gravelly soils, under a peaty surface layer, generally 0 to 15 cm deep. Soils are usually classified as Gleysols.

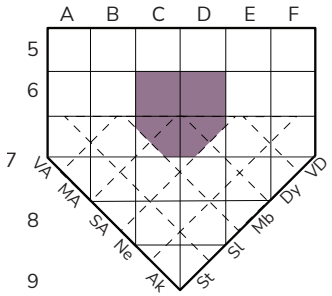
COMMENTS

This ecosite sometimes may be associated with the presence of carbonate bedrock.

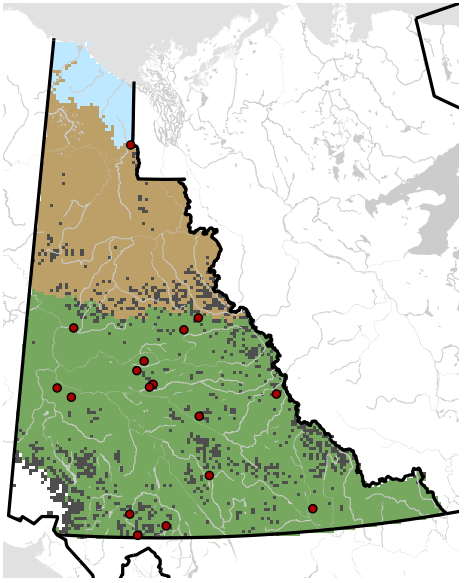
S05-Begl62 (Shrub birch – Willow / Water sedge)



EDATOPIC GRID

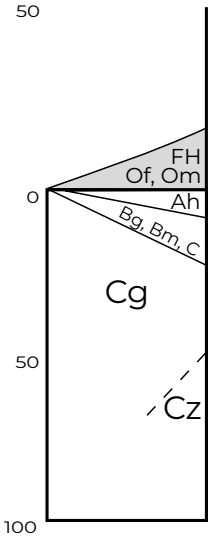


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	19	**Soil texture**	fibric or mesic peat over mineral soil
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysols (Cryosols)
Nutrient regime	medium to rich [C – D]	**Humus form**	mor (moder)
Meso slope position	level (lower, toe)	**Humus depth**	up to 15 cm, sometimes deeper
Aspect	variable	**Soil drainage**	poor (imperfect, very poor)
Slope aspect	level to gentle	**Seepage / water table**	usually within 40 cm of the surface
Surficial material	shallow organic over fluvial, morainal, colluvial	**Permafrost**	may be at depth



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S05:

Begl62
Shrub birch – Willow / Water sedge

Sasp65
Willow – Shrub birch / Water sedge / Brown moss

Sasp67
Willow – Shrub birch / Water sedge / Peat moss

	Vegetation association	Begl62	Sasp65	Sasp67	
Layer	**Number of plots**	5	7	5	**English name**
Tree	Picea glauca	■	■■	□	white spruce
Shrub	Betula glandulosa	■■■■■	■■■■	■■■■	shrub birch
	Salix spp.	■■■■	■■■■■	■■■■	willows
	Dasiphora fruticosa	■■■	□□□		shrubby cinquefoil
	Vaccinium uliginosum	■■■		■■■■	blueberry
	Salix planifolia	□		□□□	tea-leaved willow
Ground shrub	Rubus arcticus	□	■■	□□	arctic raspberry
	Rubus chamaemorus			■■	cloudberry
Graminoid	Carex aquatilis	■■■	■■■■	□□□	water sedge
	Carex spp.	■■■■		■■■■	sedges
Forb	Comarum palustre		■	□□	marsh cinquefoil
Bryophyte	Bryophyta	□□□	■■■■■	■■■	mosses
	Amblystegiaceae	□□	■■■	■■■	brown mosses
	Sphagnum spp.	□□□	□□	■■■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S06
Willow – Shrub birch – Peat moss swamp

GENERAL DESCRIPTION

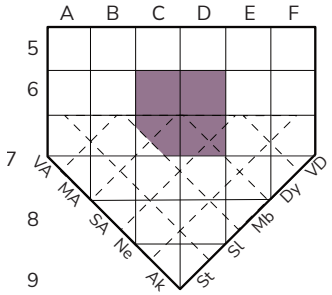
The Willow – Shrub birch – Peat moss swamp is found in the BOH and BOS zones but also occurs at lower elevations of the Klondike and Yukon Plateaus of central Yukon and in the subarctic.

S06 is characterized by a shrub thicket dominated by willow (Salix spp.) and/or shrub birch (Betula glandulosa) with a bluejoint reedgrass (Calamagrostis canadensis) understorey. Willow species vary and may include tea-leaved (S. planifolia), grey-leaved (S. glauca), Alaska (S. alaxensis) and/or blueberry willow (S. myrtillifolia). Blueberry (Vaccinium uliginosum) is a common associate which, when present, has a moderate cover. Sparse white or black spruce (Picea glauca, P. mariana) less than 5 m tall is also typical. A low to high cover of bluejoint reedgrass is the most common graminoid but it may be sparse or absent and can be replaced by other grasses. Trace amounts of horsetails and other herbs are common. Peat moss (Sphagnum spp.) dominates the moss layer on some sites but feathermosses and brown mosses also occur.

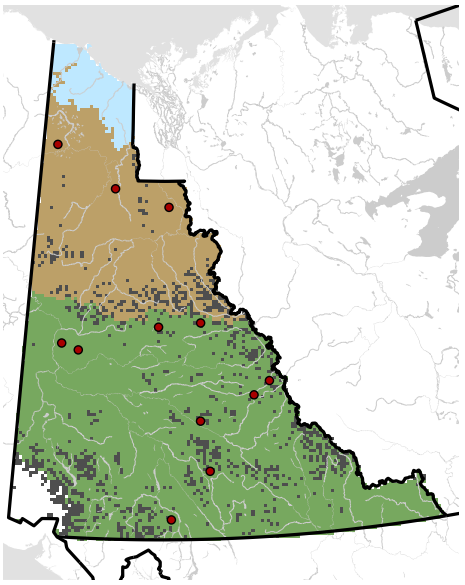
This medium- to nutrient-rich ecosite is usually associated with smaller creeks and other drainages often at the base of steep V-shaped valleys. Soils typically consist of a 5 to 35 cm mesic or fibric peaty layer over various parent materials including silty and sandy or gravelly fluvial deposits, clay loam colluvium, or gravelly morainal. Soils are usually classified as Gleysols or Cryosols.

S06-Sasp55 (Willow – Shrub birch / Grass)

EDATOPIC GRID

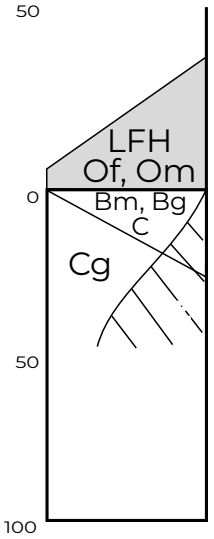


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	12	**Soil texture**	fibric, mesic, over loam
Moisure regime	hygric to subhydric (6 – 7)	**Soil classification**	Cryosol, Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form**	mor
Meso slope position	level, lower or toe slope	**Humus depth**	5 to 30 cm
Aspect	variable	**Soil drainage**	imperfect to poor
Slope aspect	level to moderate	**Seepage / water table**	present within 60 cm of the surface
Surficial material	shallow peat over mineral soil	**Permafrost**	usually present, near surface or at depth



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S06:

Begl63
Shrub birch – Willow / Peat moss

Sasp55
Willow – Shrub birch / Grass

Sasp68
Willow – Shrub birch / Moss

	Vegetation association	Begl63	Sasp55	Sasp68	
Layer	**Number of plots**	2	6	4	**English name**
Tree	Picea glauca	■■	□□	□	white spruce
	Picea mariana	■■	■	■	black spruce
Shrub	Betula glandulosa	■■■■	■■■■	■■■■	shrub birch
	Salix spp.	■■■■	■■■■■	■■■■■	willows
	Salix planifolia		□□□□	■■■	tea-leaved willow
	Salix myrtillifolia	■■■		□□	blueberry willow
	Rhododendron groenlandicum	■■■■	□□	□□□□	common Labrador tea
	Vaccinium uliginosum		■■	□□□	blueberry
Ground shrub	Empetrum nigrum	■■■		□□	crowberry
	Rubus arcticus	■	■	□□	arctic raspberry
	Vaccinium vitis-idaea	■■		■■	lowbush cranberry
Graminoid	Poaceae	■■	■■■■■	■■■	grasses
Forb	Petasites frigidus	■		□	arctic sweet coltsfoot
Bryophyte	Sphagnum spp.	■■■■	■■■■	■■■■■	peat mosses
	Amblystegiaceae	■■	■■■	■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S07
Sb – Labrador tea – Peat moss swamp

GENERAL DESCRIPTION

The Sb – Labrador tea – Peat moss swamp ecosite is common in the BOL and BOH zones of central Yukon as well as in the subarctic. It may also be found in southern Yukon.

S07 is characterized by black spruce (Picea mariana) woodlands with a low to moderate cover of Labrador teas (Rhododendron groenlandicum, R. tomentosum). Other medium-height shrubs include a low to moderate cover of shrub birch (Betula glandulosa) and blueberry (Vaccinium uliginosum), while ground shrubs often include crowberry (Empetrum nigrum), lowbush cranberry (Vaccinium vitis-idaea), cloudberry (Rubus chamaemorus) and bog cranberry (V. oxycoccus). A variable cover of woodland horsetail (Equisetum sylvaticum) is common, as well as a low cover of sedges (Carex spp.) and arctic sweet coltsfoot (Petasites frigidus). Other herbs are usually sparse. Mosses almost always include a low to moderate amount of peat mosses (Sphagnum spp.) and red-stemmed feathermoss (Pleurozium schreberi) and/or step moss (Hylocomium splendens). Occasional haircap moss (Polytrichum spp.), broom moss (Dicranum spp.), golden fuzzy fen moss (Tomentypnum nitens) and other brown mosses also occur. Star reindeer lichen (Cladina stellaris) and grey reindeer lichen (C. rangiferina) can be present with moderate to high cover.

This nutrient-poor to mesotrophic wetland occurs on level terraces and on gentle to moderate slopes at low to middle elevations. Shallow fibric to mesic peat develops on a variety of parent materials. Permafrost is usually found within 50 to 60 cm of the surface. Soils are classified as Turbic or Static Cryosols and occasionally as Gleysols or Organic Cryosols.

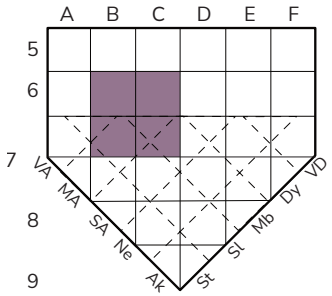
COMMENTS

The Labrador tea species is common Labrador tea, except in the SUW where northern Labrador tea is common.

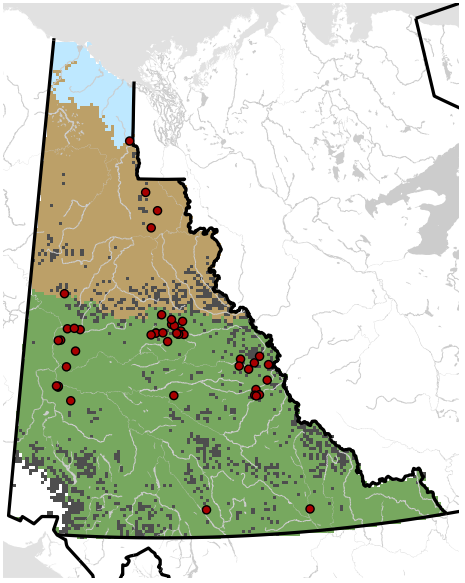
CNVC association: Sb34 and Sb36 are components of CNVC00459 Black Spruce / Common Labrador Tea / Black Crowberry / Stairstep Moss – Peat Mosses.

S07-Sb36 (Black spruce / Labrador tea / Lowbush cranberry / Lichen – Peat moss)

EDATOPIC GRID

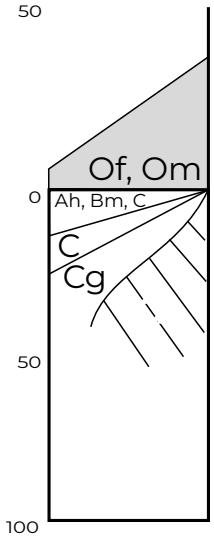


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	46	**Soil texture**	fibric to mesic peat over loamy soils
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol (Gleysol)
Nutrient regime	poor to medium [B – C]	**Humus form**	mor, moder
Meso slope position	level, toe, lower and midslope	**Humus depth**	5 to 30 (40) cm
Aspect	various	**Soil drainage**	poor (very poor)
Slope aspect	level to moderate slopes	**Seepage / water table**	common
Surficial material	shallow peat over various parent materials	**Permafrost**	usually present, likely at depth when not near surface



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S07:

Sb34
Black spruce / Labrador tea / Lowbush cranberry /
Feathermoss – Peat moss

Sb36
Black spruce / Labrador tea / Lowbush cranberry /
Lichen – Peat moss

SbW35
Black spruce – Alaska birch / Labrador tea – Blueberry /
Peat moss

Layer	Vegetation association / Number of plots	Sb34 (23)	Sb36 (21)	SbW35 (2)	English name
Tree	Picea mariana	■■■■	■■■■■	■■■■	black spruce
	Betula neoalaskana				Alaska birch
Shrub	Rhododendron groenlandicum	■■■■	■■■■		common Labrador tea
	Rhododendron tomentosum	□□□			northern Labrador tea
	Betula glandulosa	■■■	■■■		shrub birch
	Vaccinium uliginosum	■■■	■■		blueberry
	Salix spp.	■■■	□□		willows
Ground shrub	Vaccinium vitis-idaea	■■■	■■■		lowbush cranberry
	Empetrum nigrum	■■■	■■		crowberry
	Rubus chamaemorus	■■■	■■■		cloudberry
	Vaccinium oxycoccos	■	□		bog cranberry
Graminoid	Carex bigelowii ssp. lugens	■■	■■■		spruce muskeg sedge
	Carex. spp.	■■	■■■		sedges
Forb	Petasites frigidus	■■	□		arctic sweet coltsfoot
	Equisetum sylvaticum	□□□	□		woodland horsetail
Bryophyte	Hylocomium splendens	■■■■	■■■		step moss
	Pleurozium schreberi	■■■■	■■■■		red-stemmed feathermoss
	Sphagnum spp.	■■■■■	■■■■		peat mosses
	Bryophyta	■■■	□□		mosses
	Aulacomnium / Tomentypnum	□□□	■■■		brown mosses
Lichen	Cladina spp.	■■■	■■■■■		reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S08
SbSw – Red bearberry – Brown moss swamp

GENERAL DESCRIPTION

The SbSw – Red bearberry – Brown moss swamp occurs throughout the BOL zone including the BOLkp, BOLyc, BOLyn, BOLsl and BOLlh. This wetland also extends into the subarctic in the Bonnet Plume Basin.

S08 is characterized by an open to closed overstorey of white spruce (Picea glauca) and/or black spruce (P. mariana), and with a ground cover of red bearberry (Arctous rubra) and brown mosses. Shrubs usually include blueberry willow (Salix myrtillifolia) and grey-leaved willow (S. glauca) and a low to moderate cover of Labrador teas (Rhododendron groenlandicum, R. tomentosum). A low to moderate cover of ground shrubs includes red bearberry (Arctous rubra), lowbush cranberry (Vaccinium vitis-idaea) and crowberry (Empetrum nigrum). A low cover of various herbs can occur, including dwarf scouring rush (Equisetum scirpoides), common horsetail (Equisetum arvense), tall bluebells (Mertensia paniculata) and bastard toadflax (Geocaulon lividum). Golden fuzzy fen moss (Tomentypnum nitens) and glow moss (Aulacomnium palustre) characterize the groundcover, but feathermosses (Hylocomium splendens, Pleurozium schreberi) also occur with low to moderate cover. Pelt (Peltigera spp.) and reindeer lichens (Cladina spp.) can occur with up to 20% cover.

This mesotrophic wetland is common on lower and toe slopes of various aspects and on level valley floors. The soils usually consist of more than 15 cm of peat on fine-textured silt and clay loams sometimes overlying gravelly loams. The hummocky and mounded surface provides varied habitat for plants. Acidity (pH) is usually 7 or greater. Soils are most often frozen within 60 cm of the surface but sometimes deeper and are classified as Turbic, Static or Organic Cryosols.

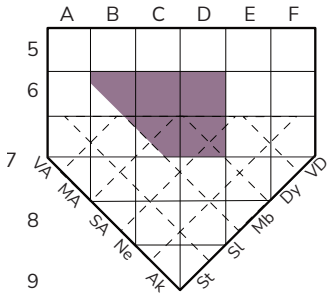
Gleysols are common especially in more southern locations. Seepage is common within the rooting zone.

COMMENTS

SbSw32 is part of CNVC00114 Black Spruce / Low Blueberry Willow / Stairstep Moss – Glow Moss association; Sw32 is included in CNVC00383 White Spruce / Willows – Glandular Shrub Birch / Red Bearberry / Stairstep Moss association.

S08-SbSw32 (Black spruce (White spruce) / Red bearberry / Feathermoss – Brown moss)

EDATOPIC GRID



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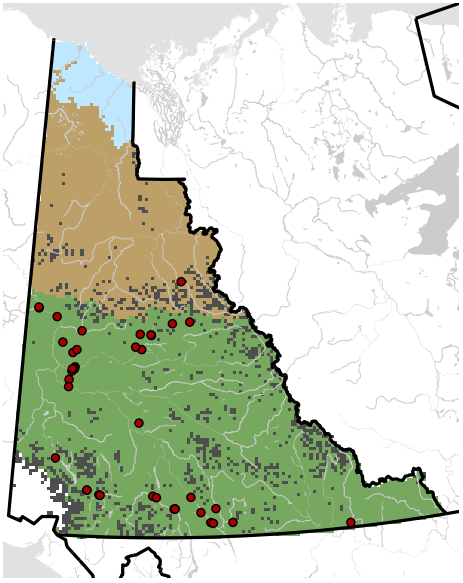
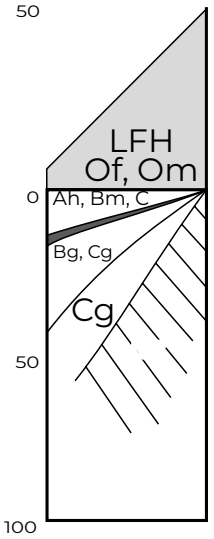


SITE AND SOILS

Plots in unit	38	**Soil texture**	mesic and fibric peat over loam over gravelly soils
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol, Gleysol
Nutrient regime	poor to rich [B – D]	**Humus form**	mor, moder
Meso slope position	level, lower and toe slopes	**Humus depth**	usually 10 to 40 cm
Aspect	variable	**Soil drainage**	poor to imperfect
Slope aspect	level to moderate	**Seepage / water table**	usually 15 to 40 cm below the surface
Surficial material	shallow peat over various parent materials	**Permafrost**	likely at depth if not near the surface



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S08:

SbSw32
Black spruce (White spruce) / Red bearberry / Feathermoss – Brown moss

SbSw38
Black spruce (White spruce) / Labrador tea / Red bearberry / Feathermoss – Brown moss

Sw32
White spruce / Willow / Red bearberry / Brown moss

Layer	Vegetation association	SbSw32	SbSw38	Sw32	English name
	Number of plots	10	18	10	
Tree	Picea glauca	■■	■■■	■■■■	white spruce
	Picea mariana	■■■■	■■■■■		black spruce
Shrub	Rhododendron groenlandicum	■■■	■■■■■	■■■	common Labrador tea
	Betula glandulosa	■■		□	shrub birch
	Dasiphora fruticosa	■	□	■■	shrubby cinquefoil
	Salix glauca	■■■	■■	■■	grey-leaved willow
	Salix myrtillifolia	■■	□□	■■■■	blueberry willow
	Salix spp.	■■	■■■	■■■	willows
	Vaccinium uliginosum	■■■	□□		blueberry
Ground shrub	Arctous rubra	■■■	■■■	■■■	red bearberry
	Empetrum nigrum	■	■■■	□	crowberry
	Vaccinium vitis-idaea	■■	■■■	□□	lowbush cranberry
Graminoid	Poaceae	■■	■■	■■	grasses
Forb	Equisetum scirpoides	■■	□□	■■	dwarf scouring rush
	Equisetum arvense	□	■■	□	common horsetail
Bryophyte	Hylocomium / Pleurozium	■■■■■	■■■■■	■■■■	feathermosses
	Aulacomnium /Tomentypnum	■■■■	■■■■	■■■■■	brown mosses
	Sphagnum spp.	■■	□□		peat mosses
	Dicranum spp.	□□	■■■	■■■	broom mosses
Lichen	Cladonia spp.	■■■	■■■■	□□	reindeer lichens
	Peltigera spp.	■	■■	■■	pelt lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S09
Sw – Shrub birch – Grass swamp

GENERAL DESCRIPTION

The Sw – Shrub birch – Grass swamp occurs in central Yukon at low to middle elevations, but most commonly in the Boreal High zone.

An open canopy of white spruce (Picea glauca), sometimes accompanied by black spruce (P. mariana) is typical, over a shrub layer of willows (Salix spp.) and shrub birch (Betula glandulosa). Blueberry willow (S. myrtillifolia) is one of the common willows. Other shrubs can include blueberry (Vaccinium uliginosum) or Labrador tea (Rhododendron groenlandicum). Crowberry (Empetrum nigrum) and lowbush cranberry (V. vitis-idaea) are common ground shrubs. The groundcover is characterized by more than 10% grass, which may be bluejoint reedgrass (Calamagrostis canadensis), Altai fescue (Festuca altaica), bluegrass (Poa spp.) or other grasses. Step moss (Hylocomium splendens), red-stemmed feathermoss (Pleurozium schreberi), peat moss (Sphagnum spp.) or golden fuzzy fen moss (Tomentypnum nitens) are typical of the moss layer.

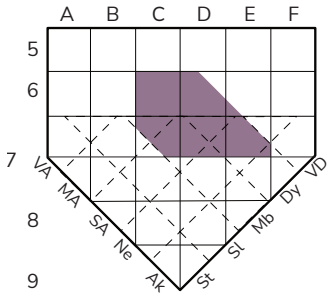
S09 is associated with level fluvial or lacustrine deposits, reworked eolian loess or glaciofluvial deposits on lower and toe slopes. The soils usually consist of a peaty surface layer often over fine-textured soils but sometimes over sand and gravel. B horizons are often present. Most soils have permafrost and are therefore classified as Cryosols. Gleysols or gleyed subgroups of Brunisols may also occur.

COMMENTS

Two Sw56 units are tentative—the Sw56.1 due to unidentified grasses, which could be bluejoint reedgrass, and Sw56.2 due to data being available from only two plots.

S09-Sw52 (White spruce / Shrub birch / Bluejoint reedgrass)

EDATOPIC GRID



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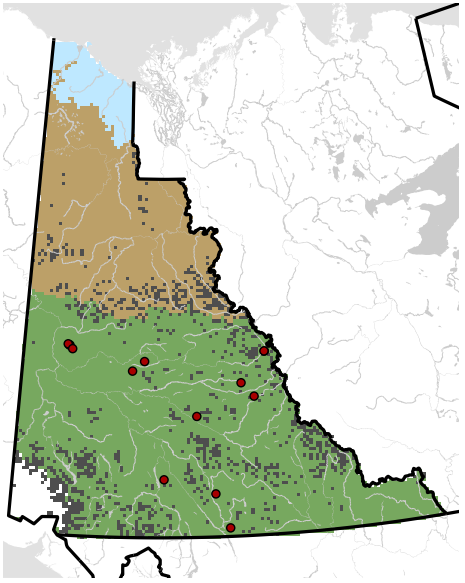
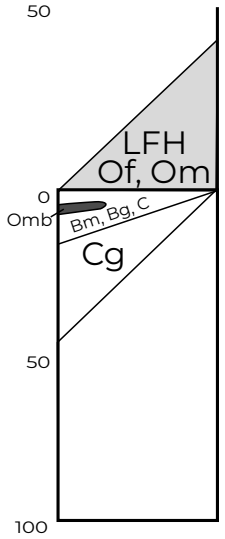


SITE AND SOILS

Plots in unit	14	**Soil texture**	fibric or mesic peat over mostly fine silt but can be gravelly
Moisure regime	subhydric (hygric) [7 (6)]	**Soil classification**	Cryosol (Gleysol, Gleyed Brunisol)
Nutrient regime	rich to very rich (medium) [D – E (C)]	**Humus form**	mor or moder
Meso slope position	level, lower to toe	**Humus depth**	5 to 35 cm
Aspect	variable	**Soil drainage**	imperfect to poor (very poor)
Slope aspect	level, gentle	**Seepage / water table**	less than 30 cm below the surface
Surficial material	shallow organic over fluvial, eolian or lacustrine	**Permafrost**	present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S09:

Sw52
White spruce / Shrub birch / Bluejoint reedgrass

Sw56.1
White spruce / Shrub birch / Grass

Sw56.2
White spruce / Shrub birch / Bluejoint reedgrass / Peat moss

Layer	Vegetation association / Number of plots	Sw52 (5)	Sw56.1 (7)	Sw56.2 (2)	English name
Tree	Picea glauca	■■■■	■■■■■	■■■■	white spruce
	Picea mariana	□□	■■■		black spruce
Shrub	Betula glandulosa	■■■■■	■■■■■	■■■■	shrub birch
	Salix spp.	■■■■	■■■■■	■■■	willows
	Rhododendron groenlandicum		■■■	■■	common Labrador tea
	Dasiphora fruticosa	■	■■		shrubby cinquefoil
	Vaccinium uliginosum		■■	■■■	blueberry
Ground shrub	Vaccinium vitis-idaea	■■	■■■	■■■	lowbush cranberry
	Empetrum nigrum		■■	■■	crowberry
	Vaccinium oxycoccos			■	bog cranberry
Graminoid	Calamagrostis canadensis	■■■■		■■■■	bluejoint reedgrass
	Carex bigelowii ssp. lugens	■■			spruce muskeg sedge
	Poaceae		■■■■		other grasses
Forb	Pyrola spp.	■■■			wintergreens
Bryophyte	Bryophyta	■■■	■■■■■	■■■	other mosses
	Hylocomium splendens	■■■■	■■■■■	■■■	step moss
	Pleurozium schreberi	■■■■		■■■■	red-stemmed feathermoss
	Tomentypnum nitens	■■■■	□□		golden fuzzy fen moss
	Sphagnum spp.		■■■	■■■■■	peat moss
	Dicranum spp.		□	■■	broom mosses
	Polytrichum juniperinum			■■■	juniper haircap moss
Lichen	Peltigera spp.	■■■	■■■	■	pelt lichens
	Cladonia spp.	□	■■	■■■	pixie-cup lichens
	Cladina spp.	□	□□	■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S10
SbSw – Shrub birch – Feathermoss – Brown moss swamp

GENERAL DESCRIPTION

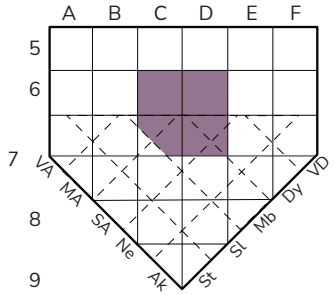
The SbSw – Shrub birch – Feathermoss – Brown moss swamp occurs mostly above 950 m in the BOH zone but can also occur in the BOL of central Yukon and on a few colder sites of the BOLlh and BOLsl in southern Yukon.

This wetland is characterized by an open canopy of white spruce (Picea glauca) and/or black spruce (P. mariana) with an understorey of shrub birch (Betula glandulosa). Black spruce occurs more commonly at lower elevations. A low to moderate cover of other shrubs including common Labrador tea (Rhododendron groenlandicum), willows (Salix spp.) and blueberry (Vaccinium uliginosum) accompany the shrub birch. The willows frequently include blueberry willow (Salix myrtillifolia). Red bearberry (Arctous rubra), crowberry (Empetrum nigrum) and lowbush cranberry (V. vitis-idaea) frequently occur with variable cover. The moderate to high moss cover includes golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre), step moss (Hylocomium splendens) and red-stemmed feathermoss (Pleurozium schreberi). Sometimes peat moss (Sphagnum spp.) is present. Lichens occur frequently with trace to moderate cover.

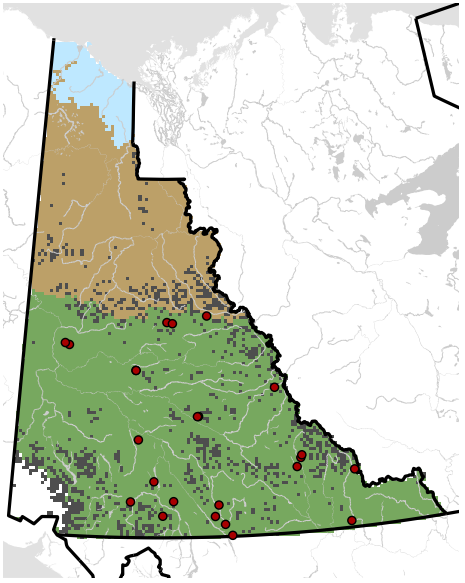
These are colder sites than many other swamps. They are located on a range of site positions and parent materials. They may be on cool aspects or be subject to cold air drainage, frost, or wind exposure. Sites are nutrient-medium, hygric to subhydric sites. Seepage may be present. The soils often consist of clay and silt loams covered with 10 to 60 cm of peat which can make them slow to warm up during the summer, thus helping to create the colder site conditions. Soils are usually classified as Gleysols and Cryosols. Permafrost is likely present at depth on most sites.

