

Guide to ECOLOGICAL SITES OF THE CENTRAL MIXEDWOOD SUBREGION



ECOLOGICAL SITES OF THE CENTRAL MIXEDWOOD SUBREGION

Third approximation
2021

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Executive Summary

The Central Mixedwood subregion covers 25% of the province and is dominated by aspen, with jack pine on coarse textured soils, and black spruce, willows, and sedges in the poorly drained areas. The vegetative communities in these subregions are important because they provide summer range for livestock, prime habitat for many species of wildlife, productive watersheds, recreational areas and timber production. As a result guides like this and "Ecosites of Northern Alberta" (Beckingham and Archibald 1996) were developed to provide a framework that will easily group the vegetative community types. It is hoped these classification systems can be used by resource managers to assess the ecology of the sites and develop integrated management plans within each region.

This guide represents the analysis of 1787 plots described within the Central Mixedwood subregion. These plots were used to determine the following types of plant communities:

Central Mixedwood subregion:

Graminoid and shrubland types (CMA code)

Deciduous community types (CMC code)

Mixedwood and Conifer community types (CMD code)

This guide also recognizes the variability of plant community successional outcomes when numerous management options are applied to tame (i.e. seeded) pasture (CMF code) or cutblock development (CME code).

Acknowledgements

Landscape classification is the process of breaking the landscape into definable and manageable pieces through a hierarchical classification. In the early 1990's the forested landscape of Alberta was classified using a well organized hierarchical system (Archibald/ Beckingham / Klappstein/Corns). Unfortunately this left about 50% of the remaining natural landscapes of the province unclassified. Starting in the late 1990's rangelands undertook efforts to classify the rangelands of Alberta. A need for consistency across the province was recognized. Therefore a hierarchical classification that built on the forested classification was used for all forest dominated subregions in the province.

In 1999 the Rangeland Health Assessment Project was initiated. Its purpose was to coordinate the development of rangeland health assessment methods and ecological site descriptions for both forested and grassland dominated rangelands in the province and transfer the new technology (awareness, information and tools) to livestock producers, staff and other stakeholders. At this time a website (ESD) was also developed to store the rangeland ecological data, but there was insufficient funds to develop hard copy reports from the website. In 2005 funding was provided by Prairie Farm Rehabilitation Administration (PFRA) of Agriculture and Agri-Food Canada through the technical assistance objective of the Green Cover program and hard copy pdf documents were made available from the old ESD website. In 2010 funding was provided by Policy and Planning Division, Alberta Environment and Parks to upgrade the ESD website to ECOSYS in order to produce hard copy pdf documents from the new website (securexnet.env.gov.ab.ca/EcoSysExternal/).

This document is an update of the work done by Beckingham and Archibald (1996) on the forested ecosites of the Boreal Mixedwood natural region. It also includes work done on the "Range plant communities and carrying capacity for the Dry and Central Mixedwood subregions of Alberta, Eighth Approximation" . This guide also encompasses the work of Michael Willoughby and Karen Sundquist (who worked on previous approximations), Dave Downing who developed the classification for the deciduous communities in the Eastern ecodistricts of the Dry Mixedwood (Downing and Karpuk 1992) and developed a forage gap analysis for the Mixedwood subregions (Downing 2000). It also incorporates the work done by Thompson and Hansen (2002) on the lotic and lentic communities of the Central and Dry Mixedwood subregions. As we collect new research information and our understanding of boreal ecology builds, the guide will continue to evolve. The intent is to produce ecological base information which will be used to develop management tools for northern livestock producers, resource managers and other stakeholders of Alberta's boreal natural region. This knowledge will aide in the sustainable use of forested plant communities, and maintain the health and proper functioning of these ecosystems.

Introduction and Background

Natural landscapes in the province of Alberta are highly regarded by most resource managers for their ability to provide a wide variety of benefits. They are a classic example of multiple use land, providing summer range for livestock, prime habitat for many species of wildlife, productive watersheds, and recreational areas. Despite the importance of these vegetation types there is limited information on their ecology. Land use decisions and sustainable resource management requires an understanding of the basic ecology of the site, as well as the ability to anticipate its' response to various types and levels of natural or applied disturbance. This information is also required to accommodate multiple uses and values.

The province of Alberta is covered by a broad spectrum of vegetation regions from prairie in the south, to alpine vegetation in the mountains and dense forests in the central and northern parts of the province. These broad vegetation regions were originally classified into six regions and 20 subregions (Dept. of Environmental Protection, 1994). This work was reviewed and the six regional boundaries updated and subdivided into 21 subregions (Natural Regions Committee, 2006).

The purpose of this guide was to develop a framework that would easily group the ecological sites and vegetative community types in the Central Mixedwood Natural Subregion of the province. Ecological site classification helps to organize our current understanding about ecosystem function. This organization is achieved by grouping research plots into similar and functional units that respond to disturbance in a similar and predictable manner.

The ecological site classification system outlined in this document organizes ecological information into a format that facilitates understanding and provides a structure for ecologically based management. The system has been developed primarily as a field tool to complement the user's knowledge about ecological site classification, soil description, and plant identification. The objectives of the ecological site classification are:

1. to facilitate the application of ecological information to decisions on a wide variety of activities within the realm of land resource management
2. to facilitate the collection and organization of information to expedite the development of resource management applications and decision support systems
3. to promote communication among resource managers and between managers and the public
4. to provide a common basis for integrated planning, and
5. to reduce resource management costs by integrating ecological information into the decision-making process.

Within the Boreal Forest Natural Region, Beckingham and Archibald (1996) developed a framework that grouped plant communities existing under similar, localized, environmental conditions (i.e. ecosites). This guide uses a similar ecological classification system that groups plant community types based on ecological site (i.e. edatopic information; the moisture and nutrient regime) and ecological site phase (i.e. dominant canopy cover; e.g. native graminoid, deciduous tree, shrub). This guide supplements Beckingham and Archibald (1996) by expanding the number of native grassland and shrubland plant communities described, and by including disturbance related communities. Based on current knowledge, each identified plant community is described in detail and the known relationships among communities are described in table format and/or schematically.

This approximation accounts for the natural subregion boundary changes which occurred in 2006. It also recognizes the variability of plant community successional outcomes when numerous management options are applied to tame pasture or cutblock development. As a resolution to this complexity, generalized plant communities are described to categorize the most common results of these land uses and the implications for rangeland management.

Physiography, Climate and Soils

Please note this summary of Natural Subregion characteristics is largely extracted directly from the Natural Subregions guide (Natural Regions Committee 2006) and is presented here for the reader's convenience.

The Central Mixedwood Natural Subregion occupies 25 percent of Alberta, stretching south from the Caribou Mountains and Cameron Hills to just north of Red Deer, and spanning the province from the British Columbia to Saskatchewan borders. It shares boundaries with most of the other boreal Natural Subregions, as well as with the Lower Foothills Natural Subregion. Elevations range from 200 m along the Peace River in the northeast to 1050 m in the extreme south. Gently undulating plains with some hummocky upland inclusions are the primary landforms. Parent materials are medium textured tills, fine textured lacustrine deposits, coarse textured fluvial and eolian deposits, and organic deposits.

The modal plant communities are vegetated by aspen and balsam poplar with understories composed of a variety of herbs and deciduous shrubs. White spruce and balsam fir are the climatic climax species but are not well represented because of the frequent occurrence of fire. On dry, well drained, coarse-textured soils jack pine dominates and the poorly drained sites are dominated by black spruce, willows and sedge species. These communities are very similar to the Dry Mixedwood subregion, but drier conditions of the Dry Mixedwood favours formation of a number of native grassland communities which are not found in the Central Mixedwood.

The Central Mixedwood Natural Subregion spans nearly 8° of latitude, and several climatic trends are evident from the Alberta Climate Model analyses. Part 2 and Figures 2-1 through 2-4 provide a discussion and illustration of the trends presented below. Modeled growing degree-days are fairly constant across much of the Central Mixedwood Natural Subregion, but are higher along the Athabasca River north and south of Fort McMurray and adjacent to the Peace–Athabasca Delta Natural Subregion (Figure 2-3). Modeled mean annual temperature become progressively cooler northward (Figure 2-1). The difference is most evident south and north of approximately 57° latitude. It is paralleled by a northerly increase in the continentality index (the difference between the average summer maximum and winter minimum temperatures). The most evident change occurs at about the same latitude as mean annual temperature, and indicates lower average modeled winter temperatures. Modeled mean annual precipitation shows a similar decrease from south to north, again with the most evident change in a band about 200 km wide centered on the 57th parallel (Figure 2-2). The modeled summer moisture index statistic indicates a higher potential for moisture deficits in the far northeastern part of the Central Mixedwood Natural Subregion than elsewhere.

The decreases in mean annual temperature and precipitation in moving north are likely related to the increasingly strong influence of dry, cold continental polar and continental arctic weather systems, as discussed in Part 1. The notably higher concentration of small lakes and the occurrence of more extensive wetlands south of the 57th parallel might be related in part to higher precipitation and lower potential moisture deficits in that area. The higher proportion of mixedwood and coniferous stands in the Central Mixedwood Natural Subregion compared to the Dry Mixedwood Natural Subregion might also be related to higher precipitation, which could reduce the size and intensity of lightning caused fires. Table 3-2 provides annual and seasonal climatic statistics, and Figure 4-5.1 gives monthly temperature and precipitation patterns.

The Central Mixedwood Natural Subregion is characterized by gently undulating plains with minor inclusion of hummocky uplands. It includes a large portion of the northern Alberta Plains with extensions into the Northern Plains, the Saskatchewan Plains, the northern part of the Eastern Alberta Plains and some lower elevation portions of the Northern Alberta Uplands. The underlying bedrock is mainly composed of Cretaceous shales with some sandstones and siltstones in the south and Devonian limestones, shales and siltstones in the northeast. Surficial materials are a mix of origins and textures. Well to imperfectly drained uplands occupy about 60 percent of the total area. Of this area, about one third is underlain by fine textured glaciolacustrine materials, one third by coarse glaciofluvial and eolian sands, and the remaining one third by coarse to fine textured till.

The other 40 percent of the Natural Subregion is blanketed by organic deposits but these are not evenly distributed. In flat lacustrine areas, up to 80 percent may be organic terrain but in hummocky areas, organic deposits might only occur over 20 percent of the area. Appendix 4 summarizes the proportional occurrence of landscape elements and parent materials in the Central Mixedwood Natural Subregion.

Approach and Methods of Classification

Approach:

Ecological classification hierarchy and terminology

The system of classification in this guide was initially based on the community type approach of Mueggler (1988). Mueggler's system was chosen over the habitat type approach (Daubenmire 1952) or ecosystem association approach (Corns and Annas 1986) because it could classify plant communities irregardless of their successional status. However, as the philosophy of proper functioning condition of a site evolved, it became apparent (through data analysis) that there was a need to also organize the various plant communities based on their response to disturbance (i.e. disturbance vs. natural succession) within an area under similar environmental influences.

It was determined that the ecosystem classification system developed by Corns and Annas (1986) and Beckingham and Archibald (1996) could accommodate this additional requirement. Thus, this classification system is a combination of Mueggler (1988) and Beckingham and Archibald (1996). Consequently, this guide adopts a similar ecological unit classification hierarchy (ecodistrict, ecosection, ecological site, ecological site phase, plant community). The ecological classification system is nested within Alberta's geographically based natural region and subregion classification system (Natural Regions Committee 2006).

Ecodistrict

The ecodistrict level is a unique pattern of slope, landform, soils and vegetation. Mapping of this unit is usually done at a scale of 1:1,000,000 to 1: 250,000 within the whole province (Strong and Anderson 1980). This level of the classification hierarchy is spatially defined and may or may not be unique to a subregion.

Ecosection

The natural subregion used by the Alberta Government is equivalent to the ecoregion defined by the Canada Committee on Ecological Land Classification (CCELC) as part of a multi-level national mapping system for Canada and that was used for integrated resource planning in Alberta (Marshall et al. 1996). Similarly, the ecodistrict as presently used and its associated scale of mapping is equivalent to the ecodistrict defined by the CCELC. However, the ecosection has a somewhat different meaning in the current context than it did in the national system or than it did when it was applied to integrated planning maps in Alberta in the 1980's and 1990's. For those mapping projects, the ecosection was a subdivision of the ecodistrict and was mapped at 1:20 000 to 1:50 000 as a more specific delineation of recurring landform and vegetation patterns, usually with reference to major community type groups or soil subgroups. In the current scheme, the ecosection is a term used to define one ecodistrict or an aggregation of ecodistricts that represent one or more climatic variants within a natural subregion; therefore, its mapping scale is flexible. This level of the classification system is not spatially defined. The ecosection is a unique pattern of slope, landform, soils and vegetation and may also represent a slight change in the climate of a subregion. Mapping of this unit is usually done at a scale of 1:1,000,000 to 1:100,000 and can be a grouping of ecodistricts or at smaller scales outliers in a subregion. For example the Lower Boreal Highlands subregion is split into the foothills and boreal ecosections which are influenced by their proximity and location within the Boreal and Foothills Natural Regions. Spatially these two ecosections are split by grouping ecodistricts. In contrast an example of a smaller scale ecosection (1:100,000) is the Cypress Hills outlier of the Montane subregion. Subregion ecosections have a characteristic sequence of ecological sites according to soil moisture regime (SMR) and, to a lesser degree, soil nutrient regime (SNR). Currently there is no ecosection described for this subregion.

Ecological Site

Ecological sites are ecological units that develop under similar environmental influences (climate, moisture, nutrient regime). They are groups of one or more ecological site phases that occur within the same portion of

the edatope (moisture/nutrient grid). Each ecological site is designated with a small letter. These letters range from "a" the driest ecological site and the last letter being the wettest. Each ecological site has been given a name that conveys some information about the ecology of the unit. Ecological sites are typically named after plant species that are common or typical of the site (eg. e low-bush cranberry). The plant that the ecological site is named after, however, may not be present in every plot or stand belonging to the site. Ecological site in this classification system, is a functional unit defined by moisture and nutrients. It is based on the combined interaction of biophysical factors which together dictate the availability of moisture and nutrients for plant growth. Thus, different ecological sites vary in their moisture and nutrient regime and have similar characteristic plants and soils.

Ecological site phase

An ecological site phase is a subdivision of the ecological site based on the dominant species in the canopy. On lowland, meadow or grassland sites where tree canopy is not present the tallest structural vegetation layer with greater than 5% cover determines the ecological site phase. Generally, ecological site phases are mappable units and spatial ecological site phase land cover datasets have been developed from AVI (Alberta Vegetation Inventory) (Derived Ecosite Phase (DEP)) and PLVI (Primary Land Vegetation Inventory). Ecological site phases are identified by the ecological site letter "a" along with a number "a1" representing the phase within the ecological site. Ecological site phases have a distinct range in canopy composition, lower strata plant species and pedogenic processes. The ecological site phase has a strong ecological basis and correlates well with forest cover on forest inventory maps.

Plant community type

Ecological site phases may be subdivided into plant community types, which are the lowest taxonomic unit in the classification system. While plant community types of the same ecological site phase share vegetational similarities they differ in their understory species composition and abundance. Generally the plant community types are named by combining the name of the dominant plant species in each structural layer (eg. White spruce/Horsetail/Moss)

Methods:

Plant community classification

Data used to create this guide were collected from field plots within the Central Mixedwood subregion. One thousand, seven hundred and eighty-seven plots were used to create the classification for this subregion. Field inventory for these plots generally followed the Ecological Land Survey Site Description Manual (2003) and uses various site, vegetation and soils forms. Plot data was analyzed using the multivariate analysis techniques of classification and ordination. Classification is the assignment of plots to classes or groups based on the similarity of species within each plot. A polythetic agglomerative approach was used to group the samples. This technique assigns each plot to a cluster which has a single measure. It then agglomerates these clusters into a hierarchy of larger and larger clusters until finally a single cluster contains all the plots (Gauch 1982). The cluster analysis was performed in SAS with Euclidean distance used as the Cluster Distance Measure and Ward's method was used in the Group Linkage Method. The groupings generated in cluster analysis were overlain on the site ordination to determine final groupings.

Ordination was used to find relationships among species, communities and environmental variables. Ordination reduces the dimensionality of the data to 1-3 most important axes to which environmental gradients can be assigned. The ordination technique used in the analysis of the data was DECORANA (Detrended Correspondence Analysis). Once final groupings were determined on the ordination specific environmental variables can be assigned to the variation outlined on the ordination axes.

Plant community summaries were generated by averaging plant species composition, range in composition, and percent constancy of occurrence, among vegetation inventory plots which were part of a community type. Environmental data was sorted into the same plant community groupings to create the plant community descriptions outlined in this guide. The number of vegetation sample plots on which the description was based

is also provided (e.g. n=16).

Ecological Health and Ecological Status Score

Ecological health is determined by comparing the functioning of ecological processes on an area (e.g. plant community polygon) of to a standard (i.e. Reference Plant Community) described within an ecological site description. An ecological site is defined by the Task Group on Unity and Concepts (1995) as, “a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation”. This guide can be used to determine the appropriate reference plant community, within an ecological site, for a health assessment. We use health terminology (healthy, healthy with problems, or unhealthy), to rank the ability of the land to perform certain ecological functions. These functions include: net primary production, maintenance of soil/site stability, capture and beneficial release of water, nutrient and energy cycling and plant species functional diversity. For a detailed description on how to assess health for various plant communities please refer to “Rangeland Health Assessment for Grassland, Forest and Tame Pasture” (Adams et al. 2016).

An ecological status score (i.e. the integrity of the plant community composition compared to the reference plant community) has been added to each community type description. These values are based on what is currently known about how a reference plant community (RPC) responds to various kinds and levels of disturbance or successional processes. The values indicate how a particular plant community fits in the state and transition model relative to the RPC. If an experienced observer wishes to estimate the health of a plant community without completing a health form, (e.g. a small riparian area), these values can be used as a guide. Occasionally there are 2 options provided for the ecological status score. This was done for two reasons: 1) to express the range of divergence from the RPC possible for a particular plant community; or 2) to allow for different health forms to be used in communities with variable shrub or tree cover (e.g. on sites with high woody cover and/or an obvious LFH layer use the forest rangeland health form and the corresponding ecological status score; on sites dominated by herbaceous cover and/or an obvious herbaceous litter layer use the native grassland form). Late seral plant communities tend to be superior in the efficient capture of solar energy, in cycling of organic matter and nutrients, in retaining moisture, in supporting wildlife habitat values and in providing the highest potential productivity for the site (Adams et al. 2016). In contrast, early seral disturbed stages represent plant communities with diminished ecological processes, which are less stable and more vulnerable to erosion and invasion by weeds and non-native species. In most cases these late seral plant communities are used as the RPC, but sometimes management goals influence the choice of RPC (e.g. a cut block to be maintained as untimbered rangeland).

Correlation of Soils and Ecological Sites

Please note this summary of Natural Subregion characteristics is extracted directly from the Natural Subregions guide (Natural Regions Committee 2006) and is presented here for the reader's convenience.

The Central Mixedwood Natural Subregion is characterized by a mix of aspen-dominated deciduous stands, aspen-white spruce forests, white spruce and jack pine stands on upland terrain. Wet, poorly drained fens and bogs overlie almost half the area. Vegetation environment relationships are similar to those of the Dry Mixedwood Natural Subregion, with the main differences being a greater conifer presence and a larger array of moist-to wet communities in the Central Mixedwood

Grasslands are very rare in the Central Mixedwood Natural Subregion, occurring only as patches in jack pine or black spruce forests on dry, coarse, well drained soils. Species include northern rice grass, Rocky Mountain fescue, dryland sedges, and plains wormwood. Jack pine stands with lichen and bearberry understories are associated with rapidly drained, coarse textured glaciofluvial or eolian deposits. On coarse textured deposits where the water supply is somewhat greater, jack pine, aspen and white spruce occur in pure or mixed stands; understories include bearberry, common blueberry, green alder, prickly rose, wild lily-of-the-valley and hairy wild rye. Soils are typically Brunisols or weakly developed Gray Luvisols. These stand types occur extensively in the eastern part of the Natural Subregion near the Alberta–Saskatchewan border.

Reference community types on sites of average moisture and nutrient status in the Central Mixedwood Natural Subregion are aspen and aspen–white spruce stands with understories of low bush cranberry, rose, green alder, Canada buffaloberry, hairy wild rye, bunchberry, wild sarsaparilla, and dewberry. Typical soils are moderately fine textured Gray Luvisols and gleyed subgroups. White spruce–balsam fir–feathermoss communities develop if stand replacing fires do not occur for a sufficiently long period. Along the Lower Foothills–Central Mixedwood boundary and at higher elevations in northern hill systems, lodgepole pine–jack pine hybrids occur as pure stands or with aspen.

Jack pine and black spruce stands with understories of common Labrador tea, bog cranberry and feathermosses occur on nutrient poor sites. On wetter sites, black spruce is typically the leading species, and white spruce may also occur with black spruce where nutrient supplies are somewhat better. Soils are moderately well to poorly drained, variable textured Luvisols and gleyed subgroups, Brunisols and Gleysols.

On moist, rich sites, balsam poplar, aspen and white spruce occur as pure or mixed stands with understories of red-osier dogwood, prickly rose, and a diverse array of herbaceous species in deciduous and mixedwood stands or a carpet of feathermosses and horsetails in coniferous stands. Soil textures are variable, and soils are predominantly gleyed Luvisols. Species-poor black spruce fens with common Labrador tea, peat moss and feathermosses and willow–dwarf birch shrublands with sedges and bluejoint are the most common wetland types. Tamarack, golden moss, and rich-site forbs and sedges are associated with better nutrient supplies. Organic soils are dominant, but Gleysols also occur.

Mineral soils are predominantly Gray Luvisols, but Dystric and Eutric Brunisols are associated with coarse textured sands that occupy about 10 percent of the area. Many of the Luvisols on these low-relief landforms are imperfectly drained and gleyed, and Solonchic intergrades are associated with some of the glaciolacustrine sediments.

Mesisols are the dominant Organic soils occurring under fens and bogs, with Terric subgroups commonly occurring. Fibric Mesisols, Fibrisols and sometimes Cryosols are associated with bogs. Orthic and Peaty Gleysols occur over about 5 percent of the area. Appendix 7 summarizes the proportional occurrence of soil types in the Central Mixedwood Natural Subregion.

Guidelines for Determining Ecological Sites

Alberta currently uses two ecological classification methods to determine ecological sites. In the agricultural settlement area of the Province, resource managers can determine site soil conditions using AGRASID (Agricultural Region of Alberta Soil Inventory Database). In the Rocky Mountain, Foothills and Boreal Natural Regions, the Ecological Landscape Classification approach incorporates both vegetation and site conditions (climate, soils and geology) into a hierarchical ecological unit classification (e.g. subregion, ecodistrict, ecosection, ecological site, ecological site phase, plant community) (Strong and Thompson 1995). Ecological sites are areas of similar climate, moisture and nutrient regimes. The combination of moisture and nutrient regimes can be represented on a two-dimensional grid called the edatope grid. The edatope grid is a two-dimensional table with soil moisture regime decreasing from bottom to top along the vertical axis and soil nutrient regime increasing from left to right on the horizontal axis. Soil moisture regime (SMR) is defined as the average amount of soil water available annually for evapotranspiration by vascular plants (Meidinger and Pojar 1991). The SMR uses nine classes to define the available soil moisture, which range from the driest (very xeric) to the wettest (hydric). Soil nutrient regime (SNR) is defined as the amount of essential soil nutrients that are available to vascular plants over a period of several years (Meidinger and Pojar 1991). SNR is broken down into five classes that range from A (very poor) to E (very rich). Generally ecological sites are named from low moisture/low nutrient to high moisture/high nutrient. Ecological sites within a Natural subregion are defined unique combinations of soil moisture and nutrients. These conditions, in addition to climate, terrain, and elevations create conditions favourable to specific suite of plants referred to as Indicator species. For example a site with a subxeric moisture regime and poor nutrient regime site is characterized by the "a" [bearberry (subxeric/poor)] ecological site. A resource manager can review the indicator plant species of the ecological site, plant community types, soils and site conditions to see if the plant community in question fits the general descriptions. The following steps provide a framework for determining ecological sites.

Step 1 Review background information and pre-stratify the area to be classified

Review information about the area of interest to learn what you can about the landscape and ecology. Consult the natural subregions and Derived Ecosite Phase (DEP) or Primary Land Vegetation Inventory (PLVI) maps to ensure you are using the correct subregion guide. DEP and PLVI classification will also give you the common ecological site phase for a particular forest polygon.

Step 2 Carry out a quick reconnaissance of the site to be classified

Take note of the variability and relationship between topography and position on the landscape and the general plant species distribution including trees and understory. Check the DEP and PLVI ecological site phase maps.

Step 3 Choose a location that appears to be representative of the area to be classified

Locate an area for your assessment that appears to be representative of the site to be classified, and is homogeneous in slope, plant cover, and overstory canopy conditions as possible. Avoid locating the sample in areas that have received significant natural or artificial disturbance. Also avoid ecotone areas or relatively small areas that are transitional between homogenous ecological units such as slope breaks.

Step 4 Determine the plant species composition and abundance

Determine the plant species composition and abundance within a 10x10 m plot. Also record any species that appear to be representative of the ecological unit but occur outside the plot within the same slope position and on the same parent materials. Abundance is estimated by determining the amount of ground area that is covered by the plant species when its canopy is projected onto the ground surface (Ecological Land Survey Site Description Manual 2003).

Step 5 Determine the important soil properties

To collect soils data, a soil pit must be dug or augered. In most cases a soil pit 60 cm deep will be adequate. A deeper pit is required when the soil has a coarse to moderately coarse texture. In these cases the pit is dug deeper to see if there are finer-textured layers that are influencing ecological function below the 60 cm of coarse material. A deeper pit is also required when the plant community on the site cannot be explained by the site conditions and soil conditions above 60 cm. The minimum soils data that should be collected within a plot to classify it correctly are organic matter thickness, humus form, Ah horizon thickness, surface texture, effective texture, presence of seepage, depth to mottles, depth to gley, coarse fragment content, parent material/landform and drainage.

Step 6 Determine important site properties

Important site variables that should be collected include topographic position, slope and aspect. Moisture regime, and nutrient regime are synthetic variables that are derived from integration of site, soil and vegetation attributes.

Step 7 Determine the natural subregion, ecological site, ecological site phase and plant community type.

There are several ways to determine the ecological site, ecological site phase and plant community type. The first way is to assign an ecological classification to a site is to use the field data collected and go through the various subregion guides to identify the ecological site. You can also use the dichotomous keys to ecological site and ecological site phase. Once you find a potentially correct plant community type, check the soil, site and vegetational characteristics of your site to make sure it matches the ecological site, ecological site phase and plant community type on the various fact sheets. To consider all ecological site choices, you must compare the characteristics of your site, with the descriptions on the fact sheets for all ellipses that overlap the moisture and nutrient classes of your site on the edatope grid for the subregion and adjacent subregions within the area (Ecological Land Survey Site Description Manual 2003).

How to use the Guide

Organization of the guide

This guide is an expansion of the Ecosites of Northern Alberta guide (Beckingham and Archibald 1996). It contains new information and it is recommended that the reader has access to relevant information from both guides. The community types in this guide are closely related to the ecosites and ecosite phases outlined in Ecosites of Northern Alberta (Beckingham and Archibald 1996), and are similarly arranged (e.g. Table 1). Table 1 is a reproduction of Figure 1 in Ecosites of Northern Alberta with community types in this guide further separated into reference plant communities, successional communities and harvesting and fire communities. The "Successional community types" or "Harvesting and Fire succession" categories outline the successional sequence the community types undergo with heavy grazing pressure, harvesting or fire disturbance.

The bulk of this guide is community descriptions which include information on the dominant plant species, canopy cover, environmental conditions and response to grazing. When available, we have included plant community successional information to help us determine ecological health and the successional relationships on an ecological site.

Generally ecological units within a subregion are classified by their position on the edatopic grid [a specific combination of soil moisture and soil nutrient regime].

The information in this guide is presented and named by:

1. Subregion/Ecological area = Central Mixedwood (CM)

2. Dominant cover type

A. Native shrublands and grasslands

C. Deciduous forest

D. Conifer and Mixedwood forest

E. Harvested or Burned forest

F. Tame pasture types

3. Community types are presented and named by:

a. Subregion/Ecological area and dominant cover type [e.g. CMA (native shrubland and grasslands)].

NOTE: As additional information is collected and new ecological units are identified and described, an attempt is made to fit them into the pre-existing ones. At times the usual conventions of naming and organization have to be compromised to accommodate the new units. Sometimes it was necessary to add an additional letter to an existing name to wedge the new unit into the appropriate place within the pre-existing ones. For example, the extra letter in the new ecological site "ff" and the pre-existing ecological site "f".

How to read the fact sheets

The field guide contains 4 types of fact sheets: One for ecosection, one for ecological site, one for ecological site phase and one for plant community type.

Ecosection

There is an identification code at the top of the ecosection fact sheet and a name followed by the number of sample sites (pg 30). Each ecosection has been given a name that conveys information about the location of the unit and are frequently named after a general location within the subregion (Ecosection: Central Mixedwood (CM) of the Central Mixedwood subregion). A short text description of the site is given under the General Description (pg 30), this is followed by a picture or a cross section diagram and map of the ecosection (pg 30). The section on successional relationships gives a brief note about the spatial locations and

differences in ecosections (pg 30). This is followed by a list of environmental variables (elevation), ecodistricts and ecological sites associated with the ecosection (pg 30). Currently there are no ecosections for the Central Mixedwood subregion.

Ecological site

There is an identification letter at the top of the ecological site fact sheet and a name, moisture and nutrients followed by the number of sample sites (pg 31). Each ecological site has been given a name that conveys information about the ecology of the unit and are frequently named after a common plant species. A short text description of the site is given under the General Description (pg 31), this is followed by a picture or a cross section diagram of the ecological site (pg 31). The section on successional relationships gives a brief note about the temporal development of the ecological site (pg 31). It generally describes the successional relationships among the ecological site phases and plant community types. Plant species that are indicators of the ecological conditions on the site are listed (pg 31). Site index at 50 years of age at breast height (1.3 m) is presented next (Beckingham et al. (1996)). The mean site index is presented in meters followed by the standard error and the number of trees used to calculate the mean (pg 31). Environment and soil variables are then listed and represent a roll-up from the plant community and ecological site phase descriptions (pg 31). Variables that represent environment and soils have a number (1) that indicates the number of the samples in which each variable class occurred. Data has been collected and analyzed from many sources over 40 years and data gaps may exist for many variables. The frequency of occurrence value indicates the number of sampled plots for which data was collected for that variable at the Ecological site, Ecological site phase and plant community fact sheets. Optional variables such as soil exposure, LFH thickness, forage production and stocking rate for livestock may also be listed and represent a roll-up for the plant community and ecological site phase.

Ecological site phase

There is an identification code at the top of the ecological site phase fact sheet and a name followed by the number of sample sites (pg 32). Each ecological site phase has been given a name that conveys information about the dominant tree species or lifeform (shrubland, grassland, tame/disturbance) of the unit and are frequently named after a common plant species. A short text description of the site and successional information maybe given under the General Description or Successional relationships (pg 32) if it provides more detail than is available on the ecological site fact sheet. Plant species that are indicators of the ecological conditions on the site are listed with the average cover summarized from the various plant communities (pg 32). Indicator species for the ecological site phase are identified with an asterix "*" and are rolled-up to develop the indicator species list for the ecological site fact sheet. Environment and soil variables are then listed and represent a roll-up from the plant community (pg 32). Optional variables such as soil exposure, LFH thickness, forage production and stocking rate for livestock may also be listed and represent a roll-up for the plant communities.

Plant community

There is an identification code at the top of the plant community fact sheet and a name followed by the number of sample sites (pg 33). The name of the plant community is generally the common name of the indicator plant species within the various lifeform layers (tree, shrub, forb, grass, lichen, moss). This is followed by the latin name of each indicator species and a general description of the community type describing its unique ecology. Plant species that are indicators of the ecological conditions on the site are listed with the mean cover summarized, range in cover and overall constancy (frequency of plots that the species was described (pg 33)). Environment and soil variables are then listed and represent a roll-up from the various plots and assessments (pg 33). Optional variables such as soil exposure, LFH thickness, forage production and stocking rate for livestock may also be listed and represent a roll-up for various plots.

Results

This guide represents the analysis of 1787 plots described in the Central Mixedwood subregion. The 1787 plots represent 13 ecological sites. The various community types fit within these broad categories of disturbed and undisturbed forested and non-forested community types:

The dominant plant species, canopy cover, environmental conditions and response to grazing are outlined for each type.

General Ecological Descriptions

Herbaceous and shrubland communities

Upland native grasslands are very rare in the Central Mixedwood. The communities that have been described occur on coarse textured, sandy soil, with xeric to subxeric moisture and poor nutrient regimes which lack tree cover. This includes the Plains wormwood/Sedge plant community (PC). This PC is usually found in association with jack pine dominated community types. When growing conditions improve to subxeric to submesic moisture and poor to medium nutrients, open areas are occupied by oat grasses, sedges, and blueberry species (e.g. Saskatoon/Intermediate oat grass PC (CMA21)) and sedge Western porcupine grass (CMA23) on more mesic sites.

Upland shrub types develop when soil conditions are too poor for tree growth or tree canopy has been removed mechanically or by fire. On level, gravelly, well-drained sites adjacent to streams and rivers the Snowberry/Kentucky bluegrass PC is common. This community is extensively utilized by livestock. Choke cherry dominated sites may develop on areas with variable moisture availability associated with soil veneers over landforms shaped by glacial-fluvial or eolian deposits. There is enough soil moisture to support a healthy shrub community. These sites will eventually succeed to thin aspen or spruce overstories.

Swamp horsetail, tall manna grass, common reed cane grass, cattails and bulrushes are associated with marshes (areas of free standing water for a significant part of the growing season; hydric/rich). Whereas, sedges and reed grasses (*Calamagrostis* spp) dominate the drier edges of marshes or areas that have standing water only during spring runoff (i.e. fens). Willow will encroach into these fens to form the Willow/Sedge and Willow/Reed grass PCs. Under grazing pressure these community types tend to be invaded by dandelion, clover and Kentucky bluegrass to form the disturbance community types (e.g. Willow/Sedge fen disturbed).

Deciduous forest communities

Balsam poplar is most commonly found on moist upland and alluvial bottomland sites; its best growth is on moist rich bottom lands with deep soil (Peterson and Peterson 1992). In this approximation, five stands with predominant balsam poplar (Pb) cover are described in the Central Mixedwood. These community types occur on subhygric rich (i.e. e ecosites) integrate into the slightly elevated Aw/Rose dominated community types on mesic/medium ecosites (i.e. d ecosites).

White birch is indicative of well-drained, sandy or silty loams (Wilkinson 1990). In Alberta this tree is found in association with balsam poplar on moist sites adjacent to small creeks and lowland areas. Pure stands of Alaska variety white birch are also found on dry sandy ridges with high watertables throughout northern Alberta. Beckingham (1993), found that white birch was well adapted to growing on a soil with a pH of less than 5.3. The White birch/River alder-Willow dominated community type may be indicative of sites with slightly lower pH's.

Sites with submesic to mesic moisture, tend to be dominated by aspen and rose. It is the underlying soil conditions and site history that appear to dictate which forb and shrub species will dominate these mesic sites. Blueberry and twinflower appear to indicate sandy soils with poorer nutrient regimes (i.e. b ecosites). An abundance of tall forbs (Aw/Rose/Tall forb) appears to be indicative of higher nutrient regimes (i.e. d ecosites) that have not been subjected to long term heavy grazing by livestock. Increased grazing pressure on the reference PC Aw/Rose-tall forb, leads to the formation of Aw/Rose low forb and then disturbance species (e.g. strawberry, dandelion, Kentucky bluegrass) dominated community types (Pb-Aw/Rose high disturbance).

The Aw/Rose-Saskatoon community was described on south and west facing slopes overlooking lakes, streams and rivers. This community is very similar to the community that was described in the Dry Mixedwood

subregion. On sites with rich nutrient regimes dogwood and horsetail dominated communities are very common. The Aw/Horsetail community is usually found on moister sites than the Aw-Pb/Red osier dogwood-Rose community type.

Coniferous and mixedwood forests

The mixedwood and coniferous community types described in this guide represent ten of the ecological sites as described by Beckingham and Archibald (1996). On sites with subxeric moisture and poor nutrient regimes, coarse textured, sandy soils open stands of jack pine generally dominate (Pj/Alder, Pj/Bearberry). These community types commonly have a carpet of lichens covering the forest floor and a thin organic layer typically less than 5 cm thick (Beckingham and Archibald 1996).

On slightly moister sites with submesic moisture and medium nutrient regimes aspen grows with jack pine to form the Pj-Aw/Bearberry/Lichen community type. The soils of this PC are still coarse-textured but the moisture and nutrient conditions are more favourable for the growth of aspen. The mesic/medium sites are generally dominated by white spruce (Balsam fir-Sw/Moss, Sw/Moss) and mixedwood communities of aspen and spruce (Aw-Sw/Rose/Tall and Low forb). These communities represent the reference ecosite for the Boreal Mixedwood subregion (Beckingham and Archibald 1996). Generally, these sites have moderately fine to fine-textured till or glacio-lacustrine parent materials. Pioneer deciduous species (aspen, balsam poplar and birch) are replaced with white spruce and balsam fir as these sites develop successionaly. With succession, vascular plant diversity drops while non-vascular species increase (Hart and Chen, 2006). Forage productivity declines from 2.0 ha/AUM in a deciduous community to 4.0 - 8.1 ha/AUM in a mixedwood community to less than 40 ha/AUM in a conifer community (Moisey et al. 2016).

Black spruce and larch communities generally dominate on wetter sites with subhygric to subhydric moisture regimes and poor to medium nutrient regimes to form the Sb/Labrador tea/Peat moss and Lt-Spruce/Labrador tea PCs. Larch is more tolerant of excessive moisture and is indicative of an enriched nutrient status, while black spruce is typical in areas of stagnating ground water with poor nutrient status (Hay et al. 1985). Beckingham and Archibald (1996), provide a good description on how the conifer and mixedwood communities are arranged in the landscape.

Tame pasture

Throughout the Dry and Central Mixedwood Natural Subregions there are sites that have been cleared and seeded to tame forages. The type of plant community that develops on these sites is a function of the moisture and nutrient regime of the site, the conditions under which the site was cleared, how it was cleared, broken and prepared for seeding, what species were included in the seed mix, the time since development and the variety of disturbances impacting the site. As a result, many different tame pasture community types exist within the Boreal landscape.

The tame pasture communities are described in the guide to range plant communities of the Dry Mixedwood (Moisey et al. 2016) and have been organized by moisture regime (submesic, mesic and subhygric) and grazing succession. A grazing succession diagram has been created for each moisture regime. In general, a well established tame pasture community that is lightly to moderately grazed will maintain the species mixture seeded during pasture development for many years. Heavy to moderate grazing pressure will cause the relative cover of tall growing species to decrease, shifting the plant species composition toward more grazing resistant species. Continued heavy grazing pressure will eventually lead to a plant community dominated by weedy and disturbance induced species. Non-use or very light grazing may occasionally result in the re-establishment and dominance of native species. This occurs more readily in pastures that were cleared (not broken) and broadcast seeded or in pastures with poor seed bed preparation and/or poor establishment. If the plant community has greater than 15% cover of woody regrowth, an R suffix has been added to the plant

community name (Moisey et al. 2016). If there is considerable regrowth of trees, it can sometimes be difficult to decide if a cleared area is functioning as a tame pasture or as a forest.

Estimates of both relative and absolute cover are used to help describe tame pasture plant community types. For instance, to help describe grazing succession, the percentage cover of tall productive forage species is estimated relative to the total percentage cover of all forage species (total forage cover). Total forage cover does not include weedy and disturbance induced species, non-forage plants, noxious weeds and woody regrowth. On modified sites, where native species or weeds and disturbance species dominate, the percentage cover of all introduced forage species is compared to the total percentage cover of all vegetation (excluding areas covered by noxious weeds or woody regrowth). Absolute cover estimates are used to quantify the amount of woody regrowth on a site. In this case, the percentage of the area that is actually covered by woody regrowth is estimated (Moisey et al. 2016). Refer to the Tame Pasture Health Assessment for further detail on estimating relative and absolute cover (Adams et al. 2016).

Cutblocks and clearings

The type of plant community that develops on a site after timber harvesting or clearing is a function of the moisture and nutrient regime of the site, the conditions under which the timber was harvested or the area cleared, the time since harvest or clearing, and the variety of disturbances impacting the site. As a result, many different cutblock or reverted clearing plant communities exist within the Boreal landscape.

The harvested deciduous and coniferous plant communities are best described in the range plant community guide (Moisey et al. 2016). Moisey et al. (2016) have generalized to describe two time periods (early successional and maturing) and two levels of human caused disturbance (minimal and moderate to heavy). These generalized plant community types represent sites (on any moisture/nutrient regime) that have been harvested for timber or cleared for other purposes but not broken or cultivated.

A recently harvested or cleared deciduous site will typically be dominated by herbaceous vegetation, regenerating shrubs and regenerating aspen. Forage for livestock may or may not be readily available depending on the silviculture techniques used and the amount of debris within the cutblock. Eventually though, the regenerating aspen will likely reach densities that not only restricts the development of the herbaceous understory but also limits access to forage as well. Maturing represents the time period in which the majority of the regenerating aspen canopy occupies the understory and overstory tree strata (generally greater than 5m tall). The density of aspen has peaked and natural thinning is occurring, allowing for better access to forage by livestock.

In regenerating coniferous cutblocks or clearings (sites with naturally regenerating conifer or sites that have been planted with conifer), Early Successional represents the time period where conifer seedlings are competing with the herbaceous vegetation and shrub or tree species on the site. The conifer seedlings are also vulnerable to trampling damage. Maturing represents the time period when the conifer seedlings are well established, have grown > 5m tall, and are above the herbaceous and woody vegetation. Therefore, they are less susceptible to plant competition and livestock trampling damage. During this time period the understory vegetation will shift towards that of a mature conifer stand as the canopy begins to close.

Human caused disturbances include any land use activities that alter the expected plant community composition on a particular site. Examples of human caused disturbances include timber harvesting and silviculture activities, clearing, broadcast seeding, livestock grazing, and recreation. Disturbances such as fire, flood, drought and insects are considered natural disturbances. The impact that any disturbance has on a plant

community is a function of the timing, intensity and duration of that disturbance. The level of disturbance impact is often reflected in the structure of the plant community. In general, forest plant communities are composed of several structural layers called strata¹. The impact will often be visible in the reduction or removal of vegetation within these strata.

Wetlands

The Alberta Wetland Classification System (2015) recognizes the hydrological, biogeochemical and biotic processes that affect differing characteristics that can be used to define a wetland. The AWCS recognizes five classes of wetlands in Alberta: bogs, fens, marshes, shallow open water and swamps. Wetlands can be divided into two broad groups: **peatlands** and **mineral wetlands**. In general the AWCS considers bogs and fens to be peatlands and all other wetland classes (i.e. swamps, marshes and shallow open waters) are considered to be mineral wetlands. For the most part the ecological sites align with AWCS five classes of wetlands (Table A), however some willow, bog birch, sedge, marsh reedgrass and tufted hairgrass dominated ecological sites because of their moisture regime and species composition are classified as meadows and fens and have mineral soils but in the AWCS classification these sites are mineral wetlands which are considered marshes or swamps. Consequently, many fluvial dominated grasslands with subhygric to hygric moisture regimes are classified as marshes in AWCS, but in the Ecological Site Classification System these sites are meadows and the marshes are very wet aquatic systems with subhydric and hydric moisture regimes.

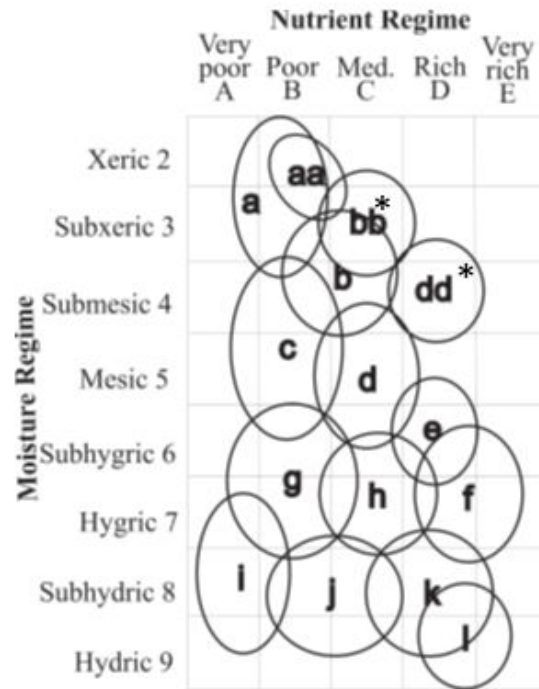
Swamps in AWCS are mineral wetlands where the water table is near or above the ground surface for variable periods during the year and must have at least 25% cover of trees or shrubs. In the AWCS classification swamps are further split into conifer, mixedwood, deciduous or shrub dominated types, with the shrubby dominated swamps further being split by hydroperiod and salinity (AWCS 2015). In the Ecological Site classification system many swamp types are further split into types with differing nutrient regimes poor, medium and rich. These swamp types are often distinguished based on leading tree and shrub species with black spruce and Labrador tea growing on poorer sites and larch, white spruce, willow and bog birch growing on richer sites.

Table A. Cross walk of broad AWCS classes to general Ecological site for the Central Mixedwood subregion.

AWCS Class	AWCS Form	AWCS Code for DEP	Subregion and Ecological Site Phase Code
Bog (B)	Coniferous (W)	BW	<i>Central Mixedwood</i> -CMi1
	Shrubby (S)	BS	<i>Central Mixedwood</i> -CMi2
	Graminoid (G)	FG	<i>Central Mixedwood</i> -CMi3
Fen (F)	Wooded Poor (Wp)	FWp	<i>Central Mixedwood</i> -CMj1
	Wooded Rich (Wr)	FWr	<i>Central Mixedwood</i> -CMk1
	Shrubby (S)	FS	<i>Central Mixedwood</i> -CMj2,k2
	Graminoid (G)	FG	<i>Central Mixedwood</i> -CMj3,k3
Marsh (M)	Graminoid (G)	MG	<i>Central Mixedwood</i> -CMI1,f5
Open water	Aquatic Veg	WA	

(W)	(A)		
	Bare (B)	WB	
Swamp (S)	Wooded Conifer (Wc)	SWc	Central Mixedwood-CMe3,f3,g1,h1
	Wooded Mixedwood (Wm)	SWm	Central Mixedwood-CMe2,f2
	Wooded Deciduous (Wd)	SWd	Central Mixedwood-CMe1,f1.h3
	Shrubby (S)	SS	Central Mixedwood-CMe4,f4.h2

Many small lakes occur in the Central Mixedwood Natural Subregion and are concentrated mainly south of 57°N latitude. These lakes, together with Utikuma Lake and larger watercourses such as the Peace, Athabasca, Wabasca, and Hay Rivers, account for about 3 percent of the total area. Wetlands are a dominant component of the Central Mixedwood Natural Subregion; about 40 percent are wooded with shrubby fens on organic deposits, and about 5 percent are fens and marshes on wet mineral soils. There are major patterned fen systems on the sands west of Lake Claire, and discontinuous permafrost occurs in association with bogs in the northern part of the Natural Subregion.



Ecological sites

a=lichen

subxeric/poor

aa=grassland/shrubland

xeric/poor

b=blueberry

submesic/medium

bb=grassland (*)

subxeric/medium

c=Labrador tea mesic

mesic/poor

d=low bush cranberry

mesic/medium

dd=grass/shrubland (*)

mesic/rich

e=dogwood

subhygric/rich

f=horsetail

hygric/rich

g=Labrador tea

subhygric

Subhygric/poor

h=Labrador

tea/horsetail

hygric/rich

i=bog

subhydric/very poor

j=poor fen

subhydric/medium

k=rich fen

subhydric/rich

l=marsh

hydric/rich

* **Note:** bb and dd ecological sites only described in the Dry Mixedwood subregion.

Figure 1. Edatope grid and ecological sites for the Central Mixedwood subregion.

Plant Community Keys

1. Central Mixedwood.....	2
2. Very dry sandy sites dominated by jackpine with lichen and bearberry in the understory (ecosite a (subxeric/poor)).....	3
Dry sandy sites dominated by grassland species (Plains wormwood, sedge, indian ricegrass), openings within jackpine and aspen stands (ecosite aa (xeric/poor)).....	7
dry sites with a predominant blueberry and bearberry understory (ecosite b (submesic/medium)).....	9
poor sites with a predominant jackpine and black spruce with a Labrador tea dominated understory (ecosite c (mesic/poor)).....	17
mesic/medium sites with aspen, spruce, rose, low-bush cranberry and various forb species (ecosite d (mesic/medium)).....	20
moist sites dominated by balsam poplar, honeysuckle and dogwood (ecosite e (subhygric/rich)).....	31
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jackpine and white spruce dominated sites (ecosite phase b4).....	13
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13. Sw-Pj/Blueberry-Bearberry (CMD19).....	p 53
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14. SM_TP Kentucky bluegrass-Smooth brome (CMF1).....	p 56
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Plant Community Tables

Table 1. Central Mixedwood Communities

Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession
a lichen(subxeric/poor)	a1 lichen - Pj	CMD1 Pj/Green alder/Lichen			
		CMD2 Pj/Bearberry/Lichen			
		CMD2a Pj/Blueberry/Lichen			
aa grass/shrubland(xeric/poor)	aa1 grassland	CMA5 Plains wormwood/Sedge-Northern ricegrass/Lichen			
	aa2 shrubland				
b blueberry(submesic/medium)	b1 blueberry - Pj-Aw	CMD3 Pj-Aw/Blueberry-Bearberry			
		CMD3a Pj-Aw/Blueberry-Green alder			
		CMD3b Pj-Aw/Blueberry-Labrador tea			
	b2 blueberry - Aw(Bw)	CMC5 Aw(Bw)/Blueberry-Bearberry			
		CMC5a Aw(Bw)/Blueberry-Green alder			
		CMC5b Aw(Bw)/Blueberry-Labrador tea			
	b3 blueberry - Aw-Sw	CMC14b Aw-Sw/Blueberry-Green alder			
		CMC14c Aw-Sw/Blueberry-Labrador tea			
		CMD14a Aw-Sw/Blueberry-Bearberry			
	b4 blueberry - Sw-Pj	CMD19 Sw-Pj/Blueberry-Bearberry			
		CMD20 Sw-Pj/Blueberry-Green alder			
	b5 blueberry - tame	CMF1 SM_TP Kentucky bluegrass-Smooth brome			
	b6 blueberry - shrubland	CMA20 Rose-Hazelnut-Snowberry/Slender wheatgrass			

Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession
	b7 blueberry - native grassland	CMA23 Snowberry/Blunt sedge - Western porcupine grass			
c Labrador tea-mesic(mesic/poor)	c1 Labrador tea-mesic Pj-Sb	CMD16 Pj-Sb/Labrador tea/Feather moss			
		CMD16a Pj-Sb/Green alder/Feather moss			
		CMD16b Pj-Sb/Feather moss			
		CMD16c Sw-Aw/Labrador tea/Feather moss			
	c2 Labrador tea-mesic shrubland	CMA36 Canada buffaloberry/Feather moss/Lichen (Pj-Sb)			
d low-bush cranberry(mesic/medium)	d1 low-bush cranberry - Aw	CMC12 Aw/Green alder			
		CMC13 Aw/Beaked willow			
		CMC3 Aw/Hazelnut-Rose			
		CMC6 Aw/Rose-Twinflower			
		CMC8 Aw/Low-bush cranberry-Rose/Tall forb	CMC7 Aw/Rose/Low forb CMC11 Aw/Rose/Clover/Kentucky bluegrass		CME10 Early Decid CB/Clrg
		CMC8a Aw/Canada buffaloberry			
		CMC9 Aw/Saskatoon			
	d2 low-bush cranberry - Aw-Sw	CMD13 Aw-Sw/Low-bush cranberry-Rose/Tall forb			
		CMD21 Aw-Sw/Canada buffaloberry			
		CMD22 Aw-Sw/Beaked hazelnut			
		CMD23 Aw-Sw/Green alder			
		CMD24 Aw-Sw/Balsam fir/Feather moss			
		CMD25 Aw-Sw/Feather moss			

Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession	
		CMD26 Aw-Sw/Beaked willow				
		CMD7 Aw-Sw/Rose/Twinflower				
	d3 low-bush cranberry - Sw	CMD14 Sw/Buffaloberry				
		CMD27 Sw/Green alder				
		CMD28 Sw/Low-bush cranberry-Rose				
		CMD4 Sw-Fb/Feather moss				
		CMD5 Sw/Feather moss			CMA12 Willow/Kentucky bluegrass (Sw) CME20 Early Conif CB/Cirg	
	d4 low-bush cranberry - shrubland	CMA4 Snowberry/Kentucky bluegrass				
	d5 low-bush cranberry - tame	CMF11 Timothy-Creeping red fescue-Kentucky bluegrass/Clover				
	d6 low-bush cranberry - native grassland	CMA21 Saskatoon/Intermediate oatgrass-Hay sedge				
e dogwood(subhygric/rich)	e1 dogwood - Pb-Aw	CMC1 Aw-Pb/Green alder-Rose				
		CMC13a Aw-Pb-Bw/Willow				
		CMC14 Pb-Aw/Red osier dogwood	CMC14-D Aw-Pb/Rose/Low forb			
		CMC17 Aw/Thimbleberry				
		CMC2 Pb-Aw/River alder				
		CMC3a Pb-Aw/Bracted honeysuckle-Rose			CMA26 Bracted honeysuckle (Pb)	
	e2 dogwood - Pb-Sw	CMD29 Pb-Sw/Red osier dogwood				
		CMD30 Pb-Sw/Bracted honeysuckle				

Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession	
	e3 dogwood - Sw	CMD31 Pb-Sw/River alder-Green alder				
		CMD32 Sw/Red osier dogwood				
		CMD33 Sw/Green alder-River alder/Horsetail				
		CMD34 Sw-Fb/Honeysuckle				
		CMD35 Sw/Feather moss (subhygric)				
	e4 dogwood - shrubland	CMA10 Willow-Green alder-River alder/Marsh reedgrass (Bluejoint)				
		CMA15 Beaked Willow/Marsh reedgrass (Bluejoint)				
		CMA24 Beaked willow-Red osier dogwood				
		CMA35 Beaked willow/Hairy wildrye				
	e5 dogwood - tame	CMF21 SH_TP Kentucky bluegrass/Dandelion-Clover				
	f horsetail(hygric/rich)	f1 horsetail - Pb-Aw (Bw)	CMC15 Pb-Aw/Horsetail			
			CMC18 Bw/River alder-Willow			
			CMC18a Bw/Horsetail			
f2 horsetail - Pb-Sw		CMD36 Pb-Sw/Horsetail				
f3 horsetail - Sw		CMD12 Sw/Horsetail				
		CMD37 Sw/Feather moss (hygric)				
f4 horsetail - shrubland		CMA27 Willow/Horsetail/Marsh reedgrass	CMA28-D Beaked willow/Horsetail-Clover			
		CMA44 Sandbar willow				
f5 horsetail - graminoid		CMA37 Horsetail/Marsh reedgrass (Bluejoint)	CMA3 Cow parsnip-Horsetail-Dandelion/Kentucky bluegrass			

Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession
g Labrador tea-subhygric(subhygric/poor)	g1 Labrador tea-subhygric Sb-Pj	CMD38 Sb-Pj/Labrador tea/feather moss			
		CMD39 Sb-Pj/Feather moss			
	g2 Labrador tea-subhygric shrubland				
h Labrador tea/horsetail(hygric/medium)	h1 Labrador tea/horsetail - Sw-Sb	CMD17 Sw-Sb/Labrador tea/Feather moss			
		CMD40 Sw-Sb/Labrador tea/Horsetail			
	h2 Labrador tea/horsetail - shrubland	CMA29 Willow-Labrador tea/Moss			
	h3 Labrador tea/horsetail - deciduous	CMD8 Bw-Sb/Labrador tea			
i bog(subhygric/very poor)	i1 bog - treed	CMD9 Sb/Labrador tea/Cloudberry/Peat moss			
	i2 bog - shrubby	CMA41 Labrador tea/Cloudberry/Peat moss (Sb)			
	i3 bog - graminoid	CMA43 Cottongrass/Leatherleaf/Peat moss			
j poor fen(subhygric/medium)	j1 poor fen - treed	CMC4 Bw/Willow/Peat moss			
		CMD10 Sb-Lt/Dwarf birch/Sedge/Peat moss			
	j2 poor fen - shrubby	CMA31 Dwarf birch-Willow/Sedge/Peat moss (Sb-Lt)	CMA30 Dwarf birch/Clover/Kentucky bluegrass		
	j3 poor fen - graminoid				
k rich fen(subhygric/rich)	k1 rich fen - treed	CMD18 Lt/Dwarf birch/Sedge/Golden moss			
	k2 rich fen - shrubby	CMA42 Dwarf birch/Sedge/Golden moss			
		CMA7 Willow/Sedge/Brown moss	CMA8 Willow/Sedge-Kentucky bluegrass		
		CMA9 Willow/Marsh reed grass (Bluejoint)	CMA9-D Willow/Kentucky bluegrass-Marsh reedgrass (Bluejoint)		

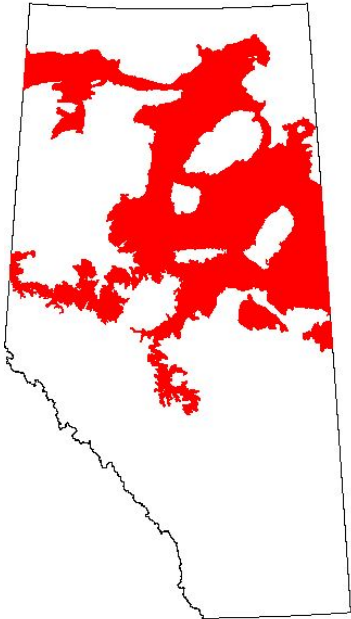
Ecological Site / Range Site	Ecosite Phase / Ecological Range Site	Reference Plant Community	Grazing Succession	Modified Plant Community	Harvesting Succession
	k3 rich fen - graminoid	CMA1 Water sedge-Small bottle sedge	CMA1-D Kentucky bluegrass/Dandelion-Clover		
		CMA2 Marsh reed grass fen			
I marsh(hydric/rich)	I1 marsh	CMA16 Swamp horsetail			
		CMA17 Tall manna grass			
		CMA1a Bulrush-Cattail			

CM Central Mixedwood (n=1787)

Natural Subregion: Central Mixedwood

General Description

The Central Mixedwood Natural Subregion occupies 25 percent of Alberta, stretching south from the Caribou Mountains and Cameron Hills to just north of Red Deer, and spanning the province from the British Columbia to Saskatchewan borders. It shares boundaries with most of the other boreal Natural Subregions, as well as with the Lower Foothills Natural Subregion. Elevations range from 200 m along the Peace River in the northeast to 1050 m in the extreme south. Gently undulating plains with some hummocky upland inclusions are the primary landforms. Parent materials are medium textured tills, fine textured lacustrine deposits, coarse textured fluvial and eolian deposits, and organic deposits.



Successional Relationships

The modal plant communities are vegetated by aspen and balsam poplar with understories composed of a variety of herbs and deciduous shrubs. White spruce and balsam fir are the climatic climax species but are not well represented because of the frequent occurrence of fire. On dry, well drained, coarse-textured soils jack pine dominates and the poorly drained sites are dominated by black spruce, willows and sedge species.

Environmental Variables

Elevation (range): 593 (242-1380) M

Ecological Sites

Site Count

a	lichen(subxeric/poor)	59
aa	grass/shrubland(xeric/poor)	7
b	blueberry(submesic/medium)	122
c	Labrador tea-mesic(mesic/poor)	38
d	low-bush cranberry(mesic/medium)	906
e	dogwood(subhygric/rich)	230
f	horsetail(hygric/rich)	107
g	Labrador tea-subhygric(subhygric/poor)	31
h	Labrador tea/horsetail(hygric/medium)	34
i	bog(subhydric/very poor)	70
j	poor fen(subhydric/medium)	52
k	rich fen(subhydric/rich)	126
l	marsh(hydric/rich)	5

a lichen(subxeric/poor) (n=59)

Natural Subregion: Central Mixedwood

General Description

This ecosite has dry conditions with rapidly drained, acidic soils and poor nutrient status due to the coarse-textured eolian, glaciofluvial, or fluvial-eolian parent materials. Plants that are indicative of the nutrient-poor substrate include bearberry, lichen, bog cranberry, and blueberry. Open-canopied jack pine stands dominate this ecosite that commonly has a carpet of lichens covering the forest floor and a thick organic layer typically less than 5 cm thick.



Successional Relationships

Due to the dry nature of this ecosite, succession to a black spruce canopy is commonly slower than the fire return interval. Therefore, pine is maintained for relatively long periods and can colonize the site and dominate the canopy in a fire edaphic climax community.

Indicator Species

Tree

JACK PINE
Pinus banksiana

Shrub

COMMON BLUEBERRY
Vaccinium myrtilloides

GREEN ALDER
Alnus crispa

COMMON BEARBERRY
Arctostaphylos uva-ursi

Lichen

REINDEER LICHEN
Cladina mitis

Ecosection: CM Central Mixedwood

Site Index at 50 Years	Height (m)	Variation (m)	Count
JACK PINE (<i>Pinus banksiana</i>)	13.40	0.30	0

Environmental Variables

Moisture Regime: Subxeric (moderately dry) (22), Xeric (dry) (21), Submesic (moderately fresh) (14), Mesic (fresh) (2)

Nutrient Regime: Submesotrophic (poor) (45), Mesotrophic (medium) (9), Oligotrophic (very poor) (6)

Elevation (range): 619 (270-945) M

Slope (%): very gentle slope (18), nearly level (14), moderate slope (9), gentle slope (8), strong slope (4), level (3), very strong slope (1)

Aspect: Westerly (17), Southerly (15), Northerly (11), Easterly (7), Level (4)

Topographic Position: Midslope (15), Upper Slope (14), Level (12), Crest (8), Lower Slope (4)

Soil Variables

Soil Drainage: Rapidly drained (38), Well drained (20), Very rapidly drained (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (33), ELUVIATED DYSTRIC BRUNISOL (8), ORTHIC EUTRIC BRUNISOL (8), ELUVIATED DARK BROWN CHERNOZEM (2), ORTHIC DYSTRIC BRUNISOL (2), ORTHIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1)

Surface Texture: Sand (33), Loamy sand (4), Very fine sand (2), Sandy clay (1), Silt loam (1), Medium sand (1), Fine sand (1), Loamy fine sand (1)

Effective Texture: Sand (33), Loamy sand (3), Very fine sand (2), Sandy clay (1), Sandy loam (1), Medium sand (1), Clay (1), Fine sand (1), Loamy fine sand (1)

Depth to Mottles/Gley: 0 - 25 (1), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (56)

Parent Material: Eolian (21), Glaciofluvial (18), Fluvial (8), Fluvioeolian (6), Glaciolacustrine (2), Morainal (2), Rock (1)

Soil Type: Very Dry/Sandy (28), Dry/Sandy (11), Very Dry/Fine (2), Dry/Coarse (1), Moist/Sandy (1), Very Dry/Silty-Loamy (1)

Humus Form FIBRIMOR (11), FIBRIHUMIMOR (7), HUMIFIBRIMOR (2)

LFH Thickness	Mean	Min	Max	Count
cm:	3.67	1.00	18.00	43

a1 lichen - Pj (n=59)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: a lichen(subxeric/poor)

Characteristic Species

Tree

- [23.6] JACK PINE*
Pinus banksiana
- [1.2] LODGEPOLE PINE
Pinus contorta

Shrub

- [11.4] COMMON BLUEBERRY*
Vaccinium myrtilloides
- [10.3] COMMON BEARBERRY*
Arctostaphylos uva-ursi
- [6.5] BOG CRANBERRY
Vaccinium vitis-idaea
- [4.4] GREEN ALDER*
Alnus crispa
- [3.0] TWINFLOWER
Linnaea borealis
- [1.9] COMMON LABRADOR TEA
Ledum groenlandicum

Forb

- [1.2] WILD LILY-OF-THE-VALLEY
Maianthemum canadense

Lichen

- [23.9] REINDEER LICHEN*
Cladina mitis
- [1.5] REINDEER LICHEN
Cladina stellaris
- [1.0] JN/A
Cladonia gracilis

Moss and Liverwort

- [8.9] SCHREBER'S MOSS
Pleurozium schreberi
- [1.1] STAIR-STEP MOSS
Hylocomium splendens
- [1.0] JAWNED HAIR-CAP
Polytrichum piliferum

Graminoid

- [0.8] NORTHERN RICE GRASS
Oryzopsis pungens

Environmental Variables

Moisture Regime: Subxeric (moderately dry) (22), Xeric (dry) (21), Submesic (moderately fresh) (14), Mesic (fresh) (2)

Nutrient Regime: Submesotrophic (poor) (45), Mesotrophic (medium) (9), Oligotrophic (very poor) (6)

Elevation (range): 619 (270-945) M

Slope (%): very gentle slope (18), nearly level (14), moderate slope (9), gentle slope (8), strong slope (4), level (3), very strong slope (1)

Aspect: Westerly (17), Southerly (15), Northerly (11), Easterly (7), Level (4)

Topographic Position: Midslope (15), Upper Slope (14), Level (12), Crest (8), Lower Slope (4)

Soil Variables

Soil Drainage: Rapidly drained (38), Well drained (20), Very rapidly drained (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (33), ORTHIC EUTRIC BRUNISOL (8), ELUVIATED DYSTRIC BRUNISOL (8), ELUVIATED DARK BROWN CHERNOZEM (2), ORTHIC DYSTRIC BRUNISOL (2), ORTHIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1)

Surface Texture: Sand (33), Loamy sand (4), Very fine sand (2), Silt loam (1), Medium sand (1), Sandy clay (1), Fine sand (1), Loamy fine sand (1)

Effective Texture: Sand (33), Loamy sand (3), Very fine sand (2), Clay (1), Fine sand (1), Loamy fine sand (1), Sandy loam (1), Sandy clay (1), Medium sand (1)

Depth to Mottles/Gley: 0 - 25 (1), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (56)

Parent Material: Eolian (21), Glaciofluvial (18), Fluvial (8), Fluvioeolian (6), Morainal (2), Glaciolacustrine (2), Rock (1)

Soil Type: Very Dry/Sandy (28), Dry/Sandy (11), Very Dry/Fine (2), Very Dry/Silty-Loamy (1), Dry/Coarse (1), Moist/Sandy (1)

Humus Form FIBRIMOR (11), FIBRIHUMIMOR (7), HUMIFIBRIMOR (2)

LFH Thickness

	Mean	Min	Max	Count
cm:	3.67	1.00	18.00	43

CMD1 Pj/Green alder/Lichen (n=13)

(*Pinus banksiana/ Alnus crispa/Cladina spp.*)

This community type is found on dry, rapidly drained, sandy soils with a poor nutrient status. Consequently, production is quite low. This PC is usually found on coarse textured Brunisolic soils. There is an erosion risk due to coarse soils. The presence of alder may indicate an impermeable layer at depth which favours the growth of alder.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: a lichen(subxeric/poor)
Ecosite Phase: a1 lichen - Pj

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subxeric (moderately dry) (4), Submesic (moderately fresh) (4), Xeric (dry) (3), Mesic (fresh) (2) Nutrient Regime: Submesotrophic (poor) (9), Mesotrophic (medium) (3), Oligotrophic (very poor) (1) Elevation (range): 740 (310-945) M Slope (%): 0.5 - 2.49 (4), 2.5 - 5.99 (4), 10 - 15.99 (2), 16 - 30.99 (2), 6 - 9.99 (1) Aspect: Westerly (6), Southerly (3), Northerly (2) Topographic Position: Midslope (4), Upper Slope (3), Level (3), Crest (2)
JACK PINE (<i>Pinus banksiana</i>)	25.6	0.0-63.0	85		
LODGEPOLE PINE (<i>Pinus contorta</i>)	3.8	0.0-30.0	15		
Understory Tree					
JACK PINE (<i>Pinus banksiana</i>)	4.0	0.0-40.0	23		
Tall Shrub (2 to 5m)					
GREEN ALDER (<i>Alnus crispa</i>)	4.8	0.0-41.5	39		
Medium Shrub (0.5 to 2 m)					
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	12.9	0.0-50.0	92		
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	11.9	0.0-40.0	69		
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.1	0.0-42.0	77		
GREEN ALDER (<i>Alnus crispa</i>)	8.6	0.0-30.0	85		
TWINFLOWER (<i>Linnaea borealis</i>)	4.1	0.0-40.0	46		
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	2.5	0.0-30.0	23		
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.9	0.0-10.0	62		
PIN CHERRY (<i>Prunus pensylvanica</i>)	1.7	0.0-15.0	39		
Low Forb (< 30 cm)					
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	2.3	0.0-7.0	92		
Graminoid					
NORTHERN RICE GRASS (<i>Oryzopsis pungens</i>)	1.3	0.0-8.0	39		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	15.1	0.0-88.0	62		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	1.9	0.0-20.0	39		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	14.3	0.0-45.0	77		
REINDEER LICHEN (<i>Cladina stellaris</i>)	4.6	0.0-60.0	15		

Soil Variables

Soil Drainage: Well drained (8), Rapidly drained (5)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (6), ORTHIC EUTRIC BRUNISOL (3), ELUVIATED DYSTRIC BRUNISOL (2), ELUVIATED DARK BROWN CHERNOZEM (1)
 Surface Texture: Sand (9), Loamy sand (1)
 Effective Texture: Sand (10)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (12)
 Parent Material: Eolian (6), Glaciofluvial (3), Fluvioeolian (2), Fluvial (1)
 Soil Type: Very Dry/Sandy (5), Dry/Sandy (3), Very Dry/Silty-Loamy (1), Moist/Sandy (1)
 Humus Form FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	4.00	1.00	5.00	10

CMD2 Pj/Bearberry/Lichen (n=23)

(*Pinus banksiana*/*Arctostaphylos uva-ursi*/*Cladina spp.*)

This community represents a jack pine forest which is very similar to the Pj/Alder community type. This PC is usually found on coarse textured Brunisolic soils. Exposed soil is common (10%). Also, moss and lichens are common ground covers. There is an erosion risk due to coarse soils. Cattle will utilize these areas due to the easy access, however overutilization will quickly deplete the forage supply.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: a lichen(subxeric/poor)

Ecosite Phase: a1 lichen - Pj

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
JACK PINE (<i>Pinus banksiana</i>)	17.1	0.0-45.0	83		Moisture Regime: Xeric (dry) (11), Subxeric (moderately dry) (10), Submesic (moderately fresh) (3)
Understory Tree					Nutrient Regime: Submesotrophic (poor) (19), Oligotrophic (very poor) (3), Mesotrophic (medium) (2)
JACK PINE (<i>Pinus banksiana</i>)	3.2	0.0-29.0	52		Elevation (range): 517 (300-704) M
Medium Shrub (0.5 to 2 m)					Slope (%): 2.5 - 5.99 (6), 6 - 9.99 (6), 10 - 15.99 (5), 0.5 - 2.49 (4), 16 - 30.99 (2), 0 - 0.49 (1)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	15.7	1.0-75.0	100		Aspect: Southerly (8), Westerly (8), Level (3), Northerly (3), Easterly (2)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	5.7	0.0-29.0	65		Topographic Position: Midslope (7), Crest (5), Level (4), Upper Slope (3), Lower Slope (2)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	2.8	0.0-20.0	74		
TWINFLOWER (<i>Linnaea borealis</i>)	1.4	0.0-15.0	39		
Tall Forb (>= 30 cm)					Soil Variables
PLAINS WORMWOOD (<i>Artemisia campestris</i>)	0.7	0.0-12.0	17		Soil Drainage: Rapidly drained (17), Well drained (6), Very rapidly drained (1)
Low Forb (< 30 cm)					Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (12), ORTHIC EUTRIC BRUNISOL (4), ELUVIATED DYSTRIC BRUNISOL (3), ORTHIC DYSTRIC BRUNISOL (1), ORTHIC HUMO-FERRIC PODZOL (1)
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.5	0.0-6.0	74		Surface Texture: Sand (11), Very fine sand (2), Loamy sand (2), Loamy fine sand (1), Medium sand (1), Sandy clay (1)
Graminoid					Effective Texture: Sand (12), Very fine sand (2), Loamy fine sand (1), Loamy sand (1), Medium sand (1), Sandy clay (1)
HAIRY WILD RYE (<i>Elymus innovatus</i>)	2.2	0.0-29.0	39		Depth to Mottles/Gley: 51 - 100 (1)
NORTHERN RICE GRASS (<i>Oryzopsis pungens</i>)	1.2	0.0-5.0	65		Organic Thickness: 0 - 5 cm (21)
HAY SEDGE (<i>Carex siccata</i>)	0.9	0.0-10.0	22		Parent Material: Eolian (8), Glaciofluvial (7), Fluvial (3), Fluvioeolian (2), Glaciolacustrine (1), Morainal (1)
Moss					Soil Type: Very Dry/Sandy (13), Dry/Sandy (4), Very Dry/Fine (1)
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	7.8	0.0-63.0	57		Humus Form FIBRIMOR (5), FIBRIHUMIMOR (4), HUMIFIBRIMOR (1)
AWNED HAIR-CAP (<i>Polytrichum piliferum</i>)	3.0	0.0-60.0	13		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	23.1	0.0-80.0	83		
N/A (<i>Cladonia gracilis</i>)	3.2	0.0-50.0	35		
REINDEER LICHEN (<i>Cladonia rangiferina</i>)	1.6	0.0-30.0	30		
N/A (<i>Cladonia uncialis</i>)	1.5	0.0-29.0	17		
					LFH Thickness
					Mean Min Max Count
					cm: 4.00 1.00 18.00 17

CMD2a Pj/Blueberry/Lichen (n=23)

(*Pinus banksiana/Vaccinium myrtilloides/Cladina spp.*)

This community type is found on dry, rapidly drained, sandy soils with a poor nutrient status. Generally found on eluviated eutric and dystric brunisols. Consequently, forage production is quite low. Cattle will utilize these areas primarily for lounging due to the open nature of the plant community. It is similar to the Pj/Bearberry (CMD2) but this community type has blueberry as the dominant shrub. Soils are sensitive to erosion. There is high lichen and moss cover (mean 40% (1-86)).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: a lichen(subxeric/poor)
Ecosite Phase: a1 lichen - Pj

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
JACK PINE (<i>Pinus banksiana</i>)	15.8	0.0-50.0	78	Moisture Regime: Subxeric (moderately dry) (8), Submesic (moderately fresh) (7), Xeric (dry) (7)
Understory Tree				Nutrient Regime: Submesotrophic (poor) (17), Mesotrophic (medium) (4), Oligotrophic (very poor) (2)
JACK PINE (<i>Pinus banksiana</i>)	5.1	0.0-20.0	61	Elevation (range): 601 (270-766) M
Medium Shrub (0.5 to 2 m)				Slope (%): 2.5 - 5.99 (8), 0.5 - 2.49 (6), 10 - 15.99 (2), 0 - 0.49 (2), 6 - 9.99 (1), 31 - 45.99 (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	18.5	0.0-63.0	87	Aspect: Northerly (6), Easterly (5), Southerly (4), Westerly (3), Level (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	4.8	0.0-20.0	74	Topographic Position: Upper Slope (8), Level (5), Midslope (4), Lower Slope (2), Crest (1)
TWINFLOWER (<i>Linnaea borealis</i>)	3.6	0.0-75.0	35	
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	3.4	0.0-18.0	57	Soil Variables
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	3.2	0.0-25.0	44	Soil Drainage: Rapidly drained (16), Well drained (6)
Low Forb (< 30 cm)				Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (15), ELUVIATED DYSTRIC BRUNISOL (3), ELUVIATED DARK BROWN CHERNOZEM (1), ORTHIC EUTRIC BRUNISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC DYSTRIC BRUNISOL (1)
GROUND-CEDAR (<i>Lycopodium complanatum</i>)	2.2	0.0-40.0	17	Surface Texture: Sand (13), Fine sand (1), Loamy sand (1), Silt loam (1)
Moss				Effective Texture: Sand (11), Loamy sand (2), Clay (1), Fine sand (1), Sandy loam (1)
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	3.9	0.0-35.0	57	Depth to Mottles/Gley: 0 - 25 (1)
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	3.5	0.0-60.0	17	Organic Thickness: 0 - 5 cm (23)
Lichen				Parent Material: Glaciofluvial (8), Eolian (7), Fluvial (4), Fluvioeolian (2), Glaciolacustrine (1), Morainal (1), Rock (1)
REINDEER LICHEN (<i>Cladina mitis</i>)	34.3	0.0-90.0	87	Soil Type: Very Dry/Sandy (10), Dry/Sandy (4), Very Dry/Fine (1), Dry/Coarse (1)
				Humus Form FIBRIMOR (6), FIBRIHUMIMOR (2), HUMIFIBRIMOR (1)
				LFH Thickness
				Mean Min Max Count
				cm: 3.00 2.00 8.00 16

aa grass/shrubland(xeric/poor) (n=7)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

This ecosite is associated with small grassy openings within Jack pine and aspen forests. This site has dry conditions, with rapidly drained, nutrient poor soils. The parent materials are generally coarse textured eolian, glaciofluvial or fluvial eolian in origin. The high insolation and dry site conditions favour the growth of grassland species. These include Northern ricegrass, slender wheatgrass, sedge, bearberry and plains wormwood. In the moister sites (lower slope positions) aspen and shrubs (saskatoon, rose) are quite common.



