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Integrated Resource Inventory

Physical Land and Forage

Classifications of the East Beaver

Lake Assessment Area

Alberta

ENERGY AND
NATURAL RESOURCES
Resource Evaluation
and Planning

DDN 5670463

ERRATA - BIOMASS - FORB, GRASS & BROWSE

Type	Correct Biomass Values (kg/ha)		
	Forbs	Grasses	Browse
P2	1.6	3.6	0
P3a	8.4	7.9	4.6
A1a	17.3	7.3	9.2
A1b	32.8	9.0	4.1
A2	36.1	7.6	37.7
A3	20.7	5.6	20.3
Sw1	32.1	3.8	2.0
SB1	4.8	5.2	0
L1	7.2	18.8	0
L2	14.5	23.2	14.6
B2	4.6	174.3	128.9

Page 73 - Sw1 - White Spruce - Aspen/Cranberry/Sarsaparilla

- values for average percent cover, canopy height and cover, age, DBH, stems/ha and biomass are not correct
- refer to Appendix B for correct values.

The Physical Land Classification and Forage Classification provides an inventory of the landforms, deposits, soils, and vegetation, and identifies their characteristics and interrelationships.

The study area lies within one physiographic subregion, the Western Hills Uplands. This subregion is located in the eastern part of the province.

INTEGRATED RESOURCE INVENTORY OF THE EAST BEAVER LAKE ASSESSMENT AREA PHYSICAL LAND AND FORAGE CLASSIFICATIONS

Submitted by:

W.K. Hay
J.M. Veltman
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The purpose of this study is to provide a detailed description of the landforms, deposits, soils, and vegetation of the study area, and to identify their characteristics and interrelationships.

The study area is located in the eastern part of the province, within the Western Hills Uplands subregion. The study area is bounded by the following coordinates: 50° 00' N, 100° 00' W to 50° 30' N, 100° 30' W.

Prepared by:

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ABSTRACT

The Physical Land Classification and Forage Classification provides an inventory of the landforms, surficial deposits, soils and vegetation, and identifies their characteristics and interrelationships.

The study area lies within one physiographic subregion, the Mostoos Hills Uplands. This subregion is located in the Eastern Alberta Plains physiographic region.

During the Pleistocene epoch the area was glaciated by the Keewatin ice sheet. This left the dominant geologic parent material as glacial till. However, a sandy glaciofluvial veneer is generally found overlying the till. This veneer is of variable thickness and along with changes in surface expressions has a significant effect on the vegetation of the area. Fire has also had a major effect on the vegetation.

Two geomorphic systems have been identified in the study area on the bases of recurring patterns of landforms distinguished by genetic composition (surficial material) and surface expression.

Well drained Brunisolic Gray Luvisols dominate the soils with significant proportions of Eluviated Dystric Brunisols and Orthic Gray Luvisols. Low-lying depressional areas have Mesisols with significant amounts of Orthic and Humic Gleysols present.

The vegetation in the area makes a transition between the Dry Mixedwood Ecoregion and Moist Mixedwood Ecoregions with aspen-poplar

tree cover dominating. Eleven vegetation communities have been identified within the area boundary using the dominant tree species. These include: aspen, pine, black spruce, white spruce, tamarack and bush.

The relationships among soil, vegetation, and topography are discussed in the two integrated systems, which use the geomorphic system boundaries.

Integrated System I is characterized by medium textured, hummocky disintegration moraine having a coarse textured, glaciofluvial veneer as an overlay. Well to moderately well drained Brunisolic Gray Luvisols dominate this system. The varying topography, parent materials and drainage conditions are reflected in the presence of complex forage types. The vegetation is dominated by dense young stands of trembling aspen, with older pockets of more mature aspen or white spruce scattered throughout this area.

In Integrated System II coarse textured glaciofluvial materials have developed rapidly to well drained Eluviated Dystric Brunisols. This gently undulating system also has poorly drained, finer textured deposits yielding organic and gleysolic soils. This system also includes glaciofluvial veneered morainal "islands" which have well to moderately well drained Brunisolic Gray Luvisols. These extremes of rapidly to very poorly drained soils, in conjunction with the morainal "islands", have provided a diverse physical land base. Due to these extremes, the forest vegetation ranges from jack pine dominated stands, to aspen dominated stands, to willow/sedge vegetation.

TABLE OF CONTENTS

		Page
1.	INTRODUCTION	1
1.1	Location and Extent	1
1.2	Climate	1
1.3	Vegetation	4
1.4	Bedrock Geology	5
1.5	Quaternary History	5
1.6	Soils	7
2.	METHODOLOGY	9
2.1	Interpretation	11
2.2	Field Procedures and Sampling	13
2.2.1	Physical Parameters	13
2.2.2	Vegetation Data	14
2.2.3	Environmental Data	15
2.2.4	Tree Mensuration Data	15
2.3	Data Analysis	15
2.4	Mapping	16
3.	PHYSICAL LAND CLASSIFICATION	19
3.1	Physical Land Characteristics	19
3.1.1	Topographic Wave Frequency	21
3.2	Geomorphic Systems	21
3.2.1	Geomorphic System I - Veneered Hummocky Moraine	29
3.2.2	Geomorphic System II - Glaciofluvial Lowland	31
4.	FORAGE CLASSIFICATION	35
4.1	Forage Types	35
4.1.1	Jack Pine Forage Types	36
4.1.1.1	P2 - Pine/Bearberry/Lichen	37
4.1.1.2	P3 - Pine/Alder/Blueberry	41
4.1.2	Aspen Forage Types	49
4.1.2.1	A1a - Aspen/Alder/Twinflower	50
4.1.2.2	A1b - Aspen/Willow/Sarsaparilla	54
4.1.2.3	A2 - Aspen-Poplar/Cranberry	60
4.1.2.4	A3 - Aspen/Cranberry/Sarsaparilla	66
4.1.3	White Spruce Forage Type	72
4.1.3.1	Sw1 - White Spruce/Aspen/Cranberry/ Sarsaparilla	73
4.1.4	Black Spruce Forage Type	79
4.1.4.1	SB1 - Black Spruce/Labrador Tea/Moss	79

4.1.5	Tamarack Forage Types	84
4.1.5.1	L1 - Tamarack-Black Spruce/Sedge/Moss . .	85
4.1.5.2	L2 - Tamarack/Birch/Sedge/Moss	91
4.1.6	Willow (Brush) Forage Type	97
4.1.6.1	B2 - Willow/Sedge	97
5.	SHORELINE AND POND CLASSIFICATION	103
5.1	Roseland Lake	104
5.2	Matthews Lake	106
5.3	BL1, Trap Lake, BL2 and BL3	109
5.3.1	BL1	109
5.3.2	Trap Lake	111
5.3.3	BL2	112
5.3.4	BL3	112
5.4	BL4 and BL5	116
6.	RESOURCE INVENTORY INTEGRATION	121
6.1	Integrated System I - Veneered Hummocky Moraine	121
6.1.1	Land Use	123
6.2	Integrated System II - Glaciofluvial Lowland	125
6.2.1	Land Use	127
	REFERENCES	129
	APPENDICES	
Appendix A	DETAILED DESCRIPTIONS OF SOILS AT SELECTED SITES	1
	Soil Laboratory Analysis Procedures	2
Appendix B	VEGETATION, ENVIRONMENT AND MENSURATION DATA FOR EAST BEAVER LAKE AND SPECIAL LAKELAND STUDY AREAS	27
	Species List - East Beaver Lake	28
	Klinka-Phelps - Vegetation Program	37
	Environmental Site Program	41
	Mensuration Program	44
	Environment-Vegetation Tables - East Beaver Lake and Lakeland Plots	45
	Environment-Vegetation Tables - East Beaver Lake . .	93
	Mensuration Summary	127

LIST OF ILLUSTRATIONS

Figure	Page
1. Regional Location Map	2
2. Systems Map with Profile Lines	20
3. Veneered Morainal Upland (Geomorphic System I)	22
4. Glaciofluvial Lowland (Geomorphic System II)	23
5. Geomorphic System I and II	24
6. Geomorphic Systems	28
7. Edatopic Grid P2 - Pine/Bearberry/Lichen	42
8. Edatopic Grid P3 - Pine/Alber/Blueberry	48
9. Edatopic Grid A1a - Aspen/Alder/Twinflower	53
10. Edatopic Grid A1b - Aspen/Willow/Sarsaparilla	59
11. Edatopic Grid A2 - Aspen-Poplar/Cranberry	65
12. Edatopic Grid A3 - Aspen/Cranberry/Sarsaparilla	71
13. Edatopic Grid Sw1 - White Spruce-Aspen/Cranberry/ Sarsaparilla	78
14. Edatopic Grid Sb1 - Black Spruce/Labrador Tea/Moss	83
15. Edatopic Grid L1 - Tamarack-Black Spruce/Sedge/Moss	90
16. Edatopic Grid L2 - Tamarack/Birch/Sedge/Moss (L2)	96
17. Edatopic Grid B2 - Willow/Sedge (B2)	102
18. Location Map of Lakes for Shoreline Inventory	105
19. A Schematic Cross-Section of Integrated System I	124
20. A Schematic Cross-Section of Integrated System II	128

PLATES

Plate		Page
1.	Representative association of the Pine/Bearberry/Lichen type (P2)	40
2.	Typical vegetation of the Pine/Bearberry/Lichen type (P2)	40
3.	Representative association of the Pine/Alder/Blueberry type (P3)	46
4.	Typical vegetation of the Pine/Alder/Blueberry type (P3)	46
5.	Representative association of the Aspen/Willow/Sarsaparilla type (A1b)	58
6.	Typical vegetation of the Aspen/Willow/Sarsaparilla type (A1b)	58
7.	Representative association of the Aspen-Poplar/Cranberry type (A2)	64
8.	Typical vegetation of the Aspen-Poplar/Cranberry type (A2)	64
9.	Representative association of the Aspen/Cranberry/Sarsaparilla type (A3)	70
10.	Typical vegetation of the Aspen/Cranberry/Sarsaparilla type (A3)	70
11.	Representative association of the White Spruce-Aspen/Cranberry/Sarsaparilla type (Sw1)	76
12.	Representative association of the Tamarack-Black Spruce/Sedge/Moss type (L1)	88
13.	Typical vegetation of the Tamarack-Black Spruce/Sedge/Moss type (L1)	88
14.	Representative association of the Tamarack/Birch/Sedge/Moss type (L2)	94
15.	Typical vegetation of the Tamarack/Birch/Sedge/Moss type (L2)	94
16.	Representative association of the Willow/Sedge type (B2)	101
17.	Typical vegetation of the Willow/Sedge type (B2)	101

Plate		Page
18.	The western shore of Roseland Lake	107
19.	The northern shore of Roseland Lake	107
20.	A southern view of Matthews Lake	110
21.	The eastern shore of Matthews Lake	110
22.	View of BL1	114
23.	The northern basin of Trap Lake	114
24.	A portion of the north shore of BL3	115
25.	The northwest shore of BL4	119
26.	The southeast shore of BL4	119

LIST OF TABLES

Table		Page
1.	Climate Data	3
2.	Hierarchical Levels of Classification (PLC)	10
3.	Veneered Morainal Upland (Geomorphic System I), Profile A-B	25
4.	Glaciofluvial Lowland (Geomorphic System II), Profile C-D	26
5.	Geomorphic Systems I and II, Profile E-F	27
6.	Comparative Summary of the Pine/Bearberry/Lichen (P2) Type	39
7.	Comparative Summary of the Pine/Alder/Blueberry (P3) Type	45
8.	Comparative Summary of the Aspen/Alder/Twinflower (A1a) Type and Aspen/Willow/Sarsaparilla (A1b) Type	57
9.	Comparative Summary of the Aspen-Poplar/Cranberry (A2) Type	63
10.	Comparative Summary of the Aspen/Cranberry/Sarsaparilla (A3) Type	69
11.	Comparative Summary of the White Spruce-Aspen/Cranberry/ Sarsaparilla (Sw1) Type	75
12.	Comparative Summary of the Black Spruce/Labrador Tea/Moss (Sb1) Type	82
13.	Comparative Summary of the Tamarack-Black Spruce/Sedge/ Moss (L1) Type	87
14.	Comparative Summary of the Tamarack/Birch/Sedge/Moss (L2) Type	93
15.	Comparative Summary of the Willow/Sedge (B2) Type	100
16.	Roseland Lake Summary Table	106

Table	Page
17. Summary Table - Matthews Lake	109
18. BL1 Summary Table	111
19. Trap Lake, BL2 and BL3 Summary Table	113
20. BL4 and BL5 Summary Table	117
21. Waterbody Evaluation Summary	117

PREFACE

The Physical Land and Forage Classification of the East Beaver Lake area, Township 66, Range 12 and 13, West of the 4th Meridian, was initiated in the summer of 1984 at the request of Public Lands Northeast Region (St. Paul), Alberta Energy and Natural Resources. The objectives were to characterize the area in terms of landforms, soils, vegetation and pond habitat. The results of the study area are contained within this report in the form of a written text and accompanying maps. This report has been specifically designed for the requirements of the client.

The report provides a general description of the area, a discussion of methodology used in the inventory and background information on physical characteristics, soils, and vegetation of the area.

The six sections of this report include an Introduction, Methods, Physical Land Classification, Forage Classification, Shoreline Inventory and an Integrated Systems section.

The Introductory section gives background information on location, climate, vegetation, geology and soils of the area. The Methods section describes the interpretation and field sampling procedure of both Physical Land Classification and Forage Inventory. Mapping and data analysis are also discussed.

The Physical Land Classification section, which Bill Hay (team coordinator) was responsible for, describes the geomorphic systems in terms of genetic material, surficial deposits, landforms, soils and wave frequencies.

The Forage Classification section, written by Jill Veltman, describes the vegetation types, their species composition and cover percentages.

The Shoreline Inventory section, which Rick Haag was responsible for, describes aquatic and emergent vegetation, waterfowl breeding and fish habitat potential.

The Integrated Systems section is designed to illustrate the relationships between landform, parent materials, soils and vegetation. A description of these relationships should facilitate land use planning.

Two maps at a scale of 1:15 000 accompany this report. The physical land classification map shows the location and extent of the individual geomorphic systems and the forage cover map indicates the forage types.

The appendices in this report include a detailed description of the soil profiles, vegetation tables, environmental tables, mensuration tables, soil analysis methods and results, plant species list and a description of programs used to generate tables for the forage plots.

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1. INTRODUCTION

The purpose of this study is to provide an integrated resource inventory based on the characteristics of the landscape. It is important to realize that sound decisions for environmental resource management require an understanding of the component parts of the landscape, encompassing both physical and vegetation attributes. This information becomes an integral part of the process in evaluating any area. Within this study both physical and vegetation components have been inventoried in order to provide a base for land evaluations to be carried out.

1.1 Location and Extent

The study area is located southeast of the town of Lac La Biche in east-central Alberta. The area lies approximately between 54°41' and 54°46' north latitude and between 111°45' and 111°55' west longitude. It includes parts of Township 66, Range 11 and 12, West of the 4th Meridian and covers approximately 4 286 hectares (16.55 square miles) (Figure 1).

1.2 Climate

The climate across the study area is Continental in nature, consisting of cold winters and warm summers. Surrounding weather stations have been utilized for climatic data since no permanent weather stations are found within the study area. Climatic data includes annual precipitation, average precipitation during growing season (May through September) and average frost-free days. The data (Table 1) suggests the average frost-free period for the area is approximately 93 days, however,

Table 1

CLIMATE DATA

Weather Station	Elevation (metres)	Range	Years (# Years)	*Days with Minimum Temperature >0°C Ave.	**Annual Precipitation (mm)	**May to September Precipitation (mm)
Lac La Biche A	565	1972-80	(8)	105	513	363
Lac La Biche Aut	568	1958-80	(13)	101	476	341
Lac La Biche RS	562	1972-78	(5)	104	562	337
St. Lina	632	1970-80	(11)	78	484	350
Newbrook	671	1954-79	(23)	70	482	329
Iron River	549	1951-75	(23)	102	419	298

*Days with minimum temperature >0°C, taken as the continuous number of days with screen temperature (1.5 metres above ground) above 0°C on either side of May 15. Averages are not adjusted, as published in Atmospheric Environment Service (AES) normals and are based on actual number of years of data.

**Precipitation is adjusted to 1951-80 normal as published in AES summaries. Year to year fluctuations have significant departure from "normal". Standard deviations range from 50 to 100 mm.

the topography indicates ranges of averages of 40-60 days in low-lying areas to more than 100 days on knolls and ridges. The average annual precipitation is about 490 mm with almost 340 mm of that falling during the growing season.

1.3 Vegetation

The East Beaver Lake Study Area lies in a transitional area between the Dry and Moist Subregions of the Boreal Mixedwood Ecoregion (Strong and Leggat, 1981).

The Dry Mixedwood Subregion is characterized by well to moderately well drained Gray Luvisols and is dominated by aspen forest while the Wet Mixedwood Subregion is characterized by moderately well drained Gray Luvisols with aspen-poplar dominating (Strong and Leggat 1981).

Aspen and balsam poplar are the dominant tree species, with mature trees ranging from 18 to 24 metres in height. The understory vegetation is varied although species such as northern reed grass, hairy wild rye, cream-colored vetchling, wild vetch, prickly rose, red osier dogwood, willow and Saskatoon-berry are common components. Secondary plant succession is primarily to white spruce, although balsam fir occurs in old growth stands. Jack pine communities occur on sandy parent material with ericaceous shrubs and lichens being major components of the understory. Poorly drained sites are characterized by an overstory of black spruce, with an understory of Labrador tea and mosses. Growth is slow on these sites due to the poor nutrient status of organic soils, high water table, lack of aeration and low soil temperature (Strong and Leggat 1981). Fire has played a major role in the development of the

forage types found within the East Beaver Lake Study Area.

The Boreal Mixedwood Ecoregion represents a transitional zone between the Aspen Parkland and the mixed conifer-deciduous ecoregions to the north and west.

1.4 Bedrock Geology

The area is underlain by gently southwesterly dipping, slightly consolidated and unconsolidated bentonitic shales and sandstones of Upper and Lower Cretaceous age. This bedrock is part of the La Biche formation which is composed of marine, dark grey and silty shales with ironstone partings and concretions (Green, 1972). Thick glacial deposits overlie the bedrock, thus exposures are not present within the study area.

1.5 Quaternary History

The study area was last glaciated in Pleistocene time by the Keewatin ice sheet. The materials (glacial till) carried by this ice sheet were deposited during the last retreat of ice from the area. During this deglaciation period, meltwaters created overland flow conditions until stabilizing into major spillway channels. This process resulted in sandy materials being deposited in thin veneers (<1 metre) throughout the area with accumulations of thicker, more stratified deposits in low-lying landscape positions.

Hummocky glacial till dominates the landscape throughout much of the study area. It is characterized by irregular knob and kettle topography with average slopes ranging from 3-20%. Slopes varied up to 40% in local occurrences. Due to the lack of alignment of the knobs into

discernible trends it is believed that this disintegration feature is uncontrolled (Gravenor and Kupsch). This is to say that major blocks of ice were cut off from the retreating glacier and melted in situ. This process is believed to have formed the well to moderately well drained knobs, whereas the poorly drained depressional areas resulted from the melting of large blocks of ice buried within the deposits. The till is relatively compact, clay loam in texture, usually with a thin (15-40 cm) layer of loamy sand to silty glaciofluvial overlay. This may indicate the presence of ice contact deposits, which may suggest sand and gravel deposits in the cores of some of the knobs.

The study area is dissected by a northwest to southeast trending subdued lowland. Sandy, well drained glaciofluvial deposits in association with poorly drained organic accumulations are found in this area. These glaciofluvial deposits have originated during the period when the ablation till on the surrounding uplands was initially deposited. The meltwaters would have flowed across the landscape until stabilizing into lowland channels. Interspersed within this channel are areas of relatively high ground which may have formed "islands" during this runoff period. These "islands" are composed of till and are likely to have thicker deposits of glaciofluvial overlays than the surrounding upland positions. Subdued to undulating surface expressions dominate in this area with slopes ranging from 0.5-5%.

The majority of the organic accumulations are found in association with the glaciofluvial deposits. This is the result of low periods of flow depositing fine textured sediments in the depressions which impedes drainage by creation of an impervious layer. Small organic deposits are

also found in the depressions of the knob and kettle topography.

A few small lakes are also found in the low-lying glaciofluvial landscape. These are generally surrounded by organic deposits, some of which are floating mats. These bodies of water are generally shallow (approximately 1-3 metres deep) and have fine textured sediments underlying them.

1.6 Soils

The dominant soils found within the study area are moderately well to well drained Brunisolic Gray and Orthic Gray Luvisols complexed with significant proportions of well drained Eluviated Dystric and Eluviated Eutric Brunisols. Organic and Gleysolic soils are found in association with both the Luvisols and Brunisols.

Soils of the Luvisolic order have a light-coloured, eluvial horizon (Ae) along with a strongly developed, characteristic illuvial horizon (Bt) which signifies the accumulation of silicate clay. The Luvisols are found in the clay loam glacial till. The soils in the Brunisolic order also have a light-coloured, eluvial horizon (Ae) but lack sufficient clay content to develop a Bt horizon. These soils are found in the sandy glaciofluvial parent material and have a reddish-brown Bm horizon with a change in structure from the original parent material. The Luvisolic and Brunisolic soils are both found under forest vegetation. Gleysolic and organic soils are found in imperfectly to poorly drained low-lying depressional areas that are saturated with water for parts or all of the year.

In the study area, gleysolic soils tend to have an organic accumulation overlying a mineral contact which displays distinct to prominent mottles of high chroma. The organic soils have developed, on average, to depths of 90 cm to 120 cm although occasionally reach depths exceeding 160 cm.

2. METHODOLOGY

The Physical Land Classification Methodology (Land Classification Group, 1978) provides guidelines for the systematic delineation of land areas based on the principle of recognizing the geomorphic nature of the earth's surface along with an understanding of structure, genesis and process as reflected in landform, parent geologic material, soil and other ecosystems.

This classification system is mainly categorical but is also hierarchical so that it has the flexibility to be used at different levels of detail. The main category is the "geomorphic unit" or local landform. It is usually in the order of 1 to 10 km across at a scale of 1:50 000.

The main objectives of this system are to differentiate and classify segments or units of the land surface based on their own inherent properties and to provide a system of levels of generalization to suite practicable scales of mapping, as well as to aid in the deductive process of correctly identifying a particular land segment or unit.

Table 2 shows the hierarchical levels of classification with the delineating criteria and scale of derivation of each level.

The main objectives of the forage inventory are to classify and establish vegetation communities that occur within the study area and determine their species composition, cover, vigor, successional status and productivity.

Table 2
HIERARCHICAL LEVELS OF CLASSIFICATION (PLC)

<u>Classification Level</u>	<u>Delineating Criteria</u>	<u>Scale of Derivation</u>
1. Physiographic Region	Elevation, relief and structural geologic formations	1:1 000 000 to 1:3 000 000
2. Physiographic Subregion	Definite patterns of relief, geology, geomorphology and stream pattern and density	1:500 000 to 1:1 000 000
3. Geomorphic System	Recurring patterns of landforms distinguished by genetic composition (surficial materials), surface expression, integration of soils (order-great group level - CSSC, 1978)	1:50 000 to 1:250 000
4. Geomorphic Unit	Relatively homogeneous areas of land with inherent properties of genetic composition (surficial material), surface expression, texture, slope (type and percent), aspect, erosional and depositional modifiers, integration of soils (subgroup-series level-CSSC, 1978) and internal drainage (CSSC, 1978).	1:5 000 to 1:50 000

The vegetation communities are delineated into "polygons" or "forage units" based on existing forest and landform information derived from Phase III maps and the 1:15 000 Physical Land Classification map.

These interpretations of vegetation types are illustrated on the accompanying map at a scale of 1:15 000.

2.1 Interpretation

The classification of the East Beaver Lake Assessment Area was based primarily on a literature review of previous studies done in the area, the systematic interpretation of aerial photographs along with the integration of field data.

The preliminary interpretation (mapping) was initiated to delineate the geomorphic systems within the study area. Black and white air photos, at a scale of 1:15 000 (1970) and 1:30 000 (1982) were used in this procedure. Delineated areas were used for the basis of the physical land classification and forage inventory. For the purpose of the physical land classification, further delineations were then defined and mapped as geomorphic units (homogeneous areas of land with inherent properties, parent material, topography, soils, drainage and landforms) which were placed within the boundaries of each geomorphic system. The distribution of field sampling was based primarily on these preliminary lines. The final physical land classification is a composite of the information obtained from the aerial photographs, fieldwork and the data from previous studies.

An example of a Physical Land Classification map symbol which would be found in each geomorphic unit is shown below. A more detailed description of each symbol is located on the map legend.

Symbols of Proportion (=, /, //)

The relative proportions of the two-term components are approximately:

- 50-52% = 45-50% (approximately equal)
- 55-70% / 30-45% (more than)
- 70-90% // 10-30% (considerably more than)

*Symbols of proportion do not necessarily correspond in all four quadrants of the symbolization. Where no symbol of proportion is present between two surface expressions, it implies that both surfaces are coincidental.

Stratigraphic Symbol (———)

The symbol indicates one material overlying another with the overlying material being either a blanket or veneer.

- $\frac{Mb}{R} m$ - A morainal blanket overlies bedrock with an overall rolling surface expression
- F - The genetic material is failing
- rSiL - The texture is a rubbly silt loam
- O.GL/E.EB - The soils are mainly Orthic Gray Luvisols with significant sections of Eluviated Eutric Brunisols
- 3/2 - The soil drainage is mainly moderately well drained with significant sections of well drained areas
- H-SE - Slopes of 46-70% with a south-east aspect

Line Symbolization

- Physiographic Region Boundary
- Physiographic Subregion Boundary
- Geomorphic System Boundary
- Geomorphic Unit Boundary

The forage inventory which establishes vegetation communities that occur within the study area, was initiated by using Phase III photo interpretation. This mapping of forest cover types was completed on the 1:15 000 black and white photographs. Each delineation includes information on species, stand density, canopy height, age and commercial

potential. Areas that are not forested receive a symbol which denotes the particular vegetation type, i.e. willow, bog, etc. These delineations are found on the accompanying forage map. These forest cover types were used as a basis for plot and site selection for field assessment.

An example of the Forage Inventory map symbol is as follows:

A₃ - Aspen/Cranberry/Sarsaparilla

For further explanation refer to the map legend.

2.2 Field Procedures and Sampling

Fieldwork was conducted during August and September, 1984, using ground vehicles. A shoreline field survey was also conducted, utilizing a helicopter to reach inaccessible areas. Field sites were selected on the basis of initial air photo interpretation which characterized individual systems, units and forest cover types. At each site data was collected for physical land parameters and forest vegetation.

2.2.1 Physical Parameters

At each site parent geologic material, soil, landform, slope and subsurface drainage were recorded. These data elements were examined at all roadcuts and erosional scarps in addition to specific sites where soil pits were dug. Soils were classified according to the Canadian System of Soil Classification (CSSC, 1978) into soil subgroups within the various orders. The subgroups were determined by soil properties measurable in the field, such as texture, color, horizon thickness,

structure, consistency, carbonate reaction, stoniness and pH. Representative samples of the various soils were collected for laboratory analysis.

2.2.2 Vegetation Data

A detailed vegetation description was done at each of the 22 sample plots. A 10 x 10 m plot was established to determine vegetation strata based on height and growth form of the various species. A list of all the species was then made for each stratum with percent coverage values and vigor ratings assigned to each. If a particular species occurred in several strata, cover and vigor estimates were assigned to it in each stratum. Total cover estimates were also made for each stratum.

The plant species were listed according to the following vegetation layers:

- A¹ **Dominant trees** that make up the upper part of height distribution.
- A² **Main tree canopy** - trees greater than 10 m in height that make up the main layer of tree cover.
- A³ **Subordinate trees** - trees and other woody plants 5 m to 10 m in height.
- B¹ **Tall shrubs** - woody plants between 2.5 m and 5 m tall shrubs, tree regeneration and suppressed trees are included.
- B² **Low shrubs** - woody plants less than 2.5 m tall.
- C **Herbs** - broad-leaved herbaceous species regardless of their height.
- D **Graminoids** - grasses and sedges regardless of height.
- L **Lichens** - growing on the ground, excluding dead wood.

M **Mosses** - excluding those on dead wood

E **Epiphytes** - growing on living trees

Unknown plant and bryophyte specimens were collected for later identification or sent away for professional confirmation.

2.2.3 Environmental Data

Site information collected includes: elevation, slope, aspect, exposure, shape of slope, microrelief, ecological moisture regime, drainage conditions, flood hazard, site disturbance, surface substrate and general comments about the site.

2.2.4 Tree Mensuration Data

The collection of quantitative data to determine productivity of forest stands was done using fixed area circular plots. One of four plot sizes was used; .01, .02, .03, .04 ha, depending on the stand density and a requirement of approximately 30 trees per plot.

Measurements of all trees in the plot over 7.0 cm at breast included diameter at breast height (DBH) and total height. Two or more increment cores were extracted from dominant or codominant trees of each species present in the plot for age determination. Mensurational procedures of the Timber Management Branch of Alberta Forest Service were followed.

2.3 Data Analysis

The soils collected for laboratory analysis were tested for texture, pH, %C, cation exchange capacity and exchangeable cations,

available nitrogen, phosphorous and potassium, and electrical conductivity. A description of the procedures used and results can be found in Appendix A.

This analysis was used to aid in proper soil classification, identity, in particular whether the Brunisols were Eutric or Dystric. The laboratory textures were used to check against the field textures to enhance the quality and reliability of the map and report. The chemical analysis was used for fertility information, as well as background relationship with vegetation associations and can be used in future agriculture assessments.

The vegetation plot data was grouped by species composition (plots having similar species present and cover values, to define forage types). The data was computerized, with the information stored on the University of Alberta system. The analysis of the data was conducted using the Klinka-Phelps vegetation program, environmental site program, and mensuration program. The information gathered into Beaver Lake was also combined with the Lakeland Study Area to illustrate in tabular format any similarity between the two study areas. A detailed description of the programs and the actual tables are given in Appendix C.

2.4 Mapping

Initial mapping as described in Section 2.1 (Interpretation) was done on aerial photographs with the aid of Phase III interpretation and preliminary physical land classification maps. Final mapping was done on a 1:15 000 orthophoto using the final physical land classification lines as a base. The forage map units were delineated on the basis of the

relationships established through field sampling, vegetation communities and geomorphic units.

Each forage map unit is assigned a forage type symbol. A unit may contain a percentage of two different forage types. An example of symbol mapping is as follows: $A_1^5 - A_3^5$. This represents an area with 50 % forage type A_1 and 50 % forage type A_3 . The information for the physical land classification map symbol is presented in a quadrant. For further explanation refer to the map legend.

3. PHYSICAL LAND CLASSIFICATION

The Physical Land Classification of the East Beaver Lake Assessment Area provides data that deals with the physical attributes of the landscape, namely, the geology, geomorphology and topography. The landscape within the study area is the direct result of varying parent geologic materials having being deposited during glaciation. These deposits have not been reworked extensively during the post-glacial period, hence make up the dominant characteristics of the present landscape.

3.1 Physical Land Characteristics

The East Beaver Lake Assessment Area lies within the Eastern Alberta Plains Region. Elevations range from 555 metres at Beaver Lake to approximately 675 metres in the northwest corner of the study area. Local relief varies across the landscape from 2-5 metres on the subdued lowlands to 4-9 metres on the hummocky uplands with the greatest relief being 76 metres on a gradual slope leading from the lowlands to the uplands.

Hummocky disintegration moraine dominates the landscape and contains many of the features associated with ablation till, such as till knobs and kettles.

A subdued to undulating lowland cuts across the area from northwest to southeast. This feature is interspersed with glaciofluvial sands, organic accumulations and numerous bodies of water.

Integrated Resource Inventory
of the
East Beaver Lake
Assessment Area
Location of Profile Lines
A-B, C-D, E-F

Scale 1:50 000

- Assessment Area Boundary
- Geomorphic System Line
- Profile Line

The small size of the study area makes it difficult to identify an overall drainage pattern. However, it seems to exhibit a deranged to kettle hole pattern of medium density with the lakes in the eastern portion having inlet streams but no outlet streams, and vice-versa in the western portion.

3.1.1 Topographic Wave Frequency

For the purpose of this study wave frequency is defined as topographic variations over distance, expressed by amplitude and frequency. This has been utilized as an indicator of the surface variability across a particular landscape.

Three profiles were selected (Figure 2); profile A-B in the veneered morainal upland, profile C-D in the glaciofluvial lowland, and profile E-F. These profiles are graphically expressed in Figures 3, 4, and 5 plotting elevation against distance. The results are presented in Tables 3, 4, and 5 including the wave frequency per one half-mile, the wave amplitude in feet/metres, the average slope per one half-mile and the range of slopes within the one half-mile segment.

3.2 Geomorphic Systems

The East Beaver Lake Assessment Area has been divided into two geomorphic systems (Figure 6) in accordance with the Physical Land Classification Methodology (Land Classification Section, 1978). The landscape has been separated into geomorphic systems based on recurring patterns of landforms distinguished by genetic composition (surface material) and surface expression.

Figure 3: Veneered Morainal Upland (Geomorphic System I)

Profile C-D

Horizontal scale 1:50 000
Vertical scale 1:5 000
Vertical exaggeration=10X

Figure 4: Glaciofluvial Lowland (Geomorphic System II)

Figure 5: Geomorphic System I and II

Table 3
 VENEERED MORAINAL UPLAND (GEOMORPHIC SYSTEM I)
 PROFILE A-B

1/2 Mile	Wave Frequency/ 1/2 Mile	Wave Amplitude (Feet/Metres)	Average Slope (%)/1/2 Mile	Slope Range (%)/1/2 Mile
A	3/4	50/15.24	2.03	1.52- 2.53
B	1 1/2	100/30.48	7.83	.76-15.15
C	1/4	30/ 9.14	.95	.95
D	1/2	75/22.86	2.84	2.84
E	1 1/2	50/15.24	3.28	1.01- 5.05
F	1/2	75/22.86	2.66	1.52- 3.79
G	1/2	75/22.86	4.64	1.52- 7.58
H	1/2	75/22.86	2.84	2.84
I	1 1/4	75/22.86	4.59	3.03- 5.68

Table 4
GLACIOFLUVIAL LOWLAND (GEOMORPHIC SYSTEM II)
PROFILE C-D

1/2 Mile	Wave Frequency/ 1/2 Mile	Wave Amplitude (Feet/Metres)	Average Slope (%)/1/2 Mile	Slope Range (%)/1/2 Mile
A	1/2	35/10.67	4.01	.43-7.58
B	1/2	35/10.67	3.12	.76-7.58
C	1 1/2	60/18.29	5.26	.61-7.58
D	1/2	25/ 7.62	2.08	.61-3.54
E	1	10/ 3.05	.38	.38
F	1/2	35/10.67	1.33	.76-1.89
G	1/2	20/ 6.10	.76	.76
H	1 1/2	60/18.29	4.88	1.01-7.58
I	1	10/ 3.05	.38	.38
J	1/2	10/ 3.05	.38	.38
K	1/2	35/ 3.05	3.41	1.52-5.30

Table 5
GEOMORPHIC SYSTEMS I AND II
PROFILE E-F

1/2 Mile	Wave Frequency/ 1/2 Mile	Wave Amplitude (Feet/Metres)	Average Slope (%)/1/2 Mile	Slope Range (%)/1/2 Mile
A	5/8	150/45.72	6.07	4.55- 7.58
B	1/2	15/ 4.57	.56	.56
C	1/2	30/ 9.14	1.33	.75- 1.9
D	1	15/ 4.57	.38	.38
E	1/4	150/45.72	8.85	2.56-15.15
F	3/4	100/30.48	4.74	1.89- 7.58
G	1/2	100/30.48	6.31	1.26-11.36
H	1	25/ 7.62	6.23	.50- 9.1
I	1 1/2	25/ 7.62	6.57	1.52- 9.1

Integrated Resource Inventory
of the
East Beaver Lake
Assessment Area
Geomorphic Systems

Scale 1:50 000

- Assessment Area Boundary
- Geomorphic System Line
- Soil Vegetation Observation Site

These geomorphic systems have been further divided into geomorphic units. The units have been delineated as relatively homogeneous areas of land with inherent properties of surface material, surface expression, texture, slope (type and percent), aspect, erosional and depositional modifiers, integration of soils (subgroup level - CSSC, 1978) and soil drainage (CSSC, 1978). Variability between units are measured by any one or combination of two or more attributes as defined above. Though there is this variability, all units relate to the common but more general criteria at the geomorphic system level of genetic composition and surface expression.

3.2.1 Geomorphic System I - Veneered Hummocky Moraine

Geomorphic System I includes the upland portions of the study area (Figure 6). It covers approximately 2 007 ha (7.75 sq. mi.) or 47% of the study area. It has been classified as a morainal system consisting of well compacted till that is non-stratified containing a heterogeneous mixture of particle sizes. It was transported beneath, beside, within and in front of the Laurentide ice sheet. It has been modified very little by post glacial environmental aspects.

The landscape of the system is characterized by irregular knob and kettle terrain (hummocky disintegration moraine) indicative of an ablating glacial environment. Surface expressions range from dominantly hummocky with slopes of 6 to 15% to undulating and inclined with slopes ranging from 3 to 30%. Locally, short slopes of up to 40% can be found. A profile diagram of the general topography is illustrated in Figure 3, profile A-B. This shows an overall view of the distribution of slopes

across this system. The till deposit is compact, relatively low in stone content (averaging 5 to 15%, small stones) with a range of textures from clay loam to sandy clay loam. A glaciofluvial veneer overlies the entire morainal system. It ranges from 15 to 40+ cm in thickness and has a sandy to sandy loam texture. Due to the hummocky disintegration nature of the moraine system, some of the knobs may have sandy cores which could indicate thicker sandy deposits being found within this system. Depressional areas, of varying sizes, have accumulated organic matter.

The soils are dominated by moderately well to well drained Brunisolic Gray Luvisols and are found throughout this system on gently sloping hummocky to undulating terrain. Previous studies carried out in the surrounding area (Kocaoglu, 1975; Kocaoglu and Bennett, 1983) indicate that these soils occupy areas where the sandy loam glaciofluvial overlays exceeded 15 cm in depth. This relationship was also observed in the study area. Generally the glaciofluvial veneers display a well developed sandy loam to silt loam textured Ae horizon overlying a sandy loam to loam textured Bm horizon. A sandy loam transitional horizon (AB), about 10 cm thick, was occasionally found underlying the Ae horizon. Below the glaciofluvial overlay a clay loam to clay textured Bt horizon has developed in the moraine. The C horizon ranges in texture from sandy clay loam to clay. The sola (A and B horizons) is generally 30 to 50 cm thick, strong to moderately acid (pH 4.4 to 6.0) in reaction and low in organic matter content.

Moderately well to well drained Orthic Gray Luvisols occur in significant proportions, especially in areas with steep slopes (25% and

greater) having inclined surface expressions. These soils are found in areas where the glaciofluvial veneers are less than 15 cm thick. An Ae horizon, and often an Ae₂ or transitional AB horizon is found in the sandy loam overlay. A clay loam textured Bt horizon has developed in the underlying till. The C horizon is clay loam textured till. The pH of these soils is moderately acid (pH 5.0-5.5) and low in organic matter content.

The internal drainage conditions in the depressional and lowlying areas have had significant effects on the development of soils in these areas. The poor to very poor drainage has lead to excess moisture conditions causing Gleysolic soils with distinct to prominent mottles of high chroma to develop. Orthic Gleysols and Rego Humic Gleysols are the most common of these soils. The lowlying areas also have accumulated organic deposits where Terric Mesisols and Terric Fibrisols have developed.

The variability of the units within this system is influenced by the character of the disintegration moraine.

Detailed soil descriptions of sites 1, 3, 7, 18, 19 and 22 can be found in Appendix A. These field sites are all located in System I.

3.2.2 Geomorphic System II - Glaciofluvial Lowland

Geomorphic System II has been classified as a glaciofluvial system due to the dominance of outwash deposits. The system is situated in the lowland terrain of the study area and covers approximately 2 279 ha (8.8 sq.mi.) or 53% of the area.

Glaciofluvial deposits were transported and deposited by glacial meltwaters that flowed upon, within, under and beyond the Laurentide ice sheet boundaries as it retreated across the study area. Generally the landscape is subdued to undulating with gentle slopes ranging from 2 to 5%. However, within this system, there are several morainal outcrop units which form "islands" having a glaciofluvial veneer. These glaciofluvial veneered hummocky moraine "islands" have slopes ranging from 6 to 15%. Profile C-D (Figure 4) is indicative of the undulating to subdued nature of the topography found within this system. In comparison, profile A-B (Figure 3) exhibits the more varied topography found within geomorphic system I which is the result of variations in general elevation and slopes. The lowland nature of geomorphic system II is more readily apparent when compared with the upland characteristics of geomorphic system I as depicted in profile E-F (Figure 5).

The glaciofluvial materials are dominantly of sand to sandy loam texture. Various glacial meltwater episodes of high and low velocity flows have resulted in stratified layers of deposits. These layers range from gravel with coarse sand in voids to finer textured sandy clay loams and silt loams. The presence of the morainal "islands" indicate that the thick glaciofluvial sediments are underlain by till which was eroded by the meltwater flows. This process has resulted in moraine-controlled landforms found locally. The morainal "islands" are composed of sandy clay loam to clay loam till having overlying sandy to sandy clay loam glaciofluvial veneers and blankets. Several depressional areas across this system are now occupied by small lakes and ponds.

Rapidly to well drained Eluviated Dystric Brunisols (pH <5.5) are found in the subdued to undulating topography where glaciofluvial deposits exceed 50 cm in thickness. These soils generally exhibit a sandy loam Ae horizon approximately 8-12 cm thick. The Bm horizon has textures ranging from sandy loam to sand, and in some cases contains a gravel component due to the glaciofluvial nature of the parent material. The underlying C horizon consists of coarse sand with minor gravel components. The pH of these soils ranges from strongly acid to moderately acid (pH 4.2 to 5.1). Some Eluviated Eutric Brunisols which have similar horizon development can be found in the system. Their pH readings are >5.5.

The glaciofluvial veneers are thin on the moraine-controlled landforms. This has resulted in the development of well to moderately well drained Brunisolic Gray Luvisols similar to those found within geomorphic system I.

Gleyed Brunisolic Gray Luvisols and Gleysols can be found locally at the base of slopes. These have developed due to poor internal drainage, in combination with receiving groundwater discharge from the morainal upland system. Level to depressional terrain with poor drainage has developed Orthic Gleysols and Organic soils due to being water saturated for all or parts of the year. Some of the lakes and ponds in this system possess floating mats of organic matter around the edges.

Detailed descriptions of field sites located within this system are located in Appendix A. These include sites 2, 4, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20 and 21.

4. FORAGE CLASSIFICATION

The purpose of the forage inventory is to establish types of vegetation communities that occur within the study area, to determine their species composition, cover, vigor, successional status, and productivity. These vegetation communities are delineated on the 1:15 000 map which accompanies this report.

4.1 Forage Types

Eleven forage types were identified in the East Beaver Lake study area. The forage types have been separated on the basis of geomorphology and dominant species. They are described in the section to follow in a sequence on the most xerophyllic type to the next hydrophyllic type. They are grouped by dominant tree species.

The following forage types were identified within the East Beaver Lake study area: Pine/Bearberry/Lichen (P2)*, Pine/Alder/Blueberry (P3), Aspen/Alder/Twinflower (A1a) and Aspen/Willow/Sarsaparilla (A1b), Aspen/Poplar/Cranberry (A2), Aspen/Cranberry/Sarsaparilla (A3), White Spruce-Aspen/Sarsaparilla (Sw1), Black Spruce/Labrador Tea/Moss (SB1), Black Spruce-Tamarack/Sedge/Moss (L1), Tamarack/Birch/Sedge/Moss (L2) and the Willow Sedge (B2)* forage types.

The 1:15 000 map which accompanies this report illustrates the distribution of these forage types.

* In order to effectively compare the East Beaver Lake forage types to those found in the Special Lakeland study area, the same association names and numbers were assigned to both study areas (where applicable).

4.1.1 Jack Pine Forage Types

All of the jack pine forage types are found on glaciofluvial parent materials with well to rapidly drained soils, predominantly Eluviated Dystric Brunisols and Eluviated Eutric Brunisols. Species cover and diversity generally decrease as the site conditions become more arid. The driest sites are devoid of shrubs and have a minimum of forbs and grasses. The ground cover is dominated by lichens and some mosses. Tall shrubs, such as green alder, and ericaceous shrubs become more prevalent as the sites become more hygric. Trembling aspen, paper birch and white spruce appear either as intermediates or codominants with increased moisture. Forb, grass and moss cover is more evident (Kocaoglu and Bennett, 1983).

In the East Beaver Lake study area, jack pine was often observed to be growing on the ridges of rapidly drained soils proximal to wetlands. In such cases, black spruce or tamarack were found growing with the pine. Since jack pine is dependent on fire for regeneration (serotinous cones), its dominance on xeric sites is maintained through intense burning. Black spruce, which has a shallow root system, is readily destroyed by fire.

Small areas of jack pine are found throughout the glaciofluvial system (geomorphic system II). These stands are not large but they are a constant component of the East Beaver lake forage complex.

There were two pine types identified for the East Beaver Lake study area: Pine/Bearberry/Lichen (P2) and Pine/Alder/Blueberry (P3).

4.1.1.1 P2 - Pine/Bearberry/Lichen
(Pinus banksiana/Arctostaphylos uva-ursi/Cladina rangiferina)

Pine/Bearberry/Lichen (P2) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(15)	
Jack pine		Pinus banksiana
Shrubs	(75)	
Green alder		Alnus crispa
White spruce		Picea glauca
Labrador tea		Ledum groenlandicum
Blueberry		Vaccinium myrtilloides
Forbs	(3)	
Bunchberry		Cornus canadensis
Fireweed		Epilobium angustifolium
Strawberry		Fragaria virginiana
Grasses	(5)	
Northern reed grass		Calamagrostis canadensis
Indian rice grass		Orzopsis pungens
Mosses	(2)	
Haircap moss		Polytrichum juniperinum
Golden moss		Tomenthypnum nitens
Lichens	(30)	
Reindeer moss		Cladina rangiferina
Epiphytes (medium-high)		Usnea subfloridana
		Cetraria halei
		Cetraria pinastri
		Hypogymnia physodes
		Parmelia sulcata
		Bryoria fuscescens

Association Characteristics

Canopy height (m):	11
Canopy cover	: 15%
Age (y)	: 37
DBH (cm)	: 11.5
Stems/ha	: 625
Species present	: jack pine

Vegetation Comments

The Pine/Bearberry/Lichen type (P2) is characterized by an open jack pine overstory of fairly even age and consistent height. There is a very sparse shrub layer consisting of scattered specimens of green alder and white spruce. The majority of the vegetation is composed of ericaceous shrubs such as Labrador tea and blueberry. These species reflect the xeric conditions and acidic nature of the soils. Grasses are not predominant. There is a substantial cover of bryophytes, particularly **Cladina rangiferina** (reindeer lichen). Epiphytes were found to be in medium to high cover with **Usnea subfloridana** (old man's beard) as the main constituent (Vegetation and Mensuration Tables, Appendix B).

This East Beaver Lake type bears a resemblance to the same type identified for the Special Lakeland area (Kocaoglu and Bennett, 1983). A comparative summary and Special Lakeland biomass values appears on Table 6. Plates 1 and 2 show a representative Pine/Bearberry/Lichen (P2) forage type and typical vegetation.