S10-SbSw41 (Black spruce – White spruce / Shrub birch / Feathermoss – Brown moss)

EDATOPIC GRID

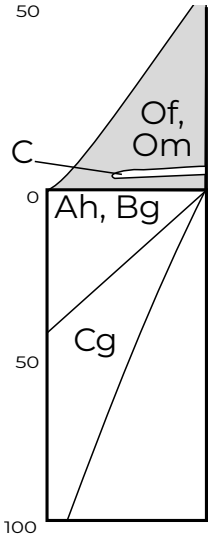


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	24	**Soil texture**	fibric or mesic peat over silt, clay, sandy loam, gravel
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol, Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form**	mor (moder)
Meso slope position	level, lower to toe (midslope)	**Humus depth**	10 to 30 (40) cm
Aspect	often northerly but can occur on other aspects	**Soil drainage**	imperfect to very poor
Slope aspect	level to moderate	**Seepage / water table**	usually evident within 20 to 40 cm of the surface
Surficial material	organic veneer	**Permafrost**	usually present, sometimes at depth



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S10:

SbSw41
Black spruce – White spruce / Shrub birch / Feathermoss – Brown moss

Sw41
White spruce / Shrub birch / Feathermoss – Brown moss

Layer	Vegetation association	SbSw41	Sw41	English name
	Number of plots	10	14	
Tree	Picea glauca	□□□	■■■■■	white spruce
Tree	Picea mariana	■■■■		black spruce
Shrub	Rhododendron groenlandicum	■■■■	■■■	common Labrador tea
	Betula glandulosa	■■■■	■■■■	shrub birch
	Dasiphora fruticosa	▪▪	□□	shrubby cinquefoil
	Salix spp.	■■■■	■■■■■	willows
	Vaccinium uliginosum	■■■	□□□	blueberry
Ground shrub	Arctous rubra	■■■	□□□	red bearberry
	Empetrum nigrum	■■	■■■	crowberry
	Rubus arcticus	▪	□	arctic raspberry
	Vaccinium vitis-idaea	□□□	▪▪▪	lowbush cranberry
Forb	Equisetum scirpoides	▪	□	dwarf scouring rush
Bryophyte	Hylocomium splendens	■■■■	■■■■	step moss
	Tomentypnum / Aulacomnium	■■■■■	■■■	brown mosses
	Sphagnum spp.	▪▪▪	□□□	peat mosses
Lichen	Cladina spp.	■■■	□□□	reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S11
SbSw – Leatherleaf – Peat moss swamp

GENERAL DESCRIPTION

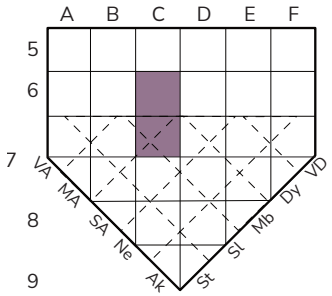
The SbSw – Leatherleaf – Peat moss swamp is found in the Boreal Low zone of central Yukon and in the subarctic.

S11 is characterized by an overstorey of stunted black spruce (Picea mariana) and/or white spruce (P. Glauca) with a leatherleaf (Chamaedaphne calyculata) shrub layer and a peat moss (Sphagnum spp.) ground cover. Common associates with low to moderate cover include alder, either river alder (Alnus incana) or green alder (A. alnobetula), common Labrador tea (Rhododendron groenlandicum), willows (Salix spp.), shrub birch (Betula glandulosa), lowbush cranberry (Vaccinium vitis-idaea) and blueberry (V. uliginosum). Bluejoint reedgrass (Calamagrostis canadensis) and other grasses are common with low to high cover. Horsetails (Equisetum spp.), cloudberry (Rubus chamaemorus), bog cranberry (V. oxycoccus), sedges (Carex spp.) and tussock cottongrass (Eriophorum vaginatum) may also occur. Peat mosses are consistently present but feathermosses (usually step moss (Hylocomium splendens)) and brown mosses also occur with variable cover.

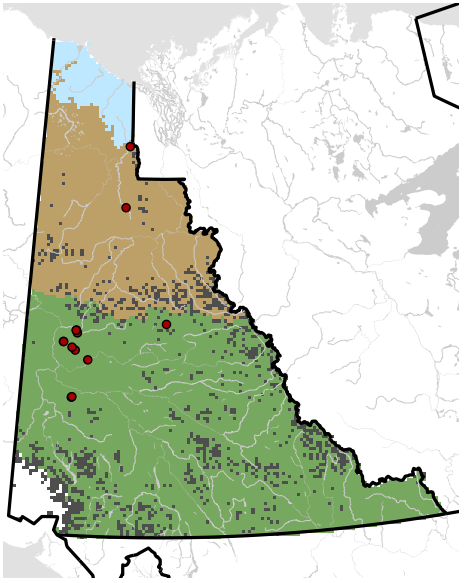
The S11 ecosite occurs on level sites but can also occur on steeper north and easterly slopes. The hummocky or mounded microtopography creates microsites with different conditions. Soils have a peaty surface over a fine-textured mineral substrate and are usually classified as Cryosols.

S11-SbSw53 (Black spruce – White spruce / Leatherleaf / Bluejoint reedgrass)

EDATOPIC GRID

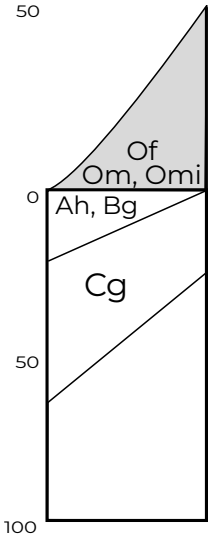


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	13	**Soil texture**	fibric peat over fine loamy mineral soil
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol
Nutrient regime	medium [C]	**Humus form**	mor (moder)
Meso slope position	level or midslope	**Humus depth**	5 to 30 cm (sometimes deeper)
Aspect	usually north and east	**Soil drainage**	imperfect to poor
Slope aspect	level and steep	**Seepage / water table**	common within 35 cm of the surface
Surficial material	shallow organic over fluvial or colluvial	**Permafrost**	present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S11:

SbSw54
Black spruce – White spruce / Leatherleaf / Peat moss

SbSw53
Black spruce – White spruce / Leatherleaf / Bluejoint reedgrass

SbSwW54%
Black spruce – White spruce – Alaska birch / Leatherleaf / Peat moss

VEGETATION SUMMARY (CONTINUED)

Layer	Vegetation association	SbSw54	SbSw53	SbSwW54%	English name
	Number of plots	8	4	1	
Tree	Picea mariana	■■■■	■■■	■■■■	black spruce
	Picea glauca	■■	■■■■■		white spruce
	Betula neoalaskana		■	■■■■■	Alaska birch
Shrub	Chamaedaphne calyculata	■■■■	■■■■■	■■■	leatherleaf
	Rhododendron groenlandicum	■■■■	■■■■		common Labrador tea
	Salix spp.	■■■	■■■	■■■■■	willows
	Betula glandulosa	■■■	□		shrub birch
	Vaccinium uliginosum	■■■		■■	blueberry
	Alnus alnobetula / incana	■■■■	□	■■■■	green / river alder
Ground shrub	Rubus chamaemorus	■■			cloudberry
	Vaccinium oxycoccos	■■	■	■■	bog cranberry
	Vaccinium vitis-idaea	■■■	□□	■■■■	lowbush cranberry
Graminoid	Eriophorum vaginatum	■	□		tussock cottongrass
	Carex bigelowii ssp. lugens	□□	■■	■■	spruce muskeg sedge
	Calamagrostis canadensis	□	■■■■■		bluejoint reedgrass
Forb	Comarum palustre		■■		marsh cinquefoil
	Equisetum pratense			■■■	meadow horsetail
	Petasites frigidus	□		■■	arctic sweet coltsfoot
Bryophyte	Hylocomium splendens	■■■■	□		step moss
	Sphagnum spp.	■■■■	□□	■■■■■	peat mosses
	Bryophyta	□□□□	□□	■■■■	mosses
Lichen	Cladina spp.	■■■		■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S12
Sweet gale – Willow swamp

GENERAL DESCRIPTION

The Sweet gale – Willow swamp occurs occasionally through southeast Yukon, in the Boreal Low of the Nisutlin River Delta and in the Subarctic Woodland west of the Richardson Mountains.

This ecosite is characterized by a low to high cover of sweet gale (Myrica gale) which dominates or co-dominates with tea-leaved willow (Salix planifolia), shrub birch (Betula glandulosa) and other willows (Salix spp.). Other shrubs may include alder (Alnus spp.), leatherleaf (Chamaedaphne calyculata) or shrubby cinquefoil (Dasiphora fruticosa). The understorey usually includes sedges (Carex spp.). It has trace to high amounts of cover and a low to trace cover of horsetails (Equisetum fluviatile, E. variegatum, E. arvense) and bluejoint reedgrass (Calamagrostis canadensis) or other grasses. Arctic raspberry (Rubus arcticus), Baltic rush (Juncus balticus) and bedstraw (Galium spp.) commonly occur in low or trace amounts. Other forbs may also occur. Peat mosses (Sphagnum spp.) sometimes dominate the moderate moss cover but on other sites mosses may be absent.

S12 occurs on poorly drained, moderately decomposed peaty, or silty and sandy fluvial soils. Soils are usually peaty in the subarctic and are classified as Cryosols, whereas in the Liard Hyland the mineral soils are likely to be classified as Gleysols.

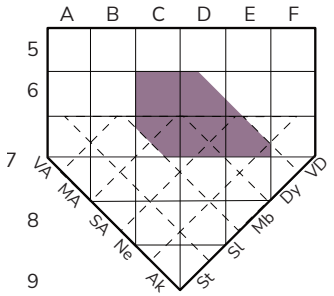
COMMENTS

Soils data are very limited.

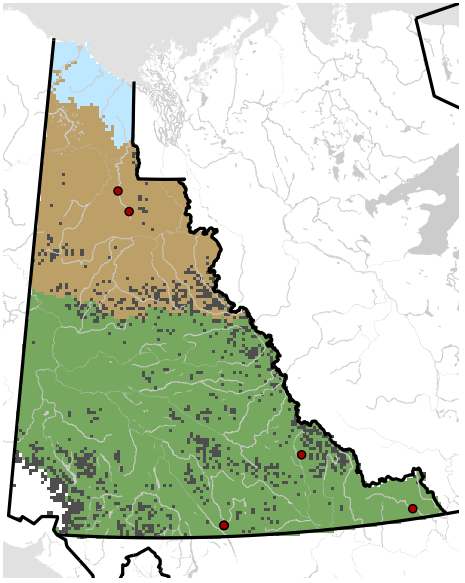
Based on the distribution of sweet gale (Cody 1996), this ecosite could also be found in central Yukon.

S12-Myga50 (Sweet Gale – Willow)

EDATOPIC GRID

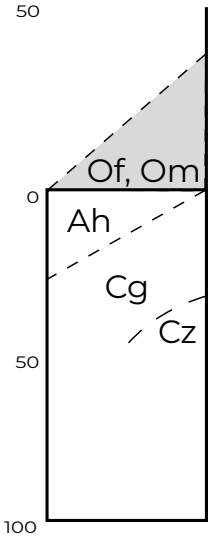


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	7	**Soil texture**	silty to sandy
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Cryosol
Nutrient regime	medium to very rich [C – E]	**Humus form**	mor (moder)
Meso slope position	level, lower	**Humus depth**	no data
Aspect	variable	**Soil drainage**	poor
Slope aspect	level to gentle	**Seepage / water table**	flooded or high-water table
Surficial material	fluvial	**Permafrost**	likely permafrost in the subarctic, variable in SE Yukon



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite S12:

Myga50
Sweet gale – Willow

	Vegetation association	Myga50	
Layer	**Number of plots**	7	**English name**
Shrub	Myrica gale	■■■■■	sweet gale
	Betula glandulosa	■■■	shrub birch
	Salix planifolia	■■■	tea-leaved willow
	Salix spp.	■■■	willows
	Alnus spp.	■■	river / green alder
Ground shrub	Rubus arcticus	■	arctic raspberry
Graminoid	Carex aquatilis	■■■	water sedge
	Calamagrostis canadensis	■■	bluejoint reedgrass
	Carex spp.	■	sedges
	Juncus balticus	□□	Baltic rush
Forb	Equisetum fluviatile / variegatum	■	water / variegated horsetail
Bryophyte	Sphagnum spp.	□□□	peat mosses
	Bryophyta	□□	other mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S13
Sw – Willow – Horsetail swamp

GENERAL DESCRIPTION

The Sw – Willow – Horsetail swamp ecosite is common throughout southern and central Yukon at low to middle elevations, as well as in the subarctic.

White spruce (Picea glauca), sometimes accompanied by black spruce (P. mariana), forms an open to closed canopy. The willow-dominated understorey most often includes blueberry willow (Salix myrtillifolia), grey-leaved willow (S. glauca), tea-leaved willow (S. planifolia) or little tree willow (S. arbusculoides). common Labrador tea (Rhododendron groenlandicum) is a common associate, occurring with low to moderate cover. The forest floor is characterized by a low to moderate cover of common horsetail (Equisetum arvense), sometimes accompanied by dwarf scouring rush (E. scirpoides), water horsetail (E. fluviatile) or woodland horsetail (E. sylvaticum). Ground shrubs commonly include lowbush cranberry (Vaccinium vitis-idaea), crowberry (Empetrum nigrum) and red bearberry (Arctous rubra). Common herbs include coltsfoot (Petasites spp.), bastard toadflax (Geocaulon lividum) and traces of grasses and sedges. The characteristic moss layer is usually dominated by golden fuzzy fen moss (Tomentypnum nitens), glow moss (Aulacomnium palustre) or step moss (Hylocomium splendens) and sometimes red-stemmed feathermoss (Pleurozium schreberi) or other mosses.

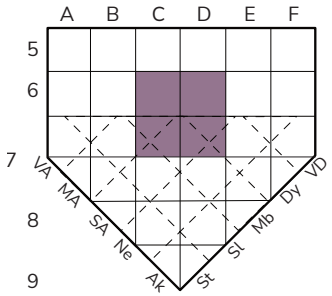
This is a nutrient-medium to -rich ecosite which commonly occurs on level river floodplains and toe and lower slopes on various parent materials. Soil texture can range from clay loam and silt loam to sandy loam and loamy sand. The hummocky and mounded microtopography creates varying microsites for plants. In the Southern Lakes region, soils are usually classified as Gleysols, but in central and northern Yukon Cryosols are more common.

COMMENTS

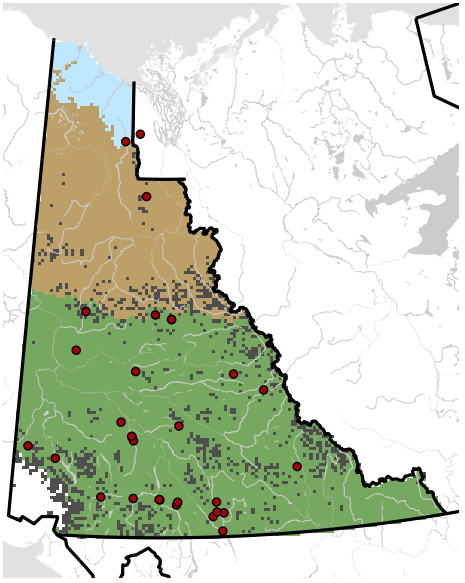
Sw39 is a component of CNVC00373 White Spruce / Field Horsetail – Meadow Horsetail – Red Bearberry / Stairstep Moss.

S13-Sw39 (White spruce / Willow / Horsetail / Brown moss)

EDATOPIC GRID

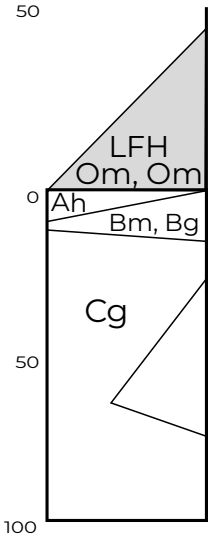


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	30	**Soil texture**	mesic peat over, usually, clay, silt and sandy loam
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol, Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form**	mor, moder
Meso slope position	level, toe (lower, mid slopes)	**Humus depth**	10 to 25 (35) cm
Aspect	variable	**Soil drainage**	imperfect to poor
Slope aspect	level (gentle to moderate)	**Seepage / water table**	common
Surficial material	shallow peat over fluvial, eolian, glaciolacustrine	**Permafrost**	may be present at depth where not close to surface



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S13:

SbSw39
White spruce – Black spruce / Willow / Horsetail / Brown moss

Sw39
White spruce / Willow / Horsetail / Brown moss

	Vegetation association	SbSw39	Sw39	
Layer	**Number of plots**	7	23	**English name**
Tree	Picea glauca	■■■■■	■■■■■	white spruce
	Picea mariana	■■■■		black spruce
Shrub	Salix spp.	■■■■■	■■■■	willows
	Salix myrtillifolia	□□	■■■	blueberry willow
	Rhododendron groenlandicum	■■■■	■■	common Labrador tea
	Dasiphora fruticosa	□□	■	shrubby cinquefoil
	Vaccinium uliginosum	■■	□□	blueberry
Ground shrub	Empetrum nigrum	■■	■■	crowberry
	Vaccinium vitis-idaea	■■	■■	lowbush cranberry
	Arctous rubra	□□	■■■	red bearberry
Graminoid	Poaceae	■■■	■■	grasses
Forb	Equisetum arvense	■■■■	■■■■	common horsetail
	Geocaulon lividum	■■	□□	bastard toadflax
Bryophyte	Aulacomnium / Tomentypnum	■■■■	■■■■■	brown mosses
	Hylocomium / Pleurozium	■■■■■	■■■■■	feathermosses
	Bryophyta	■■■■	■■■	other mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S14
SbL – Brown moss swamp

GENERAL DESCRIPTION

The SbL – Brown moss swamp ecosite occurs at lower elevations of southeast Yukon.

S14 is characterized by the presence of larch (Larix laricina) occurring with black spruce (Picea mariana) and sometimes both white spruce (Picea glauca) and black spruce. Trees usually form an open to moderate canopy, as larch is intolerant of shade. Shrub cover is usually moderate to high. The shrub layer commonly includes a variable cover of shrub birch (Betula glandulosa), Common Labrador tea (Rhododendron groenlandicum), blueberry (Vaccinium uliginosum) and blueberry willow (Salix myrtillifolia). Other willows include tea-leaved (S. planifolia) or little-tree willow (S. arbusculoides). Red bearberry (Arctous rubra), crowberry (Empetrum nigrum), arctic raspberry (Rubus arcticus) and lowbush cranberry (V. vitis-idaea) are common ground shrubs which can occur with low to moderate cover. Sedges, including water sedge (Carex aquatilis) and others, often have a low to moderate cover. A diverse herb layer includes a large variety of species with low or trace cover, including bluejoint reedgrass (Calamagrostis canadensis) and other grasses, woodland horsetail (Equisetum sylvaticum), common horsetail (E. arvense), dwarf scouring rush (E. scirpoides), palmate coltsfoot (Petasites frigidus ssp. palmatus), Labrador lousewort (Pedicularis labradorica), naked miterwort (Mitella nuda), bog cranberry (V. oxycoccus), twinflower (Linnaea borealis) and others. A high cover of mosses usually includes peat mosses (Sphagnum spp.), feathermosses (Hylocomium splendens, Pleurozium schreberi) and brown mosses (Tomentypnum nitens, Aulacomnium palustre).

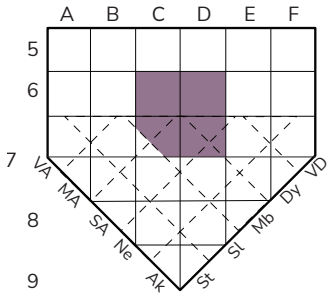
This nutrient-medium to -rich wetland is usually found on level fluvial terraces or gently sloping areas on a range of parent materials. The hummocky and mounded surface creates microsites for a wide variety of plant species with different nutritional requirements. Soils often consist of peaty surface horizons over fine loamy materials. These layers overlie coarser textured mineral soil which allows subsurface water flow. Seepage is common within 60 cm of the surface during the growing season. Soils are classified as Gleysols or Cryosols, and sometimes Organic.

COMMENTS

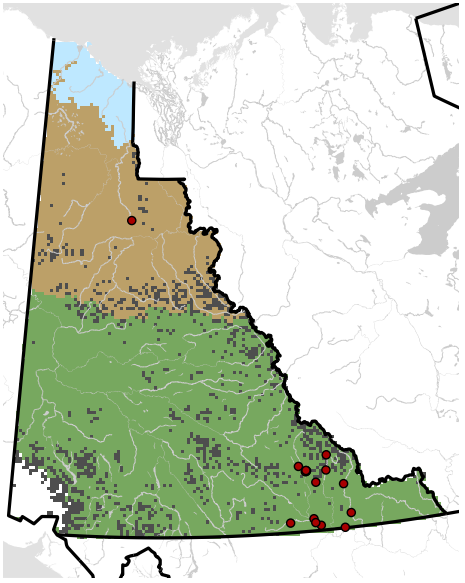
SbL51 is likely a component of CNVC00116 Tamarack – Black Spruce / Bog Birch – Glandular Birch / Golden Fuzzy Fen Moss association.

S14-SbL51 (Black spruce – Larch / Labrador tea / Feather moss – Glow moss)

EDATOPIC GRID

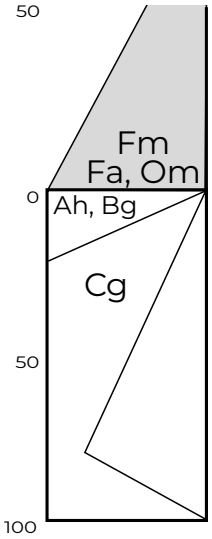


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	17	**Soil texture**	mesic peat over loam
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Cryosol (Organic)
Nutrient regime	medium to rich [C –D]	**Humus form**	mor (mull)
Meso slope position	level, lower to toe	**Humus depth**	10 to 40 (55) cm
Aspect	variable	**Soil drainage**	imperfect to very poor
Slope aspect	level to gentle (moderate)	**Seepage / water table**	present within 60 cm of the surface
Surficial material	shallow organic over fluvial, morainal, colluvial	**Permafrost**	may be present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S14:

SbL51
Black spruce – Larch / Labrador tea / Feathermoss – Glow moss

SbLW51%
Black spruce – Larch – Alaska birch / Labrador tea /
Brown moss

Layer	Vegetation association	SbL51	SbLW51%	English name
	Number of plots	17	1	
Tree	Larix laricina	■■■	■■■	larch
	Picea mariana	■■■■	■■■■	black spruce
	Picea glauca	■■■		white spruce
	Betula neoalaskana		■■■	Alaska birch
Shrub	Rhododendron groenlandicum	■■■■	■■■	common Labrador tea
	Betula glandulosa	■■■		shrub birch
	Salix spp.	■■■		willows
	Salix myrtillifolia	■■■	■■	blueberry willow
	Vaccinium uliginosum	■■■	■■■	blueberry
Ground shrub	Arctous rubra	■■■	■■■	red bearberry
	Empetrum nigrum	■■	■■■	crowberry
	Vaccinium vitis-idaea	■■	■■■	lowbush cranberry
	Rubus arcticus	■■		arctic raspberry
	Vaccinium oxycoccos	□	■■	bog cranberry
Graminoid	Carex aquatilis	□□□	■■■	water sedge
Forb	Equisetum sylvaticum / arvense	■■■	■■■	woodland / common horsetail
	Equisetum scirpoides	■■■		dwarf scouring rush
Bryophyte	Tomentypnum / Aulacomnium	■■■■	■■■	brown mosses
	Hylocomium splendens	■■■■	■■■■	step moss
	Pleurozium schreberi	□□	■■■■	red-stemmed feathermoss
	Sphagnum spp.	■■■■	■■■■■	peat mosses
Lichen	Cladonia spp.	■■	■	pixie-cup lichens
	Peltigera aphthosa	■■	■	silver-edge pelt lichen

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S15
SbSw – Alder – Labrador tea – Peat moss swamp

GENERAL DESCRIPTION

The SbSw – Alder – Labrador tea – Peat moss swamp is found on slopes in the Subarctic Woodland and at a range of elevations in the boreal region of central and southeast Yukon.

S15 is characterized by an open black (Picea mariana) or white spruce (P. glauca) canopy with green alder (Alnus alnobetula), common Labrador tea (Rhododendron groenlandicum) and peat moss (Sphagnum spp.). The sites dominated by white spruce occur at higher elevations and are usually richer and less likely to have near surface permafrost than other sites of S15. The presence of Alaska birch (Betula neoalaskana) and other tree birches (B. spp.) probably indicates past fire events. River alder (Alnus incana) sometimes occurs, rather than green alder (A. alnobetula). Shrub birch (B. glandulosa), willows (Salix spp.) and blueberry (Vaccinium uliginosum) are common shrubs. Ground shrubs include lowbush cranberry (V. vitis-idaea) and cloudberry (Rubus chamaemorus). Peat moss (Sphagnum spp.) dominates the moss layer, but step moss (Hylocomium splendens) and red-stemmed feathermoss (Pleurozium schreberi) are also found. A low to moderate cover of reindeer lichen (Cladina spp.) is common, especially under a black spruce canopy.

This ecosite occurs on level to moderately sloping sites on valley floors and on some steeper slopes. The soils are characterized by a peaty surface layer over morainal, colluvial or lacustrine parent materials. Soils are usually classified as Turbic or Organic Cryosols with permafrost within 30 to 60 cm of the surface, creating a hummocky and mounded microtopography. Some soils are classified as Gleysols but permafrost is likely present at depth.

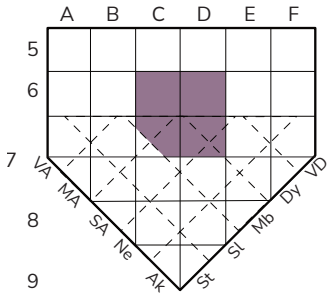
COMMENTS

Northern Labrador tea is found in the subarctic while common Labrador tea is found south of the Ogilvie Mountains.

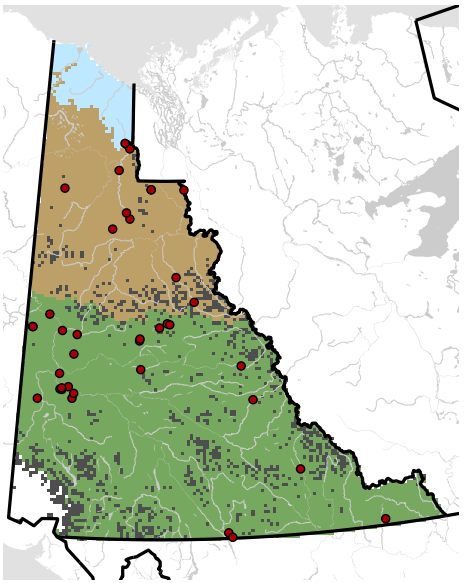
Sb35 is a component of CNVC00460 Black Spruce / Green Alder – Northern Labrador tea / Peat Moss – Reindeer Lichens association.

S15-Sw37 (White spruce / Alder – Lowbush cranberry / Lichen – Peat moss)

EDATOPIC GRID

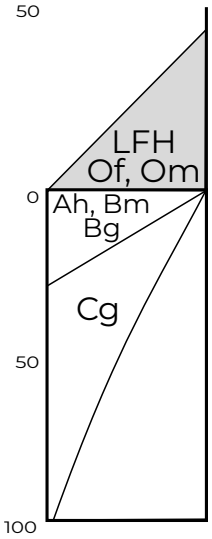


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	40	**Soil texture**	fibric and mesic peat over loams or gravelly loams
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Turbic Cryosol (Gleysol)
Nutrient regime	poor to rich [B – D]	**Humus form**	mor, moder
Meso slope position	mostly lower and mid slopes	**Humus depth**	imperfect to poor (very poor)
Aspect	often north or east but can be found on all aspects	**Soil drainage**	mostly within 35 to 40 cm
Slope aspect	gentle to steep	**Seepage / water table**	present at depth if not near the surface, could be absent from SE Yukon
Surficial material	organic veneer over morainal, lacustrine, colluvial	**Permafrost**	likely present at depth



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S15:

Sb35
Black spruce / Alder – Labrador tea / Lichen – Peat moss

SbW36
Black spruce – Alaska birch / Alder – Labrador tea / Peat moss

Sw37
White spruce / Alder / Feathermoss – Brown moss

SwW37
White spruce – Alaska birch / Alder / Peat moss

Layer	Vegetation association / Number of plots	Sb35 (22)	SbW36 (5)	Sw37 (8)	SwW37 (5)	English name
Tree	Picea mariana	■■■■	■■■■			black spruce
	Picea glauca			■■■■■	■■■■	white spruce
	Betula neoalaskana		■■■■	□	■■■	Alaska birch
Shrub	Alnus alnobetula / incana	■■■	■■■■	■■■■	■■■■	green / river alder
	Rhododendron spp.	■■■■	■■■■■	■■■	■■■■	Labrador teas
	Betula glandulosa	■■■		□□	■■■■	shrub birch
	Salix spp.	■■■	■■■■	■■■■	■■■■	willows
	Dasiphora fruticosa			■■		shrubby cinquefoil
	Rosa acicularis	□	■■	■■	□□	prickly rose
	Vaccinium uliginosum	■■■	■■	■■	■■■■	blueberry
Ground shrub	Vaccinium vitis-idaea	■■■■	■■■	■■■	■■■	lowbush cranberry
	Rubus chamaemorus	■■■	■■■	□	□	cloudberry
	Empetrum nigrum	■■	□□	□□□	□□□	crowberry
	Linnaea borealis			■■		twinflower
Graminoid	Calamagrostis canadensis			■■■		bluejoint reedgrass
	Carex spp.			■	■■■	sedges
Forb	Equisetum arvense		□□	■■■■		common horsetail
Bryophyte	Sphagnum spp.	■■■■■	■■■■■	■■■■	■■■■	peat mosses
	Hylocomium splendens	□□□□	□□□	■■■■■	■■■■■	step moss
	Pleurozium schreberi	□□□		■■■	■■■■	red-stemmed feathermoss
	Amblystegiaceae	■■■		■■■■		brown mosses
Lichen	Cladina spp.	■■■■	□□□		■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S16
Sw – Sedge – Fen moss swamp

GENERAL DESCRIPTION

The Sw – Sedge – Fen moss swamp is common in the northern Yukon Plateau and occasionally in the southern Boreal Low zone at higher elevations.

S16 is characterized by an open to closed canopy of white spruce (Picea glauca) with an understorey of sedges (Carex spp.) and golden fuzzy fen moss (Tomentypnum nitens). A high cover of shrubs composed of willows (Salix spp.), shrub birch (Betula glandulosa) and shrubby cinquefoil (Dasiphora fruticosa) is typical. Sometimes common Labrador tea (Rhododendron groenlandicum) and blueberry (Vaccinium uliginosum) are also present. Water sedge (Carex aquatilis), hair-like sedge (C. capillaris), northern bog sedge (C. gynocrates), russet sedge (C. saxatilis), single-spike sedge (C. scirpoidea) or lesser panicled sedge (C. diandra) may dominate the sedge layer. Red bearberry (Arctous rubra) and cottongrass (Eriophorum spp.) may be present with low to moderate cover. Frequent herbs include common horsetail (Equisetum arvense), dwarf scouring rush (E. scirpoides) and alpine sweet-vetch (Hedysarum alpinum). A high cover of mosses is dominated by golden fuzzy fen moss. A low to moderate cover of step moss (Hylocomium splendens) is common, but other mosses also occur.

This nutrient-medium to -rich ecosite occurs mostly on level sites. Flooding may occur. The often fine textured fluvial or lacustrine soils under a shallow peat layer are usually classified as Cryosols, often Gleysols, and sometimes Gleyed Regosols.

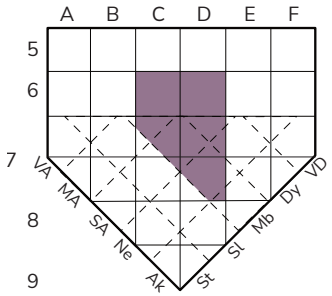
COMMENTS

S10 is a similar ecosite dominated by white spruce but is wetter than S16 and has ≥ 10% sedge cover (Carex and Eriophorum) and higher tree productivity.