Environmental Variables

Moisture Regime: Xeric (dry) (5), Subxeric (moderately dry) (1)

Nutrient Regime: Oligotrophic (very poor) (2), Permesotrophic (rich) (2), Submesotrophic (poor) (2)

Elevation (range): 630 (576-676) M

Slope (%): strong slope (3), moderate slope (1), nearly level (1)

Aspect: Southerly (4), Easterly (1)

Topographic Position: Midslope (3), Upper Slope (1), Crest (1)

Soil Variables

Soil Drainage: Rapidly drained (3), Very rapidly drained (2), Well drained (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)

Surface Texture: Sand (1)

Effective Texture: Sand (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (2)

Parent Material: Eolian (1), Glaciofluvial (1)

Soil Type: Very Dry/Sandy (1)

Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	3.00	3.00	3.00	1

Successional Relationships

Due to the nature of the site grasslands often remain the climax vegetation on these sites. In the moister lower slope positions shrubs often dominate the site with succession to aspen and spruce. On the drier hilltops and midslopes grasslands dominated by plains wormwood and northern ricegrass usually represent the climax vegetation. Heavy grazing pressure on the grasslands can often lead to a degraded site that is dominated by Kentucky bluegrass, dandelion, and sedge species.

Indicator Species

Shrub

COMMON BEARBERRY
Arctostaphylos uva-ursi

Forb

PLAINS WORMWOOD
Artemisia campestris

Lichen

REINDEER LICHEN
Cladina mitis

Graminoid

NORTHERN RICE GRASS
Oryzopsis pungens

BLUNT SEDGE
Carex obtusata

aa1 grassland (n=7)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: aa grass/shrubland(xeric/poor)

Characteristic Species

Shrub

- [9.1]COMMON BEARBERRY*
Arctostaphylos uva-ursi
- [2.2]SASKATOON
Amelanchier alnifolia
- [1.2]COMMON BLUEBERRY
Vaccinium myrtilloides

Forb

- [4.6]PLAINS WORMWOOD*
Artemisia campestris
- [2.8]STAR-FLOWERED SOLOMON'S-SEAL
Smilacina stellata
- [1.5]MOUNTAIN GOLDENROD
Solidago spathulata
- [0.9]PHILADELPHIA FLEABANE
Erigeron philadelphicus

Lichen

- [14.1]REINDEER LICHEN*
Cladina mitis
- [1.7]REINDEER LICHEN
Cladina rangiferina

Graminoid

- [4.6]ROCKY MOUNTAIN FESCUE
Festuca saximontana
- [2.7]NORTHERN RICE GRASS*
Oryzopsis pungens
- [1.6]SLENDER WHEAT GRASS
Agropyron trachycaulum
- [1.2]BLUNT SEDGE*
Carex obtusata
- [1.2]PURPLE OAT GRASS
Schizachne purpurascens
- [1.0]HAIRY-FRUITED SEDGE
Carex lasiocarpa
- [1.0]PRAIRIE SEDGE
Carex prairea

Environmental Variables

Moisture Regime: Xeric (dry) (5), Subxeric (moderately dry) (1)
 Nutrient Regime: Permesotrophic (rich) (2), Oligotrophic (very poor) (2), Submesotrophic (poor) (2)
 Elevation (range): 630 (576-676) M
 Slope (%): strong slope (3), moderate slope (1), nearly level (1)
 Aspect: Southerly (4), Easterly (1)
 Topographic Position: Midslope (3), Upper Slope (1), Crest (1)

Soil Variables

Soil Drainage: Rapidly drained (3), Very rapidly drained (2), Well drained (1)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)
 Surface Texture: Sand (1)
 Effective Texture: Sand (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (2)
 Parent Material: Eolian (1), Glaciofluvial (1)
 Soil Type: Very Dry/Sandy (1)
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	3.00	3.00	3.00	1

CMA5 Plains wormwood/Sedge-Northern ricegrass/Lichen (n=7)

(*Artemisia campestris/Carex spp-Oryzopsis pungens/Cladina spp.*)

This community type is found on coarse textured, sandy soils. It is generally found on hilltops and south-facing slopes in openings among Jack pine on the uplands and black spruce in the lowlands. This community type was also described on similar site conditions in the Dry Mixedwood subregion. Lichen is a very common ground cover.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: aa grass/shrubland(xeric/poor)
Ecosite Phase: aa1 grassland

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Medium Shrub (0.5 to 2 m)					Ecological Status Score: 40
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	9.1	0.0-50.5	43		Moisture Regime: Xeric (dry) (5), Subxeric (moderately dry) (1)
SASKATOON (<i>Amelanchier alnifolia</i>)	2.2	0.0-8.2	57		Nutrient Regime: Oligotrophic (very poor) (2), Submesotrophic (poor) (2), Permesotrophic (rich) (2)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	1.2	0.0-8.8	14		Elevation (range): 630 (576-676) M
Tall Forb (>= 30 cm)					Slope (%): 16 - 30.99 (3), 0.5 - 2.49 (1), 10 - 15.99 (1)
PLAINS WORMWOOD (<i>Artemisia campestris</i>)	4.6	0.0-13.5	86		Aspect: Southerly (4), Easterly (1)
STAR-FLOWERED SOLOMON'S-SEAL (<i>Smilacina stellata</i>)	2.8	0.0-20.0	14		Topographic Position: Midslope (3), Crest (1), Upper Slope (1)
PHILADELPHIA FLEABANE (<i>Erigeron philadelphicus</i>)	0.9	0.0-6.4	29		Soil Variables
Low Forb (< 30 cm)					Soil Drainage: Rapidly drained (3), Very rapidly drained (2), Well drained (1)
MOUNTAIN GOLDENROD (<i>Solidago spathulata</i>)	1.5	0.0-5.0	57		Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)
Graminoid					Surface Texture: Sand (1)
ROCKY MOUNTAIN FESCUE (<i>Festuca saximontana</i>)	4.6	0.0-10.2	71		Effective Texture: Sand (1)
NORTHERN RICE GRASS (<i>Oryzopsis pungens</i>)	2.7	0.0-12.5	71		Depth to Mottles/Gley:
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	1.6	0.0-5.2	86		Organic Thickness: 0 - 5 cm (2)
BLUNT SEDGE (<i>Carex obtusata</i>)	1.2	0.0-8.7	14		Parent Material: Eolian (1), Glaciofluvial (1)
PURPLE OAT GRASS (<i>Schizachne purpurascens</i>)	1.2	0.0-9.0	14		Soil Type: Very Dry/Sandy (1)
HAIRY-FRUITED SEDGE (<i>Carex lasiocarpa</i>)	1.0	0.0-7.2	14		Humus Form
PRAIRIE SEDGE (<i>Carex prairea</i>)	1.0	0.0-7.0	14		LFH Thickness
Lichen					Mean Min Max Count
REINDEER LICHEN (<i>Cladina mitis</i>)	14.1	0.0-60.0	43		cm: 3.00 3.00 3.00 1
REINDEER LICHEN (<i>Cladina rangiferina</i>)	1.7	0.0-12.3	14		

aa2 shrubland (n=0)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: aa grass/shrubland(xeric/poor)

General Description

A number of ecological site phases currently have no data. These ecological site phases have been created as place holders because they were described in adjacent subregions.

Characteristic Species

Environmental Variables

Moisture Regime:

Nutrient Regime:

Elevation (range):

Slope (%):

Aspect:

Topographic Position:

Soil Variables

Soil Drainage:

Soil Subgroup:

Surface Texture:

Effective Texture:

Depth to Mottles/Gley:

Organic Thickness:

Parent Material:

Soil Type:

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

b blueberry(submesic/medium) (n=122)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

This ecosite tends to be subxeric to submesic as a result of relatively coarse-textured glaciofluvial parent materials. Conditions are intermediate in both moisture and nutrient regime between the lichen ecosite (a) and the low-bush cranberry ecosite (d). As such, the blueberry ecosite has species characteristic of the lichen ecosite, such as jack pine, blueberry, bearberry, bog cranberry, and Labrador tea, and species characteristic of the low-bush cranberry ecosite, such as aspen, white spruce, cream-colored vetchling, bunchberry, and hairy wild rye. Grassland communities can occur on this ecological site. These communities tend to be found on south and west facing slopes and have a significant cover of slender wheatgrass and Western porcupine grass. The grassland plant communities are very similar to the "bb" ecosite described in the Dry Mixedwood subregion (Moisey et al. 2016) and are likely outliers of the Dry Mixedwood.



Successional Relationships

The pine, aspen, and white birch-dominated phases of this ecosite may, in some cases, succeed to white spruce but the process is slow due to the dry nature of this ecosite. Grassland community types tend to remain for long periods of time as an edaphic climax, because of the dry site conditions.

Indicator Species

Tree

WHITE SPRUCE

Picea glauca

JACK PINE

Pinus banksiana

ASPEN

Populus tremuloides

Shrub

PRICKLY ROSE

Rosa acicularis

COMMON BLUEBERRY

Vaccinium myrtilloides

BOG CRANBERRY

Vaccinium vitis-idaea

COMMON LABRADOR TEA

Ledum groenlandicum

COMMON BEARBERRY

Arctostaphylos uva-ursi

Lichen

REINDEER LICHEN

Cladonia mitis

Graminoid

INTERMEDIATE OAT GRASS

Danthonia intermedia

HAY SEDGE

Carex siccata

Site Index at 50 Years

Species	Height (m)	Variation (m)	Count
WHITE SPRUCE <i>(Picea glauca)</i>	17.50	0.70	0
WHITE BIRCH <i>(Betula papyrifera)</i>	11.50	1.70	0
JACK PINE <i>(Pinus banksiana)</i>	14.30	0.50	0
ASPEN <i>(Populus tremuloides)</i>	15.80	0.50	0

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (49), Subxeric (moderately dry) (34), Mesic (fresh) (26), Xeric (dry) (9), Very Xeric (very dry) (1)

Nutrient Regime: Submesotrophic (poor) (63), Mesotrophic (medium) (51)

Elevation (range): 588 (260-1380) M

Slope (%): very gentle slope (34), nearly level (28), level (21), gentle slope (13), moderate slope (10), strong slope (6), very steep slope (1), very strong slope (1)

Aspect: Level (25), Southerly (25), Westerly (18), Northerly (18), Easterly (18)

Topographic Position: Level (28), Midslope (26), Upper Slope (24), Crest (18), Lower Slope (5), Depression (4)

Soil Variables

Soil Drainage: Well drained (69), Rapidly drained (36), Moderately well drained (13), Very rapidly drained (2)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (35), ORTHIC GRAY LUVISOL (18), ORTHIC EUTRIC BRUNISOL (16), ELUVIATED DYSTRIC BRUNISOL (11), BRUNISOLIC GRAY LUVISOL (5), ORTHIC HUMO-FERRIC PODZOL (2), SOLONETZIC GRAY LUVISOL (2), ORTHIC MELANIC BRUNISOL (1), ORTHIC REGOSOL (1), DARK GRAY LUVISOL (1), ELUVIATED DARK BROWN CHERNOZEM (1), ORTHIC DYSTRIC BRUNISOL (1)

Surface Texture: Sand (36), Loamy sand (9), Silt loam (5), Clay loam (4), Sandy loam (3), Silt (2), Sandy clay loam (2), Silty clay loam (2), Very fine sand (2), Very fine sandy loam (1), Silty clay (1), Coarse sand (1), Loam (1), Loamy fine sand (1), Loamy medium sand (1)

Effective Texture: Sand (34), Loamy sand (7), Silt (5), Clay loam (4), Sandy clay loam (3), Sandy loam (3), Silty clay (3), Silty clay loam (3), Very fine sand (2), Clay (2), Sandy clay (2), Coarse sand (1), Fine Sandy Clay Loam (1), Loamy medium sand (1), Silt loam (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (95)

Parent Material: Glaciofluvial (53), Eolian (20), Morainal (17), Rock (9), Fluvial (9), Glaciolacustrine (5), Fluvioeolian (3), Lacustrine (2), Sapolite (2), Swamp (1), Lacustrine moraine (1), Colluvial (1)

Soil Type: Very Dry/Sandy (20), Dry/Sandy (15), Dry/Fine (8), Moist/Sandy (8), Moist/Fine (7), Very Dry/Silty-Loamy (4), Shallow (3), Dry/Coarse (3), Dry/Silty-Loamy (2)

Humus Form FIBRIMOR (20), HUMIFIBRIMOR (5), FIBRIHUMIMOR (2), RAW MODER (1)

LFH Thickness

cm:	Mean	Min	Max	Count
cm:	4.75	1.00	12.00	71

b1 blueberry - Pj-Aw (n=51)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Tree

- [22.3]JACK PINE*
Pinus banksiana
- [17.3]ASPEN*
Populus tremuloides
- [2.1]LODGEPOLE PINE
Pinus contorta

Shrub

- [9.6]BOG CRANBERRY*
Vaccinium vitis-idaea
- [8.5]COMMON LABRADOR TEA*
Ledum groenlandicum
- [7.6]COMMON BLUEBERRY*
Vaccinium myrtilloides
- [6.0]COMMON BEARBERRY*
Arctostaphylos uva-ursi
- [4.2]GREEN ALDER*
Alnus crispa
- [3.3]TWINFLOWER
Linnaea borealis
- [2.8]PRICKLY ROSE
Rosa acicularis
- [2.4]CANADA BUFFALOBERRY
Shepherdia canadensis

Forb

- [6.2]BUNCHBERRY
Cornus canadensis
- [2.5]COMMON FIREWEED
Epilobium angustifolium
- [1.3]WILD LILY-OF-THE-VALLEY
Maianthemum canadense
- [1.1]WILD SARSAPARILLA
Aralia nudicaulis

Lichen

- [5.3]REINDEER LICHEN*
Cladina mitis

Moss and Liverwort

- [13.5]SCHREBER'S MOSS
Pleurozium schreberi
- [9.5]STAIR-STEP MOSS
Hylocomium splendens

Graminoid

- [3.5]HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (18), Subxeric (moderately dry) (15), Mesic (fresh) (12), Xeric (dry) (5), Very Xeric (very dry) (1)

Nutrient Regime: Submesotrophic (poor) (28), Mesotrophic (medium) (21)

Elevation (range): 599 (260-1380) M

Slope (%): very gentle slope (16), nearly level (8), level (8), gentle slope (7), strong slope (4), moderate slope (4)

Aspect: Northerly (11), Southerly (11), Level (9), Westerly (7), Easterly (5)

Topographic Position: Upper Slope (12), Midslope (11), Level (10), Crest (8), Lower Slope (2), Depression (1)

Soil Variables

Soil Drainage: Well drained (28), Rapidly drained (15), Moderately well drained (7), Very rapidly drained (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (16), ORTHIC EUTRIC BRUNISOL (9), ORTHIC GRAY LUVISOL (8), ELUVIATED DYSTRIC BRUNISOL (5), BRUNISOLIC GRAY LUVISOL (3), DARK GRAY LUVISOL (1), SOLONETZIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1), ORTHIC MELANIC BRUNISOL (1), ORTHIC REGOSOL (1)

Surface Texture: Sand (17), Loamy sand (6), Sandy loam (3), Clay loam (3), Silt loam (2), Very fine sand (1), Silty clay loam (1), Silty clay (1), Sandy clay loam (1), Loamy fine sand (1), Loamy medium sand (1)

Effective Texture: Sand (17), Silty clay (3), Clay loam (3), Sandy clay loam (3), Loamy sand (3), Sandy loam (2), Silt (2), Silty clay loam (2), Clay (1), Loamy medium sand (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (47)

Parent Material: Glaciofluvial (22), Eolian (13), Morainal (11), Fluvial (6), Lacustrine (2), Glaciolacustrine (2), Rock (1), Saprolite (1), Fluvioeolian (1), Lacustromoraine (1)

Soil Type: Very Dry/Sandy (11), Dry/Sandy (7), Moist/Fine (6), Dry/Fine (5), Moist/Sandy (3), Dry/Coarse (2), Shallow (1), Dry/Silty-Loamy (1)

Humus Form FIBRIMOR (6), HUMIFIBRIMOR (3), FIBRIHUMIMOR (2)

LFH Thickness

	Mean	Min	Max	Count
cm:	6.00	2.00	12.00	36

CMD3 Pj-Aw/Blueberry-Bearberry (n=18)

(*Pinus banksiana*- *Populus tremuloides*/*Vaccinium myrtilloides*-*Arctostaphylos uva-ursi*)

This community type represents an aspen forest with a secondary canopy of jack pine. It is very similar to the Pj/Bearberry community type, but it is found on slightly moister soils with better nutrients. These conditions allow for the growth of aspen. There is an erosion risk due to coarse soils.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b1 blueberry - Pj-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
JACK PINE (<i>Pinus banksiana</i>)	16.6	0.0-63.0	89		Moisture Regime: Subxeric (moderately dry) (5), Submesic (moderately fresh) (5), Xeric (dry) (4), Mesic (fresh) (3), Very Xeric (very dry) (1)
ASPEN (<i>Populus tremuloides</i>)	8.3	0.0-30.0	67		Nutrient Regime: Submesotrophic (poor) (14), Mesotrophic (medium) (3)
LODGEPOLE PINE (<i>Pinus contorta</i>)	4.1	0.0-45.0	11		Elevation (range): 585 (260-1380) M
Understory Tree					Slope (%): 0 - 0.49 (5), 2.5 - 5.99 (5), 16 - 30.99 (3), 10 - 15.99 (2), 0.5 - 2.49 (1)
ASPEN (<i>Populus tremuloides</i>)	4.6	0.0-29.0	50		Aspect: Level (3), Northerly (3), Southerly (3), Easterly (2), Westerly (1)
JACK PINE (<i>Pinus banksiana</i>)	3.1	0.0-29.0	39		Topographic Position: Midslope (6), Crest (3), Level (2), Upper Slope (2)
Medium Shrub (0.5 to 2 m)					Soil Variables
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	12.2	0.0-63.0	78		Soil Drainage: Rapidly drained (8), Well drained (8), Moderately well drained (1), Very rapidly drained (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	8.5	0.0-60.0	56		Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (7), ORTHIC EUTRIC BRUNISOL (2), DARK GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1), ORTHIC REGOSOL (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	7.6	0.0-40.0	61		Surface Texture: Sand (3), Sandy loam (2), Silty clay loam (1), Clay loam (1), Loamy sand (1)
TWINFLOWER (<i>Linnaea borealis</i>)	5.3	0.0-20.0	67		Effective Texture: Sand (3), Clay (1), Loamy sand (1), Silt (1), Silty clay loam (1), Sandy loam (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	3.5	0.0-29.0	44		Depth to Mottles/Gley:
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.9	0.0-10.0	78		Organic Thickness: 0 - 5 cm (14)
SASKATOON (<i>Amelanchier alnifolia</i>)	1.7	0.0-10.0	39		Parent Material: Glaciofluvial (7), Eolian (3), Fluvial (2), Lacustrine (1), Morainal (1), Sapolite (1), Rock (1)
Tall Forb (>= 30 cm)					Soil Type: Dry/Sandy (2), Very Dry/Sandy (2), Shallow (1), Moist/Fine (1), Dry/Silty-Loamy (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.6	0.0-8.0	50		Humus Form HUMIFIBRIMOR (2), FIBRIHUMIMOR (1), FIBRIMOR (1)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	1.3	0.0-4.0	61		
Low Forb (< 30 cm)					LFH Thickness
BUNCHBERRY (<i>Cornus canadensis</i>)	3.2	0.0-12.9	72		Mean
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.3	0.0-5.0	67		Min
GROUND-CEDAR (<i>Lycopodium complanatum</i>)	1.1	0.0-10.0	22		Max
Graminoid					Count
HAIRY WILD RYE (<i>Elymus innovatus</i>)	4.7	0.0-20.0	67		cm:
Moss					7.00
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	4.6	0.0-26.0	61		5.00
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	4.0	0.0-29.0	44		12.00
Lichen					7
REINDEER LICHEN (<i>Cladina mitis</i>)	5.8	0.0-50.0	44		

CMD3a Pj-Aw/Blueberry-Green alder (n=26)

(Pj-Aw/Vaccinium myrtilloides-Alnus crispa)

This community represents a jack pine forest with a secondary canopy of aspen and green alder. It is very similar to the Pj/Alder community type, but it is found on slightly moister soils with better nutrient regimes. These conditions allow the growth of aspen and alder. Soils are sensitive to erosion. Lichens are very common.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b1 blueberry - Pj-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 40 Moisture Regime: Submesic (moderately fresh) (10), Subxeric (moderately dry) (8), Mesic (fresh) (7), Xeric (dry) (1) Nutrient Regime: Mesotrophic (medium) (13), Submesotrophic (poor) (12) Elevation (range): 681 (290-985) M Slope (%): 2.5 - 5.99 (9), 6 - 9.99 (7), 0 - 0.49 (3), 0.5 - 2.49 (3), 10 - 15.99 (2) Aspect: Northerly (7), Southerly (7), Level (5), Westerly (4), Easterly (2) Topographic Position: Upper Slope (9), Midslope (5), Level (4), Crest (4), Depression (1), Lower Slope (1)
JACK PINE (<i>Pinus banksiana</i>)	21.3	0.0-60.0	92		
ASPEN (<i>Populus tremuloides</i>)	7.4	0.0-35.0	58		
LODGEPOLE PINE (<i>Pinus contorta</i>)	2.4	0.0-40.0	8		
WHITE BIRCH (<i>Betula papyrifera</i>)	2.3	0.0-30.0	19		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	5.9	0.0-30.0	62		
JACK PINE (<i>Pinus banksiana</i>)	2.9	0.0-15.0	50		
Tall Shrub (2 to 5m)					
GREEN ALDER (<i>Alnus crispa</i>)	7.1	0.0-30.0	85		
Medium Shrub (0.5 to 2 m)					
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	10.6	0.0-50.0	89		
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	8.3	0.0-20.0	92		
GREEN ALDER (<i>Alnus crispa</i>)	5.8	0.0-20.0	92		
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	5.4	0.0-30.0	58		
TWINFLOWER (<i>Linnaea borealis</i>)	4.8	0.0-30.0	65		
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	4.3	0.0-45.0	39		
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.4	0.0-10.0	77		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.3	0.0-21.0	42		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.2	0.0-20.0	69		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	3.3	0.0-15.0	50		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	2.7	0.0-20.0	77		
Graminoid					
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.1	0.0-15.0	50		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	12.5	0.0-80.0	81		
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	4.6	0.0-35.0	50		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	3.4	0.0-30.0	42		

Soil Variables

Soil Drainage: Well drained (19), Rapidly drained (5), Moderately well drained (2)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (9), ORTHIC EUTRIC BRUNISOL (6), ELUVIATED DYSTRIC BRUNISOL (4), BRUNISOLIC GRAY LUVISOL (3), ORTHIC GRAY LUVISOL (3), ORTHIC MELANIC BRUNISOL (1)
 Surface Texture: Sand (13), Loamy sand (5), Loamy fine sand (1), Loamy medium sand (1), Silty clay (1), Sandy loam (1), Very fine sand (1)
 Effective Texture: Sand (13), Sandy clay loam (3), Silty clay (2), Loamy sand (2), Sandy loam (1), Silt (1), Loamy medium sand (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (26)
 Parent Material: Glaciofluvial (12), Eolian (10), Morainal (7), Fluvial (3), Fluvioeolian (1), Glaciolacustrine (1), Lacustrine (1)
 Soil Type: Very Dry/Sandy (8), Dry/Sandy (5), Moist/Sandy (3), Moist/Fine (3), Dry/Fine (2), Dry/Coarse (2)
 Humus Form FIBRIMOR (4), FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	6.00	2.00	12.00	23

CMD3b Pj-Aw/Blueberry-Labrador tea (n=7)

(Pj-Aw/*Vaccinium myrtilloides*-*Ledum groenlandicum*)

This community type is found on mostly level slope positions with predominantly clay loam soils at depth and silty loam soils at the surface. The presence of Labrador tea indicates that this site is transitional to the black spruce jackpine Labrador tea (mesic/poor) ecological site, but the presence of aspen, Canada buffaloberry and fireweed indicates a higher nutrient content and slightly better developed soils.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b1 blueberry - Pj-Aw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	19.1	0.0-40.0	86	Moisture Regime: Submesic (moderately fresh) (3), Mesic (fresh) (2), Subxeric (moderately dry) (2)
JACK PINE (<i>Pinus banksiana</i>)	18.5	0.0-40.0	86	Nutrient Regime: Mesotrophic (medium) (5), Submesotrophic (poor) (2)
Understory Tree				Elevation (range): 532 (380-657) M
ASPEN (<i>Populus tremuloides</i>)	7.4	0.0-15.0	71	Slope (%): 0.5 - 2.49 (4), 2.5 - 5.99 (2), 16 - 30.99 (1)
JACK PINE (<i>Pinus banksiana</i>)	4.1	0.0-25.0	43	Aspect: Westerly (2), Level (1), Northerly (1), Easterly (1), Southerly (1)
Medium Shrub (0.5 to 2 m)				Topographic Position: Level (4), Crest (1), Lower Slope (1), Upper Slope (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	20.2	2.0-40.0	100	Soil Variables
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.8	0.0-25.0	86	Soil Drainage: Moderately well drained (4), Rapidly drained (2), Well drained (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	7.1	0.0-20.0	71	Soil Subgroup: ORTHIC GRAY LUVISOL (4), SOLONETZIC GRAY LUVISOL (1), ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	3.7	0.0-15.0	71	Surface Texture: Silt loam (2), Clay loam (2), Sand (1), Sandy clay loam (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.1	0.0-5.0	86	Effective Texture: Clay loam (3), Sand (1), Silty clay (1), Silty clay loam (1)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	1.5	0.0-10.0	29	Depth to Mottles/Gley:
Tall Forb (>= 30 cm)				Organic Thickness: 0 - 5 cm (7)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.7	1.0-15.0	100	Parent Material: Morainal (3), Glaciofluvial (3), Glaciolacustrine (1), Lacustromoraine (1), Fluvial (1)
Low Forb (< 30 cm)				Soil Type: Dry/Fine (3), Moist/Fine (2), Very Dry/Sandy (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	12.1	0.0-50.0	71	Humus Form FIBRIMOR (1), HUMIFIBRIMOR (1)
Graminoid				
HAIRY WILD RYE (<i>Elymus innovatus</i>)	2.7	0.0-15.0	43	LFH Thickness
Moss				Mean Min Max Count
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	23.5	0.0-40.0	86	cm: 5.00 3.00 7.00 6
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	20.0	0.0-85.0	71	
Lichen				
REINDEER LICHEN (<i>Cladina mitis</i>)	6.7	0.0-25.0	71	

b2 blueberry - Aw(Bw) (n=33)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Tree

[40.7] ASPEN
Populus tremuloides

[1.6] WHITE BIRCH*
Betula papyrifera

Shrub

[12.8] COMMON BLUEBERRY
Vaccinium myrtilloides

[7.9] COMMON LABRADOR TEA
Ledum groenlandicum

[7.7] COMMON BEARBERRY
Arctostaphylos uva-ursi

[5.0] BOG CRANBERRY
Vaccinium vitis-idaea

[4.8] TWINFLOWER
Linnaea borealis

[3.8] GREEN ALDER
Alnus crispa

[3.4] PRICKLY ROSE
Rosa acicularis

[2.2] CANADA BUFFALOBERRY
Shepherdia canadensis

Forb

[12.0] BUNCHBERRY
Cornus canadensis

[2.2] COMMON FIREWEED
Epilobium angustifolium

[1.4] WILD STRAWBERRY
Fragaria virginiana

[1.2] WILD LILY-OF-THE-VALLEY
Maianthemum canadense

[1.2] PALMATE-LEAVED COLTSFOOT
Petasites palmatus

Moss and Liverwort

[5.2] SCHREBER'S MOSS
Pleurozium schreberi

[3.4] STAIR-STEP MOSS
Hylocomium splendens

[3.0] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

[4.8] BLUEJOINT
Calamagrostis canadensis

[4.3] HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (17), Subxeric (moderately dry) (11), Mesic (fresh) (4), Xeric (dry) (1)

Nutrient Regime: Submesotrophic (poor) (16), Mesotrophic (medium) (15)

Elevation (range): 553 (260-940) M

Slope (%): nearly level (10), very gentle slope (8), level (6), gentle slope (4), strong slope (2), moderate slope (2)

Aspect: Easterly (8), Level (7), Westerly (7), Southerly (5), Northerly (2)

Topographic Position: Level (7), Midslope (7), Upper Slope (7), Crest (3), Lower Slope (3)

Soil Variables

Soil Drainage: Well drained (19), Rapidly drained (9), Moderately well drained (5)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (11), ORTHIC GRAY LUVISOL (5), ORTHIC EUTRIC BRUNISOL (4), ELUVIATED DYSTRIC BRUNISOL (3), BRUNISOLIC GRAY LUVISOL (2), SOLONETZIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1)

Surface Texture: Sand (8), Loamy sand (2), Very fine sand (1), Very fine sandy loam (1), Silt loam (1), Silty clay loam (1), Silt (1), Coarse sand (1), Clay loam (1)

Effective Texture: Sand (7), Loamy sand (2), Sandy clay (2), Very fine sand (2), Silty clay loam (1), Silt (1), Coarse sand (1), Fine Sandy Clay Loam (1), Sandy loam (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (27)

Parent Material: Glaciofluvial (21), Eolian (6), Rock (4), Morainal (3), Glaciolacustrine (2), Fluvioeolian (1)

Soil Type: Dry/Sandy (5), Very Dry/Sandy (4), Dry/Fine (2), Shallow (2), Very Dry/Silty-Loamy (1), Dry/Coarse (1), Dry/Silty-Loamy (1), Moist/Sandy (1)

Humus Form FIBRIMOR (9), HUMIFIBRIMOR (2)

LFH Thickness

	Mean	Min	Max	Count
cm:	5.00	2.00	8.00	18

CMC5 Aw(Bw)/Blueberry-Bearberry (n=23)

(*Populus tremuloides*(*Betula papyrifera*)/*Vaccinium myrtilloides*-*Arctostaphylos uva-ursi*)

This PC occurs on dry, rapid to well drained sites with coarse textured soils (i.e. sand, loamy sands, sandy loam). Jack pine stands may be found nearby. The aspen found in the 'b' ecosite indicates slightly better moisture conditions than the 'a' ecosite and the associated Jack pine PCs. On this site coarse soils have increased erosion potential.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b2 blueberry - Aw(Bw)

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	30.1	0.0-65.0	91		Moisture Regime: Submesic (moderately fresh) (11), Subxeric (moderately dry) (7), Mesic (fresh) (4), Xeric (dry) (1)
Understory Tree					Nutrient Regime: Mesotrophic (medium) (12), Submesotrophic (poor) (10)
ASPEN (<i>Populus tremuloides</i>)	3.8	0.0-30.0	39		Elevation (range): 571 (260-940) M
Medium Shrub (0.5 to 2 m)					Slope (%): 2.5 - 5.99 (6), 0.5 - 2.49 (5), 6 - 9.99 (4), 0 - 0.49 (3), 10 - 15.99 (2), 16 - 30.99 (2)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	18.9	0.0-90.0	61		Aspect: Westerly (7), Easterly (6), Southerly (4), Level (2), Northerly (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	12.9	0.0-40.0	87		Topographic Position: Upper Slope (6), Midslope (5), Lower Slope (3), Level (2), Crest (2)
PRICKLY ROSE (<i>Rosa acicularis</i>)	6.7	0.0-25.0	78		
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	3.8	0.0-15.0	61		Soil Variables
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	3.8	0.0-15.0	70		Soil Drainage: Well drained (12), Rapidly drained (8), Moderately well drained (3)
TWINFLOWER (<i>Linnaea borealis</i>)	2.8	0.0-11.3	70		Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (8), ORTHIC EUTRIC BRUNISOL (4), ORTHIC GRAY LUVISOL (2), SOLONETZIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1), BRUNISOLIC GRAY LUVISOL (1)
SASKATOON (<i>Amelanchier alnifolia</i>)	2.1	0.0-12.0	48		Surface Texture: Sand (4), Loamy sand (2), Coarse sand (1), Silt (1), Silty clay loam (1), Very fine sand (1), Very fine sandy loam (1)
Tall Forb (>= 30 cm)					Effective Texture: Sand (4), Loamy sand (2), Very fine sand (2), Silt (1), Silty clay loam (1), Fine Sandy Clay Loam (1), Coarse sand (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.2	0.0-10.0	74		Depth to Mottles/Gley:
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.1	0.0-8.3	91		Organic Thickness: 0 - 5 cm (17)
Low Forb (< 30 cm)					Parent Material: Glaciofluvial (9), Eolian (6), Glaciolacustrine (2), Morainal (2), Rock (2), Fluvioeolian (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	5.8	0.0-40.0	78		Soil Type: Very Dry/Sandy (3), Dry/Sandy (3), Shallow (2), Dry/Silty-Loamy (1), Moist/Sandy (1), Very Dry/Silty-Loamy (1)
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	3.6	0.0-15.0	87		Humus Form FIBRIMOR (5), HUMIFIBRIMOR (2)
Graminoid					
HAIRY WILD RYE (<i>Elymus innovatus</i>)	5.7	0.0-35.0	65		
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.2	0.0-45.0	39		
					LFH Thickness
					Mean Min Max Count
					cm: 4.00 2.00 7.00 12

CMC5a Aw(Bw)/Blueberry-Green alder (n=5)

(*Populus tremuloides*(*Betula papyrifera*)/*Vaccinium myrtilloides*-*Alnus crispa*)

This community type is found on dry, well-drained, sandy sites interspersed with stands of jack pine. Moisture conditions are dry at the surface, but there is some moisture at depth which favours the growth of Green alder. This plant community is not common in the Central Mixedwood and was only described at five sites near Fort McMurray and Wandering River.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b2 blueberry - Aw(Bw)

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	41.0	25.0-70.0	100	Moisture Regime: Subxeric (moderately dry) (3), Submesic (moderately fresh) (2)
WHITE BIRCH (<i>Betula papyrifera</i>)	3.0	0.0-15.0	20	Nutrient Regime: Submesotrophic (poor) (3), Mesotrophic (medium) (1)
Understory Tree				Elevation (range): 564 (463-619) M
ASPEN (<i>Populus tremuloides</i>)	4.0	0.0-10.0	60	Slope (%): 2.5 - 5.99 (2), 0 - 0.49 (2), 0.5 - 2.49 (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	2.0	0.0-10.0	20	Aspect: Level (3), Easterly (1), Southerly (1)
Tall Shrub (2 to 5m)				Topographic Position: Level (2), Crest (1), Midslope (1), Upper Slope (1)
GREEN ALDER (<i>Alnus crispa</i>)	5.0	0.0-20.0	40	Soil Variables
Medium Shrub (0.5 to 2 m)				Soil Drainage: Well drained (3), Moderately well drained (1), Rapidly drained (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	16.2	1.0-30.0	100	Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ORTHIC GRAY LUVISOL (2), ELUVIATED DYSTRIC BRUNISOL (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	7.6	0.0-20.0	80	Surface Texture: Sand (2), Silt loam (1)
TWINFLOWER (<i>Linnaea borealis</i>)	7.4	3.0-15.0	100	Effective Texture: Sand (1), Sandy clay (1), Sandy loam (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	6.8	1.0-20.0	100	Depth to Mottles/Gley:
GREEN ALDER (<i>Alnus crispa</i>)	6.6	0.0-15.0	80	Organic Thickness: 0 - 5 cm (5)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	4.2	0.0-20.0	40	Parent Material: Glaciofluvial (6), Rock (2)
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.2	0.0-5.0	80	Soil Type: Very Dry/Sandy (1), Dry/Fine (1), Dry/Coarse (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	1.6	0.0-6.0	40	Humus Form FIBRIMOR (2)
Tall Forb (>= 30 cm)				LFH Thickness
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.0	0.0-8.0	80	Mean
Low Forb (< 30 cm)				Min
BUNCHBERRY (<i>Cornus canadensis</i>)	17.0	0.0-35.0	80	Max
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	3.6	0.0-15.0	60	Count
Graminoid				cm:
BLUEJOINT (<i>Calamagrostis canadensis</i>)	4.2	0.0-15.0	60	5.00
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.0	0.0-3.0	60	4.00
Moss				5.00
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	9.2	0.0-45.0	40	3
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	2.2	0.0-5.0	60	

CMC5b Aw(Bw)/Blueberry-Labrador tea (n=5)

(*Populus tremuloides*(*Betula papyrifera*)/*Vaccinium myrtilloides*-*Ledum groenlandicum*)

This community type is found on mostly level slope positions with predominantly glaciofluvial parent materials with sandy soils at the surface. The presence of Labrador tea indicates that this site is transitional to the black spruce jackpine Labrador tea (mesic/poor) ecological site, but the presence of aspen, Canada buffaloberry, rose, marsh reedgrass and fireweed indicates a higher nutrient content and slightly better developed soils.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b2 blueberry - Aw(Bw)

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	39.0	25.0-75.0	100		Moisture Regime: Submesic (moderately fresh) (4), Subxeric (moderately dry) (1)
Understory Tree					Nutrient Regime: Submesotrophic (poor) (3), Mesotrophic (medium) (2)
ASPEN (<i>Populus tremuloides</i>)	4.2	1.0-7.0	100		Elevation (range): 524 (332-654) M
Medium Shrub (0.5 to 2 m)					Slope (%): 0.5 - 2.49 (4), 0 - 0.49 (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	17.0	5.0-20.0	100		Aspect: Level (2), Northerly (1), Easterly (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	9.4	1.0-20.0	100		Topographic Position: Level (3), Midslope (1)
TWINFLOWER (<i>Linnaea borealis</i>)	4.4	2.0-5.0	100		Soil Variables
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	3.8	1.0-7.0	100		Soil Drainage: Well drained (4), Moderately well drained (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	2.8	1.0-5.0	100		Soil Subgroup: ELUVIATED DYSTRIC BRUNISOL (2), ELUVIATED EUTRIC BRUNISOL (1), BRUNISOLIC GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.4	0.0-2.0	80		Surface Texture: Sand (2), Clay loam (1)
Tall Forb (>= 30 cm)					Effective Texture: Sand (2), Sandy clay (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.6	0.0-5.0	60		Depth to Mottles/Gley:
Low Forb (< 30 cm)					Organic Thickness: 0 - 5 cm (5)
BUNCHBERRY (<i>Cornus canadensis</i>)	13.4	7.0-20.0	100		Parent Material: Glaciofluvial (6), Morainal (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.2	0.0-10.0	60		Soil Type: Dry/Sandy (2), Dry/Fine (1)
Graminoid					Humus Form FIBRIMOR (2)
BLUEJOINT (<i>Calamagrostis canadensis</i>)	7.2	0.0-15.0	80		LFH Thickness
HAIRY WILD RYE (<i>Elymus innovatus</i>)	6.4	0.0-15.0	80		Mean
Moss					Min
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	13.4	1.0-39.0	100		Max
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	10.4	0.0-45.0	40		Count
				cm:	6.00
					5.00
					8.00
					3

b3 blueberry - Aw-Sw (n=13)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Tree

- [23.6] ASPEN
Populus tremuloides
- [16.6] WHITE SPRUCE
Picea glauca
- [1.2] WHITE BIRCH
Betula papyrifera

Shrub

- [17.7] COMMON BLUEBERRY
Vaccinium myrtilloides
- [9.3] COMMON BEARBERRY
Arctostaphylos uva-ursi
- [7.1] BOG CRANBERRY
Vaccinium vitis-idaea
- [5.7] GREEN ALDER
Alnus crispa
- [3.9] TWINFLOWER
Linnaea borealis
- [3.6] PRICKLY ROSE
Rosa acicularis
- [3.5] COMMON LABRADOR TEA
Ledum groenlandicum

Forb

- [6.1] BUNCHBERRY
Cornus canadensis
- [2.3] WILD LILY-OF-THE-VALLEY
Maianthemum canadense
- [1.1] COMMON FIREWEED
Epilobium angustifolium

Lichen

- [2.9] REINDEER LICHEN
Cladina mitis

Moss and Liverwort

- [11.1] SCHREBER'S MOSS
Pleurozium schreberi
- [2.2] STAIR-STEP MOSS
Hylocomium splendens

Graminoid

- [2.2] BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subxeric (moderately dry) (6), Mesic (fresh) (4), Submesic (moderately fresh) (3)
 Nutrient Regime: Submesotrophic (poor) (8), Mesotrophic (medium) (5)
 Elevation (range): 584 (315-702) M
 Slope (%): nearly level (6), very gentle slope (2), gentle slope (2), level (1), moderate slope (1)
 Aspect: Easterly (3), Southerly (3), Northerly (2), Level (2), Westerly (1)
 Topographic Position: Midslope (5), Level (3), Crest (3), Upper Slope (2)

Soil Variables

Soil Drainage: Well drained (8), Rapidly drained (4), Moderately well drained (1)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (6), ORTHIC GRAY LUVISOL (3), ELUVIATED DYSTRIC BRUNISOL (2)
 Surface Texture: Sand (6), Loamy sand (1), Sandy clay loam (1), Loam (1)
 Effective Texture: Sand (4), Loamy sand (2), Silt (1), Clay loam (1), Clay (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (11)
 Parent Material: Glaciofluvial (5), Morainal (2), Rock (1), Swamp (1), Eolian (1), Fluvial (1), Fluvioeolian (1)
 Soil Type: Moist/Sandy (3), Very Dry/Sandy (2), Very Dry/Silty-Loamy (1), Dry/Sandy (1), Dry/Fine (1), Moist/Fine (1)
 Humus Form FIBRIMOR (3), RAW MODER (1)

LFH Thickness	Mean	Min	Max	Count
cm:	5.00	1.00	9.00	9

CMC14b Aw-Sw/Blueberry-Green alder (n=4)

(*Populus tremuloides*-*Picea glauca*/ *Vaccinium myrtilloides*-*Alnus crispa*)

This community type is found on dry, well-drained, sandy sites interspersed with stands of jack pine. Moisture conditions and texture are dry and coarse at the surface, but there is some moisture at depth which favours the growth of green alder. This plant community is not common in the Central Mixedwood and was only described at four sites near Fort McMurray, Lac La Biche and Wandering river.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b3 blueberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	18.0	0.0-63.0	75	Moisture Regime: Subxeric (moderately dry) (2), Mesic (fresh) (2)
WHITE SPRUCE (<i>Picea glauca</i>)	9.0	0.0-20.0	50	Nutrient Regime: Submesotrophic (poor) (3), Mesotrophic (medium) (1)
Understory Tree				Elevation (range): 622 (541-685) M
WHITE SPRUCE (<i>Picea glauca</i>)	7.5	0.0-18.0	75	Slope (%): 0 - 0.49 (1), 0.5 - 2.49 (1), 6 - 9.99 (1)
Tall Shrub (2 to 5m)				Aspect: Level (1), Northerly (1), Southerly (1)
ASPEN (<i>Populus tremuloides</i>)	8.7	0.0-30.0	75	Topographic Position: Crest (2), Midslope (2)
GREEN ALDER (<i>Alnus crispa</i>)	7.7	0.0-24.8	75	Soil Variables
Medium Shrub (0.5 to 2 m)				Soil Drainage: Rapidly drained (2), Well drained (2)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	24.0	10.0-42.0	100	Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ELUVIATED DYSTRIC BRUNISOL (1)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	9.5	0.0-25.0	75	Surface Texture: Sand (3)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.1	0.0-18.0	75	Effective Texture: Sand (2), Silt (1)
TWINFLOWER (<i>Linnaea borealis</i>)	7.3	2.0-18.0	100	Depth to Mottles/Gley:
GREEN ALDER (<i>Alnus crispa</i>)	7.2	0.0-18.0	75	Organic Thickness: 0 - 5 cm (3)
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.1	1.7-6.0	100	Parent Material: Fluvial (1), Glaciofluvial (1), Swamp (1)
Low Forb (< 30 cm)				Soil Type: Moist/Sandy (2), Very Dry/Silty-Loamy (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	6.7	2.0-18.0	100	Humus Form
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	3.9	1.0-8.0	100	LFH Thickness
Graminoid				Mean Min Max Count
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.6	0.0-8.0	50	cm: 5.00 4.00 7.00 3
Moss				
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	6.2	0.0-20.0	75	
Lichen				
REINDEER LICHEN (<i>Cladina mitis</i>)	4.0	0.0-10.0	75	

CMC14c Aw-Sw/Blueberry-Labrador tea (n=4)

(*Populus tremuloides*-*Picea glauca*/*Vaccinium myrtilloides*-*Ledum groenlandicum*)

This community type is similar to the Aw/Blueberry-Labrador tea (CMC5b) community type but is successional more advanced. The climax vegetation on these sites in the absence of disturbance will be white spruce and eventually balsam fir. Generally the fire return interval is too short for balsam fir to dominate this ecological site.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b3 blueberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	31.2	15.0-50.0	100		Moisture Regime: Mesic (fresh) (2), Subxeric (moderately dry) (1), Submesic (moderately fresh) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	11.2	0.0-30.0	75		Nutrient Regime: Submesotrophic (poor) (3), Mesotrophic (medium) (1)
Understory Tree					Elevation (range): 612 (556-657) M
WHITE SPRUCE (<i>Picea glauca</i>)	7.5	0.0-15.0	75		Slope (%): 0.5 - 2.49 (3), 2.5 - 5.99 (1)
ASPEN (<i>Populus tremuloides</i>)	4.5	0.0-10.0	50		Aspect: Northerly (1), Easterly (1), Southerly (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	3.7	0.0-15.0	25		Topographic Position: Midslope (3), Level (1)
Medium Shrub (0.5 to 2 m)					Soil Variables
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	19.5	5.0-60.0	100		Soil Drainage: Well drained (3), Moderately well drained (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	10.7	6.0-20.0	100		Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ORTHIC GRAY LUVISOL (2)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	5.2	0.0-20.0	50		Surface Texture: Sand (2), Sandy clay loam (1), Loam (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.5	0.0-8.0	75		Effective Texture: Clay (1), Clay loam (1), Loamy sand (1), Sand (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	2.7	0.0-7.0	75		Depth to Mottles/Gley:
TWINFLOWER (<i>Linnaea borealis</i>)	2.2	0.0-4.0	75		Organic Thickness: 0 - 5 cm (4)
Tall Forb (>= 30 cm)					Parent Material: Glaciofluvial (2), Morainal (2)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.5	1.0-6.0	100		Soil Type: Moist/Sandy (1), Moist/Fine (1), Very Dry/Sandy (1), Dry/Fine (1)
Low Forb (< 30 cm)					Humus Form RAW MODER (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	9.0	1.0-20.0	100		LFH Thickness
Graminoid					Mean Min Max Count
BLUEJOINT (<i>Calamagrostis canadensis</i>)	4.2	0.0-10.0	50		cm: 6.00 4.00 9.00 4
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	12.5	0.0-25.0	75		
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	6.7	0.0-15.0	75		
Lichen					
REINDEER LICHEN (<i>Cladonia mitis</i>)	2.5	0.0-10.0	25		

CMD14a Aw-Sw/Blueberry-Bearberry (n=5)

(*Populus tremuloides*-*Picea glauca*/*Vaccinium myrtilloides*-*Arctostaphylos uva-ursi*)

This PC was described on predominantly eluviated brunisolic soils with predominantly fluvial parent materials. It is similar to the Aw/Blueberry (CMC5) PC but more successional advanced. The majority of productivity is from species unpalatable to livestock. Soils are sensitive to erosion. Lichens are common.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b3 blueberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	9.8	0.0-20.0	80		Moisture Regime: Subxeric (moderately dry) (3), Submesic (moderately fresh) (2)
ASPEN (<i>Populus tremuloides</i>)	3.4	0.0-10.0	40		Nutrient Regime: Mesotrophic (medium) (3), Submesotrophic (poor) (2)
Understory Tree					Elevation (range): 518 (315-702) M
ASPEN (<i>Populus tremuloides</i>)	5.2	0.0-15.0	60		Slope (%): 0.5 - 2.49 (2), 2.5 - 5.99 (1), 6 - 9.99 (1), 10 - 15.99 (1)
WHITE SPRUCE (<i>Picea glauca</i>)	5.0	0.0-10.0	60		Aspect: Easterly (2), Level (1), Southerly (1), Westerly (1)
Tall Shrub (2 to 5m)					Topographic Position: Level (2), Upper Slope (2), Crest (1)
GREEN ALDER (<i>Alnus crispa</i>)	2.2	0.0-10.0	40		Soil Variables
Medium Shrub (0.5 to 2 m)					Soil Drainage: Well drained (3), Rapidly drained (2)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	13.3	0.0-55.0	40		Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC GRAY LUVISOL (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	9.6	0.0-35.0	80		Surface Texture: Loamy sand (1), Sand (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.5	1.0-35.0	100		Effective Texture: Loamy sand (1), Sand (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.2	0.0-7.0	60		Depth to Mottles/Gley:
TWINFLOWER (<i>Linnaea borealis</i>)	2.2	1.0-5.0	100		Organic Thickness: 0 - 5 cm (4)
Low Forb (< 30 cm)					Parent Material: Glaciofluvial (2), Rock (1), Eolian (1), Fluvioeolian (1)
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	3.1	0.0-10.8	80		Soil Type: Dry/Sandy (1), Very Dry/Sandy (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	2.7	0.0-8.0	80		Humus Form FIBRIMOR (3)
Moss					LFH Thickness
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	14.8	0.0-70.0	80		Mean
Lichen					Min
REINDEER LICHEN (<i>Cladina mitis</i>)	2.4	0.0-10.0	40		Max
					Count
					cm: 4.00 1.00 6.00 2

b4 blueberry - Sw-Pj (n=9)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Tree

- [18.4]WHITE SPRUCE*
Picea glauca
- [17.1]JACK PINE
Pinus banksiana
- [3.8]WHITE BIRCH
Betula papyrifera

Shrub

- [15.8]COMMON BEARBERRY
Arctostaphylos uva-ursi
- [10.8]COMMON BLUEBERRY
Vaccinium myrtilloides
- [10.0]BOG CRANBERRY
Vaccinium vitis-idaea
- [6.2]GREEN ALDER
Alnus crispa
- [6.0]COMMON LABRADOR TEA
Ledum groenlandicum
- [3.2]TWINFLOWER
Linnaea borealis
- [2.3]CANADA BUFFALOBERRY
Shepherdia canadensis

Forb

- [3.5]BUNCHBERRY
Cornus canadensis
- [2.1]WILD SARSAPARILLA
Aralia nudicaulis

Lichen

- [5.8]REINDEER LICHEN
Cladina mitis
- [3.7]REINDEER LICHEN
Cladina rangiferina

Moss and Liverwort

- [22.3]SCHREBER'S MOSS
Pleurozium schreberi
- [7.2]STAIR-STEP MOSS
Hylocomium splendens

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (4), Subxeric (moderately dry) (2), Xeric (dry) (2), Mesic (fresh) (1)

Nutrient Regime: Submesotrophic (poor) (7), Mesotrophic (medium) (2)

Elevation (range): 579 (420-770) M

Slope (%): very gentle slope (4), level (3), nearly level (1)

Aspect: Level (3), Westerly (2), Easterly (1), Southerly (1)

Topographic Position: Crest (3), Level (2), Upper Slope (2)

Soil Variables

Soil Drainage: Well drained (5), Rapidly drained (4)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ORTHIC EUTRIC BRUNISOL (2), ORTHIC GRAY LUVISOL (2), ELUVIATED DARK BROWN CHERNOZEM (1), ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC DYSTRIC BRUNISOL (1)

Surface Texture: Sand (4), Silt loam (2), Silt (1)

Effective Texture: Sand (5), Silt loam (1), Silt (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (9)

Parent Material: Glaciofluvial (5), Rock (3), Fluvial (2), Saprolite (1), Glaciolacustrine (1), Morainal (1)

Soil Type: Dry/Sandy (2), Very Dry/Sandy (2), Very Dry/Silty-Loamy (2), Moist/Sandy (1)

Humus Form FIBRIMOR (2)

LFH Thickness

	Mean	Min	Max	Count
cm:	4.00	2.00	6.00	7

CMD19 Sw-Pj/Blueberry-Bearberry (n=5)

(*Picea glauca*-*Pinus banksiana*/*Vaccinium myrtilloides*-*Arctostaphylos uva-ursi*)

This community type represents a very open spruce forest. It was found on small, sandy hillcrests and upper slope positions. The site may have a high pH and is somewhat nutrient poor. In the absence of disturbance this site will likely succeed to white spruce, but the fire return interval is often too short for succession to white spruce.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b4 blueberry - Sw-Pj

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subxeric (moderately dry) (2), Submesic (moderately fresh) (2), Xeric (dry) (1) Nutrient Regime: Submesotrophic (poor) (4), Mesotrophic (medium) (1) Elevation (range): 586 (522-650) M Slope (%): 2.5 - 5.99 (3), 0 - 0.49 (1) Aspect: Level (2), Easterly (1), Westerly (1) Topographic Position: Crest (2), Upper Slope (1), Level (1)
JACK PINE (<i>Pinus banksiana</i>)	16.6	6.0-42.0	100		
WHITE SPRUCE (<i>Picea glauca</i>)	7.2	0.0-15.0	60		
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	8.2	5.0-18.0	100		
WHITE BIRCH (<i>Betula papyrifera</i>)	3.6	0.0-18.0	20		
Tall Shrub (2 to 5m)					
WHITE SPRUCE (<i>Picea glauca</i>)	5.4	0.0-18.0	80		
Medium Shrub (0.5 to 2 m)					
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	28.6	18.0-40.0	100		
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	8.0	0.0-20.0	60		
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	6.0	0.0-18.0	60		
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	4.6	0.0-12.0	60		
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	4.0	0.0-18.0	40		
TWINFLOWER (<i>Linnaea borealis</i>)	1.8	0.0-5.0	80		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	4.0	0.0-18.0	60		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	19.2	0.0-88.0	60		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	11.6	0.0-35.0	80		

Soil Variables

Soil Drainage: Well drained (4), Rapidly drained (1)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ORTHIC EUTRIC BRUNISOL (2), ORTHIC DYSTRIC BRUNISOL (1)
 Surface Texture: Sand (2), Silt loam (2)
 Effective Texture: Sand (2), Silt (1), Silt loam (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (5)
 Parent Material: Rock (3), Fluvial (2), Glaciofluvial (1), Glaciolacustrine (1), Saprolite (1)
 Soil Type: Very Dry/Silty-Loamy (2), Very Dry/Sandy (1), Dry/Sandy (1)
 Humus Form FIBRIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	3.00	2.00	5.00	4

CMD20 Sw-Pj/Blueberry-Green alder (n=4)

(*Picea glauca*-*Pinus banksiana*/*Vaccinium myrtilloides*-*Alnus crispa*)

This community type is found on dry, well-drained, sandy sites interspersed with stands of jack pine. Moisture conditions are dry at the surface, but there is some moisture at depth which favours the growth of green alder. This plant community is not common in the Central Mixedwood as the fire return interval is too short for the sites to succeed to white spruce.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Ecosite Phase: b4 blueberry - Sw-Pj

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Submesic (moderately fresh) (2), Xeric (dry) (1), Mesic (fresh) (1) Nutrient Regime: Submesotrophic (poor) (3), Mesotrophic (medium) (1) Elevation (range): 573 (420-770) M Slope (%): 0 - 0.49 (2), 0.5 - 2.49 (1), 2.5 - 5.99 (1) Aspect: Level (1), Southerly (1), Westerly (1) Topographic Position: Level (1), Crest (1), Upper Slope (1)
JACK PINE (<i>Pinus banksiana</i>)	15.0	0.0-35.0	75		
WHITE SPRUCE (<i>Picea glauca</i>)	5.0	0.0-18.0	50		
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	11.0	0.0-29.0	75		
WHITE BIRCH (<i>Betula papyrifera</i>)	4.0	0.0-8.0	75		
JACK PINE (<i>Pinus banksiana</i>)	2.7	0.0-10.0	50		
Tall Shrub (2 to 5m)					
GREEN ALDER (<i>Alnus crispa</i>)	6.2	0.0-15.0	50		
Medium Shrub (0.5 to 2 m)					
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	15.7	2.0-29.0	100		
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	12.0	0.0-30.0	50		
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	8.0	0.0-30.0	50		
GREEN ALDER (<i>Alnus crispa</i>)	6.2	0.0-15.0	75		
TWINFLOWER (<i>Linnaea borealis</i>)	4.7	0.0-18.0	50		
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	3.0	0.0-12.0	25		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	4.2	0.0-15.0	50		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	3.0	0.0-8.0	75		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	25.5	3.0-40.0	100		
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	14.5	0.0-30.0	75		
Lichen					
REINDEER LICHEN (<i>Cladina rangiferina</i>)	7.5	0.0-30.0	25		
Soil Variables					
Soil Drainage: Rapidly drained (3), Well drained (1)					
Soil Subgroup: ORTHIC GRAY LUVISOL (2), ELUVIATED DARK BROWN CHERNOZEM (1), ELUVIATED DYSTRIC BRUNISOL (1)					
Surface Texture: Sand (2), Silt (1)					
Effective Texture: Sand (3)					
Depth to Mottles/Gley:					
Organic Thickness: 0 - 5 cm (4)					
Parent Material: Glaciofluvial (4), Morainal (1)					
Soil Type: Very Dry/Sandy (1), Dry/Sandy (1), Moist/Sandy (1)					
Humus Form FIBRIMOR (1)					
LFH Thickness					
	Mean	Min	Max	Count	
cm:	5.00	3.00	6.00	3	

b5 blueberry - tame (n=10)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Shrub

- [1.4]PRICKLY ROSE
Rosa acicularis

Forb

- [6.4]COMMON DANDELION
Taraxacum officinale
- [5.7]WILD STRAWBERRY
Fragaria virginiana
- [1.4]CICER MILK VETCH
Astragalus cicer
- [0.9]ALSIKE CLOVER
Trifolium hybridum

Graminoid

- [21.6]KENTUCKY BLUEGRASS
Poa pratensis
- [4.8]AWNLESS BROME
Bromus inermis
- [4.4]CREEPING RED FESCUE
Festuca rubra
- [3.7]SEDGE SPECIES
Carex
- [2.3]TIMOTHY
Phleum pratense
- [1.1]CRESTED WHEAT GRASS
Agropyron pectiniforme
- [1.1]SIBERIAN WHEAT GRASS
Agropyron pectiniforme
- [1.0]INTERMEDIATE WHEAT GRASS
Agropyron intermedium

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (5), Mesic (fresh) (2)
 Nutrient Regime: Submesotrophic (poor) (4), Mesotrophic (medium) (3)
 Elevation (range): 585 (576-610) M
 Slope (%): nearly level (3), very gentle slope (3), moderate slope (1), level (1), very steep slope (1)
 Aspect: Northerly (2), Southerly (2), Level (2), Easterly (1), Westerly (1)
 Topographic Position: Level (4), Depression (3), Midslope (2), Crest (1)

Soil Variables

Soil Drainage: Well drained (4), Rapidly drained (3)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMF1 SM_TP Kentucky bluegrass-Smooth brome (n=10)

(*Poa pratensis*-*Bromus inermis*)

This community type represents pastures developed on submesic sites with drier moisture conditions. Sites sampled were dominated by Kentucky bluegrass, smooth brome and dandelion.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b5 blueberry - tame

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 0
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.4	0.0-5.7	60	Moisture Regime: Submesic (moderately fresh) (5), Mesic (fresh) (2)
Tall Forb (>= 30 cm)				Nutrient Regime: Submesotrophic (poor) (4), Mesotrophic (medium) (3)
CICER MILK VETCH (<i>Astragalus cicer</i>)	1.4	0.0-14.3	10	Elevation (range): 585 (576-610) M
ALSIKE CLOVER (<i>Trifolium hybridum</i>)	0.9	0.0-3.1	50	Slope (%): 0.5 - 2.49 (3), 2.5 - 5.99 (3), 0 - 0.49 (1), 10 - 15.99 (1), 71 - 100.99 (1)
Low Forb (< 30 cm)				Aspect: Level (2), Northerly (2), Southerly (2), Westerly (1), Easterly (1)
COMMON DANDELION (<i>Taraxacum officinale</i>)	6.4	0.0-29.0	90	Topographic Position: Level (4), Depression (3), Midslope (2), Crest (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	5.7	0.0-43.0	50	
Graminoid				Soil Variables
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	21.6	0.3-72.9	100	Soil Drainage: Well drained (4), Rapidly drained (3)
AWNLESS BROME (<i>Bromus inermis</i>)	4.8	0.0-24.8	60	Soil Subgroup:
CREEPING RED FESCUE (<i>Festuca rubra</i>)	4.4	0.0-14.3	50	Surface Texture:
SEDGE SPECIES (<i>Carex</i>)	3.7	0.0-26.2	50	Effective Texture:
TIMOTHY (<i>Phleum pratense</i>)	2.3	0.0-8.8	50	Depth to Mottles/Gley:
CRESTED WHEAT GRASS (<i>Agropyron pectiniforme</i>)	1.1	0.0-10.8	20	Organic Thickness:
SIBERIAN WHEAT GRASS (<i>Agropyron pectiniforme</i>)	1.1	0.0-10.8	20	Parent Material:
INTERMEDIATE WHEAT GRASS (<i>Agropyron intermedium</i>)	1.0	0.0-7.9	30	Soil Type:
				Humus Form
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm: 0.00 0.00 0.00 0

b6 blueberry - shrubland (n=5)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Tree

- [1.6] ASPEN
Populus tremuloides

Shrub

- [17.8] BEAKED HAZELNUT*
Corylus cornuta
- [14.5] COMMON BEARBERRY
Arctostaphylos uva-ursi
- [12.3] PRICKLY ROSE*
Rosa acicularis
- [7.8] WILD RED RASPBERRY
Rubus idaeus
- [4.4] SASKATOON
Amelanchier alnifolia
- [3.1] SNOWBERRY*
Symphoricarpos albus
- [3.0] COMMON WILD ROSE
Rosa woodsii
- [2.4] TWINFLOWER
Linnaea borealis
- [1.8] COMMON BLUEBERRY
Vaccinium myrtilloides

Forb

- [7.4] WILD STRAWBERRY
Fragaria virginiana
- [5.1] COMMON DANDELION
Taraxacum officinale
- [4.3] WHITE CLOVER
Trifolium repens
- [3.8] WILD SARSAPARILLA
Aralia nudicaulis
- [2.2] BOG VIOLET
Viola nephrophylla
- [2.0] CREAM-COLORED VETCHLING
Lathyrus ochroleucus
- [1.6] LINDLEY'S ASTER
Aster ciliolatus

Graminoid

- [4.4] SLENDER WHEAT GRASS
Agropyron trachycaulum
- [2.4] KENTUCKY BLUEGRASS
Poa pratensis
- [1.4] WHITE-GRAINED MOUNTAIN RICE GRASS
Oryzopsis asperifolia

Environmental Variables

Moisture Regime: Mesic (fresh) (3), Xeric (dry) (1), Submesic (moderately fresh) (1)

Nutrient Regime: Mesotrophic (medium) (4)

Elevation (range): 686 (640-722) M

Slope (%): level (2), moderate slope (1), very strong slope (1), very gentle slope (1)

Aspect: Southerly (2), Level (2), Northerly (1)

Topographic Position: Level (2), Midslope (1), Upper Slope (1)

Soil Variables

Soil Drainage: Well drained (4), Rapidly drained (1)

Soil Subgroup: ORTHIC EUTRIC BRUNISOL (1)

Surface Texture: Sand (1)

Effective Texture: Sand (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (1)

Parent Material: Colluvial (1)

Soil Type: Very Dry/Sandy (1)

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	1.00	1.00	1.00	1

CMA20 Rose-Hazelnut-Snowberry/Slender wheatgrass (n=5)

(*Rosa spp-Corylus cornuta-Symphoricarpus alba/Agropyron trachycaulum*)

This PC represents a dry aspen forested site (e.g. CMC5) which has had the canopy removed by fire or mechanical means. This PC would be commonly found on low impact and lightly to moderately grazed seismic lines passing through moderately dry aspen-jack pine stands. Shrubs have a flush of growth once there is more light and moisture available. The actual assemblage of species present depends on the availability of local propagules. There is only a minor occurrence of disturbance species such as Kentucky bluegrass or dandelion, and the site is dominated by pioneer species.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b6 blueberry - shrubland

Plant Composition	Canopy Cover (%)		
	Mean	Range	Const.
Tall Shrub (2 to 5m)			
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	7.4	0.0-37.3	20
SASKATOON (<i>Amelanchier alnifolia</i>)	1.9	0.0-9.5	20
ASPEN (<i>Populus tremuloides</i>)	1.6	0.0-6.7	40
Medium Shrub (0.5 to 2 m)			
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	14.5	0.0-70.0	40
PRICKLY ROSE (<i>Rosa acicularis</i>)	12.3	0.0-21.0	80
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	10.4	0.0-52.0	20
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	7.8	0.0-35.0	40
SNOWBERRY (<i>Symphoricarpus albus</i>)	3.1	0.0-11.8	80
COMMON WILD ROSE (<i>Rosa woodsii</i>)	3.0	0.0-15.0	20
SASKATOON (<i>Amelanchier alnifolia</i>)	2.5	0.0-10.8	40
TWINFLOWER (<i>Linnaea borealis</i>)	2.4	0.0-12.0	40
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	1.8	0.0-5.9	40
Tall Forb (>= 30 cm)			
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.8	0.0-11.5	40
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.0	0.5-5.9	100
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.6	0.0-3.4	60
Low Forb (< 30 cm)			
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	7.4	0.0-23.4	80
COMMON DANDELION (<i>Taraxacum officinale</i>)	5.1	0.0-23.5	80
WHITE CLOVER (<i>Trifolium repens</i>)	4.3	0.0-15.0	40
BOG VIOLET (<i>Viola nephrophylla</i>)	2.2	0.0-10.4	40
Graminoid			
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	4.4	0.1-20.0	100
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	2.4	0.0-11.9	60
WHITE-GRAINED MOUNTAIN RICE GRASS (<i>Oryzopsis asperifolia</i>)	1.4	0.0-6.0	40

Environmental Variables
Ecological Status Score: 27-40
Moisture Regime: Mesic (fresh) (3), Xeric (dry) (1), Submesic (moderately fresh) (1)
Nutrient Regime: Mesotrophic (medium) (4)
Elevation (range): 686 (640-722) M
Slope (%): 0 - 0.49 (2), 2.5 - 5.99 (1), 10 - 15.99 (1), 31 - 45.99 (1)
Aspect: Southerly (2), Level (2), Northerly (1)
Topographic Position: Level (2), Midslope (1), Upper Slope (1)

Soil Variables
Soil Drainage: Well drained (4), Rapidly drained (1)
Soil Subgroup: ORTHIC EUTRIC BRUNISOL (1)
Surface Texture: Sand (1)
Effective Texture: Sand (1)
Depth to Mottles/Gley:
Organic Thickness: 0 - 5 cm (1)
Parent Material: Colluvial (1)
Soil Type: Very Dry/Sandy (1)
Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	1.00	1.00	1.00	1

b7 blueberry - native grassland (n=1)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)

Characteristic Species

Shrub

- [12.2]SASKATOON*
Amelanchier alnifolia
- [7.6]PRICKLY ROSE
Rosa acicularis
- [4.9]COMMON BEARBERRY
Arctostaphylos uva-ursi
- [2.5]COMMON BLUEBERRY
Vaccinium myrtilloides

Forb

- [3.7]WILD STRAWBERRY
Fragaria virginiana
- [1.5]BASTARD TOADFLAX
Comandra umbellata
- [1.4]WILD LILY-OF-THE-VALLEY
Maianthemum canadense
- [1.1]WHITE CLOVER
Trifolium repens

Graminoid

- [11.1]INTERMEDIATE OAT GRASS*
Danthonia intermedia
- [5.1]KENTUCKY BLUEGRASS
Poa pratensis
- [2.5]HAY SEDGE*
Carex siccata
- [1.4]ROCKY MOUNTAIN FESCUE
Festuca saximontana
- [0.9]NORTHERN RICE GRASS
Oryzopsis pungens

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (1)
 Nutrient Regime: Mesotrophic (medium) (1)
 Elevation (range): 595 (595-595) M
 Slope (%): moderate slope (1)
 Aspect: Southerly (1)
 Topographic Position:

Soil Variables

Soil Drainage: Well drained (1), Very rapidly drained (1)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA23 Snowberry/Blunt sedge - Western porcupine grass (n=1)

(*Symphoricarpos occidentalis/Carex obtusata-Stipa curtiseta*)

This PC occupies mesic to submesic south facing slopes with Regosolic soils. This community type is not common in Central Mixedwood and was only described at one site in transition to the Central Parkland and Dry Mixedwood subregions southeast of Bonnyville. This community is similar to the Central Parkland Sedge-Western porcupine grass PC (CPA6) where the snowberry is low growing and not very dense. It is a very diverse, species rich community with over 36 species present. These open slopes provide forage and loafing areas for livestock.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: b blueberry(submesic/medium)
Ecosite Phase: b7 blueberry - native grassland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 27-40
SNOWBERRY (BUCKBRUSH) (<i>Symphoricarpos occidentalis</i>)	14.5	14.5-14.5	100	Moisture Regime: Submesic (moderately fresh) (1)
SASKATOON (<i>Amelanchier alnifolia</i>)	7.1	7.1-7.1	100	Nutrient Regime: Mesotrophic (medium) (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	0.7	0.7-0.7	100	Elevation (range): 595 (595-595) M
Tall Forb (>= 30 cm)				Slope (%): 10 - 15.99 (1)
SILVERY CINQUEFOIL (<i>Potentilla argentea</i>)	5.5	5.5-5.5	100	Aspect: Southerly (1)
SMOOTH ASTER (<i>Aster laevis</i>)	2.0	2.0-2.0	100	Topographic Position:
ASCENDING PURPLE MILK VETCH (<i>Astragalus striatus</i>)	1.0	1.0-1.0	100	Soil Variables
PRAIRIE SAGEWORT (<i>Artemisia ludoviciana</i>)	0.6	0.6-0.6	100	Soil Drainage: Very rapidly drained (1), Well drained (1)
Low Forb (< 30 cm)				Soil Subgroup:
ALPINE GOLDENROD (<i>Solidago multiradiata</i>)	7.8	7.8-7.8	100	Surface Texture:
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	6.5	6.5-6.5	100	Effective Texture:
BASTARD TOADFLAX (<i>Comandra umbellata</i>)	3.8	3.8-3.8	100	Depth to Mottles/Gley:
SMOOTH FLEABANE (<i>Erigeron glabellus</i>)	1.5	1.5-1.5	100	Organic Thickness:
FIELD MOUSE-EAR CHICKWEED (<i>Cerastium arvense</i>)	1.3	1.3-1.3	100	Parent Material:
COMMON DANDELION (<i>Taraxacum officinale</i>)	1.1	1.1-1.1	100	Soil Type:
HAREBELL (<i>Campanula rotundifolia</i>)	0.8	0.8-0.8	100	Humus Form
CUT-LEAVED ANEMONE (<i>Anemone multifida</i>)	0.5	0.5-0.5	100	
Graminoid				
BLUNT SEDGE (<i>Carex obtusata</i>)	19.0	19.0-19.0	100	
WESTERN PORCUPINE GRASS (<i>Stipa curtiseta</i>)	11.5	11.5-11.5	100	
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	6.0	6.0-6.0	100	
AWNED WHEAT GRASS (VAR. OF AGROTRA; USE AGROTRA) (<i>Agropyron subsecundum</i>)	5.5	5.5-5.5	100	
JUNE GRASS (<i>Koeleria macrantha</i>)	3.9	3.9-3.9	100	
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	1.5	1.5-1.5	100	
GREEN NEEDLE GRASS (<i>Stipa viridula</i>)	1.0	1.0-1.0	100	
				LFH Thickness
				Mean
				Min
				Max
				Count
cm:	0.00	0.00	0.00	0

c Labrador tea-mesic(mesic/poor) (n=38)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

This ecosite has a suberic to mesic nutrient-poor substrate. Labrador tea and bog cranberry are indicative of the relatively acidic surface soil conditions. It occurs in upland (midslope and upper slope) or level topographic positions dominantly on morainal or glaciofluvial parent materials. There is commonly a two-tiered even-aged canopy where the faster growing jack pine comprise the higher layer and the slower growing black spruce form a secondary canopy below the pine. While the Labrador tea-mesic ecosite (c) has plant community types similar to the Labrador tea-subhygric ecosite (g), the mesic ecosite tends to occur in upper topographic positions, has no mottles within the top 25 cm of soil, and a thinner organic layer. Based on the data, the green alder-dominated plant community type of the Labrador tea-mesic ecosite tends to be more productive than the Labrador tea or feather moss plant community types.



Successional Relationships

Successionally mature stands that develop on these ecosites may be dominated by black spruce. Residual pine occurring in the climax community are generally very old. The successional mature stage is rare due to high fire frequency.