Table 6

COMPARATIVE SUMMARY OF THE PINE/BEARBERRY/LICHEN (P2) TYPE

East Beaver Lake Forage Type	Special Lakeland Forage Type (page 42)
Major Species	
jack pine, blueberry, Labrador tea, reindeer lichen	jack pine, bearberry, bog cranberry, lichen
Minor Species	
bunchberry, fireweed, wild strawberry, haircap moss	prickly rose, Saskatoon- berry, blueberry, harebell, wild lily-of-the valley, haircap moss
Age	
36.9	56.4
Parent Materials	
Glaciofluvial	Glaciofluvial
Biomass*	
not collected	Forbs 169 kg/ha Grasses 367 kg/ha Browse

* Biomass values were not gathered for East Beaver Lake, as the study was conducted in late August and early September. Biomass samples collected at this time would not reflect the maximum productivity.

Plate 1. Representative association of the Pine/Bearberry/Lichen type (P2).

Plate 2. Typical vegetation of the Pine/Bearberry/Lichen type (P2).

Site/Landscape Comments

The Pine/Bearberry/Lichen type is restricted to subxeric and xeric sites where there is a thick overlay of sandy glaciofluvial materials. Coarse textured, rapidly drained Eluviated Dystric Brunisols are the predominant soils in these areas. The Pine/Bearberry/Lichen forage type is commonly found on sandy ridges bordering wetland areas, often in association with black spruce or tamarack. These areas are not extensive, but are a distinctive feature of the East Beaver Lake Study Area (see Environmental Tables, Appendix B for further detail). Figure 7 shows an edaphic grid matrix for the Pine/Bearberry/Lichen forage type.

Site Characteristics

Moisture regime	: Xeric to subxeric
Nutrient regime	: Submesotrophic
Slope position	: Level
Slope gradient	: Very gentle, 0-4%
Aspect	: Variable
Elevation	: 500-600 metres
Occurrence	: Infrequent, generally on sandy ridges

Landscape Characteristics

Parent material	: Glaciofluvial
Soil texture	: Sand
Drainage	: Rapid
pH of rooting zone	: 4.0-5.0
Rooting depth	: 50 cm
Soil association	: Eluviated Dystric Brunisols

4.1.1.2 P3 - Pine/Alder/Blueberry (*Pinus banksiana*/*Alnus crispa*/*Vaccinium myrtilloides*)

Pine/Alder/Blueberry (P3) type is identified by the following characteristic species combinations and association characteristics:

		TROPHOTOPE						
		OLIGOTROPHIC						
		SUBMESOTROPHIC						
		MESOTROPHIC						
		PERMESOTROPHIC						
		SUBEUTROPHIC to EUTROPHIC						
		HYPEREUTROPHIC						
HYGROTOPE		A	B	C	D	E	F	
VERY XERIC	0							
XERIC	1							
SUBXERIC	2							
SUBMESIC	3							
MESIC	4							
SUB HYGRIC	5							
HYGRIC	6							
SUBHYDRIC	7							
HYDRIC	8							

Figure 7 Edatopic Grid P2 - Pine/Bearberry/Lichen

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(50)	
	Jack pine Trembling aspen	Populus tremuloides
Shrubs	(28)	
	Green alder Beaked willow Labrador tea Saskatoon-berry Prickly rose Blueberry	Salix bebbiana Amelanchier alnifolia Rosa acicularis
Forbs	(55)	
	Bog cranberry Bunchberry Twinflower Strawberry Palmate-leaved coltsfoot Lindley's aster	Vaccinium vitis-idaea Linnaea borealis Petasites palmatus Aster ciliolatus
Grasses	(15)	
	Hairy wild rye Downy brome Northern reed grass	Elymus innovatus Bromus ciliolatus
Mosses	(3)	
	Schreber's moss	Pleurozium schreberi
Lichens	(1)	
		Cladina mitis
Epiphytes	(low)	
		Celiaria pinastri Parmelia sulcata Pylasiella polyantha

Association Characteristics

Canopy height (m):	14.7
Canopy cover	: 50%
Age (y)	: 46
DBH (cm)	: 13.8
Stems/ha	: 500
Species present	: jack pine, trembling aspen

Vegetation Comment

Pine/Alder/Blueberry is characterized by a jack pine overstory with varying amounts of aspen present. The shrub layer is more pronounced than that of the Pine/Bearberry/Lichen (P2) forage type. Shrubs such as green alder, willow, Labrador tea, blueberry and prickly rose are common species. The herbaceous layer is more diverse than the previous vegetation type with the improved nutrient and moisture status of the soil. Grasses, most notably hairy wild rye and northern reed grass, are prominent in this forage type. The moss layer is sparse, with Schreber's moss being consistently present. Lichens are not as evident as in the Pine/Bearberry/Lichen (P2) forage type. Epiphytes are low in cover (Vegetation and Mensuration Tables, Appendix B).

This East Beaver Lake vegetation type bears a resemblance to the same association identified for the Special Lakeland area (Kocaoglu and Bennett, 1983). A comparative summary table and Special Lakeland biomass values appears on Table 7. Plates 3 and 4 illustrate a representative Pine/Alder/Blueberry (P3) forage type and typical vegetation.

Table 7

COMPARATIVE SUMMARY OF THE PINE/ALDER/BLEUBERRY (P3) TYPE

East Beaver Lake Forage Type

Special Lakeland Forage Type
(page 47)

Major Species

jack pine, blueberry, green alder,
bog cranberry, twinflower, hairy
wild rye

jack pine, green alder, blue-
berry, bog cranberry, bunch-
berry, twinflower, Schreber's
moss

Minor Species

aspen, Labrador tea, beaked willow,
white spruce, Saskatoon-berry,
prickly rose, bunchberry, wild straw-
berry, palmate-leaved coltsfoot,
Schreber's moss, northern reed grass

aspen, prickly rose, Labrador
tea, wild red raspberry, wild
lily-of-the-valley, common
bearberry, northern reed
grass, hairy wild rye,
knight's plume moss, stair-
step moss, hair cap moss

Age

46

38.5-60.6 years

Parent Materials

Glaciofluvial

Glaciofluvial, till overlain
by glaciofluvial deposits

Biomass

not collected

Forbs 840 kg/ha
Grasses 797 kg/ha
Browse 4.6 kg/ha

Plate 3. Representative association of the Pine/Alder/
Blueberry type (P3).

Plate 4. Typical vegetation of the Pine/Alder/Blueberry
Type (P3).

Site/Landscape Comments

The Pine/Alder/Blueberry forage type occurs on subxeric to submesic sites that are well to rapidly drained. Eluviated Dystric Brunisols and Eluviated Eutric Brunisols developed on glaciofluvial parent materials are the dominant soils in these areas. This type is found on somewhat moister sites than the Pine/Bearberry/Lichen (P2) type, as is reflected in the species composition. The Pine/Alder/Blueberry (P3) forage type (see Environmental Tables, Appendix B for further details), is not common in the study area, but it does occur sporadically throughout Geomorphic System II. Figure 8 shows an edatopic grid matrix for the Pine/Alder/Blueberry (P3) forage type.

Site Characteristics

Moisture regime	:	Subxeric to submesic
Nutrient regime	:	Submesotrophic
Slope position	:	Level
Slope gradient	:	1-8%
Aspect	:	Variable
Elevation	:	500-600 metres
Occurrence	:	Infrequent

Landscape Characteristics

Parent material	:	Glaciofluvial
Soil Texture	:	Sand to loamy sand
Drainage	:	Well to rapid
pH of rooting zone:	:	4.5-5.5
Rooting depth	:	30 cm
Soil association	:	Eluviated Dystric Brunisols, Eluviated Eutric Brunisol

		<div>TROPHOTOPE</div> <div>OLIGOTROPHIC</div> <div>SUBMESOTROPHIC</div> <div>MESOTROPHIC</div> <div>PERMESOTROPHIC</div> <div>SUBEUTROPHIC to EUTROPHIC</div> <div>HYPEREUTROPHIC</div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 8 Edatopic Grid P3 - Pine/Alder/Blueberry

4.1.2 Aspen Forage Types

Trembling aspen occupies submesic to mesic sites in conjunction with well to moderately drained soils. Xeric and subhydryc sites support poor and usually sparse aspen growth.

Fire is a major factor governing the development of trembling aspen forage types. Aspen is not however a climax tree species; it is generally transitional to other species. Repeated light fires serve to stimulate aspen regrowth and may eventually exclude white spruce over large areas, even in the understory. This phenomenon appears to be present within the east-central portion of the study area.

The following aspen types have been identified for the East Beaver Lake study area: Aspen/Alder/Twinflower (A1a), Aspen/Willow/Sarsaparilla (A1b), Aspen-Poplar/Cranberry (A2) and Aspen/Cranberry/Sarsaparilla (A3).

In areas where burning has not been recent and/or the moisture conditions of the soil inhibit fire, the Aspen-Poplar/Cranberry (A2) forage type is dominant. This type approaches 100 years of age. Balsam poplar may attain 135 years in age while aspen usually does not exceed 120 years. The understory species composition reflects the open canopy of the Aspen-Poplar/Cranberry (A2) type. An increase in forb and grass cover is indicative of a decrease in overstory density.

The Aspen/Cranberry/Sarsaparilla (A3) type is younger in terms of successional status. The occurrence of repeated fires has stimulated the aspen regrowth. The dense canopy favors the growth of shrub and herb

species with a very low light requirement. The Aspen/Cranberry/Sarsaparilla (A3) forage type generally succeeds to the Aspen-Poplar/Cranberry (A2) type in the absence of fire. This is supported by a similarity in the major and minor species present in both types.

The Aspen/Alder/Twinflower (A1a) and Aspen/Willow/Sarsaparilla (A1b) complex type has white spruce present in the understory. This indicates that succession will probably be to a mixed white spruce-aspen stand before a climax spruce stand is attained. In contrast, the aspen-balsam poplar component will be very decadent before the white spruce establishes itself in the Aspen-Poplar/Cranberry (A2) type (Kocaoglu and Bennett, 1983).

The aspen forage types constitute the majority of the vegetation present within the East Beaver Lake study area. Geomorphic system I (veneered morainal upland) is represented by trembling aspen in various associations, as described in this section.

Generally, the western edge of the north-east portion of the study area is characterized by dense aspen stands.

4.1.2.1 A1a - Aspen/Alder/Twinflower (*Populus tremuloides*/*Alnus crispa*/*Linnaea borealis*)

Aspen/Alder/Twinflower (A1a) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Shrubs	(28)	
	Green alder	
	Red osier dogwood	Cornus stolonifera
	Prickly rose	
	Low-bush cranberry	Viburnum edule
Forbs	(35)	
	Wild sarsaparilla	Aralia nudicaulis
	Twinflower	
	Bunchberry	
	Dewberry	Rubus pubescens
Grasses	(2)	
	Hairy wild rye	
	Northern reed grass	
Mosses	(2)	
		Brachythecium campestre
Epiphytes	(low)	
		Pylasiella polyantha
		Cetraria halei
		Cetraria pinastri
		Hypogymnia physoides

Association Characteristics

Canopy height (m): 14.5
Canopy cover : 60%
Age (y) : 46
DBH (cm) : 10.8
Stems/ha : 3 000
Species present : trembling aspen, balsam poplar

Vegetation Comments

Trembling aspen is the dominant species in the dense overstory, with balsam poplar as a minor component. Green alder dominates the shrub layer, with lesser amounts of dogwood, prickly rose and low-bush cranberry. The forb layer is composed primarily of twinflower, with other forb species constituting the remainder. Grasses, lichens and mosses are very sparse in cover (Vegetation and Mensuration Tables, Appendix B).

This forage type bears a close resemblance to that discussed in the Special Lakeland report. Table 8 shows a comparative summary and Special Lakeland biomass figures between the two study areas.

Site/Landscape Comments

This Aspen/Alder/Twinflower forage subtype occurs predominantly on glaciofluvial veneer over morainal parent materials with well to moderately well drained Brunisolic Gray Luvisols. It is often located on mid to lower slopes being transitional to jack pine. The moisture regime is submesic to subhygric with the nutrient regime being submesotrophic to mesotrophic (see Environmental Tables, Appendix B for further detail). Figure 9 shows an edatopic grid matrix for the Aspen/Alder/Twinflower type.

Site Characteristics

Moisture regime	:	Submesic to subhygric
Nutrient regime	:	Submesotrophic to mesotrophic
Slope position	:	Mid to lower slope
Slope gradient	:	0-15%

Figure 9 Edatopic Grid A1a - Aspen/Alder/Twinflower

Aspect : Variable
 Elevation : 500-600 metres
 Occurrence : Dominant

Landscape Characteristics

Parent material : Glaciofluvial overlying moraine
 Soil texture : Sand to loamy sand
 Drainage : Well to moderately well
 pH of rooting zone: 5.5-6.0
 Rooting depth : 42 cm
 Soil association : Brunisolic Gray Luvisols

4.1.2.2 Alb - Aspen/Willow/Sarsaparilla (Populus tremuloides/Salix bebbiana/Aralia nudicaulis)

Aspen/Willow/Sarsaparilla (Alb) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(67)	
	Trembling aspen	
	Balsam poplar	
	Paper birch	Betula papyrifera
Shrubs	(49)	
	Beaked willow	
	Saskatoon-berry	
	Snowberry	Symphoricarpos alba
	Beaked hazelnut	Corylus cornuta
	Prickly rose	
	Low-bush cranberry	
Forbs	(33)	
	Fireweed	Epilobium angustifolium
	Twinflower	

<u>Layer</u>	<u>Average Percent Cover</u>	
--------------	------------------------------	--

Bunchberry		
Dewberry		
Lindley's aster		
Palmate-leaved coltsfoot		
Northern bedstraw		Galium boreale
Wild sarsaparilla		

Grasses	(9)	
---------	------	--

Hairy wild rye	
Northern reed grass	

Mosses	(1)	
--------	------	--

Lichens	(8)	
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Dog lichen		Peltigera canina
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Epiphytes	(low)	
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Pylasiella polyantha
Cetraria pinastri

Association Characteristics

Canopy height (m)	:	13.9
Canopy cover	:	50%
Age (y)	:	52
DBH (cm)	:	11.3
Stems (ha)	:	2 100
Species present	:	trembling aspen, balsam poplar, paper birch

Vegetation Comments

The Aspen/Willow/Sarsaparilla (Alb) type is characterized by a fairly dense overstory that includes minor amounts of balsam poplar, and occasionally paper birch. Beaked willow is the most prevalent species in the shrub layer. The most prominent species in the forb layer are fireweed and twinflower, with wild sarsaparilla present in considerable, but not always consistent, amounts. Hairy wild rye and northern reed

grass are the dominant grasses. Mosses and lichens are sparse in cover.

This type, along with the Aspen/Alder/Twinflower (A1a) forage type, is quite variable in the dominant species and is difficult to map. There is considerable similarity in the major and minor species between the two phases. The variation within this type occurs mainly in the mean cover percentages of the characteristic species.

These types bear a resemblance to those discussed in the Special Lakeland report (Kocaoglu and Bennett, 1983). A comparative summary table and Special Lakeland values between the two types appears on Table 8. Plates 5 and 6 illustrate Aspen/Willow/Sarsaparilla (A1b) forage type and typical vegetation.

Site/Landscape Comments

The Aspen/Willow/Sarsaparilla (A1b) type is found under similar site conditions to the Aspen/Alder/Twinflower (A1a) type. Moderately well drained Eluviated Dystric Brunisols and Orthic Gray Luvisols are the major soil types. The parent material is usually glaciofluvial over moraine (see Environmental Tables, Appendix B for further detail).

Figure 10 shows an edatopic grid matrix for the Aspen/Willow/Sarsaparilla (A1b) type.

Table 8

COMPARATIVE SUMMARY OF THE ASPEN/ALDER/TWINFLOWER (A1a) TYPE
AND ASPEN/WILLOW/SARSAPARILLA (A1b) TYPE

East Beaver Lake Forage Type

Special Lakeland Forage Type
(page 52)

Major Species

trembling aspen, green alder,
wild sarsaparilla, beaked willow,
beaked hazelnut, prickly rose

trembling aspen, green alder,
beaked willow, low-bush
cranberry, wild sarsaparilla,
twinflower

Minor Species

white spruce, balsam poplar,
low-bush cranberry, twinflower,
bunchberry, dewberry, palmate-
leaved coltsfoot, common pink
wintergreen, fireweed, Lindley's
aster, northern bedstraw, cream-
colored vetchling, wild strawberry,
wild lily-of-the-valley, one-
sided wintergreen, hairy wild
rye, tall lungwort, northern
reed grass

white spruce, balsam poplar,
bracted honeysuckle, twining
honeysuckle, prickly rose,
snowberry, dewberry, fire-
weed, common pink winter-
green, harebell, Lindley's
aster, wild strawberry,
star-flower, wild vetch,
cream-colored vetchling,
early blue violet, bunch-
berry, yarrow, palmate-
leaved coltsfoot, wild
lily-of-the-valley, hairy
wild rye

Age

45 years

50 years (matures 80-85)

Parent Materials

Glaciofluvial, morainal

Glaciofluvial, morainal

Biomass

not collected

Forbs 3 285 kg/ha
Grasses 908 kg/ha
Browse 4.1 kg/ha

Plate 5. Representative association of the Aspen/
Willow/Sarsaparilla type (Alb).

Plate 6. Typical vegetation of the Aspen/Willow/
Sarsaparilla type (Alb).

Figure 10 Edatopic Grid A1b - Aspen/Willow/Sarsaparilla

Site Characteristics

Moisture regime : Subxeric to mesic
Nutrient regime : Submesotrophic to mesotrophic
Slope position : Mid to lower slope
Slope gradient : 4-15%
Aspect : Variable
Elevation : 500-600 metres
Occurrence : Dominant

Landscape Characteristics

Parent material : Glaciofluvial overlying moraine
Soil texture : Loam to sand
Drainage : Moderately well
pH of rooting zone: 5.0-7.0
Rooting depth : 23-45 cm
Soil association : Eluviated Dystric Brunisol, Orthic Gray Luvisols

4.1.2.3 A2 - Aspen-Poplar/Cranberry (Populus tremuloides-Populus balsamifera/Viburnum edule)

The Aspen-Poplar/Cranberry (A2) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>
--------------	----------------------------------

Trees	(45)
-------	------

Trembling aspen	
Balsam poplar	

Shrubs	(32)
--------	------

White spruce	
Prickly rose	
Low-bush cranberry	
Red-osier dogwood	

Picea glauca

<u>Layer</u>	<u>Average Percent Cover</u>	
Forbs	(39.5)	
	Fireweed	
	Hairy aster	
	Palmate-leaved coltsfoot	
	Wild strawberry	
	Wild lily-of-the-valley	Maianthemum canadense
	Common pink wintergreen	Pyrola asarifolia
	Wild vetch	Vicia americana
Grasses	(8.5)	
	Northern reed grass	
	Hairy wild rye	
Mosses	(1)	
	Schreber's moss	
Lichens	(0)	
Epiphytes	(medium)	
		Pylasiella polyantha
		Cetraria pinastri

Association Characteristics

Canopy height (m): 26.3
 Canopy cover : 37%
 Age (y) : 70
 DBH (cm) : 22.5
 Stems/ha : 1 150
 Species present : trembling aspen, balsam poplar, paper birch

Vegetation Comments

This type is dominated by trembling aspen and balsam poplar. The shrub layer consists primarily of prickly rose, with minor amounts of Saskatoon-berry, white spruce, low-bush cranberry and red osier dogwood.

Forbs are present in consistent but minor amounts. The dominant grasses are northern reed grass and hairy wild rye. Mosses and lichens are very sparse (Vegetation and Environmental Tables, Appendix B).

The Aspen-Poplar/Cranberry (A2) type is the oldest of the aspen types. Rotten cores, deadfall and canopy openings indicate the stands are past maturity. The resulting decrease in canopy closure allows the growth of low and medium shrubs. White spruce regeneration is also encouraged as the canopy becomes more open. Providing there is no fire, white spruce succession appears to be certain for this type (Kocaoglu and Bennett, 1983).

This type bears a resemblance to that described in the Special Lakeland area (Kocaoglu and Bennett, 1983). A comparative summary table and Special Lakeland biomass values appear in Table 9. Plates 7 and 8 illustrate a representative Aspen-Poplar/Cranberry (A2) forage type and typical vegetation.

Site/Landscape Comments

The Aspen-Poplar/Cranberry (A2) forage type is not extensive throughout the study area. It occurs on submesic to mesic sites, primarily on Brunisolic Gray Luvisols. However, occurrences on Eluviated Eutric Brunisols and Orthic Gray Luvisols have been recorded in the Special Lakeland study area (Kocaoglu and Bennett, 1983). The parent material is glaciofluvial or morainal (see Environmental Tables, Appendix B for further detail). Figure 11 shows an edatopic grid matrix for the Aspen-Poplar/Cranberry (A2) type.

Table 9

COMPARATIVE SUMMARY OF THE ASPEN-POPLAR/CRANBERRY (A2) TYPE

East Beaver Lake Forage Type

Special Lakeland Forage Type

Major Species

trembling aspen, balsam poplar,
prickly rose

trembling aspen, balsam pop-
lar, low-bush cranberry,
prickly rose, twining
honeysuckle

Minor Species

wild sarsaparilla, fireweed,
Lindley's aster, palmate-leaved
coltsfoot, wild strawberry, wild
lily-of-the-valley, common pink
wintergreen, white spruce,
dogwood, northern reedgrass,
hairy wild rye

wild sarsaparilla, bunchberry,
fireweed, wild strawberry,
northern bedstraw, wild
lily-of-the-valley, palmate-
leaved coltsfoot, common
pink wintergreen, dewberry,
star-flower, western Canada
violet

Age

70 years

100 years

Parent Materials

Morainal

Morainal, glaciofluvial

Biomass

not collected

Forbs 3 610 kg/ha
Grasses 765 kg/ha
Browse 37.7 kg/ha

Plate 7. Representative association of the Aspen-Poplar/Cranberry type (A2).

Plate 8. Typical vegetation of the Aspen-Poplar/Cranberry type (A2).

		<div><div>TROPHOTOPE</div><div>OLIGOTROPHIC</div><div>SUBMESOTROPHIC</div><div>MESOTROPHIC</div><div>PERMESOTROPHIC</div><div>SUBEUTROPHIC to EUTROPHIC</div><div>HYPEREUTROPHIC</div></div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 11 Edatopic Grid A2 - Aspen-Poplar/Cranberry

Site Characteristics

Moisture regime	: Submesic to mesic
Nutrient regime	: Submesotrophic to mesotrophic
Slope position	: Variable
Slope gradient	: 0-31%, generally 1-5%
Aspect	: Variable
Elevation	: 500-600 metres
Occurrence	: Infrequent

Landscape Characteristics

Parent material	: Glaciofluvial, morainal
Soil texture	: Loam to sandy loam
Drainage	: Well to moderately well
pH of rooting zone:	4.5-6.5
Rooting depth	: 16-28 cm
Soil association	: Brunisolic Gray Luvisols

4.1.2.4 A3 - Aspen/Cranberry/Sarsaparilla (Populus tremuloides/Viburnum edule/Aralis nudicaulis)

The Aspen/Cranberry/Sarsaparilla type (A3) is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>
Trees	(75)
	Trembling aspen Balsam poplar
Shrubs	(30)
	Saskatoon-berry Beaked willow Prickly rose

<u>Layer</u>	<u>Average Percent Cover</u>	
	Low-bush cranberry	
	Wild red raspberry	Rubus idaeus
	Beaked hazelnut	
Forbs	(35)	
	Wild sarsaparilla	
	Fireweed	
	Twinflower	
	Bunchberry	
	Palmate-leaved coltsfoot	
	Lindley's aster	
	Wild lily-of-the-valley	
	Cream-colored vetchling	Lathyrus ochroleucus
	Wild vetch	
	Northern bedstraw	
Mosses	(1)	
		Plagiomnium cuspidatum
		Brachythecium salebrosum
Lichens	(.2)	
	Dog lichen	
Epiphytes	(low)	
		Pylasiella polyantha
		Cetraria halei
		Cetraria pinastri

Association Characteristics

Canopy height (m): 17.8
 Canopy cover : 73%
 Age (y) : 25-30
 DBH (cm) : 20.0
 Stems/ha : -
 Species present : trembling aspen, balsam poplar

Vegetation Comments

The Aspen/Cranberry/Sarsaparilla forage type (A3) is characterized by a dense tree layer composed primarily of trembling aspen with minor

amounts of balsam poplar. Tall shrubs such as Saskatoon-berry and beaked willow are present. The low shrub layer is dominated by prickly rose and low-bush cranberry. The forb layer consists primarily of low forbs. The grasses are represented by northern reed grass which occurs in low amounts. Mosses, lichens and epiphytes are sparse (Vegetation Tables, Appendix B).

Succession to white spruce may be retarded due to the lack of a seed source. Frequent light fires in the past have perpetuated trembling aspen at the expense of white spruce (Kocaoglu and Bennett, 1983).

This East Beaver Lake type bears a close resemblance to the same association described for the Special Lakeland area (Kocaoglu and Bennett, 1983). A brief comparative summary and Special Lakeland biomass values appears on Table 10. Plates 9 and 10 illustrate a representative Aspen/Cranberry/Sarsaparilla (A3) forage type and typical vegetation.

Site/Landscape Comments

The Aspen/Cranberry/Sarsaparilla forage type occurs primarily on morainal materials and is usually situated on top of the well drained hummocks which typify geomorphic system I in the East Beaver Lake area. The soils are predominantly well to moderately well drained Brunisolic Gray Luvisols and Orthic Gray Luvisols. These sites have a submesotrophic to mesotrophic nutrient status (see Environmental Tables, Appendix B for further detail). Figure 12 shows an edatophic grid matrix for the Aspen/Cranberry/Sarsaparilla (A3) forage type.

Table 10

COMPARATIVE SUMMARY OF THE ASPEN/CRANBERRY/SARSAPARILLA (A3) TYPE

East Beaver Lake Forage Type

Special Lakeland Forage Type
(page 52)

Major Species

trembling aspen, low-bush
cranberry, wild sarsaparilla,
prickly rose

trembling aspen, wild sar-
saparilla, low-bush cranberry

Minor Species

beaked willow, Saskatoon-berry,
chokecherry, dewberry, bunchberry,
fireweed, twinflower, dogwood,
palmate-leaved coltsfoot, Lindley's
aster, tall lungwort, northern
bedstraw, cream-colored vetchling,
wild vetch, wild strawberry, wild
lily-of-the-valley, bishop's cap,
common pink wintergreen, kidney-
leaved violet, northern reed grass

snowberry, beaked hazelnut,
beaked willow, prickly rose,
Saskatoon-berry, wild red
raspberry, Lindley's aster,
bunchberry, cream-colored
vetchling, wild vetch,
fireweed, common pink
wintergreen, dewberry, tall
mertensia, wild strawberry,
wild lily-of-the-valley,
palmate-leaved coltsfoot,
hairy wild rye, northern
reedgrass

Age

25-30 years

50 years (matures 80-85
years)

Parent Materials

Morainal

Morainal

Biomass

not collected

Forbs 2 073 kg/ha
Grasses 560 kg/ha
Browse 20.3 kg/ha

Plate 9. Representative association of the Aspen/Cranberry/Sarsaparilla type (A3).

Plate 10. Typical vegetation of the Aspen/Cranberry/Sarsaparilla type (A3).

		<div>TROPHOTOPE</div> <div>OLIGOTROPHIC</div> <div>SUBMESOTROPHIC</div> <div>MESOTROPHIC</div> <div>PERMESOTROPHIC</div> <div>SUBEUTROPHIC to EUTROPHIC</div> <div>HYPEREUTROPHIC</div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 12 Edatopic Grid A3 - Aspen/Cranberry/Sarsaparilla

Site Characteristics

Moisture regime	: Submesic to subhygric
Nutrient regime	: Submesotrophic to mesotrophic
Slope position	: Mid to upper
Slope gradient	: 2-17%
Aspect	: Variable
Elevation	: 500-600 metres
Occurrence	: Dominant, particularly in System I

Landscape Characteristics

Parent material	: Morainal (glaciofluvial)
Soil texture	: Loam
Drainage	: Imperfect to well
ph of rooting zone:	5.5-6.5
Rooting depth	: 17-23 cm
Soil association	: Brunisolic Gray Luvisol, Orthic Gray Luvisol

4.1.3 White Spruce Forage Type

The White Spruce-Aspen/Cranberry/Sarsaparilla (Sw1) forage type is indicative of the sites that have not been burned within the last 75-120 years. This is a relatively small area of East Beaver Lake. The white spruce component has developed and is overtaking the trembling aspen and balsam poplar that is past maturity. Eventually, the White Spruce-Aspen/Cranberry/Sarsaparilla (Sw1) type will lose the trembling aspen component while retaining the low shrubs and tall forbs. If the canopy cover increases, the taller forbs and shrubs will be reduced and promote the lower forbs and mosses (Kocaoglu and Bennett, 1983).

This forage type was most dominant in the western portion of the study area. Small pockets of white spruce remain scattered throughout the area, depending on the fire history. Some of these stands have also been logged.

4.1.3.1 Sw1 - White Spruce- Aspen/Cranberry/Sarsaparilla
(Picea glauca-Populus tremuloides/Viburnum edule/Aralia nudicaulis)

The White Spruce-Aspen/Cranberry/Sarsaparilla (Sw1) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(55)	
	White spruce	
	Balsam poplar	
	Balsam fir*	Abies balsamea
	Trembling aspen	
Shrubs	(34)	
	Low-bush cranberry	
	Prickly rose	
	Snowberry	
	Beaked willow	
Forbs	(37)	
	Bunchberry	
	Tall lungwort	Mertensia paniculata
	Wild sarsaparilla	
	Northern bedstraw	
	Lindley's aster	
	Twinflower	
Grasses	(4)	
	Northern reed grass	

* Balsam fir (**Abies balsamea**) was only present at one of the sites sampled and was not observed in any other portion of the study area.

<u>Layer</u>	<u>Average Percent Cover</u>	
Moss	(96)	
	Stair-step moss	<i>Hylocomnium splendens</i>
	Schreber's moss	<i>Brachythecium salebrosum</i>
Lichens		
Epiphytes	(medium)	
		<i>Parmelia sulcata</i>
		<i>Cetraria halei</i>
		<i>Cetraria pinastri</i>
		<i>Pylasiella polyantha</i>
		<i>Evernaria mesomorpha</i>

Association Characteristics

Canopy height (m): 23
 Canopy cover : 60%
 Age (y) : 79
 DBH (cm) : 24 (19-29)
 Stems/ha : 875 (650-1 100)
 Species present : white spruce, trembling aspen

Vegetation Comments

The main canopy of the White Spruce-Aspen/Cranberry/Sarsaparilla type (Sw1) is dominated by white spruce with trembling aspen and balsam poplar as the codominant species. The stands are characterized by decadent or overmature hardwoods that are declining in productive growth. The shrub layer is prominent and well developed. Forbs indicative of lower light conditions constitute the bulk of the herbaceous layer. In areas where the canopy is open, fireweed is the predominant forb species. Grasses are not a major part of the herbaceous layer. Mosses are not prevalent but are a constant component of this forage type (Vegetation and Mensuration Tables, Appendix B).

Table 11

COMPARATIVE SUMMARY OF THE WHITE SPRUCE-ASPEN/
CRANBERRY/SARSAPARILLA (Sw1) TYPE

East Beaver Lake Forage Type

Special Lakeland Forage Type
(page 62)

Major Species

white spruce, trembling aspen,
low-bush cranberry, wild
sarsaparilla, bunchberrywhite spruce, trembling aspen,
balsam poplar, low-bush
cranberry, wild sarsaparilla

Minor Species

bracted honeysuckle, Saskatoon-
berry, tall lungwort, northern
bedstraw, Lindley's aster, wild
lily-of-the-valley, bishop's cap,
wild strawberry, dewberry, palmate-
leaved coltsfoot, one-sided
wintergreen, northern reedgrasssnowberry, prickly rose,
bracted honeysuckle, Lindley's
aster, bunchberry, northern
bedstraw, twinflower, wild
lily-of-the-valley, tall
mertensia, bishop's cap,
dewberry, palmate-leaved
coltsfoot, common horsetail,
fireweed, feathermosses

Age

80 years

32-99 years

Parent Materials

Glaciofluvial, moraine

Glaciofluvial, moraine

Biomass*

not collected

Forbs 3 213 kg/ha
Grasses 387 kg/ha
Browse 2.0 kg/ha

Plate 11. Representative association of the White Spruce-Aspen/Cranberry/Sarsaparilla type (Sw1).

This East Beaver Lake type bears a resemblance to the same type identified for the Special Lakeland area (Kocaoglu and Bennett, 1983). A comparative summary and Special Lakeland biomass values appears on Table 11. Plate 11 illustrates a representative White Spruce/Aspen/Cranberry/Sarsaparilla (Sw1) forage type and typical vegetation.

Site/Landscape Comments

This white spruce type generally occupies mesic to submesic sites and is found on the same soils and under similar site conditions as the aspen types. The parent materials are generally morainal and glaciofluvial in origin. Slope position and gradient do not appear to be a major factor influencing the establishment of this type. The presence of balsam fir regeneration in one site is indicative of moister and more acidic soil conditions. A seed source for fir was present as mature balsam fir were observed in the vicinity of the site (see Environmental Tables, Appendix B for further detail). Figure 13 shows an edatopic grid matrix for the White Spruce-Aspen/Cranberry/Sarsaparilla (Sw1) type.

Site Characteristics

Moisture regime	: Submesic to subhygric
Nutrient regime	: Submesotrophic to mesotrophic
Slope position	: Variable
Slope gradient	: Variable (3-18%)
Aspect	: Variable
Elevation	: 500-600 metres
Occurrence	: Low

Landscape Characteristics

Parent material	: Morainal, glaciofluvial blanket over moraine
Soil texture	: Loam to sandyloam
Drainage	: Well to moderately well
pH of rooting zone	: 4.0-6.0
Rooting depth	: 27-30 cm
Soil classification:	Brunisolic Gray Luvisols, Eluviated Eutric Brunisols, Orthic Gray Luvisols

Figure 13 Edatopic Grid Sw1 - White Spruce-Aspen/Cranberry/Sarsaparilla

4.1.4 Black Spruce Forage Type

This Black Spruce/Labrador Tea/Moss (Sb1) type occurs predominantly on organic soils. The poor growth of black spruce in these areas can be attributed to the wet oligotrophic and acidic nature of these soils. Fire occurrence has been restricted due to the hygric nature of these areas. Black spruce is not well adapted to fire, and consequently the recovery of wetland types from burning is slow (Kocaoglu and Bennett, 1983).

This vegetation type is found primarily in the central portion of the study area, in association with the poor drainage conditions and organic soils encountered in geomorphic system II (glaciofluvial lowland).

4.1.4.1 Sb1 - Black Spruce/Labrador Tea/Moss (*Picea mariana*/*Ledum groenlandicum*/*Sphagnum* species)

The Black Spruce/Labrador Tea/Moss (Sb1) type is identified by the following characteristic species combinations and association characteristics.

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(31)	
	Black spruce (predominant) Tamarack	<i>Picea mariana</i>
Shrubs	(46)	
	Labrador tea Willow (various)	<i>Salix</i> species

<u>Layer</u>	<u>Average Percent Cover</u>	
Forbs	(8)	
	Bog cranberry	
	Three-leaved Solomon's-seal	<i>Smilacina trifoliata</i>
	Small bog cranberry	<i>Oxycoccus microcarpus</i>
Grasses	(2.5)	
	Water sedge	<i>Carex aquatilis</i>
Mosses	(70)	
	Peat moss	<i>Sphagnum fuscum</i>
	Tufted moss	<i>Aulacomnium palustre</i>
	Golden moss	<i>Dicranum undulatum</i>
Lichens	(25)	
	Reinder lichen	
Epiphytes	(high)	
	Old man's beard	<i>Usnea soredifera</i>
		<i>Cetraria pinastri</i>

Association Characteristics

Canopy height (m): 11.2
 Canopy cover : 31%
 Age (y) : 72
 DBH (cm) : -
 Stems/ha : -
 Species present : black spruce

Vegetation Comment

The Black Spruce/Labrador Tea/Moss forage type (Sb1) is characterized by a short dense overstory composed predominantly of black spruce with minor amounts of tamarack. The typical "club-shaped" tops and small size, despite the age of the trees, is indicative of the wet conditions and poor nutrient status of these sites. The understory

consists mainly of Labrador tea. Forbs and grasses are not dominant, although small bog cranberry, bog cranberry and three-leaved Solomon's-seal are consistently present. The moss layer is very complex, composed of a series of hummocks in the microtopography. **Sphagnum** mosses occupy the tops of these mounds, while tufted moss (**Aulacomnium palustre**) inhabits the moister depressions. Lichen species are often observed to be growing on top of these hummocks where the microsite is very dry. A comparative summary of East Beaver Lake and Special Lakeland vegetation appears on Table 12.

Site/Landscape Comments

This type occupies hygric to subhygric sites and occurs primarily Terric Fibrisols and Fibric Mesisols. The poor growth of the black spruce can be attributed to a combination of the poor drainage and the acidic, oligotrophic conditions associated with the soils. These sites are classified as poor fen-wetlands. They are comprised of poorly to moderately decomposed *Sphagnum* derived peat with acidic, mineral poor organic layers (see Environmental Tables, Appendix B for further detail). Figure 14 shows an edatopic grid matrix for the Black Spruce/Labrador Tea/Moss forage type.

Site Characteristics

Moisture regime	: Subhydryc to hygric
Nutrient regime	: Oligotrophic to submesotrophic
Slope position	: Depression
Slope gradient	: 1-5%
Aspect	: Variable
Elevation	: 500-600 metres
Occurrence	: Common

Table 12

COMPARATIVE SUMMARY OF THE BLACK SPRUCE/LABRADOR TEA/MOSS (Sb1) TYPE

East Beaver Lake Forage Type	Special Lakeland Forage Type (page 71)
Major Species	
black spruce, labrador tea, peat moss	black spruce, labrador tea, peat moss, willow
Minor Species	
tamarack, small bog cranberry, three-leaved Solomon's seal, bog cranberry, water sedge, tufted moss	tamarack, bog cranberry, three-leaved Solomon's seal, small bog cranberry, old man's beard, tufted mos, golden moss, cloudberry, bishop's cap, creeping snow- berry, stair-step moss, reindeer lichen
Age	
80	72
Parent Materials	
organic over glaciofluvial	organic
Biomass	
not collected	-

		<div>TROPHOTOPE</div> <div>OLIGOTROPHIC</div> <div>SUBMESOTROPHIC</div> <div>MESOTROPHIC</div> <div>PERMESOTROPHIC</div> <div>SUBEUTROPHIC to EUTROPHIC</div> <div>HYPEREUTROPHIC</div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 14 Edatopic Grid SB1 - Black Spruce/Labrador Tea/Moss

Landscape Characteristics

Parent material : Organic
Soil texture : Fibric (mesic occasionally)
Drainage : poor
pH of rooting zone: 5.0-6.0
Rooting depth : -
Soil association : Terric Fibrisol, Fibric Mesisol

4.1.5 Tamarack Forage Types

Two tamarack forage types were identified: Black Spruce-Tamarack/Sedge/Moss (L1) and Tamarack/Birch/Sedge/Moss (L2).

The presence of tamarack in a wetland situation is indicative of an enriched nutrient status. The initial stage of wetland vegetation is a brush type, usually willow sedge. As the Willow/Sedge/Moss type (B2) gradually accumulates more peat, particularly sedge and brown moss peat, tamarack will begin to appear. Once established, the Tamarack/Birch/Sedge type (L2) bears the characteristics of a treed fen. As conditions become drier and the sphagnum mosses increase in density, black spruce invades and the Tamarack-Black Spruce/Sedge/Moss type (L1) predominates. As tamarack is not tolerant of acidic, oligotrophic conditions or shade, it will eventually be replaced by black spruce. A black spruce bog constitutes the wetland edaphic climax.

As tamarack cannot tolerate fire or shade, it is not self-perpetuating on sites where these factors influence stand establishment.

Tamarack types are predominant in geomorphic system II (glaciofluvial lowland) where poor drainage conditions and organic soils provide the required environmental conditions.

4.1.5.1 L1 - Tamarack-Black Spruce/Sedge/Moss
(*Larix laricina*-*Picea mariana*/*Carex* species/*Sphagnum* species)

The Tamarack-Black Spruce/Sedge/Moss (L1) type is identified by the following characteristic species combinations and association characteristics:

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(45)	
		Tamarack Black spruce
Shrubs	(43)	
		Labrador tea Dwarf birch
		<i>Betula glandulosa</i>
Forbs	(10)	
		Small bog cranberry Three-leaved Solomon's-seal Marsh marigold Bedstraw Bishop's cap Long-leaved stichwort
		<i>Caltha palustris</i> <i>Galium labradoricum</i> <i>Mitella nuda</i> <i>Stellaria longifolia</i>
Grasses	(15)	
		Water sedge Northern reed grass
Mosses	(88)	
		Peat moss
Lichens	(.7)	
		<i>Peltigera horizontalis</i>
Epiphytes	(high)	
		<i>Cetraria pinastri</i>
		Old man's beard

Association Characteristics

Canopy height (m): 11.0
Canopy cover : 41%
DBH (cm) : 13.3
Stems/ha : 400
Species present : tamarack, black spruce

Vegetation Comments

The Tamarack-Black Spruce/Labrador Tea/Moss type is characterized by a tamarack dominated overstory with lesser amounts of black spruce. Labrador tea and regenerating black spruce are present in the shrub layer. The forbs are low in percent cover, and are composed primarily of small bog cranberry and three-leaved Solomon's-seal. The grass layer is prominent and consists largely of water sedge. Peat mosses, such as *Sphagnum fuscum*, constitute the majority of the moss species present. Moss found in the depressions between the hummocks is predominantly tufted moss (*Aulacomnium palustre*). Epiphyte cover is high with old man's beard (*Usnea sorediifera*) being the most common (Vegetation Tables, Appendix B).

This East Beaver Lake type bears a resemblance to that found in the Special Lakeland area (Kocaoglu and Bennett, 1983). A comparative summary appears on Table 13. Plates 12 and 13 illustrate a representative Tamarack-Black Spruce/Labrador Tea (L1) forage type and typical vegetation.

Table 13

COMPARATIVE SUMMARY OF THE TAMARACK-BLACK SPRUCE/SEDGE/MOSS (L1) TYPE

East Beaver Lake Forage Type	Special Lakeland Forage Type (page 74)
Major Species	
tamarack, black spruce, labrador tea, water sedge, peat moss	tamarack, black spruce, sedge (water sedge), sphagnum moss, Tomenthypnum nitens
Minor Species	
small bog cranberry, three- leaved Solomon's-seal, tufted moss	Labrador tea, marsh marigold, chickweed, Solomon's-seal, marsh reed grass
Age	
62	47
Parent Materials	
organic over glaciofluvial	gleysolic, organic over glaciofluvial
Biomass	
not collected	not collected

Plate 12. Representative
association of the
Tamarack-Black Spruce/
Sedge/Moss type (L1)

Plate 13. Typical Vegetation of the Tamarack-Black
Spruce/Sedge/Moss type (L1)

Site/Landscape Comments

Tamarack prefers sites that are more eutrophic than those of black spruce, so these types are considered to be transitional from black spruce to tamarack. The organic soils at these sites are very poorly drained Terric Mesic Fibrisols. Fibric Mesisols were reported in the Special Lakeland area (Kocaoglu and Bennett, 1983). The moisture regime is subhydryc to hydric. These sites are classified as intermediate fens because of their oligotrophic to permesotrophic nutrient status with a pH of between 5.5 and 7.0 (see Environment Tables, Appendix B for further details).

Figure 15 shows an edatopic gric matrix for the Tamarack-Black Spruce/Sedge/Moss type (L1).

Site Characteristics

Moisture regime	:	Subhydryc to hydric
Nutrient regime	:	Oligotrophic to submesotrophic
Slope position	:	Depression
Slope gradient	:	0-5%
Aspect	:	Variable
Elevation	:	500-600 metres
Occurrence	:	Frequent

Landscape Characteristics

Parent material	:	Organic over glaciofluvial
Soil texture	:	Fibric, mesic
Drainage	:	Very poor
pH of rooting zone:	:	5.5-7.0
Rooting depth	:	-
Soil association	:	Terric Mesic Fibrisols

		<div>TROPHOTOPE</div> <div>OLIGOTROPHIC</div> <div>SUBMESOTROPHIC</div> <div>MESOTROPHIC</div> <div>PERMESOTROPHIC</div> <div>SUBEUTROPHIC to EUTROPHIC</div> <div>HYPEREUTROPHIC</div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 15 Edatopic Grid L1 - Tamarack-Black Spruce/Sedge/Moss

4.1.5.2 L2 - Tamarack/Birch/Sedge/Moss
(*Larix laricina*/*Betula pumila*/*Carex* spp./Moss)

The Tamarack/Birch/Sedge/Moss (L2) type is identified by the following characteristic species combinations and association characteristics:

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Trees	(20)	
		Tamarack Black spruce
Shrubs	(45)	
		Swamp birch <i>Betula pumila</i> Dwarf birch Hoary willow <i>Salix candida</i>
Forbs	(15)	
		Marsh marigold Three-leaved Solomon's-seal Buckbean <i>Menyanthes tripliata</i>
Grasses	(19)	
		Water sedge Prairie sedge <i>Carex prariea</i>
Mosses	(83)	
		Tufted moss Golden moss Dog lichen
Lichens	(.6)	
Epiphytes	(low)	
		<i>Cetraria halei</i> <i>Cetraria pinastri</i>

Association Characteristics

Canopy height (m): 11.7
Canopy cover : 20%
Age (y) : 70
DBH (cm) : -
Stems/ha : -
Species present : tamarack, black spruce

Vegetation Comments

The Tamarack/Birch/Sedge/Moss forage type (L2) is characterized by an overstory dominated by tamarack and very small amounts of black spruce. The shrub layer is composed mainly of swamp birch with minor amounts of dwarf birch and hoary willow. The forb layer does not consist of any single plant species but three-flowered Solomon's-seal, marsh marigold and buckbean are constantly present. Sedges, dominantly water sedge are common. Mosses make up the majority of the ground cover species with golden moss (*Tomenthypnum nitens*) and tufted moss (*Aulacomnium palustre*) occurring most frequently. Epiphytes are not present in high amounts (Vegetation and Environmental Tables, Appendix B).

This East Beaver lake type bears a resemblance to that described in the Special Lakeland Report (Kocaoglu and Bennett, 1983). A comparative summary Special Lakeland biomass values appears in Table 14. Plates 14 and 15 illustrate a representative Tamarack/Birch/Sedge/Moss (L2) forage type and typical vegetation.

Table 14

COMPARATIVE SUMMARY OF THE TAMARACK/BIRCH/SEDGE/MOSS (L2) TYPE

East Beaver Lake Forage Type	Special Lakeland Forage Type
Major Species	
tamarack, swamp birch, tufted moss, water sedge	tamarack, swamp birch, sedge, Tomenthypnum nitens , Aulacomnium palustre
Minor Species	
marsh marigold, three-leaved Solomon's-seal, willow	black spruce, willow, dwarf birch, swamp birch, horse-tail, marsh marigold, three leaved Solomon's-seal, peat moss
Age	
142	150
Parent Materials	
Organic veneer/blanket, glaciofluvial	Organic
Biomass	
not collected	Forbs 1 450 kg/ha Grasses 2 320 kg/ha Shrubs 14.6 kg/ha

Plate 14. Representative association of the Tamarack/
Birch/Sedge/Moss type (L2).

Plate 15. Typical vegetation of the Tamarack/Birch/
Sedge/Moss type (L2).