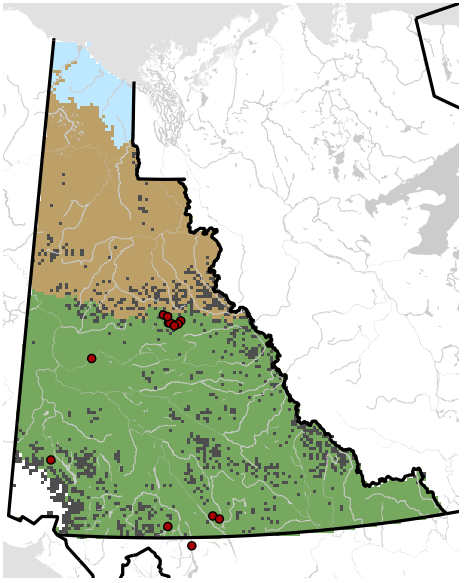
Sw54 is a component of CNVC00355 White Spruce / Glandular Birch / Water Sedge association.

S16-Sw50 (White spruce / Water sedge / Golden fuzzy fen moss)

EDATOPIC GRID

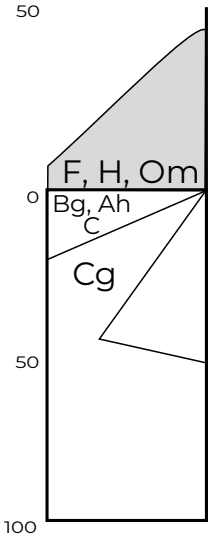


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	14	**Soil texture**	fibric, mesic peat over loamy mineral
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol, Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form**	moder, mor
Meso slope position	level and toe slopes	**Humus depth**	5 to 25 cm
Aspect	none (variable)	**Soil drainage**	imperfect to poor (very poor)
Slope aspect	level (gentle)	**Seepage / water table**	5 to 35 cm
Surficial material	shallow organic over fluvial, lacustrine	**Permafrost**	likely at depth when not within 50 cm



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S16:

Sw50
White spruce / Water sedge / Golden fuzzy fen moss

Sw54
White spruce / Shrub birch / Sedge / Golden fuzzy fen moss

	Vegetation association	Sw50	Sw54	
Layer	**Number of plots**	5	9	**English name**
Tree	Picea glauca	■■■■■	■■■■	white spruce
Shrub	Rhododendron groenlandicum	□□□	■■■	common Labrador tea
	Betula glandulosa		■■■■■	shrub birch
	Dasiphora fruticosa	■■	■■■	shrubby cinquefoil
	Salix spp.	■■■■■	■■■	willows
	Salix myrtillifolia		■■■	blueberry willow
	Vaccinium uliginosum		■■■	blueberry
Ground shrub	Arctous rubra	■■■	■■■	red bearberry
Graminoid	Carex spp.	■■■■	■■■■	sedges
	Eriophorum spp.		■■■	cottongrasses
Forb	Equisetum arvense	■■	■	common horsetail
Bryophyte	Tomentypnum nitens	■■■■■	■■■■■	golden fuzzy fen moss
	Aulacomnium palustre	□□□	■■■	glow moss
	Hylocomium splendens	■■■	■■■	step moss
	Bryophyta	■■■■	■■■■	other mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S17
SbF – Peat moss – Feathermoss swamp

GENERAL DESCRIPTION

The SbF – Peat moss – Feathermoss swamp ecosite occurs in the Boreal High zone in the mountains of central Yukon and frequently in the Hess Mountains.

The S17 ecosite is characterized by the presence of fir (Abies lasiocarpa) and black spruce (Picea mariana) with a mossy ground cover dominated by peat moss (Sphagnum spp.) and feathermosses (Hylocomium splendens, Pleurozium schreberi). Shrub birch (Betula glandulosa), common Labrador tea (Rhododendron groenlandicum) and blueberry (Vaccinium uliginosum) dominate the shrub layer with low to moderate cover. Sometimes willows (Salix spp.) are also present. A low to moderate cover of ground shrubs is provided by crowberry (Empetrum nigrum), lowbush cranberry (V. vitis-idaea), cloudberry (Rubus chamaemorus) and sometimes bog cranberry (V. oxycoccus). The herb layer is generally sparse with woodland horsetail (Equisetum sylvaticum) commonly occurring. A high cover of mosses includes peat mosses, feathermosses and often juniper haircap moss (Polytrichum juniperinum). A low to moderate cover of reindeer lichens (Cladina spp.) is also characteristic.

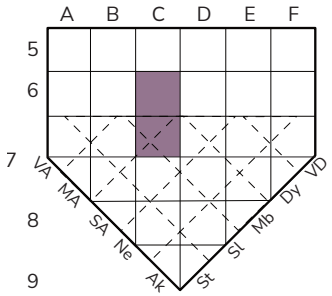
This ecosite occurs at elevations between about 945 and 1295 meters. It is most common on level, gentle and occasionally moderate northerly and easterly slopes, but can also occur on other aspects. The soils consist of a peaty surface layer underlain by gravelly and loamy soils which are usually frozen, with permafrost within 50 cm of the surface. Permafrost is likely found at depth on most sites even when not encountered near the surface.

COMMENTS

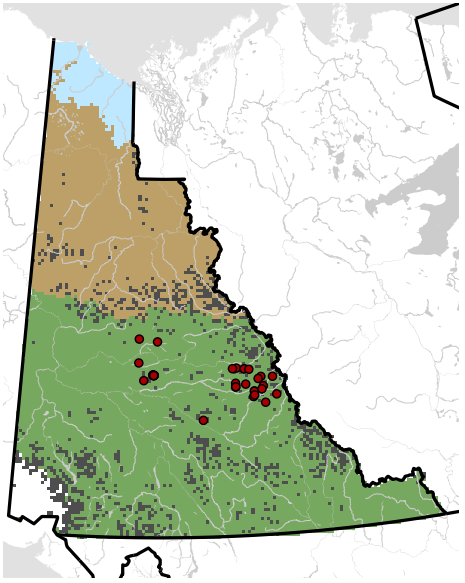
SbF41 is a component of CNVC00445 Black Spruce – Subalpine Fir / Cloudberry / Red-stemmed Feathermoss – Peat Mosses association.

S17-SbF41 (Black spruce –Fir / Labrador teas / Feathermoss – Peat moss)

EDATOPIC GRID

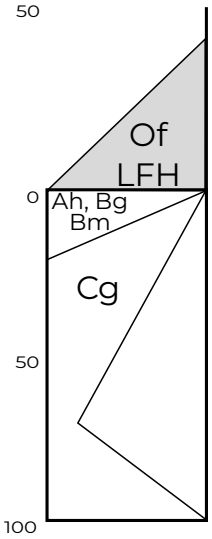


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	33	**Soil texture**	shallow peat over fine loamy mineral soil
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol (Gleysol)
Nutrient regime	medium [C]	**Humus form**	mor, moder
Meso slope position	level, lower, mid slope	**Humus depth**	up to 35 cm
Aspect	variable	**Soil drainage**	imperfect, poor
Slope aspect	level to moderate	**Seepage / water table**	usually less than 40 cm below the surface
Surficial material	organic veneer	**Permafrost**	present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite S17:

SbF41
Black spruce – Fir / Labrador tea / Feathermoss – Peat moss

	Vegetation association	SbF41	
Layer	**Number of plots**	33	**English name**
Tree	Abies lasiocarpa	■■■■	fir
	Picea mariana	■■■■	black spruce
Shrub	Rhododendron groenlandicum	■■■	common Labrador tea
	Betula glandulosa	■■■■	shrub birch
	Salix spp.	■■■	willows
	Vaccinium uliginosum	■■■	blueberry
Ground shrub	Empetrum nigrum	■■■	crowberry
	Rubus chamaemorus	■■■	cloudberry
	Vaccinium vitis-idaea	■■■	lowbush cranberry
Graminoid	Poaceae	■■	grasses
Forb	Equisetum sylvaticum	■■	woodland horsetail
Bryophyte	Pleurozium / Hylocomium	■■■■	feathermosses
	Polytrichum juniperinum	■■■	juniper haircap moss
	Sphagnum spp.	■■■■■	peat mosses
	Bryophyta	■■■■	other mosses
Lichen	Cladina spp.	■■■■	reindeer lichens
	Cladonia spp.	■■	pixie-cup lichens
	Nephroma arcticum	■■■	greenlight paw lichen

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S18
FSw – Peat moss – Feathermoss swamp

GENERAL DESCRIPTION

The FSw – Peat moss – Feathermoss swamp is typical of elevations over 1000 metres in the Boreal High zone in the central and southern Yukon.

S18 is characterized by an open canopy of fir (Abies lasiocarpa) or fir and white spruce (Picea glauca), with a low to moderate cover of shrubs, and a well-developed cover of mosses (mostly peat (Sphagnum spp.) and feathermosses (Hylocomium / Pleurozium)). The fir usually occurs at slightly higher elevations than the mixed conifer sites. Shrubs can include common Labrador tea (Rhododendron groenlandicum), shrub birch (Betula glandulosa), various willows (e.g., grey-leaved (Salix glauca) or little-tree willow (S. arbusculoides)), blueberry (Vaccinium uliginosum) and sometimes Steven's spirea (Spirea stevenii). Ground shrubs usually include crowberry (Empetrum nigrum), lowbush cranberry (Vaccinium vitis-idaea) and sometimes cloudberry (Rubus chamaemorus). Various horsetails (Equisetum spp.) are common in the understorey, as well as an assortment of herbs, including sedges (Carex spp.) or coltsfoot (Petasites spp.).

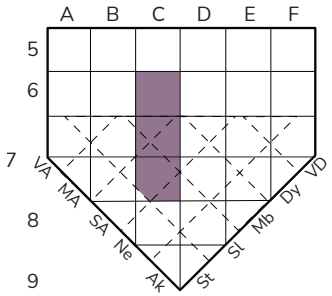
This nutrient-medium ecosite is usually found on gentle to moderate northerly or easterly slopes but may also be found on other aspects. The medium textured gravelly morainal and colluvial soils have shallow peat at the surface. Soils are most often classified as Cryosols.

COMMENTS

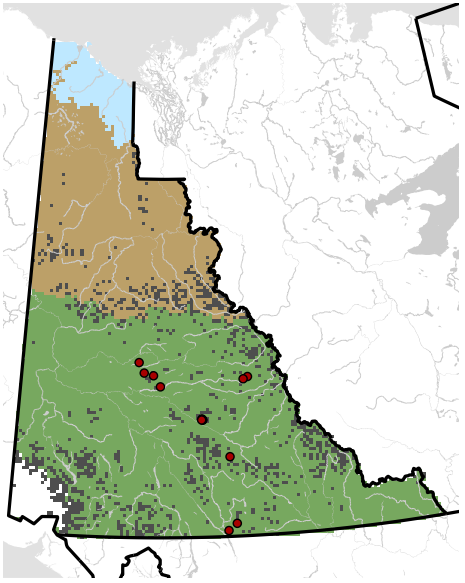
FSw35 is a component of CNVC00456 Subalpine Fir – White Spruce / Glandular Birch / Cloudberry / Peat Moss – Arctic Kidney Lichen association; F33 is included in CNVC00455 Subalpine Fir / Steven's Meadowsweet / Cloudberry / Stairstep Moss – Arctic Kidney Lichen – Peat Moss association.

S18 FSw35 (Fir – White spruce / Shrub birch – Labrador teas / Step moss – Peat moss)

EDATOPIC GRID

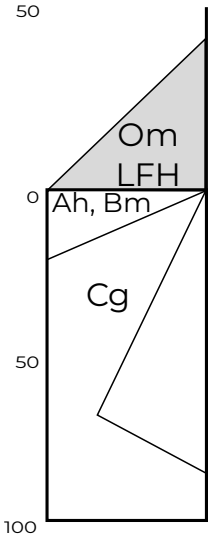


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	13	**Soil texture**	variable
Moisure regime	hygric to hydric [6 – 7]	**Soil classification**	Cryosol, Organic
Nutrient regime	medium (C)	**Humus form**	moder, mor
Meso slope position	lower to mid slopes	**Humus depth**	up to 40 cm
Aspect	mostly north or east	**Soil drainage**	poor to very poor
Slope aspect	level to moderate	**Seepage / water table**	within 60 cm of the surface
Surficial material	shallow organic over morainal, colluvial	**Permafrost**	present



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S18:

F33
Fir / Crowberry / Step moss – Peat moss

FSw35
Fir – White spruce / Shrub birch – Labrador tea / Step moss – Peat moss

Layer	Vegetation association / Number of plots	F33 5	FSw35 8	English name
Tree	Abies lasiocarpa	■■■■	■■■■	fir
	Picea glauca		■■■	white spruce
Shrub	Betula glandulosa	■■■	▪▪▪	shrub birch
	Rhododendron groenlandicum	▪▪▪	■■	common Labrador tea
	Salix spp.	▪▪▪	■■■■	willows
	Vaccinium uliginosum	▪▪	▪▪	blueberry
Ground shrub	Empetrum nigrum	□□	■■■	crowberry
	Vaccinium vitis-idaea	▪	▪▪	lowbush cranberry
Forb	Equisetum spp.	▪▪▪	▪▪▪▪	horsetails
Bryophyte	Sphagnum spp.	■■■■	▪▪▪▪	peat mosses
	Pleurozium / Hylocomium	■■■■■	■■■■■	feathermosses
	Polytrichum juniperinum	▪▪▪▪	□□□	juniper haircap moss
Lichen	Cladina spp.	□□	▪▪▪	reindeer lichens

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S20
Diamond-leaved willow – Water sedge swamp

GENERAL DESCRIPTION

The Diamond-leaved willow – Water sedge swamp ecosite occurs mostly in the mountains of west and central Yukon and in the subarctic, but it is occasionally found in some cold valleys in the Southern Lakes region.

Diamond-leaved willow (Salix pulchra) dominates the shrub layer. Shrub birch (Betula glandulosa) and shrubby cinquefoil (Dasiphora fruticosa) commonly occur, providing traces to moderate amounts of cover. Sparse white spruce (Picea glauca) is also common. Water sedge (Carex aquatilis) usually dominates the understorey, but other sedges occur. Sometimes reedgrasses, mainly bluejoint reedgrass (Calamagrostis canadensis) and sometimes slim-stemmed reedgrass (C. stricta) are also present. Common herb-layer associates include horsetails (Equisetum spp.), which can occur with a trace to moderate amount of cover, and a trace or low cover of marsh grass-of-Parnassus (Parnassia palustris) and marsh cinquefoil (Comarum palustre). The moss layer is diverse and variable. It can have a low to high cover and may include glow moss (Aulacomnium palustre), hook mosses (Drepanocladus spp.), golden fuzzy fen moss (Tomentypnum nitens), leafy mosses (Mniaceae), peat moss (Sphagnum spp.), giant water moss (Calliergon giganteum), fire moss (Ceratodon purpureus) and bryum moss (Bryum spp.).

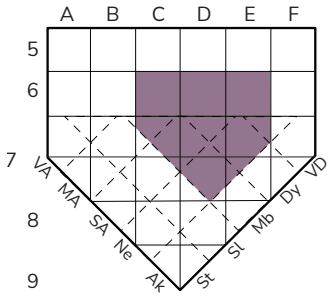
S20 is typical of smaller creeks and other drainages. Soils are usually Gleysols or Cryosols, or sometimes Gleyed Regosols. A humus surface layer may or may not be present, with variable thickness. The soil texture can vary from fibric organic soils to fine loamy and sandy soils. Permafrost may be present at depth when soils are Gleysols or Regosols.

COMMENTS

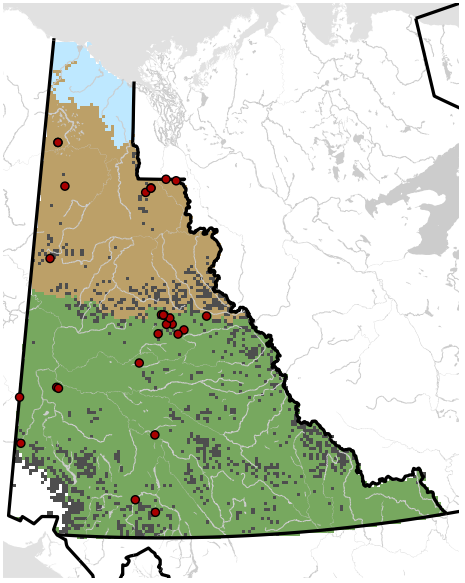
Diamond-leaved willow also characterizes the St08 from the Arctic field guide (MacKenzie et al. 2022). Some St08 sites have wetland characteristics and best fit in this ecosite.

S20-Sapu59 (Diamond-leaved willow / Reedgrass)

EDATOPIC GRID

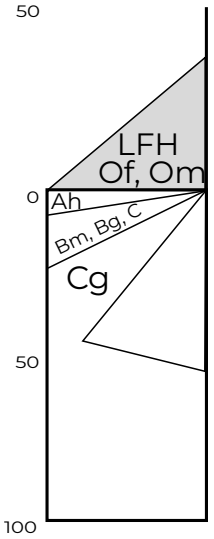


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	28	**Soil texture**	silt, loam, sand
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Cryosol, Gleysol
Nutrient regime	medium to very rich (C – E)	**Humus form**	mor (moder, mull)
Meso slope position	level, toe, lower	**Humus depth**	mostly 1 to 15 cm
Aspect	variable	**Soil drainage**	imperfect to very poor
Slope aspect	level (gentle)	**Seepage / water table**	at or near the surface
Surficial material	fluvial and slope deposits	**Permafrost**	likely present at depth when not near surface



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S20:

Sapu58
Diamond-leaved willow / Water sedge

Sapu59
Diamond-leaved willow / Reedgrass

Sapu60
Diamond-leaved willow / Moss

Layer	Vegetation association / Number of plots	Sapu58 (15)	Sapu59 (5)	Sapu60 (8)	English name
Tree	Picea glauca	■		□	white spruce
Shrub	Betula glandulosa	■■■	■■	■■■	shrub birch
	Salix pulchra	■■■■■	■■■■■	■■■■■	diamond-leaved willow
	Vaccinium uliginosum			■	blueberry
Ground shrub	Rubus arcticus	□□	■■		arctic raspberry
	Rubus chamaemorus			■■■	cloudberry
Graminoid	Calamagrostis spp.	□□	■■■■■		reedgrasses
	Carex aquatilis	■■■■■			water sedge
	Carex spp.		■■		sedges
Bryophyte	Sphagnum spp.			■■■■■	peat mosses
	Amblystegiaceae	■■■■	■■■■	■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S21
Shrub birch – Willow – Net-veined willow swamp

GENERAL DESCRIPTION

The Shrub birch – Willow – Net-veined willow swamp is found mostly in the Boreal High and Subalpine zones in central and southern Yukon and sometimes in the subarctic.

S21 is characterized by mix of shrub birch (Betula glandulosa) and willow (Salix spp.) shrubs of medium height, along with the short-statured net-veined willow (Salix reticulata). Shrubby cinquefoil (Dasiphora fruticosa) is usually present. Grey-leaved willow (Salix glauca), Barclay's willow (S. barclayi), tea-leaved willow (S. planifolia) and blueberry willow (S. myrtillifolia) are the most common willows, but others can occur. Water sedge (Carex aquatilis) is the most dominant sedge, but others can also occur. Blueberry (Vaccinium uliginosum), red bearberry (Arctous rubra) and marsh grass-of-parnassus (Parnassia palustris) commonly occur with low to moderate cover. Similarly, horsetails, including common (Equisetum arvense), meadow (E. palustre) and woodland (E. Sylvaticum), are present. Moss cover is variable and dominated by peat mosses (Sphagnum spp.), golden fuzzy fen moss (Tomentypnum nitens), hook mosses (Drepanocladus spp.), other brown mosses and feathermosses (Hylocomium splendens, Pleurozium schreberi).

This ecosite occurs at higher elevations and on colder and northern sites, usually associated with a higher pH soil or in the vicinity of some calcareous bedrock. The site ranges from hygric to subhydric with a medium to rich nutrient regime. The high pH soils are usually loamy or sandy. The hummocky, channelled or mounded surface topography creates numerous microsites favorable to different plant species. Water can often be seen at the surface or within the top 30 cm of soil during the growing season. Soils are usually classified as Gleysols, Cryosols or gleyed subgroups of Regosols or Brunisols.

COMMENTS

Several of the plant species of this swamp ecosite (e.g., net-veined willow, anemone, mountain-avens, grass-of-Parnassus) are documented in the literature as indicators of, or as preferring, calcareous soils. Shrub birch is also tolerant of calcareous soils.

S21-Sasp66 (Willow – Shrub birch / Net-veined willow / Water sedge)

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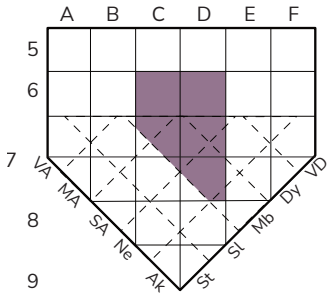

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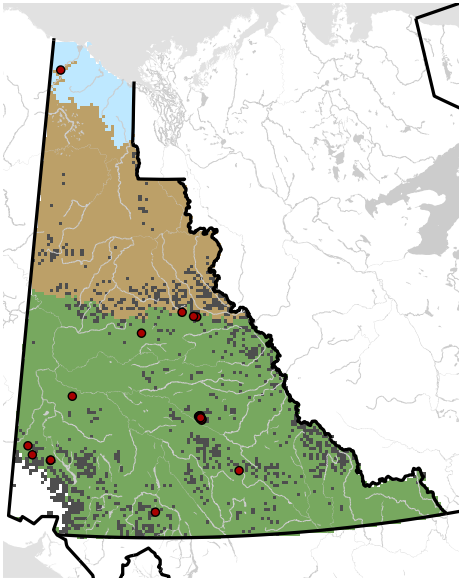
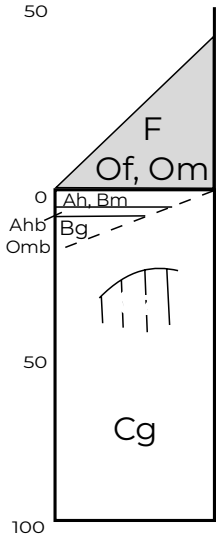


SITE AND SOILS

Plots in unit	24	**Soil texture**	shallow fibric, mesic peat over loam, sand, gravel
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Regosol, Cryosol
Nutrient regime	medium to rich [C – D]	**Humus form**	moder (mor)
Meso slope position	level, toe, lower	**Humus depth**	0 to 30 cm
Aspect	variable	**Soil drainage**	imperfect to poor
Slope aspect	level, gentle	**Seepage / water table**	< 30 cm
Surficial material	fluvial, organic veneer over various slope deposits	**Permafrost**	likely present at depth where not close to the surface



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite S21:

Begl60
Shrub birch / Net-veined willow / Water sedge

Sasp66
Willow – Shrub birch / Net-veined willow / Water sedge

Sasp62
Willow / Net-veined willow / Brown moss

	Vegetation association	Begl60	Sasp66	Sasp62	
Layer	**Number of plots**	4	10	10	**English name**
Tree	Picea glauca	■■	■■	■	white spruce
Shrub	Betula glandulosa	■■■■	■■■	■■	shrub birch
	Dasiphora fruticosa	■■■■	■■■	■■	shrubby cinquefoil
	Salix glauca	■■	■■■	■■■■	grey-leaved willow
	Salix myrtillifolia	■■			blueberry willow
	Salix spp.	■■	■■■■■	■■■■	willows
	Vaccinium uliginosum	□□	□□	■■■	blueberry
Ground shrub	Salix reticulata	■■■■	■■■■	■■■	net-veined willow
	Arctous rubra	■	□	□□□	red bearberry
	Rubus chamaemorus	■			cloudberry
Graminoid	Carex aquatilis	■■■■	■■■■		water sedge
	Poaceae	□	□	■■■	grasses
Forb	Equisetum spp.		■■■	■■■	horsetails
Bryophyte	Sphagnum spp.	■■■■■	■■	■■■	peat mosses
	Amblystegiaceae	□□	■■■■■	■■■■	brown mosses
	Bryophyta	■■■■	■■■■	■■■	other mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S22
Willow – Groundsel – Reedgrass – Sedge swamp

GENERAL DESCRIPTION

The Willow – Groundsel – Reedgrass – Sedge swamp occurs at high elevations in the Ogilvie, Selwyn and Pelly mountains.

The vegetation of S22 can be variable and patchy reflecting the different soils and microsites within this ecosite. Willows (Salix spp.) dominate the overstorey, most commonly with tea-leaved willow (S. planifolia) but short-fruited willow (S. brachycarpa) or sometimes pussy willow (S. discolor) also occur. Other diagnostic species include arrow-leaved groundsel (Senecio triangularis) and a moderate cover of sedges (Carex spp.) and grasses. Water sedge (Carex aquatilis) is the most common sedge, but it is sometimes replaced by russet (C. saxatilis) or graceful mountain sedge (C. podocarpa). Bluejoint reedgrass (Calamagrostis canadensis), Lapland reedgrass (C. lapponica), Altai fescue (Festuca altaica) and hair bentgrass (Agrostis scabra) are the most common grasses. The moss cover is variable with feathermosses (mostly Hylocomium splendens), peat mosses (Sphagnum spp.) and brown mosses (e.g., sickle moss (Sanionia uncinata), glow moss (Aulacomnium palustre), groove moss (Aulacomnium spp.)) and golden fuzzy fen moss (Tomentypnum nitens) occurring with low to moderate cover.

S22 occurs in small drainages at > 1000 metres elevation in mountainous areas. Small creeks or near-surface water flow are usually present. Channels and mounds create numerous microsites. Soils may be fine to coarse texture with a deeper permafrost active layer than the surrounding landscape. Some soils may have a peaty surface while others may be muddy, gravelly or stony. These variable soils are usually classified as Gleysols.

S22-Sasp64 (Willow / Arrow-leaved Groundsel – Reedgrass – Water sedge)

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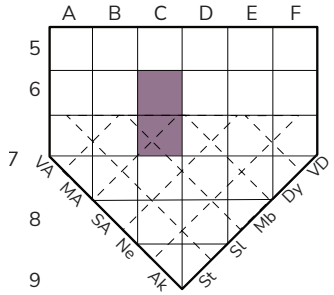

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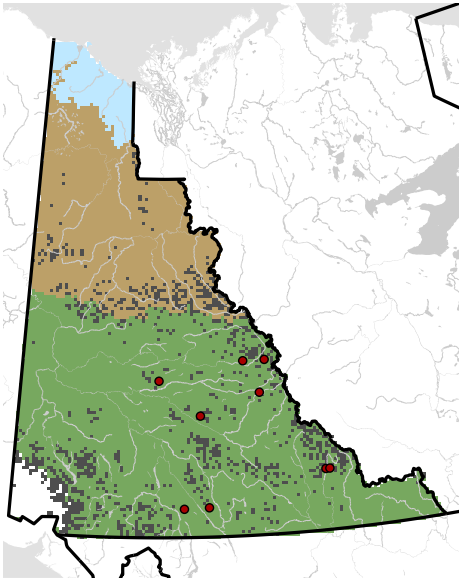
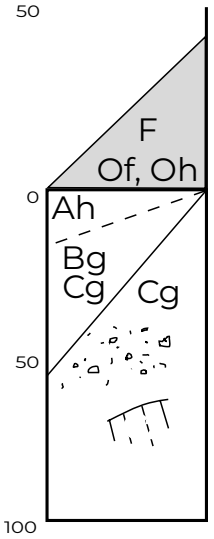


SITE AND SOILS

Plots in unit	9	**Soil texture**	silty, sandy, gravelly (peaty)
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol
Nutrient regime	medium [C]	**Humus form**	mor, moder
Meso slope position	level	**Humus depth**	mostly thin or absent, up to 20 cm
Aspect	none	**Soil drainage**	poor to very poor
Slope aspect	level	**Seepage / water table**	present
Surficial material	fluvial	**Permafrost**	likely present at depth in gravelly soils



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite S22:

Sasp64
Willow / Arrow-leaved Groundsel – Reedgrass – Water sedge

	Vegetation association	Sasp64	
Layer	**Number of plots**	9	**English name**
Shrub	Salix spp.	■■■■■	willows
Graminoid	Calamagrostis spp.	■■■■	reedgrasses
	Carex aquatilis	■■■■	water sedge
Forb	Senecio triangularis	■■■■	arrow-leaved groundsel
	Mertensia paniculata	■■■	tall bluebells
Bryophyte	Amblystegiaceae	■■■■	brown mosses
	Hylocomium / Pleurozium	■■■■	step moss / red-stemmed feathermoss
	Sphagnum spp.	■■■	peat mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

S23
Labrador tea – Peat moss – Brown moss swamp

GENERAL DESCRIPTION

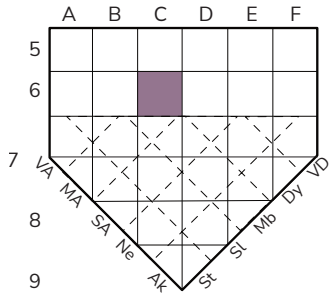
The Labrador tea – Peat moss – Brown moss swamp occurs uncommonly in subarctic and northern boreal Regions on level to moderate slopes.

This ecosite is characterized by Labrador teas (Rhododendron spp.) with a variable moss groundcover. Common Labrador tea (R. groenlandicum), sometimes replaced by northern Labrador tea (R. tomentosum), is usually the dominant shrub. A low cover of white spruce (Picea glauca), or occasionally black spruce (P. mariana), is usually present. Shrubs typically include a low cover of shrub birch (Betula glandulosa), blueberry (Vaccinium uliginosum) and willows (Salix spp.), most commonly grey-leaved (S. glauca) and Barclay's willow (S. barclayi). Other common species include red bearberry (Arctous rubra), crowberry (Empetrum nigrum), net-veined willow (S. reticulata), lowbush cranberry (V. vitis-idaea), cloudberry (Rubus chamaemorus), common / woodland horsetail (Equisetum arvense / sylvaticum). Also present are grasses such as polargrass (Arctagrostis latifolia), reedgrass (Calamagrostis spp.) and Altai fescue (Festuca altaica). Mosses usually include feathermosses (Hylocomium splendens, Pleurozium schreberi), peat mosses (Sphagnum spp.) and brown mosses. Reindeer lichens (Cladonia spp.) usually have low to moderate cover.

S23 is often of limited geographical extent. The hummocky and mounded ground surface creates microsites for a variety of plant species. The soils consist of moderately acidic to calcareous silty loam to fine sandy soils with less than 25 cm of peat at the surface. They are classified as Turbic Cryosols or Gleysols.