Indicator Species

Tree

BLACK SPRUCE
Picea mariana

JACK PINE
Pinus banksiana

Shrub

CANADA BUFFALOBERRY
Shepherdia canadensis

COMMON LABRADOR TEA
Ledum groenlandicum

GREEN ALDER
Alnus crispa

Lichen

REINDEER LICHEN
Cladonia mitis

Moss and Liverwort

STAIR-STEP MOSS
Hylocomium splendens

SCHREBER'S MOSS
Pleurozium schreberi

Site Index at 50 Years

Site Index at 50 Years	Height (m)	Variation (m)	Count
JACK PINE <i>(Pinus banksiana)</i>	14.30	0.40	0
BLACK SPRUCE <i>(Picea mariana)</i>	11.50	0.60	0

Environmental Variables

Moisture Regime: Mesic (fresh) (13), Submesic (moderately fresh) (11), Suberic (moderately dry) (6)

Nutrient Regime: Submesotrophic (poor) (24), Mesotrophic (medium) (8)

Elevation (range): 490 (242-699) M

Slope (%): very gentle slope (11), level (9), nearly level (9), gentle slope (3), moderate slope (3)

Aspect: Southerly (10), Easterly (7), Level (5), Westerly (5), Northerly (2)

Topographic Position: Midslope (11), Level (9), Upper Slope (7), Crest (2), Lower Slope (2), Toe (1)

Soil Variables

Soil Drainage: Moderately well drained (15), Well drained (14), Rapidly drained (3)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (8), ORTHIC GRAY LUVISOL (8), BRUNISOLIC GRAY LUVISOL (6), ELUVIATED DYSTRIC BRUNISOL (4), ORTHIC EUTRIC BRUNISOL (2), Brunisol Eutric STATIC CRYOSOL (1), GLEYED GRAY LUVISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), GRAY SOLOD (1), ORTHIC DYSTRIC BRUNISOL (1)

Surface Texture: Sand (5), Sandy loam (3), Loam (3), Loamy medium sand (1), Loamy sand (1), Fine sand (1), Fine sandy loam (1), Silt loam (1), Very fine sandy loam (1), Sandy clay (1), Sandy clay loam (1)

Effective Texture: Sandy clay loam (5), Clay loam (4), Sand (4), Silty clay loam (2), Silty clay (1), Clay (1), Loamy medium sand (1), Loamy sand (1)

Depth to Mottles/Gley: 26 - 50 (1), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (37)

Parent Material: Glaciofluvial (12), Morainal (12), Glaciolacustrine (6), Fluvial (4), Eolian (2), Fluviolacustrine (1)

Soil Type: Moist/Fine (9), Dry/Sandy (4), Dry/Fine (2), Very Dry/Sandy (2), Very Dry/Fine (1)

Humus Form FIBRIMOR (12), FIBRIC PEATY MOR (3), FIBRIHUMIMOR (1), HUMIFIBRIMOR (1)

LFH Thickness

LFH Thickness	Mean	Min	Max	Count
cm:	6.33	2.00	15.00	18

c1 Labrador tea-mesic Pj-Sb (n=36)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)

Characteristic Species

Tree

- [17.9] JACK PINE*
Pinus banksiana
- [8.8] BLACK SPRUCE*
Picea mariana
- [5.3] WHITE SPRUCE
Picea glauca
- [5.0] ASPEN
Populus tremuloides

Shrub

- [14.7] COMMON LABRADOR TEA*
Ledum groenlandicum
- [8.8] BOG CRANBERRY
Vaccinium vitis-idaea
- [7.2] TWINFLOWER
Linnaea borealis
- [4.3] COMMON BLUEBERRY
Vaccinium myrtilloides
- [4.0] PRICKLY ROSE
Rosa acicularis
- [2.3] GREEN ALDER*
Alnus crispa
- [0.7] COMMON BEARBERRY
Arctostaphylos uva-ursi
- [0.6] NORTHERN LABRADOR TEA
Ledum palustre

Forb

- [4.7] BUNCHBERRY
Cornus canadensis
- [0.5] PALMATE-LEAVED COLTSFOOT
Petasites palmatus

Lichen

- [2.8] REINDEER LICHEN*
Cladina mitis
- [1.1] REINDEER LICHEN
Cladina rangiferina

Moss and Liverwort

- [32.9] SCHREBER'S MOSS*
Pleurozium schreberi
- [9.0] STAIR-STEP MOSS*
Hylocomium splendens
- [2.3] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [0.9] HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Mesic (fresh) (13), Submesic (moderately fresh) (10), Subxeric (moderately dry) (6)
 Nutrient Regime: Submesotrophic (poor) (22), Mesotrophic (medium) (8)
 Elevation (range): 495 (242-699) M
 Slope (%): very gentle slope (11), level (9), nearly level (8), gentle slope (3), moderate slope (2)
 Aspect: Southerly (10), Easterly (6), Westerly (5), Level (4), Northerly (2)
 Topographic Position: Midslope (11), Level (8), Upper Slope (7), Lower Slope (2), Crest (2)

Soil Variables

Soil Drainage: Moderately well drained (15), Well drained (14), Rapidly drained (2)
 Soil Subgroup: ORTHIC GRAY LUVISOL (8), ELUVIATED EUTRIC BRUNISOL (7), BRUNISOLIC GRAY LUVISOL (6), ELUVIATED DYSTRIC BRUNISOL (4), ORTHIC EUTRIC BRUNISOL (2), GRAY SOLOD (1), Brunisolic Eutric STATIC CRYOSOL (1), ORTHIC DYSTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1)
 Surface Texture: Sand (5), Sandy loam (3), Loam (3), Very fine sandy loam (1), Silt loam (1), Loamy sand (1), Sandy clay (1), Sandy clay loam (1), Fine sand (1), Fine sandy loam (1), Loamy medium sand (1)
 Effective Texture: Sandy clay loam (5), Sand (4), Clay loam (4), Silty clay loam (2), Silty clay (1), Clay (1), Loamy medium sand (1), Loamy sand (1)
 Depth to Mottles/Gley: 51 - 100 (1), 26 - 50 (1)
 Organic Thickness: 0 - 5 cm (35)
 Parent Material: Morainal (12), Glaciofluvial (10), Glaciolacustrine (6), Fluvial (4), Eolian (2), Fluviolacustrine (1)
 Soil Type: Moist/Fine (9), Dry/Sandy (4), Dry/Fine (2), Very Dry/Sandy (2), Very Dry/Fine (1)
 Humus Form FIBRIMOR (10), FIBRIC PEATYMOR (3), HUMIFIBRIMOR (1), FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	6.33	2.00	15.00	18

CMD16 Pj-Sb/Labrador tea/Feather moss (n=16)

(*Pinus banksiana*-*Picea mariana*/*Ledum groenlandicum*/*Pleurozium schreberi*)

This PC is found on coarse soil veneers causing variable moisture conditions but relatively poor nutrient availability. As a result, the assemblage of species present are very similar to those described by Beckingham Archibald (1996) on the Labrador tea mesic ecosite (i.e. c ecosite).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)
Ecotope Phase: c1 Labrador tea-mesic Pj-Sb

Plant Composition	Canopy Cover (%)			Environmental Variables										
	Mean	Range	Const.											
Overstory Tree				Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (7), Subxeric (moderately dry) (4), Submesic (moderately fresh) (4) Nutrient Regime: Submesotrophic (poor) (11), Mesotrophic (medium) (4) Elevation (range): 514 (242-699) M Slope (%): 2.5 - 5.99 (5), 0.5 - 2.49 (4), 0 - 0.49 (2), 6 - 9.99 (2) Aspect: Easterly (4), Southerly (3), Level (3), Westerly (2), Northerly (1) Topographic Position: Level (5), Midslope (5), Upper Slope (3), Crest (2), Lower Slope (1)										
JACK PINE (<i>Pinus banksiana</i>)	15.0	0.0-35.0	75											
BLACK SPRUCE (<i>Picea mariana</i>)	7.1	0.0-42.0	50											
Understory Tree														
BLACK SPRUCE (<i>Picea mariana</i>)	6.6	0.0-30.0	75											
JACK PINE (<i>Pinus banksiana</i>)	3.6	0.0-20.0	44											
Medium Shrub (0.5 to 2 m)														
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	20.2	0.0-80.0	94											
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	11.7	0.0-40.0	88											
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.5	0.0-29.0	88											
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.8	0.0-20.0	50											
NORTHERN LABRADOR TEA (<i>Ledum palustre</i>)	2.5	0.0-40.0	6											
TWINFLOWER (<i>Linnaea borealis</i>)	1.9	0.0-13.1	50											
Low Forb (< 30 cm)														
BUNCHBERRY (<i>Cornus canadensis</i>)	4.3	0.0-29.0	63											
Graminoid														
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.9	0.0-10.0	69											
Moss														
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	35.8	0.0-90.0	81											
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	5.8	0.0-25.0	44											
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	3.5	0.0-29.0	25											
Lichen														
REINDEER LICHEN (<i>Cladina mitis</i>)	7.1	0.0-25.0	81											
REINDEER LICHEN (<i>Cladina rangiferina</i>)	4.5	0.0-60.0	19											
				Soil Variables										
				Soil Drainage: Well drained (7), Moderately well drained (7), Rapidly drained (1) Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (4), ORTHIC GRAY LUVISOL (4), BRUNISOLIC GRAY LUVISOL (3), ELUVIATED DYSTRIC BRUNISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), Brunisolic Eutric STATIC CRYOSOL (1) Surface Texture: Sand (3), Loam (2), Sandy loam (2), Loamy sand (1), Sandy clay (1), Sandy clay loam (1) Effective Texture: Sand (3), Sandy clay loam (3), Silty clay loam (2), Clay (1), Clay loam (1) Depth to Mottles/Gley: 26 - 50 (1), 51 - 100 (1) Organic Thickness: 0 - 5 cm (15) Parent Material: Morainal (5), Glaciofluvial (3), Glaciolacustrine (3), Fluvial (2), Eolian (1), Fluviolacustrine (1) Soil Type: Moist/Fine (5), Very Dry/Sandy (2), Very Dry/Fine (1), Dry/Sandy (1) Humus Form FIBRIMOR (5), FIBRIHUMIMOR (1), HUMIFIBRIMOR (1)										
				LFH Thickness										
				<table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>7.00</td> <td>2.00</td> <td>15.00</td> <td>9</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	7.00	2.00	15.00	9
	Mean	Min	Max	Count										
cm:	7.00	2.00	15.00	9										

CMD16a Pj-Sb/Green alder/Feather moss (n=4)

(*Pinus banksiana-Picea mariana/Alnus crispa/Pleurozium schreberi*)

This community occurs in mid to upper slope positions and generally has a two tiered canopy composed of jack pine and black spruce. This community type was described from the Northern field guide (Beckingham and Archibald 1996) and is transitional to the mesic/medium low-bush cranberry ecological site, but the presence of black spruce and Labrador tea indicate the slightly poorer nutrient regime. In the absence of disturbance this community will continue to succeed to black spruce.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)

Ecosite Phase: c1 Labrador tea-mesic Pj-Sb

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
JACK PINE (<i>Pinus banksiana</i>)	28.7	0.0-45.0	75	Moisture Regime: Submesic (moderately fresh) (3), Subxeric (moderately dry) (1)
Understory Tree				Nutrient Regime: Submesotrophic (poor) (3)
JACK PINE (<i>Pinus banksiana</i>)	2.5	0.0-10.0	25	Elevation (range): 548 (315-674) M
Tall Shrub (2 to 5m)				Slope (%): 2.5 - 5.99 (2), 10 - 15.99 (1), 0.5 - 2.49 (1)
GREEN ALDER (<i>Alnus crispa</i>)	8.2	3.0-15.0	100	Aspect: Southerly (2), Northerly (1), Easterly (1)
BLACK SPRUCE (<i>Picea mariana</i>)	4.7	0.0-15.0	50	Topographic Position: Midslope (2), Upper Slope (2)
Medium Shrub (0.5 to 2 m)				Soil Variables
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	15.2	6.0-30.0	100	Soil Drainage: Well drained (3), Rapidly drained (1)
TWINFLOWER (<i>Linnaea borealis</i>)	14.2	0.0-35.0	75	Soil Subgroup: ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1), BRUNISOLIC GRAY LUVISOL (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	6.2	0.0-25.0	25	Surface Texture: Sand (2), Fine sand (1)
BLACK SPRUCE (<i>Picea mariana</i>)	4.2	0.0-15.0	50	Effective Texture: Loamy sand (1), Sand (1), Sandy clay loam (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	4.2	2.0-7.0	100	Depth to Mottles/Gley:
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.5	0.0-5.0	50	Organic Thickness: 0 - 5 cm (4)
GREEN ALDER (<i>Alnus crispa</i>)	1.2	0.0-5.0	25	Parent Material: Glaciofluvial (2), Morainal (1), Eolian (1), Fluvial (1)
Tall Forb (>= 30 cm)				Soil Type: Dry/Sandy (2), Dry/Fine (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.5	0.0-3.0	75	Humus Form
Low Forb (< 30 cm)				LFH Thickness
BUNCHBERRY (<i>Cornus canadensis</i>)	8.2	0.0-20.0	75	Mean
NORTHERN BASTARD TOADFLAX (<i>Geocaulon lividum</i>)	1.5	0.0-3.0	50	Min
GROUND-CEDAR (<i>Lycopodium complanatum</i>)	1.5	0.0-3.0	75	Max
Graminoid				Count
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.7	0.0-7.0	25	cm:
Moss				7.00
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	30.7	3.0-80.0	100	3.00
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	17.5	0.0-40.0	75	12.00
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	5.7	0.0-10.0	75	3
Lichen				
REINDEER LICHEN (<i>Cladina mitis</i>)	2.5	0.0-10.0	25	

CMD16b Pj-Sb/Feather moss (n=12)

(*Pinus banksiana-Picea mariana/Pleurozium schreberi*)

This plant community is found on coarse soil veneers causing variable moisture conditions but relatively poor nutrient availability. It has a predominant jack pine cover with an understory dominated by various moss species. Mesic jack pine dominated communities are not common and black spruce and Labrador tea are more prevalent in this ecological site in the Central Mixedwood subregion.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)
Ecosite Phase: c1 Labrador tea-mesic Pj-Sb

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (6), Submesic (moderately fresh) (3), Subxeric (moderately dry) (1) Nutrient Regime: Submesotrophic (poor) (8), Mesotrophic (medium) (4) Elevation (range): 563 (366-686) M Slope (%): 2.5 - 5.99 (4), 0 - 0.49 (3), 0.5 - 2.49 (3), 6 - 9.99 (1), 10 - 15.99 (1) Aspect: Southerly (5), Westerly (3), Level (1), Easterly (1) Topographic Position: Midslope (4), Level (3), Upper Slope (2), Lower Slope (1)
JACK PINE (<i>Pinus banksiana</i>)	17.0	0.0-63.0	67		
BLACK SPRUCE (<i>Picea mariana</i>)	5.7	0.0-40.0	50		
Understory Tree					
BLACK SPRUCE (<i>Picea mariana</i>)	7.0	0.0-30.0	83		
JACK PINE (<i>Pinus banksiana</i>)	4.6	0.0-29.0	33		
Medium Shrub (0.5 to 2 m)					
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.3	0.0-63.0	83		
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	1.5	0.0-5.0	67		
TWINFLOWER (<i>Linnaea borealis</i>)	1.4	0.0-4.0	58		
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	1.3	0.0-4.0	75		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.1	0.0-5.0	83		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	50.1	20.0-95.0	100		
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	13.0	0.0-40.0	58		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	1.6	0.0-5.0	75		
Soil Variables					
Soil Drainage: Moderately well drained (8), Well drained (4)					
Soil Subgroup: ORTHIC GRAY LUVISOL (4), BRUNISOLIC GRAY LUVISOL (2), ELUVIATED EUTRIC BRUNISOL (2), ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC DYSTRIC BRUNISOL (1), GRAY SOLOD (1), ORTHIC EUTRIC BRUNISOL (1)					
Surface Texture: Fine sandy loam (1), Loam (1), Loamy medium sand (1), Silt loam (1), Sandy loam (1), Very fine sandy loam (1)					
Effective Texture: Clay loam (3), Loamy medium sand (1), Sandy clay loam (1), Silty clay (1)					
Depth to Mottles/Gley:					
Organic Thickness: 0 - 5 cm (12)					
Parent Material: Morainal (6), Glaciofluvial (5), Glaciolacustrine (3), Fluvial (1)					
Soil Type: Moist/Fine (4), Dry/Sandy (1), Dry/Fine (1)					
Humus Form FIBRIMOR (5), FIBRIC PEATYMOR (3)					
LFH Thickness					
	Mean	Min	Max	Count	
cm:	5.00	3.00	7.00	6	

CMD16c Sw-Aw/Labrador tea/Feather moss (n=4)

(*Picea glauca*-*Populus tremuloides*/*Ledum groenlandicum*/*Pleurozium schreberi*)

This community type is similar to the PI-Aw-Sw/Labrador tea (LFh15) community type described in the Lower Foothills subregion (Willoughby et al. 2020) and is part of the Labrador tea -mesic ecosite (Beckingham and Archibald 1996). It is fairly dry and low in nutrients and has more acidic soils relative to the modal for the Central Mixedwood.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)

Ecosite Phase: c1 Labrador tea-mesic Pj-Sb

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables				
	Mean	Range							
Overstory Tree					Ecological Status Score: 25				
ASPEN (<i>Populus tremuloides</i>)	20.0	15.0-25.0		100	Moisture Regime:				
WHITE SPRUCE (<i>Picea glauca</i>)	18.7	15.0-25.0		100	Nutrient Regime:				
Tall Shrub (2 to 5m)					Elevation (range): 357 (352-362) M				
WHITE SPRUCE (<i>Picea glauca</i>)	3.0	1.0-5.0		100	Slope (%): 0 - 0.49 (4)				
Medium Shrub (0.5 to 2 m)					Aspect:				
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	31.0	20.0-42.0		100	Topographic Position:				
PRICKLY ROSE (<i>Rosa acicularis</i>)	12.0	2.0-22.0		100	Soil Variables				
TWINFLOWER (<i>Linnaea borealis</i>)	11.5	1.0-22.0		100	Soil Drainage:				
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	3.0	1.0-5.0		100	Soil Subgroup:				
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	1.5	1.0-2.0		100	Surface Texture:				
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	1.5	1.0-2.0		100	Effective Texture:				
Low Forb (< 30 cm)					Depth to Mottles/Gley:				
BUNCHBERRY (<i>Cornus canadensis</i>)	4.5	4.0-5.0		100	Organic Thickness: 0 - 5 cm (4)				
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.0	2.0-2.0		100	Parent Material:				
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.5	1.0-2.0		100	Soil Type:				
Moss					Humus Form				
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	15.0	10.0-20.0		100	LFH Thickness				
					Mean	Min	Max	Count	
					0.00	0.00	0.00	0	

c2 Labrador tea-mesic shrubland (n=2)

Natural Subregion: Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)

Ecosection: CM Central Mixedwood

Characteristic Species

Tree

- [5.5] JACK PINE
Pinus banksiana
- [1.0] ASPEN
Populus tremuloides
- [0.5] BLACK SPRUCE
Picea mariana

Shrub

- [30.0] CANADA BUFFALOBERRY*
Shepherdia canadensis
- [3.0] COMMON LABRADOR TEA
Ledum groenlandicum
- [1.5] COMMON BEARBERRY
Arctostaphylos uva-ursi
- [1.5] TWINFLOWER
Linnaea borealis
- [1.0] COMMON BLUEBERRY
Vaccinium myrtilloides

Forb

- [12.5] BUNCHBERRY
Cornus canadensis

Lichen

- [1.0] REINDEER LICHEN
Cladonia mitis
- [1.0] STUDDERED LEATHER LICHEN
Peltigera aphthosa

Moss and Liverwort

- [60.0] SCHREBER'S MOSS
Pleurozium schreberi
- [25.0] STAIR-STEP MOSS
Hylocomium splendens
- [2.5] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Environmental Variables

Moisture Regime: Submesic (moderately fresh) (1)
 Nutrient Regime: Submesotrophic (poor) (2)
 Elevation (range): 471 (441-501) M
 Slope (%): moderate slope (1), nearly level (1)
 Aspect: Easterly (1), Level (1)
 Topographic Position: Toe (1), Level (1)

Soil Variables

Soil Drainage: Rapidly drained (1)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1)
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (2)
 Parent Material: Glaciofluvial (2)
 Soil Type:
 Humus Form FIBRIMOR (2)

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA36 Canada buffaloberry/Feather moss/Lichen (Pj-Sb) (n=2)

(*Shepherdia canadensis*/*Pleurozium schreberi*/*Cladina spp.* (*Pinus banksiana*-*Picea mariana*))

This community type represents a jack pine, black spruce dominated community that has been burned. Tree growth is vigorous and in the continued absence of disturbance will eventually succeed to a black spruce/jack pine dominated community type.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: c Labrador tea-mesic(mesic/poor)

Ecosite Phase: c2 Labrador tea-mesic shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 40
JACK PINE (<i>Pinus banksiana</i>)	5.5	5.0-6.0	100	Moisture Regime: Submesic (moderately fresh) (1)
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Submesotrophic (poor) (2)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	30.0	10.0-50.0	100	Elevation (range): 471 (441-501) M
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	3.0	1.0-5.0	100	Slope (%): 0.5 - 2.49 (1), 10 - 15.99 (1)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	1.5	1.0-2.0	100	Aspect: Level (1), Easterly (1)
TWINFLOWER (<i>Linnaea borealis</i>)	1.5	1.0-2.0	100	Topographic Position: Level (1), Toe (1)
ASPEN (<i>Populus tremuloides</i>)	1.0	1.0-1.0	100	Soil Variables
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	1.0	1.0-1.0	100	Soil Drainage: Rapidly drained (1)
BLACK SPRUCE (<i>Picea mariana</i>)	0.5	0.0-1.0	50	Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1)
Low Forb (< 30 cm)				Surface Texture:
BUNCHBERRY (<i>Cornus canadensis</i>)	12.5	10.0-15.0	100	Effective Texture:
Moss				Depth to Mottles/Gley:
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	60.0	45.0-75.0	100	Organic Thickness: 0 - 5 cm (2)
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	25.0	5.0-45.0	100	Parent Material: Glaciofluvial (2)
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	2.5	0.0-5.0	50	Soil Type:
Lichen				Humus Form FIBRIMOR (2)
REINDEER LICHEN (<i>Cladina mitis</i>)	1.0	1.0-1.0	100	LFH Thickness
STUDDER LEATHER LICHEN (<i>Peltigera aphthosa</i>)	1.0	1.0-1.0	100	Mean
				Min
				Max
				Count
				cm:
				0.00
				0.00
				0.00
				0

d low-bush cranberry(mesic/medium) (n=906)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

This is the reference ecosite for the Boreal Mixedwood because it has a mesic moisture regime and a medium nutrient regime. Generally, these sites have moderately fine to fine-textured till or glaciolacustrine parent materials. Grassland communities can occur on this ecological site. These communities tend to be found on shallow south and west facing slopes and have a significant cover of slender wheatgrass, intermediate oatgrass and low growing saskatoon. The grassland plant communities are very similar to the "dd" ecosite described in the Dry Mixedwood subregion (Moisey et al. 2016) and are likely outliers of the Dry Mixedwood.



Successional Relationships

Pioneer deciduous tree species such as aspen, balsam poplar, and white birch are replaced by white spruce and balsam fir as these sites develop successional. Along with a change in canopy composition is a change in understory structure and understory species composition and abundance. Generally, as a stand successional matures, the coniferous canopy cover increases, and understory species structure and diversity declines. This results in stands with low cover of shrub, forb, and grass species and high moss cover. Grassland community types tend to remain for long periods of time as an edaphic climax, because of the dry site conditions.

Indicator Species

Tree

BALSAM FIR

Abies balsamea

ASPEN

Populus tremuloides

Shrub

SNOWBERRY (BUCKBRUSH)

Symphoricarpos occidentalis

LOW-BUSH CRANBERRY

Viburnum edule

BEAKED HAZELNUT

Corylus cornuta

GREEN ALDER

Alnus crispa

SASKATOON

Amelanchier alnifolia

Forb

COMMON FIREWEED

Epilobium angustifolium

WILD SARSAPARILLA

Aralia nudicaulis

Moss and Liverwort

STAIR-STEP MOSS

Hylacomium splendens

SCHREBER'S MOSS

Pleurozium schreberi

Graminoid

WESTERN PORCUPINE GRASS

Stipa curtiseta

Site Index at 50 Years

Site Index at 50 Years	Height (m)	Variation (m)	Count
WHITE SPRUCE (<i>Picea glauca</i>)	16.80	0.20	0
WHITE BIRCH (<i>Betula papyrifera</i>)	14.40	1.10	0
JACK PINE (<i>Pinus banksiana</i>)	15.20	1.00	0
BLACK SPRUCE (<i>Picea mariana</i>)	15.70	1.50	0
BALSAM POPLAR (<i>Populus balsamifera</i>)	17.30	0.60	0
BALSAM FIR (<i>Abies balsamea</i>)	14.00	1.10	0
ASPEN (<i>Populus tremuloides</i>)	18.20	0.20	0

Environmental Variables

Moisture Regime: Mesic (fresh) (529), Subhygric (moderately moist) (164), Submesic (moderately fresh) (121), Subxeric (moderately dry) (8), Hygric (moist) (1)

Nutrient Regime: Mesotrophic (medium) (632), Permesotrophic (rich) (123), Submesotrophic (poor) (68)

Elevation (range): 597 (247-1380) M

Slope (%): nearly level (236), very gentle slope (231), level (114), gentle slope (80), moderate slope (60), strong slope (25), very strong slope (7), steep slope (1), extreme slope (1)

Aspect: Level (156), Westerly (139), Northerly (137), Easterly (133), Southerly (131)

Topographic Position: Midslope (207), Level (203), Upper Slope (143), Lower Slope (58), Crest (53), Depression (8), Toe (7)

Soil Variables

Soil Drainage: Moderately well drained (447), Well drained (252), Imperfectly drained (99), Rapidly drained (19), Poorly drained (9), Very poorly drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (294), BRUNISOLIC GRAY LUVISOL (99), ELUVIATED EUTRIC BRUNISOL (64), GLEYED GRAY LUVISOL (52), DARK GRAY LUVISOL (23), ORTHIC EUTRIC BRUNISOL (22), ORTHIC LUVIC GLEYSOL (16), SOLONETZIC GRAY LUVISOL (16), ELUVIATED DYSTRIC BRUNISOL (10), GLEYED BRUNISOLIC GRAY LUVISOL (7),

Surface Texture: Silt loam (118), Sandy loam (98), Loam (67), Sand (63), Clay loam (52), Silty clay loam (40), Loamy sand (39), Sandy clay loam (33), Silt (27), Silty clay (22), Fine sandy loam (15), Clay (11),

Effective Texture: Clay (153), Clay loam (132), Sandy clay loam (65), Silty clay (58), Silty clay loam (55), Sand (49), Heavy clay (19), Loamy sand (16),

Depth to Mottles/Gley: 0 - 25 (32), 26 - 50 (12), 51 - 100 (6)

Organic Thickness: 0 - 5 cm (688), 6 - 15 cm (2), 40 - 59 cm (1)

Parent Material: Morainal (442), Glaciofluvial (186), Glaciolacustrine (129), Eolian (51), Fluvial (36), Lacustrine (34), Residual (9),

Soil Type: Moist/Fine (417), Dry/Fine (50), Moist/Sandy (38), Dry/Sandy (25), Moist/Silty-Loamy (21), Moist/Coarse (14), Moist/Peaty (9),

Humus Form FIBRIHUMIMOR (60), FIBRIMOR (58), HUMIFIBRIMOR (28), RAW MODER (14), MODER (6), MOR (2),

LFH Thickness

LFH Thickness	Mean	Min	Max	Count
cm:	8.43	1.00	36.00	585

d1 low-bush cranberry - Aw (n=601)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Tree

- [50.0]ASPEN*
Populus tremuloides
- [1.9]BALSAM POPLAR
Populus balsamifera

Shrub

- [12.3]PRICKLY ROSE*
Rosa acicularis
- [5.8]LOW-BUSH CRANBERRY*
Viburnum edule
- [5.6]BEAKED HAZELNUT*
Corylus cornuta
- [4.7]CANADA BUFFALOBERRY
Shepherdia canadensis
- [4.4]GREEN ALDER*
Alnus crispa
- [4.3]TWINFLOWER
Linnaea borealis
- [4.1]SASKATOON*
Amelanchier alnifolia
- [3.1]DEWBERRY
Rubus pubescens
- [3.0]TWINFLOWER
Linnaea borealis
- [2.0]BEAKED WILLOW*
Salix bebbiana

Forb

- [6.6]WILD SARSAPARILLA*
Aralia nudicaulis
- [6.4]BUNCHBERRY
Cornus canadensis
- [4.5]COMMON FIREWEED*
Epilobium angustifolium
- [2.9]CREAM-COLORED VETCHLING
Lathyrus ochroleucus
- [2.5]WILD STRAWBERRY
Fragaria virginiana
- [1.9]COMMON PINK WINTERGREEN
Pyrola asarifolia
- [1.5]WILD LILY-OF-THE-VALLEY
Maianthemum canadense

Graminoid

- [5.8]BLUEJOINT
Calamagrostis canadensis
- [3.3]HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Mesic (fresh) (347), Subhygric (moderately moist) (90), Submesic (moderately fresh) (80), Subxeric (moderately dry) (7), Hygric (moist) (1)

Nutrient Regime: Mesotrophic (medium) (407), Permesotrophic (rich) (83), Submesotrophic (poor) (35)

Elevation (range): 631 (247-1200) M

Slope (%): nearly level (161), very gentle slope (150), level (64), gentle slope (52), moderate slope (40), strong slope (16), very strong slope (3), extreme slope (1), steep slope (1)

Aspect: Westerly (99), Level (97), Northerly (93), Southerly (86), Easterly (82)

Topographic Position: Midslope (133), Level (117), Upper Slope (99), Lower Slope (33), Crest (29), Depression (5), Toe (3)

Soil Variables

Soil Drainage: Moderately well drained (283), Well drained (159), Imperfectly drained (70), Rapidly drained (12), Poorly drained (6), Very poorly drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (192), BRUNISOLIC GRAY LUVISOL (64), ELUVIATED EUTRIC BRUNISOL (35), GLEYED GRAY LUVISOL (30), ORTHIC EUTRIC BRUNISOL (16), DARK GRAY LUVISOL (14), SOLONETZIC GRAY LUVISOL (13), ORTHIC LUVIC GLEYSOL (11), ELUVIATED DYSTRIC BRUNISOL (8), GLEYED BRUNISOLIC GRAY LUVISOL (5), ORTHIC GLEYSOL (4), CUMULIC REGOSOL (4), ORTHIC REGOSOL (4), REGO HUMIC GLEYSOL (4), GLEYED ELUVIATED EUTRIC BRUNISOL (4), GLEYED SOLONETZIC GRAY LUVISOL (4), GLEYED DARK GRAY LUVISOL (2), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC DYSTRIC BRUNISOL (1), SOLONETZIC BROWN CHERNOZEM (1), ELUVIATED DARK BROWN CHERNOZEM (1), GLEYED EUTRIC BRUNISOL (1), ORTHIC MELANIC BRUNISOL (1), GLEYED GRAY SOLOD (1), Dark Grey SOLODIZED SOLONETZ (1), GLEYED GRAY SOLODIZED SOLONETZ (1), GRAY SOLODIZED SOLONETZ (1), PODZOLIC GRAY LUVISOL (1), ORTHIC HUMO-FERRIC PODZOL (1), HUMIC LUVIC GLEYSOL (1)

Surface Texture: Silt loam (73), Sandy loam (72), Sand (46), Loam (45), Clay loam (31), Sandy clay loam (24), Silty clay loam (23), Loamy sand (21), Silt (13), Silty clay (12), Fine sandy loam (9), Clay (4), Very fine sandy loam (3), Loamy medium sand (2), Heavy clay (2), Medium sand (1), Sandy clay (1), Loamy coarse sand (1), Coarse sand (1), Coarse sandy loam (1)

Effective Texture: Clay (108), Clay loam (86), Sandy clay loam (44), Silty clay loam (37), Sand (35), Silty clay (28), Sandy loam (11), Heavy clay (10), Loamy sand (5), Sandy clay (4), Silt loam (4), Loam (3), Loamy medium sand (2), Fine Sandy Clay Loam (2), Silt (2), Coarse sand (1), Fine sandy loam (1), Loamy coarse sand (1), Medium sand (1)

Depth to Mottles/Gley: 0 - 25 (15), 26 - 50 (9), 51 - 100 (4)

Organic Thickness: 0 - 5 cm (430), 6 - 15 cm (2)

Parent Material: Morainal (312), Glaciofluvial (105), Glaciolacustrine (81), Eolian (30), Fluvial (27), Lacustrine (12), Fluviolacustrine (8), Rock (8), Residual (6), Colluvial (5), Lacustromoraine (3), Fluvioeolian (1)

Soil Type: Moist/Fine (267), Dry/Fine (38), Moist/Sandy (23), Dry/Sandy (18), Moist/Coarse (10), Moist/Silty-Loamy (8), Very Dry/Sandy (5), Dry/Coarse (4), Very Dry/Coarse (4), Moist/Peaty (3), Dry/Silty-Loamy (2), Very Dry/Fine (1)

Humus Form FIBRIHUMIMOR (46), FIBRIMOR (25), HUMIFIBRIMOR (14), RAW MODER (12), MODER (5), TYPICAL MODER (1), HUMIMOR (1), MULL-LIKE MODER (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	7.56	1.00	25.00	373

CMC11 Aw/Rose/Clover/Kentucky bluegrass (n=16)

(*Populus tremuloides*/*Rosa acicularis*/*Trifolium spp.*/*Poa pratensis*)

The reference PC for CMC11 is the Aw/Rose/Tall forb PC (CMC8). CMC11 represents aspen stands that have received long term heavy grazing pressure. As a result, native forbs have declined and clover has increased in the understory. CMC7 (Aw/Rose/Low forb) is a successional intermediate PC between CMC8 and CMC11. Plots describing CMC10 Aw-Pb/Rose/strawberry in approximation 6 (Moisey et al. 2016) were classified into either CMC7 or CMC11 in this guide. The displacement of native species indicates that there is a livestock management problem.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 0-10
ASPEN (<i>Populus tremuloides</i>)	52.7	30.0-70.0	100		Moisture Regime: Mesic (fresh) (7), Subhygric (moderately moist) (3)
BALSAM POPLAR (<i>Populus balsamifera</i>)	4.5	0.0-25.0	25		Nutrient Regime: Mesotrophic (medium) (7), Permesotrophic (rich) (3)
Understory Tree					Elevation (range): 660 (457-719) M
ASPEN (<i>Populus tremuloides</i>)	2.0	0.0-10.0	44		Slope (%): 2.5 - 5.99 (4), 0.5 - 2.49 (1), 6 - 9.99 (1)
Medium Shrub (0.5 to 2 m)					Aspect: Westerly (5), Easterly (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	22.9	2.0-50.0	100		Topographic Position: Level (4), Lower Slope (2)
SNOWBERRY (BUCKBRUSH) (<i>Symphoricarpos occidentalis</i>)	4.8	0.0-40.0	69		Soil Variables
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	2.5	0.0-15.0	44		Soil Drainage: Moderately well drained (8), Imperfectly drained (2)
Low Shrub (< 0.5m)					Soil Subgroup: HUMIC LUVIC GLEYSOL (1), REGO HUMIC GLEYSOL (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.0	0.0-9.2	56		Surface Texture:
Tall Forb (>= 30 cm)					Effective Texture:
ALSIKE CLOVER (<i>Trifolium hybridum</i>)	9.3	0.0-43.0	69		Depth to Mottles/Gley:
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	6.0	0.0-17.0	56		Organic Thickness: 0 - 5 cm (2)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.6	0.0-11.4	63		Parent Material: Glaciolacustrine (2)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	3.1	0.0-11.4	75		Soil Type:
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	2.3	0.0-5.9	81		Humus Form
Low Forb (< 30 cm)					LFH Thickness
BUNCHBERRY (<i>Cornus canadensis</i>)	13.6	0.0-30.4	75		Mean
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	5.9	0.0-35.5	81		Min
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	5.4	0.0-16.5	88		Max
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	3.2	0.0-10.8	88		Count
WHITE CLOVER (<i>Trifolium repens</i>)	2.5	0.0-16.0	44		cm:
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	2.2	0.0-8.0	75		0.00
COMMON DANDELION (<i>Taraxacum officinale</i>)	2.1	0.0-6.5	69		0.00
Graminoid					0.00
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.9	0.0-8.3	81		0
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	1.4	0.0-10.2	56		

CMC12 Aw/Green alder (n=75)

(*Populus tremuloides*/*Alnus crispa*)

This community type is scattered throughout the Central Mixedwood subregion on mainly mesic to subhygric, well-drained sites. This community is likely of fire origin. Many of the plots were described from a large fire that burned through the area in 1968. The aspen trees are also young and very dense. The high cover of aspen, alder, and willow limits the amount of light reaching the understory.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	38.3	0.0-90.0	96		Moisture Regime: Mesic (fresh) (44), Submesic (moderately fresh) (11), Subhygric (moderately moist) (9)
BALSAM POPLAR (<i>Populus balsamifera</i>)	3.5	0.0-45.0	28		Nutrient Regime: Mesotrophic (medium) (46), Submesotrophic (poor) (11), Permesotrophic (rich) (8)
Understory Tree					Elevation (range): 679 (333-854) M
ASPEN (<i>Populus tremuloides</i>)	6.1	0.0-30.0	63		Slope (%): 0.5 - 2.49 (17), 6 - 9.99 (15), 2.5 - 5.99 (14), 10 - 15.99 (8), 0 - 0.49 (5), 16 - 30.99 (5), 46 - 70.99 (1)
Tall Shrub (2 to 5m)					Aspect: Westerly (17), Easterly (13), Northerly (13), Level (11), Southerly (7)
GREEN ALDER (<i>Alnus crispa</i>)	23.1	0.0-85.0	89		Topographic Position: Midslope (21), Upper Slope (15), Level (10), Crest (7), Lower Slope (4), Depression (3)
Medium Shrub (0.5 to 2 m)					Soil Variables
GREEN ALDER (<i>Alnus crispa</i>)	7.7	0.0-70.0	64		Soil Drainage: Moderately well drained (31), Well drained (28), Imperfectly drained (6), Rapidly drained (2)
PRICKLY ROSE (<i>Rosa acicularis</i>)	6.9	0.0-30.0	83		Soil Subgroup: ORTHIC GRAY LUVISOL (19), BRUNISOLIC GRAY LUVISOL (11), ELUVIATED EUTRIC BRUNISOL (5), ORTHIC EUTRIC BRUNISOL (4), ELUVIATED DYSTRIC BRUNISOL (3), DARK GRAY LUVISOL (3), GLEYED BRUNISOLIC GRAY LUVISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1), SOLONETZIC GRAY LUVISOL (1), ORTHIC REGOSOL (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	5.8	0.0-30.0	79		Surface Texture: Sandy loam (9), Silt loam (6), Sandy clay loam (5), Sand (5), Clay loam (4), Silty clay (3), Loam (3), Silt (2), Loamy sand (2), Loamy coarse sand (1), Very fine sandy loam (1), Coarse sand (1)
TWINFLOWER (<i>Linnaea borealis</i>)	4.8	0.0-40.0	65		Effective Texture: Clay loam (11), Sandy clay loam (8), Sand (6), Clay (6), Silty clay loam (4), Silty clay (2), Heavy clay (1), Silt loam (1), Sandy clay (1), Loamy coarse sand (1), Coarse sand (1)
BRACKETED HONEYSUCKLE (<i>Lonicera involucrata</i>)	3.1	0.0-25.0	56		Depth to Mottles/Gley: 26 - 50 (2)
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	2.7	0.0-25.0	56		Organic Thickness: 0 - 5 cm (52)
Low Shrub (< 0.5m)					Parent Material: Morainal (30), Glaciofluvial (12), Eolian (9), Glaciolacustrine (8), Fluvial (4), Residual (2), Lacustrine (2)
DEWBERRY (<i>Rubus pubescens</i>)	3.5	0.0-35.0	84		Soil Type: Moist/Fine (31), Dry/Sandy (4), Moist/Sandy (2), Dry/Fine (2), Moist/Coarse (1), Very Dry/Sandy (1), Moist/Silty-Loamy (1)
Tall Forb (>= 30 cm)					Humus Form FIBRIHUMIMOR (6), HUMIFIBRIMOR (3), FIBRIMOR (2), MULL-LIKE MODER (1), RAW MODER (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	14.9	0.0-64.7	80		LFH Thickness
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.5	0.0-25.0	80		Mean
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.0	0.0-13.2	64		Min
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.6	0.0-20.0	61		Max
Low Forb (< 30 cm)					Count
BUNCHBERRY (<i>Cornus canadensis</i>)	7.1	0.0-40.0	84		cm: 7.00 2.00 18.00 41
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	3.1	0.0-40.0	76		
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	2.6	0.0-25.0	79		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.8	0.0-20.0	72		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	10.4	0.0-80.0	77		
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.5	0.0-30.0	32		

CMC13 Aw/Beaked willow (n=35)

(*Populus tremuloides*/*Salix bebbiana*)

This community type occurs on mesic to subhygric, mid to lower slope positions and is transitional to the moister and richer dogwood dominated ecological site. The soils are predominantly Luvisols and Brunisols but Gleysols can occur in the lower slope positions. Beaked willow tends to dominate the understory with a high cover of wild sarsaparilla and fireweed in the forb layer. Previously, this community type was split into four community types (Willoughby and Downing 1995). These included the Aw/Willow-Rose/Twinflower, Aw/Willow-Rose/Bunchberry, Aw/Rose-Willow-Pin cherry/Fireweed and Aw/Rose-Willow-Saskatoon. All four community types appeared to have had a fire origin.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	39.8	7.0-88.0	100	Moisture Regime: Mesic (fresh) (21), Subhygric (moderately moist) (10), Submesic (moderately fresh) (4)
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.4	0.0-25.0	29	Nutrient Regime: Mesotrophic (medium) (23), Permesotrophic (rich) (10), Submesotrophic (poor) (2)
Understory Tree				Elevation (range): 617 (311-870) M
ASPEN (<i>Populus tremuloides</i>)	11.4	0.0-40.0	71	Slope (%): 0.5 - 2.49 (15), 2.5 - 5.99 (6), 0 - 0.49 (3), 10 - 15.99 (2), 6 - 9.99 (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	2.3	0.0-35.0	26	Aspect: Northerly (7), Southerly (6), Level (5), Easterly (4), Westerly (4)
Tall Shrub (2 to 5m)				Topographic Position: Level (9), Midslope (9), Upper Slope (9), Lower Slope (4), Toe (1), Depression (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	9.2	0.0-35.0	77	
SALIX SPECIES (<i>Salix</i>)	3.8	0.0-40.0	14	Soil Variables
Medium Shrub (0.5 to 2 m)				Soil Drainage: Moderately well drained (19), Well drained (8), Imperfectly drained (8)
PRICKLY ROSE (<i>Rosa acicularis</i>)	10.0	0.0-35.0	89	Soil Subgroup: ORTHIC GRAY LUVISOL (8), BRUNISOLIC GRAY LUVISOL (4), GLEYED GRAY LUVISOL (4), ELUVIATED EUTRIC BRUNISOL (3), ORTHIC LUVIC GLEYSOL (3), GLEYED ELUVIATED EUTRIC BRUNISOL (2), ELUVIATED DYSTRIC BRUNISOL (2), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), GLEYED GRAY SOLODIZED SOLONETZ (1)
TWINFLOWER (<i>Linnaea borealis</i>)	5.7	0.0-25.0	71	Surface Texture: Sand (9), Silt loam (5), Loam (3), Clay loam (2), Silty clay loam (2), Sandy clay loam (1), Silty clay (1), Coarse sandy loam (1), Sandy loam (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.1	0.0-18.0	80	Effective Texture: Sand (6), Clay (6), Silty clay loam (4), Silty clay (2), Clay loam (2), Heavy clay (2), Loam (1), Loamy sand (1), Sandy loam (1), Sandy clay loam (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	3.4	0.0-10.0	63	Depth to Mottles/Gley: 0 - 25 (2), 26 - 50 (1)
Low Shrub (< 0.5m)				Organic Thickness: 0 - 5 cm (29)
DEWBERRY (<i>Rubus pubescens</i>)	4.5	0.0-18.0	83	Parent Material: Morainal (15), Glaciofluvial (14), Glaciolacustrine (7), Eolian (3), Residual (1), Fluvial (1), Fluviolacustrine (1), Colluvial (1)
Tall Forb (>= 30 cm)				Soil Type: Moist/Fine (15), Moist/Sandy (7), Dry/Fine (2)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	8.3	0.0-40.0	86	Humus Form FIBRIHUMIMOR (6), FIBRIMOR (2), RAW MODER (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.1	0.0-35.0	29	
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.5	0.0-10.0	83	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	8.2	0.0-30.5	86	
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.9	0.0-25.0	74	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.6	0.0-25.0	80	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	12.5	0.0-75.0	89	
HAIRY WILD RYE (<i>Elymus innovatus</i>)	4.4	0.0-45.0	57	
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm:
				8.00
				4.00
				16.00
				26

CMC3 Aw/Hazelnut-Rose (n=64)

(*Populus tremuloides*/*Corylus cornuta*-*Rosa spp*)

This community type was described on south facing slopes and is very similar to the hazelnut communities described in the Dry Mixedwood subregion. This type appears to occupy warmer and drier microsites that resemble the Dry Mixedwood's climate.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (27), Subhygric (moderately moist) (10), Submesic (moderately fresh) (9) Nutrient Regime: Mesotrophic (medium) (37), Permesotrophic (rich) (9), Submesotrophic (poor) (2) Elevation (range): 618 (380-730) M Slope (%): 2.5 - 5.99 (20), 0.5 - 2.49 (11), 10 - 15.99 (10), 16 - 30.99 (3), 0 - 0.49 (1), 6 - 9.99 (1) Aspect: Westerly (18), Northerly (9), Easterly (9), Southerly (8), Level (2) Topographic Position: Midslope (14), Upper Slope (9), Lower Slope (8), Level (4), Crest (1), Toe (1)
ASPEN (<i>Populus tremuloides</i>)	37.2	0.0-88.0	94		
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.9	0.0-40.0	44		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	9.4	0.0-40.0	73		
Tall Shrub (2 to 5m)					
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	10.7	0.0-53.7	53		
SASKATOON (<i>Amelanchier alnifolia</i>)	5.8	2.1-22.0	100		
Medium Shrub (0.5 to 2 m)					
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	25.5	0.0-88.0	64		
PRICKLY ROSE (<i>Rosa acicularis</i>)	14.1	5.2-72.0	100		
TWINFLOWER (<i>Linnaea borealis</i>)	4.4	0.0-55.0	45		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	3.9	0.0-24.3	80		
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	3.8	0.0-23.0	63		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	4.4	0.0-18.0	88		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	9.9	0.0-40.0	89		
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	4.9	0.0-17.6	92		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.5	0.0-35.7	73		
WILD VETCH (<i>Vicia americana</i>)	1.7	0.0-18.0	64		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	5.6	0.0-27.5	86		
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	4.2	0.0-42.5	75		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	3.8	0.0-18.0	91		
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.9	0.0-10.0	83		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.8	0.0-20.0	84		
HAIRY WILD RYE (<i>Elymus innovatus</i>)	2.3	0.0-25.0	67		
				Soil Variables	
				Soil Drainage: Moderately well drained (33), Well drained (7), Imperfectly drained (6), Rapidly drained (2)	
				Soil Subgroup: ORTHIC GRAY LUVISOL (24), BRUNISOLIC GRAY LUVISOL (4), ELUVIATED EUTRIC BRUNISOL (4), ELUVIATED DYSTRIC BRUNISOL (2), GLEYED BRUNISOLIC GRAY LUVISOL (2), DARK GRAY LUVISOL (1), GLEYED SOLONETZIC GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), GLEYED EUTRIC BRUNISOL (1), ORTHIC DYSTRIC BRUNISOL (1)	
				Surface Texture: Silt loam (10), Sandy loam (9), Loam (4), Sand (4), Loamy sand (3), Sandy clay loam (3), Silty clay (2), Clay (1), Silt (1), Silty clay loam (1), Loamy medium sand (1), Very fine sandy loam (1)	
				Effective Texture: Clay (15), Clay loam (6), Sandy clay loam (6), Sand (3), Silty clay (3), Silty clay loam (2), Sandy clay (1), Sandy loam (1), Loam (1), Loamy medium sand (1), Loamy sand (1)	
				Depth to Mottles/Gley: 26 - 50 (3), 51 - 100 (3), 0 - 25 (1)	
				Organic Thickness: 0 - 5 cm (41)	
				Parent Material: Morainal (53), Glaciofluvial (16), Glaciolacustrine (5), Fluvial (4), Lacustrine (2), Fluviolacustrine (1), Rock (1), Eolian (1)	
				Soil Type: Moist/Fine (26), Dry/Fine (7), Very Dry/Sandy (2), Dry/Sandy (2), Moist/Coarse (1), Moist/Silty-Loamy (1), Moist/Sandy (1)	
				Humus Form MODER (3), RAW MODER (1), HUMIMOR (1), HUMIFIBRIMOR (1)	
				LFH Thickness	
				Mean	
				Min	
				Max	
				Count	
				cm: 7.00 3.00 16.00 39	

CMC6 Aw/Rose-Twinflower (n=18)

(*Populus tremuloides*/ *Rosa spp-Linnaea borealis*)

This community type occupies mesic, well drained sites, with medium nutrient regimes. It is similar to the Aw/Rose type described by Beckingham and Archibald (1996) and the Aw/Rose-Low-bush cranberry/Tall Forbs (CMC8) community type described previously, but it appears to be found on slightly drier sites that have poorer nutrient regimes. It is felt that this community type may be at a later successional stage (Sw) as the tall forbs are reduced and the site is dominated by low forbs such as bunchberry, strawberry, and common pink wintergreen. This site will succeed to a mixed Aw-Sw/Rose/Forb and eventually to a Sw/Moss community type. This community type may also be formed after light to moderate grazing an Aw/Rose-Low-bush cranberry/Tall Forb community type. Moderate grazing appears to favour the growth of lower growing forbs.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition

Canopy Cover (%)

	Mean	Range	Const.
Overstory Tree			
ASPEN (<i>Populus tremuloides</i>)	57.6	12.0-80.0	100
WHITE SPRUCE (<i>Picea glauca</i>)	2.0	0.0-20.0	33
Understory Tree			
ASPEN (<i>Populus tremuloides</i>)	2.0	0.0-15.0	33
WHITE SPRUCE (<i>Picea glauca</i>)	1.5	0.0-10.0	17
Medium Shrub (0.5 to 2 m)			
PRICKLY ROSE (<i>Rosa acicularis</i>)	11.4	0.0-25.3	94
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.6	0.0-30.0	72
TWINING HONEYSUCKLE (<i>Lonicera dioica</i>)	2.4	0.0-35.1	44
WHITE SPRUCE (<i>Picea glauca</i>)	1.4	0.0-12.0	22
Low Shrub (< 0.5m)			
TWINFLOWER (<i>Linnaea borealis</i>)	21.0	15.0-35.1	100
DEWBERRY (<i>Rubus pubescens</i>)	3.3	0.0-15.0	83
Tall Forb (>= 30 cm)			
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	4.8	0.0-35.0	56
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	3.4	0.0-13.4	72
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.9	0.0-15.0	67
WILD VETCH (<i>Vicia americana</i>)	1.3	0.0-5.2	72
Low Forb (< 30 cm)			
BUNCHBERRY (<i>Cornus canadensis</i>)	8.3	1.0-25.0	100
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	5.2	0.0-19.8	78
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	3.3	0.0-9.8	78
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	2.2	0.0-6.0	78
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.7	0.0-7.0	67
Graminoid			
WHITE-GRAINED MOUNTAIN RICE GRASS (<i>Oryzopsis asperifolia</i>)	4.9	0.0-20.3	39
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.2	0.0-15.0	72

Environmental Variables

Ecological Status Score: 10-25
 Moisture Regime: Mesic (fresh) (9), Submesic (moderately fresh) (4), Subhygric (moderately moist) (1)
 Nutrient Regime: Mesotrophic (medium) (13), Permesotrophic (rich) (1)
 Elevation (range): 554 (380-720) M
 Slope (%): 0.5 - 2.49 (4), 2.5 - 5.99 (3), 0 - 0.49 (1), 10 - 15.99 (1)
 Aspect: Southerly (2), Westerly (2), Easterly (2), Northerly (1), Level (1)
 Topographic Position: Level (6), Midslope (1), Crest (1), Upper Slope (1)

Soil Variables

Soil Drainage: Moderately well drained (7), Well drained (5), Rapidly drained (1), Imperfectly drained (1)
 Soil Subgroup: ORTHIC GRAY LUVISOL (3), DARK GRAY LUVISOL (1), BRUNISOLIC GRAY LUVISOL (1), ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1)
 Surface Texture: Clay loam (3), Medium sand (1), Silt loam (1), Silty clay (1)
 Effective Texture: Clay (3), Sandy clay loam (1), Medium sand (1), Clay loam (1)
 Depth to Mottles/Gley: 26 - 50 (1), 0 - 25 (1)
 Organic Thickness: 0 - 5 cm (7)
 Parent Material: Glaciofluvial (3), Glaciolacustrine (1)
 Soil Type: Moist/Fine (4), Moist/Coarse (1), Dry/Sandy (1)
 Humus Form FIBRIMOR (3)

LFH Thickness

	Mean	Min	Max	Count
cm:	6.00	1.00	10.00	6

CMC7 Aw/Rose/Low forb (n=36)

(*Populus tremuloides*/*Rosa spp*/Low forb)

The reference PC for CMC7 is the Aw/Rose/Tall forb PC (CMC8). CMC7 appears to be produced when lightly to moderately grazed for a number of years (Willoughby 1996). Relative to CMC8, CMC7 has a greater proportion of low vs tall forb cover. It is not certain why there is a difference in the tall and low forb types. Corns and Annas (1986) recognized the two types in the Lower Foothills subregion. They felt the tall forb type was moister and had a higher nutrient regime. It has also been observed that sarsaparilla appears to be very sensitive to any disturbance by livestock. Long term heavy grazing will lead to the Aw/Rose high disturbance PC (CMC11).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 10-15
ASPEN (<i>Populus tremuloides</i>)	50.0	10.0-75.0	100		Moisture Regime: Mesic (fresh) (14), Subhygric (moderately moist) (4), Submesic (moderately fresh) (2)
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.5	0.0-35.0	42		Nutrient Regime: Mesotrophic (medium) (17), Permesotrophic (rich) (3)
Understory Tree					Elevation (range): 608 (345-800) M
ASPEN (<i>Populus tremuloides</i>)	2.8	0.0-20.0	44		Slope (%): 0.5 - 2.49 (6), 2.5 - 5.99 (4), 0 - 0.49 (3), 6 - 9.99 (2), 10 - 15.99 (2)
Medium Shrub (0.5 to 2 m)					Aspect: Westerly (5), Northerly (4), Level (3), Southerly (3), Easterly (2)
PRICKLY ROSE (<i>Rosa acicularis</i>)	13.6	0.0-35.0	97		Topographic Position: Level (6), Midslope (3), Crest (1)
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	5.1	0.0-46.5	53		Soil Variables
SNOWBERRY (BUCKBRUSH) (<i>Symphoricarpos occidentalis</i>)	4.3	0.0-16.5	72		Soil Drainage: Well drained (10), Moderately well drained (7), Imperfectly drained (2), Poorly drained (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	1.9	0.0-25.0	61		Soil Subgroup: DARK GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC GLEYSOL (1), ORTHIC EUTRIC BRUNISOL (1), ORTHIC GRAY LUVISOL (1)
Low Shrub (< 0.5m)					Surface Texture: Loam (2), Sand (1), Silty clay (1), Clay loam (1)
DEWBERRY (<i>Rubus pubescens</i>)	3.2	0.0-14.1	81		Effective Texture: Clay (3), Sand (1), Clay loam (1)
Tall Forb (>= 30 cm)					Depth to Mottles/Gley: 0 - 25 (2)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	4.8	0.0-22.5	92		Organic Thickness: 0 - 5 cm (5)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.7	0.0-70.0	50		Parent Material: Glaciofluvial (1), Fluvial (1), Residual (1), Morainal (1)
WILD VETCH (<i>Vicia americana</i>)	2.0	0.0-18.6	69		Soil Type: Moist/Fine (3), Moist/Sandy (1), Moist/Coarse (1), Dry/Coarse (1)
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.4	0.0-10.0	72		Humus Form FIBRIHUMIMOR (1)
VEINY MEADOW RUE (<i>Thalictrum venulosum</i>)	1.3	0.0-9.3	33		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.0	0.0-7.5	36		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	9.5	0.0-25.0	83		
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.4	0.0-11.0	94		
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	3.3	0.0-25.0	69		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	3.1	0.0-9.1	86		
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	2.9	0.0-11.9	94		
COMMON DANDELION (<i>Taraxacum officinale</i>)	0.7	0.0-5.0	61		
Graminoid					
HAIRY WILD RYE (<i>Elymus innovatus</i>)	2.6	0.0-7.9	78		
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.2	0.0-15.0	83		
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	0.5	0.0-3.6	39		
					LFH Thickness
					Mean
					Min
					Max
					Count
				cm:	6.00
					5.00
					8.00
					5

CMC8 Aw/Low-bush cranberry-Rose/Tall forb (n=282)

(Aw/*Viburnum edule*-*Rosa spp.*/*Aralia nudicaulis*-*Epilobium angustifolium*)

This PC appears to be the modal aspen community type under limited disturbance on mesic, medium to rich sites and combines plant communities Aw/Low-bush cranberry (d1.5), Aw/Rose (d1.6) and Aw/forbs (d1.8) community types of Beckingham and Archibald (1996). The presence of tall forbs such as wild sarsaparilla, fireweed, and peavine distinguish this community from the low forb type. It is unclear why there is a difference in the tall and low forb types. Corns and Annas (1986) recognized the two types in the Lower Foothills subregion. They felt the wild sarsaparilla type was moister and had a higher nutrient regime. It has also been observed that the low forb type can be produced when the tall forb community is lightly to moderately grazed for a number of years (Willoughby 1996). Wild sarsaparilla, appears to be very sensitive to any disturbance by livestock. If the canopy is relatively open, marsh reed grass is abundant.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	41.2	0.0-85.0	97	Moisture Regime: Mesic (fresh) (174), Subhygric (moderately moist) (46), Submesic (moderately fresh) (39), Subxeric (moderately dry) (7), Hygric (moist) (1)
BALSAM POPLAR (<i>Populus balsamifera</i>)	4.5	0.0-75.0	46	Nutrient Regime: Mesotrophic (medium) (206), Permesotrophic (rich) (40), Submesotrophic (poor) (16)
Understory Tree				Elevation (range): 653 (247-1380) M
ASPEN (<i>Populus tremuloides</i>)	7.9	0.0-45.0	72	Slope (%): 0.5 - 2.49 (84), 2.5 - 5.99 (77), 0 - 0.49 (42), 6 - 9.99 (26), 10 - 15.99 (17), 16 - 30.99 (4)
Medium Shrub (0.5 to 2 m)				Aspect: Level (54), Northerly (48), Easterly (47), Southerly (46), Westerly (35)
PRICKLY ROSE (<i>Rosa acicularis</i>)	15.8	7.0-65.0	100	Topographic Position: Level (70), Midslope (65), Upper Slope (52), Lower Slope (15), Crest (14)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	11.8	0.0-70.0	89	
TWINFLOWER (<i>Linnaea borealis</i>)	3.9	0.0-80.0	61	
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	2.0	0.0-40.0	43	
Tall Forb (>= 30 cm)				Soil Variables
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	8.5	0.0-65.0	60	Soil Drainage: Moderately well drained (133), Well drained (85), Imperfectly drained (40), Rapidly drained (6), Poorly drained (2), Very poorly drained (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	6.8	0.0-75.0	83	Soil Subgroup: ORTHIC GRAY LUVISOL (105), BRUNISOLIC GRAY LUVISOL (39), ELUVIATED EUTRIC BRUNISOL (21), GLEYED GRAY LUVISOL (18), ORTHIC LUVIC GLEYSOL (7), ORTHIC EUTRIC BRUNISOL (7), SOLONETZIC GRAY LUVISOL (6), DARK GRAY LUVISOL (4), CUMULIC REGOSOL (3), REGO HUMIC GLEYSOL (3), ORTHIC GLEYSOL (3), GLEYED DARK GRAY LUVISOL (2),
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	3.2	0.0-31.8	89	Surface Texture: Sandy loam (46), Silt loam (44), Sand (24), Loam (20), Silty clay loam (14), Loamy sand (14), Sandy clay loam (11), Clay loam (11), Silt (10),
SHOWY ASTER (<i>Aster conspicuus</i>)	1.6	0.0-25.0	50	Effective Texture: Clay (53), Clay loam (50), Sandy clay loam (25), Silty clay loam (20), Silty clay (17), Sand (17), Sandy loam (7), Heavy clay (5),
WILD VETCH (<i>Vicia americana</i>)	1.6	0.0-20.0	71	Depth to Mottles/Gley: 0 - 25 (6), 26 - 50 (1), 51 - 100 (1)
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.5	0.0-15.0	59	Organic Thickness: 0 - 5 cm (230), 6 - 15 cm (2)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.5	0.0-20.0	61	Parent Material: Morainal (172), Glaciolacustrine (51), Glaciofluvial (49), Fluvial (15), Eolian (14), Fluviolacustrine (6), Lacustrine (5), Rock (5), Lacustromoraine (2), Colluvial (2), Residual (2), Fluvioeolian (1)
Low Forb (< 30 cm)				Soil Type: Moist/Fine (146), Dry/Fine (17), Moist/Sandy (11), Dry/Sandy (9), Moist/Silty-Loamy (5), Moist/Coarse (4), Dry/Coarse (3),
BUNCHBERRY (<i>Cornus canadensis</i>)	6.2	0.0-60.0	85	Humus Form FIBRIHUMIMOR (20), FIBRIMOR (17), RAW MODER (8), HUMIFIBRIMOR (8), MODER (2), TYPICAL MODER (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.4	0.0-45.0	71	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.0	0.0-25.0	76	
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	1.9	0.0-25.8	71	
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.8	0.0-30.0	72	
Graminoid				LFH Thickness
BLUEJOINT (<i>Calamagrostis canadensis</i>)	8.4	0.0-70.0	84	Mean
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.3	0.0-85.0	45	Min
				Max
				Count
				cm: 7.00 1.00 25.00 196

CMC8a Aw/Canada buffaloberry (n=40)

(*Populus tremuloides*/*Shepherdia canadensis*)

This community type was found on generally mesic sites at higher elevations in the Central Mixedwood subregion in transition to the Lower Foothills subregion. Beckingham (1993) felt the Aw/Buffaloberry type was slightly drier and had a slightly poorer nutrient regime than the modal Aw/Rose community types. Buffaloberry the predominant shrub species in this community type, is generally unpalatable to livestock. Generally the soils are Luvisols but on slightly moister sites Luvic and Humic Gleysols maybe present.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	49.2	0.0-80.0	98	Moisture Regime: Mesic (fresh) (29), Subhygric (moderately moist) (5), Submesic (moderately fresh) (4)
Understory Tree				Nutrient Regime: Mesotrophic (medium) (33), Permesotrophic (rich) (4), Submesotrophic (poor) (2)
ASPEN (<i>Populus tremuloides</i>)	6.7	0.0-45.0	63	Elevation (range): 685 (325-870) M
Medium Shrub (0.5 to 2 m)				Slope (%): 0.5 - 2.49 (17), 2.5 - 5.99 (11), 0 - 0.49 (8), 16 - 30.99 (2), 6 - 9.99 (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	30.1	10.0-85.0	100	Aspect: Level (15), Northerly (7), Westerly (7), Southerly (6), Easterly (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	15.8	1.0-45.0	100	Topographic Position: Midslope (10), Upper Slope (10), Level (2), Crest (2), Toe (1), Depression (1)
TWINFLOWER (<i>Linnaea borealis</i>)	9.0	0.0-50.0	88	
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	6.0	0.0-30.0	85	
DWARF BILBERRY (<i>Vaccinium caespitosum</i>)	2.8	0.0-30.0	33	
Low Shrub (< 0.5m)				Soil Variables
DEWBERRY (<i>Rubus pubescens</i>)	1.5	0.0-5.0	65	Soil Drainage: Moderately well drained (30), Imperfectly drained (3), Poorly drained (3), Well drained (2), Rapidly drained (1)
Tall Forb (>= 30 cm)				Soil Subgroup: ORTHIC GRAY LUVISOL (23), SOLONETZIC GRAY LUVISOL (4), GLEYED GRAY LUVISOL (3), DARK GRAY LUVISOL (3), PODZOLIC GRAY LUVISOL (1), GLEYED SOLONETZIC GRAY LUVISOL (1), BRUNISOLIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	4.3	0.0-20.0	83	Surface Texture: Loam (9), Clay loam (8), Silt loam (5), Sandy loam (4), Silty clay loam (4), Silty clay (3), Heavy clay (1), Sandy clay (1), Sandy clay loam (1), Loamy sand (1)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.1	0.0-7.0	95	Effective Texture: Clay (19), Silty clay loam (6), Clay loam (3), Silty clay (3), Heavy clay (2), Sandy loam (1), Sandy clay loam (1), Silt loam (1)
SHOWY ASTER (<i>Aster conspicuus</i>)	1.9	0.0-7.0	53	Depth to Mottles/Gley: 0 - 25 (3), 26 - 50 (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	1.6	0.0-30.0	15	Organic Thickness: 0 - 5 cm (38)
Low Forb (< 30 cm)				Parent Material: Morainal (25), Glaciolacustrine (5), Glaciofluvial (3), Rock (2), Lacustrine (1), Lacustromoraine (1), Colluvial (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	7.5	0.0-30.0	88	Soil Type: Moist/Fine (29), Dry/Fine (5), Very Dry/Coarse (1), Moist/Silty-Loamy (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.3	0.0-10.0	88	Humus Form FIBRIHUMIMOR (13), HUMIFIBRIMOR (2), FIBRIMOR (1)
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	1.7	0.0-7.0	73	
Graminoid				
HAIRY WILD RYE (<i>Elymus innovatus</i>)	5.6	0.0-40.0	80	
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.4	0.0-20.0	53	
Moss				
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	3.4	0.0-35.0	68	
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm: 6.00 1.00 18.00 37

CMC9 Aw/Saskatoon (n=28)

(*Populus tremuloides*/*Amelanchier alnifolia*)

This community type was found on mesic, well drained south facing slopes that overlook lakes, rivers and streams. This PC is similar to the Aw/Saskatoon (DMC7) PC described in the Dry Mixedwood subregion. Saskatoon provides important browse for wild ungulates. It is also palatable to livestock.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	37.6	0.0-85.0	96		Moisture Regime: Mesic (fresh) (18), Submesic (moderately fresh) (7)
Understory Tree					Nutrient Regime: Mesotrophic (medium) (20), Permesotrophic (rich) (4), Submesotrophic (poor) (2)
ASPEN (<i>Populus tremuloides</i>)	6.7	0.0-35.0	68		Elevation (range): 595 (380-735) M
Tall Shrub (2 to 5m)					Slope (%): 2.5 - 5.99 (11), 0.5 - 2.49 (5), 6 - 9.99 (5), 31 - 45.99 (3), 16 - 30.99 (2)
SASKATOON (<i>Amelanchier alnifolia</i>)	9.0	0.0-55.0	57		Aspect: Southerly (8), Westerly (6), Level (4), Northerly (3), Easterly (3)
Medium Shrub (0.5 to 2 m)					Topographic Position: Midslope (9), Upper Slope (3), Crest (3), Level (2)
SASKATOON (<i>Amelanchier alnifolia</i>)	14.0	0.0-40.0	57		Soil Variables
PRICKLY ROSE (<i>Rosa acicularis</i>)	12.4	0.0-35.0	93		Soil Drainage: Moderately well drained (13), Well drained (12), Imperfectly drained (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.5	0.0-25.0	57		Soil Subgroup: ORTHIC GRAY LUVISOL (9), BRUNISOLIC GRAY LUVISOL (4), ORTHIC EUTRIC BRUNISOL (4), SOLONETZIC GRAY LUVISOL (2), ORTHIC REGOSOL (1), SOLONETZIC BROWN CHERNOZEM (1), ORTHIC MELANIC BRUNISOL (1), DARK GRAY LUVISOL (1), CUMULIC REGOSOL (1), ELUVIATED EUTRIC BRUNISOL (1)
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	3.4	0.0-20.0	32		Surface Texture: Fine sandy loam (4), Loam (4), Sand (3), Sandy loam (3), Sandy clay loam (3), Silty clay loam (2), Clay loam (2), Clay (1), Silt loam (1), Loamy sand (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	3.2	0.0-30.0	32		Effective Texture: Clay loam (12), Clay (3), Sandy clay loam (2), Sand (2), Sandy loam (1), Loamy sand (1), Silty clay loam (1), Silt (1), Fine sandy loam (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.3	0.0-15.0	43		Depth to Mottles/Gley:
Tall Forb (>= 30 cm)					Organic Thickness: 0 - 5 cm (25)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	5.1	0.0-20.0	57		Parent Material: Morainal (16), Glaciofluvial (7), Fluvial (2), Eolian (2), Lacustrine (2), Colluvial (1), Glaciolacustrine (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.6	0.0-15.0	43		Soil Type: Moist/Fine (12), Dry/Fine (5), Dry/Sandy (2), Moist/Coarse (2), Very Dry/Sandy (1), Moist/Sandy (1), Very Dry/Coarse (1)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.2	0.0-10.0	61		Humus Form RAW MODER (1)
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.3	0.0-5.0	46		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.2	0.0-10.0	50		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.7	0.0-10.3	46		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	4.5	0.0-30.0	43		
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.4	0.0-15.0	50		
					LFH Thickness
					Mean
					Min
					Max
					Count
				cm:	6.00
					1.00
					12.00
					22

CME10 Early Decid CB/CIrg (n=7)

(Early Successional Deciduous Cutblock or Clearing)

This community type occurs after a deciduous or mixedwood site has been harvested for timber or cleared. It represents naturally regenerating cutblocks and uncultivated clearings where natural thinning of the deciduous regeneration has not yet begun to occur. It includes cutblocks or clearings that have been lightly to moderately grazed by livestock. If the area has been broadcast seeded refer to the Disturbance Influenced Early Successional Deciduous Cutblock or Clearing description (Moisey et al. 2016).

After removal of the overstory, herbaceous and graminoid species flourish, while aspen sucker vigorously and eventually establish dominance. The height and density of regenerating aspen and the presence and abundance of herbaceous and graminoid species will vary depending on the conditions under which the trees were harvested (season of harvest, method of cutting and management of debris), time since harvest and the moisture/nutrient regime of the site. Generally, in the first few years following harvest, the regenerating aspen will occupy the medium shrub and/or tall shrub strata. As the cutblock ages, the regenerating aspen will reach a density that may restrict livestock access and limit the abundance of herbaceous vegetation and graminoids in the understory (see Maturing Deciduous Cutblock or Clearing description) (Moisey et al. 2016).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d1 low-bush cranberry - Aw

Plant Composition

Canopy Cover (%)

	Mean	Range	Const.
Overstory Tree			
ASPEN (<i>Populus tremuloides</i>)	17.9	0.0-72.5	43
Understory Tree			
BALSAM POPLAR (<i>Populus balsamifera</i>)	6.4	0.0-35.0	29
ASPEN (<i>Populus tremuloides</i>)	5.0	0.0-15.0	43
Medium Shrub (0.5 to 2 m)			
PRICKLY ROSE (<i>Rosa acicularis</i>)	10.3	0.0-22.8	86
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	6.5	0.0-14.0	71
TWINFLOWER (<i>Linnaea borealis</i>)	3.5	0.0-15.0	71
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	2.7	0.0-16.1	57
Low Shrub (< 0.5m)			
DEWBERRY (<i>Rubus pubescens</i>)	2.7	0.0-10.0	43
Tall Forb (>= 30 cm)			
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	6.2	0.0-40.0	43
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.8	0.0-6.0	86
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.9	0.0-5.0	86
Low Forb (< 30 cm)			
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	2.8	0.0-14.8	86
BUNCHBERRY (<i>Cornus canadensis</i>)	2.5	0.0-10.0	71
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.1	0.0-8.2	57
COMMON DANDELION (<i>Taraxacum officinale</i>)	1.3	0.0-4.8	43
Graminoid			
BLUEJOINT (<i>Calamagrostis canadensis</i>)	12.2	0.0-45.5	57
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.8	0.0-24.0	43
Moss			
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	5.8	0.0-40.0	29

Environmental Variables

Ecological Status Score: 0
Moisture Regime: Mesic (fresh) (4), Subhygric (moderately moist) (2)
Nutrient Regime: Mesotrophic (medium) (5), Permesotrophic (rich) (1)
Elevation (range): 645 (455-914) M
Slope (%): 0 - 0.49 (1), 0.5 - 2.49 (1), > 100.99 (1)
Aspect: Level (2), Northerly (1)
Topographic Position: Level (4), Midslope (1)

Soil Variables

Soil Drainage: Well drained (2), Moderately well drained (2), Imperfectly drained (1)
Soil Subgroup: GLEYED GRAY LUVISOL (1)
Surface Texture: Silt loam (1)
Effective Texture: Silty clay (1)
Depth to Mottles/Gley:
Organic Thickness: 0 - 5 cm (1)
Parent Material: Eolian (1), Glaciolacustrine (1)
Soil Type: Moist/Fine (1)
Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	15.00	15.00	15.00	1

d2 low-bush cranberry - Aw-Sw (n=206)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Tree

- [27.5] ASPEN
Populus tremuloides
- [20.8] WHITE SPRUCE
Picea glauca
- [3.4] BALSAM FIR
Abies balsamea

Shrub

- [6.0] LOW-BUSH CRANBERRY
Viburnum edule
- [5.6] PRICKLY ROSE
Rosa acicularis
- [4.5] BEAKED HAZELNUT
Corylus cornuta
- [3.1] TWINFLOWER
Linnaea borealis
- [2.4] DEWBERRY
Rubus pubescens
- [2.4] CANADA BUFFALOBERRY
Shepherdia canadensis
- [1.9] GREEN ALDER
Alnus crispa
- [1.3] BEAKED WILLOW
Salix bebbiana
- [0.8] SASKATOON
Amelanchier alnifolia

Forb

- [4.6] WILD Sarsaparilla
Aralia nudicaulis
- [4.5] BUNCHBERRY
Cornus canadensis
- [2.1] COMMON FIREWEED
Epilobium angustifolium
- [1.1] BISHOP'S-CAP
Mitella nuda
- [1.0] WILD STRAWBERRY
Fragaria virginiana
- [0.7] TALL LUNGWORT
Mertensia paniculata
- [0.6] CREAM-COLORED VETCHLING
Lathyrus ochroleucus

Moss and Liverwort

- [15.4] STAIR-STEP MOSS*
Hylocomium splendens
- [6.2] SCHREBER'S MOSS*
Pleurozium schreberi
- [1.4] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [6.9] BLUEJOINT
Calamagrostis canadensis
- [1.8] HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Mesic (fresh) (129), Subhygric (moderately moist) (42), Submesic (moderately fresh) (31)

Nutrient Regime: Mesotrophic (medium) (155), Permesotrophic (rich) (25), Submesotrophic (poor) (23)

Elevation (range): 584 (270-1200) M

Slope (%): very gentle slope (62), nearly level (52), level (30), gentle slope (21), moderate slope (14), strong slope (7), very strong slope (2)

Aspect: Easterly (40), Level (35), Southerly (31), Westerly (30), Northerly (30)

Topographic Position: Midslope (61), Level (51), Upper Slope (34), Crest (22), Lower Slope (18), Toe (2)

Soil Variables

Soil Drainage: Moderately well drained (118), Well drained (53), Imperfectly drained (22), Poorly drained (3), Rapidly drained (2)

Soil Subgroup: ORTHIC GRAY LUVISOL (72), BRUNISOLIC GRAY LUVISOL (29), ELUVIATED EUTRIC BRUNISOL (23), GLEYED GRAY LUVISOL (15), DARK GRAY LUVISOL (6), ORTHIC EUTRIC BRUNISOL (5), ORTHIC LUVIC GLEYSOL (4), ORTHIC GLEYSOL (3), SOLONETZIC GRAY LUVISOL (3), HUMIC LUVIC GLEYSOL (2), GLEYED BRUNISOLIC GRAY LUVISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (2), ELUVIATED DYSTRIC BRUNISOL (1), GLEYED DARK GRAY LUVISOL (1), CUMULIC REGOSOL (1), ORTHIC REGOSOL (1)

Surface Texture: Silt loam (36), Sandy loam (21), Loam (16), Sand (14), Loamy sand (14), Clay loam (13), Silty clay loam (13), Silt (9), Silty clay (8), Sandy clay loam (8), Clay (6), Fine sandy loam (4), Coarse sandy loam (2), Very fine sandy loam (1), Heavy clay (1)

Effective Texture: Clay (33), Clay loam (28), Silty clay (23), Sandy clay loam (19), Silty clay loam (18), Sand (12), Loamy sand (8), Heavy clay (7), Sandy clay (6), Silt (3), Loam (3), Sandy loam (2), Silt loam (1), Coarse sand (1), Coarse Sandy Clay Loam (1), Fine sandy loam (1)

Depth to Mottles/Gley: 0 - 25 (11), 26 - 50 (2), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (193), 40 - 59 cm (1)

Parent Material: Morainal (100), Glaciofluvial (64), Glaciolacustrine (40), Eolian (19), Lacustrine (17), Fluvial (5), Residual (3), Fluvioeolian (3), Colluvial (1), Lacustrine moraine (1)

Soil Type: Moist/Fine (113), Moist/Sandy (12), Dry/Fine (11), Moist/Silty-Loamy (11), Dry/Sandy (7), Moist/Peaty (4), Dry/Coarse (3), Moist/Coarse (2)

Humus Form FIBRIMOR (26), FIBRIHUMIMOR (12), HUMIFIBRIMOR (5), RAW MODER (2), MODER (1), MOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	8.75	1.00	36.00	164

CMD13 Aw-Sw/Low-bush cranberry-Rose/Tall forb (n=114)

(*Populus tremuloides*-*Picea glauca*/*Viburnum edule*-*Rosa spp.*/Tall forbs)

This PC is successionaly more advanced than the Aw/Rose PC types. As spruce becomes more prominent in the canopy, less light reaches the forest floor reducing understory growth and diversity. This PC will eventually succeed to a Sw/Moss PC.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (74), Subhygric (moderately moist) (21), Submesic (moderately fresh) (18) Nutrient Regime: Mesotrophic (medium) (91), Permesotrophic (rich) (14), Submesotrophic (poor) (10) Elevation (range): 644 (270-1200) M Slope (%): 2.5 - 5.99 (34), 0.5 - 2.49 (24), 0 - 0.49 (18), 6 - 9.99 (10), 10 - 15.99 (6), 16 - 30.99 (6), 31 - 45.99 (2) Aspect: Level (21), Northerly (21), Easterly (21), Southerly (15), Westerly (12) Topographic Position: Midslope (35), Level (31), Crest (16), Upper Slope (15), Lower Slope (8), Toe (1)
ASPEN (<i>Populus tremuloides</i>)	28.6	0.0-85.0	92	
WHITE SPRUCE (<i>Picea glauca</i>)	15.8	0.0-60.0	79	
Understory Tree				
WHITE SPRUCE (<i>Picea glauca</i>)	8.6	0.0-45.0	74	
ASPEN (<i>Populus tremuloides</i>)	3.3	0.0-15.0	52	
Medium Shrub (0.5 to 2 m)				
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	13.7	0.0-60.0	97	
PRICKLY ROSE (<i>Rosa acicularis</i>)	10.6	0.0-45.0	97	
TWINFLOWER (<i>Linnaea borealis</i>)	6.7	0.0-40.0	78	
Low Shrub (< 0.5m)				
DEWBERRY (<i>Rubus pubescens</i>)	4.5	0.0-30.0	74	
Tall Forb (>= 30 cm)				
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	5.8	0.0-45.0	53	
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.8	0.0-52.0	76	
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.3	0.0-20.0	62	
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	1.7	0.0-20.0	72	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	8.2	0.0-40.0	84	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	6.1	0.0-90.0	65	
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.6	0.0-70.0	47	
Moss				
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	12.8	0.0-75.0	68	
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	11.9	0.0-80.0	70	
				Soil Variables Soil Drainage: Moderately well drained (75), Well drained (26), Imperfectly drained (9) Soil Subgroup: ORTHIC GRAY LUVISOL (43), BRUNISOLIC GRAY LUVISOL (16), ELUVIATED EUTRIC BRUNISOL (14), GLEYED GRAY LUVISOL (8), DARK GRAY LUVISOL (4), ORTHIC EUTRIC BRUNISOL (3), ORTHIC GLEYSOL (3), SOLONETZIC GRAY LUVISOL (3), ORTHIC LUVIC GLEYSOL (3) Surface Texture: Silt loam (27), Sandy loam (17), Loam (9), Loamy sand (8), Silty clay loam (8), Clay loam (7), Silt (4), Silty clay (4), Coarse sandy loam (2), Fine sandy loam (2), Clay (2), Sand (2), Sandy clay loam (2) Effective Texture: Clay (20), Clay loam (17), Silty clay loam (14), Silty clay (13), Sandy clay loam (10), Sand (4), Sandy clay (4), Loamy sand (3), Heavy clay (2), Loam (2), Silt (1), Silt loam (1), Sandy loam (1), Coarse Sandy Clay Loam (1), Coarse sand (1) Depth to Mottles/Gley: 0 - 25 (3), 51 - 100 (1), 26 - 50 (1) Organic Thickness: 0 - 5 cm (105) Parent Material: Morainal (61), Glaciofluvial (31), Glaciolacustrine (21), Eolian (13), Lacustrine (11), Residual (3), Fluvial (2), Fluvioeolian (2), Colluvial (1), Lacustrine moraine (1) Soil Type: Moist/Fine (68), Dry/Fine (8), Moist/Silty-Loamy (5), Moist/Sandy (4), Dry/Coarse (3), Dry/Sandy (3), Moist/Peaty (2) Humus Form FIBRIMOR (13), FIBRIHUMIMOR (7), HUMIFIBRIMOR (3), RAW MODER (2)
				LFH Thickness Mean Min Max Count cm: 8.00 2.00 36.00 94

CMD21 Aw-Sw/Canada buffaloberry (n=4)

(*Populus tremuloides*-*Picea glauca*/*Shepherdia canadensis*)