Site/Landscape Comments

The Tamarack/Birch/Sedge/Moss forage type is found on very poorly drained Terric Fibrisols over glaciofluvial parent materials. Humic Mesisols were reported in the Special Lakeland area (Kocaoglu and Bennett, 1983). The moisture regime is subhydryc to hydric. These sites can be classified as rich fens, with more eutrophic conditions and pH values between 7.0 and 8.0 (see Environmental Tables, Appendix B for further details).

Figure 16 shows an edatopic grid matrix for the Tamarck/Birch/Sedge/Moss type (L2).

Site Characteristics

Moisture regime	:	Hydric to subhydryc
Nutrient regime	:	permesotrophic to subeutrophic
Slope position	:	Level
Slope gradient	:	0-2%
Aspect	:	Variable
Elevation	:	500-600
Occurrence	:	Frequent

Landscape Characteristics

Parent material	:	Organic
Soil texture	:	Fibric to mesic
Drainage	:	Very poor
pH of rooting zone:	:	7.0-8.0
Rooting depth	:	
Soil association	:	Terric Fibrisols, Humic Mesisols

		<div><div>TROPHOTOPE</div><div>OLIGOTROPHIC</div><div>SUBMESOTROPHIC</div><div>MESOTROPHIC</div><div>PERMESOTROPHIC</div><div>SUBEUTROPHIC to EUTROPHIC</div><div>HYPEREUTROPHIC</div></div>					
HYGROTOPE		A	B	C	D	E	F
VERY XERIC	0						
XERIC	1						
SUBXERIC	2						
SUBMESIC	3						
MESIC	4						
SUB HYGRIC	5						
HYGRIC	6						
SUBHYDRIC	7						
HYDRIC	8						

Figure 16 Edatopic Grid L2 - Tamarack/Birch/Sedge/Moss

4.1.6 Willow (Brush) Forage Type

Sedges are usually the first species to become established in water-filled depressions. Willow, and eventually mosses, become a major component of the ground cover. These moss mats play an important role in the development and accumulation of peat. These sites are generally nutrient-rich and hydric. The Willow/Sedge (B2) type is common along creeks, in sloughs, and fringing the many small water bodies found in geomorphic system II.

Succession may be to black spruce, although the disturbance created by water flowing through these areas and depositing silt may retard the formation of mosses and initial accumulation of peat.

4.1.6.1 B2* - Willow/Sedge (Salix species/Carex species)

The Willow/Sedge (B2) type is identified by the following characteristic species combinations and association characteristics:

Vegetation

Characteristic Combination of Species

<u>Layer</u>	<u>Average Percent Cover</u>	
Shrubs	(31)	
		Velvet-fruited willow
		Flat-leaved willow
		Athabasca willow
		Autumn willow
		Salix maccalliana
		Salix planifolia
		Salix athabascensis
		Salix serripima

* In order to effectively compare the East Beaver Lake forage types to those found in the Special Lakeland study area, the same association names and numbers were assigned to both study areas.

<u>Layer</u>	<u>Average Percent Cover</u>	
Forbs	(10)	
	Marsh marigold	
Grasses	(75)	
	Water sedge	
	Northern reed grass	
Mosses	(15)	
	Tufted moss	
	Brown moss	Drepanocladus polycarpus
Lichens	(.3)	
	Dog lichen	

Association Characteristics

Canopy height (m): 2
 Age (y) :
 DBH (cm) :
 Stems/ha :
 Species present : willow (alder, swamp birch)

Vegetation Comments

The Willow/Sedge forage type (B2) is generally devoid of a tree layer. The upper layers are composed of tall and medium willows such as velvet-fruited willow, flat-leaved willow, Athabasca willow and autumn willow. The only consistent forb species is marsh marigold although some small amounts of other forbs are present. Sedges are dominant in the grass layer with water sedge being the most common. Mosses are generally lower in cover and lichens are practically non-existent. The continuous flooding of these areas restricts community development to those species which are tolerant of wet conditions.

This East Beaver Lake type bears a resemblance to that described in the Special Lakeland report (Kocaoglu and Bennett, 1983). A comparative summary and Special Lakeland biomass values appears in Table 15. Plates 16 and 17 illustrate a representative Willow/Sedge (B2) type and typical vegetation.

Site/Landscape Comments

The Willow/Sedge type (B2) is found on poor to very poorly drained Terric Mesisols and Terric Fibrisols over glaciofluvial parent materials. Typic Humisols and Mesic Humisols were reported in the Special Lakeland area (Kocaoglu and Bennett, 1983). The moisture regime is hydric to subhydric with the nutrient status being subeutrophic to eutrophic. These sites are common where prolonged flooding occurs, for example, as a result of beaver activity. See Environmental Tables, Appendix B for further details.

Figure 17 shows an edatophic grid matrix for the Willow/Sedge type (B2).

Site Characteristics

Moisture regime	:	Subhydric to hydric
Nutrient regime	:	Subeutrophic to eutrophic
Slope position	:	Level
Slope gradient	:	0-1%
Aspect	:	Variable
Elevation	:	500-600 metres
Occurrence	:	Frequent

Landscape Characteristics

Parent material	:	Organic
Soil texture	:	Humic, mesic
Drainage	:	Poor to very poor
pH of rooting zone	:	5.5-7.0
Rooting depth	:	
Soil association	:	Terric Mesisols, Terric Fibrisols

Table 15
COMPARATIVE SUMMARY OF THE WILLOW/SEDGE (B2) TYPE

East Beaver Lake Forage Type	Special Lakeland Forage Type
Major Species	
velvet-fruited willow, flat-leaved willow, athabasca willow, autumn willow, tufted moss, water sedge, marsh marigold, green alder	flat-leaved willow, glaucous bog willow, hoary willow, tufted moss, water sedge, marsh marigold
Minor Species	
dwarf birch, wild gooseberry, northern reedgrass	dwarf birch, march cinquefoil, smartweed, Salix planifolia , wild gooseberry
Age	
Parent Materials	
organic veneer over glaciofluvial	organic veneer
Biomass	
not collected	Forbs 460 kg/ha Grasses 1 749 kg/ha Browse 128.9 kg/ha

Plate 16. Representative association of the Willow/Sedge type (B2).

Plate 17. Typical vegetation of the Willow/Sedge type (B2).

		TROPHOTOPE	OLIGOTROPHIC	SUBMESOTROPHIC	MESOTROPHIC	PERMESOTROPHIC	SUBEUTROPHIC to EUTROPHIC	HYPEREUTROPHIC
HYGROTOPE		A	B	C	D	E	F	
VERY XERIC	0							
XERIC	1							
SUBXERIC	2							
SUBMESIC	3							
MESIC	4							
SUB HYGRIC	5							
HYGRIC	6							
SUBHYDRIC	7							
HYDRIC	8							

Figure 17 Edatopic Grid B2 - Willow/Sedge

5. SHORELINE AND POND CLASSIFICATION

Ten small bodies in the East Beaver Lake study area were surveyed and photographed on a low altitude helicopter reconnaissance flight on September 27, 1984, in order to determine their potential to support waterfowl and fish populations. Further observations of Roseland Lake were made from a boat on September 27 and 28, 1984.

The ponds which were surveyed are part of Geomorphic System II (glaciofluvial lowlands). The vegetation surrounding the emergent pond, cattails and bulrushes, is generally characterized by the Willow/Sedge forage type (B2) which occurs in conjunction with organic soil. The Tamarack forage types, Tamarack/Birch/Sedge/Moss (L2) and the Tamarack-Black Spruce/Sedge/Moss type (L1) are often found growing around the outer edges of the ponds, where the organic soils are present. Occasionally, well to moderately well drained Brunisolic Gray Luvisols, surround the pond shoreline. In these cases, the upland aspen type Aspen-Poplar/Cranberry (A2) would be common. The moist conditions near the shoreline would provide protection from frequent fires, and allow the vegetation to mature. In areas where the fires had occurred, the Aspen/Cranberry/Sarsaparilla type (A3) would be expected. This type is younger in terms of successional status. Both forage types, Aspen-Poplar/Cranberry type (A2) and Aspen/Cranberry/Sarsaparilla type (A3) are characteristic of mesic sites.

The forage type map, which accompanies this report, denotes pond and shoreline communities with the map symbol "S". A schematic diagram of the pond communities in relation to forage associations established

within the East Beaver Lake study area is illustrated in Figure 20 (Section 6.0 - Resource Inventory Integration).

The following ponds were surveyed: Roseland Lake, Matthews Lake, Trap Lake, BL1, BL2, BL3, BL4 and BL5. The location of each waterway is found on Figure 18.

5.1 Roseland Lake

Vegetation Comments

This was the largest and deepest pond of the group surveyed, with a maximum depth of 2.75-3 m. Submerged macrophytes grow throughout, with spotty cover near the centre of the pond. The shoreline vegetation is poorly developed due to steep slopes. There is a narrow zone of emergent bulrushes and cattails (10-15 m) backed by a 5-10 m zone of willows around the southern and eastern shores of the lake on the northern and northwestern shores. The emergent/sedge zones have a combined width of 30-50 m, and the willow zone is 5-10 m wide (Plate 19). This zone lies between the emergent vegetation and the brush Willow/Sedge (B2) forage type.

Evaluation

This pond serves as a staging area for waterfowl migration. Variable numbers of waterfowl (50-300) were observed. Most of the shoreline has a relatively low potential as a waterfowl breeding area due to the lack of a well developed sedge zone and the low food value of submerged plants (Plate 18).

Integrated Resource Inventory

of the

East Beaver Lake

Assessment Area

Location Map of Lakes for

Shoreline Inventory

Scale 1:50 000

Assessment Area Boundary

The highest potential exists along the northern shore. The lake is large and relatively well mixed and is probably deep enough to support fish on a put and take basis.

Moderately well drained soils on shore and the lack of a zone of organic soils gives good access to the water along the southeastern shore. A trail provides access to this part of the lake. Table 16 shows a summary of Roseland Lake.

Table 16
ROSELAND LAKE SUMMARY TABLE

Name	Depth (m)	Dominant Species	Shoreline Vegetation	Wildlife Use	Waterfowl Breeding Area Potential	Fish Habitat Potential
Roseland Lake	2.75-3.0	<p>Milfoil (<u>Myrophyllum exalbesens</u>)</p> <p>Coontail (<u>Ceratodophyllum demersum</u>)</p> <p>Clasping-leaved pondweed (<u>Potamogeton richardsonii</u>)</p> <p>Ribbon-leaved pondweed (<u>P. zosteriformis</u>)</p> <p>White-stemmed pondweed (<u>P. praelongus</u>)</p>	<p>Bulrushes (15 m) (<u>Scirpus</u> spp.)</p> <p>Cattails (<u>Typha</u> spp.)</p> <p>Willow (5-10 m) (<u>Salix</u> sp.)</p> <p>Sedges (<u>Carex</u> sp.)</p>	Scaups, mallard, pintail, teals, coots	Low	Good for put and take basis

5.2 Matthews Lake

Vegetation Comments

The floating and submerged species present in this lake indicate its depth is no greater than 2 m. There are well developed zones of emergent bulrushes and cattails, sedges and the brush type. The Willow/

Plate 18. The western shore of Roseland Lake showing a discontinuous zone of emergent and a narrow zone of sedges.

Plate 19. The northern shore of Roseland Lake, with the broadest emergent and sedge zones found adjacent to the peat-filled channel in the upper left of the photo.

Sedge (B2) forage type is found around most of the pond (Plate 20). The sedge zone is developed on organic soils which form a floating mat in the northeastern part of the lake. This zone is 10 to 50 m wide (Plate 21). The willow zone is 5 to 30 m wide. The death of willows closest to the lake indicates prolonged flooding in this zone.

The Black Spruce-Tamarack/Sedge/Moss type (L1) was observed on the perimeter of the organic soil zone. The aspen forage types Aspen/Alder/Twinflower (A1a) and the Aspen/Cranberry/Sarsaparilla type (A3) constitute the upland forest surrounding this waterbody.

Evaluation

Several dozen scaup and a few gulls were observed on this pond, but dabblers were not seen. The pond has moderate potential as a waterfowl breeding habitat because of the extensive sedge zone and the presence of open water areas within the emergent zone.

Shallow depth along with low oxygen levels as a result of plant respiration and decomposition would probably preclude fish planting.

The access to the water's edge is poor because of the presence of organic soils and a floating bog mat around much of the pond.

Table 17 shows a summary of Mathews Lake. The location of Matthews Lake is found on Figure 18.

Table 17
SUMMARY TABLE - MATTHEWS LAKE

Name	Depth (m)	Dominant Species	Shoreline Vegetation	Wildlife Use	Waterfowl Breeding Area Potential	Fish Habitat Potential
Matthews Lake	>2.0	Horsehead lily (<u>Nuphar variegatum</u>) Clasping-leaved pondweed White stemmed pondweed Ribbon-leaved pondweed	Bulrushes, Cattails Sedge (10-50 m) (floating mat) Willow (5-30 m)	Scaups, gulls	Moderate	Poor

5.3 BL1, Trap Lake, BL2 and BL3

Six of the smaller ponds examined had similar characteristics; a level, poorly drained shoreline area with organic soils, a 10-20 m wide zone of sedges, shallow depth, and extensive cover of floating-leaved and submerged macrophytes.

5.3.1 BL1

This pair of shallow ponds that are connected to Beaver Lake during high water years.

The occurrence of horsehead lily and arrowleaf (*Sagittaria cuneata*) near the middle of this pond indicates its maximum depth is probably about 1.5 m. Accompanying submerged species include milfoil, clasping-leaved pondweed and sago pondweed. Sago pondweed, a highly desirable food species for waterfowl, is especially common on the east side of the pond.

Plate 20. A view of Matthews Lake from the south, showing relatively broad zones of emergent plants and sedges along the eastern shore, and narrower emergent and sedge zones and a broad willow zone on the western shore.

Plate 21. The eastern side of Matthews Lake looking south showing a broad discontinuous emergent zone and a broad sedge zone developed on a floating organic mat.

A poorly drained sedge zone about 10-20 m wide immediately gives way to an upland aspen forest around most of the pond (Plate 22). This is the Aspen-Poplar/Cranberry forage type (A2), growing on moderately well drained Brunisolic Gray Luvisols. An emergent cattail zone about 5 m wide is confined to the east shore.

Table 18 gives a summary of BL1. The location of BL1 is found on Figure 18.

Table 18
BL1 Summary Table

Name	Depth (m)	Dominant Species	Shoreline Vegetation	Wildlife Use	Waterfowl Breeding Area Potential	Fish Habitat Potential
BL1	1.5	Horsehead lily Arrowleaf (<u>Sagittaria cuneata</u>) Milfoil, clasping-leaved pondweed, sago pondweed	Bulrushes (5-15 m) Cattails Sedges (10-30 m) Willow fringe	Mallards		Poor

5.3.2 Trap Lake

This also consists of a pair of basins, separated by a low saddle that is probably submerged during high water years.

Horsehead lily grows in the middle of these ponds, which appear to be less than 1 m deep. Submerged plants include milfoil, clasping-leaved pondweed and white-stemmed pondweed. Sago pondweed was observed in the northern, but not the southern basin.

The ponds are ringed by a 5-10 m wide zone of bulrushes and cattails, a 10-20 m wide sedge zone, and a narrow fringe of willows, forage type Willow/Sedge (B2) (Plate 23).

5.3.3 BL2

Horsehead lily grows in the middle of this pond, which appears to be 1-1.5 m deep. Submerged species include milfoil, white-stemmed pondweed, ribbon-leaved pondweed, and what appeared to be **Potamogeton friesii**. Sago pondweed occurred with sparse cover.

The pond supports a narrow (1-5 m) fringe of cattails, a 10-20 m wide sedge zone, and a discontinuous fringe of willows, forage type Willow/Sedge (B2).

5.3.4 BL3

This pond is similar to Trap Lake, although the emergent and sedge zones are narrower (5-10 m) and horsehead lily is not as common (Plate 24). It supports the same submerged species, and sago pondweed is abundant along the east shore where the emergent cover is discontinuous.

BL1, Trap Lake, BL2 and BL3 have similar characteristics and can be evaluated as a group.

Evaluation

Up to two dozen mallards were observed on each of these ponds; diving ducks were not seen.

Although these ponds are small, their shallowness, an extensive zone of sedges and emergent plants for nesting sites and the occurrence of sago pondweed give them a fairly high potential as waterfowl breeding areas.

These ponds are too shallow to be planted with fish.

The occurrence of a boggy sedge/emergent zone restricts the east of access to the water's edge.

Trap Lake, BL2 and BL3 can be located on Figure 18. Table 19 shows a summary for these water bodies.

Table 19

TRAP LAKE, BL2 AND BL3 SUMMARY TABLE

Name	Depth (m)	Dominant Species	Shoreline Vegetation	Wildlife Use	Waterfowl Breeding Area Potential	Fish Habitat Potential
Trap Lake, BL2, BL3	>1.0	Horsehead lily, milfoil, clasping-leaved pondweed, white stemmed pondweed, sago pondweed	Bulrushes (5-15 m) Cattails Sedges (10-30 m) Willow fringe	Mallards	High	Poor

Plate 22. BL1, showing a wide zone of sedges and the lack of an emergent or willow zone on most of the shoreline.

Plate 23. The northern basin of Trap Lake, showing wide zones of emergent plants and sedges and a narrow fringe of willows.

Plate 24. A portion of northshore of BL3 with narrow, continuous emergent, sedge and willow zones. These zones are somewhat narrower on the southern shore.

5.4 BL4 and BL5

These ponds are about 1-1.5 m deep, had discontinuous emergent and sedge zone (Plate 25) and only supported milfoil and white-stemmed pondweed in open water.

Evaluation

About a dozen scaup but no dabblers were observed on both of these ponds.

A lack of food and cover gives these ponds a low potential as waterfowl habitat with present water levels. Lower water levels may expose significant areas of suitable habitat (Plate 26).

The steepness of the shoreline and a lack of an organic sedge zone makes access to the water easy.

The brush forage type Willow/Sedge (B2) is found on the perimeter of these ponds. The Black Spruce-Tamarack/Sedge/Moss type (L1) was observed growing on the perimeter of the organic soil zone. The upland vegetation, predominantly aspen forage types, Aspen-Poplar/Cranberry (A2) and Aspen/Cranberry/Sarsaparilla (A3) are found on the well to moderately well drained soils surrounding these ponds. Small pockets of the White Spruce/Aspen/Cranberry/Sarsaparilla type (Sw1) can be seen scattered throughout the aspen.

Table 20 shows a summary for these ponds. The location of BL4 and BL5 is illustrated in Figure 18.

Table 20
BL4 AND BL5 SUMMARY TABLE

Name	Depth (m)	Dominant Species	Shoreline Vegetation	Wildlife Use	Waterfowl Breeding Area Potential	Fish Habitat Potential
BL4, BL5	1-1.5	Milfoil, white-stemmed pondweed	-	Scaups	Low	Low

Table 21 is a brief comparative evaluation of the eight waterbodies surveyed for waterfowl habitat, waterfowl breeding, and fish habitat potential.

Table 21
WATERBODY EVALUATION SUMMARY

	<u>Wildlife Use</u>	<u>Waterfowl Breeding Potential</u>	<u>Fish Habitat Potential</u>
Roseland Lake	++	-	+
Matthews Lake	+	+(-)	-
Trap Lake	+	++	-
BL1	+	-	-
BL2	+	++	-
BL3	+	++	-
BL4	+(-)	-	-
BL5	+(-)	-	-

Legend: ++ excellent
+ good
+(-) moderate to low
- poor

Wildlife use was observed to some degree on all ponds, however, Trap Lake, BL2 and BL3 were found to have the best potential for waterfowl breeding habitat.

Roseland Lake was the only waterbody that was deep enough to provide adequate fish habitat.

Plate 25. A portion of BL4 along the northwest shore with a narrow emergent and sedge zones that only occur on a small portion of the shoreline.

Plate 26. The southeast shore of BL4. Sedge and emergent zones do not exist at present, but the occurrence of sedge tussocks in the upper right suggest these zones might be significant if water levels were lower.

6. RESOURCE INVENTORY INTEGRATION

The purpose of Resource Inventory Integration is to combine the results of the Physical Land Classification and Forage Inventory into one homogeneous concept. Landscape features such as soil, parent material, drainage and topography are major factors which influence the diversity of forage types.

In order to provide a more complete understanding of how these factors influence vegetation, a schematic diagram with accompanying text has been interpreted. The Resource Inventory Integration used the Geomorphic Systems established in Section 3 (1:15 000 Physical Land Classification map). The Forage Inventory information (1:15 000 Forage Inventory map) was used to determine the co-relationship between physical characteristics and vegetation in the East Beaver Lake study area. Each Resource Inventory Integration System was designed to illustrate major characteristic features. However, they do not represent a particular location within the study area, or reflect specific properties of soils or forage types.

Two Integrated Systems have been established: Integrated System I (Veneered Hummocky Moraine) and Integrated System II (Glaciofluvial Lowland).

6.1 Integrated System I - Veneered Hummocky Moraine

Integrated System I represents an area, as defined by the map unit lines (1:15 000 Physical Land Classification map), of irregular knob and kettle topography indicative of hummocky disintegration moraine. This

area, which ranges from undulating gentle slopes to steep short slopes of up to 40% presents a wide variety of physical conditions. This variation is reflected in the presence of a complex of forage types.

The vegetation is dominated by dense young stands of trembling aspen, with older pockets of more mature aspen or white spruce scattered throughout the system. This not only represents mesotrophic and well drained conditions, but indicative of frequent light burning of aspen in the past. The occurrence of repeated light fires has restricted aspen maturity and/or white spruce succession (provided there is a seed source). Generally, mature stands were present adjacent to moister sites where fire was inhibited.

Glaciofluvial veneers of varying thicknesses cover the morainal system and moderately well to well drained. Brunisolic Gray Luvisol soils have developed. These areas are usually found on gently sloping hummocks or undulating moraine are characterized by the presence of the Aspen/Cranberry/Sarsaparilla type (A3). This forage type is dominant on mid to upper slopes where the till knolls are well drained. In areas where the veneer is thinner, and the slopes range up to 25%, Orthic Gray Luvisols predominate the Aspen/Alder/Twinflower type (A1) and Aspen/Cranberry/Sarsaparilla type (A3) are dominant on lower to mid slopes. These forage types occur under a wide range of soil, moisture and nutrient conditions and are often transitional. This is reflected in the mapping, where the two types are present within the same area.

In cases where the soils are imperfectly drained (e.g. Orthic Gleysols) or fire has been excluded (e.g. surrounding depressions), the

Aspen-Poplar/Cranberry type (A2) predominates. This is an older, more mature version of Aspen/Cranberry/Sarsaparilla type (A3) with a more developed understory.

White Spruce-Aspen/Cranberry-Sarsaparilla (Sw1) exists on sites ranging from well to imperfectly drained. However, the presence or absence of fire determines the white spruce succession. The occurrence of this type was infrequent and the stands occupied small pockets within System I.

The interknob areas, which are characteristically poorly or imperfectly drained, are occupied by the wetland forage types. The Tamarack-Black Spruce/Sedge/Moss (L1) type is the most common, with succession towards the Black Spruce/Labrador Tea/Moss type (Sb1) occurring when the peat moss component increases. This produces more acidic, oligotrophic conditions. Nutrient-rich areas are occupied by the Willow/Sedge (B2) forage type. Soils in these areas include: Terric Mesisols and Terric Fibrisols. This wetland complex is scattered throughout Integrated System I. Figure 19 illustrates a schematic cross-section of Integrated System I.

6.1.1 Land Use

Land use was observed to be primarily restricted to seismic activity and hunting. Recent clearing has increased access for hunters. The evidence of logging indicates that mature spruce was used to build trappers cabins or homesteads, but extensive logging was not apparent.

Figure 19: A Schematic Cross-section of Integrated System I

A correctional facility is present in the northwestern portion of the study area. In addition, local nuisance grounds have been established in the vicinity. A pipeline right-of-way cuts across the northeastern portion of the study area.

Improved and unimproved grazing lands, hay and grainfields, farms, acreages, cottages, camping and fishing facilities are major uses of land in the surrounding areas.

6.2 Integrated System II - Glaciofluvial Lowland

This system consists of a glaciofluvial lowland with subdued to undulating terrain of about 2-5 % slope with several morainal outcrops of 6 to 15 % slope. Much of the area is dominated by organic depressions that have small, rapidly drained sandy ridges interspersed within the organic component. Fine textured deposits have created ponds by impeding drainage. These extremes of rapidly drained to very poorly drained soils, in conjunction with the morainal "islands", have provided a diverse physical land base.

Organic soils make up a distinct portion of System II. The vegetation reflects the changes in site condition from wet to dry and from eutrophic to oligotrophic.

Ponds and sloughs are found distributed throughout this system. A more detailed description of the pond and shoreline communities (S) can be obtained in Section 5 (East Beaver Lake Pond Survey). The Willow/Sedge type (B2) grows around the edges of the ponds.

Where sites are wet and eutrophic, the Willow/Sedge type (B2) is prevalent. As the peat buildup increases and the site becomes drier, the tamarack types begin to appear. These areas are occupied by the Tamarack/Birch/Sedge/Moss type (L2). These sites are still eutrophic, but are not as wet as those of the Willow/Sedge (B2) type.

When conditions change toward more oligotrophic and acidic habitats, the Tamarack-Black Spruce/Sedge/Moss type (B1) begins to dominate. It is transitional to the black spruce bog, Black Spruce/Labrador tea/Moss type (Sb1), which is characterized by high peat moss content and acidic and oligotrophic site conditions. These black spruce areas are found on the outer edges of wetland systems.

Often observed within these black spruce-tamarack complexes are thick sandy glaciofluvial deposits. These are generally rapid to very rapidly drained sites; the jack pine types Pine/Bearberry/Lichen (P2) and Pine/Alder/Blueberry (P3) types are found. These areas are subject to intense fires, thus maintaining the jack pine. The black spruce component is easily killed by fire and never becomes dominant. On moderately well to well drained sites, the Pine/Alder/ Blueberry type (P3) predominates. The trembling aspen type Aspen/Alder/ Twinflower (A1a) is often found growing under the same conditions, and forms a transition from the pine forage type to the aspen forage type. Soils within the wetland system generally comprise Terric Mesisols, Terric Fibrisols, with some occurrences of Rego Humic Gleysols.

The morainal outcroppings or "islands" are capped by a thinner veneer. Slope conditions are more pronounced, rising 6-15%. This is a

contrast to the undulating or subdued landscape of the surrounding area. The aspen type, Aspen/Cranberry/ Sarsaparilla (A3) is common on these well to moderately well drained hummocks.

Older pockets of the Aspen-Poplar/Cranberry type (A2) are often found growing on the sites bordering wetlands or in areas where fire has not occurred.

The White Spruce-Aspen/Cranberry/Sarsaparilla (Sw1) types are also a component of Integrated System II. However, as explained in System I, these stands are not extensive and are confined to small island pockets. Trembling aspen and white spruce are generally found on Brunisolic Gray Luvisols within the glaciofluvial lowland system (Figure 20).

6.2.1 Land Use

Land use is similar to that described in System I. Since the area has greater amounts of wetland, hunting and seismic activity is confined to the winter when the area is frozen and travel is not limited by floating bogs or open water.

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APPENDIX A
DETAILED DESCRIPTIONS OF SOILS AT SELECTED SITES

SOIL LABORATORY ANALYSIS PROCEDURES

The soil samples from representative sites were analyzed in the laboratory (Jass Laboratories Ltd.) for various parameters.

Soil pH was measured in 0.01M CaCl_2 , using (2:1) CaCl_2 to soil dilution (McKeague 3.11). Acidity measured in this manner is diagnostic for Brunisols.

Texture was determined by the hydrometer method. Soil is soaked in Calgon solution and distilled water overnight. It is then mixed in a soil blender and transferred to a cylinder. The density of the soil suspension is read by the hydrometer after various times of settling. Particle size is then calculated using sedimentation time and a sedimentation parameter (McKeague 2.12).

The percent carbon was measured by the Mebius method (Mebius, 1959). Soil in a H_2SO_4 - $\text{K}_2\text{Cr}_2\text{O}_7$ mixture. This was refluxed and Radox titrated with Mohr's salt at room temperature with N-phenylanthracilic acid as an indicator.

Cation exchange capacity (CEC) and exchangeable cation were done by NH_4OAC at pH 7 (Chapman, 1965). CEC was determined by displacement and determination of absorbed NH_4^+ by macro-Kjeldahl distillation. Exchangeable cations (Ca^{++} , Mg^{++} , Na^+ , K^+) are measured by displacement of cations of ammonia saturation and determination of exchangeable cations by atomic absorption spectroscopy.

The available phosphorus (P) was measured by using .03N NH_4F in .03N H_2SO_4 as an extracting solution with the soil sample. The sample was filtered and the absorbance of the filtrate was read by autoanalyzer at 400 nm (McKeague 4.44).

Available nitrogen (N) was measured by using .02N CuSO_4 and .007N Ag_2SO_4 as an extracting solution. The sample is filtered, and boiled dry. Distilled water and ammonium hydroxide are added. The absorbance is read on a spectrophotometer at 420 nm. Calculations are then made to determine ppm N (McKeague 4.32).

Electrical conductivity was measured by making a paste of soil and distilled water. The conductivity is measured using a conductivity bridge and conductivity cell.

BL-1

Location : NE 36-66-13-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geological Material : Sandy glaciofluvial veneer over clay loam till
 Landform : Moraine
 Surface Expression : Hummocky; 6 to 30% slope
 Drainage : Moderately well
 Vegetation : Aspen/Alder/Twinflower

Soil Profile Description

L-H 10 to 0 cm; black (10YR 2/1 m) semi-decomposed organic matter.
 Ae 0 to 15 cm; light gray (10YR 7/2d) sandyloam; moderate, medium, platy; slightly hard, friable, non-sticky, non-plastic.
 AB 15 to 25 cm; light gray (10YR 7/2d) loam-silt loam; moderate, medium platy (Pseudo), slightly hard, friable, non-sticky, non-plastic.
 Bm 25 to 42 cm; dark brown (10YR 4/3d) sandy clay loam; moderate, fine, subangular blocky; hard, firm, slightly sticky, slightly plastic.
 II Bt 42 to 53 cm; dark yellowish brown (10YR 3/4m) clay loam; moderate, medium, subangular blocky; very hard, very firm, sticky, slightly plastic.
 II C 53+ cm; dark brown (10YR 3/3m) clay loam; amorphous; hard, firm, sticky, slightly plastic; 5% gravel (sub-rounded).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	Na	K	
Ae	0-15	6.04	1.0	3.4	29.5	85	0.28	7.3	1.3	0.3	0.4	9.8
AB	15-25	5.1	0.4	3.1	19.5	45	0.19	3.0	1.3	0.3	0.2	5.9
Bm	25-42	4.95	0.5	2.6	11.0	70	0.15	5.8	3.0	0.3	0.2	10.9
II Bt	42-53	4.8	0.5	3.4	7.5	95	0.2	8.8	5.3	0.3	0.3	16.6

BL-2

Location : NW 30-66-12-W4
 Soil Classification : Eluviated Dystric Brunisol
 Parent Geologic Material : Sandy glaciofluvial
 Landform : Moraine-controlled glaciofluvial
 Surface Expression : Undulating; 0 to 2.5% slope
 Drainage : Rapidly
 Vegetation : Pine/Bearberry/Lichen

Soil Profile Description

L-H 3 to 0 cm; black (10YR 2/1m) partially decomposed organic matter.
 Ae 0 to 8 cm; light gray (10YR 7/2m) loamy sand to sandy loam; weak, fine, platy to fine granular; soft, very friable, non-sticky, non-plastic.
 Bm 1 8 to 25 cm; yellowish brown (10YR 5/8m) sandy loam, weak to moderate, medium subangular blocky; soft, very friable, non-sticky, non-plastic.
 Bm 2 25 to 55 cm; brownish yellow (10YR 6/8m) gravelly coarse sand; single grain; soft, very friable, non-sticky, non-plastic; 35% gravel (rounded).
 C 55+ cm; very pale brown (10YR 7/4m) gravel; amorphous, loose, loose, non-sticky, non-plastic; 80% gravel (rounded) coarse sand in voids.

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	Na	K	
Ae	0- 8	4.2	0.4	2.7	19.0	30	0.08	0.8	0.3	0.3	0.2	3.5
Bm 1	8-25	4.85	0.5	2.3	23.5	45	0.12	1.8	0.5	0.3	0.2	6.3
Bm 2	25-55	5.1	0.1	2.0	25.0	60	0.05	1.0	0.3	0.3	0.1	2.1

BL-3

Location : NE 30-66-12-W4
 Soil Classification : Orthic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial veneer over sandy clay loam till
 Landform : Morainal
 Surface Expression : Inclined; 10 to 30% slope
 Drainage : Moderately well
 Vegetation : Aspen/Willow/Sarsaparilla

Soil Profile Description

L-H 6 to 0 cm; black (10YR 2/1 m) semi-decomposed organic matter.
 Ae 1 0 to 12 cm; very pale brown (10YR 7/3m) sandy loam; weak, fine, platy to moderate, fine, granular; slightly hard, friable, non-sticky, non-plastic.
 Ae 2 12 to 31 cm; light gray (10YR 7/2m) sandy loam; moderate, medium, platy; soft, very friable, non-sticky, non-plastic; 5% gravel (sub-rounded).
 II Bt 31 to 80 cm; brown (10YR 5/3m) clay loam; strong, medium, blocky; hard, friable, slightly sticky, slightly plastic; 5% gravel (sub-rounded).
 II C 80+ cm; brown (10YR 5/3m) clay loam; amorphous; slightly hard, friable, slightly sticky, slightly plastic.

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K	
Ae 1	0-12	5.35	0.8	2.9	27.0	65	0.24	3.8	0.8	0.3	0.2	5.9
Ae 2	12-31	5.5	0.4	2.7	15.0	35	0.22	1.8	0.8	0.3	0.2	4.0
II Bt	31-80	5.1	0.5	3.0	2.5	98	0.26	9.0	4.8	0.3	0.3	16.8

BL-4

Location	:	SE 36-66-13-W4
Soil Classification	:	Terric Fibrisol
Parent Geologic Material	:	Fibric forest-fen peat veneer over sandy glaciofluvial
Landform	:	Horizontal fen
Surface Expression	:	Horizontal; 0 to 0.5% slope
Drainage	:	Very poorly
Vegetation	:	Tamarack/Birch/Sedge/Moss

Soil Profile Description

Of 1	0 to 10 cm; fibric sphagnum moss; slightly decomposed; von Post, 02.
Of 2	10+ cm; fibric sphagnum moss; moderately decomposed; von Post, 03.

BL-5

Location : NE 29-66-12-W4
 Soil Classification : Eluviated Dystric Brunisol
 Parent Geologic Material : Sandy glaciofluvial
 Landform : Moraine-controlled glaciofluvial
 Surface Expression : Undulating; 6 to 9% slope
 Drainage : Rapidly to well
 Vegetation : Pine/Alder/Blueberry

Soil Profile Description

L-H 5 to 0 cm; black (10YR 2/1m) partially decomposed organic matter.

 Ae 0 to 11 cm; light gray (10YR 7/2m) fine sandy loam; weak, fine, granular; soft, very friable, non-sticky, non-plastic; 5% gravel (rounded), 10% cobbles (rounded), 5% stones (rounded).

 Bm 11 to 36 cm; yellowish brown to brownish yellow (10YR 5.5/6 m) gravelly sandy loam; moderate, medium, subangular blocky; hard, very friable, non-sticky, non-plastic; 10% gravel (rounded), 15% cobbles (rounded), 10% stones (rounded).

 C 36 to 65+ cm; brownish yellow (10YR 6/8m) gravelly coarse sand; single grain; slightly hard, very friable, non-sticky, non-plastic; 20% gravel (rounded), 15% cobbles (rounded), 10% stones (rounded).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K	
Ae	0-11	4.8	0.9	2.2	20.5	45	0.19	2.8	0.8	0.3	0.1	6.2
Bm	11-36	4.3	0.4	2.5	36.5	97	0.18	3.3	1.3	0.3	0.3	10.5

BL-6

Location : NE 21-66-12-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial veneer over clay loam till
 Landform : Morainal
 Surface Expression : Undulating to inclined; 10 to 25% slope
 Drainage : Moderately well
 Vegetation : Aspen/Cranberry/Sarsaparilla

Soil Profile Description

L-H 6 to 0 cm; black (10YR 2/1d) semi-decomposed organic matter.
 Ae 0 to 6 cm; light gray (10YR 7/1d) loam; moderate, medium, platy; hard, firm, slightly sticky, slightly plastic.
 Bm 6 to 13 cm; brown (10YR 5/3d) clay loam; moderate, medium, subangular blocky; hard, firm, slightly sticky, slightly plastic.
 II Bt 13 to 32 cm; dark brown (10YR 3/3d) clay; strong, medium subangular blocky to medium blocky; very hard, very firm, sticky, plastic; 8% gravel (angular).
 II C 32 to 55+ cm; black (10YR 2/1d) clay loam; amorphous; very hard, very firm, sticky, plastic; 10% gravel (angular).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg me/100 grams	N me/100 grams	K me/100 grams	
Ae	0- 6	5.4	0.8	2.8	14.5	40	0.28	3.5	0.8	0.3	0.1	9.3
Bm	6-13	5.0	1.0	3.3	9.0	55	0.19	8.0	3.0	0.3	0.2	16.2
II Bt	13-32	5.65	1.2	2.8	2.0	112	0.32	17.3	6.5	0.3	0.4	27.6

BL-7

Location : NE 35-66-13-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial veneer over clay loam till
 Landform : Morainal
 Surface Expression : Hummocky; 5 to 8% slope
 Drainage : Moderately well
 Vegetation : Aspen-Poplar/Cranberry

Soil Profile Description

L-H 14 to 0 cm; black (10YR 2/1d) semi-decomposed organic matter.
 Ae 0 to 18 cm; light brownish gray (10YR 6/2d) loam to silt loam; moderate, medium, platy to weak, fine, platy; slightly hard, friable, non-sticky, non-plastic.
 Bm 18 to 26 cm; brown (10YR 5/3d) clay loam to loam; moderate to strong; medium, granular; hard, firm, slightly sticky, slightly plastic; 5% gravel (sub-rounded).
 II Bt 26 to 60 cm; dark brown to brown (10YR 4/3d) clay loam; string, medium, subangular blocky; very hard, very firm, sticky, slightly plastic; 5% gravel (sub-rounded).
 II C 60+ cm; brown to dark greyish brown (10YR 5/3d) (10YR 4/2d) clay loam; amorphous; hard, firm, sticky, slightly plastic; 5% gravel (sub-rounded).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K	
Ae	0-18	5.3	1.0	2.8	16.5	117	0.22	3.8	1.3	0.3	0.4	6.7
Bm	18-26	5.95	0.2	2.9	4.0	127	0.38	7.8	3.0	0.3	0.5	12.3
II Bt	26-60	5.6	0.7	3.4	2.0	148	0.30	11.0	5.5	0.3	0.5	26.6

BL-8

Location	:	NW 36-66-13-W4
Soil Classification	:	Terric Fibrisol
Parent Geologic Material	:	Fibric fen veneer over sandy glaciofluvial
Landform	:	Horizontal fen
Surface Expression	:	Horizontal; 0 to 0.5% slope
Drainage	:	Very poorly
Vegetation	:	Willow/Sedge/Moss

Soil Profile Description

Of 1 0 to 5 cm; fibric sphagnum moss; no woody material; von Post, 02.

Of 2 5+ cm; fibric sphagnum moss; no woody material; von Post, 03.

BL-9

Location : NW 29-66-12-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial
 Landform : Moraine-controlled glaciofluvial
 Surface Expression : Undulating to level; 3 to 7% slope
 Drainage : Well to moderately well
 Vegetation : White Spruce-Aspen/Cranberry-Sarsaparilla

Soil Profile Description

L-H 7-0 cm; black (10YR 2/1m) semi-decomposed organic matter.
 Ae 0-8 cm; light brownish gray (10YR 6/2m) sandy loam; weak, fine, platy to weak, fine, granular; soft, very friable, non-sticky, non-plastic.
 Bm 1 8-22 cm; light yellowish brown (10YR 6/4m) loam; moderate, fine, subangular blocky; slight hard, friable, non-sticky, slightly plastic.
 Bt 1 22-27 cm; dark yellowish brown (10YR 3/4m) clay loam; moderate, medium, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic.
 Bm 2 27-32 cm; very pale brown (10YR 7/3) sandy loam; weak, fine, granular; loose, loose, non-sticky, non-plastic.
 Bt 2 32-51 cm; dark yellowish brown (10YR 4/4m) clay loam; moderate, fine, subangular blocky; slightly hard, firm, sticky, plastic.
 C 51+ cm; dark yellowish brown (10YR 3.5/4m) sandy clay loam; amorphous, slightly hard, firm, sticky, plastic.

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K me/100 grams	
Ae	0- 8	4.45	1.3	3.4	22.5	90	0.22	2.5	0.8	0.3	0.3	10.0
Bm	8-22	4.55	0.4	3.3	17.5	55	0.15	2.5	0.5	0.3	0.2	7.9
Bt	22-27	4.6	0.9	2.6	13.5	117	0.19	9.8	2.3	0.3	0.4	19.1
II Bm	27-32	4.85	0.4	2.8	18.0	32	0.12	2.0	0.5	0.3	0.1	4.0
II Bt	32-51	5.4	0.4	2.4	11.0	98	0.28	10.8	3.5	0.3	0.3	16.8

BL-10

Location	: NE 30-66-12-W4
Soil Classification	: Terric Mesic Fibrisol
Parent Geologic Material	: Mesic-fibric forest-fen over sandy glaciofluvial
Landform	: Horizontal fen
Surface Expression	: Horizontal; 0 to 0.5% slope
Drainage	: Very poorly
Vegetation	: Black spruce/Labrador tea/Feathermoss

Soil Profile Description

Of	0 to 90 cm; slight decomposition; slightly hard woody material (20-50%); von Post, 03.
Om	90 to 125+ cm; high decomposition; soft woody material (10%); von Post, 05.

BL-11

Location	: NE 29-66-12-W4
Soil Classification	: Rego Humic Gleysol
Parent Geologic Material	: Sandy glaciofluvial
Landform	: Moraine-controlled glaciofluvial
Surface Expression	: Undulating to level; 10 to 4% slope
Drainage	: Poorly
Vegetation	: White spruce/Feathermoss

Soil Profile Description

L-H	36-0 cm; black (10YR 2/1m) semi-decomposed to decomposed organic matter.
Ah	0-10 cm; black (10YR 2/1m) silty clay loam; weak, fine, subangular blocky; soft, very friable, slightly sticky, slightly plastic.u
Cg	10+ cm; grayish brown (10YR 5/2m) silt loam; amorphous, soft, very friable, non-sticky, non-plastic; mottles are common, medium, distinct, yellowish brown (10YR 5/4m).

BL-12

Location	: SE 29-66-12-W4
Soil Classification	: Terric Mesisol
Parent Geologic Material	: Mesic forest-fen veneer over sandy glaciofluvial
Landform	: Horizontal fen
Surface Expression	: Horizontal; 0-0.5% slope
Drainage	: Very poorly to poorly
Vegetation	: Willow/Sedge

Soil Profile Description

Of	0-15 cm; slightly decomposed; hard woody material (>50%); von Post, 03.
Om	15-60 cm; moderately decomposed; slightly hard woody material (10-20%); von Post, 05.
Cg	60+ cm; black (10YR 2/1m) clay; amorphous; slightly hard, friable, sticky, plastic; mottles are common, medium, prominent; strong brown (7.5YR 5/6m).

BL-13

Location : SW 22-66-12-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial veneer over clay loam till
 Landform : Moraine-controlled glaciofluvial
 Surface Expression : Undulating to hummocky; 6 to 9% slope
 Drainage : Well to moderately well
 Vegetation : Aspen/Cranberry/Sarsaparilla

Soil Profile Description

L-H 8-0 cm; black (10YR 2/1m) partially decomposed organic matter.
 Ae 0-8 cm; light gray (10YR 7/2m) very fine sandy loam; weak, fine, platy to fine granular; soft, very friable, non-sticky, non-plastic.
 Bm 8-17 cm; very pale brown (10YR 7/3m) loam; weak, fine, subangular blocky to moderate, fine, platy (pseudo); slightly hard, friable, non-sticky, non-plastic.
 II Bt 17-40 cm; dark brown (10YR 3/3m) clay; moderate, medium, subangular blocky; slightly hard, firm, slightly sticky, slightly plastic; 5% cobbles (angular).
 II C 40+ cm; very dark grey (10YR 3/1m) silty clay loam; amorphous to moderate, fine, subangular block (pseudo); slightly hard, firm, slightly sticky, slightly plastic; 5% cobbles (angular).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K	
Ae	0- 8	5.5	1.7	3.0	12.0	83	0.35	4.8	1.3	0.3	0.3	15.1
Bm	8-17	5.1	0.6	3.0	19.0	50	0.22	2.8	1.8	0.3	0.2	7.0
II Bt	17-40	4.8	0.9	4.0	2w.0	127	0.21	10.8	8.5	0.3	0.4	23.5

BL-14

Location	: SW 15-66-12-W4
Soil Classification	: Brunisolic Gray Luvisol
Parent Geologic Material	: Sandy glaciofluvial veneer over clay loam till
Landform	: Moraine-controlled glaciofluvial
Surface Expression	: Hummocky to undulating; 10 to 15% slope
Drainage	: Moderately well to well
Vegetation	: Aspen/Willow/Sarsaparilla

Soil Profile Description

L-H	10-0 cm; black (10YR 2/1m) semi-decomposed organic matter.
Ae	0-9 cm; light brownish gray (10YR 6/2m) very fine sandy loam; moderate, fine, granular; soft, friable, slightly sticky, slightly plastic.
Bm	9-19 cm; light gray (10YR 7/2m) silt loam; moderate, medium, subangular blocky to fine, platy (pseudo); slightly hard, friable, slightly sticky, slightly plastic.
II Bm	19-30 cm; dark brown to brown (10YR 4/3m) clay loam; moderate, medium, subangular blocky; slightly hard, friable, sticky, plastic.
II Bt	30-54 cm; very dark brown (10YR 3/1m) clay loam; moderate, medium, subangular blocky; slightly hard, friable, sticky, plastic.
II C	54+ cm; very dark greyish brown (10YR 3/2m) clay loam; amorphous; slightly hard, friable, sticky, plastic.

BL-15

Location : SE 9-66-12-W4
 Soil Classification : Eluviated Dystric Brunisol
 Parent Geologic Material : Sandy glaciofluvial
 Landform : Moraine-controlled glaciofluvial
 Surface Expression : Level to undulating; 0 to 2.5% slope
 Drainage : Rapidly to well
 Vegetation : Pine/Alder/Blueberry

Soil Profile Description

L-H 5-0 cm; black (10YR 2/1m) partially decomposed organic matter.
 Ae 0-11 cm; light brownish gray (10YR 6/2m) sandy loam; weak, fine, single grain; loose, loose, non-sticky, non-plastic.
 Bm 1 11-23 cm; yellowish brown (10YR 5/4m) sandy loam; weak, fine, subangular blocky; slightly hard, very friable, non-sticky, non-plastic; 15% gravel (rounded).
 Bm 2 23-31 cm; yellowish brown (10YR 5/4m) clay; moderate, fine, subangular blocky; slightly hard, friable, slightly sticky, plastic.
 C1 31-81 cm; yellowish brown (10YR 5/6m) sand; single grain; loose, loose, non-sticky, non-plastic.
 C2 81+ cm; light gray (10YR 7/2m) sand; single grain; loose, loose, non-sticky, non-plastic.