NO PHOTO AVAILABLE

EDATOPIC GRID



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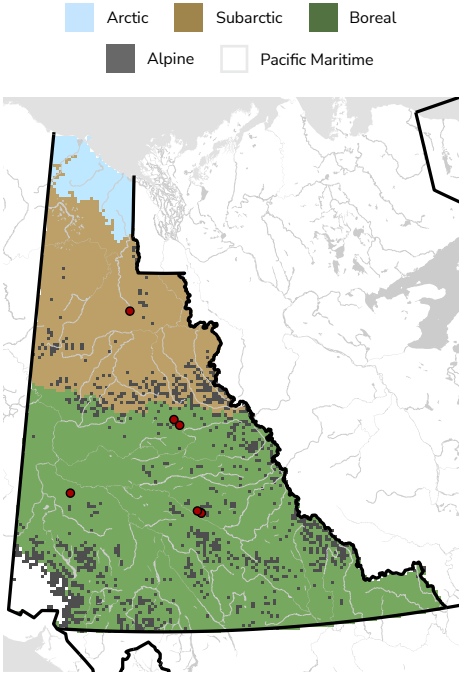
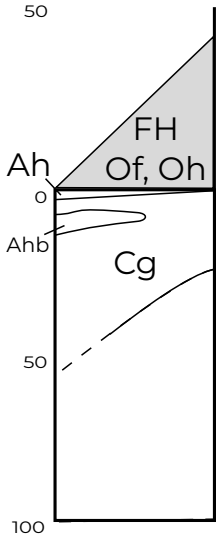


SITE AND SOILS

Plots in unit	7	**Soil texture**	fibric peat over variable texture
Moisure regime	hygric [6]	**Soil classification**	Cryosol, Gleysol, Regosol
Nutrient regime	medium [C]	**Humus form**	mor, moder
Meso slope position	level and sloping	**Humus depth**	up to 25 cm
Aspect	various	**Soil drainage**	imperfect to very poor
Slope aspect	level (moderate)	**Seepage / water table**	present
Surficial material	organic veneer over eolian, fluvial, lacustrine	**Permafrost**	likely permafrost at depth



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite S23:

Rhod50
Labrador teas / Feathermoss – Brown moss – Peat moss

	Vegetation association	Rhod50	
Layer	**Number of plots**	7	**English name**
Tree	Picea glauca	■■	white spruce
Shrub	Rhododendron groenlandicum	■■■■	common Labrador tea
	Betula glandulosa	■■	shrub birch
	Salix spp.	■■	willows
	Salix glauca	■■	grey-leaved willow
	Vaccinium uliginosum	■■■	blueberry
Ground shrub	Arctous rubra	■■■	red bearberry
	Empetrum nigrum	■■■	crowberry
	Vaccinium vitis-idaea	■■	lowbush cranberry
Graminoid	Poaceae	■■	grasses
Forb	Equisetum arvense / sylvaticum	■■	common / woodland horsetail
Bryophyte	Hylocomium splendens	■■■■	step moss
	Sphagnum spp.	■■■	peat mosses
	Amblystegiaceae	■■■■	brown mosses
Lichen	Cladina spp.	■■■■	reindeer lichens

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

5.0 **Marsh ecosites**

Marshes are mineral wetlands with fluctuating shallow surface-water levels. Marshes are commonly found between shallow water and swamps or upland areas. These minerotrophic and often eutrophic wetlands have water tables which vary in relation to the ground surface and are rich in cationic salts such as Ca^{2+}, Mg^{2+}, and Mn^{2+}, as well as nutrients like nitrogen (N), phosphorus (P), and potassium (K). In Yukon, marshes occur in low-lying areas near water bodies or groundwater discharge zones, including river floodplains, deltas, pond margins, tidal marshes and permafrost slump bases. Saline marshes are found in groundwater discharge areas on deep calcareous deposits of glaciolacustrine materials in southern Yukon's dry interior. Marsh vegetation consists primarily of emergent graminoids and forbs, with dominant species such as beaked sedge, water sedge and bluejoint reedgrass. Marshes are characterized by poor to very poorly drained soils which are usually classified as Gleysols.[1]

The guide describes 24 marsh ecosites, including three tentative march ecosites (% sign appended to code).

- M01 Beaked sedge – Water sedge marsh
- M02 Water horsetail marsh
- M04 Short-awned foxtail marsh
- M05 Creeping spike-rush marsh
- M06 Mannagrass marsh
- M07 Least spike-rush marsh
- M08 Awned sedge marsh

[1] Modified from Yukon Classification Wetland Standards (2025)

- M09 Bulrush marsh
- M10 Reedgrass marsh
- M11 Tufted hairgrass marsh
- M12 Russet sedge – Water horsetail marsh
- M13 Bluegrass – Northern arrowhead marsh
- M14 Silvery sedge marsh
- M15 Polargrass marsh
- M16 Hair bentgrass marsh
- M17% Russet cottongrass marsh
- M18 Cattail marsh
- M51 Foxtail barley – Glaucous bluegrass saline marsh
- M52 Sea milkwort saline marsh
- M53 Nootka alkaligrass saline marsh
- M54 Seablite saline marsh
- M55 Red glasswort saline marsh
- M56% Baltic rush saline marsh
- M57% Saline saltbrush saline marsh

The following key and marsh vegetation tables 1 to 3 are intended to aid in identification of the marsh ecosites. Ecosite descriptions follow these aids, which include tables of the vegetation associations that comprise the ecosite, where applicable. Saline marshes are described following the other marshes.

5.1 **Key to marsh ecosites**

1A. MARSHES OF SALINE AREAS OF SOUTHERN YUKON, CHARACTERIZED BY RED GLASSWORT, SEABLITE, NOOTKA ALKALIGRASS, SEA MILKWORT, BALTIC RUSH, SALINE SALTBRUSH, FOXTAIL BARLEY OR GLAUCOUS BLUEGRASS
› **See Marsh vegetation table 1**

- 2a. Red glasswort dominates the groundcover — M55
- 2b. Seablite dominates or > 5% cover — M54
- 2c. Nootka alkaligrass dominates — M53
- 2d. Sea milkwort dominates or dominates with white prairie aster — M52
- 2e. Saline saltbrush dominates — M57%
- 2f. Foxtail barley or glaucous bluegrass dominate — M51
- 2g. Baltic rush dominates — M56%

1B. NOT AS ABOVE, FRESHWATER (NON-SALINE) MARSHES

3a. Dominated by grasses
› **See Marsh vegetation table 2**

- 4a. Short-awned foxtail dominates — M04
- 4b. Mannagrasses dominate — M06
- 4c. Tufted hairgrass dominates — M11
- 4d. Hair bentgrass dominates — M16
- 4e. Reedgrasses (bluejoint or northern) dominate grass cover; sedge cover sometimes high — M10
- 4f. Polargrass dominates grass cover, arrow-leaved groundsel also present — M15
- 4g. Bluegrasses (arctic, Kentucky) dominate
  - 5a. Creeping spike-rush > 10% cover — M05
  - 5b. Creeping spike-rush of low cover, if present — M13

3b. Dominated by sedges in the broad sense, including Carex sedges, spike-rushes, bulrushes or cottongrasses; or dominated by water horsetail
› **See Marsh vegetation table 3**

- 6a. Spike-rushes, bulrushes or cottongrasses dominate the sedges
  - 7a. Spike-rushes are the dominant sedges
    - 8a. Least spike-rush dominates
      - 9a. Water horsetail or variegated scouring-rush ≥ 15% cover and russet sedge present — M12
      - 9b. Not as above — M07
    - 8b. Creeping spike-rush dominates — M05
  - 7b. Bulrushes or cottongrasses are the dominant sedges
    - 10a. Bulrushes (usually soft-stemmed bulrush) dominate — M09
    - 10b. Russet cottongrass dominates — M17%
- 6b. Water horsetail, or variegated scouring-rush dominate — M02
- 6c. Carex sedges are the dominant sedges
  - 11a. Awned sedge dominates — M08
  - 11b. Silvery sedge dominates — M14
  - 11c. Russet sedge dominates — M12
  - 11d. Water or beaked sedge dominates
    - 12a. Water horsetail ≥ 10% cover — M02
    - 12b. Water horsetail < 10% cover — M01

3c. Dominated by cattail - **See Marsh vegetation table 3** — M18

5.2 **Marsh vegetation tables**

MARSH VEGETATION TABLE 1: SALINE MARSHES

Layer	Marsh ecosite	M51	M52	M53	M54	M55	M56%	English name
	Number of plots	7	16	23	10	25	1	
Graminoid	Hordeum jubatum	■■■■						foxtail barley
	Poa glauca	■■■■	■■■					glaucous bluegrass
	Elymus trachycaulus	□□	■■■					slender wheatgrass
	Puccinellia nutkaensis	□	□□□	■■■■■	■■■■	■■		Nootka alkaligrass
	Deschampsia cespitosa						■■■■	tufted hairgrass
	Juncus balticus	□	□□				■■■■■	Baltic rush
Forb	Halerpestes cymbalaria	■■■						shore buttercup
	Lysimachia maritima	■■■	■■■■					sea milkwort
	Plantago eriopoda		■■■					saline plantain
	Symphyotrichum falcatum	□□□	■■■					white prairie aster
	Suaeda calceoliformis				■■■■			seablite
	Salicornia rubra			□□	□□	■■■■■		red glasswort
	Penstemon procerus						■■■■■	small-flowered penstemon

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

MARSH VEGETATION TABLE 2: GRASS-DOMINATED MARSHES

Layer	Marsh ecosite	M04	M06	M10	M11	M13	M15	M16	M05	English name
	Number of plots	6	7	17	15	3	2	2	13	
Graminoid	Alopecurus aequalis	■■■■■								short-awned foxtail
	Glyceria spp.		■■■■■							mannagrasses
	Carex utriculata	□□	■■■■						□□□	beaked sedge
	Calamagrostis canadensis / stricta		□□□	■■■■■						reedgrasses
	Deschampsia cespitosa				■■■■■				□□	tufted hairgrass
	Poa alpina / pratensis					■■■■■				bluegrasses
	Arctagrostis latifolia						■■■■■			polargrass
	Agrostis scabra							■■■■■		hair bentgrass
	Eleocharis palustris				□□□	■		■	■■■■■	creeping spike-rush
	Poaceae								■■■■	grasses
	Carex aquatilis			■■■						water sedge
Forb	Senecio triangularis						■■■■			arrow-leaved groundsel
	Aconitum delphiniifolium						■■■			mountain monkshood
	Equisetum fluviatile					□		■■■	□□□□	water horsetail

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

MARSH VEGETATION TABLE 3: SEDGE, CATTAIL AND WATER HORSETAIL DOMINATED MARSHES

Layer	Marsh ecosite	M01	M08	M14	M12	M05	M07	M09	M17%	M02	M18	English name
	Number of plots	146	6	3	29	13	16	3	1	57	2	
Graminoid	Carex aquatilis	■■■■		□□	□□□		□□□			□□□		water sedge
	Carex utriculata	■■■■■	■■■■	□□	■■■■	□□□			■■■	□□□□		beaked sedge
	Carex atherodes		■■■■■									awned sedge
	Carex canescens			■■■■■								silvery sedge
	Carex saxatilis				■■■■							russet sedge
	Eleocharis palustris				■■■■	■■■■■	□□□					creeping spike-rush
	Eleocharis acicularis						■■■■■					least spike-rush
	Eriophorum russeolum								■■■■■			russet cottongrass
	Schoenoplectus tabernaemontani							■■■■■				soft-stemmed bulrush
	Schoenoplectus acutus							■■				hard-stemmed bulrush
	Poaceae					■■■■						grasses
Forb	Equisetum fluviatile		■■■■		□□□	■■■■			■■■	■■■■■		water horsetail
	Persicaria amphibia		■■									water smartweed
	Hippuris vulgaris		□			■	■■		■■■■■			common mare's-tail
	Ranunculus aquatilis						■■					white water buttercup
	Sagittaria cuneata						■■■					northern arrowhead
	Typha latifolia										■■■■■	common cattail
Algae	Chara spp.										■■■■■	muskgrass

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

5.3 **Marsh ecosites and vegetation associations**

Wetland code	Ecosite name	Association code	Association name
M01	Beaked sedge – Water sedge marsh	Caaq57	Water sedge – Moss
		Caut56	Beaked sedge – Water sedge
		Caut57	Beaked sedge
M02	Water horsetail marsh	Eqfl55	Water horsetail – Water sedge
		Eqfl56	Water horsetail – Beaked sedge
		Eqfl59	Water horsetail
M04	Short-awned foxtail marsh	Alae55	Short-awned foxtail
M05	Creeping spike-rush marsh	Elpa55	Creeping spike-rush – Tufted hairgrass
M06	Mannagrass marsh	Glbo56	Boreal mannagrass
		Glpu57	Mackenzie Valley mannagrass
		Glst58	Fowl mannagrass
M07	Least spike-rush marsh	Elac57	Least spike-rush – Mare's-tail
M08	Awned sedge marsh	Caat55	Awned sedge – Water smartweed
M09	Bulrush marsh	Scac58%	Hard-stemmed bulrush
		Scta58	Soft-stemmed bulrush
M10	Reedgrass marsh	Caca54	Bluejoint reedgrass
		Cast54	Slim-stemmed reedgrass
M11	Tufted hairgrass marsh	Dece50	Tufted hairgrass
		Dece53	Tufted hairgrass – Creeping spike-rush – Horsetail
M12	Russet Sedge – Water horsetail marsh	Casa54	Russet sedge – Water horsetail
M13	Bluegrass – Northern arrowhead marsh	Posp56	Bluegrass – Northern arrowhead
M14	Silvery sedge marsh	Cacn59	Silvery sedge
M15	Polargrass marsh	Arla40	Polargrass / Arrow-leaved groundsel
M16	Hair bentgrass marsh	Agsc55	Hair bentgrass

CONTINUES

Wetland code	Ecosite name	Association code	Association name
M17%	Russet cottongrass marsh	Erru56	Russet cottongrass – Mare's tail
M18	Cattail marsh	Tyla58	Cattail
M51	Foxtail barley – Glaucous bluegrass saline marsh	Pogl51	Glaucous bluegrass
		Hoju51	Foxtail barley
M52	Sea milkwort saline marsh	Lyma52	Sea milkwort
M53	Nootka Alkaligrass saline marsh	Punu53	Nootka alkaligrass
M54	Seablight saline marsh	Suca54	Seablight
M55	Red glasswort saline marsh	Saru55	Red glasswort
M56%	Baltic rush saline marsh	Juba51	Baltic rush
M57%	Saline saltbrush saline marsh	N/A	Saline saltbrush

M01
Beaked sedge – Water sedge marsh

GENERAL DESCRIPTION

The Beaked sedge – Water sedge marsh is the most common marsh ecosystem in Yukon. It occurs throughout the boreal and subarctic regions, mostly in the BOL, BOH and SUW zones.

M01 is dominated by beaked sedge (Carex utriculata) and/or water sedge (C. aquatilis), other sedges do occur (e.g., silvery sedge, C. canescens). Marsh cinquefoil (Comarum palustre) or bluejoint reedgrass (Calamagrostis canadensis) are often present, at low cover. Willows (Salix spp.) are often present, at low cover to trace amounts. Mosses are often present, but with a low cover as a result of the frequent flood regime, which causes regular erosion and deposition. Moss cover can be high on some sites. Mosses are usually brown mosses (e.g., Drepanocladus, Calliergon, Tomentypnum) but can include peat mosses (Sphagnum spp.).

The M01 ecosite is usually subject to fluctuating water levels and frequent flooding. Soils are poor or very poorly drained and on fluvial or lacustrine parent materials. Soils are usually classified as Gleysols but some Static Cryosols do occur on sites with permafrost.

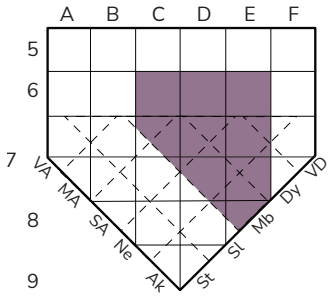
COMMENTS

M01 can be differentiated from most other graminoid wetlands by the dominance of water sedge and/or beaked sedge. Wetland F01 also has dominant beaked sedge or water sedge but it develops on peaty soils and usually with a relatively stable water table.

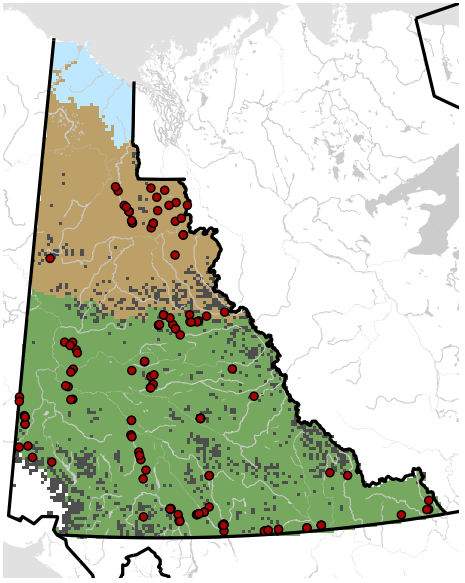
M01 is equivalent to Wm01 in British Columbia (MacKenzie and Moran 2004).

M01-Caaq57 (Water sedge – Moss)

EDATOPIC GRID

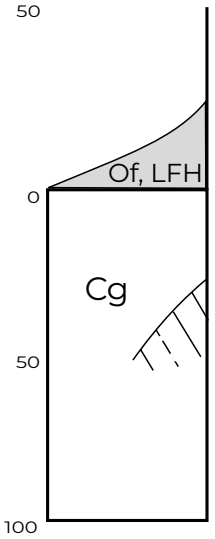


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	142	**Soil texture**	loamy, silty
Moisure regime	hygric to hydric [6 – 8]	**Soil classification**	Gleysol or Static Cryosol
Nutrient regime	medium to very rich [C – E]	**Humus form and depth**	mor, 0 to 10 cm
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or within 50 cm of the surface
Slope aspect	level	**Permafrost**	may be present
Surficial material	fluvial or lacustrine	**Open water**	usually present (10 to 90%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite M01:

Caaq57
Water sedge – Moss

Caut56
Beaked sedge – Water sedge

Caut57
Beaked sedge

	Vegetation association	Caaq57	Caut56	Caut57	
Layer	**Number of plots**	60	33	49	**English name**
Shrub	Salix spp.	■■	□□	■■	willows
Graminoid	Carex aquatilis	■■■■■	■■■■■		water sedge
	Carex utriculata		■■■■■	■■■■■	beaked sedge
Forb	Comarum palustre	□□	■■	□	marsh cinquefoil
Bryophyte	Bryophyta	■■■■	■■■	■■■	mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M02
Water horsetail marsh

GENERAL DESCRIPTION

The Water horsetail marsh occurs mostly in the BOL zone, particularly in southern Yukon. It also occurs northward into the SUW zone.

This marsh ecosite is characterized by a significant cover of water horsetail (Equisetum fluviatile), which usually dominates the groundcover. Sometimes sedge cover can equal or exceed that of horsetail. Beaked sedge (Carex utriculata) or water sedge (C. aquatilis) are the main sedges associated with M02. Marsh horsetail (E. palustre) can occur and sometimes dominates. Other frequently occurring species are common water-parsnip (Sium suave), western dock (Rumex occidentalis) and common mare's-tail (Hippuris vulgaris).

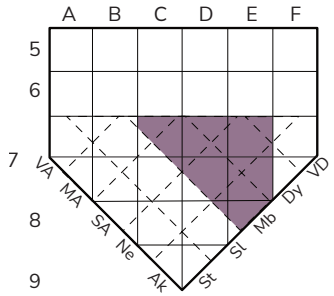
Frequent flooding, erosion and deposition are characteristic. This wetland has a slightly higher water table and is flooded for slightly longer than the M01. The very poorly drained soils are usually classified as Gleysols, although sometimes permafrost is present, and soils are Static Cryosols.

COMMENTS

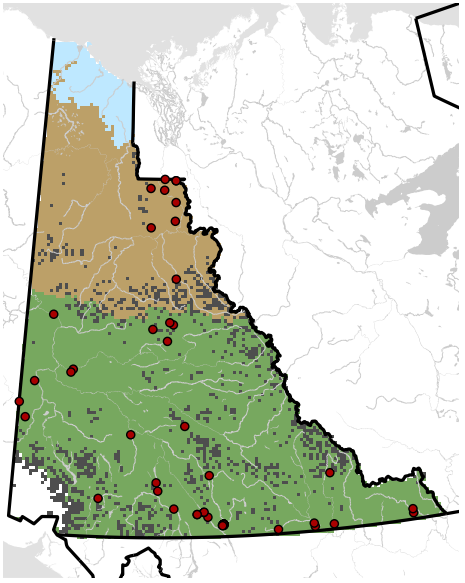
Ecosite M02 is somewhat similar to Wm02 in British Columbia (MacKenzie and Moran 2004).

M02-Eqfl55 (Water horsetail – Water sedge)

EDATOPIC GRID

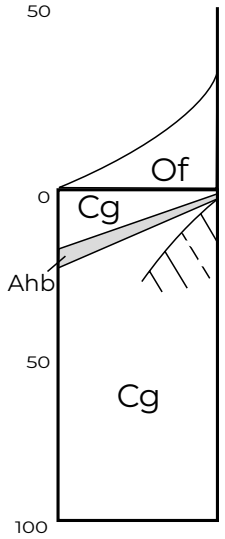


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	58	**Soil texture**	often fine loamy
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Gleysol (Static Cryosol)
Nutrient regime	medium to very rich [C – E]	**Humus form and depth**	mor, 0 cm (up to 10 cm)
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	may be present
Surficial material	usually fluvial (lacustrine)	**Open water**	usually present (10 to 95%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite M02:

Eqfl55
Water horsetail – Water sedge

Eqfl56
Water horsetail – Beaked sedge

Eqfl59
Water horsetail

	Vegetation association	Eqfl55	Eqfl56	Eqfl59	
Layer	**Number of plots**	12	22	24	**English name**
Graminoid	Carex aquatilis	■■■■	□□		water sedge
	Carex utriculata	■■	■■■■■		beaked sedge
Forb	Equisetum fluviatile	■■■■	■■■■■	■■■■■	water horsetail

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M04
Short-awned foxtail marsh

GENERAL DESCRIPTION

The Short-awned foxtail marsh occurs mostly in the BOL zone, with most known sites in the BOLsl. It also occurs in the BOH zone and in the BOL of south-central Yukon.

This marsh is characterized by short-awned foxtail (Alopecurus aequalis), with scattered other grasses such as Kentucky bluegrass (Poa pratensis), mannagrass (Glyceria spp.) and tufted hairgrass (Deschampsia cespitosa). There is also some sedge cover, including beaked sedge (Carex utriculata), water sedge (C. aquatilis) or silvery sedge (C. canescens).

Sites are poorly to very poorly drained and the water table fluctuates. Open water occurs on the surface, usually at the start of the growing season, with the sites generally drying out over the summer.

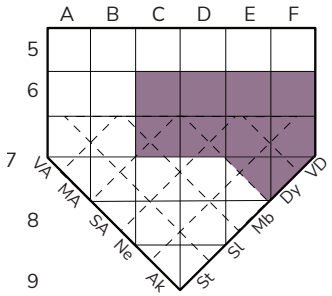
COMMENTS

M04 is somewhat like Wm04 in British Columbia (MacKenzie and Moran 2004).

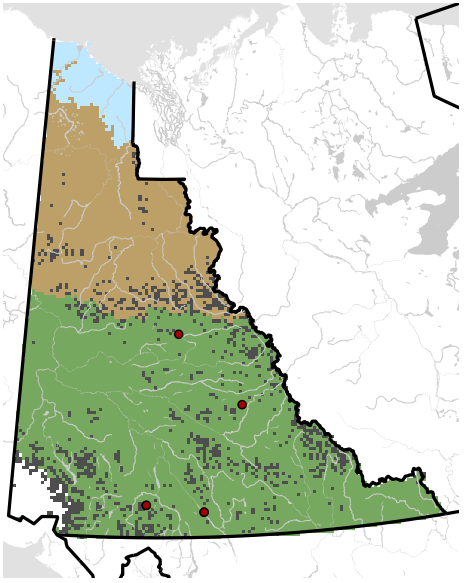
Soils data for the M04 ecosite are very limited.

M04-Alae55 (Short-awned foxtail)

EDATOPIC GRID

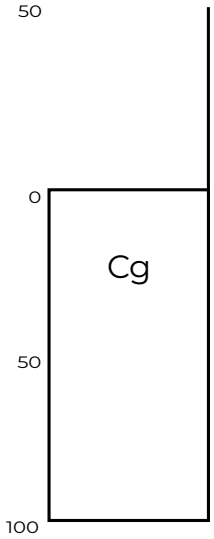


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	6	**Soil texture**	often fine loamy
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol, Regosol
Nutrient regime	medium to very rich, saline [C – E, F]	**Humus form and depth**	no data
Meso slope position	level	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or within 50 cm of the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial or lacustrine	**Open water**	usually present (1 to 50%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of the M04:

Alae55
Short-awned foxtail

	Vegetation association	Alae55	
Layer	**Number of plots**	6	**English name**
Graminoid	Alopecurus aequalis	■■■■■	short-awned foxtail
	Poaceae	■■	other grasses
	Carex aquatilis / utriculata	■■■	water sedges

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M05
Creeping spike-rush marsh

GENERAL DESCRIPTION

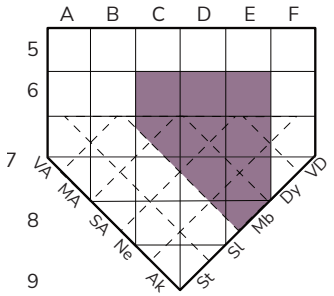
The Creeping spike-rush marsh occurs in the Boreal Low zone. It is known from the Nisutlin River Delta and some lakeshores across southern and central Yukon.

The Creeping spike-rush marsh is characterized by creeping spike-rush (Eleocharis palustris), with cover generally moderate to high. If the cover of all species is low, creeping spike-rush is also of low cover. Various grasses usually occur, often with moderate to high cover - including tufted hairgrass (Deschampsia cespitosa), slim-stemmed reedgrass (Calamagrostis stricta), Kentucky bluegrass (Poa pratensis) and short-awned foxtail (Alopecurus aequalis). Water sedges (Carex utriculata, C. aquatilis) and horsetails (Equisetum arvense, E. fluviatile) are often present and may be of high cover. Other associated species include common mare's-tail (Hippuris vulgaris) and lesser water buttercup (Ranunculus flammula). Mosses are usually present—generally with low cover.

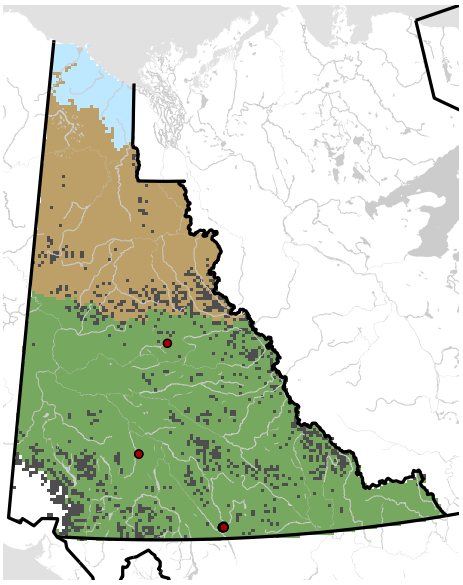
The M05 ecosite usually occurs on nutrient rich, subhydric sites. Soils are Gleysols.

M05-Elpa55 (Creeping spike-rush – Tufted hairgrass)

EDATOPIC GRID

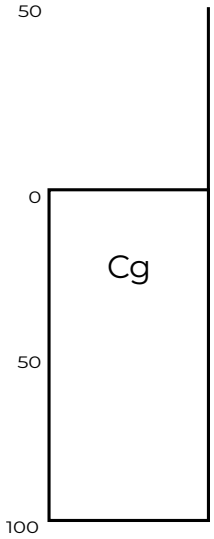


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	13	**Soil texture**	no data
Moisure regime	subhydric (hygric to hydric) [7 (6 – 8)]	**Soil classification**	Gleysol
Nutrient regime	rich (medium to very rich) [D, (C – E)]	**Humus form and depth**	no data
Meso slope position	level	**Soil drainage**	poor (imperfect to very poor)
Aspect	none	**Seepage / water table**	at or near the surface, flooding
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial	**Open water**	often present (0 to 75%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M05:

Elpa55
Creeping spike-rush – Tufted hairgrass

Layer	Vegetation association / Number of plots	Elpa55 13	English name
Shrub	Salix spp.	■	willows
Graminoid	Eleocharis palustris	■■■■■	creeping spike-rush
	Deschampsia	■■■■	hairgrass
	Calamagrostis	■■■■	reedgrass
	Poa	■■■■	bluegrass
Forb	Equisetum fluviatile (variegatum)	■■■■	horsetails
	Hippuris vulgaris	■	common mare's-tail

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M06
Mannagrass marsh

GENERAL DESCRIPTION

The Mannagrass marsh occurs mostly in the BOL zone in central and southern Yukon, and in the SUW zone in the Peel River drainage. It is usually found on the edges of lakes, ponds, river backchannels or on floodplains.

M06 is characterized by a moderate to high cover of mannagrass (Glyceria spp.) dominating the vegetation. Boreal mannagrass (Glyceria borealis) is most common, however some sites have fowl mannagrass (G. striata) or Mackenzie Valley mannagrass (G. pulchella). Moss cover is low or absent.

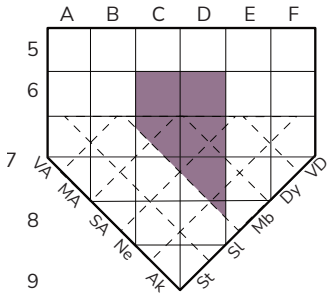
The poorly drained soils are classified as Gleysols. This is an uncommon ecosite that mostly occurs on hygric sites with a medium to rich nutrient regime.

COMMENTS

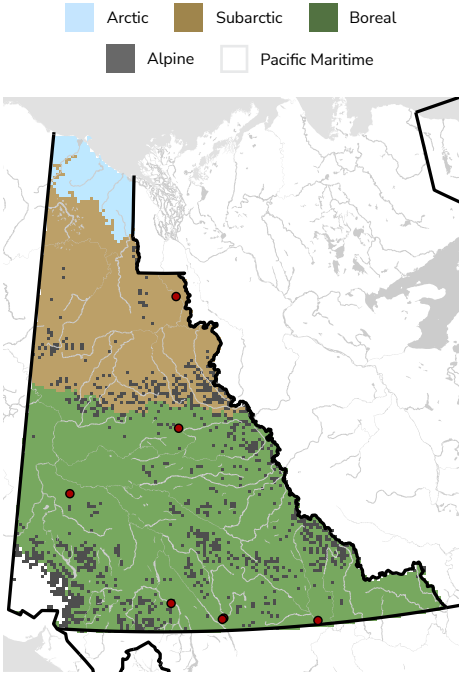
This wetland might best be characterized as a boreal mannagrass marsh. Sites with the other two mannagrass species might be moved into their own wetland type but for now, with limited sampling, all three mannagrass species are included in M06.