This community type is similar to Aw-Sw/buffaloberry (d2.1) described by Beckingham and Archibald (1996). The prominence of aspen indicates that it is relative early succession as white spruce will begin to dominate in later succession stands. The diversity of shrubs has restricted the herbaceous growth to low forbs with little grass cover.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	23.0	2.0-45.0	100		Moisture Regime: Mesic (fresh) (2), Subhygric (moderately moist) (2)
ASPEN (<i>Populus tremuloides</i>)	20.0	0.0-50.0	75		Nutrient Regime: Mesotrophic (medium) (4)
Understory Tree					Elevation (range): 490 (404-600) M
ASPEN (<i>Populus tremuloides</i>)	11.2	0.0-40.0	50		Slope (%): 0 - 0.49 (2), 0.5 - 2.49 (1), 6 - 9.99 (1)
WHITE SPRUCE (<i>Picea glauca</i>)	4.5	0.0-12.0	75		Aspect: Level (1), Northerly (1), Easterly (1)
Medium Shrub (0.5 to 2 m)					Topographic Position: Level (2), Upper Slope (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	15.5	10.0-22.0	100		Soil Variables
PRICKLY ROSE (<i>Rosa acicularis</i>)	11.5	1.0-30.0	100		Soil Drainage: Moderately well drained (2), Poorly drained (2)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	11.0	1.0-32.0	100		Soil Subgroup: GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1)
TWINFLOWER (<i>Linnaea borealis</i>)	4.7	2.0-10.0	100		Surface Texture: Clay loam (1), Heavy clay (1), Loam (1), Silt loam (1)
Low Shrub (< 0.5m)					Effective Texture: Clay (3), Heavy clay (1)
DEWBERRY (<i>Rubus pubescens</i>)	4.2	0.0-15.0	75		Depth to Mottles/Gley: 0 - 25 (1)
Tall Forb (>= 30 cm)					Organic Thickness: 0 - 5 cm (4)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	6.0	0.0-20.0	75		Parent Material: Morainal (2), Lacustrine (1)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.2	0.0-5.0	75		Soil Type: Moist/Fine (4)
Graminoid					Humus Form HUMIFIBRIMOR (2)
HAIRY WILD RYE (<i>Elymus innovatus</i>)	7.2	0.0-25.0	75		LFH Thickness
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.0	0.0-5.0	75		Mean
Moss					Min
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	37.5	5.0-80.0	100		Max
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	2.0	0.0-5.0	50		Count
					cm: 7.00 3.00 11.00 4

CMD22 Aw-Sw/Beaked hazelnut (n=4)

(*Populus tremuloides*-*Picea glauca*/*Corylus cornuta*)

Beaked hazelnut is a common component of many of the deciduous stands in both the western and eastern ecodistricts of the Central Mixedwood subregion. The presence of hazelnut appears to be indicative of warmer sites and have some fire history (Downing and Karpuk 1992). This community tends to occur on moderately to well drained, fine-textured and gently sloping till deposits.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					
ASPEN (<i>Populus tremuloides</i>)	25.0	0.0-45.0	75		Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (2), Submesic (moderately fresh) (1), Subhygric (moderately moist) (1) Nutrient Regime: Mesotrophic (medium) (4) Elevation (range): 516 (300-732) M Slope (%): 10 - 15.99 (2), 2.5 - 5.99 (1) Aspect: Southerly (2), Level (1) Topographic Position: Upper Slope (2), Level (1), Crest (1)
WHITE SPRUCE (<i>Picea glauca</i>)	17.5	8.0-42.0	100		
BALSAM POPLAR (<i>Populus balsamifera</i>)	7.0	0.0-18.0	75		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	3.2	0.0-5.0	75		
WHITE SPRUCE (<i>Picea glauca</i>)	1.2	0.0-2.0	75		
Tall Shrub (2 to 5m)					
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	2.0	0.0-8.0	25		
Medium Shrub (0.5 to 2 m)					
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	36.7	8.0-60.0	100		
SASKATOON (<i>Amelanchier alnifolia</i>)	7.0	1.0-20.0	100		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	5.2	2.0-10.0	100		
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.0	1.0-8.0	100		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	5.5	0.0-15.0	75		
SHOWY ASTER (<i>Aster conspicuus</i>)	3.0	0.0-10.0	75		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.2	0.0-8.0	50		
Low Forb (< 30 cm)					
BISHOP'S-CAP (<i>Mitella nuda</i>)	7.5	0.0-29.0	50		
BUNCHBERRY (<i>Cornus canadensis</i>)	5.7	0.0-18.0	50		
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	2.0	0.0-5.0	75		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	14.5	0.0-50.0	50		
Moss					
STAIR-STEP MOSS (<i>Hylacomium splendens</i>)	5.2	0.0-18.0	75		

Soil Variables

Soil Drainage: Well drained (3), Moderately well drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (2), ELUVIATED DYSTRIC BRUNISOL (1), ORTHIC REGOSOL (1)

Surface Texture: Clay loam (1), Sand (1), Silt (1), Silty clay loam (1)

Effective Texture: Clay loam (1), Loamy sand (1), Silt (1), Silty clay loam (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (4)

Parent Material: Morainal (2), Fluvial (1), Glaciofluvial (1)

Soil Type: Moist/Fine (2), Dry/Sandy (1), Moist/Silty-Loamy (1)

Humus Form FIBRIHUMIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	9.00	6.00	14.00	3

CMD23 Aw-Sw/Green alder (n=12)

(*Populus tremuloides*-*Picea glauca*/*Alnus crispa*)

This community type occurs on fairly coarse, moderately well drained parent material. It corresponds to Aw-Sw/green alder (Beckingham and Archibald 1996) and is thought to represent a transition from the modal aspen to the dry white spruce dominated types. Beckingham also felt that the presence of white spruce in the canopy suggests succession to Sw/ Feathermoss or Sw - Fb/ Feathermoss associations if white spruce density is high or a Sw/ Viburnum/ Feathermoss association if white spruce density is low. The presence of green alder indicates a slightly higher moisture availability, compared to the modal, likely created by an impermeable soil layer.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	24.5	0.0-45.0	92	Moisture Regime: Mesic (fresh) (10), Submesic (moderately fresh) (2)
WHITE SPRUCE (<i>Picea glauca</i>)	12.1	1.0-30.0	100	Nutrient Regime: Mesotrophic (medium) (9), Submesotrophic (poor) (3)
Understory Tree				Elevation (range): 666 (511-800) M
ASPEN (<i>Populus tremuloides</i>)	7.0	0.0-20.0	83	Slope (%): 0.5 - 2.49 (5), 2.5 - 5.99 (4), 0 - 0.49 (1), 6 - 9.99 (1), 10 - 15.99 (1)
WHITE SPRUCE (<i>Picea glauca</i>)	6.5	0.0-20.0	83	Aspect: Southerly (3), Westerly (3), Easterly (2), Level (2), Northerly (1)
Tall Shrub (2 to 5m)				Topographic Position: Midslope (5), Upper Slope (3), Crest (2), Lower Slope (1), Level (1)
GREEN ALDER (<i>Alnus crispa</i>)	10.2	0.0-20.0	92	Soil Variables
Medium Shrub (0.5 to 2 m)				Soil Drainage: Moderately well drained (10), Well drained (1), Imperfectly drained (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	6.4	0.0-15.0	92	Soil Subgroup: ORTHIC GRAY LUVISOL (5), BRUNISOLIC GRAY LUVISOL (4), ORTHIC EUTRIC BRUNISOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1)
GREEN ALDER (<i>Alnus crispa</i>)	6.2	0.0-50.0	67	Surface Texture: Silt (2), Silt loam (2), Sandy loam (1), Clay (1), Clay loam (1), Loam (1), Loamy sand (1), Sandy clay loam (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.8	0.0-15.0	83	Effective Texture: Sandy clay loam (5), Silty clay (2), Heavy clay (1), Loam (1), Sandy clay (1)
TWINFLOWER (<i>Linnaea borealis</i>)	3.8	0.0-15.0	67	Depth to Mottles/Gley:
Low Shrub (< 0.5m)				Organic Thickness: 0 - 5 cm (11)
DEWBERRY (<i>Rubus pubescens</i>)	4.4	0.0-15.0	67	Parent Material: Glaciofluvial (6), Morainal (6), Eolian (4), Glaciolacustrine (4)
Tall Forb (>= 30 cm)				Soil Type: Moist/Fine (6), Moist/Silty-Loamy (3), Dry/Fine (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	8.8	0.0-35.0	75	Humus Form FIBRIMOR (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.6	0.0-15.0	83	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	5.4	0.0-15.0	67	LFH Thickness
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.8	0.0-20.0	92	Mean
Graminoid				Min
BLUEJOINT (<i>Calamagrostis canadensis</i>)	14.0	0.0-40.0	92	Max
HAIRY WILD RYE (<i>Elymus innovatus</i>)	2.9	0.0-30.0	25	Count
				cm:
				6.00
				4.00
				10.00
				10

CMD24 Aw-Sw/Balsam fir/Feather moss (n=25)

(*Populus tremuloides*-*Picea glauca*/*Abies balsamea*/*Pleurozium schreberi*)

As these sites develop successionally they become dominated by white spruce and balsam fir. Along with the change in canopy cover is a change in understory structure and understory species composition and abundance. This results in stands with low cover of shrub, forb and grass species and high moss cover.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	13.4	0.0-35.0	84		Moisture Regime: Mesic (fresh) (17), Submesic (moderately fresh) (4), Subhygric (moderately moist) (4)
WHITE SPRUCE (<i>Picea glauca</i>)	11.9	0.0-40.0	92		Nutrient Regime: Mesotrophic (medium) (17), Permesotrophic (rich) (4), Submesotrophic (poor) (3)
BALSAM FIR (<i>Abies balsamea</i>)	7.7	0.0-30.0	60		Elevation (range): 691 (302-980) M
Understory Tree					Slope (%): 2.5 - 5.99 (11), 6 - 9.99 (5), 0.5 - 2.49 (4), 0 - 0.49 (3), 10 - 15.99 (2)
BALSAM FIR (<i>Abies balsamea</i>)	17.6	9.9-40.0	100		Aspect: Southerly (7), Westerly (6), Easterly (5), Level (3), Northerly (3)
ASPEN (<i>Populus tremuloides</i>)	5.8	0.0-30.0	60		Topographic Position: Midslope (12), Upper Slope (5), Level (3), Lower Slope (3), Crest (2)
WHITE SPRUCE (<i>Picea glauca</i>)	4.2	0.0-15.0	76		
Medium Shrub (0.5 to 2 m)					Soil Variables
BALSAM FIR (<i>Abies balsamea</i>)	10.1	0.0-40.0	92		Soil Drainage: Moderately well drained (13), Well drained (6), Imperfectly drained (3), Rapidly drained (2)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	7.2	0.0-25.0	96		Soil Subgroup: ORTHIC GRAY LUVISOL (9), ELUVIATED EUTRIC BRUNISOL (4), BRUNISOLIC GRAY LUVISOL (3), GLEYED GRAY LUVISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.4	0.0-12.0	76		Surface Texture: Sandy clay loam (5), Silt loam (3), Sand (3), Loamy sand (2), Clay (2), Sandy loam (2), Silty clay loam (2), Clay loam (1), Loam (1), Silty clay (1)
TWINFLOWER (<i>Linnaea borealis</i>)	3.2	0.0-15.0	80		Effective Texture: Clay loam (5), Heavy clay (3), Silty clay loam (3), Clay (3), Loamy sand (2), Sand (2), Silty clay (2), Sandy clay loam (1), Sandy loam (1)
Low Shrub (< 0.5m)					Depth to Mottles/Gley: 0 - 25 (2)
DEWBERRY (<i>Rubus pubescens</i>)	2.2	0.0-18.0	72		Organic Thickness: 0 - 5 cm (24), 40 - 59 cm (1)
Tall Forb (>= 30 cm)					Parent Material: Glaciofluvial (13), Morainal (13), Glaciolacustrine (4), Lacustrine (2), Eolian (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	12.4	0.0-63.0	84		Soil Type: Moist/Fine (13), Moist/Sandy (4), Dry/Fine (2), Moist/Peaty (1), Moist/Silty-Loamy (1)
Low Forb (< 30 cm)					Humus Form FIBRIMOR (4), FIBRIHUMIMOR (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	4.6	0.0-15.0	88		
BISHOP'S-CAP (<i>Mitella nuda</i>)	1.8	0.0-15.0	80		
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.4	0.0-10.0	68		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	1.6	0.0-6.0	56		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	10.3	0.0-40.0	72		
STAIR-STEP MOSS (<i>Hylacomium splendens</i>)	10.0	0.0-40.0	60		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	9.9	0.0-40.0	68		
					LFH Thickness
					Mean
					Min
					Max
					Count
				cm:	9.00
					5.00
					15.00
					21

CMD25 Aw-Sw/Feather moss (n=9)

(*Populus tremuloides*-*Picea glauca*/*Pleurozium schreberi*)

This community type is dominated by white spruce in the primary canopy and by aspen in the secondary canopy. As spruce succeeds into the canopy it reduces the amount of light reaching the forest floor reducing the growth of shrubs, forbs and grass. The understory eventually becomes dominated by moss species.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	24.1	10.0-63.0	100	Moisture Regime: Mesic (fresh) (5), Subhygric (moderately moist) (2), Submesic (moderately fresh) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	13.1	0.0-29.0	78	Nutrient Regime: Mesotrophic (medium) (7), Permesotrophic (rich) (2)
Understory Tree				Elevation (range): 521 (340-735) M
WHITE SPRUCE (<i>Picea glauca</i>)	15.8	0.0-63.0	78	Slope (%): 0 - 0.49 (4), 0.5 - 2.49 (3), 6 - 9.99 (1), 10 - 15.99 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Westerly (2), Level (2), Easterly (1), Southerly (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.2	0.0-12.0	89	Topographic Position: Level (2), Midslope (2), Upper Slope (2), Toe (1), Lower Slope (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.6	1.0-8.0	100	Soil Variables
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	2.5	0.0-10.0	89	Soil Drainage: Well drained (4), Moderately well drained (2), Imperfectly drained (2)
Low Shrub (< 0.5m)				Soil Subgroup: ORTHIC GRAY LUVISOL (4), GLEYED GRAY LUVISOL (2), GLEYED DARK GRAY LUVISOL (1), ELUVIATED EUTRIC BRUNISOL (1)
DEWBERRY (<i>Rubus pubescens</i>)	2.0	0.0-8.0	78	Surface Texture: Sand (1), Silty clay (1), Silt loam (1), Sandy loam (1), Very fine sandy loam (1)
Tall Forb (>= 30 cm)				Effective Texture: Silty clay (2), Clay loam (1), Sand (1), Silt (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	1.2	0.0-10.0	22	Depth to Mottles/Gley: 0 - 25 (1)
Low Forb (< 30 cm)				Organic Thickness: 0 - 5 cm (8)
BUNCHBERRY (<i>Cornus canadensis</i>)	5.0	0.0-18.0	89	Parent Material: Morainal (4), Glaciofluvial (2), Glaciolacustrine (2), Lacustrine (1), Eolian (1)
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.8	0.0-8.0	67	Soil Type: Moist/Fine (3), Moist/Sandy (1), Moist/Silty-Loamy (1)
Moss				Humus Form FIBRIMOR (2), FIBRIHUMIMOR (1)
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	36.0	1.0-88.0	100	
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	13.0	0.0-30.0	78	
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	1.8	0.0-10.0	44	
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm:
				9.00
				3.00
				13.00
				5

CMD26 Aw-Sw/Beaked willow (n=4)

(*Populus tremuloides*-*Picea glauca*/*Salix bebbiana*)

This community type occurs on mesic to subhygric, mid to lower slope positions and is transitional to the moister and richer dogwood dominated ecological site. It is similar to the Aw/Beaked willow (CMC13) dominated community type, but is successional more advanced. The soils are predominantly Luvisols and Brunisols but Gleysols can occur in the lower slope positions. Beaked willow tends to dominate the understory with a high cover of wild sarsaparilla and fireweed in the forb layer.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	22.5	3.0-40.0	100	Moisture Regime: Subhygric (moderately moist) (3), Mesic (fresh) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	11.2	0.0-30.0	75	Nutrient Regime: Mesotrophic (medium) (3), Submesotrophic (poor) (1)
Understory Tree				Elevation (range): 573 (556-600) M
ASPEN (<i>Populus tremuloides</i>)	8.7	0.0-15.0	75	Slope (%): 0.5 - 2.49 (3)
WHITE SPRUCE (<i>Picea glauca</i>)	3.7	0.0-7.0	75	Aspect: Level (1), Northerly (1), Easterly (1)
Tall Shrub (2 to 5m)				Topographic Position: Level (3), Midslope (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	7.0	2.5-10.0	100	Soil Variables
Medium Shrub (0.5 to 2 m)				Soil Drainage: Imperfectly drained (2), Well drained (1), Poorly drained (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	4.0	1.0-8.0	100	Soil Subgroup: GLEYED ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), CUMULIC REGOSOL (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	2.0	0.0-8.0	25	Surface Texture: Sand (2), Silty clay (2)
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.7	0.0-5.0	50	Effective Texture: Sand (2), Silty clay (1), Clay (1)
Low Forb (< 30 cm)				Depth to Mottles/Gley: 0 - 25 (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	2.2	0.0-7.0	50	Organic Thickness: 0 - 5 cm (4)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.2	0.0-6.0	75	Parent Material: Glaciofluvial (2), Glaciolacustrine (1), Lacustrine (1), Morainal (1)
Graminoid				Soil Type: Moist/Sandy (2), Moist/Fine (1), Moist/Peaty (1)
BLUEJOINT (<i>Calamagrostis canadensis</i>)	13.7	2.0-40.0	100	Humus Form FIBRIMOR (1)
Moss				LFH Thickness
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	13.2	3.0-20.0	100	Mean
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	9.5	1.0-15.0	100	Min
				Max
				Count
				cm: 14.00 5.00 34.00 4

CMD7 Aw-Sw/Rose/Twinflower (n=34)

(*Populus tremuloides*-*Picea glauca*/*Rosa spp*/*Linnaea borealis*)

This community type is dominated by aspen in the primary canopy and by spruce in the secondary canopy. As spruce succeeds into the canopy it reduces the amount of light reaching the forest floor favouring the growth of low growing forbs (bunchberry, wintergreen, twinflower) and various moss species. This community type is very similar to the Aw-Sw/Low-bush cranberry-Rose/Tall forb type, but it maybe successional more advanced.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d2 low-bush cranberry - Aw-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 20-25 Moisture Regime: Mesic (fresh) (18), Subhygric (moderately moist) (9), Submesic (moderately fresh) (5) Nutrient Regime: Mesotrophic (medium) (20), Submesotrophic (poor) (6), Permesotrophic (rich) (5) Elevation (range): 574 (320-1100) M Slope (%): 0.5 - 2.49 (12), 2.5 - 5.99 (12), 6 - 9.99 (3), 10 - 15.99 (2), 0 - 0.49 (2), 16 - 30.99 (1) Aspect: Easterly (9), Westerly (7), Level (4), Northerly (3), Southerly (3) Topographic Position: Level (8), Midslope (6), Upper Slope (6), Lower Slope (5), Crest (1)
ASPEN (<i>Populus tremuloides</i>)	21.5	0.0-63.0	88		
WHITE SPRUCE (<i>Picea glauca</i>)	9.5	0.0-35.0	59		
WHITE BIRCH (<i>Betula papyrifera</i>)	7.7	0.0-40.0	24		
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	8.7	0.0-30.0	79		
ASPEN (<i>Populus tremuloides</i>)	2.3	0.0-20.0	35		
Medium Shrub (0.5 to 2 m)					
PRICKLY ROSE (<i>Rosa acicularis</i>)	6.1	0.0-32.0	94		
TWINFLOWER (<i>Linnaea borealis</i>)	4.4	0.0-15.0	97		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.0	0.0-22.0	88		
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	2.0	0.0-20.0	38		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	2.4	0.0-15.0	74		
Tall Forb (>= 30 cm)					
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.4	0.0-30.0	56		
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.2	0.0-42.0	38		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.1	0.0-5.0	65		
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	1.0	0.0-7.0	65		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	5.2	0.0-29.0	77		
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.6	0.0-15.0	65		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.3	0.0-25.0	56		
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.1	0.0-12.3	35		
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	8.7	0.0-90.0	74		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	3.0	0.0-25.0	74		
Soil Variables					
Soil Drainage: Moderately well drained (15), Well drained (12), Imperfectly drained (5)					
Soil Subgroup: ORTHIC GRAY LUVISOL (7), BRUNISOLIC GRAY LUVISOL (6), ELUVIATED EUTRIC BRUNISOL (4), HUMIC LUVIC GLEYSOL (2), DARK GRAY LUVISOL (2), GLEYED GRAY LUVISOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1)					
Surface Texture: Sand (5), Loam (4), Loamy sand (3), Silt (2), Silty clay loam (2), Silt loam (2), Clay loam (2), Fine sandy loam (2), Clay (1)					
Effective Texture: Clay (6), Clay loam (4), Sand (3), Sandy clay loam (3), Silty clay (3), Loamy sand (2), Fine sandy loam (1), Sandy clay (1)					
Depth to Mottles/Gley: 0 - 25 (3), 26 - 50 (1)					
Organic Thickness: 0 - 5 cm (33)					
Parent Material: Morainal (11), Glaciofluvial (9), Glaciolacustrine (8), Fluvial (2), Fluvioeolian (1), Lacustrine (1)					
Soil Type: Moist/Fine (16), Dry/Sandy (3), Moist/Coarse (2), Moist/Sandy (1)					
Humus Form FIBRIMOR (5), FIBRIHUMIMOR (2), MODER (1), MOR (1)					
LFH Thickness					
cm:	Mean	Min	Max	Count	
	8.00	1.00	26.00	23	

d3 low-bush cranberry - Sw (n=65)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Tree

- [38.9] WHITE SPRUCE
Picea glauca
- [8.5] BALSAM FIR*
Abies balsamea

Shrub

- [8.1] TWINFLOWER
Linnaea borealis
- [7.0] LOW-BUSH CRANBERRY
Viburnum edule
- [6.8] PRICKLY ROSE
Rosa acicularis
- [6.5] GREEN ALDER
Alnus crispa
- [3.1] DEWBERRY
Rubus pubescens
- [2.8] CANADA BUFFALOBERRY
Shepherdia canadensis

Forb

- [6.6] BUNCHBERRY
Cornus canadensis
- [6.4] WILD SARSAPARILLA
Aralia nudicaulis
- [1.6] TALL LUNGWORT
Mertensia paniculata
- [1.1] BISHOP'S-CAP
Mitella nuda
- [0.6] PALMATE-LEAVED COLTSFOOT
Petasites palmatus
- [0.4] COMMON PINK WINTERGREEN
Pyrola asarifolia
- [0.4] COMMON FIREWEED
Epilobium angustifolium
- [0.3] WILD STRAWBERRY
Fragaria virginiana

Moss and Liverwort

- [35.5] STAIR-STEP MOSS
Hylocomium splendens
- [13.1] SCHREBER'S MOSS
Pleurozium schreberi
- [9.9] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [0.9] HAIRY WILD RYE
Elymus innovatus
- [0.6] BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Mesic (fresh) (36), Subhygric (moderately moist) (21), Submesic (moderately fresh) (4)

Nutrient Regime: Mesotrophic (medium) (47), Submesotrophic (poor) (9), Permesotrophic (rich) (5)

Elevation (range): 525 (250-960) M

Slope (%): nearly level (17), level (16), very gentle slope (13), moderate slope (4), gentle slope (4), very strong slope (2), strong slope (2)

Aspect: Level (17), Northerly (14), Southerly (8), Westerly (8), Easterly (8)

Topographic Position: Level (21), Midslope (11), Upper Slope (7), Lower Slope (5), Crest (2), Toe (2), Depression (1)

Soil Variables

Soil Drainage: Moderately well drained (32), Well drained (22), Imperfectly drained (5), Rapidly drained (3)

Soil Subgroup: ORTHIC GRAY LUVISOL (27), GLEYED GRAY LUVISOL (6), ELUVIATED EUTRIC BRUNISOL (6), BRUNISOLIC GRAY LUVISOL (6), DARK GRAY LUVISOL (3), PODZOLIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1), FRAGIC GRAY LUVISOL (1), GLEYED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1), ELUVIATED DYSTRIC BRUNISOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1)

Surface Texture: Silt loam (9), Clay loam (7), Loam (6), Sandy loam (5), Silt (5), Loamy sand (4), Silty clay loam (4), Sand (3), Fine sandy loam (2), Silty clay (2), Very fine sandy loam (1), Sandy clay loam (1), Clay (1)

Effective Texture: Clay loam (17), Clay (12), Silty clay (7), Sandy loam (3), Loamy sand (3), Sand (2), Sandy clay loam (2), Heavy clay (2), Silt loam (1), Loam (1)

Depth to Mottles/Gley: 0 - 25 (6), 51 - 100 (1), 26 - 50 (1)

Organic Thickness: 0 - 5 cm (61)

Parent Material: Morainal (29), Glaciofluvial (17), Glaciolacustrine (8), Lacustrine (5), Fluvial (4), Eolian (2), Colluvial (1), Fluvioeolian (1)

Soil Type: Moist/Fine (36), Moist/Sandy (3), Moist/Peaty (2), Moist/Coarse (2), Moist/Silty-Loamy (2), Wet/Peaty (1), Very Dry/Sandy (1), Dry/Fine (1)

Humus Form HUMIFIBRIMOR (9), FIBRIMOR (7), FIBRIHUMIMOR (2), MOR (1), FIBRIC PEATYMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	9.33	3.00	36.00	48

CMD14 Sw/Buffaloberry (n=4)

(*Picea glauca*/*Shepherdia canadensis*)

This community type represents a very open spruce forest. It was found on a small, sandy hill crest with a high water table. The site may have a high pH and be somewhat nutrient poor as indicated by the abundance of buffaloberry (Beckingham 1993).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	27.2	23.0-35.0	100	Moisture Regime: Mesic (fresh) (4)
ASPEN (<i>Populus tremuloides</i>)	5.0	0.0-10.0	50	Nutrient Regime: Mesotrophic (medium) (3), Submesotrophic (poor) (1)
Understory Tree				Elevation (range): 512 (250-702) M
WHITE SPRUCE (<i>Picea glauca</i>)	4.0	0.0-6.0	75	Slope (%): 0 - 0.49 (3), 0.5 - 2.49 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Level (3), Northerly (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	13.0	5.0-20.0	100	Topographic Position: Level (3), Crest (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	10.5	5.1-20.0	100	Soil Variables
TWINFLOWER (<i>Linnaea borealis</i>)	5.7	3.0-10.0	100	Soil Drainage: Moderately well drained (3), Well drained (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	3.2	0.0-10.0	75	Soil Subgroup: BRUNISOLIC GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1)
Low Shrub (< 0.5m)				Surface Texture: Clay (1), Silt loam (1), Sandy loam (1)
DEWBERRY (<i>Rubus pubescens</i>)	4.0	0.0-10.0	75	Effective Texture: Clay (2), Clay loam (1)
Tall Forb (>= 30 cm)				Depth to Mottles/Gley:
TALL LUNGWORT (<i>Mertensia paniculata</i>)	3.0	0.0-8.0	75	Organic Thickness: 0 - 5 cm (3)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.5	0.0-10.0	25	Parent Material: Morainal (2), Lacustrine (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.3	0.2-5.0	100	Soil Type: Moist/Fine (3)
Low Forb (< 30 cm)				Humus Form HUMIFIBRIMOR (2)
BUNCHBERRY (<i>Cornus canadensis</i>)	5.0	1.0-10.0	100	LFH Thickness
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	3.0	0.0-7.0	75	Mean
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.8	1.0-3.0	100	Min
Graminoid				Max
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.5	0.3-8.0	100	Count
Moss				cm:
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	40.0	0.0-70.0	75	6.00
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	6.2	0.0-10.0	75	5.00
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	3.0	0.0-10.0	50	7.00
				3

CMD27 Sw/Green alder (n=4)

(*Sw/Alnus crispa*)

This community type seems to form on slopes that have coarse soils and underground seepage and is transitional to the dogwood ecological site (e). The underground seepage makes this community type fairly moist and nutrient rich. The high amount of moisture allows green alder to proliferate.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	48.5	18.0-63.0	100	Moisture Regime: Mesic (fresh) (2), Subhygric (moderately moist) (1)
Understory Tree				Nutrient Regime: Mesotrophic (medium) (2), Permesotrophic (rich) (1), Submesotrophic (poor) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	8.2	2.0-18.0	100	Elevation (range): 592 (300-960) M
Tall Shrub (2 to 5m)				Slope (%): 0.5 - 2.49 (1), 31 - 45.99 (1)
GREEN ALDER (<i>Alnus crispa</i>)	32.5	0.0-63.0	75	Aspect: Level (1), Easterly (1)
Medium Shrub (0.5 to 2 m)				Topographic Position: Level (2), Lower Slope (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	11.2	0.0-29.0	75	Soil Variables
PRICKLY ROSE (<i>Rosa acicularis</i>)	7.5	0.0-12.0	75	Soil Drainage: Imperfectly drained (2), Well drained (1), Moderately well drained (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.0	1.0-3.0	100	Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1), GLEYED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1)
GREEN ALDER (<i>Alnus crispa</i>)	1.7	0.0-5.0	75	Surface Texture: Clay loam (1), Silt (1), Silty clay (1)
Low Shrub (< 0.5m)				Effective Texture: Clay (2), Clay loam (1)
DEWBERRY (<i>Rubus pubescens</i>)	3.2	0.0-8.0	75	Depth to Mottles/Gley: 0 - 25 (1)
Tall Forb (>= 30 cm)				Organic Thickness: 0 - 5 cm (4)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	13.5	0.0-42.0	75	Parent Material: Glaciofluvial (2), Colluvial (1), Eolian (1)
Low Forb (< 30 cm)				Soil Type: Moist/Peaty (1), Wet/Peaty (1), Moist/Fine (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	6.0	1.0-18.0	100	Humus Form
BISHOP'S-CAP (<i>Mitella nuda</i>)	2.2	0.0-4.0	75	LFH Thickness
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	2.0	0.0-8.0	25	cm: Mean 17.00, Min 10.00, Max 22.00, Count 3
Moss				
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	36.7	18.0-80.0	100	
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	14.0	2.0-29.0	100	
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	6.2	0.0-18.0	75	

CMD28 Sw/Low-bush cranberry-Rose (n=7)

(*Picea glauca/Viburnum edule-Rosa spp.*)

This PC represents sites similar to the Aw-Sw/Low-bush cranberry-Rose/Tall forb (CMD6), but is successional more advanced. The species list is a loose representation of this ecosite phase. Further succession of this PC will likely be to a white spruce/moss dominated community type. The thick overstory limits the growth of shrubs, forbs and grass.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	29.5	15.0-55.0	100		Moisture Regime: Mesic (fresh) (3), Subhygric (moderately moist) (2), Submesic (moderately fresh) (1)
Understory Tree					Nutrient Regime: Mesotrophic (medium) (7)
WHITE SPRUCE (<i>Picea glauca</i>)	5.2	0.0-15.0	86		Elevation (range): 563 (310-689) M
Medium Shrub (0.5 to 2 m)					Slope (%): 2.5 - 5.99 (3), 0 - 0.49 (2), 0.5 - 2.49 (2)
TWINFLOWER (<i>Linnaea borealis</i>)	12.5	1.0-50.0	100		Aspect: Level (2), Northerly (2), Easterly (2)
PRICKLY ROSE (<i>Rosa acicularis</i>)	9.8	5.0-25.0	100		Topographic Position: Level (2), Midslope (2), Toe (1), Depression (1), Lower Slope (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	7.7	0.0-15.0	86		
Low Shrub (< 0.5m)					Soil Variables
DEWBERRY (<i>Rubus pubescens</i>)	2.8	0.0-5.0	86		Soil Drainage: Moderately well drained (5), Imperfectly drained (1)
Tall Forb (>= 30 cm)					Soil Subgroup: BRUNISOLIC GRAY LUVISOL (3), GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	3.8	1.0-15.0	100		Surface Texture: Loam (4), Loamy sand (1), Sandy clay loam (1), Silty clay (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.2	0.0-8.0	71		Effective Texture: Clay loam (3), Heavy clay (1), Loamy sand (1), Sandy clay loam (1), Silty clay (1)
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.8	0.0-10.0	43		Depth to Mottles/Gley: 0 - 25 (1)
Low Forb (< 30 cm)					Organic Thickness: 0 - 5 cm (7)
BUNCHBERRY (<i>Cornus canadensis</i>)	9.4	1.0-32.0	100		Parent Material: Morainal (5), Glaciofluvial (4), Glaciolacustrine (1), Lacustrine (1)
Graminoid					Soil Type: Moist/Fine (5), Dry/Fine (1)
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.1	0.0-10.0	57		Humus Form FIBRIMOR (1), HUMIFIBRIMOR (1)
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	25.7	0.0-50.0	86		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	22.5	0.0-85.0	86		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	6.4	0.0-15.0	57		
					LFH Thickness
					Mean
					Min
					Max
					Count
				cm:	10.00
					7.00
					14.00
					7

CMD4 Sw-Fb/Feather moss (n=22)

(*Picea glauca*-*Abies balsamea*/*Pleurozium schreberi*)

This is a mature balsam fir forest which represents the climax vegetation for the area. The northerly aspect of this community type has probably protected the site from past disturbance by fires and allowed the community to undergo succession. The high canopy of balsam fir and spruce limits the light reaching the forest floor, limiting the growth of grasses and forbs.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	30.2	1.0-63.0		100	Moisture Regime: Mesic (fresh) (14), Subhygric (moderately moist) (7)
BALSAM FIR (<i>Abies balsamea</i>)	8.2	0.0-40.0		73	Nutrient Regime: Mesotrophic (medium) (15), Submesotrophic (poor) (3), Permesotrophic (rich) (2)
Understory Tree					Elevation (range): 595 (310-875) M
BALSAM FIR (<i>Abies balsamea</i>)	32.4	21.5-80.0		100	Slope (%): 0 - 0.49 (8), 2.5 - 5.99 (4), 0.5 - 2.49 (3), 10 - 15.99 (3), 6 - 9.99 (2), 16 - 30.99 (1)
WHITE SPRUCE (<i>Picea glauca</i>)	5.1	0.0-45.0		55	Aspect: Level (9), Westerly (4), Northerly (4), Easterly (2), Southerly (1)
Medium Shrub (0.5 to 2 m)					Topographic Position: Level (6), Midslope (3), Upper Slope (3), Lower Slope (1)
TWINFLOWER (<i>Linnaea borealis</i>)	15.0	0.0-65.0		91	Soil Variables
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	11.5	0.0-35.0		91	
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.4	0.0-15.0		73	
Low Shrub (< 0.5m)					Soil Drainage: Moderately well drained (10), Well drained (9), Imperfectly drained (1), Rapidly drained (1)
DEWBERRY (<i>Rubus pubescens</i>)	3.6	0.0-20.0		59	Soil Subgroup: ORTHIC GRAY LUVISOL (10), ELUVIATED EUTRIC BRUNISOL (3), GLEYED GRAY LUVISOL (2), ORTHIC EUTRIC BRUNISOL (1), BRUNISOLIC GRAY LUVISOL (1), FRAGIC GRAY LUVISOL (1)
Tall Forb (>= 30 cm)					Surface Texture: Silt loam (7), Clay loam (3), Loamy sand (2), Sand (2), Silt (1), Silty clay loam (1), Fine sandy loam (1), Sandy loam (1), Very fine sandy loam (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	7.8	0.0-40.0		46	Effective Texture: Clay loam (6), Clay (4), Silty clay (4), Loamy sand (2), Sand (2), Loam (1)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.6	0.0-10.0		50	Depth to Mottles/Gley: 0 - 25 (2), 51 - 100 (1)
Low Forb (< 30 cm)					Organic Thickness: 0 - 5 cm (21)
BUNCHBERRY (<i>Cornus canadensis</i>)	8.2	0.0-22.0		96	Parent Material: Morainal (8), Glaciofluvial (3), Glaciolacustrine (3), Lacustrine (3), Fluvial (2), Fluvioeolian (1)
BISHOP'S-CAP (<i>Mitella nuda</i>)	3.5	0.0-18.0		77	Soil Type: Moist/Fine (13), Moist/Sandy (3), Moist/Silty-Loamy (2)
Moss					Humus Form FIBRIMOR (1), HUMIFIBRIMOR (1)
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	23.5	0.0-88.0		91	LFH Thickness
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	23.4	0.0-65.0		86	
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	12.5	0.0-30.0		91	
					cm: 8.00 3.00 15.00 18

CMD5 Sw/Feather moss (n=26)

(*Picea glauca*/*Pleurozium schreberi*)

This community is considered successional mature. The limited light penetration in this community discourages understory development.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Mesic (fresh) (12), Subhygric (moderately moist) (10), Submesic (moderately fresh) (3) Nutrient Regime: Mesotrophic (medium) (18), Submesotrophic (poor) (4), Permesotrophic (rich) (2) Elevation (range): 557 (320-770) M Slope (%): 0.5 - 2.49 (10), 2.5 - 5.99 (6), 0 - 0.49 (2), 6 - 9.99 (2), 10 - 15.99 (1), 16 - 30.99 (1), 31 - 45.99 (1) Aspect: Southerly (7), Northerly (7), Westerly (4), Easterly (3), Level (1) Topographic Position: Level (7), Midslope (6), Upper Slope (4), Lower Slope (2), Toe (1), Crest (1)
WHITE SPRUCE (<i>Picea glauca</i>)	25.2	0.0-80.0	96		
BALSAM FIR (<i>Abies balsamea</i>)	2.4	0.0-42.0	15		
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	11.9	0.0-65.0	77		
Medium Shrub (0.5 to 2 m)					
TWINFLOWER (<i>Linnaea borealis</i>)	5.4	0.0-30.0	92		
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.1	0.0-10.0	69		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	1.6	0.0-5.0	73		
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	1.1	0.0-10.0	42		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	1.9	0.0-35.0	58		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	5.0	0.0-40.0	46		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	4.5	0.0-18.0	92		
Graminoid					
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.3	0.0-12.0	46		
Moss					
STAIR-STEP MOSS (<i>Hylacomium splendens</i>)	51.6	0.0-95.0	96		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	15.5	0.0-50.0	85		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	5.5	0.0-42.0	62		
LFH Thickness	Mean	Min	Max	Count	
cm:	12.00	6.00	36.00	16	

CME20 Early Conif CB/CIrg (n=2)

(Early Successional Coniferous Cutblock or Clearing)

This community type occurs after a coniferous site has been harvested and allowed to naturally regenerate or on a site (coniferous, mixedwood or deciduous) that has been replanted with coniferous seedlings. It includes areas that have been lightly to moderately grazed by livestock. The height and density of regenerating conifer and the presence and abundance of shrub, herbaceous and graminoid species will vary depending on the conditions under which the trees were harvested (season of harvest, method of cutting and management of debris), time since harvest and the moisture/nutrient regime of the site. The availability of forage within the cutblock depends upon the accessibility of the site and the density of the conifer regeneration. In general, after harvest, herbaceous and graminoid species flourish but their abundance and productivity declines as the conifer canopy increases (see Maturing Coniferous Cutblock and Clearing description) (Moisey et al. 2016).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d3 low-bush cranberry - Sw

Plant Composition

Canopy Cover (%)

Environmental Variables

	Canopy Cover (%)			Const.
	Mean	Range		
Overstory Tree				Ecological Status Score: 0
ASPEN (<i>Populus tremuloides</i>)	27.5	0.0-55.0	50	Moisture Regime: Mesic (fresh) (1), Subhygric (moderately moist) (1)
Understory Tree				Nutrient Regime: Mesotrophic (medium) (2)
WHITE SPRUCE (<i>Picea glauca</i>)	20.0	0.0-40.0	50	Elevation (range): 333 (333-333) M
Tall Shrub (2 to 5m)				Slope (%): 0 - 0.49 (1)
ASPEN (<i>Populus tremuloides</i>)	2.0	0.0-4.0	50	Aspect: Level (1)
LODGEPOLE PINE (<i>Pinus contorta</i>)	1.0	0.0-2.0	50	Topographic Position: Level (1)
Medium Shrub (0.5 to 2 m)				Soil Variables
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	7.5	0.0-15.0	50	Soil Drainage: Moderately well drained (2)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	6.0	0.0-12.0	50	Soil Subgroup: ORTHIC GRAY LUVISOL (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	5.5	0.0-11.0	50	Surface Texture: Silty clay loam (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	4.0	0.0-8.0	50	Effective Texture: Heavy clay (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.5	0.0-5.0	50	Depth to Mottles/Gley: 26 - 50 (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	2.0	0.0-4.0	50	Organic Thickness: 0 - 5 cm (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	1.9	0.0-3.8	50	Parent Material:
WHITE SPRUCE (<i>Picea glauca</i>)	1.1	0.0-2.2	50	Soil Type: Moist/Fine (1)
Tall Forb (>= 30 cm)				Humus Form
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.3	0.0-2.6	50	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	3.1	1.0-5.2	100	
GROUND-PINE (<i>Lycopodium obscurum</i>)	2.0	0.0-4.0	50	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.0	1.0-3.0	100	
NORTHERN BASTARD TOADFLAX (<i>Geocaulon lividum</i>)	1.8	0.0-3.6	50	
COW-WHEAT (<i>Melampyrum lineare</i>)	1.5	0.0-3.0	50	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	15.0	0.0-30.0	50	
Moss				
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	30.0	0.0-60.0	50	
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	3.6	0.0-7.2	50	

LFH Thickness	Mean	Min	Max	Count
cm:	3.00	3.00	3.00	1

d4 low-bush cranberry - shrubland (n=6)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Shrub

- [17.8]SNOWBERRY (BUCKBRUSH)*
Symphoricarpos occidentalis
- [6.8]WILD RED RASPBERRY
Rubus idaeus
- [4.0]PRICKLY ROSE
Rosa acicularis
- [3.6]SALIX SPECIES
Salix

Forb

- [27.2]COMMON DANDELION
Taraxacum officinale
- [22.8]WHITE CLOVER
Trifolium repens
- [3.7]WILD STRAWBERRY
Fragaria virginiana
- [3.0]COMMON YARROW
Achillea millefolium
- [1.9]WILD VETCH
Vicia americana
- [1.8]CANADA THISTLE
Cirsium arvense
- [1.5]PERENNIAL SOW-THISTLE
Sonchus arvensis
- [1.2]COW PARSNIP
Heracleum lanatum

Graminoid

- [38.7]KENTUCKY BLUEGRASS
Poa pratensis
- [9.1]SLENDER WHEAT GRASS
Agropyron trachycaulum
- [5.8]BLUEJOINT
Calamagrostis canadensis
- [4.3]PURPLE OAT GRASS
Schizachne purpurascens
- [1.9]SEDEGE SPECIES
Carex
- [1.4]ROUGH HAIR GRASS
Agrostis scabra
- [1.3]JUNE GRASS
Koeleria macrantha

Environmental Variables

Moisture Regime: Mesic (fresh) (3), Subhygric (moderately moist) (3)
 Nutrient Regime: Mesotrophic (medium) (4), Permesotrophic (rich) (2)
 Elevation (range): 633 (576-671) M
 Slope (%): nearly level (1)
 Aspect: Southerly (1)
 Topographic Position:Level (3), Depression (1)

Soil Variables

Soil Drainage: Moderately well drained (4), Well drained (2)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA12 Willow/Kentucky bluegrass (Sw) (n=1)

(*Salix spp./Poa pratensis (Picea glauca)*)

This community represents an old spruce community which burned in 1968, succeeded to willow, and is now succeeding back to white spruce. After the fire, the canopy was opened up allowing for good forage productivity. Consequently, cattle grazing was quite heavy allowing Kentucky bluegrass and clover to establish. Invasive weeds like thistle are increasing. The presence of tamarack (larch) on this 'd' ecosite is not impossible but it is unusual. Perhaps fire and subsequent heavy grazing had a significant drying effect or other factors caused a change in hydrology.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d4 low-bush cranberry - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 5-10
TAMARACK (<i>Larix laricina</i>)	8.0	8.0-8.0	100	Moisture Regime: Mesic (fresh) (1)
Tall Shrub (2 to 5m)				Nutrient Regime: Mesotrophic (medium) (1)
SALIX SPECIES (<i>Salix</i>)	50.0	50.0-50.0	100	Elevation (range): 671 (671-671) M
WHITE SPRUCE (<i>Picea glauca</i>)	25.0	25.0-25.0	100	Slope (%):
Medium Shrub (0.5 to 2 m)				Aspect:
ASPEN (<i>Populus tremuloides</i>)	5.0	5.0-5.0	100	Topographic Position: Level (1)
Tall Forb (>= 30 cm)				Soil Variables
MARSH HEDGE-NETTLE (<i>Stachys palustris</i>)	6.0	6.0-6.0	100	Soil Drainage: Moderately well drained (1)
CANADA THISTLE (<i>Cirsium arvense</i>)	2.3	2.3-2.3	100	Soil Subgroup:
Low Forb (< 30 cm)				Surface Texture:
WHITE CLOVER (<i>Trifolium repens</i>)	22.3	22.3-22.3	100	Effective Texture:
COMMON DANDELION (<i>Taraxacum officinale</i>)	13.9	13.9-13.9	100	Depth to Mottles/Gley:
BISHOP'S-CAP (<i>Mitella nuda</i>)	5.5	5.5-5.5	100	Organic Thickness:
FIELD MOUSE-EAR CHICKWEED (<i>Cerastium arvense</i>)	3.3	3.3-3.3	100	Parent Material:
COMMON YARROW (<i>Achillea millefolium</i>)	0.8	0.8-0.8	100	Soil Type:
KIDNEY-LEAVED VIOLET (<i>Viola renifolia</i>)	0.2	0.2-0.2	100	Humus Form
Graminoid				LFH Thickness
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	76.5	76.5-76.5	100	Mean
FRINGED BROME (<i>Bromus ciliatus</i>)	0.3	0.3-0.3	100	Min
				Max
				Count
				cm: 0.00 0.00 0.00 0

CMA4 Snowberry/Kentucky bluegrass (n=5)

(*Symphoricarpos spp/Poa pratensis*)

This snowberry dominated community type appears to be common on level, well drained, gravelly areas along rivers throughout Northern Alberta. In the absence of disturbance this PC appears to be dominated by snowberry, rose, fireweed, slender wheat grass and marsh reed grass. Heavy grazing pressure causes the native forbs and grasses to decline and allows Kentucky bluegrass, dandelion and clover to increase. Because these clearings are some of the only natural openings throughout the Central Mixedwood they tend to be heavily utilized by livestock. Snowberry which is unpalatable to livestock will remain even under extreme grazing pressure.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d4 low-bush cranberry - shrubland

Plant Composition	Canopy Cover (%)		
	Mean	Range	Const.
Tall Shrub (2 to 5m)			
SALIX SPECIES (<i>Salix</i>)	3.6	0.0-8.0	60
ASPEN (<i>Populus tremuloides</i>)	1.0	0.0-5.0	20
Medium Shrub (0.5 to 2 m)			
SNOWBERRY (BUCKBRUSH) (<i>Symphoricarpos occidentalis</i>)	17.8	1.0-30.0	100
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	6.8	0.0-16.5	80
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.0	0.0-10.0	60
Tall Forb (>= 30 cm)			
WILD VETCH (<i>Vicia americana</i>)	1.9	0.0-7.5	60
CANADA THISTLE (<i>Cirsium arvense</i>)	1.8	0.0-9.0	20
PERENNIAL SOW-THISTLE (<i>Sonchus arvensis</i>)	1.5	0.0-7.5	20
COW PARSNIP (<i>Heracleum lanatum</i>)	1.2	0.0-5.5	40
Low Forb (< 30 cm)			
COMMON DANDELION (<i>Taraxacum officinale</i>)	27.2	5.1-49.0	100
WHITE CLOVER (<i>Trifolium repens</i>)	22.8	0.0-54.0	60
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	3.7	0.0-15.8	80
COMMON YARROW (<i>Achillea millefolium</i>)	3.0	0.1-8.7	100
Graminoid			
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	38.7	16.5-73.0	100
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	9.1	3.5-18.3	100
BLUEJOINT (<i>Calamagrostis canadensis</i>)	5.8	0.0-24.8	40
PURPLE OAT GRASS (<i>Schizachne purpurascens</i>)	4.3	0.0-21.8	20
SEDGE SPECIES (<i>Carex</i>)	1.9	0.0-9.0	40
ROUGH HAIR GRASS (<i>Agrostis scabra</i>)	1.4	0.0-6.7	40
JUNE GRASS (<i>Koeleria macrantha</i>)	1.3	0.0-6.7	20

Environmental Variables

Ecological Status Score: 0-20

Moisture Regime: Subhygric (moderately moist) (3), Mesic (fresh) (2)

Nutrient Regime: Mesotrophic (medium) (3), Permesotrophic (rich) (2)

Elevation (range): 595 (576-640) M

Slope (%): 0.5 - 2.49 (1)

Aspect: Southerly (1)

Topographic Position: Level (2), Depression (1)

Soil Variables

Soil Drainage: Moderately well drained (3), Well drained (2)

Soil Subgroup:

Surface Texture:

Effective Texture:

Depth to Mottles/Gley:

Organic Thickness:

Parent Material:

Soil Type:

Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

d5 low-bush cranberry - tame (n=26)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Shrub

- [2.3]PRICKLY ROSE
Rosa acicularis

Forb

- [16.6]COMMON DANDELION
Taraxacum officinale
- [7.4]WHITE CLOVER
Trifolium repens
- [6.1]ALSIKE CLOVER
Trifolium hybridum
- [4.6]WILD STRAWBERRY
Fragaria virginiana
- [1.5]COMMON HORSETAIL
Equisetum arvense
- [1.1]COMMON PLANTAIN
Plantago major
- [1.1]CANADA THISTLE
Cirsium arvense
- [1.1]COMMON YARROW
Achillea millefolium

Graminoid

- [24.6]KENTUCKY BLUEGRASS
Poa pratensis
- [21.1]CREEPING RED FESCUE
Festuca rubra
- [7.4]TIMOTHY
Phleum pratense
- [3.6]QUACK GRASS
Agropyron repens
- [3.1]JAWNLESS BROME
Bromus inermis
- [1.2]MEADOW BROME
Bromus biebersteinii
- [1.2]HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Mesic (fresh) (14), Subhygric (moderately moist) (8), Submesic (moderately fresh) (5)

Nutrient Regime: Mesotrophic (medium) (17), Permesotrophic (rich) (8), Submesotrophic (poor) (1)

Elevation (range): 608 (333-956) M

Slope (%): very gentle slope (6), nearly level (5), level (4), moderate slope (2), gentle slope (1)

Aspect: Level (7), Southerly (4), Westerly (2), Easterly (2)

Topographic Position: Level (11), Upper Slope (2), Midslope (2), Lower Slope (1), Depression (1)

Soil Variables

Soil Drainage: Well drained (15), Moderately well drained (10), Imperfectly drained (2), Rapidly drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (3), GLEYED GRAY LUVISOL (1)

Surface Texture: Clay loam (1)

Effective Texture: Clay loam (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (4)

Parent Material: Morainal (1)

Soil Type: Moist/Fine (1)

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMF11 Timothy-Creeping red fescue-Kentucky bluegrass/Clover (n=26)

(*Phleum pratense-Festuca rubra-Poa pratensis/Trifolium spp.*)

This community type represents pastures on mesic sites that are dominated introduced forage species like timothy, smooth brome, meadow brome or alfalfa. Tall, productive introduced forages species make up 75% or more of the total forage total cover on healthy tame pasture (Moisey et al. 2016). With increased grazing pressure low growing or grazing resistant species such as Kentucky blue grass, creeping red fescue and quack grass, start to dominate the site.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)
Ecosite Phase: d5 low-bush cranberry - tame

Plant Composition	Canopy Cover (%)			Environmental Variables										
	Mean	Range	Const.											
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 0 Moisture Regime: Mesic (fresh) (14), Subhygric (moderately moist) (8), Submesic (moderately fresh) (5) Nutrient Regime: Mesotrophic (medium) (17), Permesotrophic (rich) (8), Submesotrophic (poor) (1) Elevation (range): 608 (333-956) M Slope (%): 2.5 - 5.99 (6), 0.5 - 2.49 (5), 0 - 0.49 (4), 10 - 15.99 (2), 6 - 9.99 (1) Aspect: Level (7), Southerly (4), Westerly (2), Easterly (2) Topographic Position: Level (11), Midslope (2), Upper Slope (2), Depression (1), Lower Slope (1)										
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.3	0.0-14.0	50											
Tall Forb (>= 30 cm)														
ALSIKE CLOVER (<i>Trifolium hybridum</i>)	6.1	0.0-67.0	35											
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.5	0.0-28.3	39											
CANADA THISTLE (<i>Cirsium arvense</i>)	1.1	0.0-29.4	8											
Low Forb (< 30 cm)														
COMMON DANDELION (<i>Taraxacum officinale</i>)	16.6	0.0-89.0	92											
WHITE CLOVER (<i>Trifolium repens</i>)	7.4	0.0-35.4	69											
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.6	0.0-45.5	50											
COMMON YARROW (<i>Achillea millefolium</i>)	1.1	0.0-4.7	73											
COMMON PLANTAIN (<i>Plantago major</i>)	1.1	0.0-26.4	19											
Graminoid														
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	24.6	0.0-74.9	89											
CREeping RED FESCUE (<i>Festuca rubra</i>)	21.1	0.0-79.5	65											
TIMOTHY (<i>Phleum pratense</i>)	7.4	0.0-60.0	73											
QUACK GRASS (<i>Agropyron repens</i>)	3.6	0.0-55.0	8											
AWNLESS BROME (<i>Bromus inermis</i>)	3.1	0.0-30.0	39											
MEADOW BROME (<i>Bromus biebersteinii</i>)	1.2	0.0-29.5	12											
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.2	0.0-24.1	15											
				Soil Variables										
				Soil Drainage: Well drained (15), Moderately well drained (10), Imperfectly drained (2), Rapidly drained (1) Soil Subgroup: ORTHIC GRAY LUVISOL (3), GLEYED GRAY LUVISOL (1) Surface Texture: Clay loam (1) Effective Texture: Clay loam (1) Depth to Mottles/Gley: Organic Thickness: 0 - 5 cm (4) Parent Material: Morainal (1) Soil Type: Moist/Fine (1) Humus Form										
				<table border="1"> <thead> <tr> <th>LFH Thickness</th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0</td> </tr> </tbody> </table>	LFH Thickness	Mean	Min	Max	Count	cm:	0.00	0.00	0.00	0
LFH Thickness	Mean	Min	Max	Count										
cm:	0.00	0.00	0.00	0										

d6 low-bush cranberry - native grassland (n=2)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Characteristic Species

Shrub

- [14.5]SNOWBERRY (BUCKBRUSH)
Symphoricarpos occidentalis
- [7.1]SASKATOON
Amelanchier alnifolia
- [0.7]PRICKLY ROSE
Rosa acicularis

Forb

- [7.8]ALPINE GOLDENROD
Solidago multiradiata
- [6.5]NORTHERN BEDSTRAW
Galium boreale
- [5.5]SILVERY CINQUEFOIL
Potentilla argentea
- [3.8]BASTARD TOADFLAX
Comandra umbellata
- [2.0]SMOOTH ASTER
Aster laevis
- [1.5]SMOOTH FLEABANE
Erigeron glabellus
- [1.3]FIELD MOUSE-EAR CHICKWEED
Cerastium arvense
- [1.1]COMMON DANDELION
Taraxacum officinale
- [1.0]ASCENDING PURPLE MILK VETCH
Astragalus striatus
- [0.8]HAREBELL
Campanula rotundifolia
- [0.6]PRAIRIE SAGEWORT
Artemisia ludoviciana
- [0.5]CUT-LEAVED ANEMONE
Anemone multifida

Graminoid

- [19.0]BLUNT SEDGE
Carex obtusata
- [11.5]WESTERN PORCUPINE GRASS*
Stipa curtiseta
- [7.0]SLENDER WHEAT GRASS
Agropyron trachycaulum
- [6.0]KENTUCKY BLUEGRASS
Poa pratensis
- [3.9]JUNE GRASS
Koeleria macrantha
- [1.0]GREEN NEEDLE GRASS
Stipa viridula

Environmental Variables

Moisture Regime: Subxeric (moderately dry) (1), Submesic (moderately fresh) (1)
 Nutrient Regime: Mesotrophic (medium) (2)
 Elevation (range): 704 (691-717) M
 Slope (%): gentle slope (2)
 Aspect: Easterly (1), Southerly (1)
 Topographic Position: Lower Slope (1), Upper Slope (1)

Soil Variables

Soil Drainage: Rapidly drained (1), Well drained (1)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA21 Saskatoon/Intermediate oatgrass-Hay sedge (n=2)

(*Amelanchier alnifolia*/*Danthonia intermedia*-*Carex siccata*)

This PC occurs in small grassy openings, with shallow slopes, interspersed with slightly better sites supporting aspen- conifer/blueberry and hazelnut PCs (e.g. CMD3, CMC14a). Exposed soil is common (5-25%) due to natural site conditions so there is a potential for erosion. The presence of intermediate oatgrass may indicate this community is similar to the Meadow rue/Intermediate oatgrass community described on medium rich, dry dark colored solonchetic (Wilkinson and Johnson, 1982) or eluviated or solonchetic phases of chernozemic soils (Landwise, 2012) in the Dry Mixedwood subregion. Hay sedge dominated community types were also described on coarse textured, sandy slopes in the Kazan Upland (Willoughby et al. 2017) and Athabasca Plain subregion (Willoughby et al. 2017).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: d low-bush cranberry(mesic/medium)

Ecosite Phase: d6 low-bush cranberry - native grassland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 20-40
PRICKLY ROSE (<i>Rosa acicularis</i>)	7.6	0.0-15.3	50	Moisture Regime: Subxeric (moderately dry) (1), Submesic (moderately fresh) (1)
COMMON BEARBERRY (<i>Arctostaphylos uva-ursi</i>)	4.9	2.8-7.0	100	Nutrient Regime: Mesotrophic (medium) (2)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	2.5	0.0-5.0	50	Elevation (range): 704 (691-717) M
Low Shrub (< 0.5m)				Slope (%): 6 - 9.99 (2)
SASKATOON (<i>Amelanchier alnifolia</i>)	12.2	0.0-24.5	50	Aspect: Easterly (1), Southerly (1)
Low Forb (< 30 cm)				Topographic Position: Lower Slope (1), Upper Slope (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	3.7	0.5-6.9	100	Soil Variables
BASTARD TOADFLAX (<i>Comandra umbellata</i>)	1.5	1.1-2.0	100	Soil Drainage: Rapidly drained (1), Well drained (1)
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.4	1.3-1.6	100	Soil Subgroup:
WHITE CLOVER (<i>Trifolium repens</i>)	1.1	0.3-2.0	100	Surface Texture:
Graminoid				Effective Texture:
INTERMEDIATE OAT GRASS (<i>Danthonia intermedia</i>)	11.1	7.1-15.2	100	Depth to Mottles/Gley:
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	5.1	3.1-7.1	100	Organic Thickness:
HAY SEDGE (<i>Carex siccata</i>)	2.5	2.3-2.7	100	Parent Material:
ROCKY MOUNTAIN FESCUE (<i>Festuca saximontana</i>)	1.4	1.3-1.6	100	Soil Type:
NORTHERN RICE GRASS (<i>Oryzopsis pungens</i>)	0.9	0.0-1.8	50	Humus Form
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm:
				0.00
				0.00
				0.00
				0

e dogwood(subhygric/rich) (n=230)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The dogwood ecosite is subhygric and nutrient rich. These sites are commonly found in mid or lower slope topographic positions or near water courses where they receive nutrient-rich seepage or flood waters for a portion of the growing season. Fine-textured glaciolacustrine and till parent materials are common and plant communities tend to be high in species richness, cover, and diversity. The dogwood ecosite tends to be the most productive in the Boreal Mixedwood.



Successional Relationships

Succession proceeds slowly after disturbance due to the proliferation of grass, forb and shrub cover. This explosion of vegetational cover can make tree establishment (especially coniferous) difficult and can reduce early growth rates. Once white spruce becomes established, high growth rates can be expected.

Indicator Species

Tree

WHITE SPRUCE

Picea glauca

BALSAM POPLAR

Populus balsamifera

ASPEN

Populus tremuloides

Shrub

THIMBLEBERRY

Rubus parviflorus

BEAKED WILLOW

Salix bebbiana

BRACKETED HONEYSUCKLE

Lonicera involucrata

RED-OSIER DOGWOOD

Cornus stolonifera

GREEN ALDER

Alnus crispa

RIVER ALDER

Alnus tenuifolia

Forb

WILD SARSAPARILLA

Aralia nudicaulis

OAK FERN

Gymnocarpium dryopteris

BROAD SPINULOSE SHIELD FERN

Dryopteris assimilis

Site Index at 50 Years

Site Index at 50 Years	Height (m)	Variation (m)	Count
WHITE SPRUCE (<i>Picea glauca</i>)	17.80	0.30	0
WHITE BIRCH (<i>Betula papyrifera</i>)	13.90	2.90	0
TAMARACK (<i>Larix laricina</i>)	15.20	1.30	0
BALSAM POPLAR (<i>Populus balsamifera</i>)	19.70	0.60	0
BALSAM FIR (<i>Abies balsamea</i>)	16.60	1.60	0
ASPEN (<i>Populus tremuloides</i>)	21.40	0.40	0

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (170), Mesic (fresh) (58), Hygric (moist) (28), Subhydric (moderately wet) (9)

Nutrient Regime: Permesotrophic (rich) (174), Mesotrophic (medium) (61), Eutrophic (very rich) (8)

Elevation (range): 629 (325-950) M

Slope (%): nearly level (59), very gentle slope (53), level (51), moderate slope (19), gentle slope (13), strong slope (2), very steep slope (1), very strong slope (1)

Aspect: Level (52), Westerly (28), Easterly (27), Northerly (26), Southerly (25), Variable (16)

Topographic Position: Level (55), Midslope (55), Lower Slope (28), Depression (15), Upper Slope (14), Toe (9)

Soil Variables

Soil Drainage: Moderately well drained (119), Imperfectly drained (103), Well drained (22), Poorly drained (22), Very poorly drained (3)

Soil Subgroup: ORTHIC GRAY LUVISOL (31), ORTHIC LUVIC GLEYSOL (24), GLEYED GRAY LUVISOL (22), ORTHIC GLEYSOL (15), ORTHIC REGOSOL (7), ORTHIC HUMIC GLEYSOL (6), BRUNISOLIC GRAY LUVISOL (6), CUMULIC REGOSOL (4), ORTHIC EUTRIC BRUNISOL (4), HUMIC LUVIC GLEYSOL (4), ELUVIATED EUTRIC BRUNISOL (3), GLEYED BRUNISOLIC GRAY LUVISOL (3),

Surface Texture: Silt loam (28), Sandy loam (17), Silty clay loam (15), Loam (9), Sand (8), Clay loam (7), Silt (7), Loamy sand (6), Clay (6),

Effective Texture: Clay (26), Silty clay (19), Silty clay loam (18), Clay loam (17), Sandy clay loam (9), Sand (8), Sandy loam (5), Silt loam (5), Silt (3),

Depth to Mottles/Gley: 0 - 25 (18), 26 - 50 (2), 51 - 100 (2)

Organic Thickness: 0 - 5 cm (160), 16 - 25 cm (1), 6 - 15 cm (1)

Parent Material: Morainal (68), Glaciolacustrine (61), Fluvial (27), Glaciofluvial (21), Lacustrine (11), Eolian (6), Colluvial (4), Fluvioacustrine (4), Undifferentiated Organic (4), Fluvioeolian (2), Rock (1), Undifferentiated Mineral (1)

Soil Type: Moist/Fine (81), Moist/Sandy (9), Moist/Silty-Loamy (8), Moist/Peaty (8), Moist/Coarse (4), Wet/Mineral (2), Wet/Peaty (2), Dry/Sandy (1)

Humus Form FIBRIHUMIMOR (4), HUMIFIBRIMOR (4), RAW MODER (4), FIBRIMOR (3), HUMIMOR (1), MOR (1), TYPICAL MODER (1)

LFH Thickness

LFH Thickness	Mean	Min	Max	Count
cm:	9.07	1.00	38.00	122

e1 dogwood - Pb-Aw (n=140)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Characteristic Species

Tree

- [28.5] ASPEN*
Populus tremuloides
- [17.5] BALSAM POPLAR*
Populus balsamifera
- [2.6] WHITE BIRCH
Betula papyrifera

Shrub

- [9.5] PRICKLY ROSE
Rosa acicularis
- [8.1] LOW-BUSH CRANBERRY
Viburnum edule
- [7.3] THIMBLEBERRY*
Rubus parviflorus
- [5.7] BRACTED HONEYSUCKLE*
Lonicera involucrata
- [5.7] RED-OSIER DOGWOOD*
Cornus stolonifera
- [4.3] RIVER ALDER*
Alnus tenuifolia
- [3.3] DEWBERRY
Rubus pubescens
- [2.8] WILD RED RASPBERRY
Rubus idaeus
- [2.6] GREEN ALDER*
Alnus crispa
- [1.4] TWINFLOWER
Linnaea borealis
- [1.0] BEAKED WILLOW*
Salix bebbiana

Forb

- [6.4] WILD SARSAPARILLA*
Aralia nudicaulis
- [3.6] BUNCHBERRY
Cornus canadensis
- [1.8] TALL LUNGWORT
Mertensia paniculata
- [1.8] COMMON FIREWEED
Epilobium angustifolium
- [1.7] CREAM-COLORED VETCHLING
Lathyrus ochroleucus
- [0.8] COMMON HORSETAIL
Equisetum arvense

Graminoid

- [9.3] BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (125), Mesic (fresh) (33), Hygric (moist) (12), Subhydric (moderately wet) (5)

Nutrient Regime: Permesotrophic (rich) (114), Mesotrophic (medium) (37), Eutrophic (very rich) (7)

Elevation (range): 648 (325-950) M

Slope (%): nearly level (38), very gentle slope (36), level (32), moderate slope (16), gentle slope (9), strong slope (1)

Aspect: Level (31), Easterly (21), Westerly (17), Variable (16), Southerly (15), Northerly (14)

Topographic Position: Midslope (35), Level (32), Lower Slope (18), Upper Slope (9), Depression (7), Toe (5)

Soil Variables

Soil Drainage: Moderately well drained (90), Imperfectly drained (64), Poorly drained (14), Well drained (9), Very poorly drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (18), ORTHIC LUVIC GLEYSOL (14), GLEYED GRAY LUVISOL (12), ORTHIC GLEYSOL (8), ORTHIC REGOSOL (7), ORTHIC HUMIC GLEYSOL (4), SOLONETZIC GRAY LUVISOL (3), GLEYED BRUNISOLIC GRAY LUVISOL (3), CUMULIC REGOSOL (3), BRUNISOLIC GRAY LUVISOL (3), HUMIC LUVIC GLEYSOL (2), ORTHIC EUTRIC BRUNISOL (2), ELUVIATED EUTRIC BRUNISOL (2), GLEYED DARK GRAY CHERNOZEM (2), ORTHIC DYSTRIC BRUNISOL (1), GLEYED EUTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), GLEYED DARK GRAY LUVISOL (1), REGO GLEYSOL (1), REGO HUMIC GLEYSOL (1)

Surface Texture: Silt loam (16), Sandy loam (12), Silty clay loam (8), Loam (8), Clay (5), Sand (4), Sandy clay loam (4), Loamy sand (3), Clay loam (2), Silt (2), Very fine sandy loam (2), Silty clay (1), Medium sand (1), Humic (1)

Effective Texture: Silty clay (13), Clay loam (12), Clay (12), Silty clay loam (8), Sand (4), Sandy clay loam (4), Silt loam (3), Heavy clay (3), Sandy loam (3), Sandy clay (2), Silt (1), Loam (1), Loamy sand (1)

Depth to Mottles/Gley: 0 - 25 (9), 51 - 100 (2)

Organic Thickness: 0 - 5 cm (96), 16 - 25 cm (1), 6 - 15 cm (1)

Parent Material: Glaciolacustrine (47), Morainal (42), Fluvial (19), Glaciofluvial (12), Lacustrine (5), Undifferentiated Organic (3), Eolian (3), Rock (1), Undifferentiated Mineral (1)

Soil Type: Moist/Fine (51), Moist/Silty-Loamy (5), Moist/Coarse (3), Moist/Peaty (3), Moist/Sandy (3), Wet/Mineral (1), Dry/Sandy (1)

Humus Form: FIBRIHUMIMOR (2), RAW MODER (1), MOR (1), FIBRIMOR (1), HUMIFIBRIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	7.67	1.00	30.00	71

CMC1 Aw-Pb/Green alder-Rose (n=9)

(*Populus tremuloides* - *P. balsamifera*/ *Alnus crispa*- *Rosa spp*)

This community was found on moderately well-drained sites with subhygric moisture regimes. Beckingham (1993), described a similar community type. He found these forests to develop on parent materials that are neutral to alkaline, thus they tended to have a relatively high level of nutrient availability and potentially high production levels.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	28.0	0.0-75.0	78	Moisture Regime: Subhygric (moderately moist) (7), Mesic (fresh) (2)
BALSAM POPLAR (<i>Populus balsamifera</i>)	25.0	0.0-65.0	67	Nutrient Regime: Permesotrophic (rich) (6), Mesotrophic (medium) (3)
Tall Shrub (2 to 5m)				Elevation (range): 645 (579-733) M
GREEN ALDER (<i>Alnus crispa</i>)	11.1	5.0-20.0	100	Slope (%): 2.5 - 5.99 (3), 0.5 - 2.49 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Level (2), Northerly (1), Southerly (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	9.0	0.0-20.0	67	Topographic Position: Level (6), Lower Slope (1), Midslope (1), Upper Slope (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	8.7	2.4-20.0	100	Soil Variables
ASPEN (<i>Populus tremuloides</i>)	4.2	0.0-25.0	33	Soil Drainage: Moderately well drained (4), Imperfectly drained (4), Well drained (1)
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	3.0	0.0-9.0	89	Soil Subgroup: GLEYED GRAY LUVISOL (2), GLEYED BRUNISOLIC GRAY LUVISOL (1), ELUVIATED EUTRIC BRUNISOL (1)
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	2.7	0.0-10.0	67	Surface Texture: Sandy loam (2), Very fine sandy loam (1), Sandy clay loam (1)
GREEN ALDER (<i>Alnus crispa</i>)	2.5	0.0-10.0	44	Effective Texture: Clay (2), Clay loam (1), Sandy loam (1)
Low Shrub (< 0.5m)				Depth to Mottles/Gley: 51 - 100 (1)
DEWBERRY (<i>Rubus pubescens</i>)	3.6	0.0-10.3	89	Organic Thickness: 0 - 5 cm (4)
Tall Forb (>= 30 cm)				Parent Material: Morainal (5), Glaciofluvial (2)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	8.3	0.0-40.0	44	Soil Type: Moist/Fine (3), Moist/Coarse (1)
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	3.3	0.0-6.7	89	Humus Form FIBRIMOR (1)
Low Forb (< 30 cm)				LFH Thickness
BUNCHBERRY (<i>Cornus canadensis</i>)	6.6	0.0-26.1	89	Mean
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.1	0.0-10.5	89	Min
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.7	0.0-8.3	78	Max
BISHOP'S-CAP (<i>Mitella nuda</i>)	2.6	0.0-9.1	78	Count
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	2.5	0.0-7.0	89	cm:
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	2.4	0.0-8.3	67	9.00
Graminoid				5.00
BLUEJOINT (<i>Calamagrostis canadensis</i>)	25.7	2.3-90.0	100	15.00
				4

CMC13a Aw-Pb-Bw/Willow (n=7)

(*Populus tremuloides*-*Populus balsamifera*-*Betula papyrifera*/*Salix spp.*)

This PC is similar to CMC13 Aw/Willow but occupies moist sites (i.e. subhygric). The assemblage of species present reflect the richer soil conditions. For example, raspberry, dogwood and honeysuckle are more common in this PC with forbs like nettles, and horsetails.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (4), Hygric (moist) (1), Mesic (fresh) (1) Nutrient Regime: Permesotrophic (rich) (2) Elevation (range): 621 (585-660) M Slope (%): 0 - 0.49 (3), 0.5 - 2.49 (2), 2.5 - 5.99 (2) Aspect: Level (2), Northerly (1), Southerly (1), Westerly (1) Topographic Position: Midslope (1), Depression (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	12.1	0.0-40.0	43		
ASPEN (<i>Populus tremuloides</i>)	10.7	0.0-25.0	71		
BALSAM POPLAR (<i>Populus balsamifera</i>)	7.4	0.0-20.0	57		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	11.1	0.0-20.0	71		
BALSAM POPLAR (<i>Populus balsamifera</i>)	4.5	0.0-10.0	71		
Tall Shrub (2 to 5m)					
SCOULER'S WILLOW (<i>Salix scouleriana</i>)	1.7	0.0-12.0	14		
Medium Shrub (0.5 to 2 m)					
SALIX SPECIES (<i>Salix</i>)	11.7	5.0-25.0	100		
PRICKLY ROSE (<i>Rosa acicularis</i>)	7.4	0.0-18.0	71		
TWINFLOWER (<i>Linnaea borealis</i>)	6.0	0.0-40.0	57		
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	5.7	0.0-20.0	57		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	5.5	0.0-25.0	57		
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	4.2	0.0-15.0	71		
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	2.1	0.0-15.0	14		
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	0.2	0.0-2.0	14		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	3.1	0.0-9.0	71		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	5.0	0.0-22.0	71		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	4.8	0.0-18.0	71		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.8	0.0-7.0	86		
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	2.5	0.0-8.0	57		
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	1.7	0.0-8.0	43		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.7	0.0-12.0	57		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	9.3	0.5-40.0	100		
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	2.1	0.0-15.0	14		
Soil Variables					
Soil Drainage: Moderately well drained (3), Imperfectly drained (3)					
Soil Subgroup: BRUNISOLIC GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1), ORTHIC REGOSOL (1)					
Surface Texture:					
Effective Texture:					
Depth to Mottles/Gley:					
Organic Thickness: 0 - 5 cm (7)					
Parent Material: Glaciolacustrine (3), Lacustrine (1), Morainal (1), Undifferentiated Organic (1), Undifferentiated Mineral (1)					
Soil Type:					
Humus Form					
LFH Thickness					
	Mean	Min	Max	Count	
cm:	0.00	0.00	0.00	0	

CMC14 Pb-Aw/Red osier dogwood (n=52)

(*Populus balsamifera*-*Populus tremuloides*/*Cornus stolonifera*)

Beckingham and Archibald (1996) and Thompson and Hansen (2002) found this community type on mid to lower slope topographic positions or near wetlands, water bodies or water courses where they receive nutrient-rich seepage or flood waters for a portion of the growing season. This PC is one of the most productive in the Central Mixedwood.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (33), Mesic (fresh) (11), Hygric (moist) (3), Subhydric (moderately wet) (3) Nutrient Regime: Permesotrophic (rich) (29), Mesotrophic (medium) (10), Eutrophic (very rich) (2) Elevation (range): 630 (325-950) M Slope (%): 0.5 - 2.49 (16), 2.5 - 5.99 (12), 0 - 0.49 (9), 10 - 15.99 (4), 6 - 9.99 (3), 16 - 30.99 (1) Aspect: Level (10), Southerly (9), Westerly (7), Easterly (7), Northerly (6) Topographic Position: Midslope (11), Level (10), Toe (4), Lower Slope (3), Upper Slope (3), Depression (1)
ASPEN (<i>Populus tremuloides</i>)	32.4	0.0-75.0	87		
BALSAM POPLAR (<i>Populus balsamifera</i>)	17.7	0.0-80.0	77		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	5.4	0.0-40.0	58		
BALSAM POPLAR (<i>Populus balsamifera</i>)	3.6	0.0-15.0	54		
Medium Shrub (0.5 to 2 m)					
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	19.7	0.0-70.0	92		
PRICKLY ROSE (<i>Rosa acicularis</i>)	9.6	0.0-45.0	90		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	8.6	0.0-50.0	81		
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	3.2	0.0-40.0	54		
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.9	0.0-15.0	33		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	3.9	0.0-15.0	73		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	7.6	0.0-50.0	54		
COMMON HORSETAIL (<i>Equisetum arvense</i>)	2.9	0.0-39.0	58		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.1	0.0-15.0	48		
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.1	0.0-40.0	58		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.8	0.0-10.0	64		
LADY FERN (<i>Athyrium filix-femina</i>)	0.9	0.0-40.0	4		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.5	0.0-17.0	50		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.8	0.0-25.0	64		
				Soil Variables Soil Drainage: Moderately well drained (25), Imperfectly drained (15), Poorly drained (8), Well drained (4) Soil Subgroup: ORTHIC GRAY LUVISOL (7), ORTHIC LUVIC GLEYSOL (6), ORTHIC REGOSOL (5), ORTHIC GLEYSOL (4), CUMULIC REGOSOL (3), GLEYED GRAY LUVISOL (3), SOLONETZIC GRAY LUVISOL (2), GLEYED DARK GRAY CHERNOZEM (2), ORTHIC DYSTRIC BRUNISOL (1), GLEYED EUTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), BRUNISOLIC GRAY LUVISOL (1) Surface Texture: Silt loam (7), Sandy loam (5), Silty clay loam (5), Loam (4), Clay (3), Sand (2), Silt (2), Silty clay (1), Sandy clay loam (1) Effective Texture: Silty clay (6), Silty clay loam (6), Clay (4), Clay loam (4), Sandy clay loam (3), Silt (1), Heavy clay (1), Loam (1), Loamy sand (1), Sand (1), Silt loam (1), Sandy loam (1) Depth to Mottles/Gley: 0 - 25 (4) Organic Thickness: 0 - 5 cm (41) Parent Material: Glaciolacustrine (18), Morainal (14), Fluvial (13), Glaciofluvial (5), Lacustrine (2), Eolian (1) Soil Type: Moist/Fine (22), Moist/Silty-Loamy (3), Moist/Peaty (2), Dry/Sandy (1), Moist/Sandy (1), Moist/Coarse (1) Humus Form MOR (1)	
				LFH Thickness cm: Mean 8.00, Min 2.00, Max 30.00, Count 28	

CMC14-D Aw-Pb/Rose/Low forb (n=8)

(*Populus tremuloides*-*Populus balsamifera*/*Rosa spp*/Low forb)

This PC is the result of disturbance to its reference PC, CMC14. CMC14-D has noticeably more (more than 10%) disturbance related species relative to the reference PC. Initially, rose, snowberry, strawberry and other native increasers for this ecosite will replace less grazing tolerant plants like dogwood, low-bush cranberry, and wild sarsaparilla. With long term over grazing, invasive species like Kentucky bluegrass and weedy forbs will become prominent. The actual disturbance species present depends on availability of local propagules.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables				
	Mean	Range							
Overstory Tree					Ecological Status Score: 10-20				
BALSAM POPLAR (<i>Populus balsamifera</i>)	26.8	0.0-45.0		88	Moisture Regime: Subhygric (moderately moist) (5), Mesic (fresh) (2)				
ASPEN (<i>Populus tremuloides</i>)	18.1	0.0-65.0		50	Nutrient Regime: Permesotrophic (rich) (5), Mesotrophic (medium) (3)				
Tall Shrub (2 to 5m)					Elevation (range): 651 (579-703) M				
SALIX SPECIES (<i>Salix</i>)	11.2	0.0-75.0		25	Slope (%): 0 - 0.49 (3), 6 - 9.99 (1)				
Medium Shrub (0.5 to 2 m)					Aspect: Level (2), Easterly (1), Westerly (1)				
PRICKLY ROSE (<i>Rosa acicularis</i>)	14.6	3.6-25.5		100	Topographic Position: Level (3), Lower Slope (1), Midslope (1), Depression (1)				
SASKATOON (<i>Amelanchier alnifolia</i>)	5.7	0.0-25.0		50	Soil Variables				
SNOWBERRY (BUCKBRUSH) (<i>Symphoricarpos occidentalis</i>)	5.2	0.0-17.5		50	Soil Drainage: Moderately well drained (7), Imperfectly drained (1)				
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	4.2	0.0-18.0		50	Soil Subgroup:				
SNOWBERRY (<i>Symphoricarpos albus</i>)	3.2	0.0-9.3		50	Surface Texture:				
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	2.9	0.0-12.5		63	Effective Texture:				
DEWBERRY (<i>Rubus pubescens</i>)	2.5	0.0-20.0		25	Depth to Mottles/Gley:				
TWINFLOWER (<i>Linnaea borealis</i>)	1.9	0.0-5.7		63	Organic Thickness:				
Tall Forb (>= 30 cm)					Parent Material:				
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	4.8	0.0-10.8		88	Soil Type:				
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.6	0.0-12.2		25	Humus Form				
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.3	0.0-4.9		75	LFH Thickness				
VEINY MEADOW RUE (<i>Thalictrum venulosum</i>)	1.9	0.0-5.2		63					
Low Forb (< 30 cm)					Mean	Min	Max	Count	
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	6.8	0.5-15.3		100	cm:	0.00	0.00	0.00	0
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	2.5	0.0-12.8		50					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.2	0.0-8.0		75					
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	1.8	0.0-6.8		63					
Graminoid									
HAIRY WILD RYE (<i>Elymus innovatus</i>)	3.0	0.0-12.8		50					
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	2.7	0.0-15.4		38					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.6	0.0-10.0		88					

CMC17 Aw/Thimbleberry (n=3)

(*Populus tremuloides*/*Rubus parviflorus*)

This community type was described on an east facing slope overlooking the Smoky River south of Grande Prairie. This community type is generally rare within the Central Mixedwood Subregion, and is more commonly found within the Montane Subregion south of the Crowsnest Pass and in the Lower Foothills subregion near Whitecourt. This community type is found on nutrient rich seepage areas.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables				
	Mean	Range							
Overstory Tree					Ecological Status Score: 25				
ASPEN (<i>Populus tremuloides</i>)	31.0	23.0-47.0		100	Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1)				
WHITE SPRUCE (<i>Picea glauca</i>)	10.0	0.0-30.0		33	Nutrient Regime: Permesotrophic (rich) (2), Eutrophic (very rich) (1)				
WHITE BIRCH (<i>Betula papyrifera</i>)	4.0	0.0-7.0		67	Elevation (range): 674 (650-698) M				
BALSAM POPLAR (<i>Populus balsamifera</i>)	4.0	0.0-8.0		67	Slope (%):				
Tall Shrub (2 to 5m)					Aspect:				
RIVER ALDER (<i>Alnus tenuifolia</i>)	4.0	0.0-7.0		67	Topographic Position: Lower Slope (2), Level (1)				
SASKATOON (<i>Amelanchier alnifolia</i>)	4.0	0.0-8.0		67	Soil Variables				
BEAKED HAZELNUT (<i>Corylus cornuta</i>)	4.0	0.0-9.0		67	Soil Drainage: Moderately well drained (2), Well drained (1)				
Medium Shrub (0.5 to 2 m)					Soil Subgroup:				
UNDIFFERENTIATED ROSE (<i>Rosa</i>)	7.0	5.0-9.0		100	Surface Texture:				
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.0	1.0-8.0		100	Effective Texture:				
WHITE MEADOWSWEET (<i>Spiraea betulifolia</i>)	2.0	0.0-5.0		67	Depth to Mottles/Gley:				
Low Shrub (< 0.5m)					Organic Thickness:				
THIMBLEBERRY (<i>Rubus parviflorus</i>)	44.0	19.0-85.0		100	Parent Material:				
TWINFLOWER (<i>Linnaea borealis</i>)	4.0	0.0-6.0		67	Soil Type:				
DWARF BILBERRY (<i>Vaccinium caespitosum</i>)	3.0	0.0-5.0		67	Humus Form				
Tall Forb (>= 30 cm)					LFH Thickness				
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.0	2.0-6.0		100	Mean	Min	Max	Count	
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	2.0	1.0-3.0		100	cm:	0.00	0.00	0.00	0
SHOWY ASTER (<i>Aster conspicuus</i>)	1.0	0.0-3.0		67					
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.0	0.0-2.0		67					
Low Forb (< 30 cm)									
BUNCHBERRY (<i>Cornus canadensis</i>)	6.0	4.0-7.0		100					
WILD LILY-OF-THE-VALLEY (<i>Maianthemum canadense</i>)	2.0	1.0-2.0		100					
COMMON PINK WINTERGREEN (<i>Pyrola asarifolia</i>)	1.0	1.0-1.0		100					
Graminoid									
WHITE-GRAINED MOUNTAIN RICE GRASS (<i>Oryzopsis asperifolia</i>)	6.0	1.0-13.0		100					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	5.0	1.0-7.0		100					

CMC2 Pb-Aw/River alder (n=13)

(*Populus balsamifera*-*Populus tremuloides*/*Alnus tenuifolia*)

This community type is found on moist lower slope positions adjacent to creeks and rivers. A similar community type was described on similar sites in the Lower Foothills subregion (Willoughby and Downing 1995). The high cover of alder limits the light reaching the understory and results in low production of grass and forbs.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 0 Moisture Regime: Subhygric (moderately moist) (7), Hygric (moist) (4), Mesic (fresh) (2) Nutrient Regime: Mesotrophic (medium) (5), Permesotrophic (rich) (3), Eutrophic (very rich) (1) Elevation (range): 631 (463-800) M Slope (%): 0 - 0.49 (4), 2.5 - 5.99 (4), 0.5 - 2.49 (3), 6 - 9.99 (1), 10 - 15.99 (1) Aspect: Easterly (3), Level (3), Northerly (1), Westerly (1) Topographic Position: Midslope (2), Upper Slope (2), Level (2), Lower Slope (1), Depression (1)
ASPEN (<i>Populus tremuloides</i>)	18.2	0.0-60.0	85		
BALSAM POPLAR (<i>Populus balsamifera</i>)	16.0	0.0-45.0	85		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	6.9	0.0-20.0	62		
BALSAM POPLAR (<i>Populus balsamifera</i>)	6.2	0.0-15.0	69		
Tall Shrub (2 to 5m)					
RIVER ALDER (<i>Alnus tenuifolia</i>)	13.4	0.0-45.0	69		
BEAKED WILLOW (<i>Salix bebbiana</i>)	6.4	0.0-35.0	62		
Medium Shrub (0.5 to 2 m)					
PRICKLY ROSE (<i>Rosa acicularis</i>)	10.8	0.0-35.0	92		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	10.7	0.0-55.0	92		
RIVER ALDER (<i>Alnus tenuifolia</i>)	10.2	2.2-35.0	100		
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	9.1	0.0-40.0	62		
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	8.8	0.0-20.0	85		
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	5.7	0.0-45.0	77		
GREEN ALDER (<i>Alnus crispa</i>)	2.6	0.0-10.0	39		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	4.8	1.0-12.0	100		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	5.5	0.0-14.0	69		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	4.6	0.0-17.0	92		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.8	0.0-20.0	69		

Soil Variables

Soil Drainage: Moderately well drained (6), Imperfectly drained (4), Well drained (1), Poorly drained (1)
 Soil Subgroup: ORTHIC GRAY LUVISOL (5), ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1), GLEYED DARK GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1), ORTHIC LUVIC GLEYSOL (1)
 Surface Texture: Loamy sand (2), Sandy clay loam (1), Silt loam (1), Sandy loam (1), Clay (1), Loam (1)
 Effective Texture: Clay (1), Clay loam (1), Sand (1), Sandy clay (1), Silty clay (1), Silty clay loam (1), Silt loam (1)
 Depth to Mottles/Gley: 0 - 25 (2), 51 - 100 (1)
 Organic Thickness: 0 - 5 cm (11)
 Parent Material: Morainal (7), Glaciolacustrine (3), Lacustrine (2), Glaciofluvial (2), Fluvial (1)
 Soil Type: Moist/Fine (6), Moist/Silty-Loamy (1)
 Humus Form FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	10.00	8.00	16.00	7

CMC3a Pb-Aw/Bracted honeysuckle-Rose (n=42)

(*Populus balsamifera*-*Populus tremuloides*/*Lonicera involucrata*-*Rosa* spp.)