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg	N me/100 grams	K	
Ae	0-11	4.5	0.4	3.2	15.5	35	0.10	0.8	0.3	0.3	0.1	2.2
Bm 1	11-23	5.1	0.6	2.6	33.5	50	0.17	2.3	1.0	0.3	0.2	7.0
Bm 2	23-31	4.2	1.0	3.2	2.0	120	0.11	10.5	4.8	0.3	0.4	28.3

BL-16

Location : NW 22-66-12-W4
Soil Classification : Eluviated Dystric Brunisol
Parent Geologic Material : Sandy glaciofluvial
Landform : Moraine-controlled glaciofluvial
Surface Expression : Undulating to subdued; 10 to 15% slope
Drainage : Rapidly to well
Vegetation : Aspen/Willow/Sarsaparilla

Soil Profile Description

L-H 10-0 cm; black (10YR 2/1d) partially decomposed organic matter.

Ae 0-12 cm; light brownish gray (10YR 6/2d) very fine sand; weak, fine, platy to fine granular; loose, loose, non-sticky, non-plastic.

Bm 12-35 cm; very pale brown (10YR 7/3d) very fine sand; moderate, medium, subangular blocky to moderate, fine, platy (pseudo); soft, friable, non-sticky, non-plastic.

C 35-100+ cm; dark brown to brown (10YR 4/3d) sandy loam; moderate, medium, platy (pseudo); soft, friable, slightly sticky, non-plastic.

BL-17

Location	: NW 15-66-12-W4
Soil Classification	: Eluviated Dystric Brunisol
Parent Geologic Material	: Sandy glaciofluvial
Landform	: Moraine-controlled glaciofluvial
Surface Expression	: Undulating; 4 to 7% slope
Drainage	: Well to moderately well
Vegetation	: Aspen/Willow/Sarsaparilla

Soil Profile Description

L-H	6 to 0 cm; black (10YR 2/1 m) semi-decomposed organic matter.
Ae	0 to 5 cm; light brownish gray to light gray (10yR 6.5/2m) loamy sand; moderate, fine, platy; slightly hard, very friable, non-sticky, non-plastic.
Bm 1	5 to 16 cm; very dark greyish brown (10YR 3/2m) sandy clay loam; moderate, medium subangular blocky; slightly hard, friable, non-sticky, slightly plastic.
Bm 2	16 to 26 cm; very dark grey (10yR 3/2m) sandy clay loam; moderate, fine, subangular blocky; hard, firm, slightly sticky, slightly plastic; 8% gravel (rounded), 2% cobbles (rounded).
C	26 to 60+ cm; yellowish brown (10YR 5/6m) sand; amorphous; slightly hard, friable, non-sticky, non-plastic.

BL-18

Location : NW 27-66-12-W4
Soil Classification : Brunisolic Gray Luvisol
Parent Geologic Material : Sandy clay loam, glaciofluvial veneer
over clay loam till
Landform : Morainal
Surface Expression : Hummocky to undulating; 5 to 8% slope
Drainage : Moderately well to well
Vegetation : Aspen-Poplar/Cranberry

Soil Profile Description

L-H 5-0 cm; black (10YR 2/1d) semi-decomposed organic matter.

Ae 0-8 cm; yellowish brown (10YR 5/4d) sandy clay loam; weak, fine, platy to weak, fine, granular; soft, friable, slightly sticky, slightly plastic.

Bm 8-19 cm; dark yellowish brown (10YR 4/4d) sandy clay loam; weak, fine, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic.

II Bt 1 19-32 cm; dark yellowish brown (10YR 3/4d) clay loam; moderate, fine, subangular block; slightly hard, friable, slightly sticky, slightly plastic; 5% gravel (angular), 3% cobbles (angular).

II Bt 2 32-44 cm; very dark greyish brown (10YR 3/2d) clay loam; moderate, medium, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic; 3% gravel (angular), 2% cobbles (angular).

II C 44-60+ cm; very dark brown (10YR 2/2d) clay loam; amorphous; slightly hard, friable, slightly sticky, slightly plastic; 5% gravel (angular).

BL-19

Location : SW 34-66-12-W4
 Soil Classification : Brunisolic Gray Luvisol
 Parent Geologic Material : Sandy glaciofluvial veneer over sandy clay
 Landform : Morainal
 Surface Expression : Hummocky; 9 to 25% slope
 Drainage : Well to moderately well
 Vegetation : Aspen/Cranberry/Sarsaparilla

Soil Profile Description

L-H 4-0 cm; black (10YR 2/1d) partially decomposed organic matter.
 Ae 0-9 cm; gray to light gray (10YR 6/1d) sandy loam; weak, fine, platy; soft, very friable, non-sticky, non-plastic.
 AB 9-17 cm; light gray (10YR 7/2d) loam to sandy loam; weak, fine, granular; very hard, friable, non-sticky, non-plastic; 10% gravel (angular).
 Bm 17-27 cm; pale brown (10YR 6/3d) sandy clay loam; moderate, fine, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic; 15% gravel (rounded).
 II Bt 27-46 cm; dark brown (10YR 3/3d) sandy clay loam; moderate, medium, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic; 3% gravel (angular), 2% cobbles (angular).
 II C 46-60+ cm; very dark greyish brown (10YR 3/2d) sandy clay loam; amorphous; slightly hard, friable, slightly sticky, slightly plastic; 10% gravel (angular).

Soil Test Results

Horizon	Depth (cm)	pH	Organic Matter %	Available			Conductivity mmhos	Ca	Exchangeable Cations			CEC me/100 grams
				N ppm	P ppm	K ppm			Mg me/100 grams	N me/100 grams	K me/100 grams	
Ae	0- 9	5.65	1.2	3.8	14.5	55	0.32	3.3	0.8	0.3	0.2	6.4
AB	9-17	5.05	0.6	3.4	10.5	43	0.28	2.8	0.8	0.3	0.1	6.3
Bm	17-27	5.1	0.7	2.4	2.5	70	0.14	6.8	2.8	0.3	0.2	12.1
II Bt	27-46	4.65	0.6	2.9	2.0	80	0.11	8.5	4.3	0.3	0.3	19.1

BL-20

Location	: SE 28-66-12-W4
Soil Classification	: Rego Humic Gleysol
Parent Geologic Material	: Sandy clay loam glaciofluvial
Landform	: Moraine-controlled glaciofluvial
Surface Expression	: Level; 0 to 0.5% slope
Drainage	: Poorly to very poorly
Vegetation	: Willow/Sedge/Moss

Soil Profile Description

Of	32-13 cm; slight decomposition; slightly hard woody material (20-50%); von Post, 03.
Om	13-0 cm; high decomposition; soft woody material (10%); von Post, 05.
Ah	0-16 cm; very dark brown (10YR 2/2m) sandy clay loam; moderate, fine, subangular blocky; slightly hard, friable, slightly sticky, plastic.
Cg	16+ cm; greyish brown (10YR 5/2m) sandy clay loam; amorphous; slightly hard, friable, slightly sticky, plastic; mottles are common, medium, prominent; strong brown (7.5YR 5/6m).

BL-21

Location	: NE 33-66-12-W4
Soil Classification	: Eluviated Eutric Brunisol
Parent Geologic Material	: Sandy glaciofluvial
Landform	: Moraine-controlled glaciofluvial
Surface Expression	: Inclined to undulating; 5 to 20% slope
Drainage	: Well
Vegetation	: White spruce-Aspen/Cranberry-Sarsaparilla

Soil Profile Description

L-H	13-0 cm; black (10YR 2/1m) semi-decomposed organic matter.
Ae	0-14 cm; light gray (10YR 7/2m) very fine loamy sand; moderate, medium, platy; slightly hard, friable, non-sticky, non-plastic; 5% gravel (rounded).
Bm	14-32 cm; dark yellowish brown (10YR 4/4m) gravel; single grain; soft, very friable, non-sticky, non-plastic; 40% gravel (rounded), 25% cobbles (rounded), 5% stones (rounded) (sandy matrix).
C	32-85+ cm; yellowish brown (10YR 5/4m) sandy clay loam; amorphous; slightly hard, friable, slightly sticky, slightly plastic; 15% gravel (rounded and angular).

BL-22

Location : NE 33-66-12-W4
Soil Classification : Brunisolic Gray Luvisol
Parent Geologic Material : Sandy clay loam glaciofluvial veneer over sandy clay loam till
Landform : Morainal
Surface Expression : Undulating; 3 to 5% slope
Drainage : Moderately well to well
Vegetation : White spruce-Aspen/Cranberry/Sarsaparilla

Soil Profile Description

L-H 10-0 cm; black (10YR 2/1d) partially decomposed organic matter.

Ae 0-7 cm; grayish brown (10YR 5/2d) fine sandy clay loam; weak, fine, platy; soft, friable, slightly sticky, slightly plastic.

Bm 7-15 cm; dark brown (10YR 4/3d) fine sandy clay loam; weak, fine, subangular blocky to fine, platy (pseudo); slightly hard, friable, slightly sticky, slightly plastic.

II Bt 15-31 cm; very dark grayish brown (10YR 3/2d) sandy clay loam; moderate, fine, subangular blocky; slightly hard, friable, slightly sticky, slightly plastic.

II C 31+ cm; very dark brown (10YR 2/2d) sandy clay loam; amorphous; slightly hard, firm, slightly sticky, slightly plastic.

APPENDIX B

VEGETATION, ENVIRONMENT AND MENSURATION DATA FOR
EAST BEAVER LAKE AND SPECIAL LAKELAND STUDY AREAS

EAST BEAVER LAKE SPECIES LIST

<u>Code</u>	<u>Name</u>	<u>Latin Name</u>	<u>Common Name</u>
ABIE	BAL	<i>Abies balsamea</i>	Balsam fir
ACHI	MIL	<i>Achillia millefolium</i>	Common yarrow
ACHI	SIB	<i>Achillia siberica</i>	Many-flowered yarrow
ACTA	RUB	<i>Actaea rubra</i>	Red baneberry
AGRO	SCA	<i>Agrostis scabra</i>	Tickle grass
AGRO	STO	<i>Agrostis stolonifera</i>	Red top
AGRO	TRA	<i>Agropyron trachycaulum</i>	Slender wheatgrass
ALNU	CRI	<i>Alnus crispa</i>	Green alder
ALNU	TEN	<i>Alnus tenuifolia</i>	River alder
AMEL	ALN	<i>Amelanchier alnifolia</i>	Saskatoon-berry
ANTE	NEG	<i>Antennaria neglecta</i>	Pussy-toes
ARAL	NUD	<i>Aralia nudicaulis</i>	Wild sarsaparilla
ARCT	UVA	<i>Arctostaphylos uva-ursi</i>	Common bearberry
ASTE	PUN	<i>Aster puniceus</i>	Purple-stemmed aster
AULA	PAL	<i>Aulacomnium palustre</i>	Tufted-moss
BETU	GLA	<i>Betula glandulosa</i>	Dwarf birch
BETU	OCC	<i>Betula occidentalis</i>	Water birch
BETU	PAP	<i>Betula papyrifera</i>	Paper birch
BETU	PUM	<i>Betula pumila</i>	Swamp birch
BRAC	CAM	<i>Brachythecium campestre</i>	
BRAC	SAL	<i>Brachythecium salebrosium</i>	
BRAC	STA	<i>Brachythecium starkii</i>	
BROM	CIL	<i>Bromus ciliolatus</i>	Downy brome
BRYO	FUS	<i>Bromus fuscescens</i>	
BRYU	PSE	<i>Bryum pseudoloquetrum</i>	
CALA	CAN	<i>Calamagrostis canadensis</i>	Marsh reed grass
CALL	GIG	<i>Calligera giganteum</i>	
CALT	PAL	<i>Caltha palustris</i>	Marsh marigold
CALY	SPH	<i>Calypogeia sphagnicola</i>	
CARE	AQU	<i>Carex aquatilis</i>	Water sedge
CARE	BRU	<i>Carex brunnescens</i>	Brownish sedge
CARE	DIS	<i>Carex disperma</i>	Two-seeded sedge
CARE	PRA	<i>Carex prairea</i>	Prairie sedge
CETR	HAL	<i>Cetraria haleii</i>	
CETR	PIN	<i>Cetraria pinastri</i>	
CLAD	GRA	<i>Cladina gracilis</i>	Reindeer lichen
CLAD	MIT	<i>Cladina mitis</i>	Reindeer lichen
CLAD	RAN	<i>Cladina rangiferina</i>	Reindeer lichen
CLAD	CLO	<i>Cladonia cristadella</i>	
CLAD	CRI	<i>Cladonia clorophaea</i>	
CLAD	DEF	<i>Cladonia deformis</i>	
CLIM	DEN	<i>Climacium dendroides</i>	
CONU	CAN	<i>Cornus canadensis</i>	Bunchberry
CORY	COR	<i>Corylus cornuta</i>	Beaked hazelnut
CRAT	FIL	<i>Cratoneuron filicinum</i>	
DICR	POL	<i>Dicranum polysetum</i>	
DISP	TRA	<i>Disporum trachycarpum</i>	Fairy bells

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
DREP ADU	<i>Drepanocladus aduncus</i>	
DREP POL	<i>Disporum polycarpus</i>	
ELYM INN	<i>Elymus innovatus</i>	Hairy wild rye
EPIL PAL	<i>Epilobium palustre</i>	Marsh willow herb
EPIL ANG	<i>Epilobium angustifolium</i>	Fireweed
EQUI ARV	<i>Equisetum arvense</i>	Common horsetail
EQUI FLU	<i>Equisetum fluviale</i>	Swamp horsetail
EQUI PAL	<i>Equisetum palustre</i>	Marsh horsetail
EQUI PRA	<i>Equisetum pratense</i>	Meadow horsetail
EQUI SYL	<i>Equisetum sylvaticum</i>	Woodland horsetail
EURH PUL	<i>Eurhynchium pulchellum</i>	
EVER MES	<i>Evernia mesomorpha</i>	
FRAG VIR	<i>Fragaria virginiana</i>	Wild strawberry
GALI BOR	<i>Galium boreale</i>	Northern bedstraw
GALI LAB	<i>Galium labradoricum</i>	Bedstraw
GALI TRI	<i>Galium triflorum</i>	Sweet-scented bedstraw
GEOC LIV	<i>Geocavlon lividum</i>	Northern toadflax
GEUM ALL	<i>Geum allepicum</i>	Yellow avens
HAPL MIC	<i>Haplocladium microphyllum</i>	
HELO BLA	<i>Helodium blandowii</i>	
HERA LAN	<i>Heracleum lanatum</i>	Cow parsnip
HYLO SPL	<i>Hylocomium splendens</i>	Stair-step feathermoss
HYPO PHY	<i>Hypogymnia physodes</i>	
HYPN PRA	<i>Hypnum pratense</i>	
LARI LAR	<i>Larix laricina</i>	Tamarack
LATH OCH	<i>Lathyrus ochroleucus</i>	Cream-colored vetch
LEDU GRO	<i>Ledum groenlandicum</i>	Labrador tea
LILI PHI	<i>Lilium philadelphicum</i>	Western wood lily
LINN BOR	<i>Linnaea borealis</i>	Twinflower
LONI INV	<i>Lonicera involucrata</i>	Bracted honeysuckle
LYSI THY	<i>Lysimachia thyrsoflora</i>	Tufted loose strife
MAIA CAN	<i>Maianthemum canadense</i>	Wild lily-of-the-valley
MENY TRI	<i>Menyanthes trifoliata</i>	Buckbean
MERT PAN	<i>Mertensia paniculata</i>	Tall mertensia
MITE NUD	<i>Mitella nuda</i>	Bishop's cap
MYLI ANO	<i>Mylia anomala</i>	
ORTH SEC	<i>Orthelia secunda</i>	One-sided wintergreen
ORTH OBT	<i>Orthotrichum obtusifolium</i>	
ORYZ PUN	<i>Oryzopsis pungens</i>	Rice grass
OXYC MIC	<i>Oxycoccus microcarpus</i>	Small bog cranberry
PARM FLA	<i>Parmelia flaventior</i>	
PARM SUL	<i>Parmelia sulcata</i>	
PARN FIM	<i>Parnassia fimbriata</i>	Grass-of-Parnassus
PELT APT	<i>Peltigera apthosa</i>	
PELT CAN	<i>Peltigera canina</i>	Dog lichen
PELT HOR	<i>Peltigera horizontalis</i>	
PELT POL	<i>Peltigera polydactyla</i>	
PETA PAL	<i>Petasittes palmatus</i>	Palmate leaved coltsfoot
PICE GAL	<i>Picea glauca</i>	White spruce
PICE MAR	<i>Picea mariana</i>	Black spruce

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
PINU BAN	<i>Pinus banksiana</i>	Jack pine
PLAG COS	<i>Plagiomnium cuspidatum</i>	
PLAG DRU	<i>Plagiomnium drummondii</i>	
PLAG ELL	<i>Plagiomnium ellipticum</i>	
PLAG MED	<i>Plagiomnium medium</i>	
PLEU SCH	<i>Pleurozium schreberi</i>	Schreber's moss
POHL NUT	<i>Pohlia nutans</i>	Copper wire moss
POLY JUN	<i>Polytrichum juniperinum</i>	Hair cap moss
POLY STR	<i>Polytrichum strictum</i>	
POPU BAL	<i>Populus balsamifera</i>	Balsam poplar
POPU TRE	<i>Populus tremuloides</i>	Trembling aspen
POTE PAL	<i>Potentilla palustris</i>	Marsh cinquefoil
PRUN VIR	<i>Prunus virginiana</i>	Choke cherry
PTIL CRI	<i>Ptilidium crista-castrensis</i>	Knight's plume
PYLA POL	<i>Pylasiella polyantha</i>	
PYRO ASA	<i>Pyrola asarifolia</i>	Common pink wintergreen
RAMA FAR	<i>Ramalina farinacea</i>	
RAMA MIN	<i>Ramalina miniscula</i>	
RAMA POL	<i>Ramalina pollinaria</i>	
RIBE LAC	<i>Ribes lacustre</i>	Bristly black currant
RIBE OXY	<i>Ribes oxycanthoides</i>	Wild gooseberry
RIBE TRI	<i>Ribes triste</i>	Wild red currant
ROSA ACI	<i>Rosa acicularis</i>	Prickly rose
RUBU IDA	<i>Rubus idaeus</i>	Wild red raspberry
RUBU PUB	<i>Rubus pubescens</i>	Dewberry
RUME BRI	<i>Rumex britannica</i>	Water dock
RUME OCC	<i>Rumex occidentalis</i>	Western dock
SALI BEB	<i>Salix bebbiana</i>	Beaked willow
SALI ATH	<i>Salix athabascensis</i>	Athabasca willow
SALI CAN	<i>Salix candida</i>	Hoary willow
SALI MAC	<i>Salix maccalliana</i>	Velvet-fruited willow
SALI MYR	<i>Salix myrtilifolia</i>	Myrtle-leaved willow
SALI PLA	<i>Salix planifolia</i>	Flat-leaved willow
SALI SER	<i>Salix serissima</i>	Autumn willow
SANI MAR	<i>Sanicula marilandica</i>	Snake root
SCHI PUR	<i>Schizachne purpurescens</i>	Purple oat grass
SHEP CAN	<i>Shepherdia canadensis</i>	Buffalo-berry
SMIL TRI	<i>Smilacina trifolia</i>	Three-leaved Solomon's seal
SOLI CAN	<i>Solidago canadensis</i>	Graceful goldenrod
SPHA FUS	<i>Sphagnum fuscum</i>	
STEL LON	<i>Stellaria longifolia</i>	Long-leaved stichwort
STRE AMP	<i>Streptococcus amplexiformis</i>	Twisted stalk
SYMP ALB	<i>Symphoricarpos alba</i>	Snowberry
THAL VEN	<i>Thalictrum venulosum</i>	Veiny meadow rue
THUI REC	<i>Thuidrum recognitum</i>	
TOME NIT	<i>Tomenthypnum nitens</i>	Golden moss
TRIE BOR	<i>Trientalis borealis</i>	Star-flower
URTI DIO	<i>Urtica dioica</i>	Stinging nettle
USNE ALP	<i>Usnea alpina</i>	Old man's beard

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
USNE CAV	Usnea cavernosa	Old man's beard
USNE HIR	Usnea hirta	Old man's beard
USNE SOR	Usnea soledifferad	Old man's beard
USNE SUB	Usnea subfloridana	Old man's beard
VACC MYR	Vaccinium myrtilloides	Blueberry
VACC VIT	Vaccinium vitis-idaea	Bog cranberry
VALE DIO	Valeriana dioica	Northern valerian
VIBU EDU	Viburnum edule	Low-bush cranberry
VICE AME	Vicia americana	Wild vetch
VIOL REN	Viola renifolia	Early blue violet
VIOL RUG	Viola rugulosa	Western Canada violet
XANT RAM	Xanthoria ramulosa	

SPECIAL LAKELAND AREA SPECIES LIST

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
ABIE BAL	<i>Abies balsamea</i>	Balsam fir
ACHI MIL	<i>Achillia millefolium</i>	Common yarrow
ACHI SIB	<i>Achillia siberica</i>	Many-flowered yarrow
ACTA RUB	<i>Actaea rubra</i>	Red baneberry
AGRO SCA	<i>Agrostis scabra</i>	Tickle grass
ALNU CRI	<i>Alnus crispa</i>	Green alder
ALNU TEN	<i>Alnus tenuifolia</i>	River alder
AMBL SER	<i>Amblystegium serpens</i>	
AMEL ALN	<i>Amelanchier alnifolia</i>	Saskatoon-berry
ANDR POL	<i>Andromedia polifolia</i>	Bog rosemary
ANEM PAR	<i>Anemone parviflora</i>	
ANEM PAT	<i>Anemone patens</i>	Prairie crocus
ANTE NEG	<i>Antennaria neglecta</i>	Pussy-toes
ARAL NUD	<i>Aralia nudicaulis</i>	Wild sarsaparilla
AREN LAT	<i>Arenaria lateriflora</i>	Sandwort
ASTE CIL	<i>Aster ciliolatus</i>	Lindley's aster
ASTE CON	<i>Aster conspicuous</i>	Showy aster
ASTE NES	<i>Aster hesperius</i>	Western willow aster
ASTE JUN	<i>Aster junciformis</i>	
ASTR FRI	<i>Astragalus frigidus</i>	Milk vetch
ASTR OCC	<i>Astragalus occidentalis</i>	Milk vetch
AULA PAL	<i>Aulacomnium palustre</i>	
BETU GLA	<i>Betula glandulosa</i>	Dwarf birch
BETU PAP	<i>Betula papyrifera</i>	Paper birch
BETU PUM	<i>Betula pumila</i>	Swamp birch
BRAC SAL	<i>Brachythecium salebrosium</i>	
BROM PUM	<i>Bromus pumpellianus</i>	Northern awnless brome
BRYU PSE	<i>Bryum pseudoloquetrum</i>	
CALA CAN	<i>Calamagrostis canadensis</i>	Marsh reed grass
CALA INE	<i>Calamagrostis inexpansa</i>	Northern reed grass
CALL GIG	<i>Calligera giganteum</i>	
CALL TRI	<i>Calliargon trifarium</i>	
CALT PAL	<i>Caltha palustris</i>	Marsh marigold
CAMP ROT	<i>Campanula rotundifolia</i>	Harebell
CAMP STE	<i>Campylum stellatum</i>	
CARE AQU	<i>Carex aquatilis</i>	Water sedge
CARE ATH	<i>Carex atherodes</i>	Sedge
CARE BRU	<i>Carex brunnescens</i>	Sedge
CARE CAP	<i>Carex capillaris</i>	Sedge
CARE CHO	<i>Carex chordorrhiza</i>	Sedge
CARE CON	<i>Carex concinna</i>	Sedge
CARE DEW	<i>Carex deweyana</i>	Sedge
CARE DIS	<i>Carex disperma</i>	Sedge
CARE GYN	<i>Carex gynocrates</i>	Sedge
CARE INT	<i>Carex interior</i>	Sedge
CARE LIM	<i>Carex limosa</i>	Sedge
CARE PAU	<i>Carex paupercula</i>	Sedge

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
CARE PEC	<i>Carex peckii</i>	Sedge
CARE PRA	<i>Carex prairea</i>	Sedge
CARE RIC	<i>Carex richardsonii</i>	Sedge
CARE ROS	<i>Carex rostrata</i>	Sedge
CARE TEN	<i>Carex tenuiflora</i>	Sedge
CARE VAG	<i>Carex vaginata</i>	Sedge
CHRY IOW	<i>Chrysosplenium iowense</i>	Golden saxifrage
CICU BUL	<i>Cicuta bulbifera</i>	Water hemlock
CICU DOU	<i>Cicuta douglasii</i>	Water hemlock
CIRS ARV	<i>Cirsium arvense</i>	Canada thistle
CLAD CEN	<i>Cladonia cenotea</i>	
CLAD COC	<i>Cladonia coccifera</i>	
CLAD CON	<i>Cladonia coniocraea</i>	
CLAD COR	<i>Cladonia cornuta</i>	
CLAD CRI	<i>Cladonia clorophaea</i>	
CLAD DEF	<i>Cladonia deformis</i>	
CLAD FIM	<i>Cladonia fimbriata</i>	
CLAD FUR	<i>Cladonia furcata</i>	
CLAD GRA	<i>Cladonia gracillis</i>	
CLAD MIT	<i>Cladonia mitis</i>	Reindeer lichen
CLAD MUL	<i>Cladonia multiformis</i>	
CLAD PYS	<i>Cladonia physidata</i>	
CLAD UNC	<i>Cladonia uncialis</i>	
CLAD VER	<i>Cladonia verticillata</i>	
CLIM DEN	<i>Climacium dendroides</i>	
COMA PAL	<i>Comandra pallida</i>	Bastard toad-flax
CORA TRI	<i>Corallorhiza trifida</i>	Pale coral-root
CORN CAN	<i>Cornus canadensis</i>	Bunchberry
CORN STO	<i>Cornus stolonifera</i>	Dogwood
CORY COR	<i>Corylus cornuta</i>	Beaked hazelnut
DESC CAE	<i>Deschampsia caespitosa</i>	Hair grass
DICR FRA	<i>Dicranum fragilifolium</i>	
DICR UND	<i>Dicranum undulatum</i>	
DISP TRA	<i>Disporum trachycarpum</i>	Fairy-bells
DREP ADU	<i>Drepanocladus aduncus</i>	
DREP REV	<i>Drepanocladus revolvens</i>	
DREP UNC	<i>Drepanocladus uncinatus</i>	
DREP VER	<i>Drepanocladus vernicosus</i>	
DROS VOT	<i>Drosera rotundifolia</i>	Round-leaved sundew
ELYM INN	<i>Elymus innovatus</i>	Hairy wild rye
EPIL ANG	<i>Epilobium angustifolium</i>	Fireweed
EPIL GLA	<i>Epilobium glandulosa</i>	Willow-herb
EQUI ARV	<i>Equisetum arvense</i>	Common horsetail
EQUI FLU	<i>Equisetum fluvitale</i>	Swamp horsetail
EQUI SCI	<i>Equisetum scirpoides</i>	Horsetail
EQUI SYL	<i>Equisetum sylvaticum</i>	Woodland horsetail
ERIG GLA	<i>Erigeron alabellus</i>	Fleabane
ERIG PHI	<i>Erigeron philadelphicus</i>	Fleabane
ERIO CHA	<i>Eriophorum chamissonis</i>	Cotton grass

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
ERIO VIR	<i>Eriophorum viridi-carinatum</i>	Cotton grass
EURH PUL	<i>Eurhynchium pulchellum</i>	
FEST SAX	<i>Festuca saximontana</i>	Fescue
FRAG VIR	<i>Fragaria virginiana</i>	Wild strawberry
GALI BOR	<i>Galium boreale</i>	Northern bedstraw
GALI LAB	<i>Galium labradoricum</i>	Bedstraw
GALI TRI	<i>Galium triflorum</i>	Sweet-scented bedstraw
GENT AMA	<i>Gentianella amarella</i>	Felwort
GEOC LIV	<i>Geocqulon lividum</i>	Northern comandra
GEUM ALL	<i>Geum allepicum</i>	Yellow avens
GEUM MAL	<i>Geum macrophyllum</i>	Yellow avens
GOOD REP	<i>Goodyera repens</i>	Rattlesnake plantain
HABE HYP	<i>Habenaria hyperborea</i>	Northern green orchid
HALE DEF	<i>Halena deflexa</i>	Spurred gentian
HAPL MIC	<i>Haplocladium microphyllum</i>	
HEDY ALP	<i>Hedysarum alpinum</i>	
HERA LAN	<i>Heracleum lanatum</i>	Cow parsnip
HIER CAN	<i>Hieracium canadense</i>	Canada hawkweed
HYLO SPL	<i>Hylocomium splendens</i>	Stair-step feathermoss
HYPO PHY	<i>Hypogymnia physodes</i>	
HYPN PRA	<i>Hypnum pratense</i>	
JUNC BAL	<i>Juncus balticus</i>	Wire rush
KALM POL	<i>Kalmia polifolia</i>	Mountain laurel
LARI LAR	<i>Larix laricina</i>	Tamarack
LATH OCH	<i>Lathyrus ochroleucus</i>	Cream-colored vetch
LESC RAD	<i>Lescurae radicata</i>	Cream-colored vetchling
LEDU GRO	<i>Ledum groenlandicum</i>	Labrador tea
LILI PHI	<i>Lilium philadelphicum</i>	Western wood lily
LINN BOR	<i>Linnaea borealis</i>	Twinflower
LONI DIO	<i>Lonicera dioica</i>	Twining honeysuckle
LONI INV	<i>Lonicera involucrata</i>	Bracted honeysuckle
LONI VIL	<i>Lonicera villosa</i>	Fly honeysuckle
LYCO ANN	<i>Lycopodium annotinum</i>	Stiff club-moss
LYCO COM	<i>Lycopodium complanatum</i>	Ground cedar
LYCO OBS	<i>Lycopodium obscurum</i>	Ground pine
MAIA CAN	<i>Maianthemum canadense</i>	Wild lily-of-the-valley
MEES TRI	<i>Meesia triquetra</i>	
MENT ARV	<i>Mentha arvensis</i>	Wild mint
MENV TRI	<i>Menyanthes trifoliata</i>	Buck bean
MERT PAN	<i>Mertensia paniculata</i>	Tall mertensia
MITE NUD	<i>Mitella nuda</i>	Bishop's cap
MUHL GLO	<i>Muhlenbergia glomerata</i>	Bog muhly
ONCO WAH	<i>Oncophorus wahlengergii</i>	
ORCH ROT	<i>Orchis rotundifolia</i>	Round-leaved orchid
ORYZ ASP	<i>Oryzopsis asperifolia</i>	Rice grass
ORYZ PUN	<i>Oryzopsis pungens</i>	Rice grass
OSMO DEP	<i>Osmorhiza depauperata</i>	Sweet cicely
OXYC MIC	<i>Oxycoccus microcarpus</i>	Small bog cranberry
PARN DAL	<i>Parnassia palustris</i>	Grass-of-parnassus
PELT APH	<i>Peltigera apthosa</i>	

<u>Code Name</u>	<u>Latin Name</u>	<u>Common Name</u>
PELT CAN	<i>Peltigera canina</i>	Dog lichen
PELT MAL	<i>Peltigera malacea</i>	
PELT POL	<i>Peltigera polydactyla</i>	
PENS ALB	<i>Penstemon albidus</i>	White beard-tongue
PETA PAL	<i>Petasites palmatus</i>	Palmate leaved coltsfoot
PETA SAG	<i>Petasites sagittatus</i>	Arrow-leaved coltsfoot
PHAC FRA	<i>Phacelia franklinii</i>	Scorpion weed
PICE GAL	<i>Picea glauca</i>	White spruce
PICE MAR	<i>Picea mariana</i>	Black spruce
PINU BAN	<i>Pinus banksiana</i>	Jack pine
PLAG CUS	<i>Plagiomnium cuspidatum</i>	
PLAG DRU	<i>Plagiomnium drummondii</i>	
PLAG ELL	<i>Plagiomnium ellipticum</i>	
PLEU SCH	<i>Pleurozium schreberi</i>	Schreber's moss
POA PAL	<i>Poa palustris</i>	Fowl bluegrass
POHL CRU	<i>Pohlia cruda</i>	
POLY AMP	<i>Polygonum amphibium</i>	Water smartweed
POLY JUN	<i>Polytrichum juniperinum</i>	Hair cap moss
POLY LAP	<i>Polygonum lapathifolium</i>	Smartweed
POLY PAU	<i>Polygala pauciflora</i>	Milkwort
POLY STR	<i>Polytrichum strictum</i>	
POPU BAL	<i>Populus balsamifera</i>	Balsam poplar
POPU TRE	<i>Populus tremuloides</i>	Trembling aspen
POTE PAL	<i>Potentilla palustris</i>	Marsh cinquefoil
POTE RIV	<i>Potentilla rivalis</i>	Cinquefoil
POTE TRI	<i>Potentilla tridentata</i>	Three-toothed cinquefoil
PRUN PEN	<i>Prunus pensylvanica</i>	Pin cherry
PRUN VIR	<i>Prunus virginiana</i>	Choke cherry
PTIL CRI	<i>Ptilidium crista-castrensis</i>	Knight's plume
PTIL PUL	<i>Ptilidium pulcherrimum</i>	
PYLA POL	<i>Pyasiella polyantha</i>	
PYRO ASA	<i>Pyrola asarifolia</i>	Common pink wintergreen
PYRO SEC	<i>Pyrola secunda</i>	One-sided wintergreen
RHAM ALN	<i>Rhamnus alnifolia</i>	Buckthorn
RHIZ PSE	<i>Rhizomnium pseudopunctatum</i>	
RIBE AME	<i>Ribes americanum</i>	Wild black currant
RIBE GLA	<i>Ribes glandulosum</i>	Skunk current
RIBE HIR	<i>Ribes hirtellum</i>	Wild gooseberry
RIBE LAC	<i>Ribes lacustre</i>	Bristly black currant
RIBE OXY	<i>Ribes oxycanthoides</i>	Wild gooseberry
RIBE TRI	<i>Ribes triste</i>	Wild red currant
RORR ISL	<i>Rorippa islandica</i>	Yellow cress
ROSA ACI	<i>Rosa acicularis</i>	Prickly rose
RUBU ACA	<i>Rubus acaulis</i>	Dwarf raspberry
RUBA CHA	<i>Rubus chamaemorus</i>	Cloudberry
RUBU PUB	<i>Rubus pubescens</i>	Dewberry
RUBU STR	<i>Rubus strigosus</i>	Wild red raspberry
RUME OCC	<i>Rumex occidentalis</i>	Western dock
SALI BEB	<i>Salix bebbiana</i>	Beaked willow
SALI CAN	<i>Salix candida</i>	Hoary willow

<u>Code</u>	<u>Name</u>	<u>Latin Name</u>	<u>Common Name</u>
SALI	LAS	<i>Salix lasiandra</i>	Willow
SALI	MYR	<i>Salix myrtillofolia</i>	Willow
SALI	PED	<i>Salix pedicellaris</i>	Glaucous bog willow
SALI	PLA	<i>Salix planifolia</i>	Willow
SANI	MAR	<i>Sanicula marilandica</i>	Snake root
SARR	PUR	<i>Sarracenia purpurea</i>	Pitcher-plant
SCHI	PUR	<i>Schizachne purpurea</i>	Purple oat grass
SCOR	TUR	<i>Scorpidium trugescens</i>	
SCUT	GAL	<i>Scutellaria gallericulata</i>	Common skullcap
SHEP	CAN	<i>Shepherdia canadensis</i>	Buffalo-berry
SMIL	STE	<i>Smilacina stellata</i>	Stair-flowered Solomon's-seal
SMIL	TRI	<i>Smilacina trifolia</i>	Three-leaved Solomon's-seal
SOLI	DEC	<i>Solidago decumbens</i>	Goldenrod
SOLI	GIG	<i>Solidago gigantea</i>	Goldenrod
SPHA	ANG	<i>Sphagnum angustifolium</i>	Sphagnum moss
SPHA	CUS	<i>Sphagnum cuspidatum</i>	Sphagnum moss
SPHA	NEM	<i>Sphagnum nemoreum</i>	Sphagnum moss
SPHA	RUS	<i>Sphagnum russowii</i>	Sphagnum moss
SPHA	WAR	<i>Sphagnum warnstorffii</i>	Sphagnum moss
SPIR	ROM	<i>Spiranthes romanzoffiana</i>	Ladies'-tresses
STEL	LON	<i>Stellaria longipes</i>	Long-stalked chickweed
STEL	MED	<i>Stellaria media</i>	Common chickweed
SYMP	ALB	<i>Symphoricarpos alba</i>	Snowberry
TARA	OFF	<i>Taraxacum officinale</i>	Dandelion
THAL	VEN	<i>Thalictrum venulosum</i>	Veiny meadow rue
TOFI	GLU	<i>Tofieldia glutinosa</i>	Flase asphodel
TOME	NIT	<i>Tomenthypnum nitens</i>	
TRIE	BOR	<i>Trientalis borealis</i>	Star-flower
TRIG	MAR	<i>Triglochin maritima</i>	Arrow-grass
TROL	ALB	<i>Trollius albiflorus</i>	Globe-flower
VACC	CAE	<i>Vaccinium caespitosum</i>	Dwarf bilberry
VACC	MYR	<i>Vaccinium myrtilloides</i>	Blueberry
VACC	VIT	<i>Vaccinium vitis-idaea</i>	Bog cranberry
VALE	SEP	<i>Valeriana septentrionalis</i>	Valerian
VIBU	EDU	<i>Viburnum edule</i>	Low-bush cranberry
VICI	AME	<i>Vicia americana</i>	Wild vetch
VIOL	ADU	<i>Viola adunca</i>	Early blue violet
VIOL	RUG	<i>Viola rugulosa</i>	Western Canada violet
ZIZI	APT	<i>Zizia aptera</i>	Meadow parsnip

KLINKA-PHELPS VEGETATION PROGRAM

This is a FORTRAN program written by Susan Phelps to produce vegetation and summary tables from a file of releve data. It was developed for the Research Branch, B.C. Ministry of Forests and revised for the Alberta Forest Service. The explanation of the tables generated by this program has been split into two parts, the vegetation tables and the summary tables.

Vegetation Tables

The vegetation tables summarize and average the plots within each forage type. This part of the program essentially collects and prints the percent cover and vigor for each species in each layer of every plot. An average value for percent cover (Mean Cover) and a percent frequency of occurrence (Presence) is given for each species, layer by layer, within each forage type. Labelled excerpts from a vegetation table are as follows:

LEVEL	ZONE	ASSC	TYPE	
ECOSYM UNIT	BDM	P-	2	PINE/BEARBERRY/LICHEN
	<div>┌┐</div>	<div>┌┐</div>	<div>┌┐</div>	
	ecoregion and subregion	mapping unit	association which describes the forage type	

Ecoregion : Derived from Ecoregions of Alberta (Strong and Leggat).

Mapping Unit: As per map

Association : Arrived at using a minimum of 80% presence and 10% mean cover.

		plot numbers in the forage type						
		<div style="display: flex; justify-content: space-around; border-top: 1px solid black; border-bottom: 1px solid black;"> 20202020202020 </div>						
Plot Number	Average Value	4279	4276	4277	7418	7450	7463	7469
Number of Species Per Plot	24.9	29	23	21	21	25	24	31
	average value for the type	values for each type						

		Percent Presence				Percent Cover (measured)				Sociability (not measured)				Vigour (measured)									
		Mean Cover																					
SPECIES		%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
AI LAYER																							
1 PINU BAN		85.7	6.0			10	2	10	2	5	2	5	2	5	2	5	2	7	2				
2 PICE GLA		14.3	0.3													2	2						
	species within the layer (code)																						

- Layers: A₁ - dominant trees
- A₂ - main canopy
- A₃ - suppressed and intermediate trees
- B₁ - tall shrubs
- B₂ - medium shrubs
- C - forbs
- D - grasses
- M - mosses
- L - lichens
- E - epiphytes

%P: Percent Presence

- : ranges from greater than 0 to a maximum of 100 (present in all plots).
- = $\frac{\text{no. of plots that species is present in}}{\text{total no. of plots for the type}} \times 100$.
- = percent frequency

MC: Mean Cover

- : ranges from greater than 0 to a maximum of 100 (total cover in all plots).
- = total cover values for each plot - total no. of plots for the type.

%C: Percent Cover

- : ranges from 0 to 100 (not present in plot to total cover).
- : measured value

S: Sociability

- : not measured

V: Vigour

- : 0 = dead
- 1 = poor
- 2 = fair
- 3 = good
- 4 = excellent

Summary Tables

These tables constitute a comparison between the forage types determined by the vegetation tables. This part of the program takes the the Mean Cover (MC) and Percent Presence (%P) for each type and lists them species by species alphabetically. Mean Cover has been renamed Mean Species Significance and the Percent Presence value has been

converted to a Presence Class. Excerpts are as follows:

<div> <div>ecoregion and subregion</div> <div></div> </div>					
ECOSYSTEMATIC UNITS	8DM p 1	8DM p 2	8DM p 3a	8DM p 3b	8DM A 1a

mapping
units

Ecoregion : the same as the vegetation tables

Mapping Unit: the same as the vegetation tables

<div>species (code)</div> <div></div>	<div>presence class</div> <div></div>	<div>mean species significance</div> <div></div>			
ABIE BAL ACHI MIL ACHI SIB ACTA RUB	I 0.1	III 0.4	I 0.2	IV 1.4	

Species : all species present in the study area listed alphabetically by computer code.

Presence Class: percent presence

Mean Species Significance: calculated using Percent Presence as follows:

<u>Percent Presence</u>	<u>Mean Species Significance</u>
Not present in type	I
Greater than 0% to 20%	II
Greater than 20% to 40%	III - significant species
Greater than 40% to 60%	IV
Greater than 60% to 80%	V - major and minor species
Greater than 80% to 100%	

ENVIRONMENTAL SITE PROGRAM

This program presents the collected site data plus other parameters determined to be useful in tabular form. Each environmental site table corresponds to a forage type and vegetation table. Excerpts are as follows:

Mapping Unit - same as previously defined

Association - same as previously defined

Elevation (m) - a value of 500-600 metres

Slope Gradient - ranges from 0%

Aspect ranges from 1% to 359%, 999 = flat area/crest of hill

	mean value	value per plot
Elevation (m)	600.0	600
Slope Gradient (%)	2.3	001
Aspect		060
	mean not applicable	

The data to follows includes environment/soils data:

Environment/Soils:							
Ecological Moisture Regime			SHD	HD	SHD	HD	SHD
Nutrient Regime			PM				
Overlying Material			Ob	0	0	0	0
Underlying Material							
Erosion/Deposition							
Soil Subgroup			TY	HU	HU	HU	HU
Soil Great Group			F	M	M	M	M
Soil Drainage			VP	VP	VP	VP	VP
Solum Thickness (cm)		10.0	10				
Type & Depth to Restrict (cm)							
Thickness LFH (cm)		10.0	10				
pH-LFH		0.0					
-A		0.0					
-B		0.0					
-C		0.0					
Texture-A/1							
-B/2				F	F	F	F
-C/3							
Coarse Fragments-B(%)		0.0					
Seepage (*) & Mottling (cm)			*				
Rooting Depth (cm)		0.0					

Ecological Moisture Regime:

VX - very xeric
 X - xeric
 SX - subxeric
 SM - submesic
 M - mesic
 SHG - subhygric
 HG - hygric
 SHD - subhydryc
 HD - hydric

Nutrient Regime:

O - oligotrophic
 SM - submesotrophic
 M - mesotrophic
 PM - permesotrophic
 E - eutrophic

Overlying material texture
 Underlying material
 Soil subgroup
 Soil great group

from PLC Beaver Lake map

Soil Drainage

R - rapid
 W - well
 MW - moderately well
 I - imperfectly
 P - poorly
 VP - very poorly

The data to follow includes vegetation tables:

Vegetation:

Association		L2	L2	L2	L2	L2
Stand Age (yr)	63.5		50	77		
Canopy Height (m)	11.7			12	12	11
Mean Annual Increment	0.0					
Strata Coverage (%) - A	2.0	4	0	3	2	1
-B	45.8	35	30	54	70	40
-C	15.8	15	2	55	3	4
-G	19.4	40	5	25	25	2
-D	83.2	80	98	80	60	98
-L	0.6	1	0	1	0	1
Surface Subst (%) - Dead Wood	2.4	0	10	0	1	1
- Bedrock	0.0	0	0	0	0	0
- Stones	0.0	0	0	0	0	0
- Min. Soil	0.0	0	0	0	0	0
- Organic	96.0	97	87	99	98	99
- Open Water	1.6	3	3	1	1	0
Biomass (kg/ha) - Forbs	14.5		20.4	8.4	15.6	13.6
- Graminoids	23.2		9.6	57.6	21.2	4.4
- Browse	11.0		0	43.9	0	0

Association - as per map symbol

Stand age - measured in years

Canopy height - all layers (from mensuration tables)

Strata coverage (%) - plot data from these layers summary exceed 100% due to overlapping layers

Surface substrate (%) - sum should be 100% - may be rounding errors.

Biomass (kg/ha) - measured biomass values (Lakeland only).

MENSURATION PROGRAM

This program presents the collected mensuration data plus other parameters determined to be useful in tabular form. The tables are given in two parts: (1) a plot summary, and (2) association summary (corresponds with the vegetation data).

Plot Summary

Size (ha): .01, .02, .03, .04 - average of 30 tree requirement determines plot size.

Species: Sw - white spruce
Aw - aspen
SB - black spruce
PB - balsam poplar
PJ - jack pine
LT - tamarack
BW - paper birch

Sample Trees: number of trees (corresponding species) with ages taken.