M06-Glbo56 (Boreal mannagrass)

EDATOPIC GRID

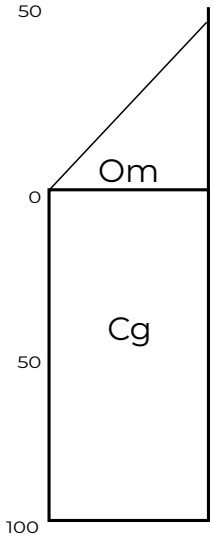


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	7	**Soil texture**	fine sand to silt
Moisure regime	hygric to hydric [6 – 8]	**Soil classification**	Gleysol
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	hydromull, up to 40 cm
Meso slope position	level or depression	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial or lacustrine	**Open water**	sometimes present (up to 15%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of M06:

Glbo56
Boreal mannagrass

Glpu57
Mackenzie Valley mannagrass

Glst58
Fowl mannagrass

	Vegetation association	Glbo56	Glpu57	Glst58	
Layer	**Number of plots**	5	1	1	**English name**
Graminoid	Glyceria borealis	■■■■■			boreal mannagrass
	Glyceria pulchella		■■■■■		Mackenzie Valley mannagrass
	Glyceria striata			■■■■■	fowl mannagrass
	Carex utriculata	□□		■■■■	beaked sedge

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M07
Least spike-rush marsh

GENERAL DESCRIPTION

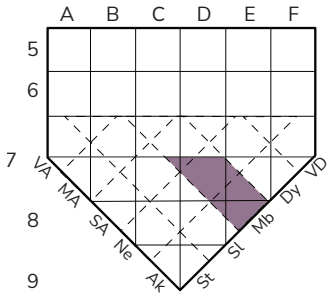
The Least spike-rush marsh occurs mostly in the BOL zone of southern Yukon. It is known from the BOLlh and BOLsl. It also may occur farther north, as one site was observed in the SUW zone in the Peel River drainage. It is usually found on mudflats of recently 'dewatered' sites, on shorelines and in very shallow waters bordering ponds.

The M07 ecosite is characterized by the presence of least spike-rush (Eleocharis acicularis), generally as a major component of the herbaceous layer. Various grasses can occur, including alpine bluegrass (Poa alpina), Kentucky bluegrass (P. pratensis), tufted hairgrass (Deschampsia cespitosa) and others, sometimes with moderate to high cover. Water sedge (Carex aquatilis) can also occur with various amounts of cover. Common mare's-tail (Hippuris vulgaris) and water buttercups (Ranunculus aquatilis, R. flammula, R. gmelinii) are usually present, mostly with low cover. Northern arrowhead (Sagittaria cuneata) and pondweeds (Potamogeton richardsonii, P. alpinus, Stuckenia pectinata, S. filiformis) often occur in patches of shallow water. The moss layer is usually absent or low in cover.

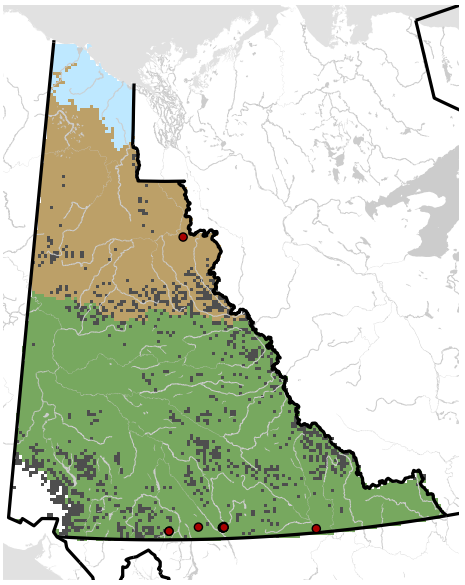
M07 occurs on poor to very poorly drained, nutrient medium to very rich sites with a high water table and which are subject to periodic flooding. The Gleysolic soils may be subject to a fluctuating water table, or they may be continuously saturated.

M07-Elac57 (Least spike-rush – Mare's-tail)

EDATOPIC GRID

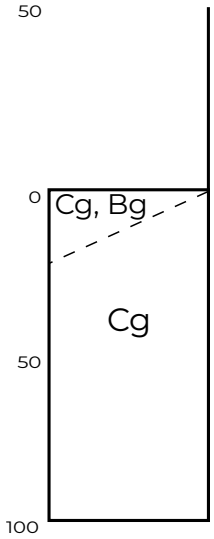


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	16	**Soil texture**	silt to loamy
Moisure regime	hydric (subhydric) [8 (7)]	**Soil classification**	Gleysol
Nutrient regime	medium to very rich [C – E]	**Humus form and depth**	no data
Meso slope position	level (depression)	**Soil drainage**	very poor (poor)
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial or lacustrine	**Open water**	often present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M07:

Elac57
Least spike-rush – Mare's-tail

	Vegetation association	Elac57	
Layer	**Number of plots**	16	**English name**
Graminoid	Eleocharis acicularis	■■■■■	least spike-rush
	Poaceae	▪▪▪	grasses
Forb	Hippuris vulgaris	■■	common mare's-tail
	Ranunculus aquatilis / flammula	■■	water buttercups
	Sagittaria cuneata	▪▪▪	northern arrowhead
Aquatic	Potamogeton / Stuckenia	▪▪▪	pondweeds

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M08
Awned sedge marsh

GENERAL DESCRIPTION

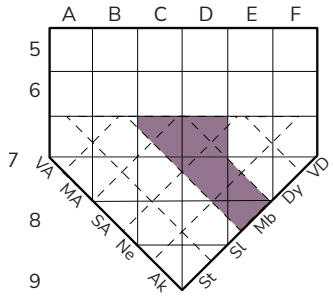
The Awned sedge marsh is known from a single wetland in the Boreal Low (BOLyc) south of Carmacks. The awned sedge (Carex atherodes) is wider ranging though and other sites could exist.

Awned sedge is characteristic and dominates or co-dominates the sedge cover of these marshes. Beaked sedge (Carex utriculata) and water sedge (C. aquatilis) occur and may co-dominate. Water horsetail (Equisetum fluviatile) often occurs and may be of high cover. Water smartweed (Persicaria amphibia) is present with low cover.

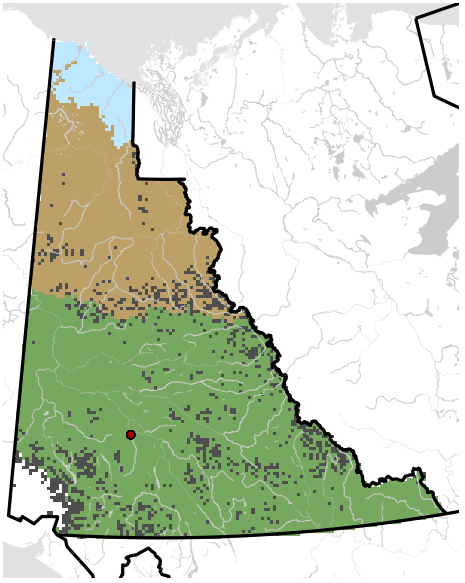
This marsh occurs on very poorly drained, nutrient rich sites with a high water table. The organic layer can be up to 50 cm. Permafrost is present (limited data). The soils are classified as Static Cryosols.

M08-Caat55 (Awned sedge – Water smartweed)

EDATOPIC GRID

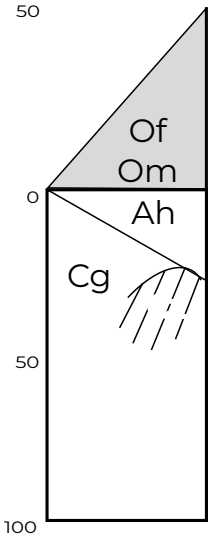


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	6	**Soil texture**	mesic peat over silt loam
Moisure regime	subhydric to hydric [7 – 8]	**Soil classification**	Static Cryosol
Nutrient regime	medium to rich [C – D]	**Humus form and depth**	hydromor, up to 50 cm
Meso slope position	level (depression)	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	present
Surficial material	organic veneer	**Open water**	often present (up to 35%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M08:

Caat55
Awned sedge – Water smartweed

Layer	Vegetation association	Caat55	English name
	Number of plots	6	
Graminoid	Carex atherodes	■■■■■	awned sedge
	Carex utriculata / aquatilis	■■■■	beaked / water sedge
Forb	Equisetum fluviatile	■■■■	water horsetail
	Persicaria amphibia	■■	water smartweed

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M09
Bulrush marsh

GENERAL DESCRIPTION

The Bulrush marsh occurs in the Boreal Low of south and central Yukon.

M09 is usually dominated by soft-stemmed bulrush (Schoenoplectus tabernaimontani), which forms open to closed stands in standing water. Hard-stemmed bulrush (S. acutus) can sometimes characterize the M09, but it is less common than soft-stemmed bulrush. Plant diversity is low but associated species such as thread-leaved pondweed (Stuckenia filiformis) or muskgrass (Chara spp.) can occur in low abundance.

Soil moisture regime is typically hydric. Soils are likely Gleysols or Humic Gleysols.

COMMENTS

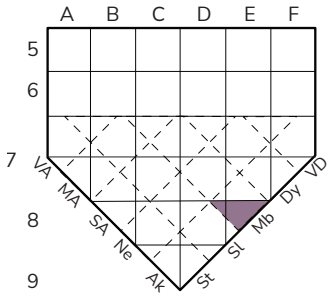
No soils information and few site data are available to describe this wetland.

The Scac58% association is similar to Wm06 in BC as described by Mackenzie and Moran (2004).

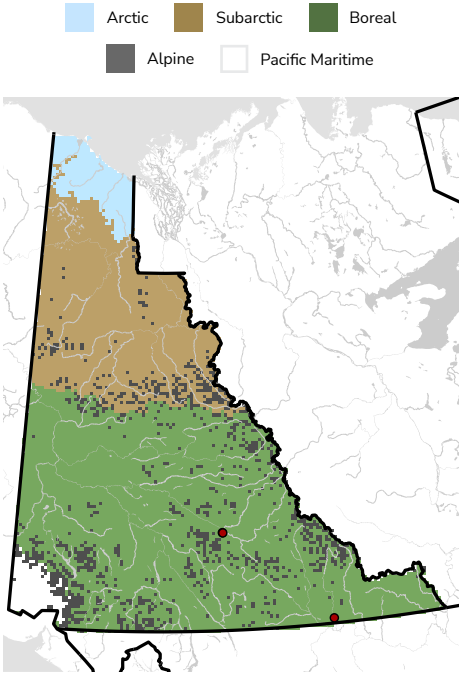
Scac58% is a provisional vegetation association, as it is based on a single plot.

NO PHOTO AVAILABLE

EDATOPIC GRID

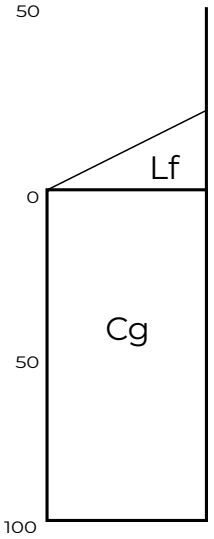


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	3	**Soil texture**	variable
Moisure regime	hydric [8]	**Soil classification**	Gleysol, Humic Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	variable, 0 to 5 cm
Meso slope position	level, depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	above, at or near the surface
Slope aspect	level	**Permafrost**	none
Surficial material	lacustrine, fluvial	**Open water**	present (up to 95%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of M09:

Scac58%
Hard-stemmed bulrush

Scta58
Soft-stemmed bulrush

	Vegetation association	Scac58%	Scta58	
Layer	**Number of plots**	1	2	**English name**
Graminoid	Schoenoplectus acutus	■■■■■	■■■■■	hard-stemmed bulrush
	Schoenoplectus tabernaemontani			soft-stemmed bulrush

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M10
Reedgrass marsh

GENERAL DESCRIPTION

The Reedgrass marsh occurs throughout Yukon in the BOL, BOH and SUW zones.

M10 has vegetation dominated by bluejoint reedgrass (Calamagrostis canadensis) or sometimes slim-stemmed reedgrass (C. stricta). Often there can be significant cover of water sedge (Carex aquatilis). Other sedges or grasses may also occur.

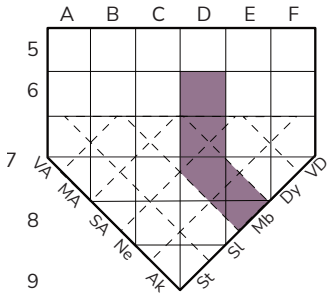
This wetland marsh develops on poorly drained fluvial or lacustrine deposits. Soils are classified as Gleysols. These wetlands typically have a fluctuating water table but are slightly drier, on average, than most other marshes.

COMMENTS

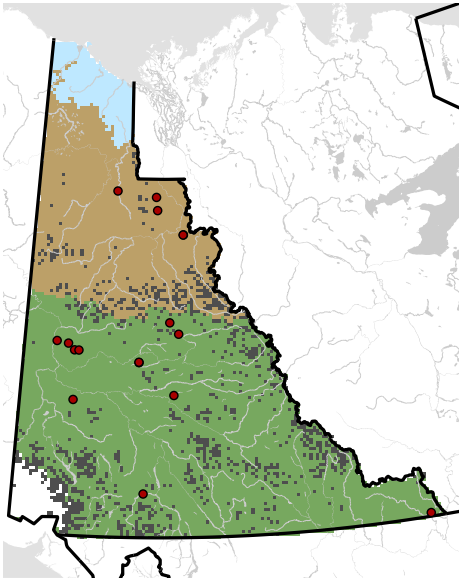
Other marsh ecosites may have some bluejoint reedgrass but in those ecosites the cover of bluejoint reedgrass is less than the cover of sedges or other characteristic species.

M10-Cast54 (Slim-stemmed reedgrass)

EDATOPIC GRID

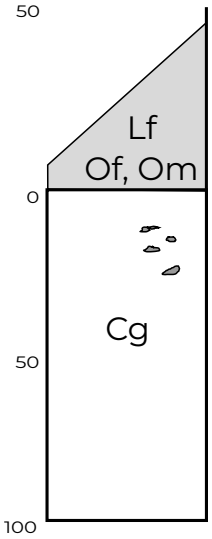


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	17	**Soil texture**	sandy loam to clay loam
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol (Humic Gleysol)
Nutrient regime	rich [D]	**Humus form and depth**	mor, up to 35 cm
Meso slope position	level or depression	**Soil drainage**	poor
Aspect	none	**Seepage / water table**	within 50 cm of the surface
Slope aspect	level (very gentle)	**Permafrost**	absent
Surficial material	fluvial or lacustrine	**Open water**	sometimes present (up to 10%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of M10:

Caca54
Bluejoint reedgrass

Cast54
Slim-stemmed reedgrass

Layer	Vegetation association	Caca54	Cast54	English name
	Number of plots	15	2	
Graminoid	Calamagrostis canadensis	■■■■■		bluejoint reedgrass
	Calamagrostis stricta		■■■■■	slim-stemmed reedgrass
	Carex aquatilis	■■■	■■■■	water sedge

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M11
Tufted hairgrass marsh

GENERAL DESCRIPTION

The Tufted hairgrass marsh occurs in southern Yukon, mostly in the BOLlh and BOLsl subzones.

A moderate to high cover of tufted hairgrass (Deschampsia cespitosa) is diagnostic of the M11. Commonly associated species are creeping spike-rush (Eleocharis palustris), horsetails (likely Equisetum arvense or E. variegatum), pondweeds (Potamogeton spp., Stuckenia filiformis), lesser water buttercup (Ranunculus flammula), russet sedge (Carex saxatilis) and common mare's-tail (Hippuris vulgaris). Moss cover is very low to absent.

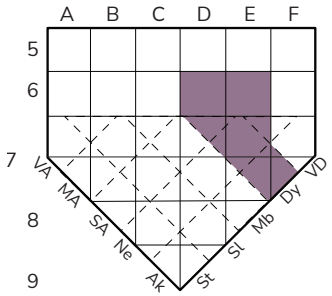
This wetland marsh develops on frequently flooded river bars. These nutrient-rich to very rich sites, with fluctuating water tables, are common on the Nisutlin River Delta. The poorly to very poorly drained soils are classified as Gleysols.

COMMENTS

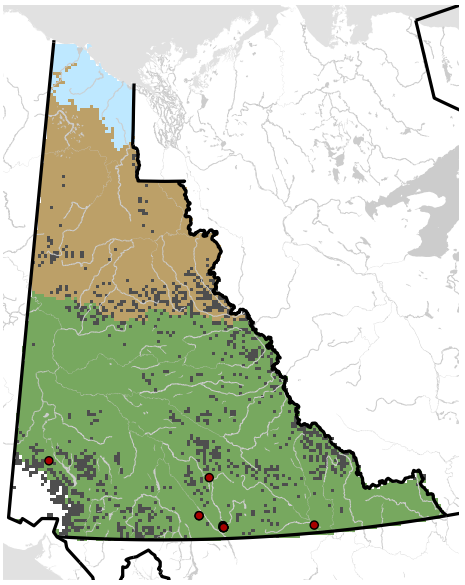
Soils data are very limited. Browsing by mammals is noted on many sites.

M11-Dece50 (Tufted hairgrass)

EDATOPIC GRID

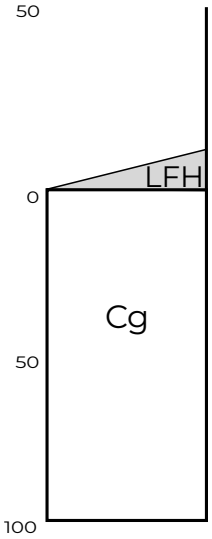


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	15	**Soil texture**	fine loamy
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	mor, if present, usually absent
Meso slope position	level	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	at or near the surface, fluctuating, flooding
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial	**Open water**	sometimes present (up to 65%)



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of M11:

Dece50
Tufted hairgrass

Dece53
Tufted hairgrass – Creeping spike-rush – Horsetail

	Vegetation association	Dece50	Dece53	
Layer	**Number of plots**	8	7	**English name**
Graminoid	Deschampsia cespitosa	■■■■■	■■■■■	tufted hairgrass
	Eleocharis palustris		■■■■	creeping spike-rush
	Poaceae	■■	■■■■	grasses
	Carex saxatilis		■	russet sedge
Forb	Equisetum spp.		■■■■	horsetails
	Ranunculus flammula	□□	■■	lesser water buttercup

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M12
Russet sedge – Water horsetail marsh

GENERAL DESCRIPTION

The Tufted hairgrass marsh occurs in southern Yukon, mostly in the Boreal Low zone, in both the BOLlh and BOLsl subzones.

Four species characterize the vegetation of this ecosite: russet sedge (Carex saxatilis), beaked sedge (C. utriculata), water horsetail (Equisetum fluviatile) and creeping spike-rush (Eleocharis palustris). The cover of each and site dominance/co-dominance varies. Common associates include water sedge (C. aquatilis), common water-parsnip (Sium suave), western dock (Rumex occidentalis) and various grasses (mostly Deschampsia cespitosa or Calamagrostis stricta). Moss cover is usually very low or absent but can be abundant, comprised mostly of brown mosses (Amblystegiaceae).

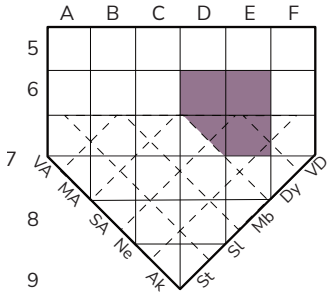
M12 occurs on imperfect to poorly drained floodplain sites. The soils are classified as Gleysols.

COMMENTS

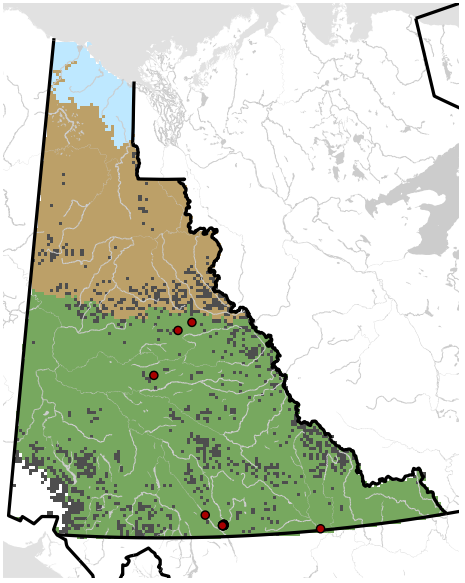
Soils data are very limited.

M12-Casa54 (Russet sedge – Water horsetail)

EDATOPIC GRID

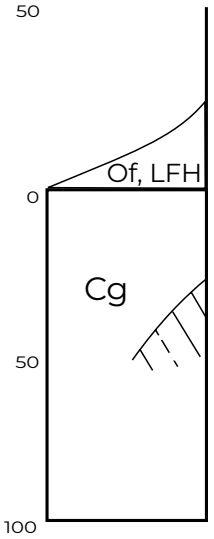


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	29	**Soil texture**	silty
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	no data
Meso slope position	level	**Soil drainage**	poor (imperfect)
Aspect	none	**Seepage / water table**	near the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial, lacustrine	**Open water**	sometimes present (up to 5%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M12:

Casa54
Russet sedge – Water horsetail

	Vegetation association	Casa54	
Layer	**Number of plots**	29	**English name**
Graminoid	Carex saxatilis	■■■■	russet sedge
	Carex utriculata	■■■■■	beaked sedge
	Eleocharis palustris	■■■■	creeping spike-rush
	Calamagrostis / Deschampsia	■■■	grasses
Forb	Equisetum fluviatile / variegatum	■■■	horsetails
Bryophyte	Amblystegiaceae	■■■■	brown mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M13
Bluegrass – Northern arrowhead marsh

GENERAL DESCRIPTION

The Bluegrass – Northern arrowhead marsh occurs in in the Boreal Low zone of southern Yukon. It is known only in the BOLlh subzone but it is expected to occur elsewhere.

Two species of bluegrass characterize the M13 ecosite: alpine bluegrass (Poa alpina) and Kentucky bluegrass (P. pratensis), with either one dominating the grass cover. A low to moderate cover of northern arrowhead (Sagittaria cuneata) is also diagnostic. Several pondweeds can occur at low to moderate cover, including grassy pondweed (Potamogeton gramineus), Richardson's pondweed (P. richardsonii), northern pondweed (P. alpinus) or blunt-leaved pondweed (P. obtusifolius). Other frequent associates include common mare's-tail (Hippuris vulgaris), creeping spike-rush (Eleocharis palustris) and various Ranunculus species: white water buttercup (R. aquatilis), lesser water buttercup (R. flammula) and far-northern buttercup (R. hyperboreus). Moss cover is low or absent.

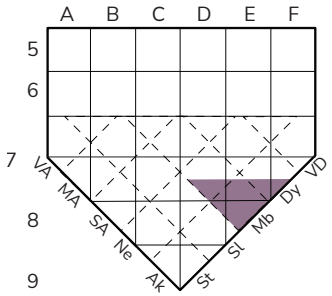
The M13 ecosite occurs on nutrient-rich, floodplain sites. Sites are usually very poorly drained and the saturated soils are classified as Gleysols.

COMMENTS

Soils data are very limited.

M13-Posp56 (Bluegrass – Northern arrowhead)

EDATOPIC GRID



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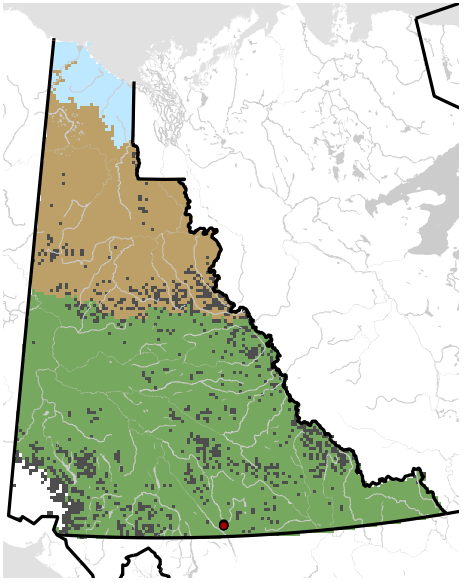
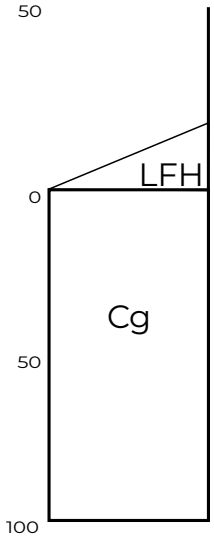


SITE AND SOILS

Plots in unit	3	**Soil texture**	no data
Moisure regime	hydric [8]	**Soil classification**	Gleysol
Nutrient regime	rich [D]	**Humus form and depth**	no data
Meso slope position	level	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial	**Open water**	often present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M13:

Posp56
Bluegrass – Northern arrowhead

Layer	Vegetation association / Number of plots	Posp56 3	English name
Graminoid	Poa alpina / pratensis	■■■■■	alpine / Kentucky bluegrasses
	Eleocharis palustris	■	creeping spike-rush
Forb	Hippuris vulgaris	■■■	common mare's-tail
	Ranunculus spp.	■■■	buttercups
	Sagittaria cuneata	■■■	northern arrowhead
Aquatic	Potamogeton spp.	■■	pondweeds

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M14
Silvery sedge marsh

GENERAL DESCRIPTION

The Silvery sedge marsh is only known from a few localities in Yukon: in the Subarctic Woodland zone of the Peel River drainage and in the BOLsl of south-central Yukon.

Silvery sedge (Carex canescens) is the dominant species of M14. Water sedge (Carex aquatalis) and beaked sedge (C. utriculata) usually also occur. Other associated species are wild calla (Calla palustris), marsh yellowcress (Rorippa palustris) and various grasses including hairgrass (Deschampsia sp.) and mannagrass (Glyceria sp.). Moss cover, if present, is low.

The site and soil data for M14 are very limited. It is noted to occur adjacent to lakes (e.g., shore marsh) and in old oxbows.

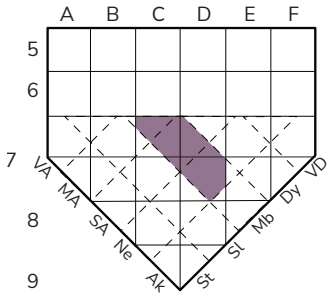
COMMENTS

Soil data are absent from plots in this wetland.

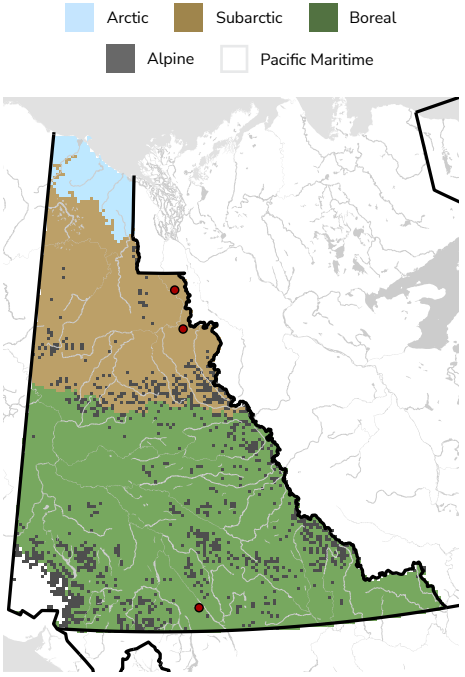
The Silvery sedge fen (F19) is also dominated by silvery sedge, but F19 sites have deeper organic layers and a high cover of brown mosses.

M14-Cacn59 (Silvery sedge)

EDATOPIC GRID

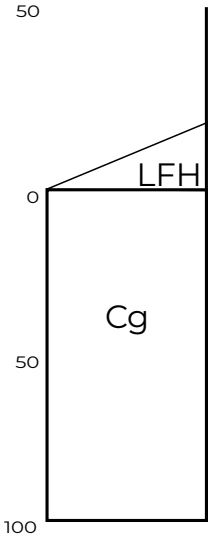


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	3	**Soil texture**	no data
Moisure regime	subhydric (hydric) [7 (8)]	**Soil classification**	Gleysol
Nutrient regime	medium-rich [C – D]	**Humus form and depth**	no data
Meso slope position	level	**Soil drainage**	poor (very poor)
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	may occur in northern Yukon
Surficial material	fluvial	**Open water**	often present (up to 50%)



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M14:

Cacn59
Silvery sedge

	Vegetation association	Cacn59	
Layer	**Number of plots**	3	**English name**
Graminoid	Carex canescens	■■■■■	silvery sedge
	Carex aquatilis / utriculata	■■■	water / beaked sedge

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M15
Polargrass marsh

GENERAL DESCRIPTION

The Polargrass marsh occurs infrequently at high elevations of the Boreal Region.

M15 is characterized by polargrass (Arctagrostis latifolia) but polargrass may not dominate the vegetation. Other common species are arrow-leaved groundsel (Senecio triangularis), alpine timothy (Phleum alpinum) and mountain monkshood (Aconitum delphiniifolium).

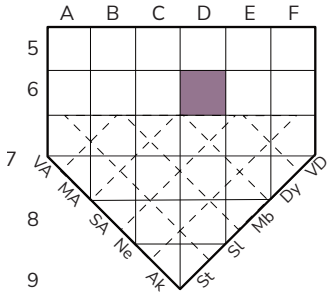
M15 sites are imperfect to poorly drained. The water table fluctuates over the growing season.

COMMENTS

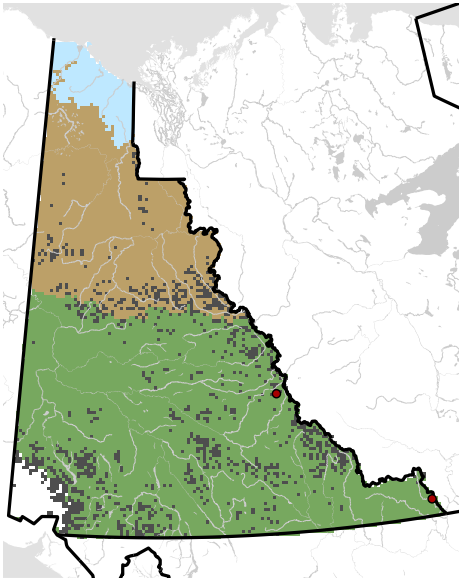
Soil data for the Polargrass marsh is very limited.

M15-Arla40 (Polargrass – Arrow-leaved groundsel)

EDATOPIC GRID

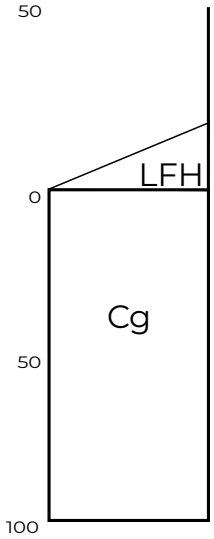


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	2	**Soil texture**	silty
Moisure regime	hygric [6]	**Soil classification**	Gleysol, Regosol
Nutrient regime	rich [D]	**Humus form and depth**	mor, moder, 10 to 20 cm
Meso slope position	level or lower slope	**Soil drainage**	imperfect to poor
Aspect	none to variable	**Seepage / water table**	at or within 50 cm of the surface
Slope aspect	level to gentle	**Permafrost**	likely underlain by permafrost
Surficial material	fluvial or lacustrine	**Open water**	not applicable



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M15:

Arla40
Polargrass – Arrow-leaved groundsel

	Vegetation association	Arla40	
Layer	**Number of plots**	2	**English name**
Graminoid	Arctagrostis latifolia	■■■■■	polargrass
	Phleum alpinum	■	alpine timothy
Forb	Aconitum delphiniifolium	■■■	mountain monkshood
	Senecio triangularis	■■■■	arrow-leaved groundsel
Bryophyte	Aulacomnium palustre	■■■■	glow moss
	Tomentypnum nitens	■■■■	golden fuzzy fen moss
	Hylocomium splendens	■■■	step moss
	Polytrichum juniperinum	■■■	juniper haircap moss

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M16
Hair bentgrass marsh

GENERAL DESCRIPTION

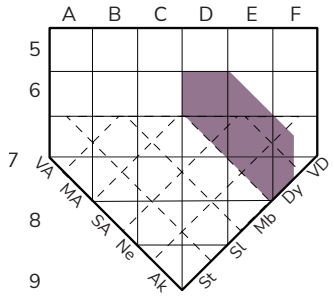
The Hair bentgrass marsh occurs in southeast Yukon, in the BOLlh subzone.