This PC is on a relatively moist and nutrient rich site with predominantly Gleysolic soils and represents the honeysuckle PC as described by Beckingham and Archibald (1996). The PC has high structural and species diversity. The lowest stratum is mostly occupied by shade tolerant species (sarsaparilla). There is little growth of grasses and forbs.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e1 dogwood - Pb-Aw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (30), Mesic (fresh) (9), Hygric (moist) (2), Subhydric (moderately wet) (2) Nutrient Regime: Permesotrophic (rich) (28), Mesotrophic (medium) (11), Eutrophic (very rich) (1) Elevation (range): 728 (576-870) M Slope (%): 2.5 - 5.99 (13), 0 - 0.49 (11), 0.5 - 2.49 (10), 6 - 9.99 (2), 10 - 15.99 (1) Aspect: Level (11), Easterly (9), Westerly (6), Northerly (5), Southerly (3) Topographic Position: Level (9), Lower Slope (9), Midslope (4), Depression (2), Upper Slope (2)
ASPEN (<i>Populus tremuloides</i>)	24.6	0.0-65.0	79		
BALSAM POPLAR (<i>Populus balsamifera</i>)	17.3	0.0-70.0	74		
Understory Tree					
ASPEN (<i>Populus tremuloides</i>)	4.8	0.0-50.0	48		
BALSAM POPLAR (<i>Populus balsamifera</i>)	3.3	0.0-20.0	45		
Medium Shrub (0.5 to 2 m)					
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	17.0	0.0-60.0	93		
PRICKLY ROSE (<i>Rosa acicularis</i>)	14.2	0.0-40.0	98		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	11.1	0.0-40.0	83		
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	2.9	0.0-15.0	62		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	4.7	0.0-20.0	69		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	8.9	0.0-45.0	88		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	3.8	0.0-20.0	67		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.1	0.0-15.0	55		
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.4	0.0-10.0	45		
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	1.4	0.0-5.0	69		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	4.1	0.0-29.0	71		
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.5	0.0-15.0	45		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	8.6	0.0-70.0	83		
Soil Variables					
Soil Drainage: Imperfectly drained (20), Moderately well drained (16), Poorly drained (5), Very poorly drained (1) Soil Subgroup: ORTHIC LUVIC GLEYSOL (6), GLEYED GRAY LUVISOL (6), ORTHIC GRAY LUVISOL (5), ORTHIC GLEYSOL (4), ORTHIC HUMIC GLEYSOL (3), HUMIC LUVIC GLEYSOL (2), BRUNISOLIC GRAY LUVISOL (1), ORTHIC REGOSOL (1), REGO GLEYSOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1), REGO HUMIC GLEYSOL (1), SOLONETZIC GRAY LUVISOL (1), ORTHIC EUTRIC BRUNISOL (1) Surface Texture: Silt loam (8), Sandy loam (4), Loam (3), Silty clay loam (3), Clay loam (2), Sand (2), Sandy clay loam (1), Medium sand (1), Very fine sandy loam (1), Humic (1), Clay (1), Loamy sand (1) Effective Texture: Clay loam (6), Silty clay (6), Clay (5), Heavy clay (2), Sand (2), Silty clay loam (1), Sandy clay (1), Sandy clay loam (1), Silt loam (1), Sandy loam (1) Depth to Mottles/Gley: 0 - 25 (3) Organic Thickness: 0 - 5 cm (33), 16 - 25 cm (1), 6 - 15 cm (1) Parent Material: Glaciolacustrine (23), Morainal (15), Fluvial (5), Glaciofluvial (3), Eolian (2), Undifferentiated Organic (2), Rock (1) Soil Type: Moist/Fine (20), Moist/Sandy (2), Moist/Peaty (1), Moist/Silty-Loamy (1), Wet/Mineral (1), Moist/Coarse (1) Humus Form FIBRIHUMIMOR (1), RAW MODER (1), HUMIFIBRIMOR (1)					
LFH Thickness					
cm:	Mean	Min	Max	Count	
	9.00	1.00	28.00	25	

e2 dogwood - Pb-Sw (n=40)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Characteristic Species

Tree

- [25.5]WHITE SPRUCE*
Picea glauca
- [13.1]ASPEN
Populus tremuloides
- [6.0]BALSAM POPLAR
Populus balsamifera
- [3.3]WHITE BIRCH
Betula papyrifera

Shrub

- [7.5]LOW-BUSH CRANBERRY
Viburnum edule
- [7.1]RED-OSIER DOGWOOD
Cornus stolonifera
- [6.5]BRACED HONEYSUCKLE
Lonicera involucrata
- [6.2]PRICKLY ROSE
Rosa acicularis
- [4.1]DEWBERRY
Rubus pubescens
- [2.1]TWINFLOWER
Linnaea borealis
- [2.0]GREEN ALDER
Alnus crispa
- [1.9]BEAKED WILLOW
Salix bebbiana
- [1.1]RIVER ALDER
Alnus tenuifolia

Forb

- [6.8]WILD SARSAPARILLA
Aralia nudicaulis
- [5.3]BUNCHBERRY
Cornus canadensis
- [2.6]BISHOP'S-CAP
Mitella nuda
- [1.0]WOODLAND HORSETAIL
Equisetum sylvaticum
- [0.9]OAK FERN
Gymnocarpium dryopteris

Moss and Liverwort

- [7.6]STAIR-STEP MOSS
Hylocomium splendens
- [3.8]SCHREBER'S MOSS
Pleurozium schreberi
- [2.1]KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [7.6]BLUEJOINT
Calamagrostis canadensis
- [1.6]TWO-SEEDED SEDGE
Carex disperma

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (22), Mesic (fresh) (14), Hygric (moist) (3), Subhydric (moderately wet) (1)

Nutrient Regime: Permesotrophic (rich) (23), Mesotrophic (medium) (13), Eutrophic (very rich) (1)

Elevation (range): 662 (335-845) M

Slope (%): nearly level (14), very gentle slope (9), level (8), gentle slope (2), moderate slope (1), strong slope (1), very strong slope (1), very steep slope (1)

Aspect: Level (10), Northerly (9), Southerly (6), Westerly (6), Easterly (3)

Topographic Position: Midslope (11), Level (8), Lower Slope (5), Toe (4), Upper Slope (3), Depression (1)

Soil Variables

Soil Drainage: Imperfectly drained (19), Moderately well drained (14), Poorly drained (3), Well drained (3), Very poorly drained (1)

Soil Subgroup: ORTHIC GRAY LUVISOL (9), GLEYED GRAY LUVISOL (7), ORTHIC LUVIC GLEYSOL (5), ORTHIC GLEYSOL (4), GLEYED CUMULIC REGOSOL (3), ORTHIC EUTRIC BRUNISOL (2), BRUNISOLIC GRAY LUVISOL (2), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED EUTRIC BRUNISOL (1), GLEYED HUMIC REGOSOL (1), HUMIC LUVIC GLEYSOL (1)

Surface Texture: Silt loam (8), Clay loam (4), Sandy loam (4), Silt (4), Silty clay loam (3), Sand (3), Fine sandy loam (2), Silty clay (1), Loamy sand (1), Sandy clay loam (1), Clay (1)

Effective Texture: Clay (10), Sand (4), Sandy clay loam (4), Silty clay (4), Silty clay loam (3), Clay loam (2), Silt (2), Silt loam (1), Sandy loam (1), Loamy sand (1)

Depth to Mottles/Gley: 0 - 25 (3), 26 - 50 (1)

Organic Thickness: 0 - 5 cm (39)

Parent Material: Morainal (16), Glaciolacustrine (9), Glaciofluvial (7), Fluvial (6), Colluvial (3), Lacustrine (3), Eolian (1), Fluvioeolian (1)

Soil Type: Moist/Fine (15), Moist/Sandy (5), Moist/Peaty (4), Moist/Silty-Loamy (3), Wet/Mineral (1), Wet/Peaty (1), Moist/Coarse (1)

Humus Form FIBRIMOR (2), RAW MODER (2), HUMIFIBRIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	11.67	3.00	38.00	31

CMD29 Pb-Sw/Red osier dogwood (n=19)

(*Populus balsamifera*-*Picea glauca*/*Cornus stolonifera*)

This PC is successionaly more advanced than the related deciduous DMC8s, and the mixedwood DMD6 PC. The conifer phase, DMD13a, and mixedwood phase, DMD13, are very similar in that they have shrubs dominant in the understory. In DMD13a, dogwood is still present but is not dominant. This is due to successional shading. Shade tolerant plants (e.g. bunchberry, twin flower, mosses), are also replacing other, shade intolerant, species (e.g. fireweed, wild raspberry, marsh reed grass) and the understory as a whole, is thinning (Hart and Chen 2006).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e2 dogwood - Pb-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
ASPEN (<i>Populus tremuloides</i>)	22.4	0.0-60.0	68		Moisture Regime: Subhygric (moderately moist) (11), Mesic (fresh) (7)
WHITE SPRUCE (<i>Picea glauca</i>)	22.3	0.0-50.0	95		Nutrient Regime: Permesotrophic (rich) (12), Mesotrophic (medium) (5)
BALSAM POPLAR (<i>Populus balsamifera</i>)	6.3	0.0-20.0	58		Elevation (range): 645 (556-825) M
Understory Tree					Slope (%): 0 - 0.49 (6), 0.5 - 2.49 (5), 2.5 - 5.99 (4), 6 - 9.99 (1), 10 - 15.99 (1), 31 - 45.99 (1), 71 - 100.99 (1)
WHITE SPRUCE (<i>Picea glauca</i>)	7.0	0.0-30.0	63		Aspect: Level (7), Westerly (4), Northerly (3), Southerly (2), Easterly (1)
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.0	0.0-10.0	37		Topographic Position: Level (5), Midslope (4), Upper Slope (3), Lower Slope (3), Toe (1)
Medium Shrub (0.5 to 2 m)					Soil Variables
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	17.0	1.0-50.0	100		Soil Drainage: Imperfectly drained (9), Moderately well drained (7), Well drained (2)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	10.1	0.0-40.0	84		Soil Subgroup: ORTHIC GRAY LUVISOL (6), GLEYED CUMULIC REGOSOL (3), ORTHIC EUTRIC BRUNISOL (2), ORTHIC GLEYSOL (2), GLEYED GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED EUTRIC BRUNISOL (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	8.2	0.0-35.0	90		Surface Texture: Silt loam (5), Sand (3), Silt (3), Silty clay loam (2), Sandy loam (1), Clay loam (1), Fine sandy loam (1), Loamy sand (1)
TWINFLOWER (<i>Linnaea borealis</i>)	6.4	0.0-50.0	68		Effective Texture: Sand (4), Clay (3), Silt (2), Silty clay (2), Silty clay loam (2), Silt loam (1), Sandy loam (1), Clay loam (1), Loamy sand (1)
BRACED HONEYSUCKLE (<i>Lonicera involucrata</i>)	3.6	0.0-10.0	74		Depth to Mottles/Gley: 0 - 25 (1), 26 - 50 (1)
Low Shrub (< 0.5m)					Organic Thickness: 0 - 5 cm (19)
DEWBERRY (<i>Rubus pubescens</i>)	5.7	0.0-20.0	79		Parent Material: Fluvial (5), Glaciolacustrine (4), Morainal (4), Lacustrine (3), Colluvial (3), Glaciofluvial (2), Eolian (1)
Tall Forb (>= 30 cm)					Soil Type: Moist/Sandy (5), Moist/Fine (4), Moist/Silty-Loamy (3), Moist/Peaty (3)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	6.8	0.0-25.0	74		Humus Form FIBRIMOR (1), HUMIFIBRIMOR (1)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.5	0.0-11.0	63		
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.9	0.0-15.0	47		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	4.4	0.0-10.0	74		
BISHOP'S-CAP (<i>Mitella nuda</i>)	3.8	0.0-20.0	84		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	5.6	0.0-70.0	47		
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.9	0.0-20.0	37		
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	11.8	0.0-80.0	47		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	5.6	0.0-30.0	53		
					LFH Thickness
					Mean
					Min
					Max
					Count
					cm:
					11.00
					3.00
					24.00
					16

CMD30 Pb-Sw/Bracted honeysuckle (n=18)

(*Populus balsamifera*-*Picea glauca*/*Lonicera involucrata*)

This community type is similar to the Sw-Pb/bracted honeysuckle/fern community described by Beckingham and Archibald (1996). It can be dominated by willow, and/or honeysuckle and red osier dogwood in the understory.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e2 dogwood - Pb-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (10), Mesic (fresh) (6), Hygric (moist) (2) Nutrient Regime: Permesotrophic (rich) (10), Mesotrophic (medium) (6), Eutrophic (very rich) (1) Elevation (range): 735 (620-845) M Slope (%): 0.5 - 2.49 (8), 2.5 - 5.99 (4), 0 - 0.49 (2), 6 - 9.99 (1), 16 - 30.99 (1) Aspect: Northerly (5), Level (3), Southerly (3), Easterly (2), Westerly (2) Topographic Position: Midslope (6), Level (2), Lower Slope (2), Toe (2)
WHITE SPRUCE (<i>Picea glauca</i>)	14.7	0.0-55.0	83		
ASPEN (<i>Populus tremuloides</i>)	9.9	0.0-30.0	61		
BALSAM POPLAR (<i>Populus balsamifera</i>)	5.1	0.0-40.0	44		
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	7.7	0.0-29.0	78		
Tall Shrub (2 to 5m)					
BEAKED WILLOW (<i>Salix bebbiana</i>)	5.8	0.0-40.0	22		
Medium Shrub (0.5 to 2 m)					
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	16.1	1.0-30.0	100		
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	8.2	0.0-22.0	94		
PRICKLY ROSE (<i>Rosa acicularis</i>)	5.8	0.0-12.0	83		
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	2.9	0.0-20.0	44		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	6.7	0.0-35.0	61		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	13.7	0.0-40.0	83		
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	3.0	0.0-35.0	50		
OAK FERN (<i>Gymnocarpium dryopteris</i>)	2.8	0.0-16.0	39		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	9.0	0.0-40.0	89		
BISHOP'S-CAP (<i>Mitella nuda</i>)	4.1	0.0-25.0	78		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	14.1	0.0-50.0	78		
Moss					
STAIR-STEP MOSS (<i>Hylacomium splendens</i>)	7.1	0.0-30.0	50		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	6.3	0.0-55.0	44		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	5.9	0.0-35.0	56		
				Soil Variables	
				Soil Drainage: Imperfectly drained (9), Moderately well drained (6), Poorly drained (3)	
				Soil Subgroup: GLEYED GRAY LUVISOL (6), ORTHIC LUVIC GLEYSOL (3), ORTHIC GLEYSOL (2), BRUNISOLIC GRAY LUVISOL (2), ORTHIC GRAY LUVISOL (2), GLEYED HUMIC REGOSOL (1), HUMIC LUVIC GLEYSOL (1)	
				Surface Texture: Sandy loam (3), Clay loam (2), Silt loam (2), Clay (1), Fine sandy loam (1), Sandy clay loam (1), Silt (1), Silty clay (1), Silty clay loam (1)	
				Effective Texture: Clay (6), Sandy clay loam (4), Silty clay (1), Silty clay loam (1), Clay loam (1)	
				Depth to Mottles/Gley: 0 - 25 (2)	
				Organic Thickness: 0 - 5 cm (17)	
				Parent Material: Morainal (11), Glaciofluvial (5), Glaciolacustrine (4), Fluvial (1), Fluvioeolian (1)	
				Soil Type: Moist/Fine (10), Wet/Mineral (1), Moist/Peaty (1), Wet/Peaty (1)	
				Humus Form RAW MODER (2)	
				LFH Thickness	
				Mean Min Max Count	
				cm: 12.00 4.00 38.00 13	

CMD31 Pb-Sw/River alder-Green alder (n=3)

(*Populus balsamifera*-*Picea glauca*/*Alnus tenuifolia*-*Alnus crispa*)

This community type is similar to Pb-Sw/river alder-green alder/fern type described by Beckingham and Archibald (1996). It is adapted from a higher moisture-nutrient relative to the modal type for the Central Mixedwood, as indicated by the predominance of Pb, fern, and bracted honeysuckle. With succession this community may revert to a Sw/River alder-Green alder/fern and eventually to a Sw/moss type. This community type is quite productive, however grazing suitability is less suitable towards successional climax.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e2 dogwood - Pb-Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	20.0	0.0-50.0	67	Moisture Regime: Mesic (fresh) (1), Hygric (moist) (1), Subhydryc (moderately wet) (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	10.0	0.0-30.0	33	Nutrient Regime: Mesotrophic (medium) (2), Permesotrophic (rich) (1)
ASPEN (<i>Populus tremuloides</i>)	7.0	0.0-20.0	67	Elevation (range): 572 (335-792) M
BALSAM POPLAR (<i>Populus balsamifera</i>)	6.6	0.0-10.0	67	Slope (%): 0.5 - 2.49 (1)
Understory Tree				Aspect: Southerly (1)
WHITE SPRUCE (<i>Picea glauca</i>)	5.0	0.0-10.0	67	Topographic Position: Level (1), Midslope (1), Depression (1)
Tall Shrub (2 to 5m)				Soil Variables
GREEN ALDER (<i>Alnus crispa</i>)	6.0	2.0-10.0	100	Soil Drainage: Well drained (1), Imperfectly drained (1), Very poorly drained (1)
RIVER ALDER (<i>Alnus tenuifolia</i>)	3.5	1.0-5.0	100	Soil Subgroup: ORTHIC GRAY LUVISOL (1), ORTHIC LUVIC GLEYSOL (1)
Medium Shrub (0.5 to 2 m)				Surface Texture: Clay loam (1), Silt loam (1)
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.6	0.0-10.0	67	Effective Texture: Clay (1), Silty clay (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.3	0.0-10.0	67	Depth to Mottles/Gley:
THIMBLEBERRY (<i>Rubus parviflorus</i>)	2.0	0.0-5.0	67	Organic Thickness: 0 - 5 cm (3)
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	1.6	0.0-3.0	67	Parent Material: Glaciolacustrine (1), Morainal (1)
Low Forb (< 30 cm)				Soil Type: Moist/Coarse (1), Moist/Fine (1)
BUNCHBERRY (<i>Cornus canadensis</i>)	2.6	0.0-5.0	67	Humus Form FIBRIMOR (1)
Graminoid				LFH Thickness
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	5.0	0.0-15.0	33	Mean
BLUEJOINT (<i>Calamagrostis canadensis</i>)	3.3	0.0-10.0	33	Min
Moss				Max
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	4.0	0.0-7.0	67	Count
				cm: 12.00 12.00 12.00 2

e3 dogwood - Sw (n=21)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Characteristic Species

Tree

- [38.6]WHITE SPRUCE
Picea glauca
- [6.8]BALSAM FIR
Abies balsamea
- [1.3]BALSAM POPLAR
Populus balsamifera

Shrub

- [9.3]PRICKLY ROSE
Rosa acicularis
- [9.0]LOW-BUSH CRANBERRY
Viburnum edule
- [6.6]GREEN ALDER
Alnus crispa
- [5.4]TWINFLOWER
Linnaea borealis
- [3.7]BRACKETED HONEYSUCKLE
Lonicera involucrata
- [3.7]DEWBERRY
Rubus pubescens
- [3.5]RED-OSIER DOGWOOD
Cornus stolonifera
- [3.3]RIVER ALDER
Alnus tenuifolia
- [2.9]WILD RED RASPBERRY
Rubus idaeus
- [1.1]WILD RED CURRANT
Ribes triste
- [0.8]RIVER ALDER
Alnus tenuifolia

Forb

- [6.7]BISHOP'S-CAP
Mitella nuda
- [6.6]WILD SARSAPARILLA
Aralia nudicaulis
- [6.4]WOODLAND HORSETAIL
Equisetum sylvaticum
- [5.1]BUNCHBERRY
Cornus canadensis
- [3.4]TALL LUNGWORT
Mertensia paniculata
- [2.2]COMMON HORSETAIL
Equisetum arvense
- [2.1]OAK FERN*
Gymnocarpium dryopteris
- [2.0]STIFF CLUB-MOSS
Lycopodium annotinum
- [0.8]BROAD SPINULOSE SHIELD FERN*
Dryopteris assimilis

Moss and Liverwort

- [18.1]STAIR-STEP MOSS
Hylocomium splendens
- [6.0]SCHREBER'S MOSS
Pleurozium schreberi

Graminoid

- [14.9]BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (13), Mesic (fresh) (5), Hygric (moist) (3)

Nutrient Regime: Permesotrophic (rich) (14), Mesotrophic (medium) (6)

Elevation (range): 588 (340-745) M

Slope (%): very gentle slope (6), level (6), nearly level (5), gentle slope (2), moderate slope (1)

Aspect: Level (7), Westerly (3), Southerly (3), Northerly (2), Easterly (2)

Topographic Position: Midslope (8), Level (5), Upper Slope (2), Lower Slope (2), Depression (1)

Soil Variables

Soil Drainage: Imperfectly drained (9), Moderately well drained (6), Well drained (4), Poorly drained (2)

Soil Subgroup: ORTHIC GRAY LUVISOL (4), ORTHIC LUVIC GLEYSOL (4), GLEYED GRAY LUVISOL (3), ORTHIC GLEYSOL (2), DARK GRAY LUVISOL (2), ORTHIC HUMIC GLEYSOL (1), HUMIC LUVIC GLEYSOL (1), GLEYED MELANIC BRUNISOL (1), CUMULIC REGOSOL (1), BRUNISOLIC GRAY LUVISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1)

Surface Texture: Silt loam (4), Silty clay loam (3), Loamy sand (2), Very fine sandy loam (1), Silt (1), Sandy clay loam (1), Sandy clay (1), Sandy loam (1), Loam (1), Clay loam (1)

Effective Texture: Silty clay loam (6), Clay (4), Clay loam (3), Silty clay (2), Silt loam (1), Sandy clay loam (1)

Depth to Mottles/Gley: 0 - 25 (6), 26 - 50 (1)

Organic Thickness: 0 - 5 cm (21)

Parent Material: Morainal (9), Glaciolacustrine (4), Fluviolacustrine (4), Lacustrine (3), Glaciofluvial (2), Colluvial (1), Eolian (1), Fluvial (1), Fluvioeolian (1)

Soil Type: Moist/Fine (14), Wet/Peaty (1), Moist/Peaty (1)

Humus Form FIBRIHUMIMOR (2), HUMIFIBRIMOR (2), RAW MODER (1), TYPICAL MODER (1), HUMIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	10.75	3.00	20.00	18

CMD32 Sw/Red osier dogwood (n=3)

(*Picea glauca*/*Cornus stolonifera*)

This PC is successionaly more advanced than the related deciduous DMC8s, and the mixedwood DMD6 PC. The conifer phase, DMD13a, and mixedwood phase, DMD13, are very similar in that they have shrubs dominant in the understory. In DMD13a, dogwood is still present but is not dominant. This is due to successional shading. Shade tolerant plants (e.g. bunchberry, twin flower, mosses), are also replacing other, shade intolerant, species (e.g. fireweed, wild raspberry, marsh reed grass) and the understory as a whole, is thinning (Hart and Chen 2006).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e3 dogwood - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	33.3	5.0-88.0	100	Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1)
Understory Tree				Nutrient Regime: Permesotrophic (rich) (2), Mesotrophic (medium) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	10.6	0.0-25.0	67	Elevation (range): 508 (442-575) M
Medium Shrub (0.5 to 2 m)				Slope (%): 0.5 - 2.49 (1), 2.5 - 5.99 (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	13.6	3.0-20.0	100	Aspect: Easterly (1)
COMMON WILD ROSE (<i>Rosa woodsii</i>)	13.3	0.0-40.0	33	Topographic Position: Level (1), Midslope (1), Upper Slope (1)
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	11.6	0.0-25.0	67	Soil Variables
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	10.0	2.0-18.0	100	Soil Drainage: Imperfectly drained (2), Moderately well drained (1)
TWINFLOWER (<i>Linnaea borealis</i>)	8.0	3.0-18.0	100	Soil Subgroup: GLEYED GRAY LUVISOL (2), GLEYED MELANIC BRUNISOL (1)
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	4.0	0.0-10.0	67	Surface Texture: Loam (1), Sandy loam (1)
WILD RED CURRANT (<i>Ribes triste</i>)	2.6	0.0-8.0	33	Effective Texture: Sandy clay loam (1), Silty clay loam (1)
Tall Forb (>= 30 cm)				Depth to Mottles/Gley: 0 - 25 (2)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	9.0	3.0-18.0	100	Organic Thickness: 0 - 5 cm (3)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	7.3	0.0-18.0	67	Parent Material: Glaciolacustrine (1), Lacustrine (1), Morainal (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.6	1.0-5.0	100	Soil Type: Moist/Fine (2)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	2.6	0.0-7.0	67	Humus Form FIBRIHUMIMOR (1)
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	2.6	0.0-7.0	67	LFH Thickness
Low Forb (< 30 cm)				Mean
BISHOP'S-CAP (<i>Mitella nuda</i>)	15.3	2.0-42.0	100	Min
BUNCHBERRY (<i>Cornus canadensis</i>)	11.6	2.0-18.0	100	Max
Graminoid				Count
BLUEJOINT (<i>Calamagrostis canadensis</i>)	4.0	1.0-10.0	100	cm: 10.00 4.00 15.00 2

CMD33 Sw/Green alder-River alder/Horsetail (n=3)

(*Picea glauca*/*Alnus crispa*-*Alnus tenuifolia*/*Equisetum sylvaticum*)

This community type seems to form on level to sloping sites that have some underground seepage. The underground seepage makes this community type fairly moist and nutrient rich. The high amount of moisture allows green and river alder to proliferate.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e3 dogwood - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	14.6	6.0-20.0	100	Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1)
Understory Tree				Nutrient Regime: Permesotrophic (rich) (2), Mesotrophic (medium) (1)
WHITE SPRUCE (<i>Picea glauca</i>)	8.3	0.0-20.0	67	Elevation (range): 560 (445-675) M
Tall Shrub (2 to 5m)				Slope (%): 0 - 0.49 (2), 2.5 - 5.99 (1)
GREEN ALDER (<i>Alnus crispa</i>)	13.3	0.0-30.0	67	Aspect: Level (3)
RIVER ALDER (<i>Alnus tenuifolia</i>)	13.3	0.0-40.0	33	Topographic Position: Level (1), Upper Slope (1), Depression (1)
Medium Shrub (0.5 to 2 m)				Soil Variables
PRICKLY ROSE (<i>Rosa acicularis</i>)	14.3	3.0-25.0	100	Soil Drainage: Moderately well drained (1), Imperfectly drained (1), Poorly drained (1)
GREEN ALDER (<i>Alnus crispa</i>)	13.3	0.0-30.0	67	Soil Subgroup: ORTHIC GLEYSOL (2), ORTHIC LUVIC GLEYSOL (1)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.6	0.0-13.0	67	Surface Texture: Sandy clay (1), Silty clay loam (1), Very fine sandy loam (1)
RIVER ALDER (<i>Alnus tenuifolia</i>)	3.3	0.0-10.0	33	Effective Texture: Silty clay loam (2), Clay (1)
Low Shrub (< 0.5m)				Depth to Mottles/Gley:
DEWBERRY (<i>Rubus pubescens</i>)	11.0	0.0-30.0	67	Organic Thickness: 0 - 5 cm (3)
Tall Forb (>= 30 cm)				Parent Material: Fluviocolian (1), Fluvioacustrine (1), Glaciolacustrine (1), Lacustrine (1)
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	23.3	5.0-40.0	100	Soil Type: Moist/Fine (2), Wet/Peaty (1)
OAK FERN (<i>Gymnocarpium dryopteris</i>)	6.6	0.0-15.0	67	Humus Form FIBRIHUMIMOR (1), TYPICAL MODER (1), HUMIMOR (1)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	5.0	0.0-15.0	33	LFH Thickness
BROAD SPINULOSE SHIELD FERN (<i>Dryopteris assimilis</i>)	3.3	0.0-10.0	33	cm: 14.00 11.00 20.00 3
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.3	0.0-7.0	33	
Low Forb (< 30 cm)				
STIFF CLUB-MOSS (<i>Lycopodium annotinum</i>)	8.3	0.0-25.0	33	
BISHOP'S-CAP (<i>Mitella nuda</i>)	6.0	0.0-15.0	67	
BUNCHBERRY (<i>Cornus canadensis</i>)	3.0	0.0-8.0	67	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	50.0	30.0-70.0	100	
Moss				
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	21.0	3.0-50.0	100	

CMD34 Sw-Fb/Honeysuckle (n=10)

(*Picea glauca*-*Abies balsamea*/*Lonicera involucrata*)

On more mesic to moist sites the understory is dominated by feather mosses, bunchberry and fireweed. This community type is ecologically similar to the Sw/Moss community but is successional more advanced. As this forest grows older, balsam fir will eventually replace white spruce as the dominant tree species. This community type represents an intermediate state between a young seral deciduous stand and a climax balsam fir stand.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e3 dogwood - Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (6), Mesic (fresh) (3), Hygric (moist) (1) Nutrient Regime: Permesotrophic (rich) (6), Mesotrophic (medium) (3) Elevation (range): 595 (340-745) M Slope (%): 2.5 - 5.99 (3), 0 - 0.49 (3), 6 - 9.99 (2), 10 - 15.99 (1), 0.5 - 2.49 (1) Aspect: Level (2), Southerly (2), Westerly (2), Northerly (1), Easterly (1) Topographic Position: Midslope (4), Lower Slope (2), Level (1)
WHITE SPRUCE (<i>Picea glauca</i>)	27.1	0.0-40.0	90		
BALSAM FIR (<i>Abies balsamea</i>)	4.8	0.0-29.0	40		
Understory Tree					
BALSAM FIR (<i>Abies balsamea</i>)	22.7	15.0-63.0	100		
WHITE SPRUCE (<i>Picea glauca</i>)	9.6	0.0-29.0	60		
Medium Shrub (0.5 to 2 m)					
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	9.7	0.0-53.0	80		
BRACED HONEYSUCKLE (<i>Lonicera involucrata</i>)	9.2	0.0-53.0	70		
TWINFLOWER (<i>Linnaea borealis</i>)	4.7	0.0-22.0	80		
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.0	0.0-22.0	60		
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	2.3	0.0-15.0	20		
WILD RED CURRANT (<i>Ribes triste</i>)	1.9	0.0-12.0	50		
Low Shrub (< 0.5m)					
DEWBERRY (<i>Rubus pubescens</i>)	4.0	0.0-18.0	70		
Tall Forb (>= 30 cm)					
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	7.3	0.0-25.0	80		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	3.4	0.0-20.0	50		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	3.9	0.0-15.0	90		
BISHOP'S-CAP (<i>Mitella nuda</i>)	3.6	0.0-10.0	80		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.8	0.0-20.0	70		
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	27.6	0.0-55.0	90		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	19.3	0.0-30.0	90		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	18.0	0.0-42.0	90		

Soil Variables

Soil Drainage: Well drained (4), Imperfectly drained (3), Moderately well drained (2), Poorly drained (1)
 Soil Subgroup: ORTHIC GRAY LUVISOL (3), BRUNISOLIC GRAY LUVISOL (1), DARK GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1), HUMIC LUVIC GLEYSOL (1), ORTHIC LUVIC GLEYSOL (1), CUMULIC REGOSOL (1)
 Surface Texture: Silty clay loam (2), Silt loam (1), Clay loam (1), Sandy clay loam (1), Silt (1)
 Effective Texture: Clay (3), Clay loam (1), Silty clay (1), Silty clay loam (1), Silt loam (1)
 Depth to Mottles/Gley: 0 - 25 (2)
 Organic Thickness: 0 - 5 cm (10)
 Parent Material: Morainal (4), Glaciofluvial (2), Glaciolacustrine (2), Lacustrine (1), Colluvial (1), Eolian (1), Fluviolacustrine (1)
 Soil Type: Moist/Fine (5), Moist/Peaty (1)
 Humus Form RAW MODER (1)

LFH Thickness	Mean	Min	Max	Count
cm:	10.00	8.00	18.00	8

CMD35 Sw/Feather moss (subhygric) (n=5)

(*Picea glauca*/*Pleurozium schreberi* (subhygric))

This community type can be dominated by feather moss in the understory and has the presence of fern and red osier dogwood in the understory. This community type seems to form on level to sloping sites that have some underground seepage. The underground seepage makes this community type fairly moist and nutrient rich.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e3 dogwood - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE SPRUCE (<i>Picea glauca</i>)	42.0	20.0-60.0	100	Moisture Regime: Subhygric (moderately moist) (3), Mesic (fresh) (2)
BALSAM POPLAR (<i>Populus balsamifera</i>)	5.2	0.0-10.0	80	Nutrient Regime: Permesotrophic (rich) (4), Mesotrophic (medium) (1)
Understory Tree				Elevation (range): 692 (655-730) M
WHITE SPRUCE (<i>Picea glauca</i>)	9.2	0.0-30.0	80	Slope (%): 0.5 - 2.49 (3), 0 - 0.49 (1), 2.5 - 5.99 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Level (2), Northerly (1), Southerly (1), Westerly (1)
TWINFLOWER (<i>Linnaea borealis</i>)	9.0	0.0-40.0	80	Topographic Position: Midslope (3), Level (2)
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	8.2	1.0-20.0	100	Soil Variables
PRICKLY ROSE (<i>Rosa acicularis</i>)	5.8	3.0-10.0	100	Soil Drainage: Imperfectly drained (3), Moderately well drained (2)
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	1.8	0.0-5.0	60	Soil Subgroup: ORTHIC LUVIC GLEYSOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), DARK GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1)
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.6	0.0-5.0	80	Surface Texture: Silt loam (3), Loamy sand (2)
Tall Forb (>= 30 cm)				Effective Texture: Silty clay loam (2), Clay loam (2), Silty clay (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	7.8	0.0-20.0	60	Depth to Mottles/Gley: 0 - 25 (2), 26 - 50 (1)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	3.0	1.0-5.0	100	Organic Thickness: 0 - 5 cm (5)
OAK FERN (<i>Gymnocarpium dryopteris</i>)	1.8	0.0-6.0	60	Parent Material: Morainal (4), Fluvio-lacustrine (2), Fluvial (1)
SHOWY ASTER (<i>Aster conspicuus</i>)	1.6	0.0-5.0	80	Soil Type: Moist/Fine (5)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.2	0.0-5.0	40	Humus Form HUMIFIBRIMOR (2)
Low Forb (< 30 cm)				LFH Thickness
BUNCHBERRY (<i>Cornus canadensis</i>)	2.2	0.0-4.0	80	Mean
BISHOP'S-CAP (<i>Mitella nuda</i>)	2.2	1.0-5.0	100	Min
Graminoid				Max
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.8	0.0-10.0	80	Count
Moss				cm:
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	23.8	2.0-90.0	100	9.00
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	5.0	0.0-20.0	60	3.00
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	3.8	0.0-15.0	80	14.00
				5

e4 dogwood - shrubland (n=19)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Characteristic Species

Shrub

- [24.2]BEAKED WILLOW*
Salix bebbiana
- [7.1]RIVER ALDER
Alnus tenuifolia
- [6.2]RED-OSIER DOGWOOD
Cornus stolonifera
- [3.7]PUSSY WILLOW
Salix discolor
- [2.5]LOW-BUSH CRANBERRY
Viburnum edule
- [2.3]WILD RED RASPBERRY
Rubus idaeus
- [2.2]GREEN ALDER
Alnus crispa
- [2.2]PRICKLY ROSE
Rosa acicularis
- [2.1]BALSAM WILLOW
Salix pyrifolia
- [1.2]NORTHERN GOOSEBERRY
Ribes oxycanthoides
- [0.9]BRACKETED HONEYSUCKLE
Lonicera involucrata
- [0.7]FLAT-LEAVED WILLOW
Salix planifolia

Forb

- [5.9]WILD STRAWBERRY
Fragaria virginiana
- [3.7]COMMON FIREWEED
Epilobium angustifolium
- [3.5]COMMON HORSETAIL
Equisetum arvense
- [2.5]TALL LARKSPUR
Delphinium glaucum
- [2.5]SMALL ENCHANTER'S NIGHTSHADE
Circaea alpina
- [1.2]COW PARSNIP
Heracleum lanatum
- [1.1]PALMATE-LEAVED COLTSFOOT
Petasites palmatus
- [1.0]WILD SARSAPARILLA
Aralia nudicaulis
- [0.7]BROAD SPINULOSE SHIELD FERN
Dryopteris assimilis
- [0.6]SWEET-SCENTED BEDSTRAW
Galium triflorum

Graminoid

- [14.4]BLUEJOINT
Calamagrostis canadensis
- [2.5]HAIRY WILD RYE
Elymus innovatus

Environmental Variables

Moisture Regime: Hygric (moist) (9), Subhygric (moderately moist) (6), Subhydic (moderately wet) (3), Mesic (fresh) (1)

Nutrient Regime: Permesotrophic (rich) (16), Mesotrophic (medium) (2)

Elevation (range): 613 (349-686) M

Slope (%): level (5), nearly level (2), moderate slope (1), very gentle slope (1)

Aspect: Level (4), Easterly (1), Northerly (1), Westerly (1), Southerly (1)

Topographic Position: Level (5), Depression (4), Lower Slope (3)

Soil Variables

Soil Drainage: Imperfectly drained (11), Moderately well drained (5), Poorly drained (3), Very poorly drained (1)

Soil Subgroup: ORTHIC GLEYSOL (1), ORTHIC HUMIC GLEYSOL (1), ORTHIC LUVIC GLEYSOL (1)

Surface Texture: Silty clay loam (1), Sand (1)

Effective Texture: Silty clay loam (1), Sandy loam (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (4)

Parent Material: Undifferentiated Organic (1), Eolian (1), Fluvial (1), Glaciolacustrine (1), Morainal (1)

Soil Type: Moist/Fine (1), Moist/Sandy (1)

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	6.00	2.00	10.00	2

CMA10 Willow-Green alder-River alder/Marsh reedgrass (Bluejoint) (n=11)

(*Salix spp-Alnus crispa-Alnus tenuifolia/Calamagrostis canadensis*)

This community type represents willow and alder dominated areas on moderately moist, poorly drained soils. The species assemblage represent the dogwood ecosite (i.e. e ecosite) without the actual presence of dogwood.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e4 dogwood - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Understory Tree				Ecological Status Score: 40
RIVER ALDER (<i>Alnus tenuifolia</i>)	3.6	0.0-40.0	9	Moisture Regime: Hygric (moist) (7), Subhydric (moderately wet) (3)
WHITE BIRCH (<i>Betula papyrifera</i>)	2.4	0.0-15.0	18	Nutrient Regime: Permesotrophic (rich) (9)
Tall Shrub (2 to 5m)				Elevation (range): 561 (349-686) M
SALIX SPECIES (<i>Salix</i>)	18.6	0.0-65.0	46	Slope (%): 0 - 0.49 (2), 0.5 - 2.49 (2), 2.5 - 5.99 (1)
RIVER ALDER (<i>Alnus tenuifolia</i>)	15.1	0.0-50.0	55	Aspect: Level (1), Northerly (1), Easterly (1), Westerly (1)
GREEN ALDER (<i>Alnus crispa</i>)	9.0	0.0-40.0	36	Topographic Position: Level (3), Lower Slope (2), Depression (2)
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	3.0	0.0-30.0	18	Soil Variables
PUSSY WILLOW (<i>Salix discolor</i>)	2.2	0.0-25.0	9	Soil Drainage: Imperfectly drained (6), Moderately well drained (2), Poorly drained (2), Very poorly drained (1)
Medium Shrub (0.5 to 2 m)				Soil Subgroup: ORTHIC LUVIC GLEYSOL (1)
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	9.5	0.0-36.5	46	Surface Texture:
PRICKLY ROSE (<i>Rosa acicularis</i>)	2.3	0.0-9.2	36	Effective Texture:
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	2.2	0.0-12.8	36	Depth to Mottles/Gley:
Tall Forb (>= 30 cm)				Organic Thickness: 0 - 5 cm (2)
SWAMP HORSETAIL (<i>Equisetum fluviatile</i>)	2.2	0.0-20.0	18	Parent Material: Glaciolacustrine (1), Undifferentiated Organic (1)
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.1	0.0-15.0	18	Soil Type:
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.3	0.0-5.6	46	Humus Form
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	1.1	0.0-13.0	9	LFH Thickness
Low Forb (< 30 cm)				Mean
DWARF SCOURING-RUSH (<i>Equisetum scirpoides</i>)	2.3	0.0-25.0	18	Min
WESTERN CANADA VIOLET (<i>Viola canadensis</i>)	2.0	0.0-23.0	9	Max
MARSH-MARIGOLD (<i>Caltha palustris</i>)	1.4	0.0-10.0	36	Count
Graminoid				cm:
BLUEJOINT (<i>Calamagrostis canadensis</i>)	34.4	1.5-68.0	100	0.00
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	2.4	0.0-27.0	9	0.00
				0.00
				0

CMA15 Beaked Willow/Marsh reedgrass (Bluejoint) (n=4)

(*Salix bebbiana/Calamagrostis canadensis*)

This PC is found in depressions with slightly more moisture than the surrounding uplands. It may also establish in response to overstory removal, as willows are early successional shade intolerant species (Hart and Chen, 2006). Bebb's (beaked) willow remnants are common in the understory of aspen and balsam poplar dominated community types. Increased flooding and prolonged water logging may result in the disappearance of Bebb's willow and favor the growth of flat leaved willow. In contrast the continued drying of the site will favor the growth of balsam poplar.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e4 dogwood - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 27-40
WHITE SPRUCE (<i>Picea glauca</i>)	2.6	0.0-10.0	50	Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (2)
Tall Shrub (2 to 5m)				Nutrient Regime: Permesotrophic (rich) (4)
BEAKED WILLOW (<i>Salix bebbiana</i>)	51.2	35.0-70.0	100	Elevation (range): 686 (686-686) M
BALSAM WILLOW (<i>Salix pyrifolia</i>)	6.2	0.0-25.0	25	Slope (%): 0 - 0.49 (1)
BALSAM POPLAR (<i>Populus balsamifera</i>)	1.2	0.0-5.0	25	Aspect: Level (1)
Medium Shrub (0.5 to 2 m)				Topographic Position: Depression (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	3.5	0.0-14.0	25	Soil Variables
TWINFLOWER (<i>Linnaea borealis</i>)	2.5	0.0-10.0	25	Soil Drainage: Imperfectly drained (3), Moderately well drained (1)
SALIX SPECIES (<i>Salix</i>)	2.5	0.0-10.0	25	Soil Subgroup:
BALSAM WILLOW (<i>Salix pyrifolia</i>)	2.4	0.0-9.9	25	Surface Texture:
DEWBERRY (<i>Rubus pubescens</i>)	1.6	0.0-6.5	25	Effective Texture:
BEAKED WILLOW (<i>Salix bebbiana</i>)	1.6	0.0-6.5	25	Depth to Mottles/Gley:
BRACKETED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.5	0.0-5.0	75	Organic Thickness:
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.5	0.0-5.0	75	Parent Material:
Tall Forb (>= 30 cm)				Soil Type:
COMMON HORSETAIL (<i>Equisetum arvense</i>)	12.7	0.0-30.0	75	Humus Form
SMALL ENCHANTER'S NIGHTSHADE (<i>Circaea alpina</i>)	10.0	0.0-40.0	25	
MARSH HEDGE-NETTLE (<i>Stachys palustris</i>)	2.5	0.0-10.0	25	
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.4	0.0-5.6	25	
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.2	0.5-3.0	100	
Low Forb (< 30 cm)				
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	3.9	0.0-15.7	25	
SWEET-SCENTED BEDSTRAW (<i>Galium triflorum</i>)	2.6	0.0-10.0	50	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	1.4	0.0-3.0	50	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	18.2	0.1-40.0	100	

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA24 Beaked willow-Red osier dogwood (n=1)

(*Salix bebbiana*-*Cornus stolonifera*)

This community type was described on alluvial terraces, streambanks, abandoned channels on river floodplains and moist areas around springs and seeps (Thompson and Hansen 2002). It is much richer and has higher moisture levels than the adjacent upland aspen dominated forest, but it is drier than the willow dominated shrublands in lower slope positions. In the absence of disturbance this community type will likely succeed to a balsam poplar, aspen and eventually white spruce dominated community type. Heavy grazing pressure can reduce shrub cover and allow Kentucky bluegrass, timothy and smooth brome to invade.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e4 dogwood - shrubland

Plant Composition	Canopy Cover (%)		
	Mean	Range	Const.
Understory Tree			
BEAKED WILLOW (<i>Salix bebbiana</i>)	15.0	15.0-15.0	100
PUSSY WILLOW (<i>Salix discolor</i>)	15.0	15.0-15.0	100
RIVER ALDER (<i>Alnus tenuifolia</i>)	10.0	10.0-10.0	100
Medium Shrub (0.5 to 2 m)			
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	25.0	25.0-25.0	100
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	10.0	10.0-10.0	100
NORTHERN GOOSEBERRY (<i>Ribes oxycanthoides</i>)	5.0	5.0-5.0	100
PRICKLY ROSE (<i>Rosa acicularis</i>)	5.0	5.0-5.0	100
Tall Forb (>= 30 cm)			
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	15.0	15.0-15.0	100
TALL LARKSPUR (<i>Delphinium glaucum</i>)	10.0	10.0-10.0	100
COW PARSNIP (<i>Heracleum lanatum</i>)	5.0	5.0-5.0	100
BROAD SPINULOSE SHIELD FERN (<i>Dryopteris assimilis</i>)	3.0	3.0-3.0	100
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.0	2.0-2.0	100
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.0	1.0-1.0	100
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	1.0	1.0-1.0	100
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	1.0	1.0-1.0	100
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.0	1.0-1.0	100
Low Forb (< 30 cm)			
BISHOP'S-CAP (<i>Mitella nuda</i>)	1.0	1.0-1.0	100
Graminoid			
BLUEJOINT (<i>Calamagrostis canadensis</i>)	5.0	5.0-5.0	100

Environmental Variables
Ecological Status Score: 40
Moisture Regime: Subhygric (moderately moist) (1)
Nutrient Regime: Permesotrophic (rich) (1)
Elevation (range): 541 (541-541) M
Slope (%): 10 - 15.99 (1)
Aspect: Southerly (1)
Topographic Position: Lower Slope (1)

Soil Variables
Soil Drainage: Poorly drained (1)
Soil Subgroup: ORTHIC HUMIC GLEYSOL (1)
Surface Texture: Silty clay loam (1)
Effective Texture: Silty clay loam (1)
Depth to Mottles/Gley:
Organic Thickness: 0 - 5 cm (1)
Parent Material: Fluvial (1), Morainal (1)
Soil Type: Moist/Fine (1)
Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	10.00	10.00	10.00	1

CMA26 Bracted honeysuckle (Pb) (n=2)

(*Lonicera involucrata* (*Populus balsamifera*))

This PC is similar to the honeysuckle PC as described by Beckingham and Archibald (1996) and the Aw-Pb/Honeysuckle (CMC3a) described in this guide, but lacks the overstory because of fire or harvesting. The density of the shrub layer limits the amount of light reaching the forest floor favoring the growth of shade tolerant species such as sarsaparilla. Honeysuckle is a major component of the production but is generally unpalatable to livestock.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Ecosite Phase: e4 dogwood - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 40
WHITE BIRCH (<i>Betula papyrifera</i>)	5.0	0.0-10.0	50	Moisture Regime: Subhygric (moderately moist) (2)
ASPEN (<i>Populus tremuloides</i>)	5.0	1.0-10.0	100	Nutrient Regime: Permesotrophic (rich) (2)
WHITE SPRUCE (<i>Picea glauca</i>)	2.0	0.0-3.0	50	Elevation (range): 576 (576-576) M
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.0	0.0-3.0	50	Slope (%):
				Aspect:
				Topographic Position: Level (1)
Tall Shrub (2 to 5m)				Soil Variables
SASKATOON (<i>Amelanchier alnifolia</i>)	14.0	10.0-18.0	100	Soil Drainage: Moderately well drained (1), Imperfectly drained (1)
CHOKO CHERRY (<i>Prunus virginiana</i>)	2.0	0.0-3.0	50	Soil Subgroup:
				Surface Texture:
				Effective Texture:
				Depth to Mottles/Gley:
				Organic Thickness:
				Parent Material:
				Soil Type:
				Humus Form
Medium Shrub (0.5 to 2 m)				LFH Thickness
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	20.0	10.0-29.0	100	Mean
UNDIFFERENTIATED ROSE (<i>Rosa</i>)	13.0	3.0-23.0	100	Min
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	9.0	3.0-14.0	100	Max
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	8.0	6.0-10.0	100	Count
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	4.0	3.0-5.0	100	cm:
TWINING HONEYSUCKLE (<i>Lonicera dioica</i>)	2.0	0.0-3.0	50	0.00
NORTHERN GOOSEBERRY (<i>Ribes oxycanthoides</i>)	2.0	0.0-3.0	50	0.00
UNDIFFERENTIATED SYMPHORICARPOS (<i>Symphoricarpos</i>)	2.0	1.0-3.0	100	0.00
				0
Low Shrub (< 0.5m)				
DEWBERRY (<i>Rubus pubescens</i>)	2.0	0.0-5.0	50	
Tall Forb (>= 30 cm)				
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	9.0	1.0-17.0	100	
COMMON HORSETAIL (<i>Equisetum arvense</i>)	9.0	9.0-10.0	100	
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	5.0	0.0-10.0	50	
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	3.0	3.0-4.0	100	
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.0	2.0-3.0	100	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	2.0	0.0-4.0	50	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	2.0	1.0-3.0	100	
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.0	1.0-2.0	100	
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	10.0	10.0-11.0	100	

CMA35 Beaked willow/Hairy wildrye (n=1)

(*Salix bebbiana*/*Elymus innovatus*)

This community type was described in a moist lower slope position in sand dunes near Holmes Crossing. The increase in moisture at depth favours the growth of beaked willow the soil surface is dry favouring the growth of hairy wildrye. Both jackpine and black spruce were evident in the community type. In the absence of disturbance this community will likely succeed to a jackpine, black spruce dominated community type.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e4 dogwood - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 40
JACK PINE (<i>Pinus banksiana</i>)	3.0	3.0-3.0	100	Moisture Regime: Subhygric (moderately moist) (1) Nutrient Regime: Mesotrophic (medium) (1)
BLACK SPRUCE (<i>Picea mariana</i>)	2.0	2.0-2.0	100	Elevation (range): 663 (663-663) M Slope (%): 0 - 0.49 (1) Aspect: Level (1)
Understory Tree				Topographic Position: Depression (1)
BALSAM POPLAR (<i>Populus balsamifera</i>)	3.0	3.0-3.0	100	
Medium Shrub (0.5 to 2 m)				Soil Variables
BEAKED WILLOW (<i>Salix bebbiana</i>)	30.0	30.0-30.0	100	Soil Drainage: Imperfectly drained (1)
CANADA BUFFALOBERRY (<i>Shepherdia canadensis</i>)	5.0	5.0-5.0	100	Soil Subgroup: ORTHIC GLEYSOL (1)
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	3.0	3.0-3.0	100	Surface Texture: Sand (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	2.0	2.0-2.0	100	Effective Texture: Sandy loam (1)
TWINFLOWER (<i>Linnaea borealis</i>)	2.0	2.0-2.0	100	Depth to Mottles/Gley:
COMMON WILD ROSE (<i>Rosa woodsii</i>)	2.0	2.0-2.0	100	Organic Thickness: 0 - 5 cm (1)
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	2.0	2.0-2.0	100	Parent Material: Eolian (1)
Low Shrub (< 0.5m)				Soil Type: Moist/Sandy (1)
DEWBERRY (<i>Rubus pubescens</i>)	3.0	3.0-3.0	100	Humus Form
DWARF RASPBERRY (<i>Rubus arcticus</i>)	2.0	2.0-2.0	100	
Tall Forb (>= 30 cm)				LFH Thickness
SMOOTH ASTER (<i>Aster laevis</i>)	3.0	3.0-3.0	100	Mean
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	2.0	2.0-2.0	100	Min
Low Forb (< 30 cm)				Max
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	20.0	20.0-20.0	100	Count
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	3.0	3.0-3.0	100	cm:
BUNCHBERRY (<i>Cornus canadensis</i>)	2.0	2.0-2.0	100	2.00
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	2.0	2.0-2.0	100	2.00
Graminoid				2.00
HAIRY WILD RYE (<i>Elymus innovatus</i>)	10.0	10.0-10.0	100	1
Lichen				
N/A (<i>Peltigera polydactyla</i>)	4.0	4.0-4.0	100	

e5 dogwood - tame (n=10)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)

Characteristic Species

Shrub

- [4.1]SALIX SPECIES
Salix
- [1.8]PRICKLY ROSE
Rosa acicularis

Forb

- [23.8]COMMON DANDELION
Taraxacum officinale
- [9.8]WHITE CLOVER
Trifolium repens
- [2.6]CICER MILK VETCH
Astragalus cicer
- [2.3]RED CLOVER
Trifolium pratense
- [2.2]CANADA THISTLE
Cirsium arvense
- [1.9]WILD STRAWBERRY
Fragaria virginiana
- [1.5]ALFALFA
Medicago sativa

Graminoid

- [35.8]KENTUCKY BLUEGRASS
Poa pratensis
- [7.5]TIMOTHY
Phleum pratense
- [5.5]REED CANARY GRASS
Phalaris arundinacea
- [4.4]CREEPING RED FESCUE
Festuca rubra
- [3.7]FRINGED BROME
Bromus ciliatus
- [1.7]FOXTAIL BARLEY
Hordeum jubatum

Environmental Variables

Moisture Regime: Mesic (fresh) (5), Subhygric (moderately moist) (4), Hygric (moist) (1)
 Nutrient Regime: Permesotrophic (rich) (7), Mesotrophic (medium) (3)
 Elevation (range): 572 (333-762) M
 Slope (%): very gentle slope (1)
 Aspect: Westerly (1)
 Topographic Position: Level (5), Depression (2), Midslope (1)

Soil Variables

Soil Drainage: Well drained (6), Moderately well drained (4)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMF21 SH_TP Kentucky bluegrass/Dandelion-Clover (n=10)

(*Poa pratensis*/*Taraxacum officinale*-*Trifolium spp.*)

This community type represents seeded areas on moist (subhygric) sites. On healthy sites these tame pastures are dominated by tall, productive, moisture loving introduced forage species such as reed canary grass, timothy, orchard grass and to some extent, smooth brome grass. Tall, productive introduced forages species make up 75% or more of the total forage cover on a healthy site (Moisey et al. 2016). Low growing or grazing resistant species such as Kentucky blue grass, creeping or meadow foxtail, quack grass and creeping red fescue increase with increased grazing pressure (Moisey et al. 2016).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: e dogwood(subhygric/rich)
Ecosite Phase: e5 dogwood - tame

Plant Composition	Canopy Cover (%)			Environmental Variables	
	Mean	Range	Const.		
Tall Shrub (2 to 5m)				Ecological Status Score: 0 Moisture Regime: Mesic (fresh) (5), Subhygric (moderately moist) (4), Hygric (moist) (1)	
SALIX SPECIES (<i>Salix</i>)	4.1	0.0-40.0	30		
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Permesotrophic (rich) (7), Mesotrophic (medium) (3) Elevation (range): 572 (333-762) M Slope (%): 2.5 - 5.99 (1)	
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.8	0.0-10.4	30		
Tall Forb (>= 30 cm)				Aspect: Westerly (1) Topographic Position: Level (5), Depression (2), Midslope (1)	
CICER MILK VETCH (<i>Astragalus cicer</i>)	2.6	0.0-26.5	10		
RED CLOVER (<i>Trifolium pratense</i>)	2.3	0.0-22.0	20	Soil Variables	
CANADA THISTLE (<i>Cirsium arvense</i>)	2.2	0.0-19.5	30		
ALFALFA (<i>Medicago sativa</i>)	1.5	0.0-15.5	10	Soil Drainage: Well drained (6), Moderately well drained (4)	
Low Forb (< 30 cm)				Soil Subgroup:	
COMMON DANDELION (<i>Taraxacum officinale</i>)	23.8	0.0-67.5	90	Surface Texture:	
WHITE CLOVER (<i>Trifolium repens</i>)	9.8	0.0-35.0	80	Effective Texture:	
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.9	0.0-11.1	40	Depth to Mottles/Gley:	
Graminoid				Organic Thickness:	
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	35.8	0.0-85.0	90	Parent Material:	
TIMOTHY (<i>Phleum pratense</i>)	7.5	0.0-28.5	80	Soil Type:	
REED CANARY GRASS (<i>Phalaris arundinacea</i>)	5.5	0.0-55.0	10	Humus Form	
CREEPING RED FESCUE (<i>Festuca rubra</i>)	4.4	0.0-29.5	30	LFH Thickness	
FRINGED BROME (<i>Bromus ciliatus</i>)	3.7	0.0-37.0	20		Mean
FOXTAIL BARLEY (<i>Hordeum jubatum</i>)	1.7	0.0-16.5	20		Min
					Max
				Count	
				cm: 0.00 0.00 0.00 0	

f horsetail(hygric/rich) (n=107)

Natural Subregion: Central Mixedwood

General Description

The horsetail ecosite is wet and nutrient rich. These sites are commonly found on fluvial and glaciolacustrine parent materials where flooding or seepage enhances the substrate nutrient supply. With high water tables, wet soil conditions, and Gleysolic soils, organic matter tends to accumulate. Horsetails commonly form a blanket over the forest floor.



Successional Relationships

Succession on these sites is largely controlled by high soil water content. Some sites that have peaty soils may have taken hundreds of years to develop. When the trees are removed, the water table may rise making tree establishment difficult. White spruce dominates the canopy in the last successional stage.

Indicator Species

Tree

WHITE SPRUCE
Picea glauca

Shrub

SANDBAR WILLOW
Salix exigua

FLAT-LEAVED WILLOW
Salix planifolia

Forb

COMMON HORSETAIL
Equisetum arvense

MEADOW HORSETAIL
Equisetum pratense

WOODLAND HORSETAIL
Equisetum sylvaticum

Graminoid

BLUEJOINT
Calamagrostis canadensis

Ecosection: CM Central Mixedwood

Site Index at 50 Years	Height (m)	Variation (m)	Count
WHITE SPRUCE (<i>Picea glauca</i>)	16.40	0.30	0
BALSAM POPLAR (<i>Populus balsamifera</i>)	17.80	1.80	0
ASPEN (<i>Populus tremuloides</i>)	19.80	1.40	0

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (54), Hygric (moist) (23), Mesic (fresh) (15), Subhydric (moderately wet) (12)

Nutrient Regime: Permesotrophic (rich) (67), Mesotrophic (medium) (27), Eutrophic (very rich) (5), Submesotrophic (poor) (4)

Elevation (range): 562 (260-1100) M

Slope (%): level (31), nearly level (28), very gentle slope (12), gentle slope (6), moderate slope (3), strong slope (1)

Aspect: Level (27), Northerly (19), Easterly (11), Westerly (9), Southerly (5)

Topographic Position: Level (36), Depression (20), Lower Slope (13), Midslope (8), Toe (6), Crest (3), Upper Slope (1)

Soil Variables

Soil Drainage: Imperfectly drained (43), Poorly drained (31), Moderately well drained (21), Well drained (6), Very poorly drained (3)

Soil Subgroup: ORTHIC GLEYSOL (14), CUMULIC REGOSOL (12), ORTHIC LUVIC GLEYSOL (7), REGO GLEYSOL (7), ORTHIC GRAY LUVISOL (6), GLEYED CUMULIC REGOSOL (6), REGO HUMIC GLEYSOL (4), ORTHIC HUMIC GLEYSOL (3), GLEYED REGOSOL (2), GLEYED EUTRIC BRUNISOL (2), GLEYED GRAY BROWN LUVISOL (1), GLEYED GRAY LUVISOL (1), BRUNISOLIC GRAY LUVISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), HUMIC LUVIC GLEYSOL (1), ORTHIC SOMBRIC BRUNISOL (1)

Surface Texture: Silt loam (15), Clay loam (10), Silty clay (9), Silt (7), Silty clay loam (6), Loamy sand (5), Sand (5), Clay (4), Sandy loam (3), Mesic (3), Fibric (2), Humic (2), Loam (1), Sandy clay loam (1)

Effective Texture: Clay (12), Silty clay (10), Clay loam (9), Silty clay loam (8), Silt (8), Sandy clay loam (6), Sandy loam (5), Loamy sand (4), Silt loam (4), Mesic (2), Sand (2), Heavy clay (2), Sandy clay (1)

Depth to Mottles/Gley: 0 - 25 (6)

Organic Thickness: 0 - 5 cm (74), 16 - 25 cm (4), 26 - 39 cm (4), 40 - 59 cm (3), 6 - 15 cm (2), >= 80 cm (1)

Parent Material: Fluvial (38), Glaciolacustrine (17), Morainal (16), Glaciofluvial (12), Undifferentiated Organic (7), Lacustrine (4), Colluvial (4), Fluvialacustrine (2), Eolian (1), Residual (1), Swamp (1)

Soil Type: Moist/Fine (27), Moist/Peaty (12), Moist/Silty-Loamy (9), Wet/Peaty (7), Moist/Coarse (4), Wet/Mineral (4), Moist/Sandy (4), Organic (3)

Humus Form FIBRIHUMIMOR (2), FIBRIMOR (2), RHIZOMULL (2), TYPICAL MODER (1), HUMIC PEATYMOR (1), HUMIFIBRIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	11.60	1.00	40.00	63

f1 horsetail - Pb-Aw (Bw) (n=46)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Characteristic Species

Tree

- [22.9]WHITE BIRCH
Betula papyrifera
- [8.1]BALSAM POPLAR
Populus balsamifera
- [8.1]ASPEN
Populus tremuloides

Shrub

- [9.9]RIVER ALDER
Alnus tenuifolia
- [5.5]WILD RED RASPBERRY
Rubus idaeus
- [4.3]SALIX SPECIES
Salix
- [2.7]BALSAM WILLOW
Salix pyrifolia
- [2.2]DEWBERRY
Rubus pubescens
- [2.0]PRICKLY ROSE
Rosa acicularis
- [1.7]BEAKED WILLOW
Salix bebbiana
- [1.7]RED-OSIER DOGWOOD
Cornus stolonifera
- [1.3]LOW-BUSH CRANBERRY
Viburnum edule

Forb

- [15.2]WOODLAND HORSETAIL
Equisetum sylvaticum
- [7.2]COMMON HORSETAIL
Equisetum arvense
- [4.5]MEADOW HORSETAIL
Equisetum pratense
- [1.5]WILD SARSAPARILLA
Aralia nudicaulis
- [1.2]TALL LUNGWORT
Mertensia paniculata
- [1.2]HEMP-NETTLE
Galeopsis tetrahit
- [1.0]BISHOP'S-CAP
Mitella nuda
- [0.2]CRESTED SHIELD FERN
Dryopteris cristata

Graminoid

- [8.2]BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (22), Mesic (fresh) (8), Hygric (moist) (8), Subhydric (moderately wet) (7)
 Nutrient Regime: Permesotrophic (rich) (38), Mesotrophic (medium) (6), Eutrophic (very rich) (2)
 Elevation (range): 573 (260-839) M
 Slope (%): level (14), nearly level (11), very gentle slope (7), moderate slope (2), gentle slope (1), strong slope (1)
 Aspect: Level (15), Northerly (9), Easterly (5), Westerly (3), Southerly (1)
 Topographic Position: Level (16), Depression (12), Lower Slope (5), Midslope (5), Crest (2), Toe (1)

Soil Variables

Soil Drainage: Imperfectly drained (20), Moderately well drained (9), Poorly drained (9), Well drained (6), Very poorly drained (1)
 Soil Subgroup: CUMULIC REGOSOL (8), GLEYED CUMULIC REGOSOL (6), ORTHIC GLEYSOL (3), REGO GLEYSOL (3), ORTHIC HUMIC GLEYSOL (2), GLEYED EUTRIC BRUNISOL (1), REGO HUMIC GLEYSOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC SOMBRIC BRUNISOL (1)
 Surface Texture: Silt loam (6), Silt (5), Silty clay (4), Silty clay loam (4), Clay (2), Clay loam (2), Sandy loam (2), Loamy sand (2), Mesic (1), Sand (1)
 Effective Texture: Silt (5), Silty clay loam (4), Silty clay (4), Sandy loam (3), Clay (3), Loamy sand (3), Sandy clay loam (2), Clay loam (2), Silt loam (1), Heavy clay (1), Sand (1)
 Depth to Mottles/Gley: 0 - 25 (1)
 Organic Thickness: 0 - 5 cm (36), 26 - 39 cm (1), 40 - 59 cm (1)
 Parent Material: Fluvial (24), Glaciolacustrine (4), Colluvial (3), Morainal (2), Fluviolacustrine (1)
 Soil Type: Moist/Fine (11), Moist/Silty-Loamy (6), Moist/Sandy (4), Moist/Coarse (3), Moist/Peaty (2)
 Humus Form RHIZOMULL (2), FIBRIMOR (1), FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	8.00	1.00	32.00	28

CMC15 Pb-Aw/Horsetail (n=32)

(*Populus balsamifera*-*Populus tremuloides*/*Equisetum arvense*)

The combined horsetail cover is the highest in the understory. Dogwood may be present but has less cover than the horsetails. Unpalatable forb species make up most of the available forage in the understory. Horsetail can be poisonous to livestock in large amounts (Lodge et al. 1968). Overuse appears to lower species diversity and allows horsetail to increase in cover.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f1 horsetail - Pb-Aw (Bw)

Plant Composition	Canopy Cover (%)			Environmental Variables										
	Mean	Range	Const.											
Overstory Tree				Ecological Status Score: 0 Moisture Regime: Subhygric (moderately moist) (17), Mesic (fresh) (8), Hygric (moist) (4), Subhydric (moderately wet) (3) Nutrient Regime: Permesotrophic (rich) (26), Mesotrophic (medium) (4), Eutrophic (very rich) (2) Elevation (range): 484 (260-839) M Slope (%): 0 - 0.49 (9), 0.5 - 2.49 (7), 2.5 - 5.99 (7), 10 - 15.99 (1), 16 - 30.99 (1) Aspect: Level (10), Northerly (6), Easterly (3), Westerly (2), Southerly (1) Topographic Position: Level (15), Lower Slope (5), Midslope (4), Crest (2), Toe (1), Depression (1)										
ASPEN (<i>Populus tremuloides</i>)	19.7	0.0-90.0	53											
BALSAM POPLAR (<i>Populus balsamifera</i>)	17.0	0.0-60.0	66											
WHITE BIRCH (<i>Betula papyrifera</i>)	4.9	0.0-75.0	19											
Understory Tree														
BALSAM POPLAR (<i>Populus balsamifera</i>)	5.0	0.0-20.0	53											
ASPEN (<i>Populus tremuloides</i>)	2.0	0.0-29.0	25											
Tall Shrub (2 to 5m)														
BEAKED WILLOW (<i>Salix bebbiana</i>)	3.9	0.0-30.0	44											
RIVER ALDER (<i>Alnus tenuifolia</i>)	2.8	0.0-60.0	19											
Medium Shrub (0.5 to 2 m)														
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	5.2	0.0-25.0	72											
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.7	0.0-25.0	75											
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	4.4	0.0-32.0	53											
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	4.1	0.0-25.0	63											
Low Shrub (< 0.5m)														
DEWBERRY (<i>Rubus pubescens</i>)	3.0	0.0-20.0	53											
Tall Forb (>= 30 cm)														
COMMON HORSETAIL (<i>Equisetum arvense</i>)	15.0	0.0-70.0	59											
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	13.6	0.0-40.0	56											
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	3.0	0.0-40.0	34											
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.7	0.0-29.0	53											
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	2.0	0.0-30.0	38											
Graminoid														
BLUEJOINT (<i>Calamagrostis canadensis</i>)	10.3	0.0-95.0	69											
				Soil Variables Soil Drainage: Imperfectly drained (13), Moderately well drained (8), Well drained (6), Poorly drained (4) Soil Subgroup: CUMULIC REGOSOL (8), GLEYED CUMULIC REGOSOL (6), ORTHIC GLEYSOL (3), REGO GLEYSOL (3), ORTHIC HUMIC GLEYSOL (2), REGO HUMIC GLEYSOL (1), ORTHIC GRAY LUVISOL (1), GLEYED EUTRIC BRUNISOL (1) Surface Texture: Silt loam (6), Silt (5), Silty clay loam (4), Silty clay (3), Clay (2), Clay loam (2), Loamy sand (2), Sandy loam (2), Mesic (1), Sand (1) Effective Texture: Silt (5), Silty clay loam (4), Sandy loam (3), Silty clay (3), Clay (3), Loamy sand (3), Clay loam (2), Sandy clay loam (2), Heavy clay (1), Sand (1), Silt loam (1) Depth to Mottles/Gley: 0 - 25 (1) Organic Thickness: 0 - 5 cm (29), 26 - 39 cm (1), 40 - 59 cm (1) Parent Material: Fluvial (24), Glaciolacustrine (4), Colluvial (3), Morainal (2), Fluviolacustrine (1) Soil Type: Moist/Fine (11), Moist/Silty-Loamy (6), Moist/Sandy (4), Moist/Coarse (3), Moist/Peaty (2) Humus Form RHIZOMULL (2), FIBRIHUMIMOR (1), FIBRIMOR (1)										
				LFH Thickness <table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>8.00</td> <td>1.00</td> <td>32.00</td> <td>27</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	8.00	1.00	32.00	27
	Mean	Min	Max	Count										
cm:	8.00	1.00	32.00	27										

CMC18 Bw/River alder-Willow (n=9)

(*Betula papyrifera*/*Alnus tenuifolia*-*Salix* spp.)