BA/HA: basal area/hectare

Mean DBH: mean diameter at breast height

Mean Canopy Height: average height of all trees sampled

M3/Ha merch: cubic metres/ha merchantable

MAI total: mean annual increment

Mean HGT (dom + codom): mean height of A₁ and A₂ trees

S.I. M @ 50 years: site index

ENVIRONMENT - VEGETATION TABLES
EAST BEAVER LAKE AND LAKELAND PLOTS

RESOURCE INVENTORY

EDMONTON, ALBERTA

10:55:12 APR 19, 1985

NO CODING ERRORS IN DATA SET

TOTAL NUMBER OF PLOTS IS 130

TOTAL NUMBER OF SPECIES IN EACH LAYER IS 7 11 19 18 46 121 37 51 23

TITLE :		PINE/BEARBERRY/LICHEN																TABLE 1	
PLOT NUMBER		4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L		
TOWNSHIP & RANGE		LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02	LO02		
MERIDIAN		W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4		
MAPSHEET		73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L		
PHYSIOGRAPHIC SUBREGION		12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11		
GEOMORPHIC SYSTEM																			
ECOSECTION																			
ELEVATION(MASL)		591.3	530	600	600	600	600	600	600	600	600	600	600	600	600	600	600		
SLOPE(%)		2.0	0	1	4	1	7	1	7	1	7	1	7	1	7	1	7		
ASPECT(DEG)				66	236	161	60	133	275	124									
ENVIRONMENT/SOILS :																			
ECOLOGICAL MOISTURE REGIME		X	X	X	X	SX	X	X	X	X	X	X	X	X	X	X	SX		
NUTRIENT REGIME		SM	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF	GF		
OVERLYING MATERIAL		M																	
UNDERLYING MATERIAL		E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E		
EROSION/DEPOSITION		DYB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB		
SOIL SUBGROUP		R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R		
SOIL GREAT GROUP																			
SOIL DRAINAGE		55.0	55																
SOLUM THICKNESS(CM)																			
TYPE & DEPTH TO RESTRICT(CM)		3.0	3																
THICKNESS LFH(CM)		0.0	0.0																
PH-LFH		4.2	4.2																
-A		4.8	4.8																
-B		5.0	5.0																
-C																			
TEXTURE-A/1		SL	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
-B/2		SL	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S		
-C/3		S																	
COARSE FRAGMENTS-B(%)		0.0																	
SEEPAGE(*) & MOTTILING(CM)																			
ROOTING DEPTH(CM)		50.0	50																
VEGETATION :																			
ASSOCIATION		P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2		
STAND AGE(YR)		36	36	14	14	14	14	14	14	14	14	14	14	14	14	14	14		
CANOPY HEIGHT(M)		16.5	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12		
MEAN ANNUAL INCREMENT		0.0																	
STRATA COVERAGE(%) -A		28.1	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15		
-B		12.9	75	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
-C		26.0	3	35	30	30	30	30	30	30	30	30	30	30	30	30	30		
-G		3.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
-D		4.5	2	0	10	9	11	1	1	1	1	1	1	1	1	1	1		
-L		27.6	30	60	30	6	29	53	5	8									
SURFACE SUBST(%) -DEAD WOOD		8.4	1	4	10	15	10	2	15	10									
-BEDROCK		0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-STONES		0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
-MIN. SOIL		0.5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0		
-ORGANIC		91.1	99	95	90	85	90	95	85	90									
-OPEN WATER		0.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
BIOMASS(KG/HA) -FORBS		4.6		4.0	.4	.8	1.2	7.0	17	1.7									
-GRAMINOIDS		8.4		8.8	.2	.1	3.2	6.0	37	3.7									
-BROWSE		0.0		0	0	0	0	0	0	0									

PLOT NUMBER	4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L
TOWNSHIP & RANGE	LO05	LO15	LO03	LO04	LO31	LO36	LO42	LO64	LO69	LO78	LO80	LO82	LO84	LO86	LO88	LO90	LO92	LO94
MERIDIAN	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4
MAPSHEET	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L
PHYSIOGRAPHIC SUBREGION	12	12	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
GEOMORPHIC SYSTEM																		
ECOSECTION																		
ELEVATION(MASL)	596.9	570	590	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
SLOPE(%)	5.5	8	1	4	3	2	2	1	10	5	22	3	5	3	5	3	5	5
ASPECT(DEG)	212	212		276	240	337	122	67	86	170	75	314	274	174				
ENVIRONMENT/SOILS :																		
ECOLOGICAL MOISTURE REGIME	SX	SM	SM	SX	X	SM	SX	SX	SM	SX	SX	X	SX					
NUTRIENT REGIME	SM	SM		GF	GF	GF	GF	GF	GF	GF	GF	E	GF					
OVERLYING MATERIAL	GFb	GFb	M															
UNDERLYING MATERIAL	M	M																
EROSION/DEPOSITION																		
SOIL SUBGROUP	E	E	E	E	E	E	E	E	E	E	E	E	E					
SOIL GREAT GROUP	DYB	DYB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB					
SOIL DRAINAGE	W	W	W	R	R	R	R	R	W	R	W	R	R					
SOLUM THICKNESS(CM)	73.0	65	81															
TYPE & DEPTH TO RESTRICT(CM)																		
THICKNESS LFH(CM)	5.0	5	5															
PH-LFH	0.0																	
-A	4.7	4.8	4.5															
-B	4.7	4.3	5.1															
-C	5.0	5.0	5.0															
TEXTURE-A/1	SL	SL	SL	S	LS	S	S	S	S	S	S	S	S					
-B/2	SL	SL	SL	S	LS	S	S	S	S	S	S	S	S					
-C/3	S	S	S															
COARSE FRAGMENTS-B(%)																		
SEEPAGE(*) & MOTTLING(CM)																		
ROOTING DEPTH(CM)	32.5	35	30															
VEGETATION :																		
ASSOCIATION	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3
STAND AGE(YR)	53.8	50	47	44	89	68	35	47	40	63	40	60	63					
CANOPY HEIGHT(M)	17.4	15	15	16	17	16	25	17	15	16	16	17	15					
MEAN ANNUAL INCREMENT																		
STRATA COVERAGE(%) -A	49.0	65	35	40	25	75	30	45	45	50	60	67	75					
-B	27.8	35	50	50	30	10	30	10	30	15	30	40	40					
-C	47.7	50	65	5	85	75	15	35	65	35	15	30	65					
-G	6.8	15	45	1	2	1	2	1	3	15	1	1	1					
-D	5.2	1	2	1	9	12	1	1	22	1	3	2	2					
-L	3.4	1	0	1	8	2	0	1	6	2	1	12	1					
SURFACE SUBST(%) -DEAD WOOD	4.4	5	10	1	1	1	1	7	1	1	5	3	1					
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0	0	0					
-STONES	0.0	0	0	0	0	0	0	0	0	0	0	0	0					
-MIN. SOIL	0.4	0	0	0	0	0	0	0	0	0	0	0	0					
-ORGANIC	95.2	95	90	99	75	99	99	93	99	99	95	97	99					
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0	0	0					
-FORBS	5.7			6.4	9.6	2.8	2.4	2.4	9.2	7.6	8.8	2.4	3.2					
-GRAMINOIDS	5.3			2.8	8.8	2.4	6.8	1.2	5.2	26.4	.4	.8	3.2					
-BROWSE	0.0			0	0	0	0	0	0	0	0	0	0					

PINE/ALDER/BLUEBERRY			RESOURCE INVENTORY EDMONTON, ALBERTA APR 19, 1985															
LEVEL	ZONE	ASSC TYPE	10:55:12															
ECOSYM UNIT	P	3	TABLE 2 PAGE 1															
PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)																		
PLOT NUMBER	AVERAGE VALUE	4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L
NUMBER OF SPECIES PER PLOT	30.4	36	35	28	34	24	29	30	30	37	30	30	30	30	30	30	30	26
SPECIES	%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
A1 LAYER																		
1 PINU BAN	84.6	32.3	30	2	25	2	20	2	25	2	45	2	52	2	55	2	63	2
2 POPU TRE	46.2	8.6			15	2	55	2	10	2					4	2	3	2
3 BETU PAP	7.7	0.2																
4 LARI LAR	7.7	0.1																
A2 LAYER																		
POPU TRE	92.3	5.4	15	2	5	2	10	2	5	2	1	2	5	2	1	2	5	2
PINU BAN	76.9	5.8	1	2	5	2	1	2	2	1	7	2	40	2	5	1	3	2
5 PICE GLA	30.8	1.2	5	2			5	2			1	2					7	1
BETU PAP	23.1	1.3	10	2	5	2												
LARI LAR	7.7	0.1													1	2		
E LAYER																		
6 CETR PIN	15.4	0.8	5	2														
7 PARM SUL	15.4	0.8	5	2														
8 PYLA POL	15.4	0.8	5	2														
9 CETR HAL	7.7	0.4	5	2														
10 EVER MES	7.7	0.4	5	2														
B1 LAYER																		
PICE GLA	38.5	1.2			2	2												
11 ALNU CRI	30.8	2.3	10	2			5	2			10	2	5	2	1	2	5	2
12 SALI BEB	30.8	0.9	5	2											1	2	1	2
POPU TRE	23.1	1.5			7	1	10	2										
BETU PAP	7.7	0.1			1	2												
B2 LAYER																		
13 VACC MYR	100.0	12.5	15	2	20	2	9	2	17	2	17	2	26	2	6	2	9	2
ALNU CRI	84.6	15.8	5	2	50	2	30	2	5	2	30	2	7	1	30	2	10	2
14 ROSA ACI	84.6	1.7	1	2	2	2	1	2	5	2	1	2	4	1	1	2	3	2
15 LEDU GRO	76.9	7.4	3	1	20	2			1	2			5	1	1	1	2	2
PICE GLA	53.8	1.2	2	2	2	2			3	2					1	2	3	2
16 AMEL ALN	38.5	0.5	1	2	2	2									1	2	2	2
17 RUBU IDA	38.5	0.4			1	2	1	2	1	2	1	1			1	2	1	2
SALI BEB	30.8	0.4	2	2											1	2		
POPU TRE	23.1	0.9	2	2											5	2		
PINU BAN	7.7	0.4																
18 SHEP CAN	7.7	0.4			5	2												
BETU PAP	7.7	0.2	2	2														
19 SYMP ALB	7.7	0.2			2	2												
20 BETU PUM	7.7	0.1															1	2
21 LONI DIO	7.7	0.1																
22 LONI INV	7.7	0.1	1	2														
23 LONI VIL	7.7	0.1																
24 PRUN PEN	7.7	0.1																
25 PRUN VIR	7.7	0.1																
26 RUBU STR	7.7	0.1	1	2														
27 VIBU EDU	7.7	0.1																
C LAYER																		
28 VACC VIT	100.0	15.9	15	2	5	2	2	2	8	2	34	2	7	2	32	2	14	2
29 LINN BOR	100.0	4.5	10	2	5	2	6	2	2	2	1	1	1	2	9	2	3	2

LEVEL		ZONE	ASSC	TYPE	PINE/ALDER/BLUEBERRY										RESOURCE INVENTORY									
ECOSYM UNIT		P	3		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										10:55:12 APR 19, 1985									
					AVERAGE		4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L		
PLOT NUMBER					VALUE	LO05	LO15	LO03	LO04	LO31	LO36	LO42	LO64	LO69	LO78	LO80	LO82	LO84						
NUMBER OF SPECIES PER PLOT					30.4	36	35	28	34	24	29	30	20	36	37	30	30	26						
SPECIES					%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV		
75 BRAC SAL					23.1	0.3					1	2												
76 HYLO SPL					7.7	0.2								2	2									
L LAYER																								
77 CLAD MIT					76.9	2.8	1	2	8	2	2	2												
78 CLAD FUR					30.8	0.4			1	2		9	2	1	2	2	2	5	2	1	2			
79 PELT APH					15.4	0.5							1	2	1	2	2	2	2					
80 PELT MAL					15.4	0.2																		
81 CLAD CRI					7.7	0.1			1	2				1	2									
82 CLAD DEF					7.7	0.1														1	2			

PLOT NUMBER TOWNSHIP & RANGE MERIDIAN MAPSHEET	MEAN	4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L
		LO01 W 4	LO19 W 4	LO38 W 4	LO44 W 4	LO47 W 4	LO91 W 4	L104 W 4	L111 W 4	L113 W 4		
PHYSIOGRAPHIC SUBREGION		73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L
GEOMORPHIC SYSTEM		13	12	11	11	11	11	11	11	11	11	11
ECOSECTION	594.4	550	600	600	600	600	600	600	600	600	600	600
ELEVATION(MASL)	8.3	8	17	4	15	1	2	12	15	15	15	15
SLOPE(%)		335	330	170	105	36	90	205	104	110	110	110
ASPECT(DEG)												
ENVIRONMENT/SOILS :												
ECOLOGICAL MOISTURE REGIME		M	M	M	SM	SM	SHG	SM	SM	SM	SM	SM
NUTRIENT REGIME		SM	M	GF	GF	GF	GF	U	U	U	U	U
OVERLYING MATERIAL		GFV	GFb									
UNDERLYING MATERIAL		M	M									
EROSION/DEPOSITION		BR	BR	BR	BR	E	E	O	O	O	O	O
SOIL SUBGROUP		GL	GL	GL	GL	EB	EB	R	R	R	R	R
SOIL GREAT GROUP		MW	MW	W	W	W	MW	W	W	W	W	W
SOIL DRAINAGE												
SOLUM THICKNESS(CM)	56.5	53	60									
TYPE & DEPTH TO RESTRICT(CM)												
THICKNESS LFH(CM)		7.0	10	4								
PH-LFH		0.0										
-A		5.8	6.0	5.6								
-B		5.1	5.1	5.1								
-C		5.8	4.5	7.0								
TEXTURE-A/1		SL	SL	S	S	LS	S	S	S	S	S	S
-B/2		S1CL	SCL									
-C/3		SCL	SCL									
COARSE FRAGMENTS-B(%)	15.0		15									
SEEPAGE(•) & MOTTLING(CM)												
ROOTING DEPTH(CM)	29.5	42	17									
VEGETATION :												
ASSOCIATION		A1a	A1a	A1a	A1a	A1a	A1a	A1a	A1a	A1a	A1a	A1a
STAND AGE(YR)	50.0	50	50	50	50	50	50	50	50	50	50	50
CANOPY HEIGHT(M)	18.1	17	22	20	22	21	10	16	13	22	22	22
MEAN ANNUAL INCREMENT	0.0											
STRATA COVERAGE(%) -A	60.6	75	80	75	60	65	50	20	55	65	65	65
-B	30.0	40	40	20	20	50	25	35	20	20	20	20
-C	37.8	65	60	10	55	20	25	50	15	40	40	40
-G	2.6	1	2	1	5	2	1	5	5	1	1	1
-D	2.0	1	1	1	1	1	3	0	9	1	1	1
-L	0.8	1	1	1	0	0	2	1	1	0	0	0
SURFACE SUBST(%) -DEAD WOOD	2.6	3	5	5	2	2	2	1	2	1	1	1
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0	0
-STONES	0.0	0	0	0	0	0	0	0	0	0	0	0
-MIN. SOIL	0.0	0	0	0	0	0	0	0	0	0	0	0
-ORGANIC	97.4	97	95	95	98	98	98	99	98	99	98	99
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0	0
BIOMASS(KG/HA) -FORBS	17.4			18.0	30.4	6.8	14.4	15.2	10.0	26.8	26.8	26.8
-GRAMINOIDS	7.3			2.0	11.6	.8	.4	11.6	18.8	6.0	6.0	6.0
-BROWSE	3.9			0	6.5	0	0	0	0	21.0	21.0	21.0

LEVEL			ZONE		ASSC TYPE	ASPEN/ALDER/TWINFLOWER										PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										RESOURCE INVENTORY		
ECOSYM UNIT			1a																							EDMONTON, ALBERTA		
																										APR 19, 1985		
																										TABLE 3		
																										PAGE 1		
																										</		

LEVEL		ZONE	ASSC	TYPE	ASPEN/ALDER/TWINFLOWER														RESOURCE INVENTORY			
ECOSYM UNIT		A	1a		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)														EDMONTON, ALBERTA			
					10:55:12 APR 19, 1985														TABLE 3 PAGE 3			

TITLE : A		MEAN	4B	4B	4B	4B	4B	4B	2L	2L	2L	2L	2L	2L
PLOT NUMBER			LO17	LO03	LO14	LO16	LO24	LO01	LO34	LO39	LO50			
TOWNSHIP & RANGE			6612	6612	6612	64 9	64 9	64 9	64 8	64 9	64 8	64 8	64 9	64 8
MERIDIAN			W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4
MAPSHEET			73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L
PHYSIOGRAPHIC SUBREGION			12	12	12	12	12	11	11	11	11	11	11	11
GEOMORPHIC SYSTEM														
ECOSECTION			593.3	590	580	580	590	600	600	600	600	600	600	600
ELEVATION(MASL)			6.3	4	15	14	12	4	0	4	2	0	4	2
SLOPE(%)			90	227	90	90	90	208	185	319	350			
ASPECT(DEG)														
ENVIRONMENT/SOILS :														

ECOLOGICAL MOISTURE REGIME			SX	SM	SM	SM	SX	M	SX	SM	M	SM	SM	SM
NUTRIENT REGIME			M	SM	M	M	M	M	GF	GF	GF	GF	GF	GF
OVERLYING MATERIAL			Gfb	Gfb	Mb	R	M							
UNDERLYING MATERIAL			M	M										
EROSION/DEPOSITION			E	O	BR	GL	E	BR	E	BR	BR	BR	BR	BR
SOIL SUBGROUP			DYB	GL	GL	MW	GL	W	W	W	W	W	W	W
SOIL GREAT GROUP			MW	MW	MW	MW	MW							
SOIL DRAINAGE			60	80	54	110								
SOLUM THICKNESS(CM)			76.0											
TYPE & DEPTH TO RESTRICT(CM)			8.0	6	10	10								
THICKNESS LFH(CM)			0.0											
PH-LFH			6.1	5.5	5.3	6.5	7.0							
-A			5.0	5.0	5.1	5.0	5.0							
-B			7.0	7.0	8.0	8.0	5.0							
-C			LS	SL	SL	SL	S							
TEXTURE-A/1			SCL	CL	S	CL	CL	L	S	S	S	S	S	S
-B/2			S	SCL	CL	CL	CL							
-C/3			5											
COARSE FRAGMENTS-B(%)			7.5	10										
SEEPAGE(•) & MOTTILING(CM)			30.3	23	21	32	45							
ROOTING DEPTH(CM)														
VEGETATION :														

ASSOCIATION			A1b	A1b	A1b	A1b	A1b	A1b	A1b	A1b	A1b	A1b	A1b	A1b
STAND AGE(YR)			52.3	26	52	68	75	50	50	50	50	50	50	50
CANOPY HEIGHT(M)			18.1	19	13	18	21	25	15	22	17	13		
MEAN ANNUAL INCREMENT			0.0											
STRATA COVERAGE(%) -A			66.7	65	75	75	70	45	80	70	55	65		
-B			48.7	95	53	65	40	65	15	60	30	15		
-C			33.3	20	15	40	60	15	35	40	25	50		
-G			8.7	5	13	25	5	2	10	10	1	7		
-L			1.1	0	1	0	0	0	1	0	0	0		
SURFACE SUBST(%) -DEAD WOOD			4.9	5	1	2	15	15	1	3	1	1		
-BEDROCK			0.0	0	0	0	0	0	0	0	0	0		
-STONES			0.0	0	0	0	0	0	0	0	0	0		
-MIN. SOIL			0.0	0	0	0	0	0	0	0	0	0		
-ORGANIC			95.1	95	99	98	85	85	99	97	99	99		
-OPEN WATER			0.0	0	0	0	0	0	0	0	0	0		
BIOMASS(KG/HA) -FORBS			36.2					30.0	27.2	28.4	57.6	37.6		
-GRAMINOIDS			11.9					5.6	9.6	14.2	19.6	12.8		
-BROWSE			1.7					2.9	0	0	0	0		

LEVEL			ZONE		ASSC TYPE		ASPEN/WILLOW/SARSAPARILLA										RESOURCE INVENTORY									
ECOSYM UNIT			A	1b			PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA 10:55:12 APR 19, 1985 TABLE 4 PAGE 1									

LEVEL			ZONE		ASSC TYPE		ASPER/WILLOW/SARSAPARILLA										RESOURCE INVENTORY									
ECOSYM UNIT A			1b				PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA									
																	10:55:12									
																	APR 19, 1985									
																	TABLE 4									
																	PAGE 2									

RESOURCE INVENTORY
EDMONTON, ALBERTA
10:55:12 APR 19, 1985
TABLE 4 PAGE 3

ASPEN/WILLOW/SARSAPARILLA

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC TYPE	ASPEN/WILLOW/SARSAPARILLA									
ECOSYM UNIT	A	1b	PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)									
			</									

PLOT NUMBER		4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L
TOWNSHIP & RANGE		LO18	LO07	LO05	LO26	LO53	LO55	LO56	LO09	LO37	LO20						
MERIDIAN		6612	6613	64 8	64 9	64 9	64 9	64 9	64 8	64 8	6410						
MAPSHEET		W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4
		73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L
		12	13	11	11	11	11	11	11	11	11	11	11	11	11	11	11
MEAN																	
PHYSIOGRAPHIC SUBREGION GEOMORPHIC SYSTEM ECOSECTION ELEVATION(MASL) SLOPE(%) ASPECT(DEG) ----- ENVIRONMENT/SOILS : ----- ECOLOGICAL MOISTURE REGIME NUTRIENT REGIME OVERLYING MATERIAL UNDERLYING MATERIAL EROSION/DEPOSITION SOIL SUBGROUP SOIL GREAT GROUP SOIL DRAINAGE SOLUM THICKNESS(CM) TYPE & DEPTH TO RESTRICT(CM) THICKNESS LFH(CM) PH-LFH -A -B -C TEXTURE -A/1 -B/2 -C/3 COARSE FRAGMENTS-B(%) SEEPAGE(+) & MOTTILING(CM) ROOTING DEPTH(CM) ----- VEGETATION : ----- ASSOCIATION	597.0	590	580	600	600	600	600	600	600	600	600	600	600	600	600	600	
	5.3	5	0	31	0	1	5	3	3	3	3	2	2	2	2	2	2
				18		106	66	140	200	222	189						
		SM	SM	SM	SM	M	M	M	SM	M	M	M	M	M	M	M	M
		SM	M	GFV	GF	GF	GF	GF	GF	M	M	M	M	M	M	M	M
		M	M														
		BR	BR	E	E	BR	BR	BR	BR	O	O	O	O	O	O	O	O
		GL	GL	EB	EB	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
		W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
		60.0	60	60													
		9.5	5	14													
		0.0															
		4.9	4.5	5.3													
		5.4	5.0	5.9													
		6.0	5.0	7.0													
		SCL	SCL	S	S	S	S	S	S	S	S	S	S	S	S	S	S
		CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL	CL
		6.5	8	5													
		22.0	28	16													
		A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2	A2
STAND AGE(YR)		88.3	57	26	100	100	100	100	100	100	100	100	100	100	100	100	100
CANOPY HEIGHT(M)		21.8	19	19	23	25	20	25	24	15	27	21					
MEAN ANNUAL INCREMENT		0.0															
STRATA COVERAGE(%) -A		45.5	35	40	60	45	40	65	30	40	40	60					
-B		32.0	50	30	35	20	30	30	40	15	25	45					
-C		39.5	45	30	40	65	50	15	40	60	25	25					
-G		8.5	35	5	1	10	2	0	2	15	10	5					
-D		1.8	1	1	1	5	0	5	2	1	1	1					
-L		0.0	0	0	0	0	0	0	0	0	0	0					
SURFACE SUBST(%) -DEAD WOOD		4.1	10	2	1	3	2	3	10	1	2	7					
-BEDROCK		0.0	0	0	0	0	0	0	0	0	0	0					
-STONES		0.0	0	0	0	0	0	0	0	0	0	0					
-MIN. SOIL		0.0	0	0	0	0	0	0	0	0	0	0					
-ORGANIC		95.9	90	98	99	97	98	97	90	99	98	93					
-OPEN WATER		0.0	0	0					0	0	0	0					
BIOMASS(KG/HA) -FORBS		36.1			16.4	42.4	53.2	30.8	15.2	35.2	43.2	52.4					
-GRAMINOIDS		7.7			1.6	14.0	1.6	.7	6.0	.2	24.4	13.2					
-BROWSE		9.4			0	0	18.1	0	0	0	0	57.2					

LEVEL			ZONE		ASSC TYPE		ASPEN/POPLAR/CRANBERRY										RESOURCE INVENTORY									
ECOSYM UNIT			A		2		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA 10:55:12 APR 19, 1985									
																	TABLE 5									
																	PAGE 1									

		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)															
PLOT NUMBER	NUMBER OF SPECIES PER PLOT	AVERAGE VALUE		4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	
		%P	MC	LO18	LO07	LO05	LO26	LO53	LO55	LO56	LO09	LO37	LO20	%C	SV	%C	SV
BETU PAP		10.0	0.1	1	2												
31 RHAM ALN		10.0	0.1														
32 RIBE HIR		10.0	0.1														
33 RIBE LAC		10.0	0.1														
34 RIBE TRI		10.0	0.1														
35 SHEP CAN		10.0	0.1														
C LAYER																	
36 ASTE CIL		100.0	2.3	5	2	4	2	2	2	2	2	2	3	2	1	2	
37 MAIA CAN		100.0	1.4	1	2	1	2	1	2	1	2	1	2	5	2	1	
38 EPIL ANG		90.0	9.0	20	2	1	2	15	2	3	2	12	2	7	2	17	
39 CORN CAN		90.0	5.7	1	2			25	2	4	2	4	2	9	2	2	
40 LINN BOR		90.0	2.7	1	2			7	2	2	2	3	2	5	2	1	
41 PETA PAL		90.0	2.1	5	2	4	2	2	2	3	2	2	2	2	2	1	
42 PYRO ASA		90.0	1.7	1	2	1	2	1	2	2	2	4	2	4	2	1	
43 FRAG VIR		90.0	1.1	1	2	1	2	1	2	1	2	3	2	1	2	1	
44 ARAL NUD		80.0	7.0			20	2	3	2	6	2	7	2	10	2	12	
45 RUBU PUB		80.0	2.5			3	2	2	2	3	2	4	2	6	2	3	
46 TRIE BOR		80.0	0.8			1	2	1	2	1	2	1	2	1	2	1	
47 GALI BOR		70.0	0.9	1	2			1	2	1	2	1	2	3	2	1	
48 VIOL RUG		70.0	0.8					1	2	1	2	1	2	1	2	1	
49 LATH OCH		60.0	2.5			1	2	1	2	1	2	1	2	10	2	7	
50 MERT PAN		60.0	2.2			3	2	4	2	6	2	5	2	2	2	2	
51 VICI AME		60.0	0.6	1	2	1	2	1	2	4	2	1	2	1	2	1	
52 MITE NUD		50.0	0.9					2	2	4	2	1	2	3	2	1	
53 ASTE CON		40.0	1.2					1	2	1	2	1	2	3	2	1	
54 ACTA RUB		40.0	0.4					1	2			1	2	1	2	1	
55 DISP TRA		30.0	0.3			1	2			1	2	1	2				
56 EQUI ARV		30.0	0.3			1	2			1	2	1	2				
57 LYCO ANN		20.0	0.8					1	2			7	2				
58 THAL VEN		20.0	0.5											3	2		
59 ACHI MIL		20.0	0.2	1	2									1	2		
60 VACC VIT		20.0	0.2					1	2					1	2		
61 ORTH SEC		10.0	0.3											3	2		
62 ARCT UVA		10.0	0.1											1	2		
63 AREN LAT		10.0	0.1														
64 CAMP ROT		10.0	0.1					1	2					1	2		
65 EQUI S/L		10.0	0.1														
66 GALI TRI		10.0	0.1														
67 HEDY ALP		10.0	0.1											1	2		
68 LYCO OBS		10.0	0.1														
69 SMIL TRI		10.0	0.1	1	2			1	2								
70 VACC CAE		10.0	0.1											1	2		
71 VIOL ADU		10.0	0.1											1	2		
72 VIOL REN		10.0	0.1			1	2							1	2		
G LAYER																	
73 ELYM INN		60.0	3.9	15	2									1	2	13	
74 CALA INE		60.0	1.5											2	2	6	
75 CALA CAN		20.0	2.5	20	2	5	2							6	2	3	

RESOURCE INVENTORY
EDMONTON, ALBERTA
10:55:12 APR 19, 1985
TABLE 5 PAGE 3

ASPEN/POPLAR/CRANBERRY

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC TYPE																								
ECOSYM UNIT A	2																									
PLOT NUMBER			AVERAGE		4B		2L		2L		2L		2L		2L		2L		2L		2L		2L			
			VALUE		LO18		LO07		LO05		LO26		LO53		LO55		LO56		LO09		LO37		LO20			
NUMBER OF SPECIES PER PLOT			34.2		34		41		27		42		26		28		43		39		31		31			
SPECIES			%P		%C		%C		%C		%C		%C		%C		%C		%C		%C		%C			
76 ORYZ ASP			20.0		0.2				1		2								1		2					
77 CARE PEC			10.0		0.1				1		2								1		2					
78 CARE PRA			10.0		0.1														1		2					
79 HIER ODO			10.0		0.1																					
D LAYER																										
80 BRAC SAL			50.0		0.8		1		2		3		2		2		1		2		1		2			
81 PLEU SCH			50.0		0.8																					
82 BRAC CAM			10.0		0.1		1		2																	

PLOT NUMBER	4B	4B	2L	2L	2L	2L	2L	2L	2L	2L	2L
TOWNSHIP & RANGE	LO06	LO13	LO14	LO16	LO21	LO29	LO73	LO75	LO77	LO97	LO98
MERIDIAN	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4
MAPSHEET	73L 12	73L 12	73L 11	73L 11	73L 11	73L 11	73L 11	73L 11	73L 11	73L 11	73L 11
PHYSIOGRAPHIC SUBREGION											
GEOMORPHIC SYSTEM											
ECOSECTION	598.2	580	600	600	600	600	600	600	600	600	600
ELEVATION(MASL)	6.6	15	9	3	8	2	5	12	4	5	8
SLOPE(%)	125	90	189	320	317	285	91	323	10	180	318
ASPECT(DEG)											
ENVIRONMENT/SOILS											
ECOLOGICAL MOISTURE REGIME	SM	SM	M	M	M	SHG	M	M	M	M	M
NUTRIENT REGIME	SM	SM									
OVERLYING MATERIAL	MB	MB	M	M	M	M	M	M	G	M	M
UNDERLYING MATERIAL	R	R									
EROSION/DEPOSITION											
SOIL SUBGROUP	BR	BR	O	BR	BR	GLO	O	O	O	O	O
SOIL GREAT GROUP	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL	GL
SOIL DRAINAGE	MW	W	W	W	W	I	W	MW	MW	MW	MW
SOLUM THICKNESS(CM)	47.5	55	40								
TYPE & DEPTH TO RESTRICT(CM)											
THICKNESS LFH(CM)	7.0	6	8								
pH-LFH	0.0										
-A	5.4	5.4	5.5								
-B	5.1	5.0	5.1								
-C	5.3	4.5	6.0								
TEXTURE-A/1	L	SL	L	L	L	L	L	L	L	L	L
-B/2	CL	L	L								
-C/3	CL	SLCL	5								
COARSE FRAGMENTS-B(%)	7.5	10									
SEEPAGE(•) & MOTTILING(CM)											
ROOTING DEPTH(CM)	23.0	23									
VEGETATION											
ASSOCIATION	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3	A3
STAND AGE(YR)	46.0	28	18	50	50	50	50	50	50	50	50
CANOPY HEIGHT(M)	18.5	14	18	16	20	23	18	17	22	17	21
MEAN ANNUAL INCREMENT	0.0										
STRATA COVERAGE(%) -A	75.5	70	75	75	80	85	85	65	85	50	85
-B	28.9	35	35	35	55	40	8	25	15	15	25
-C	33.6	35	40	25	35	30	40	50	70	25	10
-G	3.1	5	5	7	1	1	5	2	1	5	1
-D	1.3	3	1	1	1	3	2	2	1	1	1
-L	0.1	0	0	0	0	0	0	0	0	0	0
SURFACE SUBST(%) -DEAD WOOD	2.9	2	3	1	2	10	2	1	1	3	5
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0
-STONES	0.0	0	0	0	0	0	0	0	0	0	0
-MIN SOIL	0.0	0	0	0	0	0	0	0	0	0	0
-ORGANIC	97.1	98	97	99	98	90	98	99	99	97	95
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0
-FORBS	20.7			20.7	7.6	20.8	22.8	24.0	26.0	30.0	14.0
-GRAMINOIDS	5.8	5.6	5.6	5.6	9.4	7.6	14.4	2.8	4	14.8	4
-BROWSE	6.8	0	0	9.8	41.7	9.4	0	0	0	0	0

LEVEL		ZONE		ASSC TYPE		ASPEN/CRANBERRY/SARSAPARILLA										RESOURCE INVENTORY									
ECOSYM UNIT A		3				PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA APR 19, 1985 10:55:12 TABLE 6 PAGE 1									
PLOT NUMBER		AVERAGE VALUE		4B		4B		2L		2L		2L		2L		2L		2L		2L		2L			
		LO06		LO13		LO14		LO16		LO21		LO29		LO73		LO75		LO77		LO97		LO98			
NUMBER OF SPECIES PER PLOT		35		32		25		30		30		36		33		31		30		32		34			
SPECIES		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV			
A1 LAYER		100.0 67.8		60 2		45 2		80 2		80 2		85 2		86 2		45 2		65 2		45 2		85 2			
1 POPU TRE		27.3 4.1		15 2												10 2		20 2							
A2 LAYER		100.0 7.1		10 2		5 2		5 2		5 2		3 2		10 2		10 2		10 2		5 2		5 1			
2 POPU BAL		45.5 2.5		5 2						5 2						5 2		5 2		7 2					
3 BETU PAP		9.1 0.1										1 2													
E LAYER																									
4 PYLA POL		18.2 1.4		5 2		10 2																			
5 CETR HAL		18.2 0.9		5 2		5 2																			
6 CETR PIN		18.2 0.9		5 2		5 2																			
7 PARM SUL		18.2 0.9		5 2		5 2																			
8 EVER MES		9.1 0.5		5 2																					
B1 LAYER																									
9 AMEL ALN		54.5 2.8		5 2		5 2		5 2		5 2				1 2		10 2									
10 SALT BEB		45.5 4.6		7 2		30 2		10 2		10 2		3 2		1 2								10 2			
11 PRUN PEN		18.2 1.4																							
12 PICE GLA		9.1 0.9																							
POPU TRE		9.1 0.5						5 2																	
13 VIBU EDU		9.1 0.3		3 2																					
B2 LAYER																									
14 ROSA ACI		100.0 4.5		5 2		15 2		1 2		10 2		3 2		1 2		5 2		4 2		3 2		1 2			
VIBU EDU		90.9 9.1		10 2		10 2		5 2		10 2		2 2		1 2		2 2		12 2		1 2		13 2			
15 SYMP ALB		81.8 1.9						5 2		2 2		2 2		1 2		1 2		5 2		3 2		1 2			
16 RUBU IDA		63.6 0.8						1 2		2 2		1 2		1 2		1 2		2 2		2 2		3 2			
17 CORY COR		54.5 2.3		2 2		2 2		5 2		5 2		1 2		1 2		7 2		2 2		8 2		3 2			
18 LONI DIO		45.5 1.4						1 2		2 2		5 2		1 2		7 2						1 2			
AMEL ALN		45.5 1.3		2 2		2 2		5 2		2 2		2 2		7 2		7 2		1 2		1 2		1 2			
19 LONI INV		36.4 0.8		1 2		5 2		5 2		1 2		1 2						1 2		1 2		2 2			
20 CORN STO		27.3 0.4		1 2						1 2		1 2						1 2		2 2		2 2			
21 RIBE OXY		27.3 0.3						3 2		3 2		1 2		1 2				5 2		1 2		1 2			
SALI BEB		18.2 0.7		1 2		2 2																			
22 RUBU STR		18.2 0.3		1 2		2 2		5 2		5 2		6 2		3 2						15 2					
PRUN PEN		9.1 1.4																							
23 ALNU CRI		9.1 0.5																							
PICE GLA		9.1 0.5																							
24 RIBE TRI		9.1 0.3										3 2													
POPU TRE		9.1 0.2		2 2		2 2																			
25 PRUN VIR		9.1 0.2		2 2		2 2						1 2													
BETU PAP		9.1 0.1																							
26 RIBE HIR		9.1 0.1						1 2		1 2															
C LAYER																									
27 ASTE CIL		100.0 2.5		1 2		1 2		3 2		5 2		4 2		5 2		3 2		2 2		1 2		1 2			
28 MAIA CAN		100.0 1.6		1 2		2 2		1 2		3 2		2 2		1 2		1 2		1 2		3 2		3 2			
29 LATH OCH		100.0 1.5		1 2		1 2		2 2		2 2		1 2		3 2		1 2		1 2		3 2		1 2			
30 EPIL ANG		90.9 6.6		10 2		10 2		17 2		7 2		5 2		6 2		1 2		15 2		2 2		1 2			
31 MERT PAN		90.9 3.3		1 2		5 2		6 2		2 2		8 2		5 2		3 2		2 2		2 2		3 2			
32 RUBU PUB		90.9 3.0		3 2		3 2		4 2		4 2		2 2		4 2		1 2		3 2		6 2		4 2			

LEVEL			ZONE			ASSC TYPE			ASPEN/CRANBERRY/SARSAPARILLA										PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										10:55:12 APR 19, 1985										RESOURCE INVENTORY EDMONTON, ALBERTA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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ENVIRONMENT/SOILS-VEGETATION TABLE															WHITE 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WHITE SPRUCE-ASPEN/CRANBERRY/SARSAPARILLA					RESOURCE INVENTORY EDMONTON, ALBERTA 10:55:12 APR 19, 1985 VIGOR (V) TABLE 7 PAGE 1																					
LEVEL	ZONE	ASSC	TYPE	ECOSYM UNIT	SW	1	PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S),																			
							AVERAGE	4B	4B	4B	4B	2L	2L	2L	2L	2L	2L	2L	2L							
							VALUE	LO22	LO21	LO09	LO28	LO54	LO99	L102	L114	LO25	LO52									
NUMBER OF SPECIES PER PLOT							36.7	38	33	35	48	38	39	30	40	37	29									
SPECIES							%P	MC	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV							
A1 LAYER																										
1 PICE GLA							90.0	25.0	35	2	10	2	65	2	15	2	20	2	30	2	45	2				
2 POPU TRE							90.0	14.5	35	2	20	2	5	2	5	2	25	2	30	2	5	2				
3 POPU BAL							50.0	8.0			25	2	5	2	5	2	30	2	15	2						
4 BETU PAP							10.0	0.9																		
A2 LAYER																										
PICE GLA							60.0	8.5	10	2																
POPU TRE							60.0	4.0	10	2																
BETU PAP							40.0	1.9			5	2														
POPU BAL							30.0	1.5	5	2																
5 ABIE BAL							10.0	1.0	10	2																
E LAYER																										
6 PARM SUL							30.0	2.0	5	2	10	2	5	2												
7 CETR HAL							30.0	1.5	5	2	5	2	5	2												
8 CETR PIN							30.0	1.5	5	2	5	2	5	2												
9 PYLA POL							30.0	1.5	5	2	5	2	5	2												
10 EVER MES							20.0	1.0	5	2	5	2	5	2												
11 RAMA FAR							20.0	1.0	5	2	5	2	5	2												
12 USNE SUB							10.0	0.5			5	2														
13 USNE ALP							10.0	0.1	1	0																
B1 LAYER																										
PICE GLA							40.0	3.9	30	2			5	2			2	2								
14 SALI BEB							40.0	1.7	5	2			5	2			2	2								
15 ALNU CRI							40.0	1.6	1	2									5	2						
POPU TRE							20.0	1.0																		
ABIE BAL							10.0	4.5	45	2			5	2												
POPU BAL							10.0	0.5					5	2												
16 AMEL ALN							10.0	0.2					2	2												
BETU PAP							10.0	0.1			1	2														
B2 LAYER																										
17 ROSA ACI							100.0	3.1	5	2	2	2	1	2	1	2	7	2	1	2	5	2				
18 VIBU EDU							90.0	13.8	25	2	10	2	17	2	2	5	2	18	2	5	2	25	2			
19 LONI INV							70.0	5.0	10	2			5	2	1	2	2	2	2	2	5	2	2			
20 SYMP ALB							70.0	0.8			1	2	1	2	1	2	1	2	1	2	1	2	1	2		
21 RIBE TRI							50.0	0.5	1	2			1	2	1	2	1	2	1	2	1	2	1	2		
PICE GLA							40.0	2.2	10	2			5	2					2	2						
ALNU CRI							40.0	2.1	1	2																
SALI BEB							40.0	1.1	1	2																
22 CORN STO							40.0	1.0																		
AMEL ALN							40.0	0.7	1	2																
POPU TRE							30.0	2.3																		
23 LONI DIO							30.0	0.4	3	2	15	2														
24 RUBU IDA							30.0	0.3					1	2	1	2	1	2	5	2	1	2				
25 RIBE OXY							20.0	0.2	1	2			1	2												
26 VACC MYR							20.0	0.2																		
ABIE BAL							10.0	1.5	15	2																
BETU PAP							10.0	0.6																		
27 RIBE HIR							10.0	0.1																		

LEVEL			ZONE		ASSC TYPE		WHITE SPRUCE-ASPEN/CRANBERRY/SARSAPARILLA										RESOURCE INVENTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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PLOT NUMBER			AVERAGE VALUE		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B		4B			

PLOT NUMBER	AVERAGE		4B		4B		4B		4B		2L		2L		2L		2L	
	VALUE	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV
NUMBER OF SPECIES PER PLOT																		
SPECIES																		
73 EURH PUL	20.0	0.2	1	2														
74 DICR FRA	10.0	0.1																
75 LESC RAD	10.0	0.1																
76 ONCO WAH	10.0	0.1																
77 POLY JUN	10.0	0.1																
L LAYER																		
78 PELT APH	30.0	0.3																
79 PELT CAN	30.0	0.3																
80 CLAD FIM	10.0	0.1																
81 CLAD GRA	10.0	0.1																
82 HYPO PHY	10.0	0.1																

TITLE :		BLACK SPRUCE/LABRADOR TEA/MOSS																TABLE	
Sb		2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	B	
PLOT NUMBER	MEAN	L032	L035	L049	L051	L058	L065	L066	L067	L071	L072	L074	L076	L088					
TOWNSHIP & RANGE		64 9	64 9	64 8	64 9	64 9	64 9	64 9	64 9	64 9	64 9	64 9	64 9	64 9					
MERIDIAN		W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4	W 4					
MAPSHEET		73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L	73L					
PHYSIOGRAPHIC SUBREGION		11	11	11	11	11	11	11	11	11	11	11	11	11					
GEOMORPHIC SYSTEM																			
ECONOMY																			
ELEVATION(MASL)	600.0	600	600	600	600	600	600	600	600	600	600	600	600	600					
SLOPE(%)	2.1	1	3	2	2	5	1	1	3	1	2	2	2	2					
ASPECT(DEG)	338	338	146	309	69	195	106	113	162	25	25	299	334	352					
ENVIRONMENT/SOILS :																			
ECOLOGICAL MOISTURE REGIME		SHD	HG	SHD	SHD	HG	HG	SHD	SHD	SHD	SHD	SHD	SHD	HG					
NUTRIENT REGIME		0	0	0	0	0	0	0	0	0	0	0	0	0					
OVERLYING MATERIAL																			
UNDERLYING MATERIAL																			
EROSION/DEPOSITION																			
SOIL SUBGROUP		T	T	F	F	T	T	T	T	T	T	T	T	T					
SOIL GREAT GROUP		H	H	F	F	F	F	F	F	F	F	F	F	F					
SOIL DRAINAGE		P	P	P	P	P	P	P	P	P	P	P	P	P					
SOLUM THICKNESS(CM)	0.0																		
TYPE & DEPTH TO RESTRICT(CM)																			
THICKNESS LFH(CM)	0.0																		
pH-LFH	0.0																		
-A	0.0																		
-B	0.0																		
-C	0.0																		
TEXTURE-A/1		H	H	F	F	F	F	F	F	F	F	F	F	F					
-B/2																			
-C/3																			
COARSE FRAGMENTS-B(%)	0.0																		
SEEPAGE(*) & MOTTILING(CM)																			
ROOTING DEPTH(CM)	0.0																		
VEGETATION :																			
ASSOCIATION		Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1	Sb1					
STAND AGE(YR)	72.6					54	72	6	88	98	51	18	13	7					
CANOPY HEIGHT(M)	11.2	5	8	6	7	11	18		17	15	14								
MEAN ANNUAL INCREMENT	0.0																		
STRATA COVERAGE(%) -A	31.1	70	40	5	35	50	50	2	55	40	50	1	5	1					
-B	46.2	65	5	45	50	5	55	55	45	10	50	75	90	55					
-C	8.0	5	5	7	5	5	15	5	5	25	15	5	2	5					
-G	2.5	5	1	5	0	1	2	2	3	4	5	2	0	3					
-L	70.1	98	80	48	28	80	55	96	60	97	88	80	53	48					
-D	25.3	1	15	37	67	15	35	3	38	2	10	19	45	42					
SURFACE SUBST(%) -DEAD WOOD	1.8	5	1	1	1	5	3	1	1	1	1	1	1	1					
-BEDROCK	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0					
-STONES	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0					
-MIN. SOIL	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0					
-ORGANIC	98.2	95	99	99	99	95	97	99	99	99	99	99	99	99					
-OPEN WATER	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0					
-FORBS	3.6	3.2	2.0	4.4	5.2	2.8	2.8	2.0	3.6	5.2	10.0	5.2	8.0	0					
-GRAMINOIDS	4.9	11.2	.4	6.8	0	.4	3.2	5.6	.8	6.4	6.4	9.2	0	13.6					
-BROWSE	0.0	0	0	0	0	0	0	0	0	0	0	0	0	0					

LEVEL ZONE ASSC TYPE			BLACK SPRUCE/LABRADOR TEA/MOSS															PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										10:55:12 EDMONTON, ALBERTA APR 19, 1985			RESOURCE INVENTORY																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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LEVEL			ZONE		ASSC TYPE		BLACK SPRUCE/LABRADOR TEA/MOSS																RESOURCE INVENTORY					
ECOSYM UNIT			Sb		1		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)																EDMONTON, ALBERTA					
							10:55:12 APR 19, 1985																TABLE 8 PAGE 2					
PLOT NUMBER			AVERAGE		2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	2L	
VALUE			L032	L035	L049	L051	L058	L065	L066	L067	L071	L072	L074	L076	L088													
NUMBER OF SPECIES PER PLOT			26	35	32	16	37	45	26	28	32	36	32	18	34													
SPECIES			%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV	%C SV													
38 RUBU CHA			15.4	0.2																								
39 SPIR ROM			15.4	0.2	1	2																						
40 TRIE BOR			15.4	0.2			1	2																				
41 VIOL ADU			15.4	0.2	1	2																						
42 ARCT UVA			7.7	0.1	1	1																						
43 ASTE CON			7.7	0.1																								
44 CHRY IOW			7.7	0.1	1	2																						
45 CORA TRI			7.7	0.1																								
46 DROS ROT			7.7	0.1	1	2																						
47 GALI LAB			7.7	0.1																								
48 HABE HYP			7.7	0.1																								
49 HIER CAN			7.7	0.1																								
50 LATH OCH			7.7	0.1																								
51 MAIA CAN			7.7	0.1																								
52 MENY TRI			7.7	0.1																								
53 ORCH ROT			7.7	0.1	1	2																						
54 ORTH SEC			7.7	0.1																								
55 PARN PAL			7.7	0.1																								
56 PENS ALB			7.7	0.1																								
57 POTE PAL			7.7	0.1																								
58 POTE TRI			7.7	0.1	1	1																						
59 SANI MAR			7.7	0.1																								
60 TARA OFF			7.7	0.1	1	2																						
61 VACC CAE			7.7	0.1																								
VACC MYR			7.7	0.1																								
62 ZIZI APT			7.7	0.1																								
G LAYER																												
63 CARE AQU			38.5	0.9	5	2																						
64 CARE GYN			23.1	0.3			3	2																				
65 JUNC BAL			15.4	0.4			1	2																				
66 CARE PRA			15.4	0.3																								
67 ELYM INN			15.4	0.2																								
68 CALA INE			7.7	0.1	1	2																						
69 CARE CAP			7.7	0.1																								
70 CARE CHO			7.7	0.1	1	2																						
71 CARE CON			7.7	0.1																								
72 CARE LIM			7.7	0.1																								
73 CARE ROS			7.7	0.1																								
74 CARE VAG			7.7	0.1																								
75 ORYZ ASP			7.7	0.1																								
D LAYER																												
76 AULA PAL			92.3	12.8	1	2	25	2	7	2	1	2	25	2	50	2	16	2	1	2	6	2	13	2	10	2	11	2
77 PLEU SCH			84.6	6.5	20	2	14	1	3	2			10	2	2	2	1	2	1	2	1	2	7	2	25	2	1	2
78 DICR UND			69.2	2.2	2	2									5	2	1	2	1	2	1	2	13	2	1	2	3	2
79 TOME NIT			61.5	9.5	1	2									7	2	6	0			48	2	30	2	15	2	9	2
80 SPHA FUS			53.8	15.2													59	2	36	2			20	2	27	2	1	2
81 HYLO SPL			53.8	3.9			14	1	37	2	18	2			1	2			1	2	1	2	13	2	6	2	1	2
82 POLY STR			46.2	0.6																			1	2	1	2	1	2