The M16 ecosite has vegetation dominated by hair bentgrass (Agrostis scabra). Other plants vary and include sedges (Carex echinata, C. viridula), spike-rushes (Eleocharis acicularis, E. palustris), water buttercups (Ranunculus aquatilis, R. flammula) and water horsetail (Equisetum fluviatile). Mosses are of low to moderate cover.

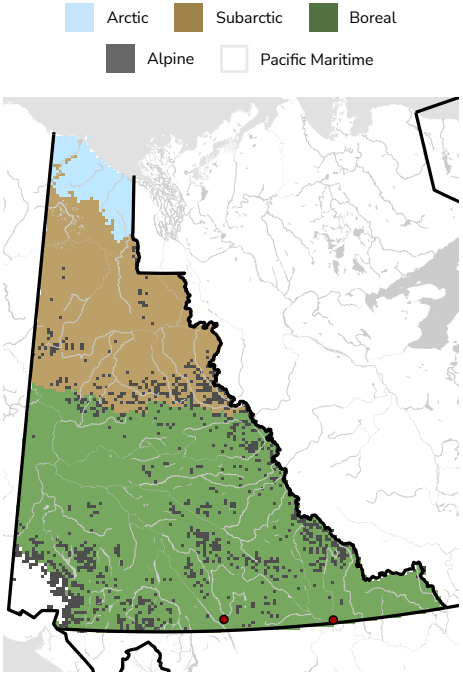
M16 develops on poorly drained fluvial or lacustrine deposits. Soils are classified as Gleysols. These wetlands typically have a fluctuating water table.

M16-Agsc55 (Hair bentgrass)

EDATOPIC GRID

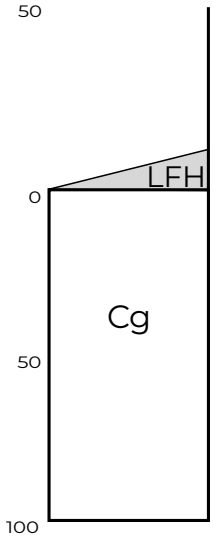


BIOCLIMATE REGION



SITE AND SOILS

Plots in unit	2	**Soil texture**	sandy loam to clay loam
Moisure regime	hygric to subhydric [6 – 7]	**Soil classification**	Gleysol or Humic Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	mor, up to 40 cm
Meso slope position	level or depression	**Soil drainage**	poor
Aspect	none	**Seepage / water table**	within 50 cm of the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial or lacustrine	**Open water**	sometimes present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M16:

Agsc55
Hair bentgrass

	Vegetation association	Agsc55	
Layer	**Number of plots**	2	**English name**
Graminoid	Agrostis scabra	■■■■■	hair bentgrass
Bryophyte	Bryophyta	■■■■	mosses

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M17%
Russet cottongrass marsh

GENERAL DESCRIPTION

The Russet cottongrass marsh occurs in the Boreal Low zone. It is known only from the Beaver River area, where it occurs in a river backchannel.

Russet cottongrass (Eriophorum russeolum) dominates the vegetation of M17%. Common mare's-tail (Hippuris vulgaris) also occurs with moderately high cover.

The site and soil data for M17% are limited to one plot.

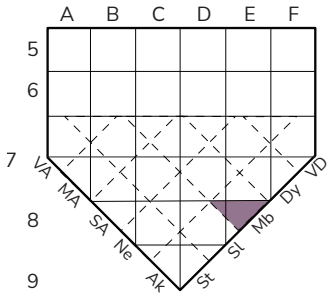
COMMENTS

As there is only one plot for this marsh, it is considered provisional and a % sign is appended to the code M17.

Russet cottongrass also characterizes the F18 fen but in F18 mosses are of high cover and the wetland occurs on organic soils.

NO PHOTO AVAILABLE

EDATOPIC GRID



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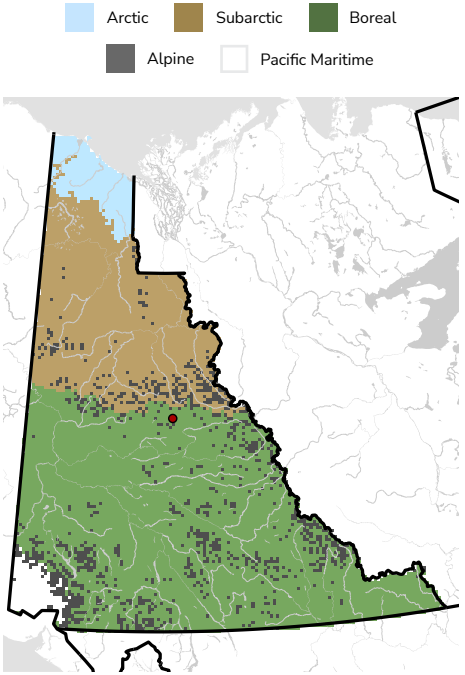
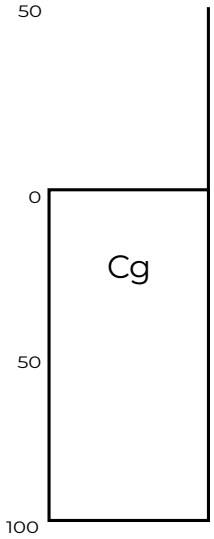


SITE AND SOILS

Plots in unit	1	**Soil texture**	silt loam
Moisure regime	hydric [8]	**Soil classification**	Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	mull, thin
Meso slope position	depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	at or near the surface
Slope aspect	level	**Permafrost**	absent
Surficial material	fluvial	**Open water**	not applicable



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M17%:

Erru56
Russett cottongrass – Mare's-tail

Layer	Vegetation association	Erru56	English name
	Number of plots	1	
Graminoid	Eriophorum russeolum	■■■■■	russet cottongrass
	Carex utriculata	■■■	beaked sedge
Forb	Equisetum fluviatile	■■■	water horsetail
	Hippuris vulgaris	■■■■■	common mare's-tail

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M18
Cattail marsh

GENERAL DESCRIPTION

The Cattail marsh occurs in the Boreal Low of west-central and southern Yukon.

M18 is dominated by cattail (Typha latifolia) often to the exclusion of any other plants. Muskgrass (Chara spp.) is abundant in the limited data available, but uncertain whether muskgrass commonly co-occurs with cattails across the Yukon. Various pondweeds can also occur in the standing water, including Fries' pondweed (Potamogeton freisii), Richardson's pondweed (Potamogeton richardsonii) and thread-leaved pondweed (Stuckenia filiformis).

Soil moisture regime is typically hydric. Soils are likely Gleysols or Humic Gleysols.

Although this marsh occurs in artificial ponds (e.g., from placer mining in the Indian River valley), it is also a natural wetland in southeast Yukon (e.g., La Biche and Beaver River valleys). Cattail appears to be spreading in Yukon and in 2019 was known from Whitehorse, La Biche, Faro, Mayo, Elsa, Dawson and Old Crow areas.

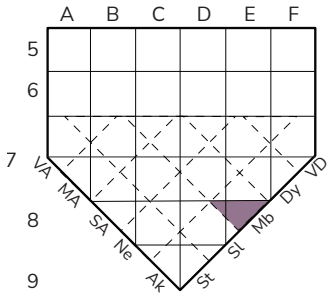
COMMENTS

No soils information and limited site data are available to describe this wetland. The two sites included in the vegetation summary are from the Indian River valley, south of Dawson City. Cattail is known from the Mayo area, but no cattail plots are available.

M18 is similar to the Wm05 in BC as described by Mackenzie and Moran (2004).

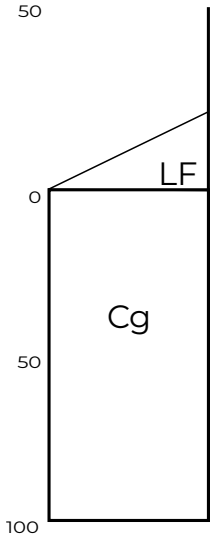
M18-Tyla58 (Cattail, anthropogenic wetland)

EDATOPIC GRID



SITE AND SOILS

Plots in unit	2	**Soil texture**	variable
Moisure regime	hydric [8]	**Soil classification**	Gleysol, Humic Gleysol
Nutrient regime	rich to very rich [D – E]	**Humus form and depth**	variable, 0 to 5 cm
Meso slope position	level, depression	**Soil drainage**	very poor
Aspect	none	**Seepage / water table**	above, at, or near the surface
Slope aspect	level	**Permafrost**	none
Surficial material	fluvial	**Open water**	present



VEGETATION SUMMARY

This vegetation association characterizes the species composition of M18:

Tyla58
Cattail

	Vegetation association	Tyla58	
Layer	**Number of plots**	2	**English name**
Graminoid	Juncus spp.	■	rushes
Forb	Typha latifolia	■■■■■	common cattail
Aquatic	Hippuris vulgaris	■	common mare's-tail
	Myriophyllum sibiricum	■■■	Siberian water-milfoil
	Potamogeton friesii	■■■	flat-stalked pondweed
	Potamogeton richardsonii	■■■	Richardson's pondweed
	Stuckenia filiformis	■■■	slender-leaved pondweed
Algae	Chara spp.	■■■■■	muskgrass
Bryophyte	Scorpidium scorpioides	■■■■	hooked scorpion moss

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

Saline marsh ecosites

GENERAL DESCRIPTION

In southern Yukon, north and east of Whitehorse, there are several ecosites which contain excess salts in the rooting zone. In this dry part of the Yukon, these sites which often occur as concentric rings around saline ponds, are typical of groundwater discharge zones in silty and clay glaciolacustrine deposits.

From year to year and over decades, differences in rainfall, climate and local hydrological conditions, can result in strong variations in water table, salinity and vegetation cover at a particular location.

The fine-textured silty clay soils are derived from glaciolacustrine parent materials and are poor to very poorly drained. The soils are classified as Gleysols and sometimes Gleyed Regosols.

The saline ecosites described here can appear slightly drier than other marshes at certain times of the year, due to fluctuating water levels and water stress on plants resulting from high salt concentrations in the soil. They are sometimes called “saline meadows.”

Shallow water wetlands may also have saline conditions. Ecosites W01 and W02 are dominated by muskgrass (Chara spp.) which sometimes occurs with thread-leaved pondweed (Stuckenia filiformis) and spiral ditchgrass (Ruppia cirrhosa). Spiral ditchgrass was observed in the water at the Takhini salt flats.

COMMENTS

Saline soils contain excess soluble salts in the rooting zone. The salts occur naturally in bedrock and in the fine-textured glaciolacustrine sediments of the Takhini and Lake Laberge valleys. These areas also have low precipitation. When groundwater discharges at the surface it evaporates, leaving the salts behind and these accumulate over time. The discontinuous permafrost may have helped to concentrate the salts in unfrozen pockets of the sediments and to focus discharge in certain areas. The ground surface may look white due to the accumulated salts. Only salt-tolerant plants are able to grow in areas that are highly saline.

The main salts encountered in the Takhini Valley in the Southern Lakes subzone are calcium carbonate ($CaCO_3$) and sodium sulphate (Na_2S0_4). $CaCO_3$ is the most mobile salt, high levels of which result in alkaline (high pH) soils. High levels of Na_2S0_4 result in high electrical conductivity levels, which can severely limit plant growth. The electrical conductivity measured at different depths in the soil fluctuates throughout the season in response to changes in the depth to the water table and the equilibrium between evaporation, evapotranspiration and rainfall. Soils in glaciolacustrine sediments in the BOLsl may exhibit highly alkaline conditions and may be slightly saline.

For additional information see Day (1962), Davies et al. (1983), Harris (1990), Veres et al. (1995), Line (2005), Secombe-Hett and Line (2005), Roberts and Turney (2012) and Schroeder (2013).

SITE AND SOILS

Plots in unit	82	**Soil texture**	silty clay
Moisure regime	hygric to subhydric (6 – 7)	**Soil classification**	Gleysol, Gleyed Regosol
Nutrient regime	saline (F)	**Humus form and depth**	no data available
Meso slope position	level	**Soil drainage**	poor to very poor
Aspect	none	**Seepage / water table**	water table may be at the surface of some ecosites for much of the season
Slope aspect	level	**Permafrost**	absent
Surficial material	glaciolacustrine	**Open water**	variable, may be ephemeral

M51
Foxtail barley – Glaucous bluegrass saline marsh

GENERAL DESCRIPTION

The Foxtail barley – Glaucous bluegrass saline marsh is characterized by foxtail barley (Hordeum jubatum) and/or glaucous bluegrass (Poa glauca) and can occur between more saline depressions and the forest edge. Common associates include slender wheatgrass (Elymus trachycaulus), Baltic rush (Juncus balticus), tufted hairgrass (Deschampsia cespitosa), seaside buttercup (Halerpestes cymbalaria), silverweed (Potentilla anserina) and sea milkwort (Lysimachia maritima). Though these species tolerate some salinity, they are not always limited to saline conditions and can be found in highly calcareous soils as well.

The silt and clay soils are usually classified as Gleyed Regosols or Gleysols.

M51-Hoju51 (Foxtail barley)

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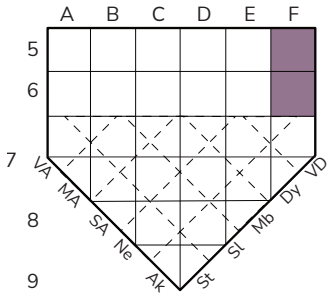
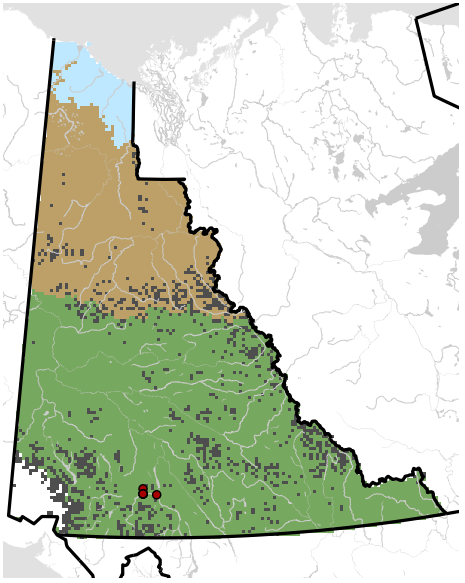


BIOCLIMATE REGION



VEGETATION SUMMARY

These vegetation associations characterize the species composition of ecosite M51:

Hoju51
Foxtail barley

Pogl51
Glaucous bluegrass

	Vegetation association	Pogl51	Hoju51	
Layer	**Number of plots**	5	2	**English name**
Graminoid	Poa glauca	■■■■■		glaucous bluegrass
	Elymus trachycaulus		■■	slender wheatgrass
	Hordeum jubatum	□□	■■■■■	foxtail barley
	Puccinellia nutkaensis		■■	Nootka alkaligrass
Forb	Halerpestes cymbalaria	■■■■	■■■	shore buttercup
	Lysimachia maritima	■■■	■■■	sea milkwort
	Symphyotrichum falcatum	■■■		white prairie aster

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M52
Sea milkwort saline marsh

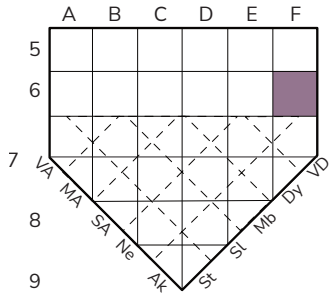
GENERAL DESCRIPTION

The Sea milkwort saline marsh is characterized by an intermittent and thin salt crust and a diversity of forest edge species. This ecosite has diverse species associated with sea milkwort (Lysimachia maritima). Sea milkwort is often found growing in association with saline plantain (Plantago eriopoda), white prairie aster (Symphyotrichum falcatum), glaucous bluegrass (Poa glauca) and slender wheatgrass (Elymus trachycaulus).

The poorly drained silt and clay soils are classified as Gleysols.

M52-Lyma52 (Sea milkwort)

EDATOPIC GRID



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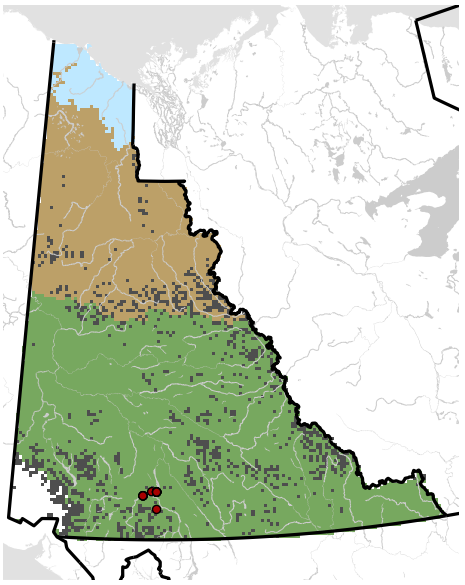


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite M52:

Lyma52
Sea milkwort

	Vegetation association	Lyma52	
Layer	**Number of plots**	16	**English name**
Graminoid	Elymus trachycaulus	■■■	slender wheatgrass
	Poa glauca	■■■	glaucous bluegrass
Forb	Lysimachia maritima	■■■■	sea milkwort
	Plantago eriopoda	■■■	saline plantain
	Symphyotrichum falcatum	■■■	white prairie aster

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M53
Nootka alkaligrass saline marsh

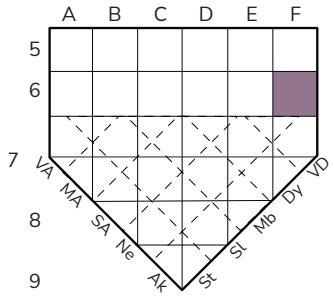
GENERAL DESCRIPTION

M53 typically has a distinct, yet thin, salt crust upon the soil surface. Nootka alkaligrass (Puccinellia nutkaensis) is occasionally intermixed with seaside arrow-grass (Triglochin maritima) and an unidentified species of alkaligrass (Puccinellia).

The poorly drained silty clay soils are classified as Gleysols.

M53-Punu53 (Nootka alkaligrass)

EDATOPIC GRID



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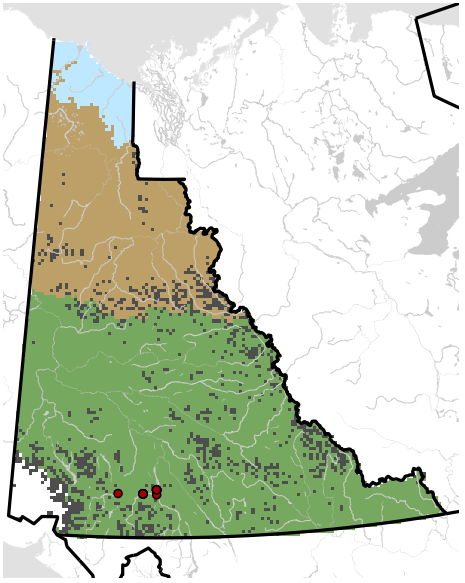


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite M53:

Punu53
Nootka alkaligrass

	Vegetation association	Punu53	
Layer	**Number of plots**	23	**English name**
Graminoid	Puccinellia nutkaensis	■■■■■	Nootka alkaligrass

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M54
Seablite saline marsh

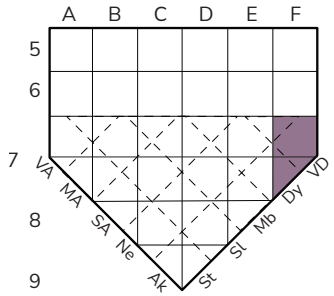
GENERAL DESCRIPTION

The Seablite saline marsh occurs in a zone slightly upslope from the Red glasswort saline marsh (Ecosite M55). It has been observed at two of the salt flat sites (Cracker Creek-Big and Takhini) where there are dense and extensive patches of seablite (Suaeda calceoliformis) with Nootka alkaligrass (Puccinellia nutkaensis).

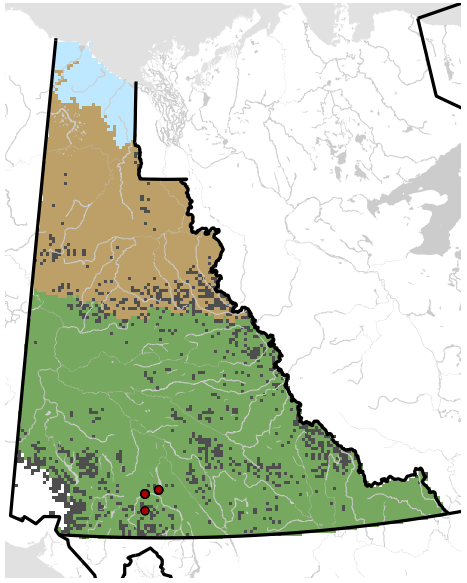
The poorly drained silty clay soils are classified as Gleysols.

M54-Suca54 (Seablite)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite M54:

Suca54
Seablite

Layer	Vegetation association / Number of plots	Suca54 10	English name
Graminoid	Puccinellia nutkaensis	■■■■	Nootka alkaligrass
Forb	Suaeda calceoliformis	■■■■	seablite

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M55
Red glasswort saline marsh

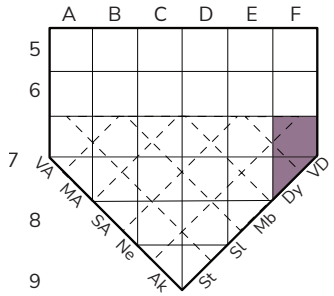
GENERAL DESCRIPTION

This glasswort-dominated ecosite is characterized by high moisture levels, a salt crust 3 to 5 mm thick and varying densities of red glasswort (Salicornia rubra).

The poor to very poorly drained silty clay soils are classified as Gleysols.

M55-Saru55 (Red glasswort)

EDATOPIC GRID



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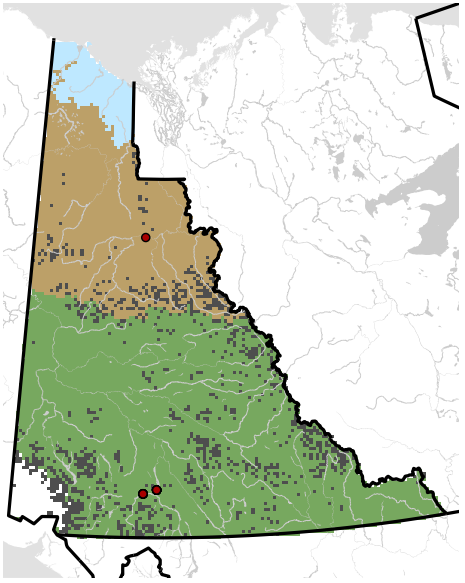


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite M55:

Saru55
Red glasswort

	Vegetation association	Saru55	
Layer	**Number of plots**	25	**English name**
Graminoid	Puccinellia nutkaensis	■■	Nootka alkaligrass
Forb	Salicornia rubra	■■■■■	red glasswort

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M56%
Baltic rush saline marsh

GENERAL DESCRIPTION

The Baltic rush saline marsh is characterized by a moderate cover of Baltic rush (Juncus balticus). Tufted hairgrass (Deschampsia cespitosa) and small-flowered beardtongue (Penstemon procerus) can also occur. The silt and clay soils are usually classified as Gleyed Regosols or Gleysols.

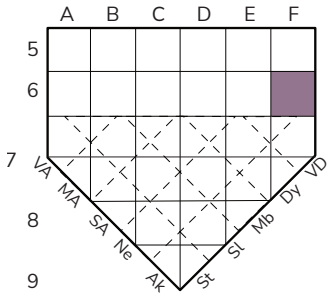
As there is only one plot for this saline marsh, it is considered provisional and a % sign is appended to the code M56.

COMMENTS

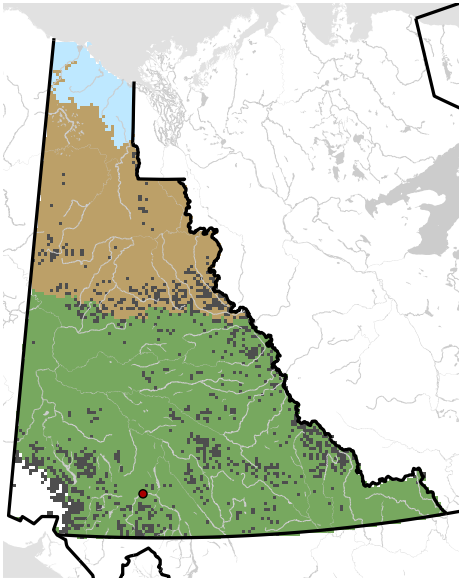
Baltic rush dominates Wm07 in BC (MacKenzie and Moran 2004).

M56%-Juba51 (Baltic rush)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite M56%:

Juba51
Baltic rush

Layer	Vegetation association	Juba51	English name
	Number of plots	1	
Graminoid	Deschampsia cespitosa	■■■■	tufted hairgrass
	Juncus balticus	■■■■■	Baltic rush
Forb	Penstemon procerus	■■■■■	small-flowered beardtongue
	Achillea millefolium	■■■	common yarrow
	Antennaria rosea	■■■	rosy pussytoes
Bryophyte	Thuidium sp.	■■■■■	Thuidium moss

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

M57%
Saline saltbrush saline marsh

GENERAL DESCRIPTION

Ecosite M57% is characterized by saline saltbrush (Atriplex dioica), which is sometimes found forming a crescent-shaped pattern in areas slightly elevated above the edge of the Red glasswort saline marsh ecosite (M55).

There are no data available for this saline marsh. It is considered provisional and a % sign is appended to the code M57. It is described in Davies et al. 1983; Roberts and Turney 2012.

6.0 **Shallow water ecosites**

Shallow water wetlands are distinct wetlands, transitional between saturated or seasonally wet wetlands and permanent, deep, water bodies. They are characterized by standing or slowly flowing water less than two metres deep. Water levels can vary, being seasonally stable, permanently flooded, or intermittently exposed during droughts, low flows or intertidal periods.

These ecosystems are known by various names, such as ponds, pools, shallow lakes, oxbows, sloughs, bays, reaches or channels. Shallow water wetlands can be found in a variety of landscape positions, including depressions, oxbows, sloughs, river and creek channels, or along the shallow margins of larger, deeper lakes. Soils are gleyed due to permanent saturation and create unique plant growth conditions and influence nutrient cycling. Limnic soils often accumulate sedimentary peat, marl or diatomaceous earth. Nutrient levels and pH vary widely, shaped by hydrology, geology and plant communities.

The vegetation in these wetlands is dominated by submerged or floating aquatic plants, algae and aquatic mosses. These include pondweeds, sago pondweed, mare's tail, pond-lily, hornwort and mosses such as Calliergon giganteum or Drepanocladus spp. Natural disturbances may include droughts, flooding and changes in water levels due to seasonal variations.[1]

Ecosites are typically dominated by a single main species. A single edatopic grid is used, as all shallow water wetlands occupy the same general position within the wetland grid, although the degree of water-level fluctuation varies among ecosites.

The guide describes 12 shallow water ecosites:

- W01 Thread-leaved pondweed shallow water
- W02 Sago pondweed shallow water
- W03 Muskgrass shallow water
- W04 Mare’s-tail shallow water
- W05 Northern arrowhead shallow water
- W06 Pondweed shallow water
- W07 Hornwort shallow water
- W09 Pond-lily shallow water
- W10 Water-milfoil shallow water
- W11 Burreed shallow water
- W12 Giant water moss shallow water
- W13 Slimy macroalgae shallow water

The following key and the Shallow water vegetation table are intended to aid in identification of the shallow water ecosites. Ecosite descriptions follow these aids, which include, tables of the vegetation associations that comprise the ecosite where available.