This community type represents an early successional community on moist lower slope positions. Fire or beaver activity has reduced the tree canopy of balsam poplar allowing paper birch to become dominant on the site. This PC is similar to CMC18a which has very little understory due to shading by paper birch. CMC18 has a significant cover of alder and willow (i.e. combined cover 30% or more). Either alder or willow can be the leading shrub species. There is a well developed understory with all strata represented. Birch, willow and alder are all shade intolerant and are early successional species (Hart and Chen, 2006).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f1 horsetail - Pb-Aw (Bw)

Plant Composition	Canopy Cover (%)		
	Mean	Range	Const.
Overstory Tree			
WHITE BIRCH (<i>Betula papyrifera</i>)	22.2	0.0-35.0	89
BALSAM POPLAR (<i>Populus balsamifera</i>)	2.7	0.0-25.0	11
WHITE SPRUCE (<i>Picea glauca</i>)	2.2	0.0-15.0	22
Understory Tree			
RIVER ALDER (<i>Alnus tenuifolia</i>)	20.5	0.0-70.0	56
Tall Shrub (2 to 5m)			
SALIX SPECIES (<i>Salix</i>)	11.6	0.0-60.0	33
RIVER ALDER (<i>Alnus tenuifolia</i>)	6.6	0.0-20.0	67
WHITE BIRCH (<i>Betula papyrifera</i>)	4.8	0.0-35.0	33
BALSAM WILLOW (<i>Salix pyrifolia</i>)	1.8	0.0-15.0	22
PUSSY WILLOW (<i>Salix discolor</i>)	1.7	0.0-15.0	22
BEAKED WILLOW (<i>Salix bebbiana</i>)	1.4	0.0-10.0	22
Medium Shrub (0.5 to 2 m)			
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	7.5	0.0-25.0	44
DEWBERRY (<i>Rubus pubescens</i>)	2.7	0.0-8.0	78
BRACKETED HONEYSUCKLE (<i>Lonicera involucrata</i>)	2.0	0.0-9.0	67
Tall Forb (>= 30 cm)			
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	15.6	0.0-70.0	33
COMMON HORSETAIL (<i>Equisetum arvense</i>)	6.0	0.0-40.0	22
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	1.6	0.0-13.2	22
Low Forb (< 30 cm)			
BISHOP'S-CAP (<i>Mitella nuda</i>)	3.1	0.0-9.0	89
SWEET-SCENTED BEDSTRAW (<i>Galium triflorum</i>)	2.9	0.0-11.0	78
BUNCHBERRY (<i>Cornus canadensis</i>)	1.4	0.0-6.0	33
Graminoid			
BLUEJOINT (<i>Calamagrostis canadensis</i>)	9.7	0.7-36.0	100

Environmental Variables

Ecological Status Score: 25
 Moisture Regime: Subhygric (moderately moist) (3), Hygric (moist) (3), Subhydric (moderately wet) (3)
 Nutrient Regime: Permesotrophic (rich) (8), Mesotrophic (medium) (1)
 Elevation (range): 612 (402-695) M
 Slope (%): 0 - 0.49 (4), 0.5 - 2.49 (4)
 Aspect: Level (4), Easterly (2), Westerly (1), Northerly (1)
 Topographic Position: Depression (7), Level (1)

Soil Variables

Soil Drainage: Imperfectly drained (5), Poorly drained (2), Very poorly drained (1), Moderately well drained (1)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (3)
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMC18a Bw/Horsetail (n=5)

(*Betula papyrifera*/*Equisetum sylvaticum*)

This PC is similar to CMC18 which has a well developed understory. CMC18a does not have a significant cover of alder and willow (i.e. combined cover less than 30%). There is very little growth, including tree regeneration, under a dense paper birch overstory. Birch, willow and alder are all shade intolerant and are early successional species (Hart and Chen, 2006).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Ecosite Phase: f1 horsetail - Pb-Aw (Bw)

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1), Subhydric (moderately wet) (1) Nutrient Regime: Permesotrophic (rich) (4), Mesotrophic (medium) (1) Elevation (range): 624 (525-766) M Slope (%): 0 - 0.49 (1), 6 - 9.99 (1), 10 - 15.99 (1) Aspect: Northerly (2), Level (1) Topographic Position: Depression (4), Midslope (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	34.0	0.0-80.0	80		
ASPEN (<i>Populus tremuloides</i>)	3.0	0.0-15.0	20		
Understory Tree					
WHITE BIRCH (<i>Betula papyrifera</i>)	2.4	0.0-12.0	20		
SALIX SPECIES (<i>Salix</i>)	2.0	0.0-10.0	20		
Tall Shrub (2 to 5m)					
BALSAM WILLOW (<i>Salix pyrifolia</i>)	5.0	0.0-25.0	20		
WHITE BIRCH (<i>Betula papyrifera</i>)	3.2	0.0-8.0	40		
Medium Shrub (0.5 to 2 m)					
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	4.7	0.0-15.5	80		
BALSAM WILLOW (<i>Salix pyrifolia</i>)	1.6	0.0-8.0	20		
BUNCHBERRY (<i>Cornus canadensis</i>)	1.5	0.0-4.0	60		
WHITE SPRUCE (<i>Picea glauca</i>)	1.5	0.0-5.0	60		
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.4	0.0-5.0	60		
DEWBERRY (<i>Rubus pubescens</i>)	1.0	0.0-3.0	60		
Tall Forb (>= 30 cm)					
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	30.2	0.0-60.0	80		
HEMP-NETTLE (<i>Galeopsis tetrahit</i>)	3.7	0.0-18.5	20		
COMMON NETTLE (<i>Urtica dioica</i>)	2.0	0.0-10.0	20		
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.1	0.0-2.0	80		
CRESTED SHIELD FERN (<i>Dryopteris cristata</i>)	0.8	0.0-4.0	20		
COMMON HORSETAIL (<i>Equisetum arvense</i>)	0.8	0.0-4.0	20		
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	4.7	1.9-10.0	100		
DROOPING WOOD-REED (<i>Cinna latifolia</i>)	1.5	0.0-7.8	20		
Moss					
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	1.1	0.0-5.0	40		
Soil Variables					
Soil Drainage: Poorly drained (3), Imperfectly drained (2)					
Soil Subgroup: ORTHIC SOMBRIC BRUNISOL (1)					
Surface Texture: Silty clay (1)					
Effective Texture: Silty clay (1)					
Depth to Mottles/Gley:					
Organic Thickness: 0 - 5 cm (4)					
Parent Material:					
Soil Type:					
Humus Form					
LFH Thickness					
	Mean	Min	Max	Count	
cm:	8.00	8.00	8.00	1	

f2 horsetail - Pb-Sw (n=16)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Characteristic Species

Tree

- [26.9] WHITE SPRUCE
Picea glauca
- [10.6] WHITE BIRCH
Betula papyrifera
- [7.8] ASPEN
Populus tremuloides
- [5.2] BALSAM POPLAR
Populus balsamifera

Shrub

- [6.0] LOW-BUSH CRANBERRY
Viburnum edule
- [3.8] PRICKLY ROSE
Rosa acicularis
- [1.3] RED-OSIER DOGWOOD
Cornus stolonifera

Forb

- [13.0] MEADOW HORSETAIL
Equisetum pratense
- [4.6] WILD SARSAPARILLA
Aralia nudicaulis
- [4.2] COMMON HORSETAIL
Equisetum arvense
- [3.6] BUNCHBERRY
Cornus canadensis
- [3.1] WOODLAND HORSETAIL
Equisetum sylvaticum
- [3.0] BISHOP'S-CAP
Mitella nuda
- [1.6] TALL LUNGWORT
Mertensia paniculata
- [1.6] PALMATE-LEAVED COLTSFOOT
Petasites palmatus
- [1.6] COMMON FIREWEED
Epilobium angustifolium

Moss and Liverwort

- [18.6] STAIR-STEP MOSS
Hylocomium splendens
- [12.6] SCHREBER'S MOSS
Pleurozium schreberi
- [10.0] KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [2.9] BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (9), Hygric (moist) (4), Mesic (fresh) (3)
 Nutrient Regime: Permesotrophic (rich) (9), Mesotrophic (medium) (4), Submesotrophic (poor) (2), Eutrophic (very rich) (1)
 Elevation (range): 666 (365-960) M
 Slope (%): nearly level (6), level (5), very gentle slope (2), gentle slope (2)
 Aspect: Easterly (4), Level (3), Southerly (3), Northerly (2), Westerly (1)
 Topographic Position: Level (5), Lower Slope (3), Toe (2), Midslope (2), Upper Slope (1), Crest (1)

Soil Variables

Soil Drainage: Moderately well drained (6), Poorly drained (6), Imperfectly drained (4)
 Soil Subgroup: ORTHIC GLEYSOL (4), GLEYED REGOSOL (2), ORTHIC GRAY LUVISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), ORTHIC HUMIC GLEYSOL (1), REGO HUMIC GLEYSOL (1), CUMULIC REGOSOL (1), REGO GLEYSOL (1)
 Surface Texture: Silt loam (4), Clay loam (2), Sand (2), Silty clay (2), Silt (1), Loamy sand (1), Sandy loam (1)
 Effective Texture: Silty clay (3), Clay loam (3), Sandy loam (2), Silty clay loam (1), Silt loam (1), Silt (1), Clay (1), Sandy clay loam (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (12), 16 - 25 cm (2), 6 - 15 cm (1)
 Parent Material: Fluvial (7), Glaciofluvial (5), Morainal (4), Glaciolacustrine (3), Lacustrine (3)
 Soil Type: Moist/Fine (4), Moist/Peaty (3), Moist/Silty-Loamy (2), Wet/Peaty (2), Wet/Mineral (1), Moist/Coarse (1)
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	11.00	4.00	23.00	12

CMD36 Pb-Sw/Horsetail (n=16)

(*Populus balsamifera*-*Picea glauca*/*Equisetum arvense*)

This community occupies lower sites adjacent to black spruce and willow lowlands. It is moist and nutrient rich. The combined horsetail cover is the highest in the understory. Dogwood may be present but has less cover than the horsetails. This community type is very similar to the Aw-Pb/Horsetail (CMC15) but is successional more advanced. In the absence of disturbance this community type will succeed to a Sw/Horsetail (CMD12) dominated community type.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f2 horsetail - Pb-Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (9), Hygric (moist) (4), Mesic (fresh) (3) Nutrient Regime: Permesotrophic (rich) (9), Mesotrophic (medium) (4), Submesotrophic (poor) (2), Eutrophic (very rich) (1) Elevation (range): 666 (365-960) M Slope (%): 0.5 - 2.49 (6), 0 - 0.49 (5), 2.5 - 5.99 (2), 6 - 9.99 (2) Aspect: Easterly (4), Southerly (3), Level (3), Northerly (2), Westerly (1) Topographic Position: Level (5), Lower Slope (3), Toe (2), Midslope (2), Crest (1), Upper Slope (1)
WHITE SPRUCE (<i>Picea glauca</i>)	21.3	0.0-70.0		81	
WHITE BIRCH (<i>Betula papyrifera</i>)	10.6	0.0-40.0		38	
ASPEN (<i>Populus tremuloides</i>)	7.8	0.0-35.0		44	
BALSAM POPLAR (<i>Populus balsamifera</i>)	3.5	0.0-12.0		38	
Understory Tree					
WHITE SPRUCE (<i>Picea glauca</i>)	5.6	0.0-20.0		75	
BALSAM POPLAR (<i>Populus balsamifera</i>)	1.7	0.0-12.0		25	
Medium Shrub (0.5 to 2 m)					
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	6.0	0.0-15.0		94	
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.8	0.0-15.0		88	
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	1.3	0.0-7.0		31	
Tall Forb (>= 30 cm)					
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	13.0	0.0-60.0		63	
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	4.6	0.0-30.0		56	
COMMON HORSETAIL (<i>Equisetum arvense</i>)	4.2	0.0-20.0		50	
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	3.1	0.0-20.0		63	
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.6	0.0-10.0		44	
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.6	0.0-4.0		75	
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	3.6	0.0-10.0		75	
BISHOP'S-CAP (<i>Mitella nuda</i>)	3.0	0.0-15.0		75	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	1.6	0.0-5.0		81	
Graminoid					
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.9	0.0-30.0		63	
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	18.6	0.0-60.0		88	
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	12.6	0.0-40.0		94	
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	10.0	0.0-50.0		44	

Soil Variables

Soil Drainage: Poorly drained (6), Moderately well drained (6), Imperfectly drained (4)
 Soil Subgroup: ORTHIC GLEYSOL (4), GLEYED REGOSOL (2), ORTHIC GRAY LUVISOL (2), ORTHIC HUMIC GLEYSOL (1), REGO HUMIC GLEYSOL (1), CUMULIC REGOSOL (1), REGO GLEYSOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1)
 Surface Texture: Silt loam (4), Clay loam (2), Silty clay (2), Sand (2), Silt (1), Sandy loam (1), Loamy sand (1)
 Effective Texture: Clay loam (3), Silty clay (3), Sandy loam (2), Silty clay loam (1), Silt loam (1), Sandy clay loam (1), Silt (1), Clay (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (12), 16 - 25 cm (2), 6 - 15 cm (1)
 Parent Material: Fluvial (7), Glaciofluvial (5), Morainal (4), Glaciolacustrine (3), Lacustrine (3)
 Soil Type: Moist/Fine (4), Moist/Peaty (3), Wet/Peaty (2), Moist/Silty-Loamy (2), Wet/Mineral (1), Moist/Coarse (1)
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	11.00	4.00	23.00	12

f3 horsetail - Sw (n=32)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Characteristic Species

Tree

- [46.8]WHITE SPRUCE*
Picea glauca

Shrub

- [6.0]DEWBERRY
Rubus pubescens
- [5.0]LOW-BUSH CRANBERRY
Viburnum edule
- [4.0]TWINFLOWER
Linnaea borealis
- [2.8]PRICKLY ROSE
Rosa acicularis
- [1.7]BEAKED WILLOW
Salix bebbiana
- [0.5]RED-OSIER DOGWOOD
Cornus stolonifera

Forb

- [14.6]MEADOW HORSETAIL*
Equisetum pratense
- [5.2]BUNCHBERRY
Cornus canadensis
- [4.3]TALL LUNGWORT
Mertensia paniculata
- [3.7]WILD SARSAPARILLA
Aralia nudicaulis
- [3.3]BISHOP'S-CAP
Mitella nuda
- [3.2]COMMON HORSETAIL*
Equisetum arvense
- [1.3]WOODLAND HORSETAIL*
Equisetum sylvaticum
- [0.5]OAK FERN
Gymnocarpium dryopteris

Moss and Liverwort

- [31.7]STAIR-STEP MOSS
Hylocomium splendens
- [14.0]SCHREBER'S MOSS
Pleurozium schreberi
- [10.1]KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Graminoid

- [11.1]BLUEJOINT
Calamagrostis canadensis
- [1.2]TWO-SEEDED SEDGE
Carex disperma

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (13), Hygric (moist) (10), Subhydric (moderately wet) (5), Mesic (fresh) (3)

Nutrient Regime: Mesotrophic (medium) (16), Permesotrophic (rich) (11), Submesotrophic (poor) (2), Eutrophic (very rich) (1)

Elevation (range): 547 (300-1100) M

Slope (%): nearly level (9), level (8), gentle slope (3), very gentle slope (2), moderate slope (1)

Aspect: Northerly (8), Level (5), Westerly (5), Easterly (1)

Topographic Position:Level (12), Lower Slope (5), Toe (3), Depression (3), Midslope (1)

Soil Variables

Soil Drainage: Poorly drained (13), Imperfectly drained (13), Moderately well drained (3), Very poorly drained (2)

Soil Subgroup: ORTHIC GLEYSOL (7), ORTHIC LUVIC GLEYSOL (7), CUMULIC REGOSOL (3), ORTHIC GRAY LUVISOL (2), REGO GLEYSOL (2), GLEYED EUTRIC BRUNISOL (1), GLEYED GRAY BROWN LUVISOL (1), BRUNISOLIC GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), REGO HUMIC GLEYSOL (1), HUMIC LUVIC GLEYSOL (1)

Surface Texture: Clay loam (6), Silt loam (5), Silty clay (3), Humic (2), Sand (2), Mesic (2), Loamy sand (2), Silty clay loam (2), Silt (1), Sandy clay loam (1), Loam (1), Fibric (1), Clay (1)

Effective Texture: Clay (7), Clay loam (4), Silty clay (3), Silty clay loam (3), Mesic (2), Sandy clay loam (2), Silt (2), Silt loam (2), Heavy clay (1), Sand (1), Sandy clay (1), Loamy sand (1)

Depth to Mottles/Gley: 0 - 25 (5)

Organic Thickness: 0 - 5 cm (24), 40 - 59 cm (2), 26 - 39 cm (2), 16 - 25 cm (2), >= 80 cm (1), 6 - 15 cm (1)

Parent Material: Glaciolacustrine (9), Morainal (9), Undifferentiated Organic (7), Glaciofluvial (6), Fluvial (6), Residual (1), Swamp (1), Colluvial (1), Eolian (1), Fluvialacustrine (1), Lacustrine (1)

Soil Type: Moist/Fine (12), Moist/Peaty (7), Wet/Peaty (4), Organic (3), Wet/Mineral (2), Moist/Silty-Loamy (1)

Humus Form TYPICAL MODER (1), HUMIFIBRIMOR (1), FIBRIMOR (1), HUMIC PEATYMOR (1), FIBRIHUMIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	15.50	3.00	40.00	23

CMD12 Sw/Horsetail (n=13)

(*Picea glauca*/*Equisetum arvense*)

This community type is moist and nutrient rich. These sites are commonly found on fluvial or glaciolacustrine parent materials where flooding or seepage enhances the substrate nutrient supply. With high water tables and moist soil conditions, organic matter tends to accumulate which favors the growth of horsetails.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygic/rich)

Ecosite Phase: f3 horsetail - Sw

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables									
	Mean	Range												
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Hygic (moist) (6), Subhygic (moderately moist) (5), Subhygic (moderately wet) (2) Nutrient Regime: Permesotrophic (rich) (5), Mesotrophic (medium) (3), Submesotrophic (poor) (2), Eutrophic (very rich) (1) Elevation (range): 541 (300-779) M Slope (%): 0 - 0.49 (3), 6 - 9.99 (2), 10 - 15.99 (1), 0.5 - 2.49 (1) Aspect: Level (2), Northerly (2), Westerly (2) Topographic Position: Level (5), Depression (3), Lower Slope (2)									
WHITE SPRUCE (<i>Picea glauca</i>)	35.3	19.0-63.0	100											
Understory Tree														
WHITE SPRUCE (<i>Picea glauca</i>)	17.0	0.0-45.0	85											
Medium Shrub (0.5 to 2 m)														
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	8.4	0.0-80.0	85											
TWINFLOWER (<i>Linnaea borealis</i>)	5.8	0.0-20.0	92											
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.4	0.0-5.0	69											
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	1.1	0.0-10.0	39											
Low Shrub (< 0.5m)														
DEWBERRY (<i>Rubus pubescens</i>)	10.1	0.0-50.0	77											
Tall Forb (>= 30 cm)														
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	29.2	0.0-85.0	69											
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	7.5	0.0-50.0	69											
TALL LUNGWORT (<i>Mertensia paniculata</i>)	6.8	0.0-20.0	69											
COMMON HORSETAIL (<i>Equisetum arvense</i>)	5.5	0.0-20.0	69											
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	1.1	0.0-10.0	23											
OAK FERN (<i>Gymnocarpium dryopteris</i>)	1.1	0.0-15.0	8											
Low Forb (< 30 cm)														
BUNCHBERRY (<i>Cornus canadensis</i>)	7.8	0.0-35.0	77											
BISHOP'S-CAP (<i>Mitella nuda</i>)	5.4	0.0-40.0	92											
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	1.8	0.0-8.0	54											
Graminoid														
BLUEJOINT (<i>Calamagrostis canadensis</i>)	12.7	0.0-60.0	62											
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	2.5	0.0-18.0	23											
Moss														
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	19.0	0.0-70.0	92											
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	14.9	0.0-75.0	92											
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	14.7	0.0-80.0	69											
				Soil Variables Soil Drainage: Poorly drained (6), Imperfectly drained (4), Moderately well drained (3) Soil Subgroup: ORTHIC GLEYSOL (5), ORTHIC GRAY LUVISOL (2), CUMULIC REGOSOL (2), GLEYED EUTRIC BRUNISOL (1), REGO GLEYSOL (1), REGO HUMIC GLEYSOL (1) Surface Texture: Sand (2), Silt loam (2), Humic (2), Clay (1), Loamy sand (1), Mesic (1), Silt (1), Silty clay (1) Effective Texture: Silty clay (3), Silt loam (2), Sandy clay loam (2), Silt (2), Clay loam (1), Mesic (1) Depth to Mottles/Gley: Organic Thickness: 0 - 5 cm (9), >= 80 cm (1), 6 - 15 cm (1), 26 - 39 cm (1), 40 - 59 cm (1) Parent Material: Undifferentiated Organic (5), Glaciolacustrine (4), Fluvial (3), Glaciofluvial (3), Morainal (2), Colluvial (1), Swamp (1) Soil Type: Moist/Fine (3), Organic (2), Wet/Peaty (2), Moist/Peaty (2), Wet/Mineral (1), Moist/Silty-Loamy (1) Humus Form HUMIC PEATYMOR (1), TYPICAL MODER (1)										
				LFH Thickness										
				<table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>18.00</td> <td>3.00</td> <td>40.00</td> <td>8</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	18.00	3.00	40.00	8
	Mean	Min	Max	Count										
cm:	18.00	3.00	40.00	8										

CMD37 Sw/Feather moss (hygric) (n=19)

(*Picea glauca*/*Pleurozium schreberi*)

This community type seems to form on level to sloping sites that have some underground seepage. The underground seepage makes this community type fairly moist and nutrient rich.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f3 horsetail - Sw

Plant Composition	Canopy Cover (%)			Environmental Variables										
	Mean	Range	Const.											
Overstory Tree				Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (8), Hygric (moist) (4), Mesic (fresh) (3), Subhydric (moderately wet) (3) Nutrient Regime: Mesotrophic (medium) (13), Permesotrophic (rich) (6) Elevation (range): 554 (300-1100) M Slope (%): 0.5 - 2.49 (8), 0 - 0.49 (5), 2.5 - 5.99 (2), 6 - 9.99 (1) Aspect: Northerly (6), Level (3), Westerly (3), Easterly (1) Topographic Position: Level (7), Lower Slope (3), Toe (3), Midslope (1)										
WHITE SPRUCE (<i>Picea glauca</i>)	36.0	10.0-60.0	100											
Understory Tree														
WHITE SPRUCE (<i>Picea glauca</i>)	5.5	0.0-20.0	63											
BEAKED WILLOW (<i>Salix bebbiana</i>)	3.4	0.0-40.0	11											
Medium Shrub (0.5 to 2 m)														
PRICKLY ROSE (<i>Rosa acicularis</i>)	4.2	0.0-18.0	95											
TWINFLOWER (<i>Linnaea borealis</i>)	2.3	0.0-7.0	90											
LOW-BUSH CRANBERRY (<i>Viburnum edule</i>)	1.6	0.0-7.0	79											
Low Shrub (< 0.5m)														
DEWBERRY (<i>Rubus pubescens</i>)	2.0	0.0-5.0	79											
Tall Forb (>= 30 cm)														
TALL LUNGWORT (<i>Mertensia paniculata</i>)	1.9	0.0-25.0	53											
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	1.5	0.0-18.0	37											
COMMON HORSETAIL (<i>Equisetum arvense</i>)	0.9	0.0-8.0	32											
Low Forb (< 30 cm)														
BUNCHBERRY (<i>Cornus canadensis</i>)	2.6	0.0-10.0	90											
BISHOP'S-CAP (<i>Mitella nuda</i>)	1.2	0.0-5.0	74											
Graminoid														
BLUEJOINT (<i>Calamagrostis canadensis</i>)	9.6	0.0-88.0	37											
Moss														
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	44.4	0.0-95.0	95											
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	13.2	0.0-50.0	84											
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	5.5	0.0-30.0	68											
SQUARROSE PEAT MOSS (<i>Sphagnum squarrosum</i>)	1.5	0.0-29.0	11											
				Soil Variables										
				Soil Drainage: Imperfectly drained (9), Poorly drained (7), Very poorly drained (2) Soil Subgroup: ORTHIC LUVIC GLEYSOL (7), ORTHIC GLEYSOL (2), REGO GLEYSOL (1), GLEYED GRAY BROWN LUVISOL (1), BRUNISOLIC GRAY LUVISOL (1), GLEYED GRAY LUVISOL (1), HUMIC LUVIC GLEYSOL (1), CUMULIC REGOSOL (1) Surface Texture: Clay loam (6), Silt loam (3), Silty clay (2), Silty clay loam (2), Loam (1), Loamy sand (1), Sandy clay loam (1), Fibric (1), Mesic (1) Effective Texture: Clay (7), Clay loam (3), Silty clay loam (3), Heavy clay (1), Loamy sand (1), Sand (1), Sandy clay (1), Mesic (1) Depth to Mottles/Gley: 0 - 25 (5) Organic Thickness: 0 - 5 cm (15), 16 - 25 cm (2), 26 - 39 cm (1), 40 - 59 cm (1) Parent Material: Morainal (7), Glaciolacustrine (5), Glaciofluvial (3), Fluvial (3), Undifferentiated Organic (2), Residual (1), Lacustrine (1), Fluvialacustrine (1), Eolian (1) Soil Type: Moist/Fine (9), Moist/Peaty (5), Wet/Peaty (2), Organic (1), Wet/Mineral (1) Humus Form FIBRIHUMIMOR (1), FIBRIMOR (1), HUMIFIBRIMOR (1)										
				LFH Thickness										
				<table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>13.00</td> <td>4.00</td> <td>27.00</td> <td>15</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	13.00	4.00	27.00	15
	Mean	Min	Max	Count										
cm:	13.00	4.00	27.00	15										

f4 horsetail - shrubland (n=11)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Characteristic Species

Shrub

- [22.5]SANDBAR WILLOW*
Salix exigua
- [6.1]SALIX SPECIES
Salix
- [5.0]SMOOTH WILLOW
Salix glauca
- [3.5]BALSAM WILLOW
Salix pyrifolia
- [2.8]WILD RED RASPBERRY
Rubus idaeus
- [2.5]FLAT-LEAVED WILLOW*
Salix planifolia
- [2.5]BEAKED WILLOW
Salix bebbiana
- [2.0]DWARF BIRCH
Betula pumila
- [1.5]PUSSY WILLOW
Salix discolor
- [0.8]WILD RED CURRANT
Ribes triste

Forb

- [35.0]MARSH YELLOW CRESS
Rorippa palustris
- [4.0]WOODLAND HORSETAIL
Equisetum sylvaticum
- [3.3]HEMP-NETTLE
Galeopsis tetrahit
- [2.5]ROUGH CINQUEFOIL
Potentilla norvegica
- [1.1]WILD STRAWBERRY
Fragaria virginiana

Graminoid

- [5.3]BLUEJOINT
Calamagrostis canadensis
- [2.0]WIRE RUSH
Juncus balticus
- [1.4]FOWL BLUEGRASS
Poa palustris
- [1.2]GOLDEN SEDGE
Carex aurea

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (8), Hygric (moist) (1), Mesic (fresh) (1)
 Nutrient Regime: Permesotrophic (rich) (7), Eutrophic (very rich) (1), Mesotrophic (medium) (1)
 Elevation (range): 513 (327-691) M
 Slope (%): level (4), very gentle slope (1)
 Aspect: Level (3), Easterly (1)
 Topographic Position: Depression (4), Level (3)

Soil Variables

Soil Drainage: Imperfectly drained (6), Moderately well drained (2), Poorly drained (2)
 Soil Subgroup: REGO GLEYSOL (1), ORTHIC GRAY LUVISOL (1)
 Surface Texture: Clay (1)
 Effective Texture: Clay (1)
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (2)
 Parent Material: Fluvial (1), Glaciolacustrine (1), Morainal (1)
 Soil Type: Wet/Mineral (1)
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA27 Willow/Horsetail/Marsh reedgrass (n=5)

(*Salix spp/Equisetum sylvaticum/Calamagrostis canadensis*)

This PC is found on the horsetail (hygric/rich) 'f' ecosite. Willow species are present at greater than 30% cover. Horsetail may be present but is not dominating the tall forb stratum. The PC is very diverse under the willow canopy. Dogwood may be present but has less cover than the horsetails. Productivity and the availability of forage will be site specific. Horsetail can be poisonous to livestock in large amounts (Lodge et al. 1968).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Ecosite Phase: f4 horsetail - shrubland

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 27-40
BEAKED WILLOW (<i>Salix bebbiana</i>)	5.0	0.0-25.0	20		Moisture Regime: Subhygric (moderately moist) (4), Mesic (fresh) (1)
Understory Tree					Nutrient Regime: Permesotrophic (rich) (3), Mesotrophic (medium) (1)
SALIX SPECIES (<i>Salix</i>)	2.0	0.0-10.0	20		Elevation (range): 607 (333-691) M
Tall Shrub (2 to 5m)					Slope (%): 0 - 0.49 (4)
SALIX SPECIES (<i>Salix</i>)	10.3	0.0-29.0	60		Aspect: Level (3)
BALSAM WILLOW (<i>Salix pyrifolia</i>)	7.0	0.0-35.0	20		Topographic Position: Depression (3), Level (1)
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	5.0	0.0-25.0	20		Soil Variables
DWARF BIRCH (<i>Betula pumila</i>)	4.0	0.0-14.1	40		Soil Drainage: Imperfectly drained (3), Moderately well drained (2)
PUSSY WILLOW (<i>Salix discolor</i>)	3.0	0.0-15.0	20		Soil Subgroup: ORTHIC GRAY LUVISOL (1)
Medium Shrub (0.5 to 2 m)					Surface Texture:
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	5.7	0.0-25.5	40		Effective Texture:
WILD RED CURRANT (<i>Ribes triste</i>)	1.6	0.0-8.0	20		Depth to Mottles/Gley:
Tall Forb (>= 30 cm)					Organic Thickness: 0 - 5 cm (1)
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	8.0	0.0-40.0	20		Parent Material: Glaciolacustrine (1), Morainal (1)
HEMP-NETTLE (<i>Galeopsis tetrahit</i>)	6.7	0.0-33.5	20		Soil Type:
LARGE-LEAVED YELLOW AVENS (<i>Geum macrophyllum</i>)	1.3	0.0-3.8	80		Humus Form
Low Forb (< 30 cm)					LFH Thickness
BISHOP'S-CAP (<i>Mitella nuda</i>)	2.9	0.0-8.0	80		Mean
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	2.2	0.0-7.1	60		Min
Graminoid					Max
BLUEJOINT (<i>Calamagrostis canadensis</i>)	10.7	0.5-38.0	100		Count
WIRE RUSH (<i>Juncus balticus</i>)	4.1	0.0-20.5	20		cm:
FOWL BLUEGRASS (<i>Poa palustris</i>)	2.8	0.0-7.9	40		0.00
GOLDEN SEDGE (<i>Carex aurea</i>)	2.5	0.0-12.6	20		0.00
HAIR-LIKE SEDGE (<i>Carex capillaris</i>)	2.0	0.0-10.4	20		0.00
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	1.1	0.0-3.8	60		0
SHEATHED SEDGE (<i>Carex vaginata</i>)	1.1	0.0-5.7	20		

CMA28-D Beaked willow/Horsetail-Clover (n=1)

(*Salix bebbiana/Equisetum arvense-Trifolium spp.*)

This PC, like it's reference PC CMA27, is found on the horsetail (hygric/rich) 'f' ecosite. Willow species are present at greater than 30% cover. The understory is showing signs of disturbance as indicated by the presence of invasive herbs such as Kentucky bluegrass, clovers, dandelion etc.. The growth in the understory is also limited here by the dense canopy of willows. Disturbance species have a combined presence of greater than 15%.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f4 horsetail - shrubland

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables				
	Mean	Range							
Overstory Tree					Ecological Status Score: 15-20				
BALSAM POPLAR (<i>Populus balsamifera</i>)	5.0	5.0-5.0		100	Moisture Regime: Hygric (moist) (1)				
Understory Tree					Nutrient Regime: Permesotrophic (rich) (1)				
BALSAM POPLAR (<i>Populus balsamifera</i>)	6.0	6.0-6.0		100	Elevation (range): 0 (0-0) M				
Tall Shrub (2 to 5m)					Slope (%): 2.5 - 5.99 (1)				
BEAKED WILLOW (<i>Salix bebbiana</i>)	50.0	50.0-50.0		100	Aspect: Easterly (1)				
BALSAM POPLAR (<i>Populus balsamifera</i>)	5.0	5.0-5.0		100	Topographic Position: Depression (1)				
Medium Shrub (0.5 to 2 m)					Soil Variables				
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	5.0	5.0-5.0		100	Soil Drainage: Poorly drained (1)				
Tall Forb (>= 30 cm)					Soil Subgroup:				
LEAFY-BRACTED ASTER (<i>Aster subspicatus</i>)	15.0	15.0-15.0		100	Surface Texture:				
COMMON HORSETAIL (<i>Equisetum arvense</i>)	10.0	10.0-10.0		100	Effective Texture:				
THYME-LEAVED DRAGONHEAD (<i>Dracocephalum thymiflorum</i>)	5.0	5.0-5.0		100	Depth to Mottles/Gley:				
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	5.0	5.0-5.0		100	Organic Thickness:				
WILD VETCH (<i>Vicia americana</i>)	5.0	5.0-5.0		100	Parent Material:				
Low Forb (< 30 cm)					Soil Type:				
COMMON PLANTAIN (<i>Plantago major</i>)	50.0	50.0-50.0		100	Humus Form				
WHITE CLOVER (<i>Trifolium repens</i>)	10.0	10.0-10.0		100	LFH Thickness				
MARSH-MARIGOLD (<i>Caltha palustris</i>)	5.0	5.0-5.0		100	Mean	Min	Max	Count	
COMMON DANDELION (<i>Taraxacum officinale</i>)	5.0	5.0-5.0		100	cm:	0.00	0.00	0.00	0
UNDIFFERENTIATED STELLARIA (<i>Stellaria</i>)	3.0	3.0-3.0		100					
Graminoid									
BLUEJOINT (<i>Calamagrostis canadensis</i>)	50.0	50.0-50.0		100					
TIMOTHY (<i>Phleum pratense</i>)	5.0	5.0-5.0		100					
FOWL BLUEGRASS (<i>Poa palustris</i>)	5.0	5.0-5.0		100					
WHEAT GRASS SPECIES (<i>Agropyron</i>)	5.0	5.0-5.0		100					

CMA44 Sandbar willow (n=1)

(*Salix exigua*)

This community type occurs on moist alluvial deposits subject to frequent flooding along rivers and creeks. This community type is an early seral type and in the absence of disturbance will eventually succeed to balsam poplar (Thompson and Hansen 2002).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Ecosite Phase: f4 horsetail - shrubland

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
SANDBAR WILLOW (<i>Salix exigua</i>)	30.0	30.0-30.0	100	Moisture Regime: Subhygric (moderately moist) (1)
SMOOTH WILLOW (<i>Salix glauca</i>)	10.0	10.0-10.0	100	Nutrient Regime: Eutrophic (very rich) (1)
Medium Shrub (0.5 to 2 m)				Elevation (range): 327 (327-327) M
SANDBAR WILLOW (<i>Salix exigua</i>)	15.0	15.0-15.0	100	Slope (%):
Tall Forb (>= 30 cm)				Aspect:
MARSH YELLOW CRESS (<i>Rorippa palustris</i>)	70.0	70.0-70.0	100	Topographic Position: Level (1)
ROUGH CINQUEFOIL (<i>Potentilla norvegica</i>)	5.0	5.0-5.0	100	Soil Variables
TUFTED LOOSESTRIFE (<i>Lysimachia thyrsiflora</i>)	3.0	3.0-3.0	100	Soil Drainage: Poorly drained (1)
				Soil Subgroup: REGO GLEYSOL (1)
				Surface Texture: Clay (1)
				Effective Texture: Clay (1)
				Depth to Mottles/Gley:
				Organic Thickness: 0 - 5 cm (1)
				Parent Material: Fluvial (1)
				Soil Type: Wet/Mineral (1)
				Humus Form
				LFH Thickness
				Mean
				Min
				Max
				Count
				cm:
				0.00
				0.00
				0.00
				0

f5 horsetail - graminoid (n=2)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Characteristic Species

Tree

- [6.0] WHITE BIRCH
Betula papyrifera

Shrub

- [5.0] GREEN ALDER
Alnus crispa
- [1.0] BRACKETED HONEYSUCKLE
Lonicera involucrata
- [1.0] NORTHERN GOOSEBERRY
Ribes oxycanthoides
- [1.0] SNOWBERRY
Symphoricarpos albus

Forb

- [10.0] WOODLAND HORSETAIL
Equisetum sylvaticum
- [5.0] TALL LUNGWORT
Mertensia paniculata
- [3.0] ARROW-LEAVED COLTSFOOT
Petasites sagittatus
- [1.0] MANY-FLOWERED YARROW
Achillea sibirica
- [1.0] MARSH-MARIGOLD
Caltha palustris
- [1.0] COMMON FIREWEED
Epilobium angustifolium
- [1.0] WILD STRAWBERRY
Fragaria virginiana

Moss and Liverwort

- [5.0] STAIR-STEP MOSS
Hylocomium splendens

Graminoid

- [40.0] BLUEJOINT*
Calamagrostis canadensis
- [10.0] FRINGED BROME
Bromus ciliatus
- [5.0] SLENDER WHEAT GRASS
Agropyron trachycaulum
- [2.0] REDTOP
Agrostis stolonifera

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (2)

Nutrient Regime: Permesotrophic (rich) (2)

Elevation (range): 600 (600-600) M

Slope (%): nearly level (2)

Aspect: Level (1), Southerly (1)

Topographic Position: Depression (1)

Soil Variables

Soil Drainage: Poorly drained (1), Moderately well drained (1)

Soil Subgroup: REGO HUMIC GLEYSOL (1)

Surface Texture: Fibric (1)

Effective Texture: Sandy clay loam (1)

Depth to Mottles/Gley:

Organic Thickness: 26 - 39 cm (1)

Parent Material: Glaciofluvial (1)

Soil Type: Wet/Peaty (1)

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA3 Cow parsnip-Horsetail-Dandelion/Kentucky bluegrass (n=1)

(*Heracleum lanatum-Equisetum arvense- Taraxacum officinale/Poa pratensis*)

This PC is the result of long term overgrazing of horsetail meadows which may have also had the woody cover cleared. The species present are a mixture of grazing resistant native plants from wetter sites (e.g. horsetail, marsh marigold, skullcap) and disturbance plants that can tolerate moist conditions (Kentucky bluegrass, Canada thistle, dandelion). The heavy grazing pressure has caused displacement of grazing sensitive species with invasive or grazing resistant ones.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)
Ecosite Phase: f5 horsetail - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables					
	Mean	Range	Const.						
Tall Shrub (2 to 5m)				Ecological Status Score: 15-20					
GREEN ALDER (<i>Alnus crispa</i>)	0.5	0.5-0.5	100	Moisture Regime: Subhygric (moderately moist) (1)					
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Permesotrophic (rich) (1)					
PRICKLY ROSE (<i>Rosa acicularis</i>)	7.8	7.8-7.8	100	Elevation (range): 600 (600-600) M					
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	1.0	1.0-1.0	100	Slope (%): 0.5 - 2.49 (1)					
Tall Forb (>= 30 cm)				Aspect: Southerly (1)					
COW PARSNIP (<i>Heracleum lanatum</i>)	42.4	42.4-42.4	100	Topographic Position:					
COMMON HORSETAIL (<i>Equisetum arvense</i>)	33.0	33.0-33.0	100	Soil Variables					
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	19.3	19.3-19.3	100	Soil Drainage: Moderately well drained (1)					
CREAM-COLORED VETCHLING (<i>Lathyrus ochroleucus</i>)	8.0	8.0-8.0	100	Soil Subgroup:					
VEINY MEADOW RUE (<i>Thalictrum venulosum</i>)	8.0	8.0-8.0	100	Surface Texture:					
WILD VETCH (<i>Vicia americana</i>)	4.9	4.9-4.9	100	Effective Texture:					
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	2.5	2.5-2.5	100	Depth to Mottles/Gley:					
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	0.8	0.8-0.8	100	Organic Thickness:					
TALL LARKSPUR (<i>Delphinium glaucum</i>)	0.5	0.5-0.5	100	Parent Material:					
ALFALFA (<i>Medicago sativa</i>)	0.5	0.5-0.5	100	Soil Type:					
Low Forb (< 30 cm)				Humus Form					
COMMON DANDELION (<i>Taraxacum officinale</i>)	27.0	27.0-27.0	100	LFH Thickness					
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.5	1.5-1.5	100						
NORTHERN BEDSTRAW (<i>Galium boreale</i>)	0.5	0.5-0.5	100						
Graminoid									
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	14.5	14.5-14.5	100						
BLUEJOINT (<i>Calamagrostis canadensis</i>)	9.5	9.5-9.5	100						
FRINGED BROME (<i>Bromus ciliatus</i>)	1.6	1.6-1.6	100						
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	1.5	1.5-1.5	100						
				LFH Thickness	Mean	Min	Max	Count	
				cm:	0.00	0.00	0.00	0	

CMA37 Horsetail/Marsh reedgrass (Bluejoint) (n=1)

(*Equisetum sylvaticum/Calamagrostis canadensis*)

This community type occurs on moist, depressional areas. It will occur in the center of willow rings on upland sites. Unlike sedge and marsh reedgrass meadows in the fen ecological site, these areas are only flooded in the spring and early summer; which allows marsh reed grass to dominate instead of sedges. In the absence of disturbance these sites will often be encroached by willow species.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: f horsetail(hygric/rich)

Ecosite Phase: f5 horsetail - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Understory Tree				Ecological Status Score: 40
WHITE BIRCH (<i>Betula papyrifera</i>)	5.0	5.0-5.0	100	Moisture Regime: Subhygric (moderately moist) (1)
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Permesotrophic (rich) (1)
GREEN ALDER (<i>Alnus crispa</i>)	5.0	5.0-5.0	100	Elevation (range): 0 (0-0) M
WHITE BIRCH (<i>Betula papyrifera</i>)	1.0	1.0-1.0	100	Slope (%): 0.5 - 2.49 (1)
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.0	1.0-1.0	100	Aspect: Level (1)
NORTHERN GOOSEBERRY (<i>Ribes oxycanthoides</i>)	1.0	1.0-1.0	100	Topographic Position: Depression (1)
SNOWBERRY (<i>Symphoricarpos albus</i>)	1.0	1.0-1.0	100	Soil Variables
Tall Forb (>= 30 cm)				Soil Drainage: Poorly drained (1)
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	10.0	10.0-10.0	100	Soil Subgroup: REGO HUMIC GLEYSOL (1)
TALL LUNGWORT (<i>Mertensia paniculata</i>)	5.0	5.0-5.0	100	Surface Texture: Fibric (1)
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	1.0	1.0-1.0	100	Effective Texture: Sandy clay loam (1)
Low Forb (< 30 cm)				Depth to Mottles/Gley:
ARROW-LEAVED COLTSFOOT (<i>Petasites sagittatus</i>)	3.0	3.0-3.0	100	Organic Thickness: 26 - 39 cm (1)
MANY-FLOWERED YARROW (<i>Achillea sibirica</i>)	1.0	1.0-1.0	100	Parent Material: Glaciofluvial (1)
MARSH-MARIGOLD (<i>Caltha palustris</i>)	1.0	1.0-1.0	100	Soil Type: Wet/Peaty (1)
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	1.0	1.0-1.0	100	Humus Form
Graminoid				LFH Thickness
BLUEJOINT (<i>Calamagrostis canadensis</i>)	40.0	40.0-40.0	100	Mean
FRINGED BROME (<i>Bromus ciliatus</i>)	10.0	10.0-10.0	100	Min
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	5.0	5.0-5.0	100	Max
REDTOP (<i>Agrostis stolonifera</i>)	2.0	2.0-2.0	100	Count
Moss				cm:
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	5.0	5.0-5.0	100	0.00
				0.00
				0.00
				0

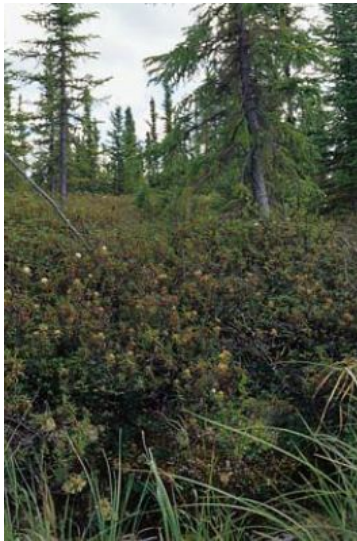
g Labrador tea-subhygric(subhygric/poor) (n=31)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The Labrador tea-subhygric ecosite has a nutrient-poor substrate with imperfectly to very poorly drained soils. Labrador tea and bog cranberry are indicative of the relatively acidic surface soil conditions. It dominantly occurs on fine-textured till or glaciolacustrine deposits, on coarse-textured glaciofluvial material, or on organic materials where the wet soil conditions promote the development of Gleysolic soils. While the Labrador tea-subhygric ecosite has plant community types similar to the Labrador tea-mesic ecosite, the subhygric ecosite tends to occur in lower topographic positions, has mottles in the top 25 cm of soil, has a thicker organic layer, and may be dominated by black spruce rather than pine. High soil water content associated with this ecosite creates a greater risk of site modification if operations occur within months when the soil is not frozen.



Successional Relationships

Young and mature stands developing in this ecosite often have a component of black spruce. The black spruce is often the same age as the pine but forms a secondary canopy due to slower growth rates. Successionally mature stands are dominated by black spruce with a small component of old residual pine.

Indicator Species

Tree

BLACK SPRUCE
Picea mariana

JACK PINE
Pinus banksiana

Shrub

COMMON LABRADOR TEA
Ledum groenlandicum

Moss and Liverwort

STAIR-STEP MOSS
Hylocomium splendens

SCHREBER'S MOSS
Pleurozium schreberi

Site Index at 50 Years

Site Index at 50 Years	Height (m)	Variation (m)	Count
JACK PINE <i>(Pinus banksiana)</i>	11.70	0.40	0
BLACK SPRUCE <i>(Picea mariana)</i>	9.90	0.70	0

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (15), Mesic (fresh) (5), Hygric (moist) (4), Subhydric (moderately wet) (3), Hydric (wet) (2)

Nutrient Regime: Submesotrophic (poor) (18), Mesotrophic (medium) (6), Oligotrophic (very poor) (2)

Elevation (range): 595 (346-820) M

Slope (%): level (10), nearly level (8), very gentle slope (7), moderate slope (1)

Aspect: Level (7), Southerly (4), Easterly (4), Northerly (2), Westerly (1)

Topographic Position: Level (11), Lower Slope (5), Midslope (2), Depression (2), Crest (1), Toe (1), Upper Slope (1)

Soil Variables

Soil Drainage: Imperfectly drained (14), Very poorly drained (6), Moderately well drained (4), Poorly drained (3), Well drained (2)

Soil Subgroup: GLEYED GRAY LUVISOL (6), ORTHIC LUVIC GLEYSOL (5), BRUNISOLIC GRAY LUVISOL (3), ORTHIC GLEYSOL (2), ORTHIC GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1), ELUVIATED EUTRIC BRUNISOL (1), FIBRIC ORGANIC CRYOSOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1)

Surface Texture: Loam (3), Fibric (3), Sand (3), Loamy sand (2), Sandy clay loam (2), Silty clay loam (2), Sandy loam (1), Silt loam (1), Medium sandy loam (1), Mesic (1), Sandy clay (1), Fine sandy loam (1)

Effective Texture: Clay loam (4), Sandy clay (3), Sandy clay loam (3), Silty clay (3), Sand (2), Fibric (2), Humic (1), Loamy sand (1), Clay (1), Sandy loam (1)

Depth to Mottles/Gley: 0 - 25 (3), 26 - 50 (1)

Organic Thickness: 0 - 5 cm (26), 60 - 79 cm (2), >= 80 cm (1), 16 - 25 cm (1), 40 - 59 cm (1)

Parent Material: Glaciofluvial (11), Morainal (8), Eolian (3), Glaciolacustrine (3), Lacustrine (3), Fluvial (2), Undifferentiated Organic (2), Lacustromoraine (1), Fen (1), Rock (1)

Soil Type: Moist/Fine (11), Organic (3), Wet/Peaty (2), Moist/Peaty (2), Moist/Sandy (2), Moist/Coarse (1)

Humus Form FIBRIMOR (8), FIBRIHUMIMOR (3), HUMIFIBRIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	13.00	4.00	36.00	12

g1 Labrador tea-subhygric Sb-Pj (n=31)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: g Labrador tea-subhygric(subhygric/poor)

Characteristic Species

Tree

[28.3]BLACK SPRUCE*
Picea mariana

[6.1]JACK PINE*
Pinus banksiana

Shrub

[11.6]COMMON LABRADOR TEA*
Ledum groenlandicum

[5.7]BOG CRANBERRY
Vaccinium vitis-idaea

[3.0]COMMON BLUEBERRY
Vaccinium myrtilloides

[1.2]PRICKLY ROSE
Rosa acicularis

[1.0]TWINFLOWER
Linnaea borealis

[0.6]MYRTLE-LEAVED WILLOW
Salix myrtillifolia

Forb

[2.6]BUNCHBERRY
Cornus canadensis

[0.5]PALMATE-LEAVED COLTSFOOT
Petasites palmatus

Lichen

[5.0]REINDEER LICHEN
Cladina mitis

[1.8]REINDEER LICHEN
Cladina rangiferina

Moss and Liverwort

[29.1]SCHREBER'S MOSS*
Pleurozium schreberi

[29.0]STAIR-STEP MOSS*
Hylocomium splendens

[8.5]KNIGHT'S PLUME MOSS
Ptilium crista-castrensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (15), Mesic (fresh) (5), Hygric (moist) (4), Subhydric (moderately wet) (3), Hydric (wet) (2)

Nutrient Regime: Submesotrophic (poor) (18), Mesotrophic (medium) (6), Oligotrophic (very poor) (2)

Elevation (range): 595 (346-820) M

Slope (%): level (10), nearly level (8), very gentle slope (7), moderate slope (1)

Aspect: Level (7), Southerly (4), Easterly (4), Northerly (2), Westerly (1)

Topographic Position: Level (11), Lower Slope (5), Depression (2), Midslope (2), Toe (1), Upper Slope (1), Crest (1)

Soil Variables

Soil Drainage: Imperfectly drained (14), Very poorly drained (6), Moderately well drained (4), Poorly drained (3), Well drained (2)

Soil Subgroup: GLEYED GRAY LUVISOL (6), ORTHIC LUVIC GLEYSOL (5), BRUNISOLIC GRAY LUVISOL (3), ORTHIC GLEYSOL (2), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED EUTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), FIBRIC ORGANIC CRYOSOL (1), GLEYED BRUNISOLIC GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1)

Surface Texture: Sand (3), Loam (3), Fibric (3), Loamy sand (2), Silty clay loam (2), Sandy clay loam (2), Silt loam (1), Medium sandy loam (1), Mesic (1), Sandy clay (1), Sandy loam (1), Fine sandy loam (1)

Effective Texture: Clay loam (4), Silty clay (3), Sandy clay loam (3), Sandy clay (3), Sand (2), Fibric (2), Sandy loam (1), Clay (1), Humic (1), Loamy sand (1)

Depth to Mottles/Gley: 0 - 25 (3), 26 - 50 (1)

Organic Thickness: 0 - 5 cm (26), 60 - 79 cm (2), >= 80 cm (1), 16 - 25 cm (1), 40 - 59 cm (1)

Parent Material: Glaciofluvial (11), Morainal (8), Eolian (3), Glaciolacustrine (3), Lacustrine (3), Fluvial (2), Undifferentiated Organic (2), Rock (1), Fen (1), Lacustromoraine (1)

Soil Type: Moist/Fine (11), Organic (3), Moist/Peaty (2), Moist/Sandy (2), Wet/Peaty (2), Moist/Coarse (1)

Humus Form FIBRIMOR (8), FIBRIHUMIMOR (3), HUMIFIBRIMOR (1)

LFH Thickness

	Mean	Min	Max	Count
cm:	13.00	4.00	36.00	12

CMD38 Sb-Pj/Labrador tea/feather moss (n=21)

(*Picea mariana*-*Pinus banksiana*/*Ledum groenlandicum*/*Pleurozium schreberi*)

This community is similar to the Pj-Sb/Labrador tea-mesic (CMD16) community, but is found on more subhygric sites with Gleysolic soils. This community is dominated by Labrador tea and feather moss in the understory. Succession in the absence of disturbance will be to black spruce.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: g Labrador tea-subhygric(subhygric/poor)
Ecosite Phase: g1 Labrador tea-subhygric Sb-Pj

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (10), Hygric (moist) (4), Subhydric (moderately wet) (3), Mesic (fresh) (2) Nutrient Regime: Submesotrophic (poor) (12), Mesotrophic (medium) (5), Oligotrophic (very poor) (2) Elevation (range): 580 (346-820) M Slope (%): 2.5 - 5.99 (7), 0 - 0.49 (5), 0.5 - 2.49 (5), 10 - 15.99 (1) Aspect: Level (5), Easterly (4), Southerly (3), Westerly (1), Northerly (1) Topographic Position: Level (8), Lower Slope (4), Depression (2), Midslope (2), Upper Slope (1), Toe (1), Crest (1)
BLACK SPRUCE (<i>Picea mariana</i>)	18.2	0.0-88.0	76	
JACK PINE (<i>Pinus banksiana</i>)	6.7	0.0-50.0	33	
Understory Tree				
BLACK SPRUCE (<i>Picea mariana</i>)	8.0	0.0-29.0	67	
JACK PINE (<i>Pinus banksiana</i>)	1.3	0.0-15.0	19	
Medium Shrub (0.5 to 2 m)				
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	22.1	1.0-80.0	100	
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	9.7	0.0-70.0	91	
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	3.1	0.0-20.0	48	
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.3	0.0-10.0	57	
MYRTLE-LEAVED WILLOW (<i>Salix myrtillifolia</i>)	1.2	0.0-15.0	19	
TWINFLOWER (<i>Linnaea borealis</i>)	1.0	0.0-5.0	52	
Low Forb (< 30 cm)				
BUNCHBERRY (<i>Cornus canadensis</i>)	2.6	0.0-20.0	52	
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	1.1	0.0-5.0	57	
Moss				
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	36.2	0.0-97.0	95	
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	21.2	0.0-95.0	81	
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	10.5	0.0-35.0	57	
Lichen				
REINDEER LICHEN (<i>Cladina mitis</i>)	6.8	0.0-40.0	71	
REINDEER LICHEN (<i>Cladina rangiferina</i>)	3.7	0.0-60.0	24	
				Soil Variables Soil Drainage: Imperfectly drained (10), Very poorly drained (4), Poorly drained (3), Moderately well drained (3) Soil Subgroup: GLEYED GRAY LUVISOL (4), ORTHIC LUVIC GLEYSOL (3), BRUNISOLIC GRAY LUVISOL (2), ORTHIC GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED EUTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), ORTHIC GLEYSOL (1), FIBRIC ORGANIC CRYOSOL (1) Surface Texture: Fibric (3), Loam (3), Sand (2), Sandy clay (1), Sandy clay loam (1), Silty clay loam (1), Sandy loam (1), Mesic (1), Loamy sand (1), Medium sandy loam (1), Fine sandy loam (1) Effective Texture: Sandy clay loam (3), Clay loam (3), Sand (2), Sandy clay (2), Fibric (2), Humic (1), Silty clay (1), Sandy loam (1), Loamy sand (1) Depth to Mottles/Gley: 26 - 50 (1), 0 - 25 (1) Organic Thickness: 0 - 5 cm (16), 60 - 79 cm (2), >= 80 cm (1), 40 - 59 cm (1), 16 - 25 cm (1) Parent Material: Glaciofluvial (9), Morainal (4), Fluvial (2), Undifferentiated Organic (2), Glaciolacustrine (2), Lacustrine (1), Lacustromoraine (1), Eolian (1), Fen (1) Soil Type: Moist/Fine (7), Organic (3), Moist/Sandy (2), Wet/Peaty (2), Moist/Peaty (1), Moist/Coarse (1) Humus Form FIBRIMOR (6), FIBRIHUMIMOR (1), HUMIFIBRIMOR (1)
				LFH Thickness Mean Min Max Count cm: 13.00 6.00 36.00 7

CMD39 Sb-Pj/Feather moss (n=10)

(*Picea mariana*-*Pinus banksiana*/*Pleurozium schreberi*)

This community type is characterized by dense coniferous forest cover and sparse understory cover. The sites that this community type occur on are moist in the spring and dry out, somewhat, later in the growing season. According to Corns and Annas (1986), these forests are rare due to the high fire frequency. This ecosite generally has a subhygric moisture regime and relatively acidic surface soil conditions.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: g Labrador tea-subhygric(subhygric/poor)

Ecosite Phase: g1 Labrador tea-subhygric Sb-Pj

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables										
	Mean	Range													
Overstory Tree					Ecological Status Score: 25										
BLACK SPRUCE (<i>Picea mariana</i>)	25.6	0.0-65.0	70		Moisture Regime: Subhygric (moderately moist) (5), Mesic (fresh) (3), Hydric (wet) (2)										
JACK PINE (<i>Pinus banksiana</i>)	4.2	0.0-35.0	20		Nutrient Regime: Submesotrophic (poor) (6), Mesotrophic (medium) (1)										
Understory Tree					Elevation (range): 611 (351-815) M										
BLACK SPRUCE (<i>Picea mariana</i>)	4.8	0.0-20.0	60		Slope (%): 0 - 0.49 (5), 0.5 - 2.49 (3)										
Medium Shrub (0.5 to 2 m)					Aspect: Level (2), Northerly (1), Southerly (1)										
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	3.0	0.0-20.0	40		Topographic Position: Level (3), Lower Slope (1)										
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	1.7	0.0-10.0	50		Soil Variables										
PRICKLY ROSE (<i>Rosa acicularis</i>)	1.2	0.0-3.0	70		Soil Drainage: Imperfectly drained (4), Well drained (2), Very poorly drained (2), Moderately well drained (1)										
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	1.1	0.0-2.0	90		Soil Subgroup: GLEYED GRAY LUVISOL (2), ORTHIC LUVIC GLEYSOL (2), GLEYED BRUNISOLIC GRAY LUVISOL (1), ORTHIC GLEYSOL (1), BRUNISOLIC GRAY LUVISOL (1)										
TWINFLOWER (<i>Linnaea borealis</i>)	1.1	0.0-3.0	60		Surface Texture: Loamy sand (1), Sand (1), Sandy clay loam (1), Silty clay loam (1), Silt loam (1)										
Low Forb (< 30 cm)					Effective Texture: Silty clay (2), Clay (1), Clay loam (1), Sandy clay (1)										
BUNCHBERRY (<i>Cornus canadensis</i>)	2.6	0.0-8.0	80		Depth to Mottles/Gley: 0 - 25 (2)										
Moss					Organic Thickness: 0 - 5 cm (10)										
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	36.9	0.0-85.0	80		Parent Material: Morainal (4), Lacustrine (2), Eolian (2), Glaciofluvial (2), Rock (1), Glaciolacustrine (1)										
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	22.1	1.0-60.0	100		Soil Type: Moist/Fine (4), Moist/Peaty (1)										
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	6.5	0.0-30.0	50		Humus Form FIBRIMOR (2), FIBRIHUMIMOR (2)										
Lichen					LFH Thickness										
REINDEER LICHEN (<i>Cladina mitis</i>)	3.2	0.0-19.0	50		<table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>13.00</td> <td>4.00</td> <td>21.00</td> <td>5</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	13.00	4.00	21.00	5
	Mean	Min	Max	Count											
cm:	13.00	4.00	21.00	5											

g2 Labrador tea-subhygric shrubland (n=0)

Natural Subregion: Central Mixedwood

Ecosite: g Labrador tea-subhygric(subhygric/poor)

Ecosection: CM Central Mixedwood

General Description

A number of ecological site phases currently have no data. These ecological site phases have been created as place holders because they were described in adjacent subregions.

Characteristic Species

Environmental Variables

Moisture Regime:

Nutrient Regime:

Elevation (range):

Slope (%):

Aspect:

Topographic Position:

Soil Variables

Soil Drainage:

Soil Subgroup:

Surface Texture:

Effective Texture:

Depth to Mottles/Gley:

Organic Thickness:

Parent Material:

Soil Type:

Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

h Labrador tea/horsetail(hygric/medium) (n=34)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The Labrador tea/horsetail ecosite is wet and commonly has a medium to rich nutrient regime. These sites are commonly found in lower topographic positions on level glaciolacustrine or till parent materials. With wet substrate conditions, Gleysolic soils are common and organic matter tends to accumulate. The Labrador tea/horsetail ecosite, as the name suggests, is intermediate in species composition and nutrient regime between the Labrador tea-subhygric ecosite (g) and the horsetail ecosite (f). Along with Labrador tea, horsetails commonly form a blanket over the forest floor.



Successional Relationships

This ecosite has only one phase and community that represent an edaphic climax for the Labrador tea/horsetail ecosite. These sites are wet and can become difficult to manage once the tree canopy is removed and the water table rises. After disturbance, they are commonly colonized by hydrophytic species such as willows, marsh reed grass, and sedges.

Indicator Species

Tree

WHITE BIRCH
Betula papyrifera
WHITE SPRUCE
Picea glauca
BLACK SPRUCE
Picea mariana

Shrub

SALIX SPECIES
Salix
COMMON LABRADOR TEA
Ledum groenlandicum

Forb

COMMON HORSETAIL
Equisetum arvense
WOODLAND HORSETAIL
Equisetum sylvaticum

Moss and Liverwort

STAIR-STEP MOSS
Hylocomium splendens
SCHREBER'S MOSS
Pleurozium schreberi

Site Index at 50 Years	Height (m)	Variation (m)	Count
WHITE SPRUCE <i>(Picea glauca)</i>	12.90	1.00	0
TAMARACK <i>(Larix laricina)</i>	17.90	0.40	0
BLACK SPRUCE <i>(Picea mariana)</i>	9.50	0.70	0

Environmental Variables

Moisture Regime: Hygric (moist) (11), Subhygric (moderately moist) (11), Subhydryc (moderately wet) (7), Hydryc (wet) (3)

Nutrient Regime: Submesotrophic (poor) (12), Pernesotrophic (rich) (11), Mesotrophic (medium) (10), Oligotrophic (very poor) (1)

Elevation (range): 580 (290-780) M

Slope (%): level (18), nearly level (10), very gentle slope (1), moderate slope (1)

Aspect: Level (15), Easterly (4), Westerly (3), Northerly (2), Southerly (1)

Topographic Position: Level (17), Depression (7), Lower Slope (3), Upper Slope (2)

Soil Variables

Soil Drainage: Poorly drained (16), Imperfectly drained (10), Very poorly drained (4), Moderately well drained (2), Well drained (1)

Soil Subgroup: ORTHIC LUVIC GLEYSOL (4), ORTHIC GLEYSOL (3), ORTHIC HUMIC GLEYSOL (3), ORTHIC REGOSOL (2), REGO GLEYSOL (2), REGO HUMIC GLEYSOL (2), FIBRIC ORGANIC CRYOSOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), MESIC ORGANIC CRYOSOL (1), ORTHIC EUTRIC BRUNISOL (1), ORTHIC GRAY LUVISOL (1)

Surface Texture: Fibric (4), Silty clay loam (4), Silt loam (3), Mesic (3), Clay loam (2), Clay (1), Humic (1), Sand (1), Sandy loam (1), Silt (1), Silty clay (1)

Effective Texture: Clay (4), Mesic (3), Silty clay (3), Silty clay loam (2), Humic (2), Silt (2), Silt loam (1), Clay loam (1), Fibric (1), Sand (1), Sandy clay loam (1), Sandy loam (1)

Depth to Mottles/Gley: 0 - 25 (2), 26 - 50 (1), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (21), 40 - 59 cm (3), 60 - 79 cm (3), 6 - 15 cm (1), 26 - 39 cm (1)

Parent Material: Glaciolacustrine (10), Lacustrine (7), Morainal (5), Fluvial (4), Glaciofluvial (3), Undifferentiated Organic (2), Bog (1), Fen (1), Rock (1), Swamp (1), Lacustromoraine (1)

Soil Type: Moist/Fine (6), Organic (6), Wet/Peaty (4), Wet/Mineral (2), Moist/Peaty (1), Moist/Sandy (1), Moist/Silty-Loamy (1)

Humus Form FIBRIC PEATYMOR (5), PEATYMOR (2), FIBRIHUMIMOR (1), HUMIFIBRIMOR (1), MESIC PEATYMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	13.50	5.00	30.00	12

h1 Labrador tea/horsetail - Sw-Sb (n=28)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)

Characteristic Species

Tree

- [24.0]WHITE SPRUCE*
Picea glauca
- [16.5]BLACK SPRUCE*
Picea mariana

Shrub

- [16.9]COMMON LABRADOR TEA*
Ledum groenlandicum
- [6.3]BOG CRANBERRY
Vaccinium vitis-idaea
- [3.2]TWINFLOWER
Linnaea borealis
- [1.8]PRICKLY ROSE
Rosa acicularis
- [0.8]CLOUDBERRY
Rubus chamaemorus

Forb

- [8.7]COMMON HORSETAIL*
Equisetum arvense
- [2.8]WOODLAND HORSETAIL*
Equisetum sylvaticum
- [1.9]DWARF SCOURING-RUSH
Equisetum scirpoides
- [1.7]MEADOW HORSETAIL
Equisetum pratense
- [1.3]BUNCHBERRY
Cornus canadensis

Lichen

- [3.3]REINDEER LICHEN
Cladina mitis

Moss and Liverwort

- [40.2]STAIR-STEP MOSS*
Hylocomium splendens
- [29.2]SCHREBER'S MOSS*
Pleurozium schreberi
- [8.7]KNIGHT'S PLUME MOSS
Ptilium crista-castrensis
- [2.5]TUFTED MOSS
Aulacomnium palustre

Graminoid

- [1.3]BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Hygric (moist) (10), Subhygric (moderately moist) (7), Subhydric (moderately wet) (6), Hydric (wet) (3)
 Nutrient Regime: Permesotrophic (rich) (11), Submesotrophic (poor) (8), Mesotrophic (medium) (8), Oligotrophic (very poor) (1)
 Elevation (range): 499 (290-780) M
 Slope (%): level (14), nearly level (9), very gentle slope (1)
 Aspect: Level (11), Easterly (3), Westerly (2), Northerly (2), Southerly (1)
 Topographic Position: Level (17), Lower Slope (3), Depression (2), Upper Slope (1)

Soil Variables

Soil Drainage: Poorly drained (13), Imperfectly drained (8), Very poorly drained (4), Well drained (1), Moderately well drained (1)
 Soil Subgroup: ORTHIC LUVIC GLEYSOL (4), ORTHIC GLEYSOL (3), ORTHIC HUMIC GLEYSOL (3), REGO HUMIC GLEYSOL (2), REGO GLEYSOL (2), ORTHIC REGOSOL (2), FIBRIC ORGANIC CRYOSOL (1), MESIC ORGANIC CRYOSOL (1), ORTHIC GRAY LUVISOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1)
 Surface Texture: Fibric (4), Silty clay loam (4), Silt loam (3), Mesic (3), Clay loam (2), Silt (1), Silty clay (1), Sand (1), Sandy loam (1), Humic (1), Clay (1)
 Effective Texture: Clay (4), Silty clay (3), Mesic (3), Humic (2), Silt (2), Silty clay loam (2), Silt loam (1), Sandy loam (1), Clay loam (1), Fibric (1), Sandy clay loam (1), Sand (1)
 Depth to Mottles/Gley: 0 - 25 (2), 51 - 100 (1), 26 - 50 (1)
 Organic Thickness: 0 - 5 cm (20), 40 - 59 cm (3), 60 - 79 cm (3), 26 - 39 cm (1), 6 - 15 cm (1)
 Parent Material: Glaciolacustrine (10), Lacustrine (7), Morainal (5), Fluvial (4), Glaciofluvial (3), Undifferentiated Organic (2), Rock (1), Swamp (1), Bog (1), Fen (1), Lacustromoraine (1)
 Soil Type: Moist/Fine (6), Organic (6), Wet/Peaty (4), Wet/Mineral (2), Moist/Silty-Loamy (1), Moist/Sandy (1), Moist/Peaty (1)
 Humus Form FIBRIC PEATYMOR (5), PEATYMOR (2), HUMIFIBRIMOR (1), MESIC PEATYMOR (1), FIBRIHUMIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	13.50	5.00	30.00	12

CMD17 Sw-Sb/Labrador tea/Feather moss (n=14)

(*Picea glauca*-*Picea mariana*/*Ledum groenlandicum*/*Pleurozium schreberi*)

This PC is on an ecosite that is intermediate between the poor moderately moist 'g' and rich wet 'k' ecosite. The ecosite generally occurs on gleysolic soils with some organic matter build up (Landwise, 2012). Thus it has an overlapping species assemblage. The presence of Labrador tea is indicative of the poorer acidic soil conditions.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)
Ecosite Phase: h1 Labrador tea/horsetail - Sw-Sb

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Subhygric (moderately moist) (6), Hygric (moist) (4), Hydric (wet) (2), Subhydric (moderately wet) (1) Nutrient Regime: Permesotrophic (rich) (7), Mesotrophic (medium) (4), Submesotrophic (poor) (3) Elevation (range): 545 (360-780) M Slope (%): 0 - 0.49 (7), 0.5 - 2.49 (5) Aspect: Level (4), Northerly (1), Easterly (1), Southerly (1), Westerly (1) Topographic Position: Level (8), Lower Slope (2), Depression (1)
WHITE SPRUCE (<i>Picea glauca</i>)	13.3	0.0-45.0	71		
BLACK SPRUCE (<i>Picea mariana</i>)	8.3	0.0-30.0	57		
Understory Tree					
BLACK SPRUCE (<i>Picea mariana</i>)	10.2	0.0-45.0	64		
WHITE SPRUCE (<i>Picea glauca</i>)	7.2	0.0-42.0	64		
Medium Shrub (0.5 to 2 m)					
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	9.2	0.0-40.0	86		
PRICKLY ROSE (<i>Rosa acicularis</i>)	3.7	0.0-20.0	71		
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	2.4	0.0-18.0	64		
TWINFLOWER (<i>Linnaea borealis</i>)	2.1	0.0-18.0	57		
Low Shrub (< 0.5m)					
CLOUDBERRY (<i>Rubus chamaemorus</i>)	1.7	0.0-18.0	21		
Tall Forb (>= 30 cm)					
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	3.5	0.0-29.0	50		
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	1.0	0.0-8.0	43		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	2.6	0.0-18.0	64		
PALMATE-LEAVED COLTSFOOT (<i>Petasites palmatus</i>)	0.9	0.0-6.0	36		
Graminoid					
HAIRY WILD RYE (<i>Elymus innovatus</i>)	1.4	0.0-15.0	14		
Moss					
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	36.5	0.0-70.0	93		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	25.2	0.0-85.0	93		
KNIGHT'S PLUME MOSS (<i>Ptilium crista-castrensis</i>)	17.4	0.0-90.0	64		
Lichen					
REINDEER LICHEN (<i>Cladonia mitis</i>)	6.7	0.0-90.0	21		

Soil Variables

Soil Drainage: Poorly drained (7), Imperfectly drained (4), Very poorly drained (1), Well drained (1), Moderately well drained (1)
 Soil Subgroup: ORTHIC LUVIC GLEYSOL (4), REGO GLEYSOL (2), ORTHIC GRAY LUVISOL (1), ORTHIC HUMIC GLEYSOL (1), REGO HUMIC GLEYSOL (1), GLEYED ELUVIATED DYSTRIC BRUNISOL (1), GLEYED ELUVIATED EUTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (1), ORTHIC GLEYSOL (1), FIBRIC ORGANIC CRYOSOL (1)
 Surface Texture: Silty clay loam (3), Silt loam (3), Clay loam (2), Sand (1), Silty clay (1), Fibric (1), Clay (1)
 Effective Texture: Clay (3), Silty clay (3), Silty clay loam (2), Silt loam (1), Fibric (1), Clay loam (1), Sand (1)
 Depth to Mottles/Gley: 0 - 25 (2), 26 - 50 (1)
 Organic Thickness: 0 - 5 cm (13), 6 - 15 cm (1)
 Parent Material: Glaciolacustrine (5), Lacustrine (3), Morainal (3), Fluvial (2), Bog (1), Glaciofluvial (1), Lacustromoraine (1), Undifferentiated Organic (1), Rock (1)
 Soil Type: Moist/Fine (6), Wet/Peaty (2), Wet/Mineral (2), Moist/Sandy (1), Organic (1)
 Humus Form FIBRIC PEATYMOR (3), FIBRIHUMIMOR (1), PEATYMOR (1), HUMIFIBRIMOR (1)

LFH Thickness	Mean	Min	Max	Count
cm:	13.00	5.00	30.00	9

CMD40 Sw-Sb/Labrador tea/Horsetail (n=14)

(*Picea glauca*-*Picea mariana*/*Ledum groenlandicum*/*Equisetum arvense*)

This community type occurs in association with lowland bog areas. The water table under this community type is high during the entire growing season, but flooding is rare. Succession within this community type is to white spruce but is inhibited due to poor drainage, acidic soils, and oligotrophic conditions (Beckingham 1993). Therefore, this community type is considered to be successional mature.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)
Ecosite Phase: h1 Labrador tea/horsetail - Sw-Sb

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables									
	Mean	Range												
Overstory Tree					Ecological Status Score: 25 Moisture Regime: Hygric (moist) (6), Subhydric (moderately wet) (5), Subhygric (moderately moist) (1), Hydric (wet) (1) Nutrient Regime: Submesotrophic (poor) (5), Mesotrophic (medium) (4), Permesotrophic (rich) (4), Oligotrophic (very poor) (1) Elevation (range): 454 (290-632) M Slope (%): 0 - 0.49 (7), 0.5 - 2.49 (4), 2.5 - 5.99 (1) Aspect: Level (7), Easterly (2), Westerly (1), Northerly (1) Topographic Position: Level (9), Lower Slope (1), Upper Slope (1), Depression (1)									
WHITE SPRUCE (<i>Picea glauca</i>)	21.5	0.0-63.0	86											
BLACK SPRUCE (<i>Picea mariana</i>)	7.5	0.0-30.0	50											
Understory Tree														
BLACK SPRUCE (<i>Picea mariana</i>)	7.1	0.0-35.0	64											
WHITE SPRUCE (<i>Picea glauca</i>)	6.0	0.0-18.0	57											
Medium Shrub (0.5 to 2 m)														
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	24.7	3.0-60.0	100											
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	10.2	0.0-30.0	86											
TWINFLOWER (<i>Linnaea borealis</i>)	4.3	0.0-25.0	50											
Tall Forb (>= 30 cm)														
COMMON HORSETAIL (<i>Equisetum arvense</i>)	17.5	0.0-63.0	79											
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	2.5	0.0-15.0	29											
WOODLAND HORSETAIL (<i>Equisetum sylvaticum</i>)	2.1	0.0-20.0	14											
Low Forb (< 30 cm)														
DWARF SCOURING-RUSH (<i>Equisetum scirpoides</i>)	3.8	0.0-29.0	43											
Graminoid														
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.7	0.0-20.0	50											
SHEATHED SEDGE (<i>Carex vaginata</i>)	1.5	0.0-18.0	14											
Moss														
STAIR-STEP MOSS (<i>Hylocomium splendens</i>)	43.9	2.0-95.0	100											
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	33.2	0.0-85.0	79											
TUFTED MOSS (<i>Aulacomnium palustre</i>)	5.0	0.0-50.0	29											
				Soil Variables										
				Soil Drainage: Poorly drained (6), Imperfectly drained (4), Very poorly drained (3) Soil Subgroup: ORTHIC GLEYSOL (2), ORTHIC HUMIC GLEYSOL (2), ORTHIC REGOSOL (2), REGO HUMIC GLEYSOL (1), MESIC ORGANIC CRYOSOL (1) Surface Texture: Fibric (3), Mesic (3), Humic (1), Silt (1), Silty clay loam (1), Sandy loam (1) Effective Texture: Mesic (3), Silt (2), Humic (2), Sandy loam (1), Clay (1), Sandy clay loam (1) Depth to Mottles/Gley: 51 - 100 (1) Organic Thickness: 0 - 5 cm (7), 60 - 79 cm (3), 40 - 59 cm (3), 26 - 39 cm (1) Parent Material: Glaciolacustrine (5), Lacustrine (4), Fluvial (2), Glaciofluvial (2), Morainal (2), Fen (1), Undifferentiated Organic (1), Swamp (1) Soil Type: Organic (5), Wet/Peaty (2), Moist/Silty-Loamy (1), Moist/Peaty (1) Humus Form FIBRIC PEATYMOR (2), MESIC PEATYMOR (1), PEATYMOR (1)										
				LFH Thickness										
				<table border="1"> <thead> <tr> <th></th> <th>Mean</th> <th>Min</th> <th>Max</th> <th>Count</th> </tr> </thead> <tbody> <tr> <td>cm:</td> <td>14.00</td> <td>5.00</td> <td>30.00</td> <td>3</td> </tr> </tbody> </table>		Mean	Min	Max	Count	cm:	14.00	5.00	30.00	3
	Mean	Min	Max	Count										
cm:	14.00	5.00	30.00	3										

h2 Labrador tea/horsetail - shrubland (n=2)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)

Characteristic Species

Tree

- [11.4]BLACK SPRUCE
Picea mariana
- [5.5]WHITE BIRCH
Betula papyrifera
- [5.0]WHITE SPRUCE
Picea glauca
- [1.5]TAMARACK
Larix laricina

Shrub

- [24.0]COMMON LABRADOR TEA
Ledum groenlandicum
- [14.0]SALIX SPECIES*
Salix
- [10.5]COMMON BLUEBERRY
Vaccinium myrtilloides
- [7.0]TWINFLOWER
Linnaea borealis
- [3.9]BOG CRANBERRY
Vaccinium vitis-idaea
- [3.5]DWARF BIRCH
Betula pumila
- [1.5]RED-OSIER DOGWOOD
Cornus stolonifera
- [1.0]WILD GOOSEBERRY
Ribes hirtellum

Forb

- [3.2]MEADOW HORSETAIL
Equisetum pratense
- [1.6]LINDLEY'S ASTER
Aster ciliolatus
- [1.5]DWARF SCOURING-RUSH
Equisetum scirpoides
- [0.5]COMMON FIREWEED
Epilobium angustifolium

Graminoid

- [0.9]BLUEJOINT
Calamagrostis canadensis

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (2)
 Nutrient Regime: Submesotrophic (poor) (2)
 Elevation (range): 640 (606-673) M
 Slope (%): moderate slope (1), level (1)
 Aspect: Level (1), Westerly (1)
 Topographic Position: Upper Slope (1), Depression (1)

Soil Variables

Soil Drainage: Imperfectly drained (1), Moderately well drained (1)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness:
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness

	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMA29 Willow-Labrador tea/Moss (n=2)

(*Salix spp-Ledum groenlandicum/Moss*)

This PC has an intermediate nutrient regime between the poor Labrador tea (g ecosite) and the rich horsetail (f ecosite) ecosite. It is distinguishable from a 'g' ecosite by having significant cover of species usually associated with a rich nutrient site (e.g. willow, Ribes spp, tamarack (larch)). It also has plants usually associated with a poor nutrient site (e.g. Vaccinium spp, Labrador tea, black spruce).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)

Ecosite Phase: h2 Labrador tea/horsetail - shrubland

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables				
	Mean	Range							
Overstory Tree					Ecological Status Score: 40				
BLACK SPRUCE (<i>Picea mariana</i>)	7.5	0.0-15.0		50	Moisture Regime: Subhygric (moderately moist) (2)				
Understory Tree					Nutrient Regime: Submesotrophic (poor) (2)				
BLACK SPRUCE (<i>Picea mariana</i>)	4.9	0.0-9.9		50	Elevation (range): 640 (606-673) M				
Tall Shrub (2 to 5m)					Slope (%): 0 - 0.49 (1), 10 - 15.99 (1)				
SALIX SPECIES (<i>Salix</i>)	14.0	8.0-20.0		100	Aspect: Level (1), Westerly (1)				
WHITE BIRCH (<i>Betula papyrifera</i>)	5.5	1.0-10.0		100	Topographic Position: Upper Slope (1), Depression (1)				
TAMARACK (<i>Larix laricina</i>)	1.5	0.0-3.0		50	Soil Variables				
Medium Shrub (0.5 to 2 m)					Soil Drainage: Moderately well drained (1), Imperfectly drained (1)				
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	24.0	19.0-29.0		100	Soil Subgroup:				
COMMON BLUEBERRY (<i>Vaccinium myrtilloides</i>)	10.5	6.0-15.0		100	Surface Texture:				
TWINFLOWER (<i>Linnaea borealis</i>)	7.0	0.0-14.0		50	Effective Texture:				
WHITE SPRUCE (<i>Picea glauca</i>)	5.0	0.0-10.0		50	Depth to Mottles/Gley:				
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	3.9	1.9-6.0		100	Organic Thickness:				
DWARF BIRCH (<i>Betula pumila</i>)	3.5	0.0-7.0		50	Parent Material:				
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	1.5	0.0-3.0		50	Soil Type:				
ASPEN (<i>Populus tremuloides</i>)	1.5	0.0-3.0		50	Humus Form				
WILD GOOSEBERRY (<i>Ribes hirtellum</i>)	1.0	0.0-2.0		50	LFH Thickness				
SSP OF DWARF RASPBERRY (<i>Rubus arcticus ssp. acaulis</i>)	0.3	0.0-0.6		50					
Tall Forb (>= 30 cm)					Mean	Min	Max	Count	
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	3.2	0.0-6.5		50	cm:	0.00	0.00	0.00	0
LINDLEY'S ASTER (<i>Aster ciliolatus</i>)	1.6	1.3-2.0		100					
COMMON FIREWEED (<i>Epilobium angustifolium</i>)	0.5	0.0-1.0		50					
Low Forb (< 30 cm)									
DWARF SCOURING-RUSH (<i>Equisetum scirpoides</i>)	1.5	0.0-3.0		50					
Graminoid									
BLUEJOINT (<i>Calamagrostis canadensis</i>)	0.9	0.0-1.9		50					
Moss									
UNDIFFERENTIATED MOSS - ALL GENERA (Moss)	47.5	0.0-95.0		50					

h3 Labrador tea/horsetail - deciduous (n=4)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)

Characteristic Species

Tree

- [29.9]WHITE BIRCH*
Betula papyrifera
- [18.7]BLACK SPRUCE
Picea mariana
- [5.0]ASPEN
Populus tremuloides
- [1.2]TAMARACK
Larix laricina

Shrub

- [22.4]COMMON LABRADOR TEA
Ledum groenlandicum
- [7.6]RIVER ALDER
Alnus tenuifolia
- [6.0]WILD RED RASPBERRY
Rubus idaeus
- [2.2]BOG CRANBERRY
Vaccinium vitis-idaea
- [1.7]CLOUDBERRY
Rubus chamaemorus

Forb

- [2.5]WILD SARSAPARILLA
Aralia nudicaulis
- [1.3]BUNCHBERRY
Cornus canadensis
- [1.0]COMMON HORSETAIL
Equisetum arvense

Environmental Variables

Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1), Subhydric (moderately wet) (1)
 Nutrient Regime: Mesotrophic (medium) (2), Submesotrophic (poor) (2)
 Elevation (range): 684 (657-700) M
 Slope (%): level (3), nearly level (1)
 Aspect: Level (3), Easterly (1)
 Topographic Position: Depression (4)

Soil Variables

Soil Drainage: Poorly drained (3), Imperfectly drained (1)
 Soil Subgroup:
 Surface Texture:
 Effective Texture:
 Depth to Mottles/Gley:
 Organic Thickness: 0 - 5 cm (1)
 Parent Material:
 Soil Type:
 Humus Form

LFH Thickness	Mean	Min	Max	Count
cm:	0.00	0.00	0.00	0

CMD8 Bw-Sb/Labrador tea (n=4)

(*Betula papyrifera*-*Picea mariana*/*Ledum groenlandicum*)

This PC has an intermediate nutrient regime between the poor Labrador tea (g ecosite) and the rich horsetail (f ecosite) ecosites. It is distinguishable from a 'g' ecosite by having significant cover of species usually associated with a rich nutrient site (e.g. willow, fireweed, aspen). It also has plants usually associated with poor nutrient site (e.g. *Vaccinium* spp, Labrador tea, black spruce). It is successional more advanced having significant tree cover from conifer spp.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: h Labrador tea/horsetail(hygric/medium)

Ecosite Phase: h3 Labrador tea/horsetail - deciduous

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
WHITE BIRCH (<i>Betula papyrifera</i>)	20.0	0.0-40.0	50		Moisture Regime: Subhygric (moderately moist) (2), Hygric (moist) (1), Subhydryc (moderately wet) (1)
ASPEN (<i>Populus tremuloides</i>)	5.0	0.0-15.0	50		Nutrient Regime: Submesotrophic (poor) (2), Mesotrophic (medium) (2)
BLACK SPRUCE (<i>Picea mariana</i>)	2.5	0.0-10.0	25		Elevation (range): 684 (657-700) M
TAMARACK (<i>Larix laricina</i>)	1.2	0.0-5.0	25		Slope (%): 0 - 0.49 (3), 0.5 - 2.49 (1)
Understory Tree					Aspect: Level (3), Easterly (1)
BLACK SPRUCE (<i>Picea mariana</i>)	6.2	0.0-25.0	25		Topographic Position: Depression (4)
Tall Shrub (2 to 5m)					Soil Variables
BLACK SPRUCE (<i>Picea mariana</i>)	10.0	0.0-25.0	75		Soil Drainage: Poorly drained (3), Imperfectly drained (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	9.9	0.8-15.0	100		Soil Subgroup:
RIVER ALDER (<i>Alnus tenuifolia</i>)	7.6	0.0-20.0	50		Surface Texture:
Medium Shrub (0.5 to 2 m)					Effective Texture:
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	22.4	4.0-56.0	100		Depth to Mottles/Gley:
WILD RED RASPBERRY (<i>Rubus idaeus</i>)	6.0	0.0-24.0	50		Organic Thickness: 0 - 5 cm (1)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	2.2	1.0-5.1	100		Parent Material:
CLOUDBERRY (<i>Rubus chamaemorus</i>)	1.7	0.0-6.0	50		Soil Type:
Tall Forb (>= 30 cm)					Humus Form
WILD SARSAPARILLA (<i>Aralia nudicaulis</i>)	2.5	0.0-8.0	50		
COMMON HORSETAIL (<i>Equisetum arvense</i>)	1.0	0.0-4.3	25		
Low Forb (< 30 cm)					
BUNCHBERRY (<i>Cornus canadensis</i>)	1.3	0.0-5.4	25		
					LFH Thickness
					Mean
					Min
					Max
					Count
				cm:	0.00
					0.00
					0.00
					0

i bog(subhydric/very poor) (n=70)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The bog ecosite commonly has organic soils consisting of slowly decomposing peat moss. They are poor to very poorly drained and have a very poor to poor nutrient regime. This ecosite occupies level and depressional areas where water tends to be stagnant and impeded drainage or high water tables enhance the accumulation of organic matter. Stunted black spruce form a sparse canopy on the treed phase (i1) of the bog ecosite.