TITLE :		TAMARACK-BLACK SPRUCE/SEDGE/MOSS		TABLE 9	
ENVIRONMENT/3013'S VEGETATION		L		1	
PLOT NUMBER		4B		2L	
TOWNSHIP & RANGE		LO10 L095		L103	
MERIDIAN		W 4 W 4		W 4 W 4	
MAPSHEET		73L 73L		73L 73L	
PHYSIOGRAPHIC SUBREGION		12 11		11	
GEOMORPHIC SYSTEM					
ECOSECTION					
ELEVATION(MASL)		580 600		600	
SLOPE(%)		1 0		0	
ASPECT(DEG)		190			
ENVIRONMENT/SOILS :					
ECOLOGICAL MOISTURE REGIME		SHD M M		M	
NUTRIENT REGIME		O			
OVERLYING MATERIAL		Ob O		O	
UNDERLYING MATERIAL		GF			
EROSION/DEPOSITION					
SOIL SUBGROUP		TM FI		FI	
SOIL GREAT GROUP		F M		M	
SOIL DRAINAGE		VP		VP	
SOLUM THICKNESS(CM)		125			
TYPE & DEPTH TO RESTRICT(CM)					
THICKNESS LFH(CM)		90			
pH-LFH		0.0			
-A		0.0			
-B		0.0			
-C		0.0			
TEXTURE-A/1				F M	
-B/2					
-C/3					
COARSE FRAGMENTS-B(%)		0.0			
SEEPAGE(*) & MOTTILING(CM)		*			
ROOTING DEPTH(CM)		0.0			
VEGETATION :					
ASSOCIATION		L1		L1 L1	
STAND AGE(YR)		61 47		6	
CANOPY HEIGHT(M)		10.3 9		16	
MEAN ANNUAL INCREMENT		0.0			
STRATA COVERAGE(%) -A		65 55		5	
-B		43.3 80		15 35	
-C		10.0 15		5 10	
-G		15.0 15		15 15	
-D		88.0 70		95 99	
-L		0.7 1		1 0	
SURFACE SUBST(%) -DEAD WOOD		3.3 3		5 2	
-BEDROCK		0.0 0		0 0	
-STONES		0.0 0		0 0	
-MIN SOIL		0.0 0		0 0	
-ORGANIC		93.0 96		90 93	
-OPEN WATER		3.7 1		5 5	
BIOMASS(KG/HA) -FORBS		7.2		6.8 7.6	
-GRAMINOIDS		18.8		13.6 24.0	
-BROWSE		0.0		0.0 0	

LEVEL			ZONE		ASSC TYPE		TAMARACK-BLACK SPRUCE/SEDEGE/MOSS										RESOURCE INVENTORY			
ECOSYM UNIT			L		1		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA APR 19, 1985 10:55:12 TABLE 9 PAGE 2			
PLOT NUMBER							AVERAGE VALUE		4B LO10		2L LO95		2L L103							
NUMBER OF SPECIES PER PLOT							32.0		32		28		36							
SPECIES							%P		%C		%C SV		%C SV							
37 RUBU ACA							33.3	0.3							1	2				
38 RUME OCC							33.3	0.3							1	2				
39 SCUT GAL							33.3	0.3							1	2				
G LAYER																				
40 CARE AQU							100.0	6.7	15	2	4	2	1	2	1	2				
41 CALA CAN							66.7	0.7			10	2			1	2	1	2		
42 CARE GYN							33.3	3.3							6	2				
43 CARE DIS							33.3	2.0							6	2				
44 CARE PAU							33.3	2.0							6	2				
45 CARE PRA							33.3	1.7			5	2								
46 DESC CAE							33.3	0.3							1	2				
D LAYER																				
47 AULA PAL							100.0	6.3	10	2	8	2	1	2						
48 SPHA FUS							66.7	41.7	60	2			65	2						
49 TOME NIT							66.7	14.0			37	2	5	2						
50 POLY STR							66.7	3.3	5	2					5	2				
51 PLAG ELL							66.7	1.7			1	2	4	2						
52 HYPN PRA							33.3	6.3			19	2								
53 SPHA WAR							33.3	5.3			16	2			8	2				
54 DREP ADU							33.3	2.7												
55 CALL GIG							33.3	0.3			1	2								
56 HELO BLA							33.3	0.3		1	2									
57 HYLO SPL							33.3	0.3			1	2								
58 MYLI ANO							33.3	0.3	1	2										
L LAYER																				
59 CLAD MIT							66.7	0.7	1	2	1	2								
60 PELT APH							33.3	0.3					1	2						
61 PELT HOR							33.3	0.3	1	2										
62 PELT POL							33.3	0.3	1	2										

LEVEL		ZONE		ASSC TYPE		TAMARACK/BIRCH/SEDGE/MOSS										RESOURCE INVENTORY									
ECOSYM UNIT		L		2		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA									
						10:55:12 APR. 19, 1985										TABLE 10 PAGE 1									
PLOT NUMBER		AVERAGE		4B		2L		2L		2L		2L		2L											
		VALUE		LO04		LO40		LO59		LO79		LO90													
NUMBER OF SPECIES PER PLOT		28.4		30		18		39		25		30													
SPECIES		%P MC		%C SV		%C SV		%C SV		%C SV		%C SV													
A1 LAYER																									
1	LARI LAR	100.0	11.8	2	2	25	1	30	2	1	2	1	1												
2	PICE MAR	80.0	4.4			15	1	5	2	1	2	1	1												
A2 LAYER																									
	LARI LAR	60.0	5.4	2	2	5	1	20	2																
	PICE MAR	40.0	2.0			5	1	5	2																
E LAYER																									
3	CETR HAL	20.0	1.0	5	2																				
4	CETR PIN	20.0	1.0	5	2																				
5	EVER MES	20.0	1.0	5	2																				
6	HYPO PHY	20.0	1.0	5	2																				
7	PARM FLA	20.0	1.0	5	2																				
8	PARM SUL	20.0	1.0	5	2																				
B1 LAYER																									
	LARI LAR	60.0	2.4	5	2			2	2	5	2														
	PICE MAR	40.0	0.8					2	2	2	2														
B2 LAYER																									
9	BETU PUM	100.0	24.0	45	2	5	1	10	2	50	2	10	2												
LARI LAR																									
	PICE MAR	80.0	12.0	30	2			1	2	18	2	11	1												
10	SALI PED	60.0	1.2					2	2	3	2	1	2												
11	SALI CAN	60.0	1.0			3	1	1	2			1	2												
12	BETU GLA	60.0	0.6	1	2					1	2	1	2												
13	LEDU GRO	40.0	5.0							5	2	20	2												
LARI LAR																									
	PICE MAR	40.0	1.2					1	2	5	2														
14	SALI PLA	20.0	3.0					15	2																
15	LONI VTL	20.0	0.2					1	2																
16	RIBE LAC	20.0	0.2					1	2																
17	SALI MYR	20.0	0.2					1	2																
18	VACC MYR	20.0	0.2					1	2																
C LAYER																									
19	SMIL TRI	80.0	2.6	2	2	1	2	1	2	9	2														
20	EQUI FLU	80.0	1.0			2	2	1	2	1	2	1	2												
21	CALT PAL	60.0	1.8	5	2			1	2	3	2														
22	MENY TRI	60.0	1.0	2	2	1	2					2	2												
23	GALI LAB	60.0	0.6	1	2					1	2	1	2												
24	ANDR POL	40.0	1.6			2	1					6	2												
25	DROS ROT	40.0	0.4			1	2					1	2												
26	DXYC MIC	40.0	0.4			1	2			1	2														
27	POTE PAL	40.0	0.4	1	2							1	2												
28	SARR PUR	40.0	0.4			1	2					1	2												
29	STEL LON	40.0	0.4							1	2	1	2												
30	TOFI GLU	40.0	0.4			1	2					1	2												
31	TRIG MAR	40.0	0.4			1	2			1	2														
32	VACC VIT	40.0	0.4					1	2	1	2														
33	RUBU ACA	20.0	1.0					5	2																
34	ARCT UVA	20.0	0.2					1	2																
35	ASTE CIL	20.0	0.2					1	2																
36	EPIL ANG	20.0	0.2					1	2																

PLOT NUMBER	AVERAGE VALUE	4B L004	2L L040	2L L059	2L L079	2L L090
NUMBER OF SPECIES PER PLOT	28.4	30	18	39	25	30
SPECIES	%P MC	%C SV	%C SV	%C SV	%C SV	%C SV
37 EQUI ARV	20.0 0.2			1 2		1 2
38 EQUI SCI	20.0 0.2			1 2		
39 LINN BOR	20.0 0.2					
40 LUZU PAR	20.0 0.2	1 2				
41 LYSI THY	20.0 0.2	1 2				
42 MITE NUD	20.0 0.2	1 2				
43 PETA SAG	20.0 0.2			1 2		
44 PYRO ASA	20.0 0.2			1 2		
45 RUME BRI	20.0 0.2	1 2				
46 SPIR ROM	20.0 0.2		1 2			
G LAYER						
47 CARE PRA	60.0 6.8	10 2			23 2	1 2
48 CARE AQU	40.0 9.0	30 2		15 2		
49 CARE LIM	40.0 1.2		5 1			1 2
50 CALA INE	20.0 1.6			8 2		
51 CARE INT	20.0 0.4					2 2
52 CARE CAP	20.0 0.2			1 2		
53 CARE PAU	20.0 0.2				1 2	
54 ERIO VIR	20.0 0.2					1 2
D LAYER						
55 TOME NIT	80.0 37.0					
56 AULA PAL	80.0 17.4	40 2	98 2	19 2	19 2	49 2
57 DREP VER	40.0 4.8			40 2	4 2	3 2
58 CALL GIG	40.0 2.4	5 2			21 2	3 2
59 BRYU PSE	40.0 2.2	10 2			7 2	
60 MEES TRI	20.0 9.0					1 2
61 SPHA ANG	20.0 8.0				40 2	45 2
62 SPHA FUS	20.0 1.2			6 2		
63 HELD BLA	20.0 1.0	5 2				
64 HYPN PRA	20.0 1.0	5 2				
65 PLAG ELL	20.0 1.0	5 2				
66 HYLO SPL	20.0 0.6			3 2		
67 POLY STR	20.0 0.4			2 2		
68 CAMP STE	20.0 0.2					1 2
69 CLIM DEN	20.0 0.2			1 2		
70 SCOR TUR	20.0 0.2					1 2
71 SPHA RUS	20.0 0.2			1 2		
L LAYER						
72 CLAD MIT	20.0 0.2					1 2
73 PELT CAN	20.0 0.2	1 2				
74 PELT MAL	20.0 0.2					

LEVEL ZONE ASSC TYPE				WILLOW/SEDGE										RESOURCE INVENTORY									
ECOSYM UNIT B 2				PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA									
				10:55:12 APR 19, 1985										TABLE 11 PAGE 2									

ECOSYSTEMATIC UNITS		P	P	A	A	A	A	A	SW	Sb	L	L	B
		2	3	1a	1b	2	3		1	1	1	2	2
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE													
SPECIES													
ABIE BAL	I	0.1	II	0.4	III	1.1	III	0.6	I	0.2	I	0.2	I 0.1
ACHI MIL									I	0.2	I	0.2	I 0.1
ACHI SIB									II	0.4	III	0.7	II 0.6
ACTA RUB									II	0.4	III	0.7	I 0.3
AGRO SCA									II	0.4	III	0.7	I 0.7
AGRO STO									II	0.4	III	0.7	II 1.4
AGRO TRA	III	0.8	V	15.8	III	3.4	II	1.9	I	0.5	II	2.1	I 2.1
ALNU CRI									I	0.1			
ALNU TEN									II	0.3			
AMBL SER	IV	0.6	II	0.5	II	1.1	IV	2.3	III	4.2	III	2.8	II 1.6
AMEL ALN									II	0.3			
ANDR POL													
ANEM PAR	III	0.8	I	0.2									
ANEM PAT	II	0.3	I	0.2									
ANTE NEG													
ARAL NUD													
ARCT UVA	V	8.4	V	5.4	III	0.6	II	0.3	IV	7.0	IV	9.2	I 0.2
AREN LAT									I	0.1	I	0.1	I 0.1
ASTE CIL	I	0.1	II	0.4	IV	2.4	V	1.8	V	2.3	V	2.5	I 0.1
ASTE CON									II	1.2	III	1.0	I 0.1
ASTE PUN									I	0.1			I 0.4
ASTR FRI													
ASTR OCC													
AULA PAL													
BETU GLA													
BETU OCC													
BETU PAP	I	0.3	II	1.3	I	1.7	III	2.8	II	1.7	I	0.1	II 1.4
BETU PUM													II 1.4
BRAC CAM													II 0.9
BRAC SAL													I 1.4
BRAC STA													I 0.1
BROM CIL													II 4.3
BRYO FUS	I	0.6	I	1.2									
BRYO PSE													
CALA CAN													
CALA INE	I	0.6	I	1.2	II	0.4	III	1.6	I	2.5	I	0.9	III 12.9
CALL GIG	I	0.1	III	0.7	II	0.3	II	0.2	III	1.5	V	1.5	I 0.3
CALT PAL													I 1.6
CAMP ROT													II 2.4
CAMP STE													III 1.8
CARE AQU													I 0.2
CARE ATH	V	0.9	II	0.4	III	0.6			I	0.1			I 0.2
CARE BRU													II 9.0
CARE CAP													III 14.1
CARE CHO													I 7.1
CARE CON													I 2.9
CARE DIS													
CARE GYN													II 7.9
CARE INT													I 0.4

ECOSYSTEMATIC UNITS		P	P	A	A	A	A	A	SW	Sb	L	L	B
		2	3	1a	1b	2	3	1	1	1	1	2	2
SPECIES													
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE													
CARE LIM				I 0.1						I 0.1	II 2.0	II 1.2	I 4.3
CARE PAU												I 0.2	
CARE PEC													
CARE PRA				I 0.1		I 0.1							
CARE RIC	II 0.4	II 0.3		II 0.3	I 0.1	I 0.1				I 0.3	II 1.7	III 6.8	II 12.1
CARE ROS													I 6.4
CARE VAG										I 0.1			
CETR PIN				I 0.6	I 0.6	I 0.5				I 0.1			
CETR HAL	I 1.3	I 0.4		II 1.1	II 1.1	I 0.5							
CETR PIN	I 1.3	I 0.8		I 0.6	II 1.7					I 0.1	II 5.0	I 1.0	II 1.4
CHRY IOW													I 0.1
CICU BUL				I 0.1									
CIRS ARV				I 0.1									
CLAD CEN										I 0.1			
CLAD CLO				I 0.1									
CLAD COC	I 0.1			I 0.1									
CLAD CON													
CLAD COR										I 0.1			
CLAD CRI	I 0.1	I 0.1		I 0.1						II 0.2			
CLAD DEF	II 0.3	I 0.1								II 0.2			
CLAD FIM										I 0.1			
CLAD FUR	III 0.6	II 0.4								II 0.4			
CLAD GRA	IV 1.4			II 0.2						II 0.5			
CLAD MIT	IV 24.3	IV 2.8		I 0.1						V 23.2	IV 0.7	I 0.2	
CLAD MUL										I 0.1			
CLAD PYX										I 0.1			
CLAD RAN	I 3.8												
CLAD UNC	II 0.3									I 0.1			
CLAD VER				I 0.1									
CLIM DEN												I 0.2	I 0.7
COMA PAL	II 0.4			I 0.1									
CORA TRI													
CORN CAN	II 0.6	IV 2.8		IV 3.4	V 5.8	V 5.7	V 1.8	V 5.9	I 0.1				
CORN STO				III 1.4	II 0.7	II 1.5	II 0.4	II 1.0	I 0.2				
CORY COR				I 0.1	II 8.3	I 0.4	III 2.3						I 0.1
DESC CAE											II 0.3		I 0.1
DICR FRA	II 0.4	II 0.4						I 0.1					
DICR POL										II 0.2			
DICR UND										IV 2.2			
DISP TRA													
DREP ADU					II 0.3	II 0.3	II 0.5	II 0.4			II 2.7		I 1.4
DREP POL													I 11.4
DREP UNC										I 0.1			I 3.6
DREP VER										I 0.3			
DROS ROT										I 0.1		II 4.8	II 0.4
ELYM INN	III 1.1	IV 4.1	III 1.8	III 3.9	III 6.3	III 3.9	III 1.0	II 0.5	I 0.2				
EPIL ANG	II 0.3	IV 2.3	IV 1.4	V 9.0	V 6.0	V 9.0	V 6.6	III 7.5	II 0.2	II 0.3	I 0.2	I 0.2	II 0.3
EPIL GLA													I 0.1
EPIL PAL													I 0.1

ECOSYSTEMATIC UNITS		P	P	A	A	A	A	A	SW	Sb	L	L	B										
		2	3	1a	1b	2	3	3	1	1	1	2	2										
SPECIES																							
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE																							
EQUI ARV		I	0.2	III	0.7	II	0.3	II	0.3	I	0.2	III	0.5	II	1.1	II	0.3	I	0.2	I	0.1	I	0.1
EQUI FLU																		IV	1.0	I	0.1	I	0.1
EQUI PRA																							
EQUI SCI																							
EQUI SYL		I	0.1	I	0.1															I	0.2		
ERIG GLA																							
ERIO CHA																							
ERIO VIR																							
EURH PUL																							
EVER MES		I	0.6	I	0.4	I	0.6	II	1.1	I	0.5	I	0.5	I	1.0		II	3.3	I	1.0	II	1.4	
FFRAG VIR		II	0.3	III	1.4	V	1.9	V	2.4	V	1.1	V	1.2	V	1.4	II	0.3					II	0.3
GALI BOR		II	0.3	I	0.4	IV	0.8	V	1.3	IV	0.9	V	1.3	IV	1.0	II	0.2	IV	0.7	III	0.6	III	0.7
GALI LAB																							
GALI TRI																							
GENT AMA								I	0.1	I	0.1	I	0.2	II	0.4								
GEOC LIV				I	0.1									I	0.1								
GEUM ALE				I	0.1																		
GEUM ALL		I	0.2	I	0.1											II	0.3						
GEUM MAC						I	0.1															I	0.1
HABE HYP																							
HALE DEF				I	0.1										I	0.1		I	0.1	II	0.3		
HAPL MIC				I	0.1																		
HEDY ALP						I	0.1	I	0.1	I	0.1							II	0.3	I	1.0		
HELO BLA																							
HERA LAN						I	0.1																
HIER CAN		II	0.5	I	0.2	I	0.1							I	0.1								
HIER ODO																							
HYLO SPL		I	0.1	I	0.2					I	0.1	I	0.1	III	2.1	III	3.9	II	0.3	I	0.6	I	0.7
HYPN PRA																		II	6.3	I	1.0	I	0.7
HYPN PHY		I	1.3			I	0.6	I	0.6					I	0.1					I	1.0		
JBRA CCA M																							
JUNC BAL				I	0.1											I	0.4						
LARI LAR		I	0.1	I	0.1											III	7.2	V	21.0	V	11.8		
LATH OCH		II	3.9	IV	7.4	IV	1.9	II	2.6	III	2.5	III	1.5	III	1.1	I	0.1	V	7.7	II	1.2		
LEDU GRO																							
LESC RAD																I	0.1						
LILI PHI																							
LINN BOR		III	0.5	V	4.5	V	7.8	IV	4.1	V	2.7	IV	2.2	V	2.7	III	0.9			I	0.2		
LONI DIO				I	0.1	I	0.1	II	0.9	III	0.6	III	1.4	II	0.4								
LONI INV		I	0.1	I	0.1	II	0.9	II	2.8	II	3.0	II	0.8	IV	5.0	I	0.1						
LONI VIL																III	0.6	II	0.3	I	0.2	I	0.1
LUZU PAR																							
LYCO ANN				I	0.1					I	0.8			I	1.3					I	0.2		
LYCO COM				I	0.1																		
LYCO OBS																							
LYSI THY																							

ECOSYSTEMATIC UNITS		P ₂	P ₃	A _{1a}	A _{1b}	A ₂	A ₃	SW ₁	Sb ₁	L ₁	L ₂	B ₂
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE												
SPECIES												
MATA CAN	V 1.9	V 1.9	V 2.7	V 2.0	V 1.4	V 1.6	V 1.3	I 0.1			I 9.0	I 0.1
MEES TRI											III 1.0	I 0.1
MENT ARV												
MENY TRI												
MERT PAN												
MITE NUD												
MYLI AND												
ONCO WAH												
DRCH ROT												
DRTH OBT												
DRYZ SEC												
DRYZ ASP												
DRYZ PUN												
OSMO DEP												
DXYC MIC												
PARM FLA	I 1.3	I 0.8	I 0.6	I 1.1	I 0.5	I 0.9	II 2.0			II 1.7	I 1.0	III 2.9
PARM SUL												I 0.1
PARM FIM												
PARM PAL												
PELT APH												
PELT APT	I 0.1	I 0.5	I 0.1	I 0.1								
PELT CAN												
PELT HOR												
PELT MAL	II 0.5	I 0.2	I 0.1									
PELT POL	I 0.1											
PENS ALB	II 0.3	I 0.1	IV 1.9	V 1.7	V 2.1	V 0.9	V 1.8	II 0.4	I 0.1	II 0.3	I 0.2	I 0.1
PETA PAL												
PETA SAG												
PHAC FRA	I 0.1	II 0.4	IV 1.9	V 1.7	V 2.1	V 0.9	V 1.8	II 0.4	I 0.1	II 0.3	I 0.2	I 0.7
PICE GLA	IV 2.6	III 1.2	III 3.9	II 1.6	III 3.0	I 0.9	V 25.0					
PICE MAR	I 0.3											
PINU BAN	V 26.8	V 32.3	I 0.1	I 0.1	I 0.1	III 0.5	I 0.9	I 1.3		IV 1.7	I 1.0	II 2.1
PLAG CUS												I 0.1
PLAG DRU												II 0.3
PLAG ELL												
PLAG MED	II 1.6	V 4.8	II 0.3	II 0.2	III 0.8	II 0.5	III 1.8	V 6.5				
PLEU SCH												
POHL CRU												
POLY AMP	IV 2.0	IV 0.6	II 1.2									
POLY JUN												
POLY LAP												
POLY PAU												
POLY STR												
POPU BAL												
POPU TRE	II 1.4	V 5.4	II 1.7	III 2.8	III 6.4	III 2.5	III 8.0					III 2.0
POTE PAL												I 0.1
POTE RIV												
POTE TRI	III 0.5	III 0.5	I 0.1									
PRUN PEN												

ECOSYSTEMATIC UNITS		P ₂	P ₃	A _{1a}	A _{1b}	A ₂	A ₃	SW ₁	Sb ₁	L ₁	L ₂	B ₂
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE												
SPECIES												
PRUN VIR		I 0.1	III 0.6	I 0.1	I 0.6	I 0.3	I 0.2	III 1.4	II 0.4			
PTIL CRI		I 0.1	III 0.6	I 0.1	I 0.1	I 1.0	I 1.4	II 1.5				
PYLA POL		I 0.8	II 1.7	III 2.8	I 1.4	II 1.5						
PYRO ASA		II 0.3	IV 1.7	IV 1.4	V 1.7	V 1.0	III 0.8		II 0.2	II 0.3	I 0.2	I 0.3
PYRO SEC				I 0.6								

RAMA FAR						I 0.5		I 1.0				
RAMA MIN						I 0.1			II 0.2	II 0.7		I 0.7
RHAM ALN									I 0.1			I 0.1
RHIZ PSE												
RIBE GLA			I 0.1	I 0.2	I 0.1	I 0.1	I 0.1	I 0.1				
RIBE HIR						I 0.1						
RIBE LAC				II 0.4	I 0.2	II 0.3	I 0.2		I 0.1		I 0.2	II 0.3
RIBE OXY				I 0.1	I 0.1	I 0.1	III 0.5					II 0.7
RIBE TRI												I 0.1
RORR ISL		IV 1.0	V 1.7	V 5.7	V 5.4	V 7.8	V 4.5	V 3.1	III 0.6			
ROSA ACI									III 0.5	II 0.3	I 1.0	I 0.1
RUBU ACA									I 0.2			
RUBU CHA												
RUBU IDA		II 0.4	I 0.1	II 0.2	II 0.5	IV 0.8	II 0.3					
RUBU PUB		II 0.5	IV 2.0	V 3.9	IV 2.5	V 3.0	IV 1.8					I 0.1
RUBU STR		I 0.1				I 0.3					I 0.2	I 0.1
RUME BRI												
RUME OCC										II 0.3		II 0.4

SALI ATH	III 0.6	II 0.9	III 2.1	IV 8.3	II 4.5	III 4.6	II 1.7		I 0.2	II 0.3		I 0.7
SALI BEB												I 0.7
SALI CAN										II 2.3	III 0.6	I 2.1
SALI LAS												
SALI MAC												I 8.6
SALI MYR			I 0.1						IV 2.6	II 0.3	I 0.2	
SALI PED									II 0.5	III 1.0	I 7.9	
SALI PLA									I 0.4	I 3.0	II 12.9	
SALI SER										II 1.7		I 2.1
SANI MAR				I 0.1					I 0.1		II 0.4	
SARR PUR												
SCHI PUR		I 0.2	II 0.2					I 0.1			I 0.2	
SCOR TUR												
SCUT GAL												
SHEP CAN	II 0.9	I 0.4	I 0.1	I 0.1	I 0.1	I 0.1			I 0.1			I 0.1
SMIL TRI									IV 1.4	V 4.0	IV 2.6	I 0.1
SOLI CAN												I 0.1
SOLI DEC	II 0.3	I 0.1	I 0.1						I 0.2		I 8.0	
SPHA ANG									III 15.2	IV 41.7	I 1.2	
SPHA CUS									I 5.9			
SPHA FUS												
SPHA NEM												
SPHA RUS											I 0.2	
SPHA WAR									I 3.9	II 5.3		
SPIR ROM									I 0.2		I 0.2	
STEL LON									II 0.2	IV 0.7	II 0.4	II 0.3

ECOSYSTEMATIC UNITS	P 2	P 3	A 1a	A 1b	A 2	A 3	SW 1	Sb 1	L 1	L 2	B 2
SPECIES	PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE										
STEL MED			I 0.1								
STRE AMP			I 0.1								
SYMP ALB		I 0.2	III 1.0	III 0.8	II 0.5	V 1.9	IV 0.8				I 0.1
TARA OFF			II 0.3	II 0.3	I 0.5	I 0.2	I 0.1	I 0.1	I 0.1		
THAL VEN			II 0.3	II 0.3	I 0.5		I 0.1	I 0.1			I 0.7
THUI REC										II 0.4	I 0.1
TOFI GLU								IV 9.5	IV 14.0	IV 37.0	I 0.1
TOME NIT	I 0.1		I 0.1					I 0.2			
TRIE BOR	I 0.1	II 0.4	II 0.8	III 0.6	IV 0.8	II 0.4	II 0.4	I 0.4		II 0.4	I 0.1
TRIG MAR											
URTI DIO											I 0.1
USNE ALP					I 0.5		I 0.1				
USNE HIR									II 5.0		III 2.1
USNE SOR								I 0.5			
USNE SUB	I 1.9										
VACC CAE	V 7.6	V 12.5	I 0.1	II 0.3	I 0.1			I 0.1	I 0.1	I 0.2	
VACC MYR	V 13.0	V 15.9	IV 5.9	II 1.2	I 0.5			I 0.2	II 0.7	I 0.4	
VACC VIT			II 0.3	II 0.4	I 0.2			I 0.1	IV 4.8	IV 1.0	I 0.1
VALE DIO		I 0.1	IV 2.0	IV 9.8	IV 11.3	V 9.1	V 13.8				
VIBU EDU			I 0.1	I 0.1							
VICE AME			III 0.6	III 0.7	III 0.6	IV 0.7	I 0.3				II 0.3
VICI AME	II 0.4	III 0.5	III 0.6	I 0.1	I 0.1	II 0.3		I 0.2			
VIOL ADU		I 0.1	I 0.1	II 0.2	I 0.1	I 0.2					
VIOL REN			III 0.4	I 0.1	IV 0.8	III 2.2	II 0.6				
VIOL RUG											
XANT RAM					I 0.5						
ZIZI APT								I 0.1			

ENVIRONMENT AND VEGETATION TABLES

EAST BEAVER LAKE PLOTS

RESOURCE INVENTORY

EDMONTON, ALBERTA

10:17:22 NOV 27, 1984

40 CODING ERRORS IN DATA SET

TOTAL NUMBER OF PLOTS IS 22

TOTAL NUMBER OF SPECIES IN EACH LAYER IS 7 10 14 34 57 14 29 10

ENVIRONMENT/SOILS-VEGETATION TABLES		PINE/BEARBERRY/LICHEN		RESOURCE INVENTORY
TITLE :	P	2	P	TABLE 1
PLOT NUMBER	MEAN	4B		
TOWNSHIP & RANGE	6612	LOO2		
MERIDIAN	W 4			
MAPSHEET		73L		
		12		
PHYSIOGRAPHIC SUBREGION				
GEOMORPHIC SYSTEM				
ECOSECTION				
ELEVATION(MASL)	530.0	530		
SLOPE(%)	0.0	0		
ASPECT(DEG)				
ENVIRONMENT/SOILS :				

ECOLOGICAL MOISTURE REGIME		X		
NUTRIENT REGIME		SM		
OVERLYING MATERIAL		Gfb		
UNDERLYING MATERIAL		M		
EROSION/DEPOSITION				
SOIL SUBGROUP		E		
SOIL GREAT GROUP		DYB		
SOIL DRAINAGE		R		
SOLUM THICKNESS(CM)	55.0	55		
TYPE & DEPTH TO RESTRICT(CM)				
THICKNESS LFH(CM)	3.0	3		
PH-LFH	0.0			
-A	4.2	4.2		
-B	4.8	4.8		
-C	5.0	5.0		
TEXTURE -A/1		SL		
-B/2		SL		
-C/3		S		
COARSE FRAGMENTS-B(%)	0.0			
SEEPAGE(+) & MOTTILING(CM)				
ROOTING DEPTH(CM)	50.0	50		
VEGETATION :				

ASSOCIATION		P2		
STAND AGE(YR)	36.0	36		
CANOPY HEIGHT(M)	12.0	12		
MEAN ANNUAL INCREMENT	0.0			
STRATA COVERAGE(%) -A	15.0	15		
-B	75.0	75		
-C	3.0	3		
-G	5.0	5		
-D	2.0	2		
-L	30.0	30		
SURFACE SUBST(%) -DEAD WOOD	1.0	1		
-BEDROCK	0.0	0		
-STONES	0.0	0		
-MIN. SOIL	0.0	0		
-ORGANIC	99.0	99		
-OPEN WATER	0.0	0		
BIOMASS(KG/HA) -FORBS	0.0			
-GRAMINOIDS	0.0			
-BROWSE	0.0			

LEVEL		ZONE	ASSC	TYPE	PINE/BEARBERRY/LICHEN				RESOURCE INVENTORY					
ECOSYM UNIT		P	2		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)				EDMONTON, ALBERTA					
					10:17:22 NOV 27, 1984				TABLE 1 PAGE 1					
PLOT NUMBER					AVERAGE VALUE	4B								
						LOO2								
NUMBER OF SPECIES PER PLOT					38.0	38								
SPECIES					%P	MC	%C SV							
A1 LAYER														
1 PINU BAN					100.0	5.0	5	2						
2 PICE GLA					100.0	2.0	2	2						
3 PICE MAR					100.0	2.0	2	2						
A2 LAYER														
PICE GLA					100.0	5.0	5	2						
4 BETU PAP					100.0	2.0	2	2						
5 POPU TRE					100.0	2.0	2	2						
A3 LAYER														
6 USNE SUB					100.0	15.0	15	2						
7 CETR HAL					100.0	10.0	10	2						
8 CETR PIN					100.0	10.0	10	2						
9 HYPO PHY					100.0	10.0	10	2						
10 PARM SUL					100.0	10.0	10	2						
11 BRYO FUS					100.0	5.0	5	2						
12 EVER MES					100.0	5.0	5	2						
B1 LAYER														
13 ALNU CRI					100.0	10.0	10	2						
PICE GLA					100.0	10.0	10	2						
POPUL TRE					100.0	5.0	5	2						
B2 LAYER														
14 LEDU GRO					100.0	30.0	30	2						
15 VACC MYR					100.0	20.0	20	2						
PICE GLA					100.0	10.0	10	2						
ALNU CRI					100.0	2.0	2	2						
16 LONI INV					100.0	1.0	1	2						
PINU BAN					100.0	1.0	1	2						
17 SALI BEB					100.0	1.0	1	2						
C LAYER														
18 CORN CAN					100.0	3.0	3	2						
19 ANTE NEG					100.0	1.0	1	2						
20 EPIL ANG					100.0	1.0	1	2						
21 FRAG VIR					100.0	1.0	1	2						
22 LATH OCH					100.0	1.0	1	2						
D LAYER														
23 CALA CAN					100.0	5.0	5	2						
24 ORYZ PUN					100.0	1.0	1	2						
EX LAYER														
25 PLEU SCH					100.0	3.0	3	2						
26 DICR POL					100.0	1.0	1	2						
27 POLY JUN					100.0	1.0	1	2						
28 TOME NIT					100.0	1.0	1	2						
EL LAYER														
29 CLAD RAN					100.0	30.0	30	2						
30 CLAD CRI					100.0	1.0	1	2						
31 CLAD DEF					100.0	1.0	1	2						
32 CLAD GRA					100.0	1.0	1	2						

PLOT NUMBER TOWNSHIP & RANGE MERIDIAN MAPSHEET	MEAN	4B	4B
		LO05 6612 W 4	LO15 6612 W 4
PHYSIOGRAPHIC SUBREGION		73L 12	73L 12
GEOMORPHIC SYSTEM			
ECONOMY	580.0	570	590
ELEVATION(MASL)	4.5	8	1
SLOPE(%)	212		
ASPECT(DEG)			
ENVIRONMENT/SOILS :			
ECOLOGICAL MOISTURE REGIME		SX	SM
NUTRIENT REGIME		SM	SM
OVERLYING MATERIAL		Gfb	Gfb
UNDERLYING MATERIAL		M	M
EROSION/DEPOSITION			
SOIL SUBGROUP		E	E
SOIL GREAT GROUP		DYB	DYB
SOIL DRAINAGE		W	W
SOLUM THICKNESS(CM)	73.0	65	81
TYPE & DEPTH TO RESTRICT(CM)			
THICKNESS LFH(CM)	5.0	5	5
PH-LFH	4.6	4.8	4.5
-A	4.7	4.3	5.1
-B	5.0	5.0	5.0
-C		SL	SL
TEXTURE -A/1		SL	SL
-B/2		S	S
-C/3			
COARSE FRAGMENTS-B(%)	0.0		
SEEPAGE(+) & MOTTILING(CM)			
ROOTING DEPTH(CM)	32.5	35	30
VEGETATION :			
ASSOCIATION		P3	P3
STAND AGE(YR)	48.5	50	47
CANOPY HEIGHT(M)	15.0	15	15
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%) -A	50.0	65	35
-B	42.5	35	50
-C	57.5	50	65
-G	30.0	15	45
-D	1.5	1	2
-L	0.5	1	0
SURFACE SUBST(%) -DEAD WOOD	7.5	5	10
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN. SOIL	0.0	0	0
-ORGANIC	92.5	95	90
-OPEN WATER	0.0	0	0
-FORBS	0.0	0	0
-GRAMINOIDS	0.0	0	0
-BROWSE	0.0	0	0

LEVEL		ZONE		ASSC TYPE		PINE/ALDER/BLUEBERRY				RESOURCE INVENTORY			
ECOSYM UNIT		P		3		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)				EDMONTON, ALBERTA			
						10:17:22 NOV 27, 1984				TABLE 2 PAGE 1			
PLOT NUMBER		AVERAGE		4B		4B		4B					
		VALUE		LO05		LO15							
NUMBER OF SPECIES PER PLOT		35.5		36		35							
SPECIES		%P MC		%C SV		%C SV							
A1 LAYER													
1	PINU BAN	50.0	15.0	30	2	25	2						
2	POPU TRE	50.0	12.5										
A2 LAYER													
3	POPU TRE	100.0	10.0	15	2	5	2						
3	BETU PAP	100.0	6.0	10	2	2	2						
4	PICE GLA	100.0	5.0	5	2	5	2						
PINU BAN		50.0		0.5		1		2					
A3 LAYER													
5	CETR PIN	100.0	5.0	5	2	5	2						
6	PARM SUL	100.0	5.0	5	2	5	2						
7	PYLA POL	100.0	5.0	5	2	5	2						
8	CETR HAL	50.0	2.5			5		2					
9	EVER MES	50.0	2.5			5		2					
B1 LAYER													
10	SALI BEB	100.0	5.0	5	2	5	2						
11	ALNU CRI	50.0	5.0	10	2			5					
B2 LAYER													
12	VACC MYR	100.0	17.5	15	2	20	2						
13	LEDU GRO	100.0	11.5	3	1	20	2						
POPU TRE		100.0		3.5		2		2					
PICE GLA		100.0		2.0		2		2					
14	AMEL ALN	100.0	1.5	1	2	2	2						
15	ROSA ACI	100.0	1.5	1	2	2	2						
ALNU CRI		50.0		2.5		5		2					
16	SHEP CAN	50.0	2.5			5		2					
BETU PAP		50.0		1.0		2		2					
SALI BEB		50.0		1.0		2		2					
17	SYMP ALB	50.0	1.0			2		2					
18	LONI INV	50.0	0.5			1		2					
19	RUBU STR	50.0	0.5			1		2					
C LAYER													
20	VACC VIT	100.0	10.0	15	2	5	2						
21	CORN CAN	100.0	8.0	1	2	15	2						
22	LINN BOR	100.0	7.5	10	2	5	2						
23	FRAG VIR	100.0	5.5	1	2	10	2						
24	PETA PAL	100.0	1.5	2	2	1	2						
25	ASTE CIL	100.0	1.0	1	2	1	2						
26	ARCT UVA	50.0	2.5			5		2					
27	GALI BOR	50.0	1.5			3		2					
28	MAIA CAN	50.0	1.5			3		2					
29	RUBU PUB	50.0	1.5			3		2					
30	ORTH SEC	50.0	1.0			2		2					
31	ACHI MIL	50.0	0.5			1		2					
32	EPIL ANG	50.0	0.5			1		2					
33	EQUI ARV	50.0	0.5			1		2					
34	EQUI SYL	50.0	0.5			1		2					
35	LATH OCH	50.0	0.5			1		2					

RESOURCE INVENTORY
EDMONTON, ALBERTA
10:17:22 NOV 27, 1984
TABLE 2 PAGE 2

PINE/ALDER/BLUEBERRY

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	P	3	

PLOT NUMBER	AVERAGE		4B		4B	
	VALUE		LO05	LO15		
NUMBER OF SPECIES PER PLOT	35.5		36	35		
SPECIES	%P	MC	%C	SV	%C	SV
	50.0	0.5	1	2		
36 VTOL REN D LAYER	100.0	15.0	15	2	15	2
37 ELYM INN	50.0	7.5			15	2
38 BROM CIL	50.0	7.5			15	2
39 CALA CAN	50.0	0.5	1	2		
40 SCHI PUR EX LAYER	100.0	1.0	1	2	1	2
41 PLEU SCH	50.0	1.0			2	2
42 BRAC SAL EL LAYER	50.0	0.5	1	2		
43 CLAD MIT						

PLOT NUMBER	MEAN	4B	4B
TOWNSHIP & RANGE		LOO1	LO19
MERIDIAN		W 4	W 4
MAPSHEET		73L	73L
		13	12
PHYSIOGRAPHIC SUBREGION			
GEOMORPHIC SYSTEM			
ECOSECTION			
ELEVATION(MASL)	575.0	550	600
SLOPE(%)	12.5	8	17
ASPECT(DEG)		335	330
ENVIRONMENT/SOILS :			

ECOLOGICAL MOISTURE REGIME		M	M
NUTRIENT REGIME		SM	M
OVERLYING MATERIAL		GFV	GFb
UNDERLYING MATERIAL		M	M
EROSION/DEPOSITION			
SOIL SUBGROUP		BR	BR
SOIL GREAT GROUP		GL	GL
SOIL DRAINAGE		MW	MW
SOLUM THICKNESS(CM)	56.5	53	60
TYPE & DEPTH TO RESTRICT(CM)			
THICKNESS LFH(CM)	7.0	10	4
pH-LFH	0.0		
-A	5.8	6.0	5.6
-B	5.1	5.1	5.1
-C	5.8	4.5	7.0
TEXTURE-A/1		SL	SL
-B/2		SYCL	SCL
-C/3		SCL	SCL
COARSE FRAGMENTS-B(%)	15.0		15
SEEPAGE(*) & MOTTILING(CM)			
ROOTING DEPTH(CM)	29.5	42	17
VEGETATION :			

ASSOCIATION		A1a	A1a
STAND AGE(YR)	50.0	50	50
CANOPY HEIGHT(M)	19.5	17	22
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%) -A	77.5	75	80
-B	40.0	40	40
-C	62.5	65	60
-G	1.5	1	2
-D	1.0	1	1
-L	1.0	1	1
SURFACE SUBST(%) -DEAD WOOD	4.0	3	5
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN SOIL	0.0	0	0
-ORGANIC	96.0	97	95
-OPEN WATER	0.0	0	0
-FORBS	0.0		
-GRAMINOIDS	0.0		
-BROWSE	0.0		
BIOMASS(KG/HA)			

LEVEL			ZONE		ASC TYPE		ASPEN/ALDER/TWINFLOWER				RESOURCE INVENTORY			
ECOSYM UNIT A			1a				PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)				EDMONTON, ALBERTA			
							10:17:22				NOV 27, 1984			
							TABLE 3				PAGE 1			

RESOURCE INVENTORY
EDMONTON, ALBERTA
10:17:22 NOV 27, 1984
TABLE 3 PAGE 2

ASPEN/ALDER/TWINFLOWER

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC TYPE	1a	
ECOSYM UNIT	A			
PLOT NUMBER				
NUMBER OF SPECIES PER PLOT				
SPECIES				
37 VIOL REN	AVERAGE VALUE	4B LO01	4B LO19	
38 VIOL RUG	39.5	34	45	
D LAYER	%P MC	%C SV	%C SV	
39 CALA CAN	50.0 0.5	1 2	1 2	
EX LAYER	50.0 0.5			
40 BRAC SAL	100.0 1.5	1 2	2 2	
41 HAPL MIC	50.0 0.5		1 2	
42 JBRA CCA M	50.0 0.5	1 2	1 2	
43 PLAG CUS	50.0 0.5			
EL LAYER	50.0 0.5		1 2	
44 CLAD CLO	50.0 0.5		1 2	
45 PELT APT	50.0 0.5		1 2	
46 PELT CAN	50.0 0.5		1 2	

103

LEVEL			ZONE		ASSC TYPE		ASPEN/WILLOW/SARSAPARILLA										RESOURCE INVENTORY			
ECOSYM UNIT			1a		1b		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										10:17:22 NOV 27, 1984			
PLOT NUMBER			AVERAGE VALUE										4B		4B		4B		4B	
NUMBER OF SPECIES PER PLOT			LO17		LO03		LO14		LO16		LO14		LO16		LO14		LO16			
SPECIES			38		34		30		29		30		29		30		29			
			%P		MC		%C SV		%C SV		%C SV		%C SV		%C SV		%C SV			
A1 LAYER			100.0		50.0		45		2		60		2		65		2			
1 POPU TRE																				
A2 LAYER			100.0		18.8		20		2		10		2		5		2			
2 POPU TRE																				
2 POPU BAL			75.0		3.8		5		2		5		2		5		2			
3 BETU PAP			50.0		4.5		15		2								3			
A3 LAYER																				
4 PYLA POL			100.0		6.3		5		2		10		2		5		2			
5 CETR PIN			75.0		3.8		5		2		5		2				5			
6 CETR HAL			50.0		2.5		5		2						5		2			
7 EVER MES			50.0		2.5		5		2						5		2			
8 PARM SUL			50.0		2.5		5		2						5		2			
9 CERT PIN			25.0		1.3						5		2							
10 HYPO PHY			25.0		1.3															
B1 LAYER																				
11 SALI BEB			75.0		6.3		15		2						5		2			
12 AMEL ALN			75.0		5.8		5		2		8		2		10		2			
13 CORY COR			25.0		10.0		40		2											
B2 LAYER																				
14 ROSA ACI			100.0		8.8		5		2		10		2		5		2			
SALI BEB			100.0		5.5		10		2		1		2		1		2			
AMEL ALN			100.0		4.8		2		2		7		2		5		2			
CORY COR			75.0		18.8		10		2		30		2		35		2			
15 SYMP ALB			50.0		1.0		3		2		1		2							
16 VIBU EDU			50.0		0.8								1		2		2			
POPU TRE			25.0		1.3		5		2											
17 PRUN VIR			25.0		1.3						5		2							
BETU PAP			25.0		0.3		1		2											
POPU BAL			25.0		0.3		1		2											
C LAYER																				
18 CORN CAN			100.0		7.0		5		2		1		2		7		2			
19 RUBU PUB			100.0		3.8		3		2		5		2		5		2			
20 ASTE CIL			100.0		2.0		1		2		3		2		1		2			
21 EPIL ANG			100.0		1.8		1		2		2		2		2		2			
22 PETA PAL			100.0		1.8		3		2		1		2		2		2			
23 GALI BOR			100.0		1.5		1		2		1		2		1		2			
24 LATH OCH			100.0		1.3		1		2		2		2		1		2			
25 MAIA CAN			100.0		1.3		1		2		1		2		1		2			
26 ARAL NUD			75.0		11.8		10		2		2		2				35			
27 LINN BOR			75.0		5.3		1		2		10		2		10		2			
28 FRAG VIR			75.0		0.8						1		2		1		2			
29 MERT PAN			75.0		0.8						1		2		1		2			
30 PYRO ASA			50.0		1.0		1		2		3		2							
31 ACHI MIL			50.0		0.5						1		2		1		2			
32 DISP TRA			50.0		0.5						1		2		1		2			
33 MITE NUD			50.0		0.5						1		2		1		2			
34 VICI AME			50.0		0.5		1		2		1		2		1		2			
35 VIOL REN			50.0		0.5		1		2		1		2		1		2			

RESOURCE INVENTORY
EDMONTON, ALBERTA
10:17:22 NOV 27, 1984
TABLE 4 PAGE 2

ASPEN/WILLOW/SARSAPARILLA

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC	TYPE										
ECOSYM UNIT A				1b									
PLOT NUMBER													
NUMBER OF SPECIES PER PLOT													
SPECIES													
36	PYRO	SEC		AVERAGE	4B	4B	4B	4B	4B	4B	4B		
37	THAL	VEN		VALUE	LO17	LO03	LO14	LO16					
38	GEUM	ALL		32.8	38	34	30	29					
39	HERA	LAN		%P	MC	%C	SV	%C	SV	%C	SV		
40	LILI	PHI		25.0	1.3	5	2						
41	SANI	MAR		25.0	0.5	1	2						
42	VICE	AME		25.0	0.3	1	2						
43	CALA	CAN		25.0	0.3					1	2		
44	ELYM	INN		100.0	3.5	5	2						
45	BROM	CIL		50.0	8.8	10	2	25	2				
46	BRAC	CAM		25.0	0.5	2	2						
47	BRAC	SAL		25.0	0.3					1	2		
48	PLEU	SCH		25.0	0.3							1	2