[1] Modified from: Yukon wetland classification standards (2025)

6.1 **Key to shallow water ecosites**

1a. Rocky Mountain or variegated pond-lily ≥ 10% cover or dominates vegetation — W09

1b. Dominated by pondweeds (potamogeton, stuckenia)

- 2a. Thread-leaved pondweed dominates — W01
- 2b. Sago pondweed dominates
  - 3a. Richardson's pondweed ≥ 10% cover — W06
  - 3b. Not as above — W02
- 2c. Richardson's pondweed or other pondweeds dominate — W06

1c. Dominated by macroalgae or mosses

- 4a. Dominated by muskgrass
  - 5a. Thread-leaved pondweed ≥ 5% cover — W01
  - 5b. Sago pondweed ≥ 20% cover — W02
  - 5c. Hornwort ≥ 10% cover — W07
  - 5d. Muskgrass dominates — W03
- 4b. Slimy macroalgae dominates; in small ponds in peatlands — W13
- 4c. Dominated by giant water moss — W12

1d. Dominated by other aquatics

- 6a. Mare's-tail dominates — W04
- 6b. Northern arrowhead dominates — W05
- 6c. Hornwort dominates — W07
- 6d. Water-milfoil dominates — W10
- 6e. Burreed dominates — W11

6.2 **Shallow water vegetation table**

Layer	Shallow water ecosite	W01	W02	W03	W04	W05	W06	W07	W09	W10	W11	W12	W13	English name
	Number of plots	6	16	17	19	2	24	6	17	3	4	6	5	
Algae	macroalgae												■■■■■	slimy macroalgae
	Chara spp.	▪▪▪▪▪	□□□□	■■■■■				▪▪▪▪▪						muskgrass
Aquatic	Stuckenia filiformis	■■■■■												thread-leaved pondweed
	Ruppia cirrhosa	▪▪												spiral ditch-grass
	Stuckenia pectinata		■■■■■		□□□		□□□			▪▪				sago pondweed
	Potamogeton alpinus							■■■■		□				northern pondweed
	Ceratophyllum demersum							■■■■■						common hornwort
	Potamogeton spp.		□□		□□□		■■■■■			□□				other pondweeds
	Myriophyllum spp.									■■■■■				water-milfoils
	Hippuris vulgaris				■■■■■					□				common mare's-tail
	Sagittaria cuneata					■■■■■								northern arrowhead
	Nuphar spp.								■■■■					pond-lilies
	Sparganium spp.								□□□		■■■■■			burreeds
Bryophyte	Calliergon giganteum											■■■■■		giant water moss

FREQUENCY (%) □ 25-50 ▪ 50-70 ■ 70-100 **MEAN COVER (%)** ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25 **DIAGNOSTIC SPECIES**

6.3 **Shallow water ecosites and vegetation associations**

Wetland code	Ecosite name	Association code	Association name
W01	Thread-leaved pondweed shallow water	Stfi70	Thread-leaved pondweed – Spiral ditchgrass
		Stfi71	Thread-leaved pondweed – Muskgrass
W02	Sago pondweed shallow water	Stpe71	Sago pondweed – Muskgrass
		Stpe72	Sago pondweed – Pondweeds
W03	Muskgrass shallow water	Chsp75	Muskgrass
W04	Mare's-tail shallow water	Hivu71	Mare's-tail – Pondweed
		Hivu72	Mare's-tail – Sago pondweed
W05	Northern arrowhead shallow water	Sacu70	Northern arrowhead
W06	Pondweed shallow water	Pori72	Richardson's pondweed – Sago pondweed
		Posp70	Pondweed
W07	Hornwort shallow water	Cede70	Hornwort
W09	Pond-lily shallow water	Nupo70	Rocky Mountain pond-lily
		Nuva70	Variegated pond-lily
W10	Water-milfoil shallow water	Mysp70	Water-milfoil – Bladderwort
W11	Burreed shallow water	Spsp70	Burreed
W12	Giant water moss shallow water	Cagi75	Giant water moss
W13	Slimy macroalgae shallow water	Macr75	Slimy macroalgae
		Metr75	Slimy macroalgae – Buckbean

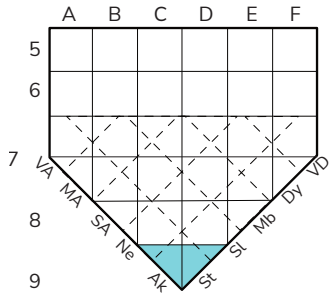
W01
Thread-leaved pondweed shallow water

GENERAL DESCRIPTION

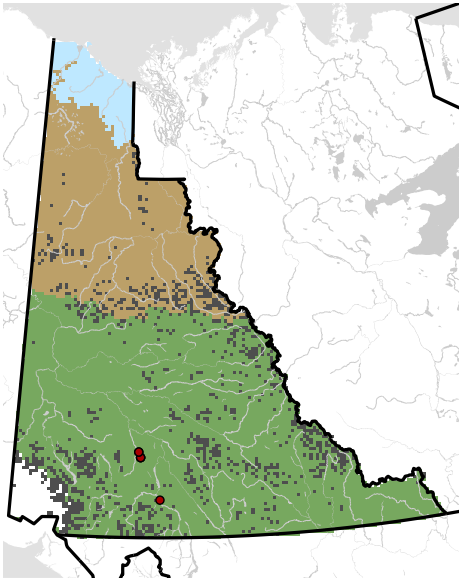
W01 is common in the BOLsl region. Thread-leaved pondweed (Stuckenia filiformis) characterizes this wetland, occurring with low to high cover. In cases where the pondweed is of high cover, spiral ditchgrass (Ruppia cirrhosa) is present, at low cover. In some cases, thread-leaved pondweed occurs with high cover of muskgrass (Chara spp.). In these cases, the pondweed is of low to moderate cover.

W01-Stfi71 (Thread-leaved pondweed – Muskgrass)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W01:

Stfi70
Thread-leaved pondweed – Spiral ditchgrass

Stfi71
Thread-leaved pondweed – Muskgrass

Layer	Vegetation association	Stfi70	Stfi71	English name
	Number of plots	3	3	
Aquatic	Ruppia cirrhosa	■■■		spiral ditch-grass
	Stuckenia filiformis	■■■■■	■■■■	thread-leaved pondweed
Algae	Chara spp.		■■■■■	muskgrass

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

W02
Sago pondweed shallow water

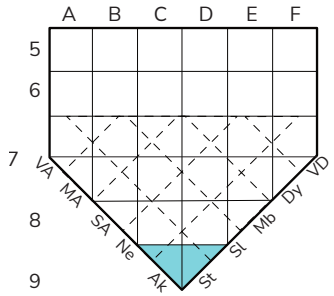
GENERAL DESCRIPTION

W02 is a nutrient-rich, shallow water ecosite that occurs in the BOLsl and BOLyc. This ecosite is dominated by a high cover of sago pondweed (Stuckenia pectinata). Richardson's pondweed (Potamogeton richardsonii) is a common associate with a low to moderate cover. Other associated species include certain pondweeds (P. obtusifolius and P. zosteriformis) and northern arrowhead (Sagittaria cuneata).

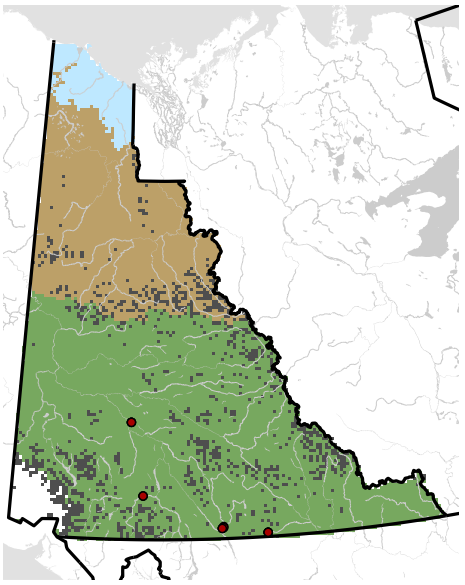
Sago pondweed can be an important food source for waterfowl which then helps to disperse the plant.

W02-Stpe72 (Sago pondweed – Pondweeds)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W02:

Stpe71
Sago pondweed – Muskgrass

Stpe72
Sago pondweed – Pondweeds

Layer	Vegetation association	Stpe71	Stpe72	English name
	Number of plots	7	9	
	Stuckenia pectinata	■■■■■	■■■■■	sago pondweed
Aquatic	Chara spp.	■■■■■		muskgrass
	Potamogeton spp.		■■■■	pondweeds

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

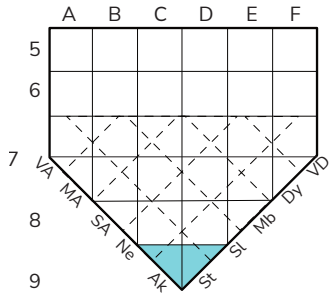
W03
Muskgrass shallow water

GENERAL DESCRIPTION

The Muskgrass shallow water ecosite occurs mostly in stagnant, alkali waters found in the BOLsl. Muskgrass (Chara spp.) dominates and is often the only species, but sometimes a low to moderate cover of pondweeds (Potamogeton spp.) or other species occurs. Muskgrass is efficient at processing bicarbonate for photosynthesis and thus precipitates large amounts of calcium carbonate forming marl.

W03-Chsp75 (Muskgrass)

EDATOPIC GRID



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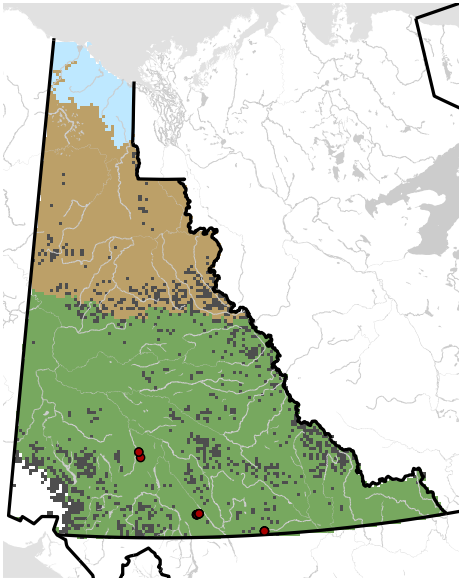


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W03:

Chsp75
Muskgrass

	Vegetation association	W03	
Layer	**Number of plots**	17	**English name**
Algae	Chara spp.	■■■■■	muskgrass

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

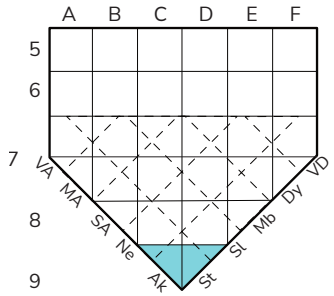
W04
Mare's-tail shallow water

GENERAL DESCRIPTION

W04 is common in the Nisutlin River Delta and on "low water" mud flats of larger rivers throughout Yukon. Dominant common mare's-tail (Hippuris vulgaris) characterizes the Mare's-tail shallow water wetland. There may be abundant open water. Pondweeds (Stuckenia pectinata, Potamogeton spp.) are common associates, occurring with a low to moderate cover. Water buttercups (Ranunculus spp.) and wetland mosses (Drepanocladus aduncus, Calliergon giganteum) are common on some sites.

W04-Hivu70 (Mare's-tail – Pondweed)

EDATOPIC GRID



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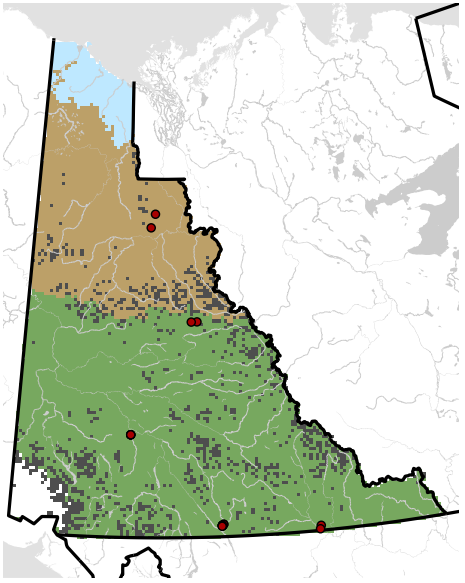


VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W04:

Hivu71
Mare's-tail – Pondweed

Hivu72
Mare's-tail – Sago pondweed

Layer	Vegetation association	Hivu71	Hivu72	English name
	Number of plots	14	5	
Aquatic	Hippuris vulgaris	■■■■■	■■■■■	common mare's-tail
	Potamogeton spp.	■■■	■■■	pondweeds
	Stuckenia pectinata		■■■■	sago pondweed
	Utricularia vulgaris		■■■	common bladderwort

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

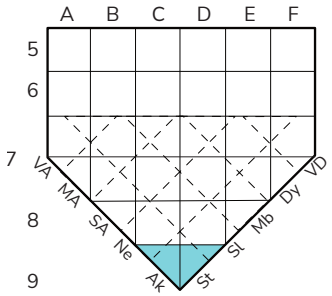
W05
Northern arrowhead shallow water

GENERAL DESCRIPTION

W05 is uncommon. It is known to occur in southern Yukon, but it may also be found elsewhere. The W05 ecosite is characterized by a moderate to high cover of northern arrowhead (Sagittaria cuneata). Water buttercups (Ranunculus sp.) often occur.

W05-Sacu70 (Northern arrowhead)

EDATOPIC GRID



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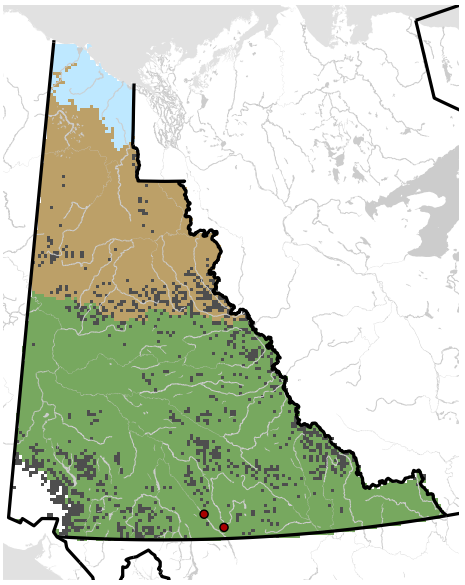


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W05:

Sacu70
Northern arrowhead

	Vegetation association	Sacu70	
Layer	**Number of plots**	2	**English name**
Forb	Ranunculus aquatilis	■	white water buttercup
Aquatic	Sagittaria cuneata	■■■■	northern arrowhead

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

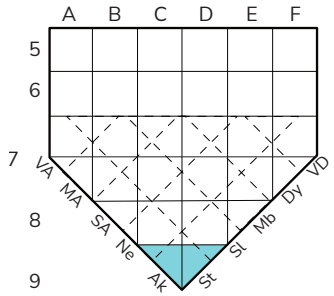
W06
Pondweed shallow water

GENERAL DESCRIPTION

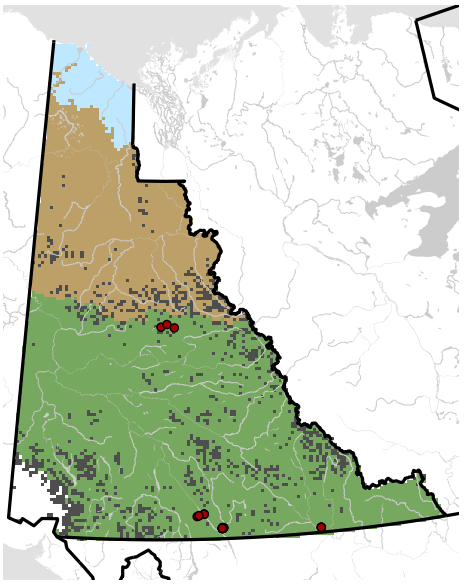
W06 is common on the Nisutlin River Delta and other wetlands of southern and central Yukon. Pondweeds (Potamogeton spp.) dominate this wetland. Richardson's pondweed (P. richardsonii) is the most frequent pondweed and often has the highest cover, but other pondweeds (P. alpinus, P. friesii, P. obtusifolius, P. zosteriformis) also occur. Sago pondweed (Stuckenia pectinata) is a common associate. The W06 ecosite (especially association Pori72) can include water-milfoil (Myriophyllum spp.), white water buttercup (Ranunculus aquatilis), northern arrowhead (Sagittaria cuneata) and bluegrasses (Poa spp.).

W06-Pori72 (Richardson's pondweed – Sago pondweed)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W06:

Posp70
Pondweed

Pori72
Richardson's pondweed – Sago pondweed

Layer	Vegetation association	Posp70	Pori72	English name
	Number of plots	12	12	
Aquatic	Potamogeton spp.	■■■	■■■■■	pondweeds
	Potamogeton richardsonii	■■■■■		Richardson's pondweed
	Stuckenia pectinata	■■■■		sago pondweed

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

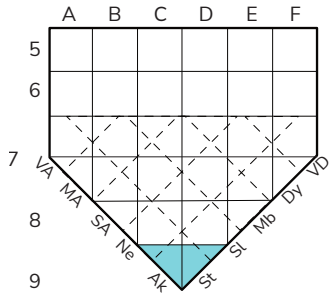
W07
Hornwort shallow water

GENERAL DESCRIPTION

W07 occurs infrequently throughout low elevations in Yukon. It is characterized by a moderate to high cover of common hornwort (Ceratophyllum demersum). A low to moderate cover of northern pondweed (Potamogeton alpinus) is usually present. Muskgrass (Chara spp.), a macroalgae, can be abundant in some areas.

NO PHOTO AVAILABLE

EDATOPIC GRID



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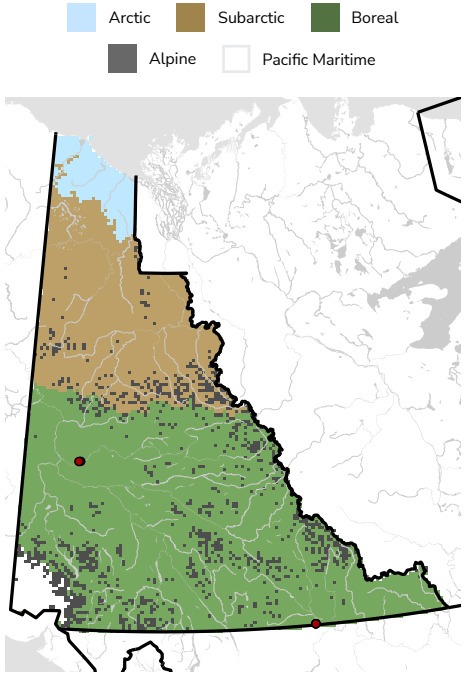


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W07:

Cede70
Hornwort

Layer	Vegetation association / Number of plots	Cede70 6	English name
Algae	Chara spp.	■■■■■	muskgrass
Aquatic	Ceratophyllum demersum	■■■■■	common hornwort
	Potamogeton alpinus	■■■■	northern pondweed

FREQUENCY (%) ☐ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

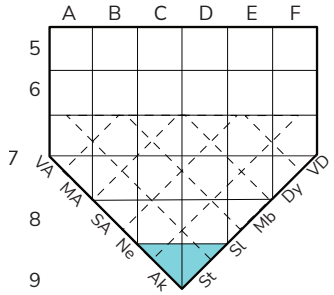
W09
Pond-lily shallow water

GENERAL DESCRIPTION

The Pond-lily shallow water ecosite can be found throughout the Yukon at low to mid elevations. It is characterized by a significant cover of either Rocky Mountain pond-lily (Nuphar polysepala) or variegated pond-lily (N. variegata). Associated species may include burreed (Sparganium spp.), various pondweeds (Potamogeton spp.), water-milfoils (Myriophyllum spp.) and others.

W09-Nuva70 (Variegated pond-lily)

EDATOPIC GRID



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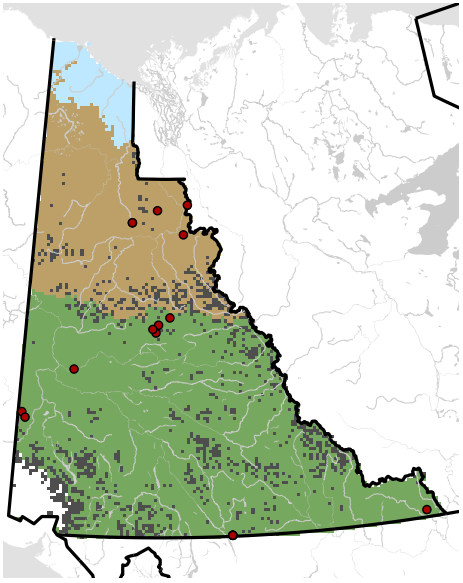


VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W09:

Nupo70
Rocky Mountain pond-lily

Nuva70
Variegated pond-lily

Layer	Vegetation association	Nupo70	Nuva70	English name
	Number of plots	12	5	
Aquatic	Nuphar polysepala	■■■■		Rocky Mountain pond-lily
	Nuphar variegata		■■■	variegated pond-lily
	Sparganium spp.		■■■	burreeds
	Callitriche hermaphroditica		■■■	northern water-starwort
	Hippuris vulgaris		■■■	common mare's-tail
	Potamogeton spp.		■■	pondweeds
	Utricularia vulgaris		■■	common bladderwort

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

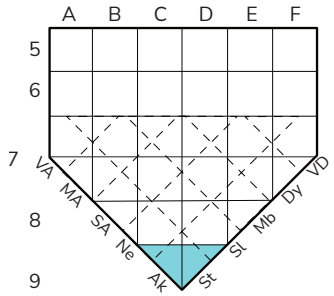
W10
Water-milfoil shallow water

GENERAL DESCRIPTION

W10 occurs throughout Yukon. It is characterized by water milfoil (Myriophyllum sp.). Pondweeds (Potamogeton spp., Stuckenia pectinata) and bladderworts (Utricularia spp.) are common associates. The Water-milfoil shallow water ecosite is found in muddy, shallow ponds and sluggish streams.

W10-Mysp70 (Water-milfoil – Bladderwort)

EDATOPIC GRID



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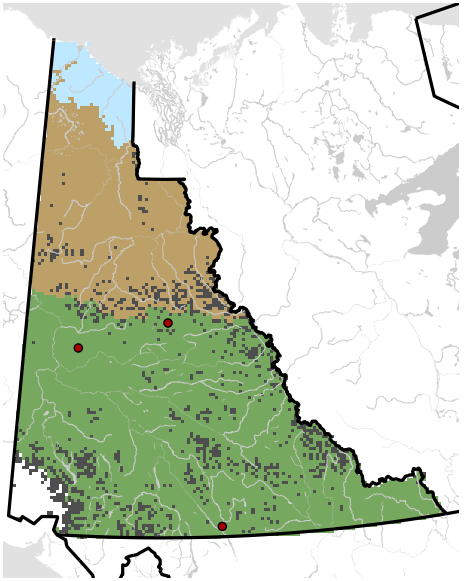


VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W10:

Mysp70
Water-milfoil – Bladderwort

Layer	Vegetation association	Mysp70	English name
	Number of plots	3	
	Myriophyllum spp.	■■■■■	water-milfoils
Aquatic	Stuckenia pectinata	■■	sago pondweed
	Utricularia spp.	■	bladderworts

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

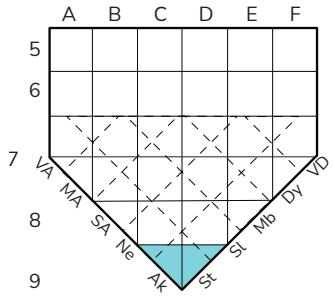
W11
Burreed shallow water

GENERAL DESCRIPTION

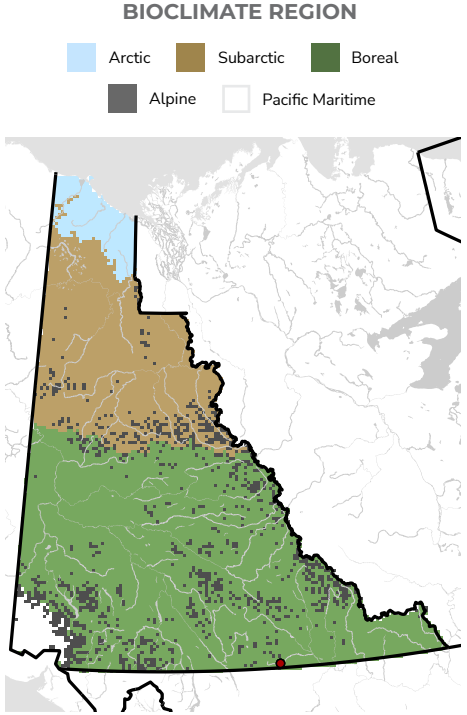
W11 is characterized by the presence of burreed (Sparganium spp.). This wetland is known only from southern Yukon (all plots are from same pond near Watson Lake) but may occur elsewhere, as burreed is wide ranging.

NO PHOTO AVAILABLE

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W11:

Spsp70
Burreed

Vegetation association		Spsp70	
Layer	**Number of plots**	1	**English name**
Aquatic	Sparganium spp.	■■■■	burreeds

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

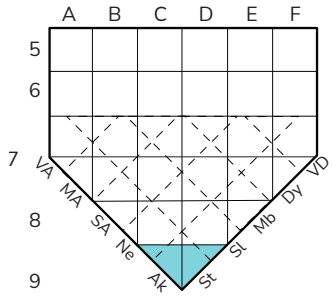
W12
Giant water moss shallow water

GENERAL DESCRIPTION

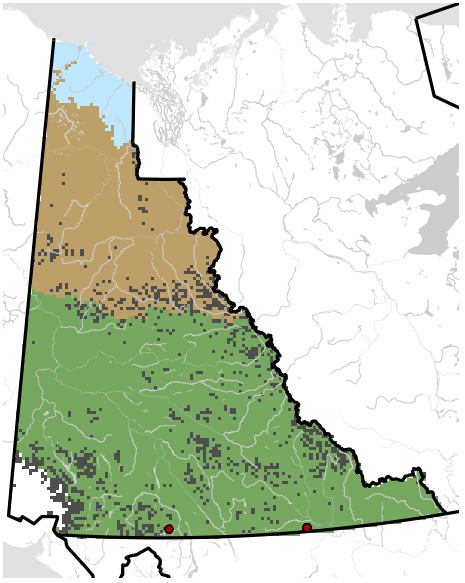
The W12 has been found in southeast Yukon but may occur elsewhere. This ecosite is dominated by a high cover of giant water moss (Calliergon giganteum). Vascular plants are generally absent but there may be a few scattered plants present.

W12-Cagi75 (Giant water moss)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

This vegetation association characterizes the species composition of ecosite W12:

Cagi75
Giant water moss

	Vegetation association	Cagi75	
Layer	**Number of plots**	6	**English name**
Bryophyte	Calliergon giganteum	■■■■■	giant water moss

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

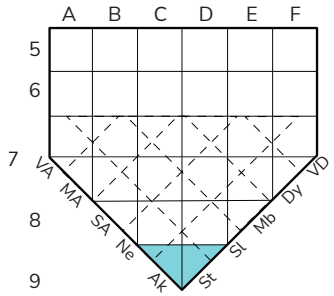
W13
Slimy macroalgae shallow water

GENERAL DESCRIPTION

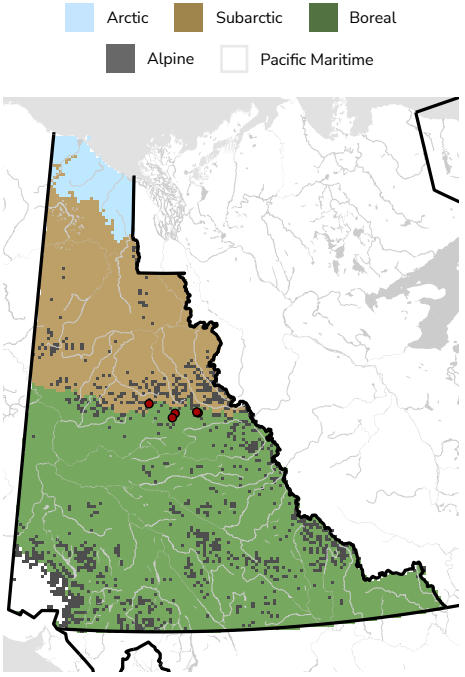
The W13 ecosite is dominated by a “slimy brown floating macroalgae” of unknown species. Buckbean (Menyanthes trifoliata) is a common associate. This wetland occurs in small ponds associated with peatlands of central and northern Yukon. These may be thermokarst depressions.

W13-Macr75 (Slimy macroalgae)

EDATOPIC GRID



BIOCLIMATE REGION



VEGETATION SUMMARY

These vegetation associations characterize the variation in species composition of ecosite W13:

Macr75
Slimy macroalgae

Metr75
Slimy macroalgae – Buckbean

	Vegetation association	Macr75	Metr75	
Layer	**Number of plots**	3	2	**English name**
Aquatic	Macroalgae	■■■■■	■■■■■	slimy macroalgae
	Menyanthes trifoliata		■■■■	buckbean

FREQUENCY (%) □ 25-50 ■ 50-70 ■ 70-100

MEAN COVER (%) ■ < 1 ■■ 1-3 ■■■ 3-10 ■■■■ 10-25 ■■■■■ >25

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Appendices

Appendix A
Gradient categories used by the edatopic grid

An edatopic grid is a two-dimensional representation of soil moisture and soil nutrient regimes used for describing terrestrial ecosystems and includes the 'wetland edatopic grid' introduced by MacKenzie and Moran (2004). For wetland ecosystems, the pH (acidity/alkalinity) and the magnitude of lateral water flow or vertical fluctuation of the water table (e.g., hydrodynamics) are additional factors added as tangential axes at the wettest end of the grid.

FIGURE A-1

Soil nutrient regime (SNR) factors and relationship to factors

	Oligotrophic	Submesotrophic	Mesotrophic	Permesotrophic	Eutrophic	Hypereutrophic
	A very poor	**B** poorer than average	**C** medium	**D** richer than average	**E** very rich	**F** saline
Available nutrients	very low	low	average	plentiful	abundant	excess salt accumulations
Humus form	Mor	Mor	Mor / Moder	Moder	Moder / Mull	Mull
A horizon	Ae horizon present	Ae horizon present	Ae horizon present / A horizon present or absent	A horizon present or absent	A horizon present or absent / Mull	Mull
Organic matter content	low (light coloured)	low (light coloured)	low (light coloured) / medium (intermediate in colour)	medium (intermediate in colour)	medium (intermediate in colour) / high (dark coloured)	high (dark coloured)
Soil depth	extremely shallow	extremely shallow	extremely shallow / very shallow to deep	very shallow to deep	very shallow to deep	very shallow to deep
Soil texture	coarse textured	coarse textured	coarse textured / medium to fine textured	medium to fine textured	medium to fine textured	medium to fine textured
% coarse fragments	high	high	high / moderate to low	moderate to low	moderate to low	moderate to low
Parent material minerology	base-low	base-low	base-low / base-medium	base-medium	base-medium / base-high	base-high
Soil pH	extremely–moderately acid	extremely–moderately acid	extremely–moderately acid / moderately acid–neutral	moderately acid–neutral	slightly acid–mildly alkaline	mildly alkaline to alkaline
Water pH (wetlands)	<4–5	4.5–5.5	5.5–6.5	6.5–7.4	7.4+	
Seepage			temporary ≥ permanent	temporary ≥ permanent	temporary ≥ permanent	temporary ≥ permanent

TABLE A-1

Soil pH categories used in the wetland portion of the edatopic grid and definitions

CODE	CLASS	DEFINITION
VA	Very acid	< 4.5 pH
MA	Moderately acid	4.5 to 5.5 pH
SA	Slightly acid	5.5 to 6.5 pH
N	Neutral	6.5 to 7.4 pH
Ak	Alkaline	> 7.4 pH

TABLE A-2

Hydrodynamic index categories used in the wetland portion of the edatopic grid

CODE	CLASS	DEFINITION
St	Stagnant	Stagnant to very gradually moving soil water. Vertical fluctuations minimal. Permanent surface saturation but minimal or no surface flooding. Basins or hollows with stable water regimes. Abundant organic matter accumulation and high bryophyte cover.
Sl	Sluggish	Gradual groundwater movement through peat or fine-textured mineral soils along a hydrological gradient. Minor vertical water table fluctuations. Semi-permanent soil saturation with some elevated microsites or brief periods of surface aeration. Hollows, slopes and water tracks in basins or lake flats not directly influenced by the waterbody. Abundant peat accumulation and bryophyte cover.
Mo	Mobile	Distinct flooding and drawdown or pronounced lateral water movements. Peripheral areas of peatlands, sites adjacent to open water tracks, small rivulets or ponds, small potholes with relatively stable water regimes, protected lake embayments, or back marshes in estuaries. Can have deep but well-decomposed accumulations of peat. Patchy bryophyte cover.
Dy	Dynamic	Significant lateral flow and/or strong vertical water table fluctuations through mineral soils. Potholes in arid climates that experience significant drawdown, wave-exposed shores, floodplain back channels and protected estuary sites. Little organic accumulation and few bryophytes.
VD	Very dynamic	Highly dynamic surface water regime. Exposed tidal sites, shallow potholes in arid climates that experience significant drawdown, wave-exposed shores, and sites directly adjacent to and influenced by river flow. No organic accumulation or bryophytes.