Successional Relationships

The bog ecosite is an edaphic climax that is maintained by water tables. The hydrarch succession to the bog ecosite is extremely slow.

Indicator Species

Tree

BLACK SPRUCE
Picea mariana

Shrub

COMMON LABRADOR TEA
Ledum groenlandicum

LEATHERLEAF
Chamaedaphne calyculata

Moss and Liverwort

PEAT MOSS
Sphagnum angustifolium

RUSTY PEAT MOSS
Sphagnum fuscum

Graminoid

CREEPING SPIKE-RUSH
Eleocharis palustris

THIN-LEAVED COTTON GRASS
Eriophorum viridi-carinatum

WATER SEDGE
Carex aquatilis

Site Index at 50 Years

	Height (m)	Variation (m)	Count
TAMARACK (<i>Larix laricina</i>)	8.30	1.10	0
BLACK SPRUCE (<i>Picea mariana</i>)	10.40	1.30	0

Environmental Variables

Moisture Regime: Subhydric (moderately wet) (31), Hydric (wet) (23), Hygric (moist) (13), Subhygric (moderately moist) (1)

Nutrient Regime: Oligotrophic (very poor) (23), Submesotrophic (poor) (21), Mesotrophic (medium) (3), Eutrophic (very rich) (1), Permesotrophic (rich) (1)

Elevation (range): 530 (295-950) M

Slope (%): level (35), nearly level (9), very gentle slope (1), gentle slope (1)

Aspect: Level (26), Northerly (2), Southerly (1), Easterly (1)

Topographic Position: Depression (23), Level (13), Lower Slope (1), Toe (1), Crest (1)

Soil Variables

Soil Drainage: Very poorly drained (47), Poorly drained (19), Imperfectly drained (3)

Soil Subgroup: TYPIC FIBRISOL (13), TYPIC MESISOL (7), FIBRIC ORGANIC CRYOSOL (6), TERRIC MESISOL (4), TERRIC MESIC FIBRISOL (4), TERRIC FIBRIC MESISOL (3), REGO GLEYSOL (3), MESIC FIBRISOL (2), ORTHIC GLEYSOL (2), TERRIC FIBRISOL (1), TERRIC HUMISOL (1), FIBRIC MESISOL (1), TERRIC FIBRIC HUMISOL (1)

Surface Texture: Fibric (34), Mesic (6), Clay (1), Clay loam (1)

Effective Texture: Fibric (22), Mesic (13), Humic (4), Clay (2), Silt loam (1)

Depth to Mottles/Gley: 0 - 25 (1)

Organic Thickness: 0 - 5 cm (28), >= 80 cm (18), 60 - 79 cm (15), 26 - 39 cm (2), 16 - 25 cm (1)

Parent Material: Undifferentiated Organic (34), Bog (8), Morainal (5), Glaciolacustrine (4), Lacustrine (3), Glaciofluvial (3), Swamp (1), Fen (1), Fluvial (1)

Soil Type: Organic (40), Wet/Peaty (2), Wet/Mineral (1)

Humus Form FIBRIC PEATYMOR (8), MESIC PEATYMOR (1)

i1 bog - treed (n=64)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydric/very poor)

Characteristic Species

Tree

- [39.7]BLACK SPRUCE*
Picea mariana

Shrub

- [45.8]COMMON LABRADOR TEA*
Ledum groenlandicum
- [12.9]BOG CRANBERRY
Vaccinium vitis-idaea
- [10.6]CLOUDBERRY
Rubus chamaemorus
- [2.5]LEATHERLEAF*
Chamaedaphne calyculata
- [1.8]SMALL BOG CRANBERRY
Oxycoccus microcarpus
- [1.1]NORTHERN LABRADOR TEA
Ledum palustre

Lichen

- [7.7]REINDEER LICHEN
Cladina mitis
- [2.7]REINDEER LICHEN
Cladina rangiferina

Moss and Liverwort

- [15.2]RUSTY PEAT MOSS*
Sphagnum fuscum
- [14.2]SCHREBER'S MOSS
Pleurozium schreberi
- [6.6]PEAT MOSS*
Sphagnum angustifolium
- [3.7]N/A
Sphagnum nemoreum
- [3.5]MIDWAY PEAT MOSS
Sphagnum magellanicum
- [3.5]PEAT MOSS
Sphagnum warnstorffii

Environmental Variables

Moisture Regime: Subhydric (moderately wet) (31), Hydric (wet) (20), Hygric (moist) (11)

Nutrient Regime: Oligotrophic (very poor) (22), Submesotrophic (poor) (20), Mesotrophic (medium) (3)

Elevation (range): 607 (295-950) M

Slope (%): level (32), nearly level (9), gentle slope (1), very gentle slope (1)

Aspect: Level (24), Northerly (2), Easterly (1), Southerly (1)

Topographic Position: Depression (23), Level (9), Lower Slope (1), Toe (1), Crest (1)

Soil Variables

Soil Drainage: Very poorly drained (42), Poorly drained (18), Imperfectly drained (3)

Soil Subgroup: TYPIC FIBRISOL (13), TYPIC MESISOL (6), FIBRIC ORGANIC CRYOSOL (5), TERRIC MESISOL (4), TERRIC MESIC FIBRISOL (4), REGO GLEYSOL (3), TERRIC FIBRIC MESISOL (3), MESIC FIBRISOL (2), TERRIC FIBRISOL (1), TERRIC HUMISOL (1), TERRIC FIBRIC HUMISOL (1), ORTHIC GLEYSOL (1)

Surface Texture: Fibric (32), Mesic (6), Clay loam (1)

Effective Texture: Fibric (20), Mesic (13), Humic (4), Silt loam (1), Clay (1)

Depth to Mottles/Gley: 0 - 25 (1)

Organic Thickness: 0 - 5 cm (24), >= 80 cm (17), 60 - 79 cm (14), 26 - 39 cm (2), 16 - 25 cm (1)

Parent Material: Undifferentiated Organic (31), Bog (8), Morainal (5), Glaciolacustrine (4), Glaciofluvial (3), Lacustrine (2), Fen (1), Fluvial (1)

Soil Type: Organic (37), Wet/Peaty (2)

Humus Form FIBRIC PEATYMOR (7), MESIC PEATYMOR (1)

CMD9 Sb/Labrador tea/Cloudberry/Peat moss (n=64)

(*Picea mariana*/*Ledum groenlandicum*-*Rubus chamaemorus*/*Sphagnum spp.*)

This PC is found on the bog ecosite described by Beckingham and Archibald (1996). The bog ecosite commonly has organic soils consisting of slowly decomposing peat moss.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydric/very poor)
Ecosite Phase: i1 bog - treed

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25 Moisture Regime: Subhydric (moderately wet) (31), Hydric (wet) (20), Hygric (moist) (11) Nutrient Regime: Oligotrophic (very poor) (22), Submesotrophic (poor) (20), Mesotrophic (medium) (3) Elevation (range): 607 (295-950) M Slope (%): 0 - 0.49 (32), 0.5 - 2.49 (9), 2.5 - 5.99 (1), 6 - 9.99 (1) Aspect: Level (24), Northerly (2), Easterly (1), Southerly (1) Topographic Position: Depression (23), Level (9), Crest (1), Lower Slope (1), Toe (1)
BLACK SPRUCE (<i>Picea mariana</i>)	15.7	0.0-88.0	78	
Understory Tree				
BLACK SPRUCE (<i>Picea mariana</i>)	4.3	0.0-50.0	34	
Medium Shrub (0.5 to 2 m)				
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	45.8	0.0-93.0	95	
BLACK SPRUCE (<i>Picea mariana</i>)	19.7	5.0-63.0	100	
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	12.9	0.0-80.0	94	
LEATHERLEAF (<i>Chamaedaphne calyculata</i>)	2.5	0.0-63.0	22	
SMALL BOG CRANBERRY (<i>Oxycoccus microcarpus</i>)	1.8	0.0-20.0	63	
NORTHERN LABRADOR TEA (<i>Ledum palustre</i>)	1.1	0.0-60.0	3	
Low Shrub (< 0.5m)				
CLOUDBERRY (<i>Rubus chamaemorus</i>)	10.6	0.0-42.0	86	
Moss				
RUSTY PEAT MOSS (<i>Sphagnum fuscum</i>)	15.2	0.0-85.0	55	
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	14.2	0.0-88.0	59	
PEAT MOSS (<i>Sphagnum angustifolium</i>)	6.6	0.0-65.0	25	
N/A (<i>Sphagnum nemoreum</i>)	3.7	0.0-85.0	17	
MIDWAY PEAT MOSS (<i>Sphagnum magellanicum</i>)	3.5	0.0-35.0	20	
PEAT MOSS (<i>Sphagnum warnstorffii</i>)	3.5	0.0-45.0	16	
Lichen				
REINDEER LICHEN (<i>Cladina mitis</i>)	7.7	0.0-89.0	58	
REINDEER LICHEN (<i>Cladina rangiferina</i>)	2.7	0.0-56.0	27	

Soil Variables

Soil Drainage: Very poorly drained (42), Poorly drained (18), Imperfectly drained (3)
 Soil Subgroup: TYPIC FIBRISOL (13), TYPIC MESISOL (6), FIBRIC ORGANIC CRYOSOL (5), TERRIC MESIC FIBRISOL (4), TERRIC MESISOL (4), REGO GLEYSOL (3), TERRIC FIBRIC MESISOL (3), MESIC FIBRISOL (2), TERRIC FIBRISOL (1), TERRIC HUMISOL (1), TERRIC FIBRIC HUMISOL (1), ORTHIC GLEYSOL (1)
 Surface Texture: Fibric (32), Mesic (6), Clay loam (1)
 Effective Texture: Fibric (20), Mesic (13), Humic (4), Clay (1), Silt loam (1)
 Depth to Mottles/Gley: 0 - 25 (1)
 Organic Thickness: 0 - 5 cm (24), >= 80 cm (17), 60 - 79 cm (14), 26 - 39 cm (2), 16 - 25 cm (1)
 Parent Material: Undifferentiated Organic (31), Bog (8), Morainal (5), Glaciolacustrine (4), Glaciofluvial (3), Lacustrine (2), Fen (1), Fluvial (1)
 Soil Type: Organic (37), Wet/Peaty (2)
 Humus Form FIBRIC PEATYMOR (7), MESIC PEATYMOR (1)

i2 bog - shrubby (n=3)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydryc/very poor)

Characteristic Species

Tree

- [18.3]BLACK SPRUCE
Picea mariana

Shrub

- [30.3]COMMON LABRADOR TEA*
Ledum groenlandicum
- [8.3]BOG CRANBERRY
Vaccinium vitis-idaea
- [4.0]LEATHERLEAF*
Chamaedaphne calyculata
- [3.6]CLOUDBERRY
Rubus chamaemorus
- [3.3]BOG ROSEMARY
Andromeda polifolia
- [2.6]SMALL BOG CRANBERRY
Oxycoccus microcarpus
- [1.6]DWARF BIRCH
Betula pumila

Lichen

- [3.3]REINDEER LICHEN
Cladina rangiferina

Moss and Liverwort

- [23.6]PEAT MOSS
Sphagnum warnstorffii
- [18.3]SCHREBER'S MOSS
Pleurozium schreberi
- [18.3]MIDWAY PEAT MOSS
Sphagnum magellanicum
- [8.3]TWISTED BOG MOSS
Sphagnum subsecundum
- [7.0]PEAT MOSS
Sphagnum angustifolium
- [1.6]TUFTED MOSS
Aulacomnium palustre

Graminoid

- [2.3]MUD SEDGE
Carex limosa
- [1.6]TWO-STAMENED SEDGE
Carex diandra

Environmental Variables

Moisture Regime: Hygric (moist) (1), Hydric (wet) (1), Subhygric (moderately moist) (1)

Nutrient Regime: Submesotrophic (poor) (1), Oligotrophic (very poor) (1)

Elevation (range): 486 (410-562) M

Slope (%): level (2)

Aspect: Level (1)

Topographic Position:Level (2)

Soil Variables

Soil Drainage: Very poorly drained (2), Poorly drained (1)

Soil Subgroup: FIBRIC MESISOL (1), FIBRIC ORGANIC CRYOSOL (1)

Surface Texture: Fibric (2)

Effective Texture: Fibric (2)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (1), >= 80 cm (1), 60 - 79 cm (1)

Parent Material: Undifferentiated Organic (2), Swamp (1)

Soil Type: Organic (2)

Humus Form FIBRIC PEATYMOR (1)

CMA41 Labrador tea/Cloudberry/Peat moss (Sb) (n=3)

(*Ledum groenlandicum*/*Rubus chamaemorus*/*Sphagnum* spp. (*Picea mariana*))

CMA41 is a shrubby phase of a bog, because it has plants associated with bog communities (e.g. peat moss species, cloud berry and small bog cranberry). If conditions are favorable for tree growth, black spruce will become prominent changing the plant community to a treed bog (e.g. CMD9).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydric/very poor)

Ecosite Phase: i2 bog - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
BLACK SPRUCE (<i>Picea mariana</i>)	10.3	0.0-30.0	67	Moisture Regime: Subhygric (moderately moist) (1), Hygric (moist) (1), Hydric (wet) (1)
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Oligotrophic (very poor) (1), Submesotrophic (poor) (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	30.3	1.0-50.0	100	Elevation (range): 486 (410-562) M
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	8.3	0.0-15.0	67	Slope (%): 0 - 0.49 (2)
BLACK SPRUCE (<i>Picea mariana</i>)	8.0	1.0-20.0	100	Aspect: Level (1)
LEATHERLEAF (<i>Chamaedaphne calyculata</i>)	4.0	1.0-10.0	100	Topographic Position: Level (2)
BOG ROSEMARY (<i>Andromeda polifolia</i>)	3.3	0.0-10.0	33	Soil Variables
SMALL BOG CRANBERRY (<i>Oxycoccus microcarpus</i>)	2.6	0.0-5.0	67	Soil Drainage: Very poorly drained (2), Poorly drained (1)
DWARF BIRCH (<i>Betula pumila</i>)	1.6	0.0-5.0	33	Soil Subgroup: FIBRIC MESISOL (1), FIBRIC ORGANIC CRYOSOL (1)
Low Shrub (< 0.5m)				Surface Texture: Fibric (2)
CLOUDBERRY (<i>Rubus chamaemorus</i>)	3.6	1.0-7.0	100	Effective Texture: Fibric (2)
Graminoid				Depth to Mottles/Gley:
MUD SEDGE (<i>Carex limosa</i>)	2.3	0.0-7.0	33	Organic Thickness: >= 80 cm (1), 60 - 79 cm (1), 0 - 5 cm (1)
TWO-STAMENED SEDGE (<i>Carex diandra</i>)	1.6	0.0-5.0	33	Parent Material: Undifferentiated Organic (2), Swamp (1)
Moss				Soil Type: Organic (2)
PEAT MOSS (<i>Sphagnum warnstorffii</i>)	23.6	0.0-70.0	67	Humus Form FIBRIC PEATYMOR (1)
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	18.3	0.0-50.0	67	
MIDWAY PEAT MOSS (<i>Sphagnum magellanicum</i>)	18.3	0.0-35.0	67	
TWISTED BOG MOSS (<i>Sphagnum subsecundum</i>)	8.3	0.0-25.0	33	
PEAT MOSS (<i>Sphagnum angustifolium</i>)	7.0	0.0-20.0	67	
TUFTED MOSS (<i>Aulacomnium palustre</i>)	1.6	0.0-5.0	33	
Lichen				
REINDEER LICHEN (<i>Cladina rangiferina</i>)	3.3	0.0-10.0	33	

i3 bog - graminoid (n=3)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydric/very poor)

Characteristic Species

Shrub

[10.0]LEATHERLEAF
Chamaedaphne calyculata

[3.3]BOG ROSEMARY
Andromeda polifolia

Forb

[10.0]WATER SMARTWEED
Polygonum amphibium

[5.0]BUCK-BEAN
Menyanthes trifoliata

[1.6]YELLOW POND-LILY
Nuphar variegatum

[0.6]MARSH CINQUEFOIL
Potentilla palustris

[0.6]MARSH-MARIGOLD
Caltha palustris

[0.3]ROUND-LEAVED SUNDEW
Drosera rotundifolia

Moss and Liverwort

[16.6]PEAT MOSS
Sphagnum angustifolium

[15.0]MIDWAY PEAT MOSS
Sphagnum magellanicum

Graminoid

[16.6]CREEPING SPIKE-RUSH*
Eleocharis palustris

[2.6]SHORT-AWNED FOXTAIL
Alopecurus aequalis

[2.0]WATER SEDGE*
Carex aquatilis

[1.6]THIN-LEAVED COTTON GRASS*
Eriophorum viridi-carinatum

[0.3]PROSTRATE SEDGE
Carex chordorrhiza

[0.3]MUD SEDGE
Carex limosa

Environmental Variables

Moisture Regime: Hydric (wet) (2), Hygric (moist) (1)

Nutrient Regime: Eutrophic (very rich) (1), Permesotrophic (rich) (1)

Elevation (range): 497 (326-668) M

Slope (%): level (1)

Aspect: Level (1)

Topographic Position:Level (2)

Soil Variables

Soil Drainage: Very poorly drained (3)

Soil Subgroup: ORTHIC GLEYSOL (1), TYPIC MESISOL (1)

Surface Texture: Clay (1)

Effective Texture: Clay (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (3)

Parent Material: Undifferentiated Organic (1), Lacustrine (1)

Soil Type: Wet/Mineral (1), Organic (1)

Humus Form

CMA43 Cottongrass/Leatherleaf/Peat moss (n=3)

(*Eriophorum spp./Chamaedaphne calyculata/Sphagnum spp.*)

This community type is found in wetter bogs than the black spruce Labrador tea communities. It is found in areas with poorly drained soils and acidic soil conditions. Peat moss dominates along with a small component of leatherleaf, cottongrass and sedge, but there may be a sparse to well-developed shrub/herb layer including bog rosemary, small bog cranberry, and slender-leaved sundew.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: i bog(subhydric/very poor)

Ecosite Phase: i3 bog - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 40
LEATHERLEAF (<i>Chamaedaphne calyculata</i>)	10.0	0.0-30.0	33	Moisture Regime: Hydric (wet) (2), Hygric (moist) (1)
BOG ROSEMARY (<i>Andromeda polifolia</i>)	3.3	0.0-10.0	33	Nutrient Regime: Permesotrophic (rich) (1), Eutrophic (very rich) (1)
Tall Forb (>= 30 cm)				Elevation (range): 497 (326-668) M
WATER SMARTWEED (<i>Polygonum amphibium</i>)	10.0	0.0-30.0	33	Slope (%): 0 - 0.49 (1)
YELLOW POND-LILY (<i>Nuphar variegatum</i>)	1.6	0.0-5.0	33	Aspect: Level (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	0.6	0.0-2.0	33	Topographic Position: Level (2)
Low Forb (< 30 cm)				Soil Variables
BUCK-BEAN (<i>Menyanthes trifoliata</i>)	5.0	0.0-15.0	33	Soil Drainage: Very poorly drained (3)
MARSH-MARIGOLD (<i>Caltha palustris</i>)	0.6	0.0-2.0	33	Soil Subgroup: ORTHIC GLEYSOL (1), TYPIC MESISOL (1)
ROUND-LEAVED SUNDEW (<i>Drosera rotundifolia</i>)	0.3	0.0-1.0	33	Surface Texture: Clay (1)
Graminoid				Effective Texture: Clay (1)
CREEPING SPIKE-RUSH (<i>Eleocharis palustris</i>)	16.6	0.0-50.0	33	Depth to Mottles/Gley:
SHORT-AWNED FOXTAIL (<i>Alopecurus aequalis</i>)	2.6	0.0-8.0	33	Organic Thickness: 0 - 5 cm (3)
WATER SEDGE (<i>Carex aquatilis</i>)	2.0	0.0-5.0	67	Parent Material: Lacustrine (1), Undifferentiated Organic (1)
THIN-LEAVED COTTON GRASS (<i>Eriophorum viridi-carinatum</i>)	1.6	0.0-5.0	33	Soil Type: Organic (1), Wet/Mineral (1)
PROSTRATE SEDGE (<i>Carex chordorrhiza</i>)	0.3	0.0-1.0	33	Humus Form
MUD SEDGE (<i>Carex limosa</i>)	0.3	0.0-1.0	33	
SHEATHED COTTON GRASS (<i>Eriophorum vaginatum</i>)	0.3	0.0-1.0	33	
Moss				
PEAT MOSS (<i>Sphagnum angustifolium</i>)	16.6	0.0-50.0	33	
MIDWAY PEAT MOSS (<i>Sphagnum magellanicum</i>)	15.0	0.0-45.0	33	

j poor fen(subhydric/medium) (n=52)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The poor fen ecosite is intermediate in nutrient regime between the bog (i) and the rich fen (k) ecosites and as such has species characteristic of both. Drainage is poor to very poor, however, there is some movement of water through the substratum. This ecosite occupies level and depressional areas where impeded drainage or high water tables enhance the accumulation of organic matter. This organic matter consists of a combination of bog-type organic matter (peat moss) and fen-type organic matter (sedges, golden moss, tufted moss, and brown moss). Both the black spruce and/or tamarack that dominate a sparse canopy on the treed phase (j1) of the poor fen ecosite are stunted and generally considered unmerchantable.



Successional Relationships

The hydrarch succession characteristic of this ecosite occurs over a period of hundreds to thousands of years. Thus, recovery from disturbance is extremely slow. Changing hydrologic regimes that can result from disturbances influence the direction and rate of succession. As these systems depend on water flow through them, impeding this flow can result in reduction or elimination of tree cover and changes in the shrub, forb and grass layers.

Indicator Species

Tree

TAMARACK

Larix laricina

BLACK SPRUCE

Picea mariana

Shrub

CLOUDBERRY

Rubus chamaemorus

SALIX SPECIES

Salix

COMMON LABRADOR TEA

Ledum groenlandicum

DWARF BIRCH

Betula pumila

Moss and Liverwort

GOLDEN MOSS

Tomenthypnum nitens

PEAT MOSS

Sphagnum

Graminoid

SEDGE SPECIES

Carex

Environmental Variables

Moisture Regime: Hygric (moist) (23), Subhydric (moderately wet) (21), Hydric (wet) (12), Subhygric (moderately moist) (1)

Nutrient Regime: Submesotrophic (poor) (18), Mesotrophic (medium) (14), Permesotrophic (rich) (9), Oligotrophic (very poor) (6), Eutrophic (very rich) (1)

Elevation (range): 608 (310-800) M

Slope (%): level (24), nearly level (5)

Aspect: Level (14), Southerly (2), Westerly (1)

Topographic Position: Depression (22), Level (13)

Soil Variables

Soil Drainage: Very poorly drained (30), Poorly drained (23), Imperfectly drained (5)

Soil Subgroup: TYPIC FIBRISOL (7), TYPIC MESISOL (4), ORTHIC HUMIC GLEYSOL (3), TERRIC FIBRISOL (3), TERRIC MESISOL (3), TERRIC FIBRIC MESISOL (3), TERRIC MESIC FIBRISOL (3), Unknown MESISOL (2), ORTHIC LUVIC GLEYSOL (1), FIBRIC ORGANIC CRYOSOL (1), ORTHIC GLEYSOL (1)

Surface Texture: Fibric (22), Mesic (3), Loam (1)

Effective Texture: Fibric (12), Mesic (10), Silt loam (1), Humic (1), Loamy sand (1)

Depth to Mottles/Gley: 51 - 100 (1)

Organic Thickness: >= 80 cm (13), 0 - 5 cm (12), 60 - 79 cm (8), 26 - 39 cm (3), 40 - 59 cm (3)

Parent Material: Undifferentiated Organic (25), Glaciofluvial (8), Glaciolacustrine (6), Bog (4), Morainal (2), Fen (1), Lacustrine (1)

Soil Type: Organic (26), Wet/Peaty (4)

Humus Form

j1 poor fen - treed (n=44)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)

Characteristic Species

Tree

- [22.4]WHITE BIRCH*
Betula papyrifera
- [16.9]BLACK SPRUCE
Picea mariana
- [7.5]TAMARACK
Larix laricina

Shrub

- [13.3]COMMON LABRADOR TEA*
Ledum groenlandicum
- [12.5]SALIX SPECIES*
Salix
- [10.0]BEAKED WILLOW
Salix bebbiana
- [7.4]SMALL BOG CRANBERRY
Oxycoccus microcarpus
- [3.7]BOG CRANBERRY
Vaccinium vitis-idaea
- [1.2]DWARF RASPBERRY
Rubus arcticus
- [1.0]CLOUDBERRY
Rubus chamaemorus

Forb

- [4.7]SWAMP HORSETAIL
Equisetum fluviatile
- [3.2]MARSH CINQUEFOIL
Potentilla palustris
- [3.0]THREE-LEAVED SOLOMON'S-SEAL
Smilacina trifolia
- [2.9]COMMON HORSETAIL
Equisetum arvense
- [2.5]BISHOP'S-CAP
Mitella nuda

Moss and Liverwort

- [7.1]RUSTY PEAT MOSS*
Sphagnum fuscum
- [3.3]GOLDEN MOSS*
Tomenthypnum nitens
- [2.4]PEAT MOSS*
Sphagnum warnstorffii

Graminoid

- [15.5]BLUEJOINT
Calamagrostis canadensis
- [1.5]SMALL BOTTLE SEDGE
Carex utriculata
- [1.5]WATER SEDGE*
Carex aquatilis

Environmental Variables

Moisture Regime: Subhydric (moderately wet) (16), Hygic (moist) (15), Hydric (wet) (11)

Nutrient Regime: Submesotrophic (poor) (14), Mesotrophic (medium) (10), Oligotrophic (very poor) (6), Permesotrophic (rich) (3), Eutrophic (very rich) (1)

Elevation (range): 570 (310-800) M

Slope (%): level (19), nearly level (4)

Aspect: Level (9), Southerly (2)

Topographic Position: Depression (15), Level (12)

Soil Variables

Soil Drainage: Very poorly drained (25), Poorly drained (14), Imperfectly drained (4)

Soil Subgroup: TYPIC FIBRISOL (7), TYPIC MESISOL (4), ORTHIC HUMIC GLEYSOL (3), TERRIC MESISOL (3), TERRIC FIBRIC MESISOL (3), TERRIC FIBRISOL (3), TERRIC MESIC FIBRISOL (3), ORTHIC LUVIC GLEYSOL (1), ORTHIC GLEYSOL (1), Unknown MESISOL (1), FIBRIC ORGANIC CRYOSOL (1)

Surface Texture: Fibric (21), Mesic (3), Loam (1)

Effective Texture: Fibric (12), Mesic (9), Silt loam (1), Humic (1), Loamy sand (1)

Depth to Mottles/Gley: 51 - 100 (1)

Organic Thickness: >= 80 cm (13), 0 - 5 cm (11), 60 - 79 cm (8), 26 - 39 cm (3), 40 - 59 cm (3)

Parent Material: Undifferentiated Organic (24), Glaciofluvial (8), Glaciolacustrine (6), Bog (4), Morainal (2), Fen (1), Lacustrine (1)

Soil Type: Organic (25), Wet/Peaty (4)

Humus Form

CMC4 Bw/Willow/Peat moss (n=2)

(*Betula papyrifera*/*Salix spp*/*Sphagnum spp.*)

This community type was described on a very moist site that was burned or cleared and is now undergoing succession from willows to a paper birch dominated community type. The understory of this community type is dominated by sphagnum moss, which is characteristic of the poor fen ecosite described by Beckingham and Archibald (1996). The site was likely dominated by black spruce and larch prior to fire disturbance.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)

Ecosite Phase: j1 poor fen - treed

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
WHITE BIRCH (<i>Betula papyrifera</i>)	37.5	35.0-40.0	100	Moisture Regime: Subhydric (moderately wet) (1), Hydric (wet) (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	20.0	0.0-40.0	50	Nutrient Regime: Eutrophic (very rich) (1)
Tall Shrub (2 to 5m)				Elevation (range): 576 (576-576) M
SALIX SPECIES (<i>Salix</i>)	25.0	0.0-50.0	50	Slope (%): 0 - 0.49 (1)
WHITE BIRCH (<i>Betula papyrifera</i>)	7.5	0.0-15.0	50	Aspect:
Medium Shrub (0.5 to 2 m)				Topographic Position: Level (1)
SMALL BOG CRANBERRY (<i>Oxycoccus microcarpus</i>)	12.2	0.0-24.5	50	Soil Variables
Low Shrub (< 0.5m)				Soil Drainage: Very poorly drained (2)
DWARF RASPBERRY (<i>Rubus arcticus</i>)	2.5	0.0-5.0	50	Soil Subgroup:
Tall Forb (>= 30 cm)				Surface Texture:
SWAMP HORSETAIL (<i>Equisetum fluviatile</i>)	9.5	0.0-19.0	50	Effective Texture:
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	6.4	0.0-12.9	50	Depth to Mottles/Gley:
TALL LUNGWORT (<i>Mertensia paniculata</i>)	2.0	0.0-4.0	50	Organic Thickness: 0 - 5 cm (1)
Low Forb (< 30 cm)				Parent Material:
BISHOP'S-CAP (<i>Mitella nuda</i>)	5.0	0.0-10.0	50	Soil Type:
THREE-LEAVED SOLOMON'S-SEAL (<i>Smilacina trifolia</i>)	2.5	0.0-5.0	50	Humus Form
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	28.6	7.2-50.0	100	
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	5.0	0.0-10.0	50	
HAIR-LIKE SEDGE (<i>Carex capillaris</i>)	3.0	0.0-6.0	50	
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	3.0	0.0-6.0	50	
BRISTLE-STALKED SEDGE (<i>Carex leptalea</i>)	2.5	0.0-5.0	50	
PRAIRIE SEDGE (<i>Carex prairea</i>)	1.6	0.0-3.2	50	
Moss				
PEAT MOSS (<i>Sphagnum</i>)	46.5	0.0-93.0	50	
N/A (<i>Climacium dendroides</i>)	7.5	0.0-15.0	50	

CMD10 Sb-Lt/Dwarf birch/Sedge/Peat moss (n=42)

(*Picea mariana*-*Larix laricina*/*Betula glandulosa*/*Carex spp.*/*Sphagnum spp.*)

The species assemblage of this community type is a mix from the poorer Labrador tea bog ecosite to the richer, rich fen k ecosite as described by Beckingham and Archibald (1996). Drainage is generally poor, but there is some movement of water through the site bringing additional nutrients as indicated by the presence of reed grasses and wetland sedges.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)
Ecosite Phase: j1 poor fen - treed

Plant Composition	Canopy Cover (%)			Const.	Environmental Variables
	Mean	Range			
Overstory Tree					Ecological Status Score: 25
BLACK SPRUCE (<i>Picea mariana</i>)	13.0	0.0-65.0	83		Moisture Regime: Hygric (moist) (15), Subhydric (moderately wet) (15), Hydric (wet) (10)
TAMARACK (<i>Larix laricina</i>)	8.9	0.0-75.0	76		Nutrient Regime: Submesotrophic (poor) (14), Mesotrophic (medium) (10), Oligotrophic (very poor) (6), Permesotrophic (rich) (3)
Understory Tree					Elevation (range): 564 (310-800) M
BLACK SPRUCE (<i>Picea mariana</i>)	6.3	0.0-30.0	48		Slope (%): 0 - 0.49 (18), 0.5 - 2.49 (4)
TAMARACK (<i>Larix laricina</i>)	3.2	0.0-29.0	29		Aspect: Level (9), Southerly (2)
Medium Shrub (0.5 to 2 m)					Topographic Position: Depression (15), Level (11)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	26.6	0.0-70.0	93		Soil Variables
BLACK SPRUCE (<i>Picea mariana</i>)	14.7	7.0-40.0	100		Soil Drainage: Very poorly drained (23), Poorly drained (14), Imperfectly drained (4)
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	7.4	0.0-40.0	86		Soil Subgroup: TYPIC FIBRISOL (7), TYPIC MESISOL (4), ORTHIC HUMIC GLEYSOL (3), TERRIC MESISOL (3), TERRIC FIBRIC MESISOL (3), TERRIC FIBRISOL (3), TERRIC MESIC FIBRISOL (3), ORTHIC LUVIC GLEYSOL (1), Unknown MESISOL (1), ORTHIC GLEYSOL (1), FIBRIC ORGANIC CRYOSOL (1)
SMALL BOG CRANBERRY (<i>Oxycoccus microcarpus</i>)	2.6	0.0-20.0	62		Surface Texture: Fibric (21), Mesic (3), Loam (1)
DWARF BIRCH (<i>Betula pumila</i>)	2.3	0.0-40.0	31		Effective Texture: Fibric (12), Mesic (9), Humic (1), Loamy sand (1), Silt loam (1)
SWEET GALE (<i>Myrica gale</i>)	1.7	0.0-60.0	7		Depth to Mottles/Gley: 51 - 100 (1)
Low Shrub (< 0.5m)					Organic Thickness: >= 80 cm (13), 0 - 5 cm (10), 60 - 79 cm (8), 40 - 59 cm (3), 26 - 39 cm (3)
CLOUDBERRY (<i>Rubus chamaemorus</i>)	2.0	0.0-20.0	36		Parent Material: Undifferentiated Organic (24), Glaciofluvial (8), Glaciolacustrine (6), Bog (4), Morainal (2), Fen (1), Lacustrine (1)
Tall Forb (>= 30 cm)					Soil Type: Organic (25), Wet/Peaty (4)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	5.9	0.0-60.0	31		Humus Form
MEADOW HORSETAIL (<i>Equisetum pratense</i>)	1.1	0.0-35.0	12		
Low Forb (< 30 cm)					
THREE-LEAVED SOLOMON'S-SEAL (<i>Smilacina trifolia</i>)	3.5	0.0-30.0	55		
Graminoid					
WATER SEDGE (<i>Carex aquatilis</i>)	3.1	0.0-15.0	38		
SEDGE SPECIES (<i>Carex</i>)	2.6	0.0-30.0	24		
BLUEJOINT (<i>Calamagrostis canadensis</i>)	2.5	0.0-29.0	36		
Moss					
RUSTY PEAT MOSS (<i>Sphagnum fuscum</i>)	14.3	0.0-95.0	38		
SCHREBER'S MOSS (<i>Pleurozium schreberi</i>)	8.2	0.0-60.0	45		
GOLDEN MOSS (<i>Tomenthypnum nitens</i>)	6.7	0.0-40.0	45		
PEAT MOSS (<i>Sphagnum warnstorffii</i>)	4.8	0.0-35.0	26		
TUFTED MOSS (<i>Aulacomnium palustre</i>)	4.5	0.0-25.0	55		
Lichen					
REINDEER LICHEN (<i>Cladina mitis</i>)	1.9	0.0-30.0	36		

j2 poor fen - shrubby (n=8)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)

Characteristic Species

Tree

- [4.5]TAMARACK
Larix laricina
- [4.2]BLACK SPRUCE
Picea mariana

Shrub

- [30.2]DWARF BIRCH*
Betula pumila
- [11.8]COMMON LABRADOR TEA*
Ledum groenlandicum
- [10.1]SMALL BOG CRANBERRY
Oxycoccus microcarpus
- [4.7]SALIX SPECIES*
Salix
- [4.2]VELVET-FRUITED WILLOW
Salix maccalliana
- [4.1]BOG BIRCH*
Betula glandulosa
- [2.6]HOARY WILLOW
Salix candida
- [2.1]BOG CRANBERRY
Vaccinium vitis-idaea
- [1.4]FLAT-LEAVED WILLOW
Salix planifolia

Forb

- [1.6]BUCK-BEAN
Menyanthes trifoliata

Moss and Liverwort

- [17.1]PEAT MOSS
Sphagnum
- [4.2]RUSTY PEAT MOSS
Sphagnum fuscum

Graminoid

- [14.7]SEDGE SPECIES
Carex
- [6.5]WATER SEDGE
Carex aquatilis
- [2.9]SMALL BOTTLE SEDGE
Carex utriculata
- [2.1]NORTHERN REED GRASS
Calamagrostis inexpansa

Environmental Variables

Moisture Regime: Hygric (moist) (6), Subhydric (moderately wet) (2)
Nutrient Regime: Submesotrophic (poor) (3), Permesotrophic (rich) (2), Mesotrophic (medium) (2)
Elevation (range): 646 (427-697) M
Slope (%): level (5), nearly level (1)
Aspect: Level (5), Westerly (1)
Topographic Position: Depression (7), Level (1)

Soil Variables

Soil Drainage: Poorly drained (4), Very poorly drained (3), Imperfectly drained (1)
Soil Subgroup: Unknown MESISOL (1)
Surface Texture: Fibric (1)
Effective Texture: Mesic (1)
Depth to Mottles/Gley:
Organic Thickness: 0 - 5 cm (1)
Parent Material: Undifferentiated Organic (1)
Soil Type: Organic (1)
Humus Form

CMA30 Dwarf birch/Clover/Kentucky bluegrass (n=1)

(*Betula pumila*/*Trifolium spp.*/*Poa pratensis*)

This PC is part of the poor fen ecosite (Beckingham and Archibald 1996). It has an intermediate nutrient regime between the poor Labrador tea (i ecosite) and the rich horsetail (k ecosite) ecosites. It is distinguishable from a 'i' ecosite by having significant cover of species usually associated with a rich nutrient site (e.g. willow, buck-bean, tamarack (larch). It also has plants usually associated with a poor nutrient site (e.g. *Vaccinium* spp). This PC has significant (>10%) disturbance species associated with it. It was found on a grazing lease but it is not clear if grazing or physical disturbance caused species like clover and Kentucky bluegrass to displace native plants.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)
Ecosite Phase: j2 poor fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 15-20
DWARF BIRCH (<i>Betula pumila</i>)	8.4	8.4-8.4	100	Moisture Regime: Hygric (moist) (1)
SALIX SPECIES (<i>Salix</i>)	3.6	3.6-3.6	100	Nutrient Regime: Mesotrophic (medium) (1)
ASPEN (<i>Populus tremuloides</i>)	1.3	1.3-1.3	100	Elevation (range): 683 (683-683) M
Tall Forb (>= 30 cm)				Slope (%): 0 - 0.49 (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	4.2	4.2-4.2	100	Aspect: Level (1)
Low Forb (< 30 cm)				Topographic Position: Depression (1)
BUCK-BEAN (<i>Menyanthes trifoliata</i>)	5.7	5.7-5.7	100	Soil Variables
NORTHERN GRASS-OF-PARNASSUS (<i>Parnassia palustris</i>)	3.4	3.4-3.4	100	Soil Drainage: Poorly drained (1)
WHITE CLOVER (<i>Trifolium repens</i>)	2.3	2.3-2.3	100	Soil Subgroup:
SWEET-SCENTED BEDSTRAW (<i>Galium triflorum</i>)	2.1	2.1-2.1	100	Surface Texture:
FIELD MOUSE-EAR CHICKWEED (<i>Cerastium arvense</i>)	2.0	2.0-2.0	100	Effective Texture:
HAREBELL (<i>Campanula rotundifolia</i>)	1.4	1.4-1.4	100	Depth to Mottles/Gley:
COMMON DANDELION (<i>Taraxacum officinale</i>)	0.7	0.7-0.7	100	Organic Thickness:
Graminoid				Parent Material:
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	6.2	6.2-6.2	100	Soil Type:
SEDGE SPECIES (<i>Carex</i>)	4.8	4.8-4.8	100	Humus Form
SLENDER WHEAT GRASS (<i>Agropyron trachycaulum</i>)	3.1	3.1-3.1	100	
NORTHERN REED GRASS (<i>Calamagrostis inexpansa</i>)	2.9	2.9-2.9	100	
FOWL BLUEGRASS (<i>Poa palustris</i>)	2.9	2.9-2.9	100	

CMA31 Dwarf birch-Willow/Sedge/Peat moss (Sb-Lt) (n=7)

(*Betula pumila*-*Salix spp.*/*Carex spp.*/*Sphagnum spp.* (*Picea mariana*-*Larix laricina*))

This plant community is intermediate between a bog and rich fen. CMA31 is a shrubby phase of a poor fen, distinguishable from a bog by having significant cover of species usually associated with a rich fen (e.g. willows, sedges, grasses, and non-peat type mosses). It also has plants usually associated with bog communities (e.g. peat moss species, cloud berry and small bog cranberry). If conditions are favorable for tree growth, black spruce with larch will become prominent changing the PC to a treed poor fen (e.g. CMD10).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)

Ecosite Phase: j2 poor fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
TAMARACK (<i>Larix laricina</i>)	4.5	0.0-25.0	43	Moisture Regime: Hygric (moist) (5), Subhydric (moderately wet) (2)
BLACK SPRUCE (<i>Picea mariana</i>)	4.2	0.0-15.0	43	Nutrient Regime: Submesotrophic (poor) (3), Permesotrophic (rich) (2), Mesotrophic (medium) (1)
VELVET-FRUITED WILLOW (<i>Salix maccalliana</i>)	4.2	0.0-30.0	14	Elevation (range): 609 (427-697) M
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	1.4	0.0-10.0	14	Slope (%): 0 - 0.49 (4), 0.5 - 2.49 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Level (4), Westerly (1)
DWARF BIRCH (<i>Betula pumila</i>)	30.2	0.0-75.0	85	Topographic Position: Depression (6), Level (1)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	11.8	0.0-49.0	71	Soil Variables
SMALL BOG CRANBERRY (<i>Oxycoccus microcarpus</i>)	10.1	0.0-57.0	43	Soil Drainage: Poorly drained (3), Very poorly drained (3), Imperfectly drained (1)
SALIX SPECIES (<i>Salix</i>)	4.7	0.0-30.0	29	Soil Subgroup: Unknown MESISOL (1)
BOG BIRCH (<i>Betula glandulosa</i>)	4.1	0.0-24.0	29	Surface Texture: Fibric (1)
HOARY WILLOW (<i>Salix candida</i>)	2.6	0.0-11.0	43	Effective Texture: Mesic (1)
TAMARACK (<i>Larix laricina</i>)	2.5	0.0-10.0	57	Depth to Mottles/Gley:
BOG CRANBERRY (<i>Vaccinium vitis-idaea</i>)	2.1	0.0-8.8	43	Organic Thickness: 0 - 5 cm (1)
Low Forb (< 30 cm)				Parent Material: Undifferentiated Organic (1)
BUCK-BEAN (<i>Menyanthes trifoliata</i>)	1.6	0.0-11.7	14	Soil Type: Organic (1)
Graminoid				Humus Form
SEDGE SPECIES (<i>Carex</i>)	14.7	0.0-35.0	71	
WATER SEDGE (<i>Carex aquatilis</i>)	6.5	0.0-25.0	43	
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	2.9	0.0-20.0	29	
NORTHERN REED GRASS (<i>Calamagrostis inexpansa</i>)	2.1	0.0-15.0	14	
Moss				
PEAT MOSS (<i>Sphagnum</i>)	17.1	0.0-75.0	29	
RUSTY PEAT MOSS (<i>Sphagnum fuscum</i>)	4.2	0.0-30.0	14	

j3 poor fen - graminoid (n=0)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: j poor fen(subhydric/medium)

General Description

A number of ecological site phases currently have no data. These ecological site phases have been created as place holders because they were described in adjacent subregions.

Characteristic Species

Shrub

- [1.0]FLAT-LEAVED WILLOW
Salix planifolia

Forb

- [1.0]MARSH SKULLCAP
Scutellaria galericulata
- [1.0]WATER-HEMLOCK
Cicuta maculata

Graminoid

- [60.0]SHORT SEDGE
Carex curta
- [20.0]WATER SEDGE
Carex aquatilis
- [10.0]NORTHERN REED GRASS
Calamagrostis inexpansa

Environmental Variables

Moisture Regime: Subhydric (moderately wet) (3), Hygric (moist) (2), Hydric (wet) (1), Subhygric (moderately moist) (1)

Nutrient Regime: Permesotrophic (rich) (4), Mesotrophic (medium) (2), Submesotrophic (poor) (1)

Elevation (range): 0 (0-0) M

Slope (%):

Aspect:

Topographic Position:

Soil Variables

Soil Drainage: Poorly drained (5), Very poorly drained (2)

Soil Subgroup:

Surface Texture:

Effective Texture:

Depth to Mottles/Gley:

Organic Thickness:

Parent Material:

Soil Type:

Humus Form

k rich fen(subhydric/rich) (n=126)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

General Description

The rich fen ecosite is characterized by flowing water and alkaline nutrient-rich conditions. The soil is composed of organic matter derived from decomposing sedges, as well as golden, tufted, and brown mosses. This ecosite occupies level and depressional areas where the water table is at or near the surface for a portion of the growing season. Tamarack dominates the canopy on the treed phase while dwarf birch or willow form the canopy of the shrubby phase, and sedges dominate the graminoid phase of the rich fen ecosite.



Successional Relationships

The rich fen is an early stage in hydrarch succession. Species composition, and direction and rate of succession changes with the changing hydrologic regime. As with other wetlands, rich fens have slow successional rates, so recovery from disturbance may also be slow.

Indicator Species

Tree

TAMARACK
Larix laricina

Shrub

SMOOTH WILLOW
Salix glauca

BOG WILLOW
Salix pedicellaris

FLAT-LEAVED WILLOW
Salix planifolia

BOG BIRCH
Betula glandulosa

DWARF BIRCH
Betula pumila

Moss and Liverwort

GOLDEN MOSS
Tomenthypnum nitens

Graminoid

BLUEJOINT
Calamagrostis canadensis

WATER SEDGE
Carex aquatilis

AWNED SEDGE
Carex atherodes

SMALL BOTTLE SEDGE
Carex utriculata

Site Index at 50 Years

	Height (m)	Variation (m)	Count
TAMARACK (<i>Larix laricina</i>)	7.30	2.60	0
BLACK SPRUCE (<i>Picea mariana</i>)	7.20	0.60	0

Environmental Variables

Moisture Regime: Hygric (moist) (42), Subhydric (moderately wet) (42), Hydric (wet) (38), Subhydric (moderately moist) (14)

Nutrient Regime: Permesotrophic (rich) (88), Eutrophic (very rich) (20), Mesotrophic (medium) (14)

Elevation (range): 586 (245-820) M

Slope (%): level (59), nearly level (10), very gentle slope (3)

Aspect: Level (34), Westerly (5), Easterly (2), Southerly (2), Northerly (1)

Topographic Position: Level (47), Depression (43), Crest (2), Upper Slope (2), Lower Slope (1)

Soil Variables

Soil Drainage: Very poorly drained (62), Poorly drained (27), Imperfectly drained (25), Moderately well drained (16), Well drained (3)

Soil Subgroup: TYPIC MESISOL (23), REGO GLEYSOL (10), TERRIC MESISOL (8), TYPIC FIBRISOL (7), REGO HUMIC GLEYSOL (5), TERRIC FIBRISOL (5), TERRIC HUMISOL (5), ORTHIC GLEYSOL (4), ORTHIC HUMIC GLEYSOL (3), ORTHIC HUMIC REGOSOL (1), ORTHIC LUVIC GLEYSOL (1), FIBRIC MESISOL (1), GLEYED REGOSOL (1), GLEYED CUMULIC REGOSOL (1), MESIC HUMISOL (1), TERRIC MESIC FIBRISOL (1), Unknown MESISOL (1)

Surface Texture: Fibric (22), Mesic (22), Heavy clay (6), Humic (4), Clay (4), Silt loam (3), Silty clay (3), Silty clay loam (2), Loam (1), Loamy sand (1)

Effective Texture: Mesic (31), Heavy clay (10), Fibric (9), Silty clay (4), Humic (3), Loam (2), Loamy sand (2), Sandy clay (2), Clay (2), Silty clay loam (1), Sandy clay loam (1), Silt loam (1)

Depth to Mottles/Gley: 0 - 25 (1), 101 - (1), 51 - 100 (1)

Organic Thickness: 0 - 5 cm (41), >= 80 cm (30), 60 - 79 cm (9), 40 - 59 cm (5), 26 - 39 cm (3), 16 - 25 cm (2), 6 - 15 cm (2)

Parent Material: Undifferentiated Organic (34), Lacustrine (24), Fen (19), Fluvial (9), Glaciolacustrine (8), Glaciofluvial (4), Morainal (2), Swamp (1), Lacustromoraine (1), Fluvioacustrine (1)

Soil Type: Organic (47), Wet/Mineral (12), Wet/Peaty (4), Moist/Fine (4), Moist/Peaty (2), Moist/Sandy (1), Moist/Silty-Loamy (1)

Humus Form FIBRIC PEATYMOR (1), MESIC PEATYMOR (1)

k1 rich fen - treed (n=34)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Characteristic Species

Tree

- [31.1]TAMARACK*
Larix laricina

Shrub

- [17.7]DWARF BIRCH*
Betula pumila
- [6.0]COMMON LABRADOR TEA
Ledum groenlandicum
- [4.7]BOG BIRCH*
Betula glandulosa
- [2.7]BOG ROSEMARY
Andromeda polifolia
- [1.5]NORTHERN LAUREL
Kalmia polifolia
- [1.5]HOARY WILLOW
Salix candida

Forb

- [3.3]THREE-LEAVED SOLOMON'S-SEAL
Smilacina trifolia
- [2.6]MARSH CINQUEFOIL
Potentilla palustris
- [2.3]BUCK-BEAN
Menyanthes trifoliata
- [1.7]MARSH-MARIGOLD
Caltha palustris
- [1.7]SEASIDE ARROW-GRASS
Triglochin maritima

Moss and Liverwort

- [21.9]TUFTED MOSS
Aulacomnium palustre
- [18.8]GOLDEN MOSS*
Tomenthypnum nitens
- [2.0]PEAT MOSS
Sphagnum angustifolium
- [1.8]PEAT MOSS
Sphagnum warnstorffii
- [1.6]RUSTY PEAT MOSS
Sphagnum fuscum

Graminoid

- [6.6]BLUEJOINT
Calamagrostis canadensis
- [4.3]WATER SEDGE
Carex aquatilis
- [2.2]TWO-SEEDED SEDGE
Carex disperma

Environmental Variables

Moisture Regime: Subhydric (moderately wet) (12), Hydric (wet) (10), Hygric (moist) (9)

Nutrient Regime: Permesotrophic (rich) (17), Eutrophic (very rich) (8), Mesotrophic (medium) (4)

Elevation (range): 592 (245-730) M

Slope (%): level (30)

Aspect: Level (9), Westerly (1)

Topographic Position:Level (17), Depression (10)

Soil Variables

Soil Drainage: Very poorly drained (18), Moderately well drained (8), Imperfectly drained (5), Well drained (3)

Soil Subgroup: TYPIC MESISOL (18), Unknown MESISOL (1), TERRIC FIBRISOL (1), TYPIC FIBRISOL (1), REGO GLEYSOL (1), MESIC HUMISOL (1), TERRIC HUMISOL (1), FIBRIC MESISOL (1), TERRIC MESISOL (1)

Surface Texture: Mesic (16), Fibric (5), Silty clay loam (1), Humic (1)

Effective Texture: Mesic (19), Fibric (2), Silty clay (1), Silty clay loam (1)

Depth to Mottles/Gley: 51 - 100 (1), 0 - 25 (1), 101 - (1)

Organic Thickness: >= 80 cm (18), 0 - 5 cm (8), 60 - 79 cm (3), 40 - 59 cm (1)

Parent Material: Fen (16), Undifferentiated Organic (9), Lacustrine (3), Swamp (1), Fluvial (1)

Soil Type: Organic (23), Moist/Fine (1)

Humus Form FIBRIC PEATYMOR (1)

CMD18 Lt/Dwarf birch/Sedge/Golden moss (n=34)

(*Larix laricina*/*Betula pumila*/*Carex spp.*/*Tomenthypnum nitens*)

The PC occurs on humic gleysols or organic soils (Landwise 2012). This PC is similar to the larch/dwarf birch sedge golden moss plant community described by Beckingham and Archibald (1996). Micro-topography allows trees to grow on slightly higher ground and contributes to species richness. Increased flooding and prolonged water-logging may result in the disappearance of trees and a transition to a willow/sedge fen (i.e.CMA7).

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)
Ecosite Phase: k1 rich fen - treed

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Overstory Tree				Ecological Status Score: 25
TAMARACK (<i>Larix laricina</i>)	14.5	2.0-60.0	100	Moisture Regime: Subhydric (moderately wet) (12), Hydric (wet) (10), Hygric (moist) (9)
Medium Shrub (0.5 to 2 m)				Nutrient Regime: Permesotrophic (rich) (17), Eutrophic (very rich) (8), Mesotrophic (medium) (4)
DWARF BIRCH (<i>Betula pumila</i>)	17.7	0.0-50.0	77	Elevation (range): 592 (245-730) M
TAMARACK (<i>Larix laricina</i>)	16.6	10.0-30.0	100	Slope (%): 0 - 0.49 (30)
COMMON LABRADOR TEA (<i>Ledum groenlandicum</i>)	6.0	0.0-60.0	79	Aspect: Level (9), Westerly (1)
BOG BIRCH (<i>Betula glandulosa</i>)	4.7	0.0-40.0	27	Topographic Position: Level (17), Depression (10)
BOG ROSEMARY (<i>Andromeda polifolia</i>)	2.7	0.0-25.0	50	Soil Variables
NORTHERN LAUREL (<i>Kalmia polifolia</i>)	1.5	0.0-45.0	6	Soil Drainage: Very poorly drained (18), Moderately well drained (8), Imperfectly drained (5), Well drained (3)
HOARY WILLOW (<i>Salix candida</i>)	1.5	0.0-18.0	27	Soil Subgroup: TYPIC MESISOL (18), TERRIC FIBRISOL (1), TYPIC FIBRISOL (1), REGO GLEYSOL (1), MESIC HUMISOL (1), TERRIC HUMISOL (1), Unknown MESISOL (1), FIBRIC MESISOL (1), TERRIC MESISOL (1)
Tall Forb (>= 30 cm)				Surface Texture: Mesic (16), Fibric (5), Humic (1), Silty clay loam (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	2.6	0.0-13.5	79	Effective Texture: Mesic (19), Fibric (2), Silty clay (1), Silty clay loam (1)
SEASIDE ARROW-GRASS (<i>Triglochin maritima</i>)	1.7	0.0-42.0	27	Depth to Mottles/Gley: 101 - (1), 0 - 25 (1), 51 - 100 (1)
Low Forb (< 30 cm)				Organic Thickness: >= 80 cm (18), 0 - 5 cm (8), 60 - 79 cm (3), 40 - 59 cm (1)
THREE-LEAVED SOLOMON'S-SEAL (<i>Smilacina trifolia</i>)	3.3	0.0-30.0	74	Parent Material: Fen (16), Undifferentiated Organic (9), Lacustrine (3), Swamp (1), Fluvial (1)
BUCK-BEAN (<i>Menyanthes trifoliata</i>)	2.3	0.0-15.0	56	Soil Type: Organic (23), Moist/Fine (1)
MARSH-MARIGOLD (<i>Caltha palustris</i>)	1.7	0.0-13.5	65	Humus Form FIBRIC PEATYMOR (1)
Graminoid				
BLUEJOINT (<i>Calamagrostis canadensis</i>)	6.6	0.0-65.0	29	
WATER SEDGE (<i>Carex aquatilis</i>)	4.3	0.0-30.0	59	
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	2.2	0.0-29.8	50	
Moss				
TUFTED MOSS (<i>Aulacomnium palustre</i>)	21.9	0.0-70.0	82	
GOLDEN MOSS (<i>Tomenthypnum nitens</i>)	18.8	0.0-85.0	56	
PEAT MOSS (<i>Sphagnum angustifolium</i>)	2.0	0.0-45.0	15	
PEAT MOSS (<i>Sphagnum warnstorffii</i>)	1.8	0.0-20.0	24	
RUSTY PEAT MOSS (<i>Sphagnum fuscum</i>)	1.6	0.0-25.0	32	

k2 rich fen - shrubby (n=60)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Characteristic Species

Shrub

- [9.3] DWARF BIRCH
Betula pumila
- [8.0] SALIX SPECIES
Salix
- [6.2] SMOOTH WILLOW*
Salix glauca
- [4.3] BOG BIRCH*
Betula glandulosa
- [3.9] FLAT-LEAVED WILLOW*
Salix planifolia
- [2.6] BEAKED WILLOW
Salix bebbiana
- [2.1] BOG WILLOW*
Salix pedicellaris

Forb

- [2.2] MARSH CINQUEFOIL
Potentilla palustris
- [2.2] MARSH-MARIGOLD
Caltha palustris
- [1.8] THREE-LEAVED SOLOMON'S-SEAL
Smilacina trifolia

Moss and Liverwort

- [6.2] GOLDEN MOSS
Tomenthypnum nitens
- [3.9] TUFTED MOSS
Aulacomnium palustre
- [2.6] PEAT MOSS
Sphagnum warnstorffii
- [2.6] PEAT MOSS
Sphagnum angustifolium
- [2.0] BROWN MOSS
Drepanocladus aduncus
- [1.7] N/A
Scorpidium scorpioides

Graminoid

- [13.2] BLUEJOINT*
Calamagrostis canadensis
- [7.3] WATER SEDGE*
Carex aquatilis
- [4.2] AWNED SEDGE
Carex atherodes
- [2.8] SMALL BOTTLE SEDGE*
Carex utriculata
- [2.6] TWO-STAMENED SEDGE
Carex diandra
- [1.4] MUD SEDGE
Carex limosa
- [1.2] HAIRY-FRUITED SEDGE
Carex lasiocarpa

Environmental Variables

Moisture Regime: Hygric (moist) (22), Subhydric (moderately wet) (21), Hydric (wet) (16), Subhygric (moderately moist) (8)

Nutrient Regime: Permesotrophic (rich) (44), Mesotrophic (medium) (7), Eutrophic (very rich) (6)

Elevation (range): 587(326-820) M

Slope (%): level (15), nearly level (8), very gentle slope (3)

Aspect: Level (13), Westerly (4), Southerly (2), Easterly (1), Northerly (1)

Topographic Position: Depression (20), Level (18), Upper Slope (2), Lower Slope (1), Crest (1)

Soil Variables

Soil Drainage: Very poorly drained (27), Poorly drained (18), Imperfectly drained (13), Moderately well drained (4)

Soil Subgroup: TERRIC MESISOL (6), TYPIC FIBRISOL (5), REGO GLEYSOL (5), REGO HUMIC GLEYSOL (5), TERRIC HUMISOL (3), ORTHIC HUMIC GLEYSOL (2), ORTHIC GLEYSOL (2), TYPIC MESISOL (2), GLEYED REGOSOL (1), GLEYED CUMULIC REGOSOL (1), ORTHIC LUVIC GLEYSOL (1), ORTHIC HUMIC REGOSOL (1), TERRIC FIBRISOL (1)

Surface Texture: Fibric (10), Clay (4), Mesic (4), Silty clay (3), Silt loam (3), Humic (3), Heavy clay (2), Silty clay loam (1), Loamy sand (1), Loam (1)

Effective Texture: Mesic (9), Heavy clay (6), Silty clay (3), Fibric (3), Humic (2), Loamy sand (2), Loam (2), Clay (2), Silt loam (1), Sandy clay loam (1), Sandy clay (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (25), 60 - 79 cm (6), >= 80 cm (5), 40 - 59 cm (3), 26 - 39 cm (2), 6 - 15 cm (1)

Parent Material: Undifferentiated Organic (15), Lacustrine (13), Glaciolacustrine (6), Fluvial (6), Glaciofluvial (4), Fen (3), Fluviolacustrine (1), Morainal (1), Lacustromoraine (1)

Soil Type: Organic (15), Wet/Mineral (10), Moist/Fine (3), Wet/Peaty (2), Moist/Silty-Loamy (1), Moist/Sandy (1), Moist/Peaty (1)

Humus Form MESIC PEATYMOR (1)

CMA42 Dwarf birch/Sedge/Golden moss (n=5)

(*Betula pumila*/*Carex spp.*/*Tomenthypnum nitens*)

These are rich communities dominated by bog birch, willow, sedge and marsh reedgrass. The nutrient regime is medium to rich, and drainage is imperfect to poor. Increased flooding and prolonged waterlogging may result in the disappearance of willow and a transition to a graminoid fen.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecotope: k rich fen(subhydric/rich)

Ecotope Phase: k2 rich fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Medium Shrub (0.5 to 2 m)				Ecological Status Score: 40
DWARF BIRCH (<i>Betula pumila</i>)	28.0	0.0-70.0	80	Moisture Regime: Subhydric (moderately wet) (3), Hydric (wet) (2)
TAMARACK (<i>Larix laricina</i>)	10.6	0.0-30.0	80	Nutrient Regime: Permesotrophic (rich) (3)
BOG BIRCH (<i>Betula glandulosa</i>)	8.0	0.0-40.0	20	Elevation (range): 628 (530-730) M
BOG WILLOW (<i>Salix pedicellaris</i>)	4.2	0.0-10.0	60	Slope (%): 0 - 0.49 (1), 0.5 - 2.49 (1)
BOG ROSEMARY (<i>Andromeda polifolia</i>)	2.0	0.0-10.0	20	Aspect: Level (1)
Tall Forb (>= 30 cm)				Topographic Position: Level (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	4.8	0.0-20.0	80	Soil Variables
Low Forb (< 30 cm)				Soil Drainage: Very poorly drained (5)
THREE-LEAVED SOLOMON'S-SEAL (<i>Smilacina trifolia</i>)	5.6	0.0-15.0	80	Soil Subgroup: TYPIC FIBRISOL (2), TERRIC FIBRISOL (1)
MARSH-MARIGOLD (<i>Caltha palustris</i>)	1.8	0.0-5.0	80	Surface Texture: Fibric (2)
Graminoid				Effective Texture: Fibric (1), Mesic (1)
WATER SEDGE (<i>Carex aquatilis</i>)	12.0	0.0-30.0	60	Depth to Mottles/Gley:
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	4.8	0.0-20.0	40	Organic Thickness: 0 - 5 cm (3), >= 80 cm (1), 60 - 79 cm (1)
TWO-STAMENED SEDGE (<i>Carex diandra</i>)	4.0	0.0-20.0	20	Parent Material: Undifferentiated Organic (3), Glaciolacustrine (1)
MUD SEDGE (<i>Carex limosa</i>)	2.2	0.0-10.0	40	Soil Type: Organic (3)
PRAIRIE SEDGE (<i>Carex prairea</i>)	2.0	0.0-10.0	20	Humus Form
Moss				
GOLDEN MOSS (<i>Tomenthypnum nitens</i>)	18.6	0.0-60.0	80	
TUFTED MOSS (<i>Aulacomnium palustre</i>)	11.8	2.0-40.0	100	
PEAT MOSS (<i>Sphagnum angustifolium</i>)	8.0	0.0-40.0	20	
PEAT MOSS (<i>Sphagnum warnstorffii</i>)	8.0	0.0-40.0	20	

CMA7 Willow/Sedge/Brown moss (n=18)

(*Salix spp./Carex aquatilis/Drepanocladus uncinatus*)

This community type is found along the edges of sedge fens (meadows) and in moist depressions. Willow becomes established at the edges of the sedge fens due to the shorter duration of standing water. Increased flooding and prolonged water-logging may result in the disappearance of willow and a transition to a sedge fen. These sites are fairly productive but difficult to graze due to the moist ground conditions and heavy shrub cover which reduces access and mobility within the area. One disturbance PC has been described and associated with this reference PC; the Willow/Sedge fen disturbed (CMA8) which results from heavy grazing. Grazing should be timed to avoid very moist soil conditions.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)
Ecosite Phase: k2 rich fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
SALIX SPECIES (<i>Salix</i>)	14.0	0.0-80.0	39	Moisture Regime: Hydric (wet) (7), Hygric (moist) (6), Subhydric (moderately wet) (5)
BOG BIRCH (<i>Betula glandulosa</i>)	5.2	0.0-60.0	17	Nutrient Regime: Permesotrophic (rich) (8), Mesotrophic (medium) (2), Eutrophic (very rich) (2)
SMOOTH WILLOW (<i>Salix glauca</i>)	1.9	0.0-20.0	11	Elevation (range): 485 (326-679) M
BEAKED WILLOW (<i>Salix bebbiana</i>)	1.8	0.0-23.0	17	Slope (%): 0 - 0.49 (5), 0.5 - 2.49 (1)
Medium Shrub (0.5 to 2 m)				Aspect: Level (2), Southerly (1)
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	4.9	0.0-60.0	17	Topographic Position: Depression (5), Level (4), Upper Slope (1)
SWEET GALE (<i>Myrica gale</i>)	2.7	0.0-50.0	6	Soil Variables
BOG WILLOW (<i>Salix pedicularis</i>)	2.2	0.0-17.0	22	Soil Drainage: Very poorly drained (8), Poorly drained (6), Imperfectly drained (4)
Tall Forb (>= 30 cm)				Soil Subgroup: TYPIC FIBRISOL (2), ORTHIC HUMIC GLEYSOL (2), ORTHIC LUVIC GLEYSOL (1), TERRIC MESISOL (1), GLEYED CUMULIC REGOSOL (1), REGO GLEYSOL (1), TERRIC HUMISOL (1)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	2.8	0.0-35.0	22	Surface Texture: Fibric (2), Humic (1), Clay (1), Heavy clay (1), Silty clay (1), Silty clay loam (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	1.8	0.0-10.0	39	Effective Texture: Silty clay (2), Fibric (2), Heavy clay (2), Loam (1)
Low Forb (< 30 cm)				Depth to Mottles/Gley:
MARSH-MARIGOLD (<i>Caltha palustris</i>)	2.5	0.0-40.0	28	Organic Thickness: 0 - 5 cm (10), 60 - 79 cm (2), 40 - 59 cm (1)
BUCK-BEAN (<i>Menyanthes trifoliata</i>)	1.7	0.0-15.0	17	Parent Material: Undifferentiated Organic (5), Fluvial (2), Lacustrine (2), Lacustromoraine (1), Fluvio-lacustrine (1), Glaciofluvial (1), Glaciolacustrine (1)
Graminoid				Soil Type: Wet/Mineral (4), Organic (2), Wet/Peaty (1)
AWNED SEDGE (<i>Carex atherodes</i>)	10.7	0.0-70.0	33	Humus Form
BLUEJOINT (<i>Calamagrostis canadensis</i>)	7.0	0.0-39.5	39	
WATER SEDGE (<i>Carex aquatilis</i>)	6.9	0.0-43.0	33	
TWO-STAMENED SEDGE (<i>Carex diandra</i>)	4.0	0.0-30.0	22	
HAIRY-FRUITED SEDGE (<i>Carex lasiocarpa</i>)	3.6	0.0-40.0	11	
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	2.5	0.0-22.0	22	
MUD SEDGE (<i>Carex limosa</i>)	2.2	0.0-30.0	17	
Moss				
BROWN MOSS (<i>Drepanocladus aduncus</i>)	6.0	0.0-99.0	11	
N/A (<i>Scorpidium scorpioides</i>)	5.2	0.0-95.0	6	
BROWN MOSS (<i>Drepanocladus revolvens</i>)	4.5	0.0-80.0	11	
BROWN MOSS (<i>Drepanocladus vernicosus</i>)	3.0	0.0-45.0	11	

CMA8 Willow/Sedge-Kentucky bluegrass (n=3)

(*Salix spp./Carex spp.-Poa pratensis*)

This PC represents a grazing disturbed CMA7 Willow/Sedge fen. Prolonged heavy grazing or other disturbances have caused a decline in willow cover and an increase in disturbance and/or invasive species. Commonly, plantains, thistles, nettles, reed canary grass, smooth brome and Kentucky bluegrass invade onto these moist sites. Due to the ability of invasive grasses to produce usable forage, these sites are increasingly attractive to livestock and relatively productive. In order to limit livestock impacts, time grazing to avoid wet soil conditions.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Ecosite Phase: k2 rich fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 15-20
SALIX SPECIES (<i>Salix</i>)	20.4	1.2-30.0	100	Moisture Regime: Hygric (moist) (3)
Low Shrub (< 0.5m)				Nutrient Regime: Permesotrophic (rich) (2), Eutrophic (very rich) (1)
DWARF RASPBERRY (<i>Rubus arcticus</i>)	3.3	0.0-10.0	33	Elevation (range): 576 (576-576) M
Tall Forb (>= 30 cm)				Slope (%):
WILD MINT (<i>Mentha arvensis</i>)	4.3	2.5-6.2	100	Aspect:
LARGE-LEAVED YELLOW AVENS (<i>Geum macrophyllum</i>)	3.0	0.8-4.2	100	Topographic Position: Depression (3)
GREEN SORREL (<i>Rumex acetosa</i>)	1.7	1.0-2.5	100	
Low Forb (< 30 cm)				Soil Variables
ARROW-LEAVED COLTSFOOT (<i>Petasites sagittatus</i>)	12.0	0.0-21.0	67	Soil Drainage: Imperfectly drained (2), Poorly drained (1)
Graminoid				Soil Subgroup:
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	30.0	11.5-47.5	100	Surface Texture:
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	26.0	15.7-42.5	100	Effective Texture:
AWNED SEDGE (<i>Carex atherodes</i>)	20.6	8.0-39.5	100	Depth to Mottles/Gley:
FOWL BLUEGRASS (<i>Poa palustris</i>)	2.7	0.1-7.7	100	Organic Thickness:
WATER SEDGE (<i>Carex aquatilis</i>)	1.3	0.1-3.5	100	Parent Material:
AWNLESS BROME (<i>Bromus inermis</i>)	0.6	0.0-2.0	33	Soil Type:
REED CANARY GRASS (<i>Phalaris arundinacea</i>)	0.3	0.0-1.0	33	Humus Form