PLOT NUMBER TOWNSHIP & RANGE MERIDIAN MAPSHEET	MEAN	4B	4B
		LO18 W 4 W 4	LO07 W 4 W 4
PHYSIOGRAPHIC SUBREGION		73L 12	73L 13
GEOMORPHIC SYSTEM			
ECOSECTION	585.0	590	580
ELEVATION(MASL)			
SLOPE(%)	2.5	5	0
ASPECT(DEG)			
ENVIRONMENT/SOILS :			
ECOLOGICAL MOISTURE REGIME		SM	SM
NUTRIENT REGIME		SM	M
OVERLYING MATERIAL		GFV	GFV
UNDERLYING MATERIAL		M	M
EROSION/DEPOSITION			
SOIL SUBGROUP		BR	BR
SOIL GREAT GROUP		GL	GL
SOIL DRAINAGE		W	MW
SOLUM THICKNESS(CM)	60.0	60	60
TYPE & DEPTH TO RESTRICT(CM)			
THICKNESS LFH(CM)	9.5	5	14
pH-LFH	0.0		
-A	4.9	4.5	5.3
-B	5.4	5.0	5.9
-C	6.0	5.0	7.0
TEXTURE-A/1		SCL	SIL
-B/2		CL	CL
-C/3		CL	S
COARSE FRAGMENTS-B(%)	6.5	8	5
SEEPAGE(*) & MOTTILING(CM)			
ROOTING DEPTH(CM)	22.0	28	16
VEGETATION :			
ASSOCIATION		A2	A2
STAND AGE(YR)	41.5	57	26
CANOPY HEIGHT(M)	19.0	19	19
MEAN ANNUAL INCREMENT	0.0		
STRATA COVERAGE(%) - A	37.5	35	40
-B	40.0	50	30
-C	37.5	45	30
-G	20.0	35	5
-D	1.0	1	1
-L	0.0	0	0
SURFACE SUBST(%) - DEAD WOOD	6.0	10	2
-BEDROCK	0.0	0	0
-STONES	0.0	0	0
-MIN. SOIL	0.0	0	0
-ORGANIC	94.0	90	98
-OPEN WATER	0.0	0	0
BIOMASS(KG/HA) - FORBS	0.0	0	0
-GRAMINOIDS	0.0	0	0
-BROWSE	0.0	0	0

LEVEL ZONE ASSC TYPE				ASPEN-POPLAR/CRANBERRY				RESOURCE INVENTORY			
ECOSYM UNIT A 2				PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)				EDMONTON, ALBERTA			
				10:17:22 NOV 27, 1984				TABLE 5 PAGE 1			
PLOT NUMBER				AVERAGE		4B		4B			
				VALUE		LO18		LO07			
NUMBER OF SPECIES PER PLOT				37.5		34		41			
SPECIES				%P MC		%C SV		%C SV			
A1 LAYER											
1 POPU TRE				100.0 15.0		25 2		5 2			
2 POPU BAL				50.0 7.5				15 2			
A2 LAYER											
POPU TRE				100.0 10.0		5 2		15 2			
3 BETU PAP				50.0 5.0		10 2					
POPU BAL				50.0 2.5				5 2			
A3 LAYER											
4 PARM SUL				100.0 5.0		5		5 2			
5 PYLA POL				100.0 5.0		5 2		5 2			
6 CERT PIN				50.0 2.5		5 2					
7 CETR HAL				50.0 2.5		5 2					
8 EVER MES				50.0 2.5		5 2					
9 ORTH OBT				50.0 2.5		5 2		5 2			
10 PARM FLA				50.0 2.5		5 2					
11 RAMA MIN				50.0 2.5		5 2					
12 USNE HIR				50.0 2.5		5 2					
13 XANT RAM				50.0 2.5		5 2		5 2			
B1 LAYER											
14 SALI BEB				50.0 7.5		15 2					
POPU BAL				50.0 2.5		5 2					
15 ALNU CRI				50.0 2.0				4 2			
16 CORY COR				50.0 0.5				1 2			
B2 LAYER											
17 AMEL ALN				100.0 10.5		20 2		1 2			
18 ROSA ACI				100.0 7.5		5 2		10 2			
19 PICE GLA				100.0 3.0		5 2		1 2			
POPU BAL				100.0 1.0		1 2		1 2			
POPU TRE				50.0 7.5		15 2					
20 CORN STO				50.0 5.0				10 2			
21 VIBU EDU				50.0 2.5				5 2			
22 LONI INV				50.0 1.5				3 2			
23 BETU OCC				50.0 0.5				1 2			
BETU PAP				50.0 0.5		1 2					
CORY COR				50.0 0.5				1 2			
24 PRUN VIR				50.0 0.5				1 2			
25 RIBE LAC				50.0 0.5				1 2			
SALI BEB				50.0 0.5				1 2			
26 SYMP ALB				50.0 0.5				1 2			
C LAYER											
27 EPIL ANG				100.0 10.5		20 2		1 2			
28 ASTE CIL				100.0 4.5		5 2		4 2			
29 PETA PAL				100.0 4.5		5 2		4 2			
30 FRAG VIR				100.0 1.0		1 2		1 2			
31 MAIA CAN				100.0 1.0		1 2		1 2			
32 PYRO ASA				100.0 1.0		1 2		1 2			
33 VICI AME				100.0 1.0		1 2		1 2			
34 ARAL NUD				50.0 10.0				20 2			

LEVEL		ZONE	ASSC	TYPE	ASPEN-POPLAR/CRANBERRY					RESOURCE INVENTORY				
ECOSYM UNIT		A	2		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)					EDMONTON, ALBERTA				
					10:17:22 NOV 27, 1984					TABLE 5 PAGE 2				
PLOT NUMBER		AVERAGE		4B		4B		4B						
		VALUE		LO18		LO07								
NUMBER OF SPECIES PER PLOT		37.5		34		41								
SPECIES		%P		MC		%C		SV		%C		SV		
35	MERT PAN	50.0	1.5					3	2					
36	RUBU PUB	50.0	1.5					3	2					
37	ACHI MIL	50.0	0.5	1	2									
38	CORN CAN	50.0	0.5	1	2									
39	DISP TRA	50.0	0.5					1	2					
40	EQUI ARV	50.0	0.5					1	2					
41	EQUI SYL	50.0	0.5					1	2					
42	GALI BOR	50.0	0.5	1	2									
43	GALI TRI	50.0	0.5					1	2					
44	LATH OCH	50.0	0.5					1	2					
45	LINN BOR	50.0	0.5	1	2									
46	SMIL TRI	50.0	0.5	1	2									
47	VIOL REN	50.0	0.5					1	2					
	D LAYER	-----		-----		-----		-----						
48	CALA CAN	100.0	12.5	20	2	5	2							
49	ELYM INN	50.0	7.5	15	2									
	EX LAYER	-----		-----		-----		-----						
50	BRAC CAM	50.0	0.5	1	2									
51	BRAC SAL	50.0	0.5					1	2					

	MEAN	4B LO06 W 4	4B LO13 W 4
PLOT NUMBER			
TOWNSHIP & RANGE			
MERIDIAN			
MAP SHEET		73L 12	73L 12
PHYSIOGRAPHIC SUBREGION			
GEOMORPHIC SYSTEM			
ECOSECTION			
ELEVATION(MASL)	590.0	580	600
SLOPE(%)	12.0	15	9
ASPECT(DEG)		125	90
ENVIRONMENT/SOILS			
ECOLOGICAL MOISTURE REGIME		SM	SM
NUTRIENT REGIME		SM	SM
OVERLYING MATERIAL		MB	MB
UNDERLYING MATERIAL		R	R
EROSION/DEPOSITION			
SOIL SUBGROUP		BR	BR
SOIL GREAT GROUP		GL	GL
SOIL DRAINAGE		MW	W
SOLUM THICKNESS(CM)	47.5	55	40
TYPE & DEPTH TO RESTRICT(CM)			
THICKNESS LFH(CM)	7.0	6	8
PH-LFH	0.0		
-A	5.4	5.4	5.5
-B	5.1	5.0	5.1
-C	5.3	4.5	6.0
TEXTURE-A/1		L	SL
-B/2		CL	L
-C/3		CL	SL
COARSE FRAGMENTS-B(%)	7.5	10	5
SEEPAGE(*) & MOTTILING(CM)			
ROOTING DEPTH(CM)	23.0		23
VEGETATION :			
ASSOCIATION		A3	A3
STAND AGE(YR)	28.0	28	28
CANOPY HEIGHT(M)	16.0	14	18
MEAN ANNUAL INCREMENT			
STRATA COVERAGE(%) -A	72.5	70	75
-B	35.0	35	35
-C	37.5	35	40
-G	5.0	5	5
-D	2.0	3	1
-L	0.0	0	0
SURFACE SUBST(%) -DEAD WOOD			
-BEDROCK	2.5	2	3
-STONES	0.0	0	0
-MIN. SOIL	0.0	0	0
-ORGANIC	97.5	98	97
-OPEN WATER	0.0	0	0
BIOMASS(KG/HA) -FORBS	0.0		
-GRAMINOIDS	0.0		
-BROWSE	0.0		

LEVEL ZONE ASSC TYPE			ASPEN/CRANBERRY/SARSAPARILLA			RESOURCE INVENTORY		
ECOSYM UNIT A 3			PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)			EDMONTON, ALBERTA		
			10:17:22 NOV 27, 1984			TABLE 6 PAGE 1		
PLOT NUMBER			AVERAGE VALUE	4B LO06	4B LO13			
NUMBER OF SPECIES PER PLOT			%P MC	%C SV	%C SV			
SPECIES								
A1 LAYER								
1 POPU TRE			100.0 52.5	60 2	45 2			
2 POPU BAL			50.0 7.5		15 2			
A2 LAYER								
POPU TRE			100.0 10.0	10 2	10 2			
POPU BAL			50.0 2.5		5 2			
A3 LAYER								
3 PYLA POL			100.0 7.5	5 2	10 2			
4 CETR HAL			100.0 5.0	5 2	5 2			
5 CETR PIN			100.0 5.0	5 2	5 2			
6 PARM SUL			100.0 5.0	5 2	5 2			
7 EVER MES			50.0 2.5		5 2			
B1 LAYER								
8 AMEL ALN			100.0 5.0	5 2	5 2			
9 SALI BEB			50.0 3.5		7 2			
10 VIBU EDU			50.0 1.5	3 2				
B2 LAYER								
11 ROSA ACI			100.0 10.0	5 2	15 2			
VIBU EDU			100.0 10.0	10 2	10 2			
12 RUBU STR			100.0 1.5	1 2	2 2			
AMEL ALN			50.0 1.0	2 2				
13 CORY COR			50.0 1.0	2 2				
POPU TRE			50.0 1.0	2 2				
14 PRUN VIR			50.0 1.0	2 2				
15 CORN STO			50.0 0.5	1 2				
C LAYER								
16 ARAL NUD			100.0 12.5	15 2	10 2			
17 EPIL ANG			100.0 10.0	10 2	10 2			
18 MERT PAN			100.0 3.0	1 2	5 2			
19 CORN CAN			100.0 2.0	1 2	3 2			
20 LINN BOR			100.0 2.0	1 2	3 2			
21 MAIA CAN			100.0 1.5	1 2	2 2			
22 ASTE CIL			100.0 1.0	1 2	1 2			
23 GALI BOR			100.0 1.0	1 2	1 2			
24 LATH OCH			100.0 1.0	1 2	1 2			
25 PETA PAL			100.0 1.0	1 2	1 2			
26 VICI AME			100.0 1.0	1 2	1 2			
27 VIOL REN			100.0 1.0	1 2	1 2			
28 ACTA RUB			50.0 1.5	3 2				
29 FRAG VIR			50.0 1.5					
30 RUBU PUB			50.0 1.5		3 2			
31 EQUI ARV			50.0 0.5		1 2			
32 MITE NUD			50.0 0.5	1 2				
33 PYRO ASA			50.0 0.5		1 2			
D LAYER								
34 CALA CAN			100.0 5.0	5 2	5 2			
EX LAYER								
35 PLAG CUS			100.0 1.0	1 2	1 2			

PLOT NUMBER	MEAN	4B	4B	4B
TOWNSHIP & RANGE		LO22	LO21	LO09
MERIDIAN		6612	6612	6612
MAPSHEET		W 4	W 4	W 4
PHYSIOGRAPHIC SUBREGION		73L	73L	73L
GEOMORPHIC SYSTEM		12	12	12
ECOSECTION	590.0	600	600	570
ELEVATION(MASL)				
SLOPE(%)	8.7	3	18	5
ASPECT(DEG)		340	20	90
ENVIRONMENT/SOILS				
ECOLOGICAL MOISTURE REGIME		SM	SM	SM
NUTRIENT REGIME		SM	SM	SM
OVERLYING MATERIAL		M	Gfb	Gfb
UNDERLYING MATERIAL			M	M
EROSION/DEPOSITION				
SOIL SUBGROUP		BR	E	BR
SOIL GREAT GROUP		GL	EB	GL
SOIL DRAINAGE		W	W	Mw
SOLUM THICKNESS(CM)	55.7	31	85	51
TYPE & DEPTH TO RESTRICT(CM)				
THICKNESS LFH(CM)	10.0	10	13	7
pH-LFH	0.0			
-A	4.8	6.0	4.0	4.4
-B	5.4	5.5	6.0	4.6
-C	6.7	7.0	7.0	6.0
TEXTURE-A/1		SCL	LS	SL
-B/2		SCL	S	CL
-C/3		SCL	SCL	SCL
COARSE FRAGMENTS-B(%)	70.0	70		
SEEPAGE(%) & MOTTILING(CM)				
ROOTING DEPTH(CM)	29.7	30	32	27
VEGETATION				
ASSOCIATION		SW1	SW1	SW1
STAND AGE(YR)	74.0	46	86	90
CANOPY HEIGHT(M)	20.7	20	19	23
MEAN ANNUAL INCREMENT	0.0			
STRATA COVERAGE(%) -A	50.0	60	65	25
-B	45.0	95	15	25
-C	45.0	35	35	65
-G	12.7	12	1	25
-D	9.0	1	25	1
-L	0.0	0	0	0
SURFACE SUBST(%) -DEAD WOOD	23.3	30	20	20
-BEDROCK	0.0	0	0	0
-STONES	0.0	0	0	0
-MIN. SOIL	0.0	0	0	0
-ORGANIC	76.7	70	80	80
-OPEN WATER	0.0	0	0	0
BIOMASS(KG/HA) -FORBS	0.0			
-GRAMINOIDS	0.0			
-BROWSE	0.0			

LEVEL	ZONE	ASCT	TYPE	WHITE SPRUCE-ASPEN/CRANBERRY/SARSAPARILLA	PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)	TABLE	RESOURCE INVENTORY
ECOSYM UNIT	SW	1				7	EDMONTON, ALBERTA NOV 27, 1984
PLOT NUMBER				10:17:22			
NUMBER OF SPECIES PER PLOT				TABLE 7			
SPECIES				PAGE 1			
A1 LAYER							
1	POPU TRE			AVERAGE VALUE	4B LO21	4B LO09	
2	PICE GLA			35.3	38	35	
A2 LAYER							
3	ABIE BAL			%P MC	%C SV	%C SV	
4	POPU TRE			100.0 23.3	35 2	20 2 15 2	
5	PARM SUL			66.7 15.0	35 2	10 2	
6	CETR HAL			33.3 3.3	10 2		
7	CETR PIN			33.3 3.3	10 2		
8	PYLA POL			33.3 3.3	10 2		
9	EVER MES			100.0 6.7	5 2	10 2 5 2	
10	RAMA FAR			100.0 5.0	5 2	5 2 5 2	
11	USNE SUB			100.0 5.0	5 2	5 2 5 2	
12	USNE ALP			66.7 3.3		5 2 5 2	
B1 LAYER							
13	SALI BEB			33.3 1.7	1 0	5 2	
14	ABIE BAL			33.3 0.3			
15	ALNU CRI			33.3 0.3			
16	BETU PAP			33.3 0.3		1 2	
B2 LAYER							
17	ROSA ACI			100.0 3.0	5 2	2 2 2 2	
18	VIBU EDU			66.7 11.7	25 2	10 2	
19	POPU TRE			66.7 6.0		3 2	
20	PICE GLA			66.7 5.0	10 2	15 2	
21	AMEL ALN			66.7 1.0	1 2	5 2 2 2	
22	SYMP ALB			66.7 0.7		1 2 1 2	
23	ABIE BAL			33.3 5.0	15 2		
24	LONI INV			33.3 3.3	10 2		
25	ALNU CRI			33.3 0.3	1 2		
26	RIBE OXY			33.3 0.3	1 2		
27	RIBE TRI			33.3 0.3		1 2	
28	SALI BEB			33.3 0.3	1 2		
C LAYER							
29	CORN CAN			100.0 8.3	10 2	10 2 5 2	
30	MERT PAN			100.0 2.0	1 5	3 2 2 2	
31	GALI BOR			100.0 1.7	1 2	3 2 1 2	
32	ASTE CIL			100.0 1.3	1 2	1 2 2 2	
33	LINN BOR			100.0 1.3	1 2	1 2 2 2	
34	MAIA CAN			100.0 1.3	1 2	1 2 2 2	
35	MITE NUD			100.0 1.0	1 2	1 2 1 2	
36	PETA PAL			100.0 1.0	1 2	1 2 1 2	
37	ARAL NUD			66.7 8.3	10 2	15 2	
38	FRAG VIR			66.7 1.0	1 2	2 2 2 2	
39	RUBU PUB			66.7 1.0	1 2	2 2 2 2	

PLOT NUMBER	NUMBER OF SPECIES PER PLOT	AVERAGE		4B		4B		4B	
		VALUE		LO22		LO21		LO09	
		35.3		38		33		35	
		%P	MC	%C	SV	%C	SV	%C	SV
SPECIES									
34 DISP TRA		66.7	0.7	1	2	1	2		
35 PYRO ASA		66.7	0.7			1	2	1	2
36 EPIL ANG		33.3	10.0					30	2
37 LATH OCH		33.3	2.3					7	2
38 ACHI MIL		33.3	0.3					1	2
39 ACTA RUB		33.3	0.3	1	2				
40 GALI TRI		33.3	0.3					1	2
41 THAL VEN		33.3	0.3					1	2
42 TRIE BOR		33.3	0.3	1	2				
43 VICI AME		33.3	0.3					1	2
D LAYER									
44 CALA CAN		100.0	12.0	10	2	1	2	25	2
45 ELYM INN		33.3	0.7	2	2				
EX LAYER									
46 BRAC CAM		66.7	0.7	1	2				1
47 HYLO SPL		33.3	3.3			10	2		
48 PLAG DRU		33.3	1.7			5	2		
49 PLEU SCH		33.3	1.7			5	2		
50 PTIL CRI		33.3	1.7			5	2		
51 BRAC SAL		33.3	0.7			2	2		
52 EURH PUL		33.3	0.3	1	2				

4B	MEAN	4B
LO10	6612	W 4
MAPSHEET	73L	12
PHYSIOGRAPHIC SUBREGION		
GEOMORPHIC SYSTEM		
ECOSECTION	580.0	580
ELEVATION(MASL)	1.0	1
SLOPE(%)		190
ASPECT(DEG)		
ENVIRONMENT/SOILS :		
ECOLOGICAL MOISTURE REGIME		SHD
NUTRIENT REGIME		0
OVERLYING MATERIAL		Ob
UNDERLYING MATERIAL		GF
EROSION/DEPOSITION		
SOIL SUBGROUP		TM
SOIL GREAT GROUP		F
SOIL DRAINAGE		VP
SOLUM THICKNESS(CM)	125.0	125
TYPE & DEPTH TO RESTRICT(CM)		
THICKNESS LFH(CM)	90.0	90
PH-LFH	0.0	
-A	0.0	
-B	0.0	
-C	0.0	
TEXTURE-A/1		
-B/2		
-C/3		
COARSE FRAGMENTS-B(%)	0.0	
SEEPAGE(*) & MOTTILING(CM)		*
ROOTING DEPTH(CM)	0.0	
VEGETATION :		
ASSOCIATION		L1
STAND AGE(YR)	61.0	61
CANOPY HEIGHT(M)	9.0	9
MEAN ANNUAL INCREMENT	0.0	
STRATA COVERAGE(%)--A	65.0	65
-B	80.0	80
-C	15.0	15
-G	15.0	15
-D	70.0	70
-L	1.0	1
SURFACE SUBST(%)--DEAD WOOD	3.0	3
-BEDROCK	0.0	0
-STONES	0.0	0
-MIN SOIL	0.0	0
-ORGANIC	96.0	96
-OPEN WATER	1.0	1
BIOMASS(KG/HA)--FORBS	0.0	
-GRAMINOIDS	0.0	
-BROWSE	0.0	

LEVEL		ZONE	ASSC	TYPE	TAMARACK-BLACK SPRUCE/SEDGE/MOSS				RESOURCE INVENTORY			
ECOSYM UNIT		L	1		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)				EDMONTON, ALBERTA			
					10:17:22				NOV 27, 1984			
					TABLE 8				PAGE 1			
PLOT NUMBER					AVERAGE VALUE		4B					
NUMBER OF SPECIES PER PLOT					32.0		LO10		32			
SPECIES					%P		MC		%C		SV	
A1 LAYER												
1	PICE	MAR			100.0	5.0	5	2				
2	LARI	LAR			100.0	2.0	2	2				
A2 LAYER												
	PICE	MAR			100.0	25.0	25	2				
	LARI	LAR			100.0	20.0	20	2				
A3 LAYER												
3	CETR	PIN			100.0	15.0	15	2				
4	USNE	SOR			100.0	15.0	15	2				
5	EVER	MES			100.0	10.0	10	2				
6	BRYO	FUS			100.0	5.0	5	2				
7	PARM	SUL			100.0	5.0	5	2				
B1 LAYER												
	PICE	MAR			100.0	10.0	10	2				
	LARI	LAR			100.0	5.0	5	2				
B2 LAYER												
8	LEDU	GRO			100.0	20.0	20	2				
	PICE	MAR			100.0	20.0	20	2				
9	BETU	GLA			100.0	15.0	15	2				
10	SALI	SER			100.0	5.0	5	2				
	LARI	LAR			100.0	2.0	2	2				
11	SALI	ATH			100.0	1.0	1	2				
12	SALI	MYR			100.0	1.0	1	2				
C LAYER												
13	OXYC	MIC			100.0	7.0	7	2				
14	SMIL	TRI			100.0	5.0	5	2				
15	VACC	VIT			100.0	2.0	2	2				
16	EPIL	ANG			100.0	1.0	1	2				
17	MITE	NUD			100.0	1.0	1	2				
D LAYER												
18	CARE	AQU			100.0	15.0	15	2				
	EX	LAYER			100.0	60.0	60	2				
19	SPHA	FUS			100.0	10.0	10	2				
20	AULA	PAL			100.0	5.0	5	2				
21	POLY	STR			100.0	1.0	1	2				
22	HELO	BLA			100.0	1.0	1	2				
23	MYLI	ANO			100.0	1.0	1	2				
EL LAYER												
24	CLAD	MIT			100.0	1.0	1	2				
25	PELT	HOR			100.0	1.0	1	2				
26	PELT	POL			100.0	1.0	1	2				

MEAN	4B	
LO04		
6612		
W 4		
73L		
12		
PHYSIOGRAPHIC SUBREGION		
GEOMORPHIC SYSTEM		
ECOSECTION		
ELEVATION(MASL)	530.0	530
SLOPE(%)	0.0	0
ASPECT(DEG)		
ENVIRONMENT/SOILS :		
ECOLOGICAL MOISTURE REGIME		SHD
NUTRIENT REGIME		PM
OVERLYING MATERIAL		Ob
UNDERLYING MATERIAL		
EROSION/DEPOSITION		TY
SOIL SUBGROUP		F
SOIL GREAT GROUP		VP
SOIL DRAINAGE		
SOLUM THICKNESS(CM)	10.0	10
TYPE & DEPTH TO RESTRICT(CM)		
THICKNESS LFH(CM)	10.0	10
pH-LFH	0.0	
-A	0.0	
-B	0.0	
-C	0.0	
TEXTURE -A/1		
-B/2		
-C/3		
COARSE FRAGMENTS-B(%)	0.0	
SEEPAGE(*) & MOTTILING(CM)		*
ROOTING DEPTH(CM)	0.0	
VEGETATION :		
ASSOCIATION		L2
STAND AGE(YR)	142.0	142
CANOPY HEIGHT (M)	10.0	10
MEAN ANNUAL INCREMENT	0.0	
STRATA COVERAGE(%) -A	4.0	4
-B	35.0	35
-C	15.0	15
-G	40.0	40
-D	80.0	80
-L	1.0	1
SURFACE SUBST(%) -DEAD WOOD	0.0	0
-BEDROCK	0.0	0
-STONES	0.0	0
-MIN. SOIL	0.0	0
-ORGANIC	97.0	97
-OPEN WATER	3.0	3
BIOMASS(KG/HA) -FORBS	0.0	
-GRAMINOIDS	0.0	
-BROWSE	0.0	

RESOURCE INVENTORY.
EDMONTON, ALBERTA
NOV 27, 1984
10:17:22
TABLE 9 PAGE 1

TAMARACK/BIRCH/SEDGE/MOSS

PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)

LEVEL	ZONE	ASSC	TYPE
ECOSYM UNIT	L	2	
PLOT NUMBER			
NUMBER OF SPECIES PER PLOT			
SPECIES			
A1 LAYER			
1	LARI LAR	100.0	2.0 2 2
A2 LAYER			
LARI LAR	100.0	2.0 2 2	
A3 LAYER			
2	CETR HAL	100.0	5.0 5 2
3	CETR PIN	100.0	5.0 5 2
4	EVER MES	100.0	5.0 5 2
5	HYPO PHY	100.0	5.0 5 2
6	PARM FLA	100.0	5.0 5 2
7	PARM SUL	100.0	5.0 5 2
B1 LAYER			
LARI LAR	100.0	5.0 5 2	
B2 LAYER			
8	BETU PUM	100.0	45.0 45 2
LARI LAR	100.0	30.0 30 2	
9	SALI CAN	100.0	1.0 1 2
C LAYER			
10	CALT PAL	100.0	5.0 5 2
11	MENY TRI	100.0	2.0 2 2
12	SMIL TRI	100.0	2.0 2 2
13	GALI LAB	100.0	1.0 1 2
14	LUZU PAR	100.0	1.0 1 2
15	LYSI THY	100.0	1.0 1 2
16	MITE NUD	100.0	1.0 1 2
17	POTE PAL	100.0	1.0 1 2
18	RUME BRI	100.0	1.0 1 2
D LAYER			
19	CARE AQU	100.0	30.0 30 2
20	CARE PRA	100.0	10.0 10 2
EX LAYER			
21	AULA PAL	100.0	40.0 40 2
22	BRYU PSE	100.0	10.0 10 2
23	CALL GIG	100.0	5.0 5 2
24	HELO BLA	100.0	5.0 5 2
25	HYPN PRA	100.0	5.0 5 2
26	PLAG ELL	100.0	5.0 5 2
EL LAYER			
27	PELT CAN	100.0	1.0 1 2

ENVIRONMENT/SOILS-VEGETATION TABLES		WILLOW/SEDEGE/MOSS		RESOURCE INVENTORY	
TITLE :		TABLE		TABLE	
B		B		10	
PLOT NUMBER		MEAN		4B	
TOWNSHIP & RANGE				LO08 LO12 LO20	
MERIDIAN				6612 6612 6612	
MAPSHEET				W 4 W 4 W 4	
PHYSIOGRAPHIC SUBREGION				73L 73L 73L	
GEOMORPHIC SYSTEM				12 12 12	
ECOSECTION					
ELEVATION(MASL)		573.3		580 570 570	
SLOPE(%)		0.7		O 1 1	
ASPECT(DEG)				248	
ENVIRONMENT/SOILS :					
ECOLOGICAL MOISTURE REGIME				SHD SHD SHG	
NUTRIENT REGIME				PM E PM	
OVERLYING MATERIAL				Obv GF GF	
EROSION/DEPOSITION				GF M	
SOIL SUBGROUP				TY T R	
SOIL GREAT GROUP				F M HG	
SOIL DRAINAGE				VP M P	
SOLUM THICKNESS(CM)		27.0		5 60 16	
TYPE & DEPTH TO RESTRICT(CM)		11.0		5 15 13	
THICKNESS LFH(CM)		0.0			
pH-LFH		0.0			
-A					
-B					
-C					
TEXTURE -A/1					
-B/2					
-C/3					
COARSE FRAGMENTS-B(%)		0.0			
SEEPAGE(+) & MOTTILING(CM)				* * *	
ROOTING DEPTH(CM)		31.0		30 32	
VEGETATION :					
ASSOCIATION				B2 B2 B2	
STAND AGE(YR)		0.0			
CANOPY HEIGHT(M)		0.0			
MEAN ANNUAL INCREMENT		0.0			
STRATA COVERAGE(%) -A		5.0		5	
-B		40.0		25 80 15	
-C		21.7		10 25 30	
-D		78.3		90 90 55	
-L		16.7		0 35 15	
SURFACE SUBST(%) -DEAD WOOD		0.7		1 0 1	
-BEDROCK		10.7		0 30 2	
-STONES		0.0		0 0 0	
-MIN. SOIL		0.0		0 0 0	
-ORGANIC		89.0		99 70 98	
-OPEN WATER		0.0		0 0 0	
BIOMASS(KG/HA) -FORBS		0.0			
-GRAMINOIDS		0.0			
-BROWSE		0.0			

LEVEL	ECOSYM UNIT	ZONE	ASSC	TYPE	WILLOW/SEDGE/MOSS				PRESENCE (%P) . MEAN COVER (MC) . PERCENT COVER (%C) . SOCIABILITY (S) . VIGOR (V)				RESOURCE INVENTORY			
			2		AVERAGE VALUE	4B LO08	4B LO12	4B LO20					10:17:22	EDMONTON, ALBERTA	NOV 27, 1984	TABLE 10 PAGE 1
					%P MC	%C SV	%C SV	%C SV								
PLOT NUMBER																
NUMBER OF SPECIES PER PLOT					29.7	19	34	36								
SPECIES																
A2 LAYER																
1 BETU PAP					66.7 3.3		5 2	5 2								
2 SALI MAC					33.3 20.0		60 2									
3 ALNU TEN					33.3 5.0		15 2									
A3 LAYER																
4 PARM SUL					100.0 6.7	5 2	5 2	10 2								
5 USNE SOR					100.0 5.0	5 2	5 2	5 2								
6 CETR HAL					66.7 3.3		5 2	5 2								
7 CETR PIN					66.7 3.3		5 2	5 2								
8 EVER MES					66.7 3.3		5 2	5 2								
B1 LAYER																
9 SALI PLA					33.3 25.0			75 2								
SALI MAC					33.3 10.0		30 2									
B2 LAYER																
10 ALNU CRI					66.7 3.3		5 2	5 2								
BETU PAP					66.7 1.0		2 2	1 2								
11 RIBE OXY					66.7 0.7		1 2	1 2								
SALI MAC					33.3 6.7		20 2									
12 SALI SER					33.3 5.0	15 2										
13 BETU GLA					33.3 1.7	5 2										
14 PICE GLA					33.3 1.7											
15 RIBE TRI					33.3 1.7	5 2	5 2									
16 SALI ATH					33.3 1.7	5 2										
ALNU TEN					33.3 0.3	1 2										
17 CORN STO					33.3 0.3		1 2									
18 LONI INV					33.3 0.3			1 2								
19 RUBU STR					33.3 0.3		1 2									
20 SYMP ALB					33.3 0.3			1 2								
C LAYER																
21 CALT PAL					66.7 5.3		15 2	1 2								
22 EQUI SYL					33.3 3.3			10 2								
23 POTE PAL					33.3 3.3	10 2										
24 MERT PAN					33.3 1.7											
25 ASTE PUN					33.3 1.0											
26 MITE NUD					33.3 0.7		2 2	3 2								
27 PYRO ASA					33.3 0.7		2 2									
28 ACHI MIL					33.3 0.3											
29 ACHI SIB					33.3 0.3											
30 ASTE CIL					33.3 0.3		1 2									
31 EPIL ANG					33.3 0.3			1 2								
32 EPIL PAL					33.3 0.3	1 2										
33 EQUI FLU					33.3 0.3	1 2										
34 EQUI PRA					33.3 0.3		1 2									
35 FRAG VIR					33.3 0.3			1 2								
36 GALI BOR					33.3 0.3		1 2									
37 GALI LAB					33.3 0.3	1 2										
38 ORTH SEC					33.3 0.3		1 2									
39 PARN FIM					33.3 0.3		1 2									

LEVEL		ZONE	ASSC TYPE	WILLOW/SEDGE/MOSS										RESOURCE INVENTORY									
ECOSYM UNIT B		2		PRESENCE (%P), MEAN COVER (MC), PERCENT COVER (%C), SOCIABILITY (S), VIGOR (V)										EDMONTON, ALBERTA									
				10:17:22 NOV 27, 1984										TABLE 10 PAGE 2									
PLOT NUMBER																							
NUMBER OF SPECIES PER PLOT																							
SPECIES																							
		AVERAGE		4B		4B		4B		4B		4B											
		VALUE		LO08		LO12		LO20		LO20		LO20											
		29.7		19		34		36		36		36											
		%P	MC	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV	%C	SV								
40	RUBU PUB	33.3	0.3							1	2												
41	RUME OCC	33.3	0.3	1	2					1	2												
42	SOLI CAN	33.3	0.3																				
43	STEL LON	33.3	0.3	1	2																		
44	URTI DIO	33.3	0.3			1	2																
45	VALE DIO	33.3	0.3							1	2												
46	VICI ANE	33.3	0.3							1	2												
D LAYER																							
47	CALA CAN	66.7	26.7			40	2	40	2														
48	BROM CIL	66.7	10.0			20	2	20	10	2													
49	CARE DIS	33.3	13.3			40	2																
50	CARE LIM	33.3	10.0	30	2																		
51	CARE AQU	33.3	6.7	20	2																		
52	CARE BRU	33.3	6.7			20	2																
53	AGRO TRA	33.3	1.7							5	2												
54	AGRO SCA	33.3	1.0	3	2																		
55	AGRO STO	33.3	0.7							2	2												
56	CALA INE	33.3	0.7	2	2																		
EX LAYER																							
57	AULA PAL	100.0	7.0	10	2	10	2	1	2														
58	PLEU SCH	66.7	0.7			1	2	1	2														
59	DREP POL	33.3	26.7	80	2																		
60	BRAC SAL	33.3	3.3			10	2																
61	DREP ADU	33.3	3.3			10	2																
62	CLIM DEN	33.3	1.7							5	2												
63	HYLO SPL	33.3	1.7							5	2												
64	PLAG ELL	33.3	1.7																				
65	THUI REC	33.3	1.7							5	2												
66	BRAC STA	33.3	0.3	1	2																		
67	PLAG MED	33.3	0.3							1	2												
EL LAYER																							
68	PELT CAN	33.3	0.3							1	2												

ECOSYSTEMATIC UNITS		P	P	A	A	A	A	A	A	A	SW	L	L	B
		2	3	1a	1b	2	3	1	2	3	1	1	2	2
SPECIES														
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE														
ABIE BAL			III	0.5		III	0.5	III	0.5		II 15.0 II 0.3			II 0.3 II 0.3
ACHI MIL														
ACHI SIB														
ACTA RUB										III 1.5	II 0.3			II 1.0 II 0.7
AGRO SCA														II 1.7
AGRO STO														IV 3.3 II 5.0
AGRO TRA														
ALNU CRI	V 10.0	III	5.0	V 17.5		III	2.0				II 0.3			
ALNU TEN														
AMEL ALN	V 1.0		V	1.5	III 1.0	V 4.8	V 10.5	V 5.0	IV 1.0					
ANTE NEG														
ARAL NUD				V 2.5	V 40.0	IV 11.8	III 10.0	V 12.5	IV 8.3					
ARCT UVA		III												
ASTE CIL		V	1.0	V 2.0	V 2.0	V 4.5	V 1.0	V 1.3						II 0.3 II 1.0 V 7.0
ASTE PUN														
AULA PAL												V 10.0	V 40.0	V 7.0
BETU GLA												V 15.0		II 1.7
BETU OCC	V 2.0	V	6.0	III 7.5	III 4.5	III 5.0				II 0.3				IV 3.3
BETU PAP													V 45.0	
BETU PUM														
BRAC CAM														
BRAC SAL		III	1.0	III 0.5	II 0.3	III 0.5	III 0.5	III 0.5	III 0.5	IV 0.7 II 0.7				II 3.3 II 0.3 IV 10.0
BRAC STA														
BROM CIL		III	7.5		II 0.5							V 5.0		
BRYO FUS	V 5.0													
BRVU PSE														
CALA CAN	V 5.0	III	7.5	V 1.5	V 3.5	V 12.5	V 5.0	V 12.0						IV 26.7 II 0.7
CALA INE													V 5.0 V 5.0 V 30.0	IV 5.3 II 6.7 II 13.3 II 10.0
CALL GIG														
CALT PAL														
CARE AQU														
CARE BRU														
CARE DIS														
CARE LIM														
CARE PRA														
CERT PIN														
CETR HAL	V 10.0	III	2.5	III 2.5	II 1.3	III 2.5	V 5.0	V 5.0	V 5.0	V 5.0				IV 3.3
CETR PIN	V 10.0	V	5.0	III 2.5	III 2.5	III 3.8	V 5.0	V 5.0	V 5.0	V 5.0				IV 3.3
CLAD CLO				III 0.5										
CLAD CRI	V 1.0													
CLAD DEF	V 1.0													
CLAD GRA	V 1.0													
CLAD MIT		III	0.5									V 1.0		
CLAD RAN	V 30.0													
CLIM DEN														II 1.7
CORN CAN	V 3.0	V	8.0	V 5.0	V 7.0	III 0.5	V 2.0	V 8.3						
CORN STO				V 5.5	III 5.0	III 0.5	III 1.0							II 0.3
CORY COR					IV 18.8	III 0.5	III 1.0							

ECOSYSTEMATIC UNITS	P	P	A	A	A	A	A	A	SW	L	L	B
	2	3	1a	1b	2	3	1	1	1	1	2	2
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE												
SPECIES												
DICR POL	V 1.0			III 0.5	III 0.5				IV 0.7			II 3.3 II 26.7
DISP TRA												
DREP ADU												
DREP POL												
ELYM INN		V 15.0		III 8.8	III 7.5				II 0.7			
EPIL ANG	V 1.0	III 0.5	V 1.0	V 1.8	V 10.5	V 10.0		V 1.0	II 10.0			II 0.3 II 0.3
EPIL PAL												
EQUI ARV		III 0.5			III 0.5	III 0.5						II 0.3 II 0.3 II 3.3
EQUI FLU												
EQUI PRA		III 0.5			III 0.5							
EQUI SYL									II 0.3			
EURH PUL	V 5.0	III 2.5	III 2.5	III 2.5	III 2.5	III 2.5	IV 3.3	V 10.0	V 5.0	IV 3.3		
EVER MES												
FRAG VIR	V 1.0	V 5.5	V 2.0	IV 0.8	V 1.0	III 1.5	IV 1.0					II 0.3
GALI BOR		III 1.5	V 1.0	V 1.5	III 0.5	V 1.0	V 1.7					II 0.3
GALI LAB											V 1.0	II 0.3
GALI TRI				II 0.3	III 0.5		II 0.3					
GEUM ALL												
HAPL MIC			III 0.5							V 1.0	V 5.0	
HELO BLA												
HERA LAN				II 0.3					II 3.3			II 1.7
HYLO SPL											V 5.0	
HYPN PRA											V 5.0	
HYPO PHY	V 10.0		III 2.5	II 1.3								
UBRA CCA M			III 0.5									
LARI LAR												
LATH OCH	V 1.0	III 0.5	V 1.0	V 1.3	III 0.5	V 1.0	II 2.3	V 20.0	V 30.0			
LEDU GRO	V 30.0	V 11.5										
LILI PHI				II 0.3								
LINN BOR		V 7.5	V 7.5	IV 5.3	III 0.5	V 2.0	V 1.3					
LONI INV	V 1.0	III 0.5	III 1.5	III 1.5			II 3.3				II 0.3	
LUZU PAR										V 1.0	V 1.0	
LYSI THY												
MAIA CAN		III 1.5	V 1.0	V 1.3	V 1.0	V 1.5	V 1.3					
MENY TRI												
MERT PAN		III 0.5	IV 0.8	III 1.5		V 3.0	V 2.0				II 1.7	
MITE NUD		V 1.0	III 0.5		III 0.5	V 1.0	V 1.0	V 1.0	V 1.0	V 1.0	II 0.7	
MYLI AND												
ORTH OBT					III 2.5							
ORTH SEC		III 1.0										II 0.3
ORYZ PUN	V 1.0									V 7.0		
OXYC MIC												

ECOSYSTEMATIC UNITS		P	P	A	A	A	A	A	SW	L	L	B
		2	3	1a	1b	2	3	1	1	1	2	2
SPECIES												
PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE												
PARM FLA	V 10.0	III 2.5	III 2.5	III 2.5	III 2.5	V 5.0	V 5.0	V 5.0	V 6.7	V 5.0	V 5.0	V 6.7
PARM SUL		III 2.5	III 2.5	III 2.5	III 2.5	V 5.0	V 5.0	V 5.0	V 6.7	V 5.0	V 5.0	II 0.3
PARM FIM		III 0.5	III 0.5	III 0.5	III 0.5							
PELT APT		III 0.5	III 0.5	III 0.5	III 0.5							
PELT CAN		III 0.5	III 0.5	III 0.5	III 0.5							
PELT HOR												
PELT POL												
PETA PAL	V 10.0	V 1.5	V 3.0	V 1.8	V 4.5	V 1.0	V 1.0	V 15.0	V 1.0	V 25.0		II 1.7
PICE GLA	V 2.0	V 5.0			V 3.0	V 3.0	V 3.0					
PICE MAR	V 5.0	III 15.0					V 1.0					
PINU BAN		III 0.5										
PLAG CUS												
PLAG DRU												
PLAG ELL												
PLAG MED	V 3.0	V 1.0		II 0.3					II 1.7		V 5.0	II 1.7
PLEU SCH	V 1.0								II 1.7			II 0.3
POLY JUN												
POLY STR												
POPU BAL	V 5.0	V 10.0	V 5.0	IV 3.8	V 1.0	III 7.5	III 7.5	V 23.3	II 1.7			
POPU TRE			V 45.0	V 50.0	V 50.0	V 15.0	V 52.5					
POTE PAL			V 3.0	II 1.3	III 0.5	III 1.0	III 1.0		II 1.7			
PRUN VIR			V 7.5	V 6.3	V 5.0	III 0.5	III 0.5		II 1.7			
PTIL CRI			V 1.0	V 1.0	V 1.0	III 0.5	III 0.5		IV 0.7			
PYLA POL			V 5.0	V 5.0	V 5.0	V 7.5	V 7.5		V 5.0			
PYRO ASA			V 1.0	V 1.0	V 1.0	III 0.5	III 0.5		IV 0.7			
PYRO SEC			II 1.3	II 1.3	II 1.3	II 1.3	II 1.3					
RAMA FAR					III 2.5	III 2.5	III 2.5		IV 3.3			
RAMA MIN					III 0.5	III 0.5	III 0.5		II 0.3			IV 0.7
RIBE LAC									II 0.3			II 1.7
RIBE OXY									II 0.3			
RIBE TRI									V 3.0			
ROSA ACI									V 10.0			
RUBU PUB	V 1.5	V 6.5	V 4.0	V 8.8	V 7.5	V 7.5	V 10.0		IV 1.0			II 0.3
RUBU STR	III 1.5	V 4.0	V 3.8	V 3.8	III 1.5	III 1.5	V 1.5		IV 1.0			II 0.3
RUME BRI	III 0.5											
RUME OCC											V 1.0	II 0.3
SALI ATH												
SALI BEB	V 1.0	V 5.0	III 2.5	V 5.5	III 7.5	III 3.5	III 3.5	IV 3.3	V 1.0			II 1.7
SALI CAN											V 1.0	II 20.0
SALI MAC												
SALI MYR											V 1.0	II 25.0
SALI PLA											V 5.0	II 5.0
SALI SER												
SANI MAR					II 0.3							
SCHI PUR	III 0.5											
SHEP CAN	III 2.5											
SMIL TRI											V 5.0	V 2.0
SOLI CAN											V 60.0	II 0.3
SPHA FUS												

ECOSYSTEMATIC UNITS

P	P	A	A	A	A	SW	L	L	B
2	3	1a	1b	2	3	1	1	2	2

SPECIES

PRESENCE CLASS AND MEAN SPECIES SIGNIFICANCE

STEL LON			III 0.5						II 0.3
STRE AMP		III 1.0	V 1.5	III 1.0	III 0.5	IV 0.7			II 0.3
SYMP ALB									
THAL VEN				II 0.5		II 0.3			II 1.7
THUI REC									
TOME NIT	V 1.0					II 0.3			
TRIE BOR									
URTI DIO									II 0.3
USNE ALP						II 0.3			
USNE HIR				III 2.5					
USNE SOR							V 15.0		V 5.0
USNE SUB	V 15.0					II 1.7			
VACC MYR	V 20.0	V 17.5					V 2.0		II 0.3
VACC VIT		V 10.0							
VALE DIO									
VIBU EDU		V 3.0	III 0.8	III 2.5	V 10.0	IV 11.7			
VICE AME		V 1.0	III 0.5	V 1.0	V 1.0	II 0.3			II 0.3
VICI AME									
VIOL REN		III 0.5	III 0.5	III 0.5	V 1.0				
VIOL RUG		III 0.5							
XANT RAM				III 2.5					

MENSURATION SUMMARY

11:58:54 NOV 27, 1984

VOLUME SAMPLING REGION: 5

MERCHANTABILITY LIMITS:

STUMP HEIGHT (M): 0.30 TOP DIAMETER 1B (CM): 7.0

EAST BEAVER LAKE MENSURATION

PLOT : 1 SIZE (HA) : .01

SPECIES	MEAN AGE YEARS	SAMPLE TREES	LIVE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME TOTAL	M3/HA MERCH	MAI TOTAL	M3/HA MERCH	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT DOM+COD M@50 YRS (M)	S.I.
AW	46.0	2	2100.0	24.2	11.4	15.2	170.64	91.42	0.80	91.42		2100.0	14.7	
PB			900.0	6.3	9.4	12.9	36.63					900.0		
CONF														
HDWD	46.0	2	3000.0	30.5	10.8	14.5	207.27	91.42	0.80	91.42	500.0	3500.0	14.7	
PLOT	46.0	2	3000.0	30.5	10.8	14.5	207.27	91.42	0.80	91.42	500.0	3500.0	14.7	

PLOT : 3 SIZE (HA) : .01

SPECIES	MEAN AGE YEARS	SAMPLE TREES	LIVE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME TOTAL	M3/HA MERCH	MAI TOTAL	M3/HA MERCH	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT DOM+COD M@50 YRS (M)	S.I.
AW	44.0	2	1400.0	18.6	12.7	13.9	118.90	82.17	2.70	82.17	1.87	1400.0	13.9	17.6
PB	69.0	1	700.0	4.3	8.6	10.5	21.43	6.26	0.31	6.26	0.09	700.0	13.0	
CONF														
HDWD	52.3	3	2100.0	22.9	11.3	12.8	140.33	88.44	3.01	88.44	400.0	2500.0	13.9	16.1
PLOT	52.3	3	2100.0	22.9	11.3	12.8	140.33	88.44	3.01	88.44	400.0	2500.0	13.9	16.1