TABLE A-3

Relative soil moisture regime (SMR) class descriptions

CODE	CLASS	DESCRIPTION	WATER SOURCE
0	Very xeric	Water removed extremely rapidly in relation to supply. Soil is moist for a negligible time after precipitation.	Precipitation
1	Xeric	Water removed very rapidly in relation to supply. Soil is moist for brief periods following precipitation.	Precipitation
2	Subxeric	Water removed rapidly in relation to supply. Soil is moist for short periods following precipitation.	Precipitation
3	Submesic	Water removed readily in relation to supply. Water available for moderately short periods following precipitation.	Precipitation
4	Mesic	Water removed somewhat slowly in relation to supply. Soil may remain moist for a significant, but sometimes short period of the year. Available soil moisture reflects climatic inputs.	Precipitation in moderate- to fine-textured soils. Limited seepage in coarse-textured soils.
5	Subhygric	Water removed slowly enough to keep soil wet for a significant part of growing season. Some temporary seepage and possibly mottling below 20 cm.	Precipitation and seepage
6	Hygric	Water removed slowly enough to keep soil wet for most of growing season. Permanent seepage and mottling. Gleyed colours common.	Seepage
7	Subhydric	Water removed slowly enough to keep water table at or near surface for most of year. Gleyed mineral or organic soils with permanent seepage < 30 cm below surface.	Seepage or permanent water table
8	Hydric	Water removed so slowly that water table is at or above soil surface all year and gleyed mineral or organic soils.	Permanent water table
9	Aquatic	Water is well above the ‘sediment bed’ all year.	Water body

To assess the moisture regime of a site quantitatively, the Yukon Bioclimate Ecosystem Classification System employs a water balance approach based on methodology outlined by Klinka et al. (1989). In this system, actual soil moisture regimes (ASMR) are classified using the occurrence and duration of phases of water use, the ratio between actual and potential evapotranspiration (AET:PET), and the occurrence and depth of the water table. The ASMR classes correlate with relative soil moisture regime (RSMR) classes associated with specific wetland classes in the edatopic grid. In the initial wetland grid, both ASMR and RSMR are utilized to convey the spectrum of moisture regimes that a given wetland class may exhibit.

TABLE A-4

Classification of actual soil moisture regimes (ASMR)

DIFFERENTIATING FEATURES	CLASS
Rooting-zone groundwater absent during the growing season	
Water deficit occurs (soil-stored reserve water is used up and drought begins if current precipitation is insufficient for plant needs)	
Deficit > 5 months (AET/PET 55%)	excessively dry
Deficit > 3 months but ≤ 5 months (AET/PET ≤ 75 but > 55%)	very dry
Deficit > 1.5 month but ≤ 3 months (AET/PET ≤ 90 but > 75%)	moderately dry
Deficit > 0 but ≤ 1.5 month (AET/PET > 90%)	slightly dry
No water deficit occurs	
Utilization (and recharge) occurs (current need for water exceeds supply and soil-stored water is used)	fresh
No utilization (current need for water does not exceed supply; temporary groundwater table may be present)	moist
Rooting-zone groundwater absent during the growing season	
Groundwater table > 30 cm deep	very moist
Groundwater table > 0 but ≤ 30 cm deep	wet
Groundwater table at or above the ground surface	very wet

Appendix B
Sequential steps for identifying a site as a wetland

TABLE B-1

Wetland indicator criteria flow chart[1]

INDICATOR GROUP	STEP	INDICATOR CRITERIA TO DETERMINE IF IT IS A WETLAND	YES	NO, OR NOT SURE
Wetland hydrology	1	Site with the water table at, near (within the rooting zone), or above the surface, but less than 2 m deep, that exists for a prolonged period during the growing season which is long enough to promote wetland processes.	Wetland	step 2
Wetland vegetation	2	Obligate[2] (OBL) or facultative wetland[3] (FACW) vascular plant species > 50% of abundant vascular plant species[4]	Wetland	step 3
	3	OBL vascular plant species at least 10% areal cover in community	Wetland	step 4
	4	OBL + FACW species areal cover at least 25% and the remaining cover is predominately facultative species[5] (FAC)	Wetland	step 5
	5	Peat mosses or brown mosses dominate the ground cover (≥ 50% cover)	Wetland	step 6
	6	Algae encrust the surface	Wetland	step 7
Wetland soil	7	Peat (organic soil) > 30 cm	Wetland	step 8
	8	Organic surface layer > 20 cm thick with permafrost within 50 cm[6]	Wetland	step 9
	9	Gleyed or mottled soils (prominent or distinct mottles) [see Appendix 5] within 30 cm of the soil surface OR directly below the surface organic or Ah horizon and within 45 cm of soil surface	Wetland	step 10
	10	Smell of hydrogen sulphide gas (rotten eggs) within 30 cm of the surface	Wetland	step 11
	11	Sandy soils with a surface layer of peat or limnic peat (muck)	Wetland	step 12
	12	Mudflat with gleyed soils	Wetland	step 13
	13	Any unknown criteria (from above)	Unknown[7]	Upland

[1] From: Wetland Classification Technical Working Group. 2025. Yukon wetland classification standards. MR-24-04. Government of Yukon, Whitehorse, Yukon. 56 pp.
[2] Obligate wetland plant species: Almost always occur in wetlands (Lichvar et al. 2012).
[3] Facultative wetland plant species: Usually occur in wetlands but may occur in non-wetlands (Lichvar et al. 2012).
[4] Abundant plant species: 20% or more areal cover in plant community (Tiner 1993).
[5] Facultative plant species: plants occur in both wetlands and uplands.
[6] Depth at maximum seasonal thaw.
[7] Obtaining an unknown answer requires further investigation of more in-depth wetland indicators on site.

Appendix C
Terms used in the guide

For a detailed description of bioclimate zones and subzones, refer to the Southern Lakes Boreal Low Subzone (BOLsl): A field guide to ecosite identification (2017).

TABLE C-1

Bioclimate zones and subzone codes used in the guide

BIOCLIMATE ZONES	
BOL	Boreal Low
BOH	Boreal High
BOS	Boreal Subalpine
SUW	Subarctic Woodland
SUS	Subarctic Subalpine

SUBZONES	
BOLsl	Southern Lakes BOL
BOLkp	Klondike Plateau BOL
BOLlh	Liard Hyland BOL
BOLyc	Yukon Plateau Central BOL
BOLyn	Yukon Plateau North BOL

TABLE C-2

Mesoslope position

TERM	DEFINITION
Crest	Comprises the meso-scale height of land and the strongly, water-shedding convex slopes immediately adjacent.
Upper slope	The uppermost portion of a meso-scale slope. Slope profile is generally convex. Soil water mostly shedding but some water receiving from crest.
Middle slope	The portion of a slope between the upper and lower slopes. Soil water is shedding and receiving more or less equally.
Lower slope	The moisture-receiving area towards the base of a slope. Slope profile is usually somewhat concave. Sites located near the base of a slope that are not moisture-receiving are treated as middle slope positions in the keys.
Toe slope	Gently-sloped areas directly below the lower slope transitioning to the level area or depression at the base of the slope.
Level	Any broad level area: the surface profile is generally more-or-less horizontal with no distinct aspect and minimal slope (<5%).
Depression	Profile concave in all directions - usually in flat or subdued topography or at the base of a slope.

TABLE C-3

Slope gradient

CLASS	DEFINITION
Level	≤ 5% slope
Gentle	6 to 25% slope
Moderate	26 to 50% slope
Steep	> 50% slope

FIGURE C-1

Mesoslope position

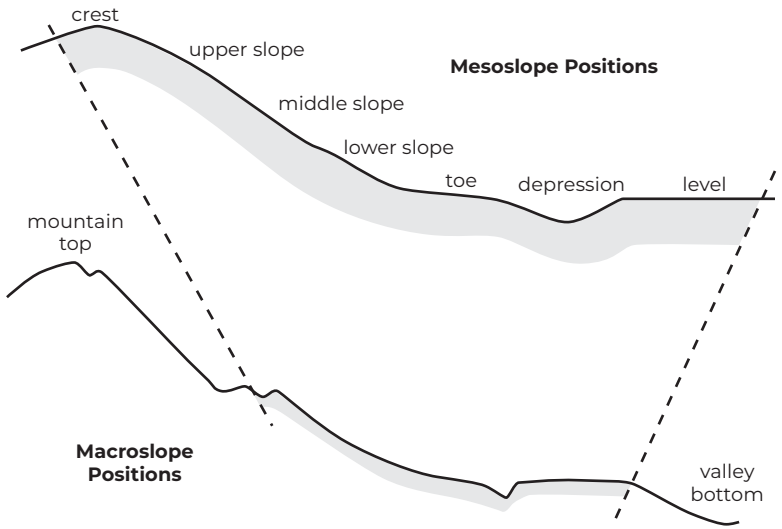


TABLE C-4

Surficial materials

MATERIAL	DEFINITION (VERBATIM FROM HOWES AND KENK 1997)
Colluvial	Materials that have reached their present positions as a result of direct, gravity–induced movement involving no agent of transportation such as water or ice, although the moving material may have contained water and/or ice.
Fluvial	Materials transported and deposited by streams and rivers.
Glaciofluvial	Materials that exhibit clear evidence of having been deposited by glacial meltwater streams either directly in front of, or in contact with, glacier ice.
Lacustrine	Sediments that have settled from suspension and underwater gravity flows, such as turbidity currents, in bodies of standing fresh water, or sediments that have accumulated at their margins through the action of waves.
Glaciolacustrine	Lacustrine materials deposited in or along the margins of glacial (ice–dammed) lakes; includes sediments that were released by the melting of floating ice.
Morainal	Material deposited directly by glacier ice without modification by any other agent of transportation.
Eolian	Materials transported and deposited by wind action.
Organic	Sediments composed largely of organic materials resulting from the accumulation of vegetative matter.

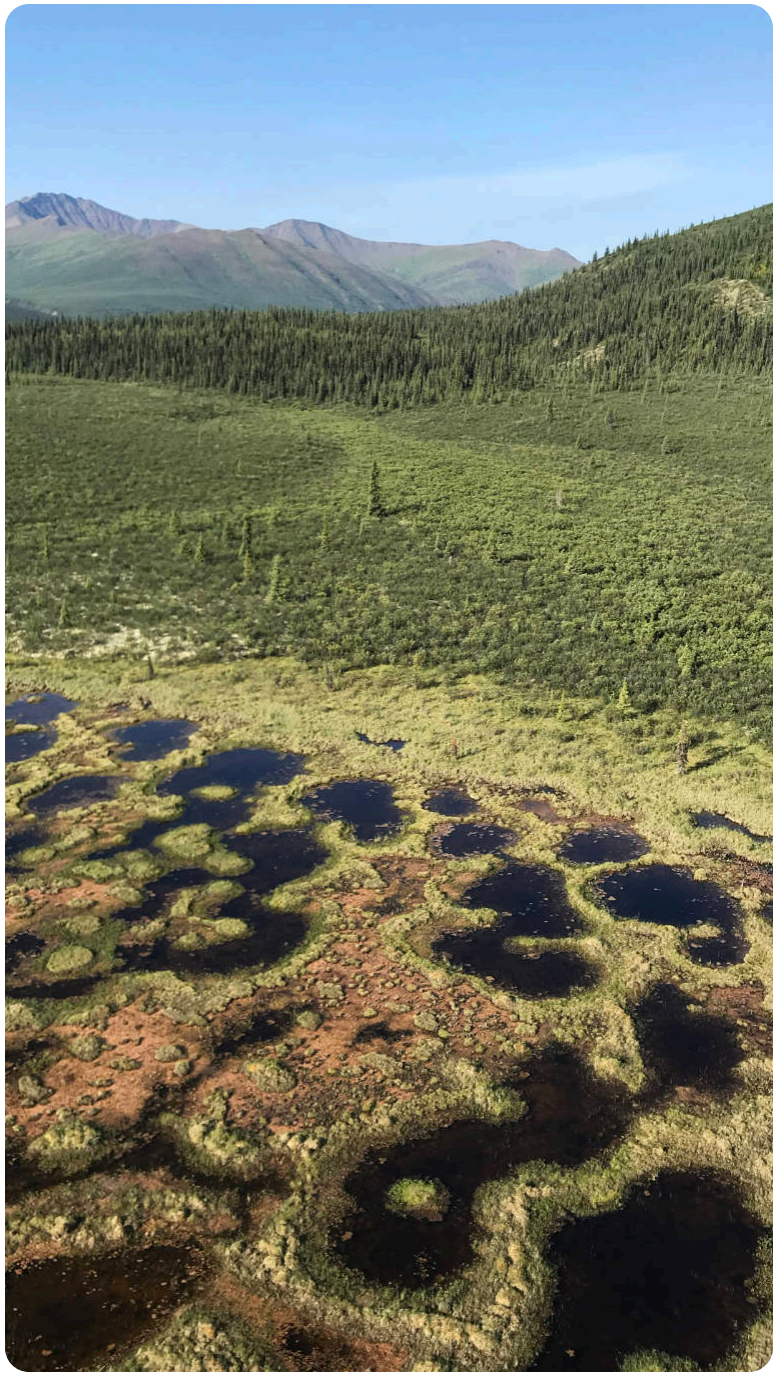
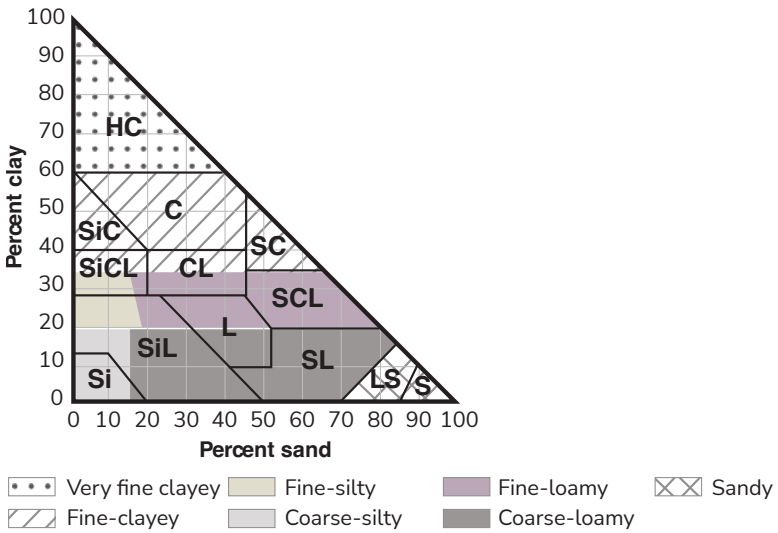


FIGURE C-2

Soil texture classes



CODE	NAME
HC	Heavy clay
C	Clay
SiC	Silty clay
SC	Sandy clay
SiCL	Silty clay loam
CL	Clay loam
SCL	Sandy clay loam
Si	Silt
SiL	Silt loam
L	Loam
SL	Sandy loam
LS	Loamy sand
S	Sand

Soil texture is defined by the size distribution of primary mineral particles (2 mm diameter or less). Textural classes are determined by estimating the percentage of clay (less than 0.002 mm diameter) and sand (0.05 to <2.0 mm diameter).

ORGANIC SOIL TEXTURES

Fibric: organic material readily identifiable as to plant origin; von Post scale of decomposition of class 1 to 4.

Mesic: organic material which is at a stage of decomposition intermediate between fibric and humic materials. The material is partly altered both physically and biochemically. Mesic material is usually classified on the von Post scale of decomposition as class 5 or 6.

TABLE C-5

Three main humus forms

FORM	DEFINITION
Mor	Characterized by matted Fm horizon and abundant fungal mycelia. Insect droppings absent.
Moder	Characterized by Fa or Fz horizon with loosely arranged, often granular structure reflecting insect activity; insect droppings present; fungal mycelia may also be present but not dominating; or characterized by having both F and Ah horizons greater than 2cm.
Mull	Characterized by well-developed Ah (dark coloured, organically enriched) mineral horizon reflecting active mixing of mineral and organic horizons.

FIGURE C-3

Key to wet-site humus forms

1.	**POOR TO VERY POORLY DRAINED SITES. HUMUS IS SATURATED FOR PROLONGED PERIODS. SOILS ARE GLEYSOLS, FIBRISOLS, MESISOLS, HUMISOLS, ORGANIC CRYOSOLS, OR GLEYSOLIC OR HISTIC SUBGROUPS OF TURBIC OR STATIC CRYOSOLS.**			
2a.	Combined thickness of F, H and O horizons <2 cm and Ah horizon >2cm		Hydromull	YL
2b.	Combined thickness of F, H and O horizons ≥2 cm			
	3a.	Thickness of F and H horizons ≥ O horizons		
		4a. F horizon(s) is Fm	Hydromor	YR
		4b. F horizon(s) includes Fz and/or Fa, F is not present or Ah ≥2	Hydromoder	YD
	3b.	Combined thickness of O horizons greater than F and H horizons		
		5a. O horizons ≤ 40cm and Ah horizon > 2cm	Moder	D
		5b. Of horizon >50% of thickness of O horizons	Fibrimor	FR
		5c. Om horizon >50% of thickness of O horizons	Mesimor	MR
		5d. Oh horizon >50% of thickness of O horizons	Saprimoder	SD

Modified from Department of Environment (2017).

TABLE C-6

Soil drainage classes and codes

CLASS	DEFINITION
Very rapidly drained	Water is removed from the soil very rapidly in relation to supply; water source is precipitation and water storage capacity following precipitation is essentially nil; soils are typically fragmental/skeletal, shallow, steeply sloping or all.
Rapidly drained	Water is removed from the soil rapidly in relation to supply; excess water flows downward if underlying material is pervious; subsurface flow may occur on steep gradients during heavy rainfall; water source is precipitation; soils are generally coarse-textured.
Well drained	Water is removed from the soil readily, but not rapidly; excess water flows downward readily into underlying pervious material or laterally as subsurface flow; water source is precipitation; on slopes, subsurface flow may occur for short durations, but additions are equalled by losses; soils are generally intermediate in texture and lack restricting layers.
Moderately well drained	Water is removed from the soil somewhat slowly in relation to supply because of imperviousness or lack of gradient; precipitation is the dominant water source in medium- to fine-textured soils; precipitation and significant additions by subsurface flow are necessary in coarse-textured soils.
Imperfectly drained	Water is removed from the soil sufficiently slowly in relation to supply to keep the soil wet for a significant part of the growing season; excess water moves slowly downward if precipitation is the major source; if subsurface water or groundwater (or both) are the main source the flow rate may vary, but the soil remains wet for a significant part of the growing season; precipitation is the main source if water storage capacity is high; contribution by subsurface or groundwater flow (or both) increases as available water storage capacity decreases; soils generally have a wide range of texture and some mottling is common
Poorly drained	Water is removed so slowly in relation to supply that the soil remains wet for much of the time that it is not frozen; subsurface or groundwater flow (or both), in addition to precipitation, are the main water sources; a perched water table may be present; soils are generally mottled and/or gleyed. Sites may be wetlands.
Very poorly drained	Water is removed from the soil so slowly that the water table remains at or near the surface for most of the time the soil is not frozen; groundwater and subsurface flow are the major water sources; precipitation is less important, except where there is a perched water table and precipitation exceeds evapotranspiration; this class is typically associated with wetlands.

Source for descriptions: Expert Committee on Soil Survey (1982).

TABLE C-7

Soil orders, great groups and subgroups mentioned in guide

SOIL ORDER	DEFINITION AND SUBDIVISIONS
Cryosol	Cryosolic soils are formed in either mineral or organic materials that have permafrost either within 1 m of the surface or within 2 m if the pedon has been strongly cryoturbated laterally within the active layer, as indicated by disrupted, mixed or broken horizons.
Gleysol	Soils have properties that indicate prolonged periods of intermittent or continuous saturation with water and reducing conditions during their genesis.
Brunisol	Soils of the Brunisolic order have sufficient development to exclude them from the Regosolic order, but they lack the degree or kind of horizon development specified for soils of other orders.
Regosol	Pedogenic development in Regosolic soils is too weak to form a recognizable B horizon that meets the requirements of any other order.
Organic	Soils of the Organic order are composed largely of organic materials. They include most of the soils commonly known as peat, muck, or bog and fen soils. Most Organic soils are saturated with water for prolonged periods.
GREAT GROUP	**DEFINITION AND SUBDIVISIONS**
Fibrisol	Organic Order: Soils of this great group are composed largely of relatively undecomposed fibric organic material. Fibric material is usually classified on the von Post scale of decomposition as classes 1-4.
Mesisol	Organic Order: Soils of this great group are at a stage of decomposition intermediate between Fibrisols and Humisols. Mesic material is usually classified on the von Post scale of decomposition as class 5 or 6.
Humic Gleysol	Gleysolic soil where Ah horizon is at least 10 cm thick and there is no Bt horizon.
Turbic Cryosol	Cryosolic soils that are formed in mineral materials, have marked evidence of cryoturbation and have permafrost within 2 m of the surface.
Static Cryosol	Cryosolic soils that are formed in mineral materials, do not have marked evidence of cryoturbation and have permafrost within 1 m of the surface.
Organic Cryosol	Cryosolic soils that are formed primarily in organic materials and have permafrost within 1 m of the surface.
Gleyed Regosol	Regosols that have faint to distinct mottles within 50 cm of the mineral soil surface.
Cumulic Regosol	Regosols that either have buried organic layers below the Ah horizon which vary in colour value by one or more units, or have organic matter contents that vary irregularly with depth.
SUBGROUP MODIFIERS	**DEFINITION AND SUBDIVISIONS**
Typic	Soils of this subgroup have the general properties specified for the order and great group.
Terric	Soils having a terric layer (an unconsolidated mineral layer at least 30 cm (thick) beneath the surface organic layer (tier).
Gleyed	Soils having faint to distinct mottles within 50 cm of the mineral surface, or distinct or prominent mottles at depths of 50 to 100 cm.

Source: The Canadian System of Soil Classification (CSSC 1998)

The following soil codes and modifiers are used in this report. A complete list of soil horizons is available in the Field Manual for Describing Yukon Ecosystems (2017).

TABLE C-8

Soil horizon codes and modifiers used in soil profile diagrams

CODES FOR MAJOR HORIZONS

CODE	DESCRIPTION
L	An upland horizon consisting of relatively fresh organic residues that are readily identifiable as to origin.
F	An upland horizon comprised of partly decomposed plant residues in which fragmented plant structures are generally recognizable as to origin. Fm (mycogenous): An F horizon in which plant residues are aggregated in a matted structure, with a tenacious consistence. The matted tenacious fabric typically features a felty character due to abundant fungal mycelia. Roots may be abundant contributing to the formation of the matted fabric. Fz (zoogenous): An F horizon in which plant residues are weakly aggregated with a loose or friable consistency. The friable fabric reflects the presence of active populations of soil meso- and micro-fauna, Faunal droppings are typically numerous and easily observed under magnification with a hand lens or binocular microscope. Fungal mycelia may be present, but rarely in large amounts. Root residues comprise a moderate proportion of plant residues and are typically less abundant than in Fm horizons. Fa (amph•): An F horizon in which plant residues are aggregated in a weak to moderate, noncompact matted structure. This is an intergrade between the Fm and Fz horizons and reflects properties of both.
H	An upland horizon comprised of well-decomposed plant residues in which plant structures are generally not recognizable.
O	A wetland organic horizon comprised of materials in varying degrees of decomposition. Of: O horizon which consists largely of fibric material that are readily identifiable as to botanical origin. Contains more than or equal to 40% rubbed fiber by volume. Von Post scale of decomposition (VP) =1-4. Om: O horizon which consists of mesic material, intermediate in composition between fibric and humic materials rubbed fiber content ranges from 10 to 40%. VP=5-6 Oh: O horizon which consists of humic material at an advanced stage of decomposition. Rubber fiber content is <10%. VP= 7-10
A	Mineral horizon, containing < 17% organic C by mass, that has formed at or near the soil surface in the zone of leaching or eluviation of organic materials in solution or suspension (Ae), or of maximum in situ accumulation of organic matter (Ah), or both.
B	Mineral horizon characterized by enrichment in organic matter, sequioxides or clay; or by the development of soil structure; or by a change of colour denoting hydrolysis, reduction, or oxidation.
C	Mineral horizon comparatively unaffected by the pedogenic processes operative in the A and B horizons, except the process of gleying (Cg), and the accumulation of calcium and magnesium carbonates (Cca) and more soluble salts (Cs, Csa).
W	This layer of water may occur in Gleysolic, Organic, or Cryosolic soils. Hydric layers in Organic soils are a kind of W layer as is segregated ice formation in Cryosolic soils.

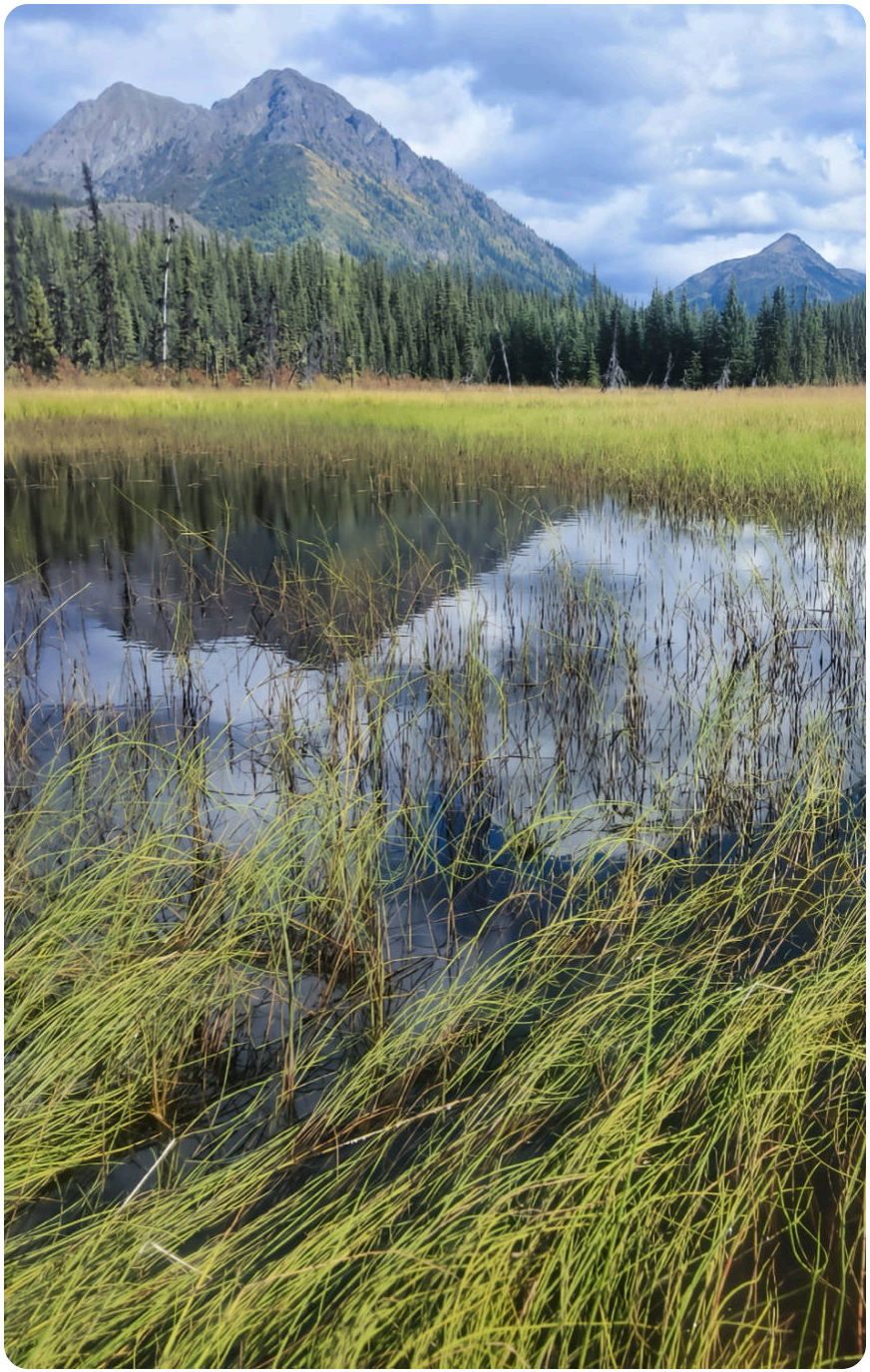
MINERAL HORIZON CODES

MODIFIER	DESCRIPTION
b	Buried soil horizon.
g	Horizon characterized by grey colours, or prominent mottling, or both, which indicates of permanent or periodic intense reduction. Chromas of the matrix are generally one or less. It is used with the Bg, Cg codes and others.
h	Horizon enriched with organic matter. It is used with the Ah, Ahe, Bh and Bhf codes. Ah: An A horizon enriched with humified organic matter, at least one colour value unit lower that the underlying horizon, or 0.5% more organic C than the C horizon or both.
m	Horizon slightly altered by hydrolysis, oxidation or solution, or all three to give a change in colour or structure, or both. It is used with the Bm, Bmgj, Bmk and Bms codes. It has: 1. Evidence of one of or more of the following: • higher chromas and redder hues than the underlying horizons • enrichment or complete removal of carbonates either as Bmk or Bm; and/or • change in structure from that of the original material. 2. Illuviation too slight to meet requirements of a Bt or podzolic B. 3. No cementation or induration and lacks a brittle consistence when moist.
z	A frozen layer, it may be used with any horizon or layer code[1]

[1] Based on Soil Classification Working Group (CSSC 1998).

MOTTLING DEFINITIONS

MOTTLES	DEFINITION
Prominent mottles	Mottles that differ by three or more hues from the matrix, or by ≥2 units of value or chroma when hue varies by two pages (using Munsell Soil Color Charts), by ≥3 units of value or chroma or both chroma and value differ by two when hue differs by one, or by 4 units of value or chroma if hue is the same.
Distinct mottles	Mottles that differ by two or more hues from the matrix or by 2 units of chroma and/or value when hue is the same or differs by one page (using Munsell Soil Color Charts).
Faint mottles	Mottles that do not meet the above criteria.



Von Post decomposition ratings offer a method to determine the degree of organic soil decomposition in the field. To determine peat decomposition in the field take a handful of organic soil in your hand and squeeze it. The extent of decomposition is determined by:

1. the nature of the liquid that is squeezed out,
2. how much organic material is extruded from the hand; and,
3. the nature of the plant matter.

TABLE C-9

von Post scale of decomposition

CODES FOR MAJOR HORIZONS

CODE/CLASS	DESCRIPTION
1	Undecomposed; plant structure unaltered; yields only clear water that is coloured light yellow-brown
2	Almost undecomposed; plant structure distinct; yields only clear water that is coloured light yellow-brown
3	Very weakly decomposed; plant structure distinct; yields distinctly turbid brown water, no peat substance passes between the fingers, residue not mushy
4	Weakly decomposed; plant structure distinct; yields strongly turbid water, no peat substance escapes between the fingers, residue rather mushy
5	Moderately decomposed; plant structure evident, but becoming indistinct; yields much turbid brown water, some peat escapes between the fingers, residue very mushy
6	Strongly decomposed; plant structure somewhat indistinct, but more evident in the squeezed residue than in the undisturbed peat; about one-third of the peat escapes between the fingers, residue strongly mushy
7	Strongly decomposed; plant structure indistinct, but recognizable; about one-half of the peat escapes between the fingers
8	Very strongly decomposed; plant structure very indistinct; about two-thirds of the peat escapes between the fingers, residue almost entirely resistant remnants such as root fibres and wood
9	Almost completely decomposed; plant structure almost unrecognizable; nearly all the peat escapes between the fingers
10	Completely decomposed; plant structure unrecognizable; all the peat escapes between the fingers

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Yukon