CMA9 Willow/Marsh reed grass (Bluejoint) (n=30)

(*Salix spp./Calamagrostis canadensis*)

This PC is found along the edges of reed grass or sedge fens (meadows) and in moist depressions. Willow will invade onto these graminoid fens to form the Willow/Reed grass community type. Increased grazing pressure on these sites will cause marsh reed grass to decline and there will be an invasion of Kentucky bluegrass and dandelion. One grazing disturbance PC has been described for CMA9; the Willow/Reed grass fen disturbed PC (CMA9-D). Increased flooding and prolonged waterlogging may result in the disappearance of willow and a transition to a graminoid fen.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Ecosite Phase: k2 rich fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Understory Tree				Ecological Status Score: 40
VELVET-FRUITED WILLOW (<i>Salix maccalliana</i>)	2.0	0.0-60.0	3	Moisture Regime: Hygric (moist) (11), Subhydric (moderately wet) (8), Hydric (wet) (7), Subhygric (moderately moist) (7)
Tall Shrub (2 to 5m)				Nutrient Regime: Permesotrophic (rich) (23), Mesotrophic (medium) (5), Eutrophic (very rich) (3)
SMOOTH WILLOW (<i>Salix glauca</i>)	13.1	0.0-90.0	30	Elevation (range): 507 (326-820) M
SALIX SPECIES (<i>Salix</i>)	10.0	0.0-75.0	20	Slope (%): 0 - 0.49 (6), 0.5 - 2.49 (6), 2.5 - 5.99 (3)
FLAT-LEAVED WILLOW (<i>Salix planifolia</i>)	7.1	0.0-75.0	16	Aspect: Level (7), Westerly (4), Northerly (1), Easterly (1), Southerly (1)
BEAKED WILLOW (<i>Salix bebbiana</i>)	6.0	0.0-85.0	13	Topographic Position: Level (13), Depression (8), Crest (1), Lower Slope (1), Upper Slope (1)
RIVER ALDER (<i>Alnus tenuifolia</i>)	3.6	0.0-30.0	20	
Medium Shrub (0.5 to 2 m)				Soil Variables
SMOOTH WILLOW (<i>Salix glauca</i>)	3.8	0.0-35.0	23	Soil Drainage: Very poorly drained (14), Poorly drained (11), Imperfectly drained (5), Moderately well drained (3)
RED-OSIER DOGWOOD (<i>Cornus stolonifera</i>)	2.7	0.0-50.0	23	Soil Subgroup: REGO HUMIC GLEYSOL (5), TERRIC MESISOL (5), REGO GLEYSOL (4), TERRIC HUMISOL (2), ORTHIC GLEYSOL (2), TYPIC MESISOL (2), TYPIC FIBRISOL (1), GLEYED REGOSOL (1), ORTHIC HUMIC REGOSOL (1)
Tall Forb (>= 30 cm)				Surface Texture: Fibric (6), Mesic (4), Silt loam (3), Clay (3), Silty clay (2), Humic (2), Heavy clay (1), Loam (1), Loamy sand (1)
COMMON HORSETAIL (<i>Equisetum arvense</i>)	4.0	0.0-25.0	57	Effective Texture: Mesic (8), Heavy clay (4), Humic (2), Clay (2), Loamy sand (2), Sandy clay (1), Sandy clay loam (1), Silty clay (1), Silt loam (1), Loam (1)
Low Forb (< 30 cm)				Depth to Mottles/Gley:
MARSH-MARIGOLD (<i>Caltha palustris</i>)	2.5	0.0-35.0	27	Organic Thickness: 0 - 5 cm (12), >= 80 cm (4), 60 - 79 cm (3), 40 - 59 cm (2), 26 - 39 cm (2), 6 - 15 cm (1)
Graminoid				Parent Material: Lacustrine (11), Undifferentiated Organic (7), Fluvial (4), Glaciolacustrine (4), Glaciofluvial (3), Fen (3), Morainal (1)
BLUEJOINT (<i>Calamagrostis canadensis</i>)	32.6	0.0-85.0	77	Soil Type: Organic (10), Wet/Mineral (6), Moist/Fine (3), Moist/Peaty (1), Wet/Peaty (1), Moist/Sandy (1), Moist/Silty-Loamy (1)
NORTHERN REED GRASS (<i>Calamagrostis inexpansa</i>)	4.1	0.0-50.0	23	Humus Form MESIC PEATYMOR (1)
WATER SEDGE (<i>Carex aquatilis</i>)	3.0	0.0-30.0	17	
AWNED SEDGE (<i>Carex atherodes</i>)	1.9	0.0-30.0	17	
TWO-SEEDED SEDGE (<i>Carex disperma</i>)	1.8	0.0-40.0	10	
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	1.3	0.0-35.0	13	

CMA9-D Willow/Kentucky bluegrass-Marsh reedgrass (Bluejoint) (n=4)

(*Salix spp/Poa pratensis-Calamagrostis canadensis*)

This PC represents a Willow/Reed grass fen (CMA9) that has been disturbed resulting in disturbance and/or invasive species present. The disturbance species actually present may vary depending on local propagules, but Kentucky bluegrass, nettles and other weedy forbs are commonly found. This PC is a fairly productive community type but grazing should be timed to avoid wet soil conditions.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Ecosite Phase: k2 rich fen - shrubby

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
SALIX SPECIES (<i>Salix</i>)	62.0	25.0-83.0	100	Moisture Regime: Hygric (moist) (2), Subhygric (moderately moist) (1)
DWARF BIRCH (<i>Betula pumila</i>)	15.0	0.0-30.0	50	Nutrient Regime: Permesotrophic (rich) (3)
Medium Shrub (0.5 to 2 m)				Elevation (range): 649 (579-687) M
BRACTED HONEYSUCKLE (<i>Lonicera involucrata</i>)	1.0	0.0-2.0	50	Slope (%): 0 - 0.49 (2)
Tall Forb (>= 30 cm)				Aspect: Level (2)
MARSH SKULLCAP (<i>Scutellaria galericulata</i>)	4.0	0.0-9.0	75	Topographic Position: Depression (3)
LARGE-LEAVED YELLOW AVENS (<i>Geum macrophyllum</i>)	3.0	0.0-4.0	75	Soil Variables
CANADA THISTLE (<i>Cirsium arvense</i>)	2.0	0.0-6.0	50	Soil Drainage: Imperfectly drained (2), Moderately well drained (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	1.0	0.0-3.0	50	Soil Subgroup:
Low Forb (< 30 cm)				Surface Texture:
WILD STRAWBERRY (<i>Fragaria virginiana</i>)	4.0	1.0-10.0	100	Effective Texture:
COMMON DANDELION (<i>Taraxacum officinale</i>)	4.0	0.0-12.0	75	Depth to Mottles/Gley:
MARSH-MARIGOLD (<i>Caltha palustris</i>)	3.0	0.0-9.0	50	Organic Thickness:
WHITE CLOVER (<i>Trifolium repens</i>)	1.0	0.0-2.0	50	Parent Material:
Graminoid				Soil Type:
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	27.0	7.0-40.0	100	Humus Form
BLUEJOINT (<i>Calamagrostis canadensis</i>)	9.0	0.0-22.0	75	
FOWL BLUEGRASS (<i>Poa palustris</i>)	4.0	0.0-10.0	50	
SEDGE SPECIES (<i>Carex</i>)	3.0	1.0-6.0	100	

k3 rich fen - graminoid (n=32)

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Characteristic Species

Forb

- [3.0]MARSH CINQUEFOIL
Potentilla palustris
- [1.6]LONG-LEAVED STARWORT
Stellaria longifolia
- [1.0]COMMON CATTAIL
Typha latifolia
- [0.6]MARSH SKULLCAP
Scutellaria galericulata
- [0.5]MARSH HEDGE-NETTLE
Stachys palustris

Graminoid

- [21.3]BLUEJOINT*
Calamagrostis canadensis
- [13.5]SMALL BOTTLE SEDGE*
Carex utriculata
- [12.0]WATER SEDGE*
Carex aquatilis
- [8.3]AWNED SEDGE*
Carex atherodes
- [2.0]NORTHERN REED GRASS
Calamagrostis inexplansa
- [0.8]TWO-STAMENED SEDGE
Carex diandra
- [0.5]PALE BULRUSH
Scirpus pallidus

Environmental Variables

Moisture Regime: Hydric (wet) (12), Hygric (moist) (11), Subhydric (moderately wet) (9), Subhygric (moderately moist) (6)

Nutrient Regime: Permesotrophic (rich) (27), Eutrophic (very rich) (6), Mesotrophic (medium) (3)

Elevation (range): 582 (326-683) M

Slope (%): level (14), nearly level (2)

Aspect: Level (12), Easterly (1)

Topographic Position: Depression (13), Level (12), Crest (1)

Soil Variables

Soil Drainage: Very poorly drained (17), Poorly drained (9), Imperfectly drained (7), Moderately well drained (4)

Soil Subgroup: REGO GLEYSOL (4), TYPIC MESISOL (3), TERRIC FIBRISOL (3), ORTHIC GLEYSOL (2), TERRIC MESIC FIBRISOL (1), TYPIC FIBRISOL (1), ORTHIC HUMIC GLEYSOL (1), TERRIC HUMISOL (1), TERRIC MESISOL (1)

Surface Texture: Fibric (7), Heavy clay (4), Mesic (2)

Effective Texture: Heavy clay (4), Fibric (4), Mesic (3), Sandy clay (1), Humic (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (8), >= 80 cm (7), 16 - 25 cm (2), 26 - 39 cm (1), 40 - 59 cm (1), 6 - 15 cm (1)

Parent Material: Undifferentiated Organic (10), Lacustrine (8), Glaciolacustrine (2), Fluvial (2), Morainal (1)

Soil Type: Organic (9), Wet/Peaty (2), Wet/Mineral (2), Moist/Peaty (1)

Humus Form

CMA1 Water sedge-Small bottle sedge (n=25)

(*Carex aquatilis*-*Carex utriculata*)

This wetland community is found near fresh water on modal subhydryc rich sites. Tall sedges are the defining and leading genus (i.e. *Carex*) for this PC. Reed grasses (i.e. *Calamagrostis*) may also occur, but are subdominant in this PC. Willows can be present at less than 30% cover. This PC occurs on rich humic gleysols or organic soils that receive additional moisture and nutrients from the adjacent uplands. The leading sedge species may be site dependant. For example, beaked sedge is usually associated with nitrogen rich conditions and moving water (Brierly et al. 1985) while, water sedge is often associated with calcium rich stagnant water (MacKinnon et al. 1992). Generally, the PC is associated with willow/sedge and willow/reed grass on it's drier edges. This sedge meadow community is very productive, but the high water table, particularly in the spring when the sedge species are most palatable, restricts livestock movement. To reduce livestock impacts and increase access, time grazing to avoid wet soils but before nutrient quality declines. One study done in the Yukon found that crude protein on these meadows declined from a high of 10% in May to less than 5% in September (Bailey et al. 1992). Continuous heavy grazing will cause the site to dry and increase the cover of disturbance species such as Kentucky bluegrass. One disturbance PC has been described and associated with graminoid fens (i.e. CMA1-D).

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydryc/rich)

Ecosite Phase: k3 rich fen - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Forb (>= 30 cm)				Ecological Status Score: 40
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	2.8	0.0-15.0	40	Moisture Regime: Hydryc (wet) (10), Hygric (moist) (9), Subhydryc (moderately wet) (7), Subhydryc (moderately moist) (5)
COMMON CATTAIL (<i>Typha latifolia</i>)	2.1	0.0-20.0	24	Nutrient Regime: Permesotrophic (rich) (20), Eutrophic (very rich) (5), Mesotrophic (medium) (3)
MARSH SKULLCAP (<i>Scutellaria galericulata</i>)	1.3	0.0-25.0	36	Elevation (range): 540 (326-681) M
Graminoid				Slope (%): 0 - 0.49 (11), 0.5 - 2.49 (2)
WATER SEDGE (<i>Carex aquatilis</i>)	22.7	0.0-98.0	60	Aspect: Level (9), Easterly (1)
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	20.3	0.0-73.4	44	Topographic Position: Depression (9), Level (9), Crest (1)
AWNED SEDGE (<i>Carex atherodes</i>)	5.8	0.0-95.0	12	Soil Variables
BLUEJOINT (<i>Calamagrostis canadensis</i>)	5.2	0.0-60.0	36	Soil Drainage: Very poorly drained (14), Poorly drained (7), Imperfectly drained (6), Moderately well drained (3)
SEDGE SPECIES (<i>Carex</i>)	4.3	0.0-54.5	32	Soil Subgroup: TERRIC FIBRISOL (3), REGO GLEYSOL (3), TYPIC MESISOL (2), ORTHIC GLEYSOL (2), TERRIC MESIC FIBRISOL (1), TYPIC FIBRISOL (1), TERRIC HUMISOL (1), ORTHIC HUMIC GLEYSOL (1), TERRIC MESISOL (1)
TWO-STAMENED SEDGE (<i>Carex diandra</i>)	1.6	0.0-40.0	4	Surface Texture: Fibric (5), Heavy clay (4), Mesic (2)
PALE BULRUSH (<i>Scirpus pallidus</i>)	1.0	0.0-15.0	8	Effective Texture: Heavy clay (4), Fibric (4), Mesic (2), Humic (1)
				Depth to Mottles/Gley:
				Organic Thickness: 0 - 5 cm (8), >= 80 cm (6), 16 - 25 cm (2), 40 - 59 cm (1), 6 - 15 cm (1)
				Parent Material: Undifferentiated Organic (9), Lacustrine (7), Fluvial (2), Glaciolacustrine (2), Morainal (1)
				Soil Type: Organic (8), Wet/Mineral (2), Moist/Peaty (1), Wet/Peaty (1)
				Humus Form

CMA1-D Kentucky bluegrass/Dandelion-Clover (n=1)

(*Poa pratensis*/*Taraxacum officinale*-*Trifolium spp.*)

This PC represents a sedge fen (CMA1) or a reed grass fen (CMA2) that has been disturbed resulting in disturbance and/or invasive species displacing native species. The disturbance species actually present may vary depending on local propagules, but Kentucky bluegrass, nettles and other weedy forbs are commonly found.

Natural Subregion: Central Mixedwood
Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)
Ecosite Phase: k3 rich fen - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Forb (>= 30 cm)				Ecological Status Score: 15-20
PERENNIAL SOW-THISTLE (<i>Sonchus arvensis</i>)	4.5	4.5-4.5	100	Moisture Regime: Subhydric (moderately wet) (1)
PURPLE-STEMMED ASTER (<i>Aster puniceus</i>)	3.5	3.5-3.5	100	Nutrient Regime: Permesotrophic (rich) (1)
CANADA THISTLE (<i>Cirsium arvense</i>)	3.1	3.1-3.1	100	Elevation (range): 668 (668-668) M
ANNUAL HAWK'S-BEARD (<i>Crepis tectorum</i>)	2.9	2.9-2.9	100	Slope (%): 0 - 0.49 (1)
ALSIKE CLOVER (<i>Trifolium hybridum</i>)	2.1	2.1-2.1	100	Aspect: Level (1)
LARGE-LEAVED YELLOW AVENS (<i>Geum macrophyllum</i>)	1.9	1.9-1.9	100	Topographic Position: Depression (1)
WESTERN WATER-HOREHOUND (<i>Lycopus asper</i>)	1.9	1.9-1.9	100	Soil Variables
MARSH SKULLCAP (<i>Scutellaria galericulata</i>)	1.8	1.8-1.8	100	Soil Drainage: Very poorly drained (1)
WESTERN DOCK (<i>Rumex occidentalis</i>)	0.7	0.7-0.7	100	Soil Subgroup:
Low Forb (< 30 cm)				Surface Texture:
COMMON DANDELION (<i>Taraxacum officinale</i>)	8.6	8.6-8.6	100	Effective Texture:
WHITE CLOVER (<i>Trifolium repens</i>)	6.0	6.0-6.0	100	Depth to Mottles/Gley:
NORTHERN GRASS-OF-PARNASSUS (<i>Parnassia palustris</i>)	1.7	1.7-1.7	100	Organic Thickness:
BOG VIOLET (<i>Viola nephrophylla</i>)	1.2	1.2-1.2	100	Parent Material:
FIELD MOUSE-EAR CHICKWEED (<i>Cerastium arvense</i>)	0.9	0.9-0.9	100	Soil Type:
COMMON YARROW (<i>Achillea millefolium</i>)	0.7	0.7-0.7	100	Humus Form
Graminoid				
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	20.0	20.0-20.0	100	
AWL-FRUITED SEDGE (<i>Carex stipata</i>)	8.0	8.0-8.0	100	
FOWL BLUEGRASS (<i>Poa palustris</i>)	6.8	6.8-6.8	100	
NORTHERN REED GRASS (<i>Calamagrostis inexpansa</i>)	3.5	3.5-3.5	100	
SPANGLETOP (<i>Scolochloa festucacea</i>)	1.5	1.5-1.5	100	
COMMON TALL MANNA GRASS (<i>Glyceria grandis</i>)	1.4	1.4-1.4	100	
ROUGH HAIR GRASS (<i>Agrostis scabra</i>)	1.3	1.3-1.3	100	

CMA2 Marsh reed grass fen (n=6)

(*Calamagrostis canadensis*)

This community is found on the edges of sedge meadows and moist draws where the water table is at or near the surface for only part of the growing season. The lower water table makes this community accessible for part of the grazing season. If the site dries, willows will invade onto these sites to form the Willow/Reed grass fen (CMA9). Increased grazing pressure on these sites will cause marsh reed grass to decline and there will be an invasion of Kentucky bluegrass and dandelion (Graminoid fen disturbed CMA1-D). Grazing must be timed to avoid wet soil conditions.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: k rich fen(subhydric/rich)

Ecosite Phase: k3 rich fen - graminoid

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Shrub (2 to 5m)				Ecological Status Score: 40
SALIX SPECIES (<i>Salix</i>)	4.3	0.0-20.0	50	Moisture Regime: Hydric (wet) (2), Hygric (moist) (2), Subhydric (moderately wet) (1), Subhygric (moderately moist) (1)
Tall Forb (>= 30 cm)				Nutrient Regime: Permesotrophic (rich) (6), Eutrophic (very rich) (1)
MARSH CINQUEFOIL (<i>Potentilla palustris</i>)	3.2	0.0-19.3	17	Elevation (range): 540 (328-683) M
WILD MINT (<i>Mentha arvensis</i>)	1.1	0.0-6.6	17	Slope (%): 0 - 0.49 (2)
MARSH HEDGE-NETTLE (<i>Stachys palustris</i>)	1.0	0.0-4.0	33	Aspect: Level (2)
Low Forb (< 30 cm)				Topographic Position: Level (3), Depression (3)
LONG-LEAVED STARWORT (<i>Stellaria longifolia</i>)	3.2	0.0-19.2	17	Soil Variables
COMMON DANDELION (<i>Taraxacum officinale</i>)	1.2	0.0-7.2	17	Soil Drainage: Poorly drained (2), Very poorly drained (2), Moderately well drained (1), Imperfectly drained (1)
Graminoid				Soil Subgroup: REGO GLEYSOL (1), TYPIC MESISOL (1)
BLUEJOINT (<i>Calamagrostis canadensis</i>)	37.5	5.0-65.0	100	Surface Texture: Fibric (2)
AWNED SEDGE (<i>Carex atherodes</i>)	10.9	0.0-33.0	67	Effective Texture: Sandy clay (1), Mesic (1)
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	6.8	0.0-28.0	33	Depth to Mottles/Gley:
NORTHERN REED GRASS (<i>Calamagrostis inexpansa</i>)	4.1	0.0-25.0	17	Organic Thickness: >= 80 cm (1), 26 - 39 cm (1)
WATER SEDGE (<i>Carex aquatilis</i>)	1.3	0.0-8.0	17	Parent Material: Lacustrine (1), Undifferentiated Organic (1)
KENTUCKY BLUEGRASS (<i>Poa pratensis</i>)	1.2	0.0-7.3	17	Soil Type: Wet/Peaty (1), Organic (1)
				Humus Form

I marsh(hydric/rich) (n=5)

Natural Subregion: Central Mixedwood

General Description

The marsh ecosite is found in level and depressional areas and around the shorelines of water bodies and riparian zones. The water is above the rooting zone for at least a portion of the growing season. These ecosites are dominated by a high diversity of emergent sedges and rushes.



Ecosection: CM Central Mixedwood

Environmental Variables

Moisture Regime: Hydric (wet) (15)

Nutrient Regime: Permesotrophic (rich) (13), Eutrophic (very rich) (1)

Elevation (range): 590 (570-610) M

Slope (%): level (2)

Aspect: Level (1)

Topographic Position:Level (1)

Soil Variables

Soil Drainage: Very poorly drained (13), Poorly drained (2)

Soil Subgroup: ORTHIC HUMIC GLEYSOL (1), REGO GLEYSOL (1)

Surface Texture: Silty clay (1)

Effective Texture: Silty clay (1)

Depth to Mottles/Gley:

Organic Thickness: 0 - 5 cm (2)

Parent Material: Fluvial (1), Fluviolacustrine (1), Undifferentiated Organic (1)

Soil Type: Wet/Mineral (1)

Humus Form

Successional Relationships

The marsh ecosite is near the beginning stages of hydrarch succession. The marsh ecosite can be thought of as successional stable with changes in plant community composition being determined largely by disturbance regime.

Indicator Species

Forb

SWAMP HORSETAIL

Equisetum fluviatile

COMMON CATTAIL

Typha latifolia

Graminoid

GREAT BULRUSH

Scirpus acutus

COMMON TALL MANNA GRASS

Glyceria grandis

I1 marsh (n=5)

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: I marsh(hydric/rich)

Characteristic Species

Forb

- [32.7]SWAMP HORSETAIL*
Equisetum fluviatile
- [15.1]COMMON CATTAIL*
Typha latifolia
- [3.3]WILD MINT
Mentha arvensis

Graminoid

- [14.5]COMMON TALL MANNA GRASS*
Glyceria grandis
- [10.6]GREAT BULRUSH*
Scirpus acutus
- [6.9]SLOUGH GRASS
Beckmannia syzigachne
- [2.3]CREEPING SPIKE-RUSH
Eleocharis palustris
- [1.6]BEBB'S SEDGE
Carex bebbii
- [1.6]SEEDGE SPECIES
Carex

Environmental Variables

Moisture Regime: Hydric (wet) (15)
Nutrient Regime: Permesotrophic (rich) (13), Eutrophic (very rich) (1)
Elevation (range): 590 (570-610) M
Slope (%): level (2)
Aspect: Level (1)
Topographic Position:Level (1)

Soil Variables

Soil Drainage: Very poorly drained (13), Poorly drained (2)
Soil Subgroup: REGO GLEYSOL (1), ORTHIC HUMIC GLEYSOL (1)
Surface Texture: Silty clay (1)
Effective Texture: Silty clay (1)
Depth to Mottles/Gley:
Organic Thickness: 0 - 5 cm (2)
Parent Material: Undifferentiated Organic (1), Fluvial (1), Fluvio-lacustrine (1)
Soil Type: Wet/Mineral (1)
Humus Form

CMA16 Swamp horsetail (n=2)

(*Equisetum fluviatile*)

This wetland community type is found near fresh water and is often associated with shallow water around lake shores or saturated wet spots in old river channels and sloughs. This community is often only found in small isolated spots or in narrow bands around the edge of lakes. As these areas dry, swamp horsetail is often replaced by sedge species.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: I marsh(hydric/rich)

Ecosite Phase: I1 marsh

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Forb (>= 30 cm)				Ecological Status Score: 0
SWAMP HORSETAIL (<i>Equisetum fluviatile</i>)	98.2	97.5-99.0	100	Moisture Regime: Hydric (wet) (2)
Graminoid				Nutrient Regime: Permesotrophic (rich) (2)
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	1.5	0.0-3.0	50	Elevation (range): 610 (610-610) M
SLOUGH GRASS (<i>Beckmannia syzigachne</i>)	0.2	0.0-0.5	50	Slope (%): 0 - 0.49 (1)
COMMON TALL MANNA GRASS (<i>Glyceria grandis</i>)	0.2	0.0-0.5	50	Aspect: Level (1)
				Topographic Position: Level (1)
				Soil Variables
				Soil Drainage: Very poorly drained (2)
				Soil Subgroup: REGO GLEYSOL (1)
				Surface Texture: Silty clay (1)
				Effective Texture: Silty clay (1)
				Depth to Mottles/Gley:
				Organic Thickness: 0 - 5 cm (1)
				Parent Material: Fluvial (1)
				Soil Type: Wet/Mineral (1)
				Humus Form

CMA17 Tall manna grass (n=2)

(*Glyceria grandis*)

This wetland community type is associated with the edge of the standing water of ponds, sloughs and slow meandering streams. As one moves away from the water to the drier edges the graminoid fens are found. This community is often only found in small isolated spots or in narrow bands around the edge of lakes. As these areas dry, tall manna grass is often replaced by sedge species.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: I marsh(hydric/rich)

Ecosite Phase: I1 marsh

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Forb (>= 30 cm)				Ecological Status Score: 0
WILD MINT (<i>Mentha arvensis</i>)	10.0	0.0-20.0	50	Moisture Regime: Hydric (wet) (2)
COMMON CATTAIL (<i>Typha latifolia</i>)	3.5	0.0-7.0	50	Nutrient Regime: Eutrophic (very rich) (1)
PALE PERSICARIA (<i>Polygonum lapathifolium</i>)	1.5	0.0-3.0	50	Elevation (range): 570 (570-570) M
Low Forb (< 30 cm)				Slope (%): 0 - 0.49 (1)
SMALL BEDSTRAW (<i>Galium trifidum</i>)	0.5	0.0-1.0	50	Aspect:
Graminoid				Topographic Position:
COMMON TALL MANNA GRASS (<i>Glyceria grandis</i>)	43.5	27.0-60.0	100	Soil Variables
SLOUGH GRASS (<i>Beckmannia syzigachne</i>)	20.5	11.0-30.0	100	Soil Drainage: Poorly drained (1), Very poorly drained (1)
CREEPING SPIKE-RUSH (<i>Eleocharis palustris</i>)	7.0	4.0-10.0	100	Soil Subgroup: ORTHIC HUMIC GLEYSOL (1)
BEBB'S SEDGE (<i>Carex bebbii</i>)	5.0	0.0-10.0	50	Surface Texture:
SEDGE SPECIES (<i>Carex</i>)	5.0	0.0-10.0	50	Effective Texture:
SHORT-AWNED FOXTAIL (<i>Alopecurus aequalis</i>)	1.5	0.0-3.0	50	Depth to Mottles/Gley:
				Organic Thickness: 0 - 5 cm (1)
				Parent Material: Fluvio-lacustrine (1), Undifferentiated Organic (1)
				Soil Type:
				Humus Form

CMA1a Bulrush-Cattail (n=1)

(*Scirpus acutus-Typha latifolia*)

This plant community type groups both bulrush and cattail dominated marshes. Usually one species or the other will form an emergent vegetative band around the standing water of ponds and sloughs (i.e. L ecosite). As one moves away from the water to the drier edges, first the fen communities are encountered, followed by the willow dominated PCs.

Natural Subregion: Central Mixedwood

Ecosection: CM Central Mixedwood

Ecosite: I marsh(hydric/rich)

Ecosite Phase: I1 marsh

Plant Composition	Canopy Cover (%)			Environmental Variables
	Mean	Range	Const.	
Tall Forb (>= 30 cm)				Ecological Status Score: 40
COMMON CATTAIL (<i>Typha latifolia</i>)	42.0	42.0-42.0	100	Moisture Regime: Hydric (wet) (9)
Graminoid				Nutrient Regime: Permesotrophic (rich) (9)
GREAT BULRUSH (<i>Scirpus acutus</i>)	32.0	32.0-32.0	100	Elevation (range): 0 (0-0) M
SMALL BOTTLE SEDGE (<i>Carex utriculata</i>)	1.0	1.0-1.0	100	Slope (%):
				Aspect:
				Topographic Position:

Soil Variables

Soil Drainage: Very poorly drained (9)

Soil Subgroup:

Surface Texture:

Effective Texture:

Depth to Mottles/Gley:

Organic Thickness:

Parent Material:

Soil Type:

Humus Form

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Appendix 1. Forest Management Interpretations¹

Forest Management Interpretations are derived from the limitations of the ecological units in the classification system. These have been developed through literature review and expert opinion from public workshops. They present the user with a general outline of limitations that together with the user's knowledge and experience should be applied in a creative manner. Some management interpretations will change dramatically with time, season of year, economic conditions, existing technology, scale of application, and program objectives (Still and Utzig 1982). Under no circumstances should the information in the dataset be construed as a formal recommendation or guideline for resource management, or as a prescription for specific sites.

Six levels were used to rate the ecosites and soil types: low (L), low to medium (L-M), low to high (L-H), medium (M), medium to high (M-H) and high (H).

Table 2. Forest management interpretations for Ecological sites in the Central Mixedwood Subregion.

ECOSITE_CODE	ECOSECTION	DROUGHT	EXCESS_MOIST	RUTTING	COMPACTION	SOIL_TEMP	COMPETITION	WINDTHROW
a	CM	H	L	L	L	L	L	L
aa	CM	H	L	L	L	H	L	NA
b	CM	M-H	L	L	L	L	M	L-M
c	CM	L-H	L	L-M	L-M	L	L-M	L
d	CM	L-M	L	M	M	L	H	L-M
e	CM	L	M-H	H	H	M	H	L-M
f	CM	L	M-H	H	H	M	H	M-H
g	CM	L	M-H	H	H	M	M	M-H
h	CM	L	H	H	H	H	M	H
l	CM	L	H	H	H	H	L	H
j	CM	L	H	H	L	H	L	H
k	CM	L	H	H	L	H	L	H
l	CM	L	H	H	L	NA	NA	NA

The relative meaning of a limitation rating and the variables that were used in the rating process are described below. All limiting factors were rated through an assessment of the variability of important site and soil characteristics associated with each ecosite and soil type.

Drought Limitations

Droughty conditions are associated with rapidly drained soils that draw water away from the rooting zone for a significant portion of the growing season. Typically, sites that are limited by drought are associated with coarse-textured soils or are situated on steep south-facing slopes where insolation and surface runoff are high. Remedial silviculture efforts such as drought-tolerant species, using stock with small tops and large root systems, and using micro-shelter planting sites can all help alleviate the effects of drought (Strong and Carnell 1995).

¹ Beckingham, J., I.G.W. Corns and J.H. Archibald. 1996. Field guide to ecosites of West-Central Alberta. Special report 9. Canadian Forest Service. Northwest Region. Edmonton, AB

Ratings are based on the moisture regime of the ecosites and soil types. A high drought limitation rating indicates severe limitations while low ratings indicate little or no limitations.

Excess Moisture

Excess soil moisture is a concern because serious site degradation can occur if sites are not properly managed. Operating heavy equipment on wet sites can cause serious rutting, compaction and puddling damage and therefore should be avoided. Winter months are suitable for operating on wet sites as the ground is frozen and snow cover acts as a disturbance buffer.

From a silvicultural perspective, excess moisture is a concern because wet soils require more heat to raise rooting zone temperatures and rooting zone aeration is reduced by saturation.

Ratings are based on the moisture regime of the ecosites and soil types. A high excess moisture rating indicates severe limitations while low ratings indicate little or no limitations.

Soil Rutting and Compaction Hazard

Machine traffic most often modifies soil quality through compaction, remoulding, puddling and/or soil displacement, which in turn affects several interrelated soil physical properties. The modification that predominates depends on soil wetness, applied stress and number of passes. Soil texture may also be important, especially when soils are at moisture levels close to field capacity.

The risk of causing soil compaction or rutting by forestry operations should be evaluated before beginning operations as both risks are greatly influenced by the amount of water in the soil at the time of disturbance. Risk assessments are based on soil water content and on estimates of the time it takes a wet soil to drain.

The rating system included in this database does not replace the operational assessment but is designed as a planning tool. It can be used as part of the decision when evaluating whether an area has the potential for supporting operations in the summer months.

Soil modifications affect four physical processes important to an organism's health: water supply and flux, heat flux, soil strength, and gas diffusion. Simply stated, the effects of compaction and rutting are manifested in changed in water infiltration rates, soil heat flux, root penetration, and oxygen supply in the soil. All of these conditions may influence soil quality and ultimately soil productivity.

The rating system is based primarily on moisture regime and related soil drainage with soil texture considered for coarse-textured soils (less than 20% silt and clay). High risk ratings indicate that it is unlikely that summer operations would be possible, medium ratings indicate that operations may be possible in dry periods, while those with low risk ratings are good candidates for summer operations. Current moisture conditions should always be evaluated before initiating operations.

Soil Temperature Limitations

Soil temperature is an important characteristic as it relates to seedling growth and survival. In cold soils, the rate of root development and the ability of plants to uptake water is considerably less than in warm soils. Thus seedlings planted in cold soils are disadvantaged during the critical establishment period. Areas where cold soils are prevalent include depressions, north-facing slopes (300 to 60 degree aspect) greater than 30%, sites located at the base of major slopes and in valleys. Opportunities exist to increase soil temperatures to more than favourable levels using various site preparation methods that create raised microsites and/or exposed mineral soils. Educating tree planters to plant in idealized microsite locations will also help increase the survival rates of seedlings situated in areas where cold soils exist.

Ratings were based on moisture regime, topographic position and surface texture of the ecosites and soil types and on the assumption that organic layers are disturbed during operations. Increase the rating by one level (e.g., medium to high) if organic layers are not disturbed.

Vegetation Competition

Assessing the degree of vegetation competition associated with each ecosite is important as it relates to forestry planning and operations such as choosing an appropriate planting stock, site preparation methods and

projected management costs. Research and experience has shown that competition is related to the height and percent cover of shrubs, forbs and grasses and whether a seedling is overtopped by a competitor. Some of the more competitive species include shrubs such as green alder, river alder, willow and bracted honeysuckle, tall prolific forbs such as fireweed and wild sarsaparilla and grasses such as hairy wild rye and most particularly marsh reed grass.

Ratings were based on the moisture regime, nutrient regime, and surface texture of the ecosites and on the assumption that organic layers are disturbed during operations. In general, high ratings were assigned to those ecosites that are moist and rich. Low ratings were assigned to ecosites that are very dry, rapidly drained and/or nutrient poor where dense understorey vegetation is uncommon.

Windthrow Hazard

Several environmental and man-made factors, not particular to an ecosite or soil type, influence the susceptibility of a site to windthrow hazard. These factors include exposure, cutblock layout and topography and should always be considered when assessing the windthrow hazard of a particular site. Shallow root systems evident on sites with thick organic layers or high water tables increases the chance of windthrow while coarse-textured soils can reduce the ability of a root system to anchor trees firmly.

Windthrow hazard ratings for ecosites and soil types were based on organic thickness, presence of water table, tree rooting habit and effective soil texture.

Soil Erosion Hazard

Soil types were rated for surface water erosion hazard. Infiltration capacity and structural stability are regarded as the most important factors in controlling water erosion; therefore, they were central to the evaluation. Numerous soil and site variable affect infiltration capacity and structural stability including the extent and type of vegetation cover, the thickness of the LFH layer, the type of humus form, texture of the surface and C horizons, degree of carbonate cementing, coarse fragment content, slope angle, and length of slope. Climatic factors such as rainfall intensity, duration and seasonal distribution and the rapidity of snow melt affect erosion, but are difficult to relate to a particular ecosite or soil type. Soil erosion hazard decreases as clay or sand content increase, and increases as percent silt increases. As organic matter depth and vegetation increase erosion hazard decreases.

Ratings were based on the moisture regime and surface texture of the soil types and on the assumption that organic layers are disturbed during operations. Reduce the soil hazard rating by one level (e.g. high to medium) if organic layers and/or vegetation are not disturbed.

Appendix 2. Soil Types

Soil types are taxonomic units used to group soils based on soil moisture regime, effective soil texture, organic matter thickness and solum depth. Soil types can be used independently, in association with the hierarchical classification system (ecosite, ecosite phase and plant community type) or to classify disturbed sites.

Along with moisture regime, organic matter thickness, and solum depth, effective texture is central to the soil type classification system. Effective texture for mineral soils is generally defined as the textural class of the finest-textured horizon that occurs 20 to 60 cm below the mineral soil surface and that is at least 10cm thick. The 10-cm minimum thickness stipulation avoids misclassifying soils as fine textured when they are predominantly coarse, but have thin, finer-textured depositional bands.

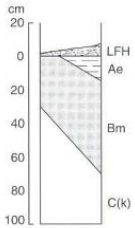
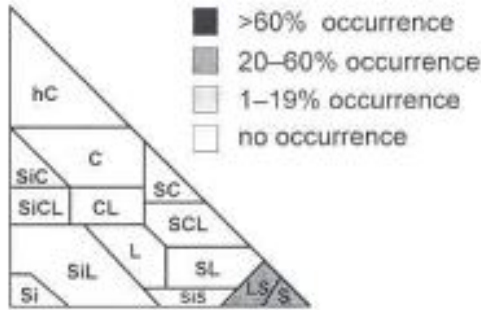
There are 5 major soil types defined by their soil moisture: very dry (SV) (very xeric-xeric-subxeric); dry (SD) (submesic); moist (SM) (mesic-subhygric); wet (SW) (hygric-subhydric-hydric); organic (SR); and shallow (SS). The soil types are further broken down by their texture class, for a total of 17 classes.

For this guide we have taken the soil type definitions from the field Ecosite guides of Northern Alberta (Beckingham and Archibald 1996). The numbers in brackets (8) indicate the number of plots representing a particular attribute.

SV1 Very Dry/Sandy (n=58)

General Description

Very dry coarse sandy, sandy and loamy sand soil that develop in glaciofluvial and eolian parent materials.



Comments

This soil type is most commonly associated with ecosite a in all ecological areas of the boreal. SV1 has a poor nutrient status and a low capacity to retain water because of its coarse texture. Forest productivity on these soils tends to be low. A moderate windthrow hazard exists for shallow rooted white spruce trees.

Environmental Variables

Moisture Regime: Xeric (dry) (19), Subxeric (moderately dry) (39)
 Nutrient Regime: Oligotrophic (very poor) (4), Mesotrophic (medium) (10), Submesotrophic (poor) (44)

Soil Variables

Soil Drainage: Well drained (11), Rapidly drained (45), Moderately well (2)
 Soil Subgroup: ELUVIATED DYSTRIC BRUNISOL (11), ELUVIATED EUTRIC BRUNISOL (32), ORTHIC EUTRIC BRUNISOL (3), ORTHIC DYSTRIC BRUNISOL (1), ORTHIC HUMO-FERRIC PODZOL (3), ORTHIC REGOSOL (1), PODZOLIC GRAY LUVISOL (1)

Surface Texture: Loamy sand (5), Sand (51), Sandy clay loam (2)

Effective Texture: : Loamy sand (6), Sand (51), Sandy loam (1)

Depth to Mottles/Gley: None (57), 51-75 (1)

Parent Material Fluvioeolian (7), Fluvial (7), Eolian (13), Glaciofluvial (27), Colluvial (1), Lacustrine (1), Morainal (1)

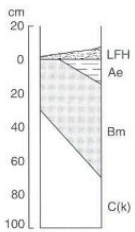
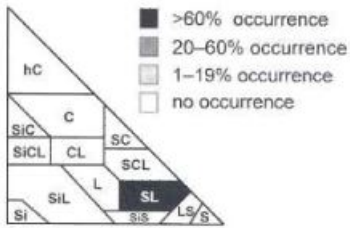
Interpretations

Drought Limitations	H
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L
Soil Temperature Limitations	L
Windthrow Hazard	L-M

SV2 Very Dry/Coarse Loamy (n=3)

General Description

Very dry coarse loamy materials that commonly develop in glaciofluvial and colluvial parent materials (Beckingham and Archibald 1996).



Comments

The droughty nature of SV2 is attributed to its moderate coarse texture and rapid drainage.

Environmental Variables

Moisture Regime: Subxeric (moderately dry) (3)

Nutrient Regime: Mesotrophic (medium) (1), Permesotrophic (rich) (1), Submesotrophic (poor) (1)

Soil Variables

Soil Drainage: Moderately well (1), Well drained (2)

Soil Subgroup: PODZOLIC GRAY LUVISOL (1), DYSTRIC BRUNISOL ELUVIATED (1), ORTHIC GRAY LUVISOL (7)

Surface Texture: Sand (1), Loamy sand (1), Sandy loam (1)

Effective Texture: Sandy loam (2), Sandy clay loam (1)

Depth to Mottles/Gley: none

Parent Material: Morainal (1) Glaciofluvial (2)

Soil Type: Very Dry/Coarse (3)

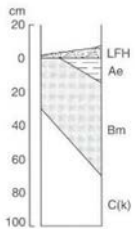
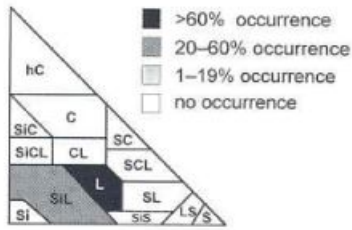
Interpretations

Drought Limitations	H
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L
Soil Temperature Limitations	L
Windthrow Hazard	L

SV3 Very Dry/Silty Loamy (n=4)

General Description

Very dry silty or loamy materials that develop in a variety of parent materials



Comments

SV3 soils typically occur in topographic positions that shed water such as slope crests and steep, south-facing valley slopes where solar radiation is intense. Droughty conditions exist throughout most of the growing season. Those soils that occur on steep slopes are highly susceptible to water erosion.

Environmental Variables

Moisture Regime: Subxeric (4)

Nutrient Regime: Submesotrophic (poor) (4)

Soil Variables

Soil Drainage: Rapidly drained (1), Well (3)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1) ORTHIC EUTRIC BRUNISOL (3)

Surface Texture: Silty Loam (2) Sand (2)

Effective Texture: Silty Loam (1), Silt (2), Sand (1)

Depth to Mottles/Gley: None (10)

Parent Material: Fluvial (2), Saprolite (1), Eolian (1)

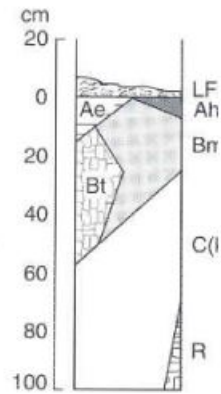
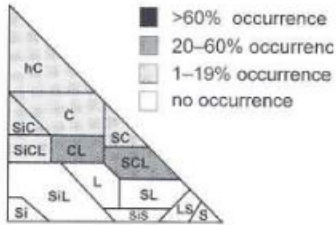
Interpretations

Drought Limitations	H
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L-M
Puddling Hazard	M
Soil Erosion Hazard	H
Frost Heave Hazard	L-M
Soil Temperature Limitations	L
Windthrow Hazard	L

SV4 Very Dry/Fine Loamy-Clayey (n=4)

General Description

Very dry, fine loamy or clay soils that are found developed in morainal and predominantly glaciofluvial parent materials in the Central Mixedwood subregion.



Comments

The SV4 soils were found on midslope, upper slope and crest positions in the landscape. If plots occur on steep south-facing slopes (>45%) solar radiation can be intense (Beckingham and Archibald 1996). On such sites, droughty conditions persist throughout the growing season and the soil erosion hazard tends to be high.

Environmental Variables

Moisture Regime: Subxeric (2), Xeric (2)

Nutrient Regime: Mesotrophic (medium) (1), Submesotrophic (poor) (3)

Soil Variables

Soil Drainage: Rapidly drained (2), Well (1), Moderately well (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), BRUNISOLIC GRAY LUVISOL (1), ORTHIC GRAY LUVISOL (1)

Surface Texture: Silt Loam (1) Sand (2), Sandy Clay (1)

Effective Texture: Silty Clay Loam (1), Clay (2), Sandy Clay (1)

Depth to Mottles/Gley: None (10)

Parent Material: Morainal (1), Glaciofluvial (2)

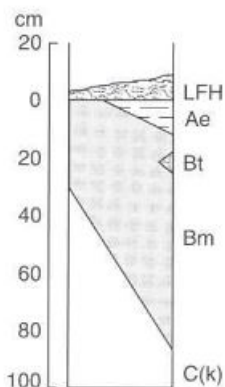
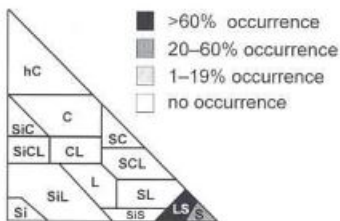
Interpretations

Drought Limitations	H
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L-M
Puddling Hazard	M
Soil Erosion Hazard	H
Frost Heave Hazard	L-M
Soil Temperature Limitations	L
Windthrow Hazard	L

SD1 Dry/Sandy (n=54)

General Description

Dry, sandy soils that were found on predominantly glaciofluvial parent materials.



Comments

SD1 soils exhibit rapid to well internal soil drainage and occur on a variety of topographic positions. Mottles are typically not encountered in the soil profile. Droughty conditions may persist for part of the growing season. A moderate windthrow hazard exists for shallow rooted white spruce trees.

Environmental Variables

Moisture Regime: Submesic (54)
 Nutrient Regime: Mesotrophic (medium) (26), Submesotrophic (poor) (25), Permesotrophic (rich) (1), Oligotrophic (very poor) (1)

Soil Variables

Soil Drainage: Rapidly drained (35), Well (14), Moderately well (3)
 Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (41), ORTHIC EUTRIC BRUNISOL (7), ELUVIATED DYSTRIC BRUNISOL (8), BRUNISOLIC GRAY LUVISOL (3), ORTHIC REGOSOL (1), ORTHIC DYSTRIC BRUNISOL (1)
 Surface Texture: Loamy Sand (11), Sand (36), Sandy loam (6)
 Effective Texture: Loamy Sand (12), Sand (29), Sandy loam (2)
 Depth to Mottles/Gley: None (53), 51-75 (1)
 Parent Material: Eolian (9), Glaciofluvial (43), Fluvial (4), Glaciolacustrine (3), Lacustrine (1), Morainal (2), Colluvial (1)

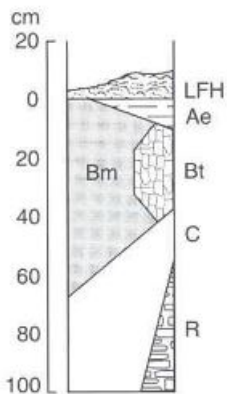
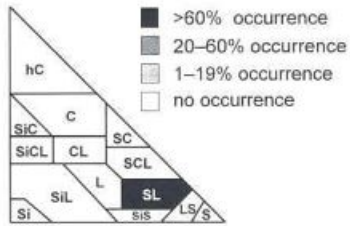
Interpretations

Drought Limitations	M
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L
Soil Temperature Limitations	L
Windthrow Hazard	L-M

SD2 Dry/Coarse Loamy (n=11)

General Description

Dry, coarse loamy soils that most commonly develop in glaciofluvial or eolian deposits as described in the Central Mixedwood subregion.



Comments

SD2 soils occur on crest to lower slope topographic positions. Mottles are typically not encountered in the soil profile.

Environmental Variables

Moisture Regime: Submesic (11)

Nutrient Regime: Mesotrophic (medium) (8), Submesotrophic (poor) (3)

Soil Variables

Soil Drainage: Rapidly drained (3), Well (6), Moderately well (2)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (4), ELUVIATED DYSTRIC BRUNISOL (1), ELUVIATED DARK BROWN CHERNOZEM (2), BRUNISOLIC GRAY LUVISOL (2), DARK GRAY LUVISOL (1)

Surface Texture: Sandy Loam (3) Loamy sand (2), Sand (4)

Effective Texture: Sandy Loam (5), Clay (1), Clay loam (1), Sandy clay loam (1), Silt (1)

Depth to Mottles/Gley: None (11)

Parent Material: Eolian (1), Glaciofluvial (7), Glaciolacustrine (1), Lacustrine (1)

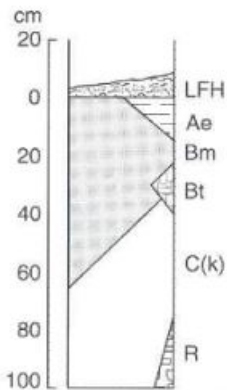
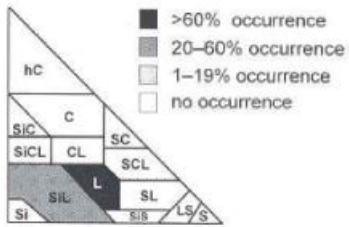
Interpretations

Drought Limitations	M
Excess Moisture	L
Rutting Hazard	L
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L
Soil Temperature Limitations	L
Windthrow Hazard	L

SD3 Dry/Silty-Loamy (n=6)

General Description

Dry, silty loamy soils that most commonly develop in fluviolacustrine or glaciofluvial or eolian deposits.



Comments

SD3 soils occur on upper slope to level positions in the landscape. Those sites with SD3 soils that occur on straight slopes are most susceptible to soil erosion.

Environmental Variables

Moisture Regime: Submesic (6)

Nutrient Regime: Mesotrophic (medium) (5), Submesotrophic (poor) (1)

Soil Variables

Soil Drainage: Well (6)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (2), ORTHIC EUTRIC BRUNISOL (1), BRUNISOLIC GRAY LUVISOL (3)

Surface Texture: Sandy Loam (2), Silt loam (1), Loamy sand (1), Silt (1)

Effective Texture: Silty clay loam (2), Silty Loam (1), Silt (2)

Depth to Mottles/Gley: None (6)

Parent Material: Glaciofluvial (1), Fluvioeolian (1), Eolian(3), Glaciolacustrine (1)

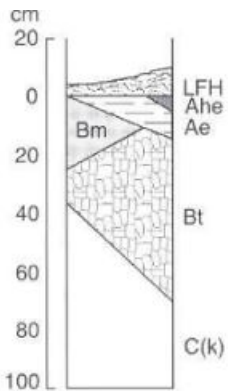
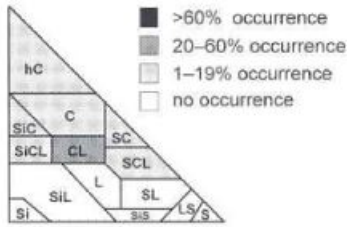
Interpretations

Drought Limitations	M
Excess Moisture	L
Rutting Hazard	L-M
Compaction Hazard	M
Puddling Hazard	M
Soil Erosion Hazard	M-H
Frost Heave Hazard	M
Soil Temperature Limitations	L
Windthrow Hazard	L

SD4 Dry/Fine Loamy-Clayey (n=59)

General Description

Dry, fine loamy to clayey soils that were found developed in all parent materials.



Comments

SD4 soils occur in upland landscape positions and are generally characterized by moderately coarse to medium-textured surface layers overlying a fine-textured Bt horizon. This illuviated horizon can become restrictively hard if extended periods of warm, dry weather persist. Under these conditions, root development and plant growth are reduced (Beckingham and Archibald 1996).

Environmental Variables

Moisture Regime: Submesic (59)

Nutrient Regime: Mesotrophic (medium) (38), Submesotrophic (poor) (16), Permesotrophic (rich)(5)

Soil Variables

Soil Drainage: Well (16), Moderately well (37), Imperfectly (2) Poorly (2), Rapidly (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (4), GLEYED GRAY LUVISOI (1), ORTHIC GRAY LUVISOL (24), BRUNISOLIC GRAY LUVISOL (23), DARK GRAY LUVISOL (3), SOLONETZIC GRAY LUVISOL (2), GRAY SOLOD (1)

Surface Texture: Sandy Loam (11) Loamy sand (4), Silty Loam (13), Clay Loam (7), Sand (4), Sandy clay loam (7), Silty clay (5), Silty clay loam (4)

Effective Texture: Silty Clay Loam (8) Silty Clay (4), Sandy Clay Loam (11), Clay Loam (17), Clay (13), Sandy clay (4),

Depth to Mottles/Gley: None (57), 0-25 (2)

Parent Material: Glaciolacustrine(6), Glaciofluvial (14), Morainal (3), Eolian (3), Fluvial (3), Morainal (22)

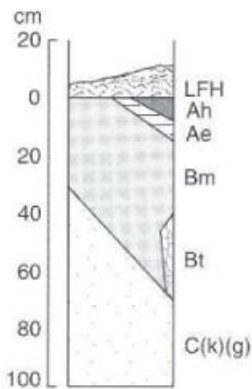
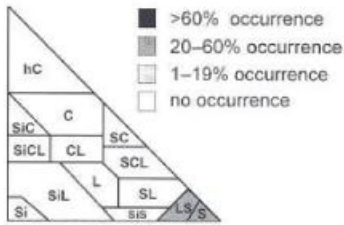
Interpretations

Drought Limitations	M
Excess Moisture	L
Rutting Hazard	M
Compaction Hazard	M
Puddling Hazard	H
Soil Erosion Hazard	M-H
Frost Heave Hazard	M
Soil Temperature Limitations	L
Windthrow Hazard	L

SM1 Moist/Sandy (n=63)

General Description

Moist sandy soils that develop on a variety of parent materials.



Comments

SM1 soils typically occur on level to gently sloping topography (<10%) and are predominantly well-drained. Although the upper 60 cm of SM1 soil profiles are sandy, soil water is not limited. Sites with SM1 soils tend to be located in water receiving topographic positions or are underlain by fine-textured material, which inhibits rapid drainage. Mottles are occasionally encountered in the soil profile (Beckingham and Archibald 1996).

Environmental Variables

Moisture Regime: Mesic (42), Subhygric (21)

Nutrient Regime: Mesotrophic (medium) (35), Submesotrophic (poor) (10), Permesotrophic (rich)(18)

Soil Variables

Soil Drainage: Well (32), Moderately well (9), Rapid (5), Imperfect (14), Poorly (3),

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (24), EUTRIC BRUNISOL ORTHIC (1), ELUVIATED DYSTRIC BRUNISOL (5), BRUNISOLIC GRAY LUVISOL (2), CUMULIC REGOSOL (4), GLEYED CUMULIC REGOSOL (2), GLEYED ELUVIATED DYSTRIC BRUNISOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (3), ORTHIC DYSTRIC BRUNISOL (1), ORTHIC EUTRIC BRUNISOL (6), ORTHIC GLEYSOL (7), ORTHIC GRAY LUVISOL (2), REGO HUMIC GLEYSOL (2)

Surface Texture: Sand (38), Loamy Sand (11), Sandy loam (5), Silt (3), Silt loam (3), Silty clay loam (1)

Effective Texture: Loamy Sand (19), Sand (45), Sandy loam (1)

Depth to Mottles/Gley: None (61), (0-25)(1), 26-50 (1)

Parent Material: Fluvial (7) Eolian (13), Glaciofluvial (26), Glaciolacustrine(6), Lacustrine (3), Morainal (2)

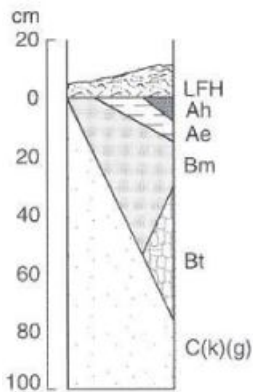
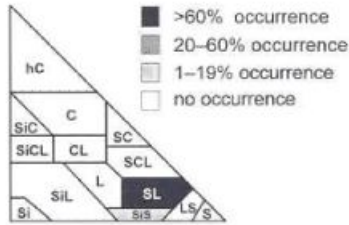
Interpretations

Drought Limitations	L
Excess Moisture	L-M
Rutting Hazard	L
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L
Soil Temperature Limitations	M
Windthrow Hazard	L-M

SM2 Moist/Coarse Loamy (n=25)

General Description

Moist coarse loamy soils that have developed on a variety of parent materials.



Comments

The SM2 soils typically occur on level to very gently sloping topography. The soils that occur in water-receiving topographic positions and have a subhygric moisture regime typically have higher hazard ratings than those soils in better-drained locations.

Environmental Variables

Moisture Regime: Mesic (15), Subhygric (10)

Nutrient Regime: Mesotrophic (medium) (14), Submesotrophic (poor) (2), Permesotrophic (rich)(8), Eutrophic (very rich) (1)

Soil Variables

Soil Drainage: Well (8), Moderately well (9), Imperfectly (7), Poorly (1)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (3), ORTHIC EUTRIC BRUNISOL (4), GLEYED EUTRIC BRUNISOL (3), BRUNISOLIC GRAY LUVISOL (6), CUMULIC REGOSOL (1), ORTHIC DYSTRIC BRUNISOL (1), ORTHIC GRAY LUVISOL (2), ORTHIC GLEYSOL (2), ORTHIC LUVIC GLEYSOL (1), REGO GLEYSOL (1)

Surface Texture: Sand (2), Sandy Loam (11), Loam (3), Loamy sand (3), Silt loam (7)

Effective Texture Clay loam (1), Sandy Loam (17), Sandy clay loam (2), Silt (2), Silty clay (1)

Depth to Mottles/Gley: None (24), 26-50 (1)

Parent Material: Glaciolacustrine (2), Glaciofluvial (6), Morainal (5), Fluvial (8), Colluvial (2), Lacustrine (1)

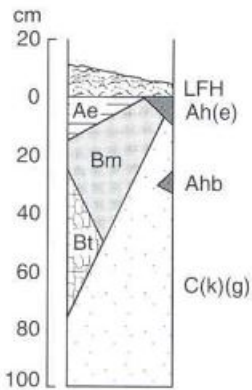
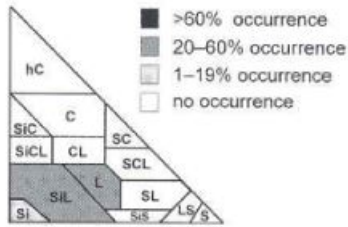
Interpretations

Drought Limitations	L
Excess Moisture	L-M
Rutting Hazard	L-M
Compaction Hazard	L-M
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	L-M
Soil Temperature Limitations	L-M
Windthrow Hazard	L

SM3 Moist/Silty Loamy (n=41)

General Description

Moist silty loamy soils that can develop on a variety of parent materials, but are most common on fluvial parent materials.



Comments

SM3 soils typically occur on level, fluvially deposited landscapes. Soils in this environment may exhibit buried, humified Ah horizons (Ahb). High hazard ratings generally apply to those SM3 soils that are associated with sites that have a subhygric moisture regime. Faint mottles may be present in any horizon.

Environmental Variables

Moisture Regime: Mesic (18), Subhygric (23)

Nutrient Regime: Mesotrophic (medium) (18) Submesotrophic (poor) (3), Permesotrophic (rich)(19), Eutrophic (very rich) (1)

Soil Variables

Soil Drainage: Well (6), Moderately well (23), Imperfectly (11), Poorly (2)

Soil Subgroup: EUTRIC BRUNISOL ELUVIATED (2), GLEYED CUMULIC REGOSOL (4), ELUVIATED DYSTRIC BRUNISOL (1), CUMULIC REGOSOL (5), BRUNISOLIC GRAY LUVISOL (3), GLEYED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (1), GLEYED REGOSOL (1), ORTHIC EUTRIC BRUNISOL (3), ORTHIC GLEYSOL (2), ORTHIC GRAY LUVISOL (8), ORTHIC LUVIC GLEYSOL (2), ORTHIC REGOSOL (2), REGO GLEYSOL (1)

Surface Texture: Loam (3), Sandy Loam (4), Silty Loam (11), Silt (13), Loamy sand (3), Clay loam (1), Sand (3), Sandy clay loam (2), Silty clay (1)

Effective Texture: Loam (7), Silt (13), Silty Loam (14), Clay (1), Sandy clay (3), Sandy loam (2), Silty clay loam (1)

Depth to Mottles/Gley: None (40), (0-25)(1), 26-50 (1)

Parent Material: Fluvial (23), Morainal (4), Glaciolacustrine(3), Glaciofluvial (8), Eolian (4), Fluviolacustrine (1), Lacustrine (1)

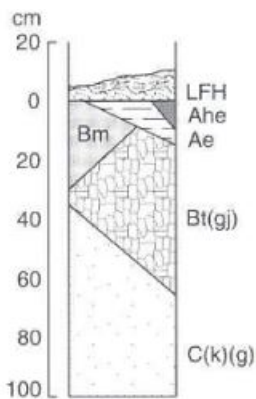
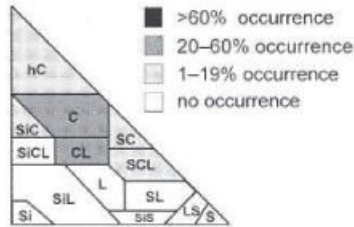
Interpretations

Drought Limitations	L
Excess Moisture	L-M
Rutting Hazard	M-H
Compaction Hazard	M-H
Puddling Hazard	M-H
Soil Erosion Hazard	M
Frost Heave Hazard	M-H
Soil Temperature Limitations	L-M
Windthrow Hazard	L

SM4 Moist/Fine Loamy-Clayey (n=562)

General Description

Moist silty loamy to clayey soils that can develop on a variety of parent materials, but are most common on morainal and glaciolacustrine parent materials.



Comments

SM4 was the most extensively sampled soil type in northern Alberta and occurs on upper slope, lower slope and level positions in the landscape (Beckingham and Archibald 1996). Typically, these soils have a medium to moderately coarse-textured surface layer overlying a fine-textured Bt horizon. This illuvial horizon (Bt) may temporarily impede internal soil drainage during high rainfall and spring runoff periods causing saturated soil conditions in the upper horizons. High hazard ratings generally apply to those SM4 soils that are associated with sites that have a subhygric moisture regime.

Environmental Variables

Moisture Regime: Mesic (357), Subhygric (155)

Nutrient Regime: Mesotrophic (medium) (389), Submesotrophic (poor) (36), Permesotrophic (rich)(85), Eutrophic (very rich) (2)

Soil Variables

Soil Drainage: Well (87), Moderately well (281), Imperfectly (117), Poorly (25)

Soil Subgroup: ORTHIC LUVIC GLEYSOL (39), BRUNISOLIC GRAY LUVISOL (74), ORTHIC GRAY LUVISOL (245), GLEYED BRUNISOLIC GRAY LUVISOL (12), DARK GRAY LUVISOL (20), ELUVIATED EUTRIC BRUNISOL (10), GLEYED CUMULIC REGOSOL (5), HUMIC LUVIC GLEYSOL (6), ORTHIC GLEYSOL (12), REGO GLEYSOL (3), ORTHIC HUMIC GLEYSOL (8), SOLONETZIC GRAY LUVISOL (20)

Surface Texture: Loam (75), Silty Loam (120), Sandy Loam (106), Clay (18), Clay loam (55), Heavy clay (3), Loamy sand (27), Sand (15), Silt (23), Sandy clay loam (34)

Effective Texture Silty Clay (76), Silty Clay Loam (66), Sandy Clay Loam (68), Clay Loam (146), Clay (188),

Depth to Mottles/Gley: None (505), (0-25)(42), 26-50 (17), 51+ (5)

Parent Material: Glaciolacustrine (95), Morainal (243), Colluvial (5), Eolian (21), Fluvial (30), Glaciofluvial (92), Lacustrine (28), Fluvioeolian (4), Fluvioacustrine (9)

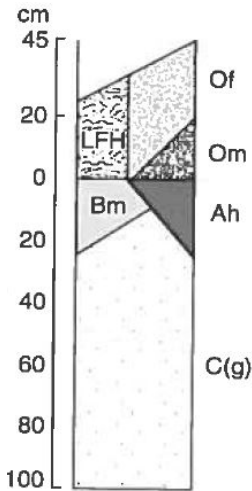
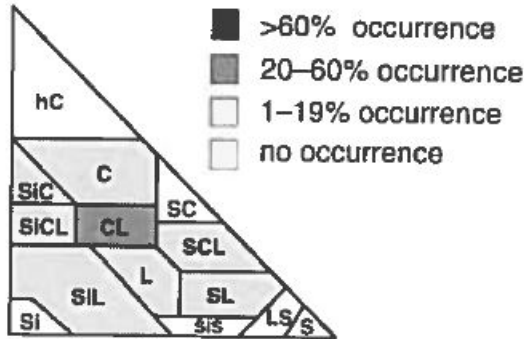
Interpretations

Drought Limitations	L
Excess Moisture	L-M
Rutting Hazard	M-H
Compaction Hazard	H
Puddling Hazard	M-H
Soil Erosion Hazard	M
Frost Heave Hazard	H
Soil Temperature Limitations	L-M
Windthrow Hazard	L

SMP Moist/Peaty (n=37)

General Description

SMP are moist soils with a duff layer thicker than 20cm. They are found on a variety of parent materials.



Comments

SMP soils have a higher mean moisture regime rating than other moist soil types (SM1-4), which implies that they are transitional to SWp. If the thick organic layer of SMP is not excessively disturbed, the effects of forestry operations on soil erosion, rutting, compaction and puddling can be reduced. Faint to distinct mottles are commonly encountered in the upper 25 cm of SMP soils.

Environmental Variables

Moisture Regime: Mesic (10), Subhygric (27)

Nutrient Regime: Mesotrophic (medium) (16), Submesotrophic (poor) (6), Permesotrophic (rich)(15)

Soil Variables

Soil Drainage: Well (3), Moderately well (16), Imperfectly (11), Poorly (3), Very poor (1)

Soil Subgroup: HUMIC LUVIC GLEYSOL (1), ORTHIC GLEYSOL (6), REGO HUMIC GLEYSOL (4), GLEYED GRAY LUVISOL (3), CUMULIC REGOSOL (2), GLEYED CUMULIC REGOSOL (2), GLEYED ELUVIATED EUTRIC BRUNISOL (1), GLEYED GRAY LUVISOL (3), GLEYED REGOSOL (1), ORTHIC LUVIC GLEYSOL (6), ORTHIC GRAY LUVISOL (7), REGO GLEYSOL (3)

Surface Texture: Silty clay (2), Silty Loam (7), Silty Clay Loam (6), Sandy Loam (1), Clay Loam (6), Loamy sand (1), Fibric (1), Clay (1), Loam (2), Sand (5), Loamy sand (2)

Effective Texture: Silty Clay (4), Silty Loam (3), Silty Clay Loam (9), Sandy Clay Loam (5), Clay (8), Clay loam (3), Loamy sand (2), Sand (1), Sandy loam (1), Silt (1)

Depth to Mottles/Gley: (0-25)(4), (26-50)(2), none (30)

Parent Material: Fluvial (5), Morainal (5), Glaciolacustrine (8), Lacustrine (7), Colluvial (2), Eolian (2), Glaciofluvial (8)

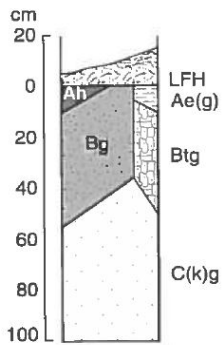
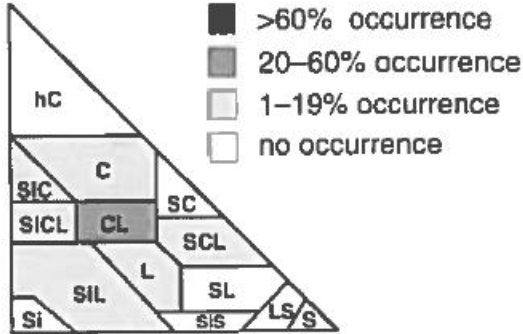
Interpretations

Drought Limitations	L
Excess Moisture	M
Rutting Hazard	H
Compaction Hazard	H
Puddling Hazard	H
Soil Erosion Hazard	L-M
Frost Heave Hazard	M-H
Soil Temperature Limitations	H
Windthrow Hazard	M-H

SWm Wet/Mineral (n=30)

General Description

SWm soils are wet soils with an organic layer thickness of less than 20cm. They are found in a variety of parent materials



Comments

SWm are commonly associated with forested and non-forested plant community types that occur in two different environments. The forested plant community types tend to occur in lower slope, depressional, and toe positions in the landscape where seepage waters discharge or where water table levels rise into the rooting zone. These sites commonly have hygric to subhydryc moisture regimes. Non-forested plant community types with SWm soils tend to occur on level topography adjacent to lakes and streams where water table levels are often above the mineral surface for a significant portion of the growing season. Hydric to subhydryc moisture regimes are most common on SWm soils associated with non-forested sites.

Environmental Variables

Moisture Regime: Hygric (23), Subhydryc (6), Hydryc (1)
 Nutrient Regime: Mesotrophic (medium) (4), Permesotrophic (rich)(22), Eutrophic (very rich) (4)

Soil Variables

Soil Drainage: Very poor (10), Imperfectly (4), Poor (14)
 Soil Subgroup: ORTHIC LUVIC GLEYSOL (3), ORTHIC GLEYSOL (6), REGO HUMIC GLEYSOL (5), REGO GLEYSOL (7), GLEYED CUMULIC REGOSOL (1), GLEYED REGOSOL (1), ORTHIC HUMIC GLEYSOL (5),
 Surface Texture: Loam (1), Silty Loam (5), Silty Clay Loam (2), Clay (10), Silty Clay (5), Sand (1), Humic (2), Loamy sand (1)
 Effective Texture : Silty Clay (6), Clay (6), Sand (1), Heavy clay (9), Clay loam (1), Loamy sand (2), Sandy clay loam (1), Sandy loam (1), Silt (1), Silt loam (1)
 Depth to Mottles/Gley: (0-25)(8), None (1)
 Parent Material: Fluvial (5), Morainal (1), Glaciolacustrine (4), Lacustrine (12), Glaciofluvial (2),

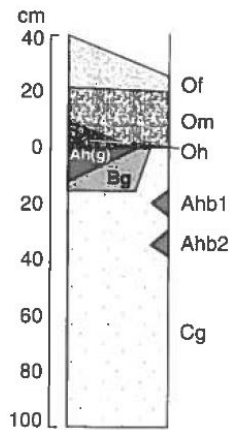
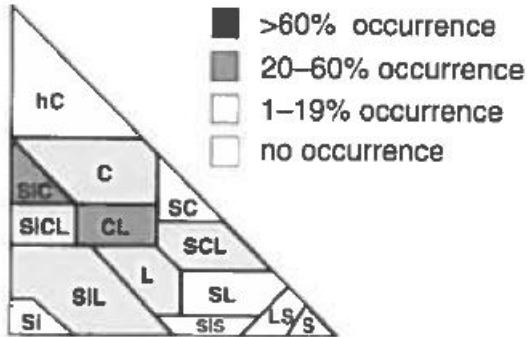
Interpretations

Drought Limitations	L
Excess Moisture	H
Rutting Hazard	H
Compaction Hazard	H
Puddling Hazard	H
Soil Erosion Hazard	L-M
Frost Heave Hazard	H
Soil Temperature Limitations	H
Windthrow Hazard	H

SWp Wet/Peaty (n=27)

General Description

SWp soils are wet soils with an organic layer thickness of greater than 20cm. This soil type is commonly associated with ecosites that have feather moss or sphagnum-dominated moss layers.



Comments

SWp soils most commonly occur on flat, depressional, or lower slope positions in the landscape where seepage waters discharge or where local drainage waters accumulate. SWp are transitional between SMP and SR soil types. Most of the tree roots found in this soil type occur in its thick peaty layers, increasing the risk of blowdown. Black spruce, tamarack, balsam poplar and white spruce are the most common tree species associated with SWp. Distinct to prominent mottles are commonly encountered at any depth throughout the soil profile.

Environmental Variables

Moisture Regime: Hygric (17), Subhydic (10)

Nutrient Regime: Mesotrophic (medium) (6), Permesotrophic (rich)(10), Submesotrophic (9)

Soil Variables

Soil Drainage: Very poor (5), Imperfectly (8), Poorly (14)

Soil Subgroup: ORTHIC LUVIC GLEYSOL (1), ORTHIC GLEYSOL (8), REGO HUMIC GLEYSOL (1), REGO GLEYSOL (6), GLEYED ELUVIATED EUTRIC BRUNISOL (1), GLEYED EUTRIC BRUNISOL (1), GLEYED GRAY BROWN LUVISOL (1), ORTHIC HUMIC GLEYSOL (5), ORTHIC REGOSOL (1)

Surface Texture: Loamy sand (1), Loam (1), Silty Clay Loam (3), Clay (2), Silty Clay (3), Fibric (6), Humic (2), Mesic (6), Sandy clay (1)

Effective Texture : Silty Clay (2), Clay (6), Clay loam (2), Loam (1), Loamy sand (1), Sand (1), Sandy clay (3)

Depth to Mottles/Gley: (0-25)(9), (26-50)(1)

Parent Material: Fluvial (3), Morainal (2), Glaciolacustrine (2), Lacustrine (5), Glaciofluvial (5)

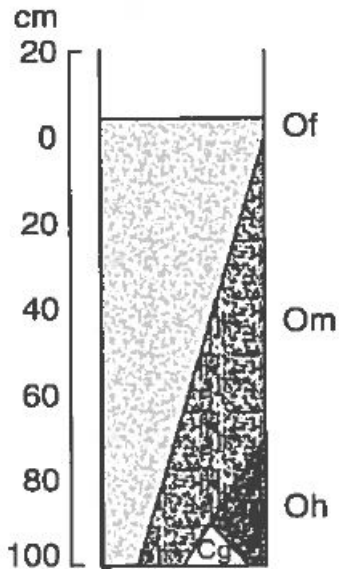
Interpretations

Drought Limitations	L
Excess Moisture	H
Rutting Hazard	H
Compaction Hazard	H
Puddling Hazard	H
Soil Erosion Hazard	H
Frost Heave Hazard	H
Soil Temperature Limitations	H
Windthrow Hazard	H

SR Organic (n=126)

General Description

Organic soils are wet with an organic thickness greater than 60cm if the material is fibric or > 40cm if the material is mesic or humic. On sites with mosses covering the surface substrate, microtopography tends to be hummocky.



Comments

SR soils are typically located on flat or depressional areas in the landscape where regional or local drainage waters accumulate. They exhibit a diverse range of profiles based on organic matter thickness and on the degree of organic matter decomposition. SR soils are strongly associated with unmerchantable lowland ecosites.

Environmental Variables

Moisture Regime: Hygric (19), Subhydic (73), Hydic (30)
 Nutrient Regime: Mesotrophic (medium) (19), Oligotrophic (very poor) (28), Permesotrophic (rich)(33), Submestrophic (poor) (35), Eutrophic (10)

Soil Variables

Soil Drainage: Very poor (93), Poorly (28), Imperfectly (2)
 Soil Subgroup: FIBRIC MESISOL (1), FIBRIC ORGANIC CRYOSOL (9), MESIC FIBRISOL (2), MESIC HUMISOL (2), MESIC ORGANIC CRYOSOL (1), TERRIC FIBRIC HUMISOL (3), TERRIC FIBRIC MESISOL (6), TERRIC FIBRISOL (9), TERRIC HUMISOL (6), TERRIC MESIC FIBRISOL (8), TERRIC MESISOL (17), TYPIC FIBRISOL (27), TYPIC MESISOL (29)
 Surface Texture: Mesic (32), Fibric (81), Humic (5)
 Effective Texture: Mesic (70), Fibric (45), Humic (11)
 Depth to Mottles/Gley: not applicable
 Parent Material: Organic (10)

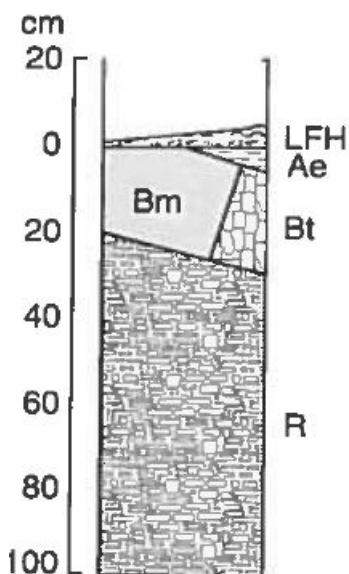
Interpretations

Drought Limitations	L
Excess Moisture	H
Rutting Hazard	H
Compaction Hazard	L
Puddling Hazard	L
Soil Erosion Hazard	L
Frost Heave Hazard	H
Soil Temperature Limitations	H
Windthrow Hazard	H

SS Shallow (n=3)

General Description

Shallow soils with less than or equal to 30 cm of mineral material overlying bedrock. This soil type includes exposed bedrock surfaces.



Comments

These soils occur in areas where bedrock is encountered at or near the surface. Typically these soils are dry as their water-holding capacity is low. Windthrow hazard is one of the most limiting factors associated with shallow soils.

Environmental Variables

Moisture Regime: Xeric (1), Submesic (2)

Nutrient Regime: Mesotrophic (medium) (1), Submesotrophic (poor) (2)

Soil Variables

Soil Drainage: Rapidly (3)

Soil Subgroup: ELUVIATED EUTRIC BRUNISOL (1) ORTHIC EUTRIC BRUNISOL (1)

Surface Texture: Sand (1), Sandy Loam (2)

Effective Texture: bedrock (3)

Depth to Mottles/Gley: None (3)

Parent Material: Eolian/Rock(3)

Interpretations

Drought Limitations	M-H
Excess Moisture	L
Rutting Hazard	M
Compaction Hazard	M
Puddling Hazard	M
Soil Erosion Hazard	M
Frost Heave Hazard	L-M
Soil Temperature Limitations	L
Windthrow Hazard	H