EAST BEAVER LAKE MENSURATION

PLOT : 2 SIZE (HA) : .04

SPECIES	MEAN AGE YEARS	SAMPLE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME TOTAL	M3/HA MERCH	MAI TOTAL	M3/HA MERCH	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT (M)	S. I. DOM+COD M=50 YRS
SW	37.0	2	350.0	2.5	9.3	8.1	9.13	0.91	0.25	0.02	350.0	9.5	19.7
SB	42.0	1	25.0	0.5	15.2	8.5	1.55	1.30	0.04	0.03	25.0	8.5	15.0
PJ	33.5	2	50.0	1.0	15.8	13.8	6.54	5.95	0.20	0.18	50.0	13.8	20.5
AW				0.2	8.9	10.0	0.70				25.0		
PB			125.0	3.2	17.2	13.0	19.08	16.75			125.0		
BW			50.0	0.2	7.1	7.5	0.70				50.0		
CONF	36.6	5	425.0	3.9	10.4	8.8	17.22	8.15	0.48	0.23	425.0	11.0	19.1
HOWD			200.0	3.6	13.7	11.3	20.48	16.75			200.0		
PLOT	36.6	5	625.0	7.5	11.5	9.6	37.70	24.90	0.48	0.23	625.0	11.0	19.1

PLOT : 10 SIZE (HA) : .04

SPECIES	MEAN AGE YEARS	SAMPLE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME TOTAL	M3/HA MERCH	MAI TOTAL	M3/HA MERCH	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT (M)	S. I. DOM+COD M=50 YRS
SB	66.5	2	350.0	5.7	13.6	9.1	24.96	19.26	0.38	0.29	350.0	12.5	13.3
LT	57.0	2	50.0	0.5	11.3	9.5	2.26	1.50	0.04	0.03	50.0		11.5
CONF	61.8	4	400.0	6.2	13.3	9.2	27.22	20.76	0.41	0.32	400.0	12.5	12.4
HOWD													
PLOT	61.8	4	400.0	6.2	13.3	9.2	27.22	20.76	0.41	0.32	400.0	12.5	12.4

EAST BEAVER LAKE MENSURATION

PLOT : 9 SIZE (HA) : .04

SPECIES	MEAN AGE YEARS	AGE SAMPLE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN HEIGHT (M)	MEAN CANOPY VOLUME (M3/HA)	MAI M3/HA TOTAL	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT (M)	S. I. DOM+COD M@50 YRS
SW	90.0	2	21.7	33.9	24.3	209.70	2.33	2.20	225.0	28.0	20.4
AW	53.5	2	26.1	26.9	22.1	248.51	4.65	4.43	425.0	24.0	24.0
CONF	90.0	2	21.7	33.9	24.3	209.70	2.33	2.20	25.0	28.0	20.4
HDWD	53.5	2	26.1	26.9	22.1	248.51	4.65	4.43	425.0	24.0	24.0
PLOT	71.8	4	47.8	29.3	22.8	458.21	6.98	6.63	25.0	26.7	22.2

PLOT : 7 SIZE (HA) : .02

SPECIES	MEAN AGE YEARS	AGE SAMPLE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN HEIGHT (M)	MEAN CANOPY VOLUME (M3/HA)	MAI M3/HA TOTAL	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	MEAN HGT (M)	S. I. DOM+COD M@50 YRS
AW	57.0	2	15.0	15.0	14.4	111.90	1.96	1.64	750.0	23.6	23.5
PB	71.0	2	43.4	36.4	24.7	442.16	6.23	5.99	400.0	28.8	26.2
CONF	64.0	4	58.4	22.5	18.0	554.06	8.19	7.63	300.0	26.3	24.9
HDWD	64.0	4	58.4	22.5	18.0	554.06	8.19	7.63	300.0	26.3	24.9

EAST BEAVER LAKE MENSURATION

PLOT : 11 SIZE (HA) : .04

SPECIES	MEAN AGE YEARS	SAMPLE TREES	LIVE TREES (PER HA)	BA/HA (M ²)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME (M ³ /HA)		MAI TOTAL	M ³ /HA MERCH	DEAD STEMS (PER HA)	TOT STEMS MEAN HGT S.I.	
							TOTAL	MERCH				(PER HA)	DOM+COD M ⁵⁰ YRS (M)
SW	79.0	2	500.0	49.6	34.2	23.4	442.88	417.46	5.61	5.28		500.0	25.3
SE			25.0	0.7	18.9	18.0	5.29	4.84				25.0	
PB			25.0	1.1	23.9	18.0	8.35	7.88				25.0	
CONF	79.0	2	525.0	50.3	33.5	23.1	448.17	422.30	5.61	5.28	25.0	550.0	25.3
HDWD			25.0	1.1	23.9	18.0	8.35	7.88			25.0		
PLOT	79.0	2	550.0	51.4	33.0	22.9	456.52	430.19	5.61	5.28	25.0	575.0	25.3

PLOT : 21 SIZE (HA) : .03

SPECIES	MEAN AGE YEARS	SAMPLE TREES	LIVE TREES (PER HA)	BA/HA (M ²)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME (M ³ /HA)		MAI TOTAL	M ³ /HA MERCH	DEAD STEMS (PER HA)	TOT STEMS MEAN HGT S.I.	
							TOTAL	MERCH				(PER HA)	DOM+COD M ⁵⁰ YRS (M)
SW	90.0	2	833.3	23.3	17.6	16.8	194.92	170.79	2.17	1.90		833.3	24.3
AW	82.5	2	266.7	14.9	26.4	24.3	149.89	143.46	1.82	1.74		266.7	24.5
CONF	90.0	2	833.3	23.3	17.6	16.8	194.92	170.79	2.17	1.90	166.7	1000.0	24.3
HDWD	82.5	2	266.7	14.9	26.4	24.3	149.89	143.46	1.82	1.74	266.7		20.3
PLOT	86.3	4	1100.0	38.2	19.7	18.6	344.82	314.25	3.98	3.64	166.7	1266.7	24.4

EAST BEAVER LAKE MENSURATION

PLOT : 15

SIZE (HA) : .04

SPECIES	MEAN AGE YEARS	SAMPLE TREES (PER HA)	BA/HA (M2)	MEAN DBH (CM)	MEAN CANOPY HEIGHT (M)	VOLUME TOTAL	M3/HA MERCH	MAI TOTAL	M3/HA MERCH	DEAD STEMS (PER HA)	TOT STEMS (PER HA)	DOM+COD M ³ /50 YRS	MEAN HGT (M)	S.I.
SW	38.5	2	100.0	2.7	18.1	12.0	13.29	11.89	0.35	0.31	100.0	21.8		
PJ			25.0	0.4	14.4	16.1	3.20	2.87			25.0			
AW	46.5	2	375.0	5.7	12.6	14.9	41.52	30.28	0.89	0.65	375.0	18.1	20.7	
CONF	38.5	2	125.0	3.1	17.3	12.8	16.49	14.76	0.35	0.31	175.0	21.8		
HOWD	46.5	2	375.0	5.7	12.6	14.9	41.52	30.28	0.89	0.65	375.0	18.1	20.7	
PLOT	42.5	4	500.0	8.8	13.8	14.4	58.01	45.04	1.24	0.96	550.0	18.1	21.2	

EAST BEAVER LAKE
ASSOCIATION SUMMARY - P 2 PINE/BEARBERRY/LICHEN

VOLUME (M3/HA)	TOTAL			VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	37.70	37.70	37.70	37.70	37.70	37.70	24.90	24.90	24.90	
CONIFEROUS	17.22	17.22	17.22	17.22	17.22	17.22	8.15	8.15	8.15	
DECIDUOUS	20.48	20.48	20.48	20.48	20.48	20.48	16.75	16.75	16.75	
SPECIES VOLUME (M3/HA)										
SW	9.13	9.13	9.13	9.13	9.13	9.13	0.91	0.91	0.91	20.0
SB	1.55	1.55	1.55	1.55	1.55	1.55	1.30	1.30	1.30	15.0
SE										
PL										
PJ	6.54	6.54	6.54	6.54	6.54	6.54	5.95	5.95	5.95	21.0
FA										
FB										
LA										
LT										
FD										
AW	0.70	0.70	0.70	0.70	0.70	0.70				
PB	19.08	19.08	19.08	19.08	19.08	19.08	16.75	16.75	16.75	
BW	0.70	0.70	0.70	0.70	0.70	0.70				
LIVE STEMS/HA										
CONIFEROUS	425.00	425.00	425.00	425.00	425.00	425.00				
DECIDUOUS	200.00	200.00	200.00	200.00	200.00	200.00				
TOTAL	625.00	625.00	625.00	625.00	625.00	625.00				
BASAL AREA (M2/HA)										
CONIFEROUS	3.90	3.90	3.90	3.90	3.90	3.90				
DECIDUOUS	3.60	3.60	3.60	3.60	3.60	3.60				
TOTAL	7.50	7.50	7.50	7.50	7.50	7.50				
M.A.I. (M3/HA/YR)	0.48	0.48	0.48	0.48	0.48	0.48	0.23	0.23	0.23	
STAND AGE (YEARS)	36.6	36.6	36.6	36.6	36.6	36.6				
CANOPY HEIGHT (M)	9.6	9.6	9.6	9.6	9.6	9.6				
HGT DOM-CODOM (M)	11.0	11.0	11.0	11.0	11.0	11.0				
MEAN DBH (CM)	11.5	11.5	11.5	11.5	11.5	11.5				

EAST BEAVER LAKE

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EAST BEAVER LAKE
ASSOCIATION SUMMARY - P 3 PINE/ALDER/BLUEBERRY

VOLUME (M3/HA)	TOTAL GROSS VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	58.01	58.01	58.01	45.04	45.04	45.04	
CONIFEROUS	16.49	16.49	16.49	14.76	14.76	14.76	
DECIDUOUS	41.52	41.52	41.52	30.28	30.28	30.28	
SPECIES VOLUME (M3/HA)							
SW	13.29	13.29	13.29	11.89	11.89	11.89	22.0
SB							
SE							
PL							
PJ	3.20	3.20	3.20	2.87	2.87	2.87	
FA							
FB							
LA							
LT							
FD							
AW	41.52	41.52	41.52	30.28	30.28	30.28	21.0
PB							
BW							
LIVE STEMS/HA							
CONIFEROUS	125.00	125.00	125.00				
DECIDUOUS	375.00	375.00	375.00				
TOTAL	500.00	500.00	500.00				
BASAL AREA (M2/HA)							
CONIFEROUS	3.10	3.10	3.10				
DECIDUOUS	5.70	5.70	5.70				
TOTAL	8.80	8.80	8.80				
M.A.I. (M3/HA/YR)	1.24	1.24	1.24	0.96	0.96	0.96	
STAND AGE (YEARS)	42.5	42.5	42.5				
CANOPY HEIGHT (M)	14.4	14.4	14.4				
HGT DOM+CODOM (M)	18.1	18.1	18.1				
MEAN DBH (CM)	13.8	13.8	13.8				

EAST BEAVER LAKE

[illegible]

EAST BEAVER LAKE
ASSOCIATION SUMMARY - A 1a ASPEN/ALDER/TWINFLOWER

VOLUME (M3/HA)	TOTAL			GROSS VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	103.63		207.27	146.56			45.71		91.42	64.64
CONIFEROUS										
DECIDUOUS	103.63		207.27	146.56			45.71		91.42	64.64
SPECIES VOLUME (M3/HA)										
SW										
SB										
SE										
PL										
PJ										
FA										
FB										
LA										
LT										
FD										
AW	85.32		170.64	120.66			45.71		91.42	64.64
PB	18.32		36.63	25.90						15.0
BW										
LIVE STEMS/HA										
CONIFEROUS										
DECIDUOUS	1500.00		3000.00	2121.32						
TOTAL	1500.00		3000.00	2121.32						
BASAL AREA (M2/HA)										
CONIFEROUS										
DECIDUOUS	15.25		30.50	21.57						
TOTAL	15.25		30.50	21.57						
M.A.I. (M3/HA/YR)	0.40		0.80	0.57						
STAND AGE (YEARS)	23.0		46.0	32.5						
CANOPY HEIGHT (M)	7.3		14.5	10.3						
HGT DOM+CDDOM (M)										
MEAN DBH (CM)	5.4		10.8	7.6						

EAST BEAVER LAKE

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EAST BEAVER LAKE
ASSOCIATION SUMMARY - A 1B ASPEN/WILLOW/SARSAPARILLA

VOLUME (M3/HA)	TOTAL			GROSS VOLUME			S.D.			MERCHANTABLE GROSS VOLUME			S.D.			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	140.33	140.33	140.33	140.33	140.33	140.33	88.44	88.44	88.44	88.44	88.44	88.44	88.44	88.44	88.44	
CONIFEROUS	140.33	140.33	140.33	140.33	140.33	140.33	88.44	88.44	88.44	88.44	88.44	88.44	88.44	88.44	88.44	
DECIDUOUS																
SPECIES VOLUME (M3/HA)																
SW																
SB																
SE																
PL																
PJ																
FA																
FB																
LA																
LT																
FD																
AW	118.90	118.90	118.90	118.90	118.90	118.90	82.17	82.17	82.17	82.17	82.17	82.17	82.17	82.17	82.17	18.0
PB	21.43	21.43	21.43	21.43	21.43	21.43	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26	13.0
BW																
LIVE STEMS/HA																
CONIFEROUS	2100.00	2100.00	2100.00	2100.00	2100.00	2100.00										
DECIDUOUS	2100.00	2100.00	2100.00	2100.00	2100.00	2100.00										
TOTAL																
BASAL AREA (M2/HA)																
CONIFEROUS	22.90	22.90	22.90	22.90	22.90	22.90										
DECIDUOUS	22.90	22.90	22.90	22.90	22.90	22.90										
TOTAL																
M.A.I. (M3/HA/YR)	3.01	3.01	3.01	3.01	3.01	3.01	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	1.96	
STAND AGE (YEARS)	52.3	52.3	52.3	52.3	52.3	52.3										
CANOPY HEIGHT (M)	12.8	12.8	12.8	12.8	12.8	12.8										
HGT DOM+CODOM (M)	13.9	13.9	13.9	13.9	13.9	13.9										
MEAN DBH (CM)	11.3	11.3	11.3	11.3	11.3	11.3										

EAST BEAVER LAKE

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EAST BEAVER LAKE
ASSOCIATION SUMMARY - A 2 ASPEN-POPLAR/CRANBERRY

VOLUME (M3/HA)	TOTAL GROSS VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	554.06	554.06	554.06	518.96	518.96	518.96	
CONIFEROUS							
DECIDUOUS	554.06	554.06	554.06	518.96	518.96	518.96	
SPECIES VOLUME (M3/HA)							
SW							
SB							
SE							
PL							
PJ							
FA							
FB							
LA							
LT							
FD							
AW	111.90	111.90	111.90	93.49	93.49	93.49	24.0
PB	442.16	442.16	442.16	425.48	425.48	425.48	26.0
BW							
LIVE STEMS/HA							
CONIFEROUS							
DECIDUOUS	1150.00	1150.00	1150.00				
TOTAL	1150.00	1150.00	1150.00				
BASAL AREA (M2/HA)							
CONIFEROUS							
DECIDUOUS	58.40	58.40	58.40				
TOTAL	58.40	58.40	58.40				
M.A.I. (M3/HA/YR)	8.19	8.19	8.19	7.63	7.63	7.63	
STAND AGE (YEARS)	64.0	64.0	64.0				
CANOPY HEIGHT (M)	18.0	18.0	18.0				
HGT DOM+CODOM (M)	26.3	26.3	26.3				
MEAN DBH (CM)	22.5	22.5	22.5				

EAST BEAVER LAKE

[illegible]

EAST BEAVER LAKE
ASSOCIATION SUMMARY - SW 1 WHITE SPRUCE-ASPEN/CRANBERRY/SARSAPARILLA

	TOTAL			GROSS VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	
VOLUME (M3/HA)										
TOTAL	401.51	344.82	458.21	80.18			374.72	314.25	435.20	85.52
CONIFEROUS	202.31	194.92	209.70	10.46			184.40	170.79	198.02	19.26
DECIDUOUS	199.20	149.89	248.51	69.74			190.32	143.46	237.18	66.27
SPECIES VOLUME (M3/HA)										
SW	202.31	194.92	209.70	10.46			184.40	170.79	198.02	19.26
SB										
SE										
PL										
PJ										
FA										
FB										
LA										
LT										
FD										
AW	199.20	149.89	248.51	69.74			190.32	143.46	237.18	66.27
PB										22.0
BW										
LIVE STEMS/HA										
CONIFEROUS	529.15	225.00	833.30	430.13						
DECIDUOUS	345.85	266.70	425.00	111.94						
TOTAL	875.00	650.00	1100.00	318.20						
BASAL AREA (M2/HA)										
CONIFEROUS	22.50	21.70	23.30	1.13						
DECIDUOUS	20.50	14.90	26.10	7.92						
TOTAL	43.00	38.20	47.80	6.79						
M.A.I. (M3/HA/YR)	5.48	3.98	6.98	2.12			5.14	3.64	6.63	2.11
STAND AGE (YEARS)	79.1	71.8	86.3	10.3						
CANOPY HEIGHT (M)	20.7	18.6	22.8	3.0						
HGT DOM-CODOM (M)	25.5	24.4	26.7	1.6						
MEAN DBH (CM)	24.5	19.7	29.3	6.8						

EAST BEAVER LAKE

PLOT NUMBER	21	9
TOTAL VOL/HA	344 .82	458 .21
CONIFER	194 .92	209 .70
DECID	149 .89	248 .51
SPECIES VOL/HA		
SW	194 .92	209 .70
SB		
SE		
PL		
PJ		
FA		
FB		
LA		
LT		
FD		
AW	149 .89	248 .51
PB		
BW		
SI M@50 YEARS		
SW	18 .0	20 .0
SB		
SE		
PL		
PJ		
FA		
FB		
LA		
LT		
FD		
AW	20 .0	24 .0
PB		
BW		
LIVE TREES TOT	1100 .0	650 .0
CONIFER	833 .3	225 .0
DECID	266 .7	425 .0
M.A.I. TOT VOL	4 .0	7 .0
STAND AGE	86 .3	71 .8
CANOPY HEIGHT	18 .6	22 .8
HTD DOM+CODOM	24 .4	26 .7
MEAN DIAMETER	19 .7	29 .3

EAST BEAVER LAKE
ASSOCIATION SUMMARY - L 1 TAMARACK-BLACK SPRUCE/SEDGE/MOSS

VOLUME (M3/HA)	TOTAL			GROSS VOLUME			MERCHANTABLE GROSS VOLUME			SITE INDEX M @ 50YRS
	MEAN	MIN	MAX	MEAN	MIN	MAX	MEAN	MIN	MAX	
TOTAL	27.22	27.22	27.22	27.22	27.22	27.22	20.76	20.76	20.76	
CONIFEROUS	27.22	27.22	27.22				20.76	20.76	20.76	
DECIDUOUS										
SPECIES VOLUME (M3/HA)										
SW	24.96	24.96	24.96				19.26	19.26	19.26	13.0
SB										
SE										
PL										
PJ										
FA										
FB										
LA										
LT	2.26	2.26	2.26				1.50	1.50	1.50	12.0
FD										
AW										
PB										
BW										
LIVE STEMS/HA										
CONIFEROUS	400.00	400.00	400.00							
DECIDUOUS	400.00	400.00	400.00							
TOTAL										
BASAL AREA (M2/HA)										
CONIFEROUS	6.20	6.20	6.20							
DECIDUOUS	6.20	6.20	6.20							
TOTAL	0.41	0.41	0.41				0.32	0.32	0.32	
M.A.I. (M3/HA/YR)										
STAND AGE (YEARS)	61.8	61.8	61.8							
CANOPY HEIGHT (M)	9.2	9.2	9.2							
HGT DOM+CODOM (M)	12.5	12.5	12.5							
MEAN DBH (CM)	13.3	13.3	13.3							

EAST BEAVER LAKE STUDY AREA

FORAGE INVENTORY

Scale 1:15 000

available from:

Alberta Energy and Natural Resources,
Alberta Map & Photo Distribution Centre,
2nd Floor, North Tower, Petroleum Plaza,
9945-108 Street,
Edmonton, Alberta,
T5K 2G6

Interpreted by: Jill Veltman

RESOURCE INVENTORY SECTION
RESOURCE INVENTORY AND
APPRAISAL

Alberta

ENERGY AND NATURAL RESOURCES
Resource Evaluation and Planning Division

Tp. 66 R.12 W.4 Mer.

EAST BEAVER LAKE STUDY AREA

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Resource Evaluation and Planning Division

LEGEND

ECOREGION

FORAGE TYPE

CHARACTERISTIC VEGETATION

8

P

Photo: Resource Evaluation and Planning Division

Old Canoe Island

LEGEND

ECOREGION	FORAGE TYPE	CHARACTERISTIC VEGETATION
8	P ₂	Pine/Bearberry/Feathermoss
	P ₃	Pine/Alder/Blueberry
	A ₁	Aspen/Alder/Twinflower (a)
		Aspen/Willow/Sarsaparilla (b)
	A ₂	Aspen-Poplar/Cranberry
	A ₃	Aspen/Cranberry/Sarsaparilla
	Sw ₁	White Spruce-Aspen/Cranberry/Sarsaparilla
	Sb ₁	Black Spruce/Labrador Tea/Moss
	L ₁	Tamarack-Black Spruce/Sedge/Moss
	L ₂	Tamarack/Birch/Sedge/Moss
	B ₂	Willow/Sedge
	S	Shoreline and Pond

EXAMPLE OF MAP SYMBOL

A₃⁵ - A₁⁵

Represents an area in Ecoregion 8, with 50% Forage Type A₃ and 50% of Forage Type A₁

EAST BEAVER LAKE STUDY AREA

Tp. 66 R.13 W.4 Mer.

R.12

EAST BEAVER LAKE STUDY AREA

Note Rectified Photo Enlargement Base. Township Corners Approximate

R.13 R.12

34

5

36

27

26

BEAVER

LEGEND

Symbol	Class	Description
A	Anthropogenic	Man-made or man-modified materials, including those associated with mineral exploration and waste disposal
C	Colluvial	Massive to moderately well stratified, non-sorted to poorly sorted sediments with any range of particle sizes from clay to boulders and blocks that have reached their present position by direct, gravity-induced movement
E	Eolian	Sediment generally consisting of medium to fine sand and coarse silt particle sizes that is well-sorted, poorly compacted, and may show internal structures such as cross bedding or ripple laminae, or may be massive. Individual grains may be rounded and show signs of frosting. These materials have been transported and deposited by wind action
F	Fluvial	Sediment generally consisting of gravel and sand with some fractions of silt and clay. The gravels are typically rounded and contain interstitial sand. Fluvial sediments are commonly moderately to well-sorted and display stratification, although massive non-sorted fluvial gravels do occur. These materials have been transported and deposited by streams and rivers
L	Lacustrine	Sediments generally consisting of either stratified fine sand, silt and clay deposited on the lake bed or moderately well-sorted and stratified sand and coarser materials that are beach and other near-shore sediments transported and deposited by wave action
M	Morainal	Sediment generally consisting of well-compacted material that is non-stratified and contains a heterogeneous mixture of particle sizes, often in a mixture of sand, silt and clay that have been transported beneath, beside, within and in front of a glacier and not modified by an intermediate agent
U	Undifferentiated	A layered sequence of more than three types of genetic material outcropping on a steep, erosional (scarp) slope
T	Tephra	Unconsolidated pyroclastic sediments of volcanic origin
P	Saprolite	Rock containing a high proportion of residual silts and clays formed by alteration, chiefly by chemical weathering
R	Rock	Consolidated component (bedrock) comprised of materials that are tightly packed or indurated. This includes igneous, metamorphic, sedimentary and consolidated volcanic rocks (bedrock)
I	Ice	The ice component includes areas of snow and ice where evidence of active glacier movement is present within the boundary of the defined unit area. This movement will be indicated by features such as crasseaux, supraglacial moraines, icefalls and ogives
GF	Glaciofluvial	Stratified drift (outwash) transported and deposited by glacial meltwaters that flowed upon, within, under or beyond the glacier
GL	Glaciolacustrine	Stratified sediments with generally alternating

Symbol	Class	Description
a	Apron	A relatively gentle slope at the foot of a steeper slope, and formed by materials from the steeper upper slope
b	Blanket	A mantle of unconsolidated materials thick enough to mask minor irregularities in the underlying unit but which still conforms to the general underlying topography
d	Delta	The deposit of clay, silt, sand or gravel made by a stream where it flows into a body of standing water
f	Fan	A fan shaped form that can be likened to the segment of a cone, and possessing a perceptible gradient from the apex to the toe
h	Hummocky	A very complex sequence of slopes extending from somewhat rounded depressions or kettles of various sizes to irregular to conical knolls or knobs. There is a general lack of concordance between knolls or depressions
i	Inclined	A sloping, unidirectional surface with a generally constant slope not broken by marked irregularities
l	Level	A flat or very gently sloping, unidirectional surface with a generally constant slope not broken by marked elevations and depressions
p	Pitted	A relatively flat area having prominent depressions or pits
r	Ridged	A long, narrow elevation of the surface usually sharp crested with steep sides. The ridges may be parallel, subparallel or intersecting
m	Rolling	A very regular sequence of moderate slopes extending from rounded, sometimes confined concave depressions to broad, rounded convexities producing a wave like pattern of moderate relief. Slope length often is 1.6 km or greater and gradients greater than 5%
s	Steep	Erosional slopes, greater than 70%, on both consolidated and unconsolidated materials
k	Subdued	A group of linear and non-linear forms with slopes ranging up to 20% with local relief greater than 1 meter. Used where landforms which would otherwise be termed undulating, rolling, hummocky occur with low relief
t	Terraced	Scarp face and the horizontal or gently inclined surface (tread) above it
u	Undulating	A very regular sequence of gentle slopes that extend from rounded, sometimes confined concavities to broad rounded convexities producing a wave like pattern of local relief. Slope length is generally less than 0.8 km and the dominant slope gradient is from 2 to 5%
v	Veneer	Unconsolidated materials too thin to mask the minor irregularities of the underlying unit surface. A veneer ranges from 10 cm to 1 metre in thickness
o	Floodplain	Deposits of alluvium as a veneer or blanket over a bedrock or gravel floor which has been cut and or deposited by the lateral action of a river
e	Depressional	A low place of any size on a plain surface i.e. a hollow completely surrounded by higher ground and having no natural outlet for surface

DYB		DYSTRIC BROWNISOLS
	O DYB	Orthic Dystric Brunisol
	E DYB	Eluviated Dystric Brunisol
	DU DYB	Duric Dystric Brunisol
	GL DYB	Gleyed Dystric Brunisol
	GLE DYB	Gleyed Eluviated Dystric Brunisol
Chernozemic Order		
B		BROWN CHERNOZEMS
	O B	Orthic Brown
	R B	Rego Brown
	CA B	Calcareous Brown
	E B	Eluviated Brown
	SZ B	Solonetzcic Brown
	GL B	Gleyed Brown
	GLR B	Gleyed Rego Brown
	GLCA B	Gleyed Calcareous Brown
	GLE B	Gleyed Eluviated Brown
	GLSZ B	Gleyed Solonetzcic Brown
DB		DARK BROWN CHERNOZEMS
	O DB	Orthic Dark Brown
	R DB	Rego Dark Brown
	CA DB	Calcareous Dark Brown
	E DB	Eluviated Dark Brown
	SZ DB	Solonetzcic Dark Brown
	GL DB	Gleyed Dark Brown
	GLCA DB	Gleyed Calcareous Dark Brown
	GLE DB	Gleyed Eluviated Dark Brown
	GLSZ DB	Gleyed Solonetzcic Dark Brown
BL		BLACK CHERNOZEMS
	O BL	Orthic Black
	R BL	Rego Black
	CA BL	Calcareous Black
	E BL	Eluviated Black
	SZ BL	Solonetzcic Black
	GL BL	Gleyed Black
	GLR BL	Gleyed Rego Black
	GLCA BL	Gleyed Calcareous Black
	GLE BL	Gleyed Eluviated Black
	GLSZ BL	Gleyed Solonetzcic Black
DG		DARK GREY CHERNOZEMS
	O DG	Orthic Dark Gray
	R DG	Rego Dark Gray
	CA DG	Calcareous Dark Gray
	SZ DG	Solonetzcic Dark Gray
	GL DG	Gleyed Dark Gray
	GLR DG	Gleyed Rego Dark Gray
	GLCA DG	Gleyed Calcareous Dark Gray
	GLE DG	Gleyed Eluviated Dark Gray
	GLSZ DG	Gleyed Solonetzcic Dark Gray

Old Canoe Island

LAKE

GFV	M	SL	CL
M	Mu/k	CL	CL
3	BR GL/O GL	3/2	

5/4 BR GL/O GL 3/2

01m
TM
6

GF	Glaciofluvial	Stratified drift (outwash) transported and deposited by glacial meltwaters that flowed upon, within, under or beyond the glacier
GL	Glaciolacustrine	Stratified sediments with generally alternating coarse and fine grained laminae (layers) deposited in glacial lakes. Deposits also include ice rafted material and those laid down in deltaic and littoral (beach or shore region) environments
FE	Fluvioeolian	Sediments that have been deposited or reworked by fluvial and eolian processes which may or may not have been active at the same time. The deposits cannot be discreetly separated as fluvial or eolian
LT	Lacustro-moraine	Morainal deposits that may have been directly influenced by lacustrine processes. These deposits generally result from a repeated advance and retreat of a glacier terminus in a lacustrine environment
FL	Fluviolacustrine	Lacustrine deposits that have been partially reworked by fluvial processes

Organic Components		
B	Bog	Sphagnum or forest peat materials formed under an ombrotrophic environment due to the slightly elevated nature of the bog tending to be disassociated from nutrient-rich ground water or surrounding mineral soils
N	Fen	Sedge peat materials derived primarily from sedges with inclusions of partially decayed stems of shrubs formed in a eutrophic environment due to the close association of the material with mineral rich waters
S	Swamp	A peat covered or peat filled area with the water table at or above the peat surface. The dominant peat materials are shallow to deep mesic to humic forest and fen peat formed in a eutrophic environment resulting from strong water movement from the margins or other mineral sources
H	Marsh	Deposits comprised of mineral or organic material with a high mineral content, but with little peat accumulation
O	Undifferentiated Organic	Deposits with any of the criteria for bog, fen, swamp or marsh which have not been differentiated

SOIL DRAINAGE

Symbol	Class	Description
1	Rapidly drained	The soil moisture content seldom exceeds field capacity in any horizon except immediately after water additions
2	Well drained	The soil moisture content does not normally exceed field capacity in any horizon (except possibly the C) for a significant part of the year
3	Moderately well-drained	The soil moisture in excess of field capacity remains for a small but significant part of the year
4	Imperfectly drained	The soil moisture in excess of field capacity remains in subsurface horizons for moderately long periods during the year
5	Poorly drained	The soil moisture in excess of field capacity remains in all horizons for a large part of the year
6	Very poorly drained	Free water remains at or within 30 cm of the surface most of the year

ON-SITE GRAPHICS

Drumlin/drumlinoid ridge		Failing (arrow indicates direction of failure)	
Fluting		Piping	
Crag and tail		Gullied	
Glacial Striae, ice direction known		Erratic	

e	Depressional	A low place of any size on a plain surface i.e. a hollow completely surrounded by higher ground and having no natural outlet for surface drainage
---	--------------	--

Organic Components		
b	Blanket	A mantle of organic materials thick enough to mask minor irregularities in the underlying unit, but which still conforms to the general underlying topography
o	Bowl	A bog or fen occupying concave shaped depressions
d	Domed	A bog or fen with an elevated, convex, central area much higher than the margin. Domes may be abrupt (with or without a frozen core) or gently sloping or with a stepped surface
f	Floating	A level or flat organic surface associated with very high water tables but without surface water
h	Horizontal	A flat, unidirectional peat surface not broken by marked elevations and depressions
p	Plateau	A bog with an elevated, flat, central area only slightly higher than the margin
r	Ribbed	A pattern of parallel or reticulate low ridges associated with fens
s	Sloping	A unidirectional peat surface with a generally constant slope not broken by marked irregularities
v	Veneer	A mantle of organic materials too thin to mask the minor irregularities of the underlying unit surface. A veneer ranges from 10 cm to 1 metre in thickness

TEXTURE - Particle Size < 2 mm

Textural Classes: Percentages of clay (C) and sand (S) in the main textural classes, the remainder of each class is silt (Si).

(L-Loam)

Particle Size > 2 mm

Symbol	Class	Sizes
a	Blocky	angular particles > 256 mm
b	Bouldery	rounded particles > 256 mm
k	Cobbly	rounded particles 64-256 mm
g	Gravelly	rounded particles 2-64 mm
r	Rubby	angular particles 2 to 256 mm

Organic Component

Symbol	Class
f	Fibric
m	Mesic
h	Humic
w	Woody
o	Undifferentiated

Note: Where matrix of deposit consists of particles both < 2.0 mm and > 2.0 mm, the following guideline is applied:

Examples	r	> 50% Rubby matrix
	rSiL	Rubby Silt Loam where Rubble is 25-50% of matrix
	SiL	Silt Loam > 75% of matrix

MODIFIERS (EROSIONAL and DEPOSITION)

A	Avalanched	Slopes modified by frequent avalanche activity. An avalanche is defined as a large mass of snow, ice, soil or rock or mixtures of these
---	------------	---

GL DG	Gleyed Dark Gray
GLR DG	Gleyed Rego Dark Gray
GLCA DG	Gleyed Calcareous Dark Gray
GLSZ DG	Gleyed Solonchalc Dark Gray

Cryosolic Order	
TC	TURBIC CRYOSOLS
O TC	Orthic Turbic Cryosol
BR TC	Brunisolic Turbic Cryosol
R TC	Regosolic Turbic Cryosol
GL TC	Gleysolic Turbic Cryosol
SC	STATIC CRYOSOLS
O SC	Orthic Static Cryosol
BR SC	Brunisolic Static Cryosol
R SC	Regosolic Static Cryosol
GL SC	Gleysolic Static Cryosol
OC	ORGANIC CRYOSOLS
FI OC	Fibric Organic Cryosol
ME OC	Mesic Organic Cryosol
HU OC	Humic Organic Cryosol
TF OC	Terric Fibric Organic Cryosol
TME OC	Terric Mesic Organic Cryosol
THU OC	Terric Humic Organic Cryosol

Gleysolic Order	
HG	HUMIC GLEYSOLS
O HG	Orthic Humic Gleysol
R HG	Rego Humic Gleysol
FE HG	Fera Humic Gleysol
G	GLEYSOLS
O G	Orthic Gleysol
R G	Rego Gleysol
FE G	Fera Gleysol
LG	LUVIC GLEYSOLS
O LG	Orthic Luvic Gleysol
HU LG	Humic Luvic Gleysol
FE LG	Fera Luvic Gleysol
FR LG	Fragic Luvic Gleysol

Luvisolic Order	
GL	GRAY LUVISOLS
O GL	Orthic Gray Luvisol
D GL	Dark Gray Luvisol
BR GL	Brunisolic Gray Luvisol
PZ GL	Podzolic Gray Luvisol
SZ GL	Solonchalc Gray Luvisol
FR GL	Fragic Gray Luvisol
GL GL	Gleyed Gray Luvisol
GLD GL	Gleyed Dark Gray Luvisol
GLBR GL	Gleyed Brunisolic Gray Luvisol
GLPZ GL	Gleyed Podzolic Gray Luvisol
GLSZ GL	Gleyed Solonchalc Gray Luvisol
GLFR GL	Gleyed Fragic Gray Luvisol

Organic Order

O	ORGANIC-Undifferentiated
F	FIBRISOLS
TY F	Typic Fibrisol
ME F	Mesic Fibrisol
HU F	Humic Fibrisol
LM F	Limnic Fibrisol
CU F	Cumulo Fibrisol
TF	Terric Fibrisol
TME F	Terric Mesic Fibrisol
THU F	Terric Humic Fibrisol
HY F	Hydric Fibrisol
M	MESISOLS
TY M	Typic Mesisol
FI M	Fibric Mesisol
HU M	Humic Mesisol
LM M	Limnic Mesisol
CU M	Cumulo Mesisol
TM	Terric Mesisol
TFM	Terric Fibric Mesisol
THM	Terric Humic Mesisol

Tp. 66 R.13 W.4 Mer.

R.13 R.12

PROVINCIAL LOCATION

EAST BEAVER LAKE STUDY AREA

Note: Rectified Photo Enlargement Base Township Corners Approximate

STUDY AREA

SCALE - 1:15 000

EAST BEAVER LAKE STUDY AREA

Interpreted by William Hay,
November 1984

LAND CLASSIFICATION SECTION
RESOURCE INVENTORY AND
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Alberta

ENERGY AND NATURAL RESOURCES
Resource Evaluation and Planning Division

R.13 R.12

EAST BEAVER LAKE STUDY AREA

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ENERGY AND NATURAL RESOURCES
Resource Evaluation and Planning Division

NOTES

Note 1

The Physical Land Interpretation displays both a hierarchical structure and a spatial patterning of the landscape. Each higher level of classification forms the framework and foundation for the lower levels. The hierarchy or classification levels are as follows:

Classification Levels	Delineating Criteria	Scale of Derivation
1 Physiographic Region	Elevation, relief and structural geologic formations	1 1 000 000 to 1 3 000 000
2 Physiographic Subregion	Definite patterns of relief geology and geomorphology	1 500 000 to 1 1 000 000
3 Geomorphic System	Recurring patterns of landforms distinguished by Genetic Composition (surficial material) and Surface Expression	1 50 000 to 1 250 000
4 Geomorphic Unit	Homogeneous areas of land with inherent properties of Genetic Composition (surficial material) Surface Expression Texture Slope (type and %) Aspect Soil Subgroup (CSSC) and Internal Drainage (CSSC)	1 5000 to 1 50 000

Note 2

The variations of the physical parameters on this map are related to the processes acting at the Geomorphic System level. Colouring can be used to enhance the understanding and facilitate the use of the map. A suggestion for use is colouring the Geomorphic Systems according to genetic composition. Each Geomorphic System is contained within a solid line (System line) and may contain Geomorphic Units with various genetic compositions. Survey all Geomorphic Units within a system and colour the system according to the overall dominant genetic composition. Employ the genetic composition on the left hand side where Symbols of Proportion are present.

Suggested Colour Scheme:

Genetic Composition	Colour Code	Genetic Composition	Colour Code
Colluvial	Red	Glaciolluvial	Pink
Eolian	Yellow	Glaciolacustrine	Light Blue
Fluvial	Orange	Fluvioeolian	Light Orange
Lacustrine	Blue	Lacustrine Moraine	Light Green
Morainial	Green	Fluvio-lacustrine	Tan
Undifferentiated	Grey	Bog	Purple
Tephra	Burgandy	Fen	Purple
Sprinkle (Residual)	Brown	Swamp	Purple
Rock	Mauve	Marsh	Purple
Ice	Clear	Undifferentiated Organic	Purple

Note 3

The suggested colouring scheme should not preclude the user adopting other colouring schemes which accentuate individual parameters of interest. The map may be coloured according to variations in one or more parameters (i.e. texture, slope, aspect, etc.) at the Geomorphic Unit level.

SYMBOLIZATION

Symbols of Proportion (=)

The relative proportions of the two-term components are approximately:

50-52%	45-50% (approximately equal)
55-70%	30-45% (more than)
70-90%	10-30% (considerably more than)

*Symbols of proportion do not necessarily correspond in all four quadrants of the symbolization. Where no symbol of proportion is present between two surface expressions, it implies that both surfaces are coincidental.

Stratigraphic Symbol (—)

The symbol indicates one material overlying another with the overlying material being either a blanket or veneer.

Mb R m	A morainial blanket overlies bedrock within overall rolling surface expression.
F	The genetic material is falling.
rSiL	The texture is a rubby siltstone.
OGL/E.EB	The soils are mainly Oxic Gray clay soils with significant sections of Elevated bedrock. Significant.
3/2	The soil drainage is mainly moderately well drained with significant sections of well drained soils.
H SE	Slopes of 46-70% with a significant rise.

Line Symbolization

Physiographic Region Boundary	—————
Physiographic Subregion Boundary	—————
Geomorphic System Boundary	—————
Geomorphic Unit Boundary	—————

SYMBOLIZATION

Symbols of Proportion (—, /, //)

The relative proportions of the two-term components are approximately:

50-52% = 45-50% (approximately equal)

55-70% / 30-45% (more than)

70-90% // 10-30% (considerably more than)

*Symbols of proportion do not necessarily correspond in all four quadrants of the symbolization. Where no symbol of proportion is present between two surface expressions, it implies that both surfaces are coincidental.

Stratigraphic Symbol (———)

The symbol indicates one material overlying another with the overlying material being either a blanket or veneer.

Mb **R** **m** - A moraine blanket overlies bedrock with an overall rolling surface expression.

F - The genetic material is failing.

rSiL - The texture is a rubby silt loam.

O.G.L./E.E.B. - The soils are mainly Orthic Gray Luvisols with significant sections of Eluviated Eutric Brunisols.

3/2 - The soil drainage is mainly moderately well drained with significant sections of well drained areas.

H-SE - Slopes of 46-70% with a south-east aspect.

Line Symbolization

Physiographic Region Boundary
Physiographic Subregion Boundary
Geomorphic System Boundary
Geomorphic Unit Boundary

Crag-and tail		Gullied	
Glacial Striae, ice direction known		Erratic	
Glacial striae, ice direction unknown		Quaternary Fossil Locality	
Moraine ridge (end moraine)		Anthropogenic site	
Minor Moraine Ridges		Landslide scar	
Eskers, direction known		Karst	
Eskers, direction unknown		Gravel location	
Kettled		Rock Glaciers	
Glacial meltwater channel, large (arrow indicates direction of flow)		Escarpments	
Glacial meltwater channel, small (arrow indicates direction of flow)		Cirque	
Abandoned shoreline		Avalanched	
Dunes, active		Block fields	
Dunes, inactive			

NOTE

ONLY PROMINENT EXAMPLES ARE INDICATED AND MAY NOT REFLECT ALL OCCURRENCES

SLOPE

Symbol		Percent	Degree (approx.)	Terminology
Simple	Complex			
A	1	0-0.5	0	level
B	2	0.5-2.5	0.2-1.5	nearly level
C	3	3-5	1-3	very gentle
D	4	6-9	3.5-5	gentle
E	5	10-15	6-8.5	moderate
F	6	16-30	9-17	strong
G	7	31-45	17-24	very strong
H	8	46-70	25-35	extreme
I	9	71-100	35-45	steep
J	10	>100	>45	very steep

ASPECT

Symbol	Class
N	North
NE	Northeast
E	East
SE	Southeast
S	South
SW	Southwest
W	West
NW	Northwest

MODIFIERS (EROSIONAL and DEPOSITION)

A	Avalanched	Slopes modified by frequent avalanche activity. An avalanche is defined as a large mass of snow, ice, soil or rock or mixtures of these materials, falling or sliding very rapidly under the force of gravity.
B	Beveled	Surface cut or planed by running water but not underlain by fluvial materials.
D	Deflated	The modification of slopes by the sorting out, lifting and removal of loose, dry, fine-grained particles (clay and silt sizes) by the turbulent eddy action of the wind.
E	Eroded	Surface crossed by a series of abandoned channels.
F	Failing	Modification of surfaces by the formation of tension fractures or by large consolidated or unconsolidated masses moving slowly downslope.
G	Glaciated	Initial non-glaciated sections of land which has been scoured and worn down by glacial action.
H	Kettled	Deposit or feature modified by depression left by melting ice blocks.
K	Karst Modified	Modification of carbonate and other rocks by processes of solution, and of overlying unconsolidated materials by collapse resulting from that solution.
M	Mass-wasted	A variety of processes by which large masses of earth material are moved by gravity, either slowly or quickly from one place to another.
N	Nivated	Surface modified by frost action, erosion and mass wasting beneath and around a snowbank, so as to produce transverse, longitudinal and circular hollows.
P	Piped	Surface modified by small hollows, commonly aligned along routes of subsurface drainage, and resulting from the subsurface removal of particulate matter in unconsolidated materials.
S	Soliflucted	Surface modified by the process of slow gravitational downslope movement of saturated, non-frozen earth material behaving apparently as a viscous mass over a surface of frozen ground.
V	Gullied	Surface modified by fluvial erosion, resulting in the development of parallel and sub-parallel, steep-sided and narrow ravines in both consolidated and unconsolidated materials.
W	Washed	Modification of a deposit or feature by wave action in a body of standing water, resulting in lag deposits, beaches of lag materials and wave-cut platforms.

SOILS

Brunisolic Order

MB	MELANIC BRUNISOLS
	O MB Orthic Melanic Brunisol
	E MB Eluviated Melanic Brunisol
	GL MB Gleyed Melanic Brunisol
	GLE MB Gleyed Eluviated Melanic Brunisol
EB	EUTRIC BRUNISOLS
	O EB Orthic Eutric Brunisol
	E EB Eluviated Eutric Brunisol
	GL EB Gleyed Eutric Brunisol
	GLE EB Gleyed Eluviated Eutric Brunisol
SB	SOMBRIC BRUNISOLS
	O SB Orthic Sombic Brunisol
	E SB Eluviated Sombic Brunisol
	DU SB Duric Sombic Brunisol
	GL SB Gleyed Sombic Brunisol
	GLE SB Gleyed Eluviated Sombic Brunisol

HUM	Humic Mesisol
LMH	Limno Mesisol
CUM	Cumulo Mesisol
TM	Terric Mesisol
TFIM	Terric Fibric Mesisol
THUM	Terric Humic Mesisol
HYM	Hydric Mesisol
HUMISOLS	
TYH	Typic Humisol
FIH	Fibric Humisol
MEH	Mesic Humisol
LMH	Limno Humisol
CUH	Cumulo Humisol
TH	Terric Humisol
TFIH	Terric Fibric Humisol
HYH	Hydric Humisol
FOLISOLS	
TYFO	Typic Folisol

Podzolic Order

HFP	HUMO-FERRIC PODZOLS
	O HFP Orthic Humo-Ferric Podzol
	LU HFP Luvisolic Humo-Ferric Podzol
	SM HFP Sombic Humo-Ferric Podzol

Regosolic Order

R	REGOSOLS
	O R Orthic Regosol
	CU R Cumulic Regosol
	GL R Gleyed Regosol
	GLCU R Gleyed Cumulic Regosol
HR	HUMIC REGOSOLS
	O HR Orthic Humic Regosol
	CU HR Cumulic Humic Regosol
	GL HR Gleyed Humic Regosol
	GLCU HR Gleyed Cumulic Humic Regosol

Solonchic Order

SZ	SOLONETZ
	B SZ Brown Solonetz
	DB SZ Dark Brown Solonetz
	BL SZ Black Solonetz
	ASZ Alkaline Solonetz
	GLB SZ Gleyed Brown Solonetz
	GLDB SZ Gleyed Dark Brown Solonetz
	GLBL SZ Gleyed Black Solonetz

SS

B SS	Brown Solodized Solonetz
DB SS	Dark Brown Solodized Solonetz
BL SS	Black Solodized Solonetz
DG SS	Dark Gray Solodized Solonetz
G SS	Gray Solodized Solonetz
GLB SS	Gleyed Brown Solodized Solonetz
GLDB SS	Gleyed Dark Brown Solodized Solonetz
GLBL SS	Gleyed Black Solodized Solonetz
GLDG SS	Gleyed Dark Gray Solodized Solonetz
GLG SS	Gleyed Gray Solodized Solonetz

SO

B SO	Brown Solod
DB SO	Dark Brown Solod
BL SO	Black Solod
DG SO	Dark Gray Solod
G SO	Gray Solod
GLB SO	Gleyed Brown Solod
GLDB SO	Gleyed Dark Brown Solod
GLBL SO	Gleyed Black Solod
GDG SO	Gleyed Dark Gray Solod
GLG SO	Gleyed Gray Solod

EAST BEAVER LAKE

[illegible]

N.L.C. - B.N.C.

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