Loamy Frozen Slopes, Wet (131B_402)

Ecoregion Classification

Section: Yukon-Kuskokwim Bottomlands (131B)

Subsection(s): Eolian Lowlands (131B.L1)

Physiographic Features

	RV	Range
Elevation (meters):	300	153 to 599
Slope Gradient (percent):	4	0 to 15

Aspect (clockwise direction): non-influencing

Landform: turf hummocks on hills; turf hummocks on plains

Landform Positions: footslopes; summits; toeslopes

	Frequency	Duration	Beginning Month	Ending Month	Depth (cm)
Flooding:	None				
Ponding:	Frequent	Long	May	Jun	to

Climatic Features

	RV	Range
Annual Precipitation (millimeters):	479	359 to 651
Annual Air Temperature (°C):	-2.6	-2.9 to -2.4
Frost Free Days:	100	80 to 110

Soil Features

Parent Materials: grassy organic material over silty colluvium and/or silty cryoturbate
grassy organic material over silty cryoturbate

Rooting Depth (cm): *RV:* 40 *Range:* 21 to 68

Soil Layers and Properties within Representative Rooting Depth:

Layers are described from the surface downward. If more than one texture is listed, the predominant texture is listed first. AWC = available water capacity. CEC = cation exchange capacity.

Thickness (cm)	Texture	Permeability	AWC (cm/cm)	pH	Effective CEC (me/100g)	CEC (me/100g)
40	peat	moderately rapid	.34	3.3	30	

Restrictive Features: permafrost at 61 to 77 cm

Water Table (May to September): 0 to 50 cm

Drainage Class: very poorly drained

Vegetation Features

Common Vegetation Types:

Vegetation Type	Ecological Status
Black spruce/tussock cottongrass woodland	Climax plant community
Mixed ericaceous/tussock cottongrass scrub1	Mid stage of fire induced secondary succession

Ecological Status-Transition Description:

Two plant communities are identified within this fire influenced site including a potential community with black spruce/tussock cottongrass woodland and a mid-seral community with mixed ericaceous/tussock cottongrass scrub1. Fire is considered a transitional pathway between seral communities within this site.

Vascular Plant Species Richness:

Vascular plant species richness is based on 1999-2002 field season data only. Data from 1997 and 1998 were not used in the calculations.

		Per Stand			Number of
Vegetation Type	Total	Min.	Avg.	Max.	Stands
Black spruce/tussock cottongrass woodland	26	10	14	19	15
Mixed ericaceous/tussock cottongrass scrub1	22	11	13	15	7

Characteristics of Black spruce/tussock cottongrass woodland

Ecological Status: Climax plant community

Plant Species Cover, Constancy, and Importance:

Cover, constancy, and importance are based on 1997-2002 field season data. Number of stands sampled = 21. Only those vascular, lichen, and bryophyte species with average cover >=5% and constancy >=15% are listed.

Stratum	Symbol	Scientific Name	Percent Canopy Cover			Percent Constancy	Importance Value
			Min.	*Avg.*	*Max.*		
TM	PIMA	Picea mariana	5.0	13	30	76	31
TS	PIMA	Picea mariana	5.0	15	25	24	19
TR	PIMA	Picea mariana	1.0	5	10	81	20
SD-SM	BEGL	Betula glandulosa	0.1	6	25	100	24
SM	ALVIC	Alnus viridis ssp. crispa	0.1	5	15	19	10
SD-SL	LEPAD	Ledum palustre ssp. decumbens	7.0	18	40	100	42
SD-SL	VAUL	Vaccinium uliginosum	5.0	9	15	100	30
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	3.0	7	20	100	26
SD	EMNI	Empetrum nigrum	0.1	9	25	71	25
GM	ERBR6	Eriophorum brachyantherum	25.0	44	60	71	56
GM	ERIOP	Eriophorum	40.0	54	65	29	40
L	LICHEN	total lichens	5.0	18	40	100	42
L1	CLADI3	Cladina	0.1	6	10	62	19
L1	CLRA61	Cladina rangiferina group	1.0	5	10	62	18
L1	CLMI61	Cladina mitis group	1.0	5	7	33	13
M	MOSS	total bryophytes-mosses and liverworts	20.0	51	90	100	71
M1	SPHAG2	Sphagnum	2.0	34	85	86	54
M1	PLSC70	Pleurozium schreberi	0.1	13	25	71	30
M1	ZZMOSS	unknown-mosses	0.1	7	15	71	22
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	5.0	26	60	100	51
B	LITTER2	litter-woody debris >2.5 cm	0.0	1	4	100	10
B	SOIL	mineral-bare soil	0.0	0	0	100	0
B	ROCK	mineral-surface rock fragments	0.0	0	0	100	0
B	WATER	water	0.0	0	5	100	0

Stratum Height:

Stratum height is based on 1997-2002 field season data. All plant species and ground layer records from all stands are included in the calculations.

Stratum Name	Included Strata	Height				Number of Records
		Min.	*Avg.*	*Max.*	*Units*	
Trees	TT, TM, TS	2.0	5.0	8.0	m	22
Tree regeneration	TR	0.5	1.4	2.0	m	19
Medium shrubs	SM	1.2	1.7	2.5	m	4
Low shrubs	SL	20.0	40.7	80.0	cm	29
Dwarf shrubs	SD	3.0	10.6	20.0	cm	30
Tall and medium grasses and grass-likes	GT, GM	20.0	39.3	50.0	cm	15
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	4.3	10.0	cm	39

Site Tree Measurements:

Only dominant, codominant, and open grown trees were measured. Height of Measurements = height above ground at which age and diameter was measured. G = ground level, B = breast height (ca 1.5 m).

Tree Species	Age (years)	Diameter (cm)	Height (m)		Number of Trees	Height of Measurements
Picea mariana	66	7.1	4.6	*Min.*	2	G
	72	7.2	4.6	*Avg*		
	78	7.4	4.6	*Max.*		

Characteristics of Mixed ericaceous/tussock cottongrass scrub1

Ecological Status: Mid stage of fire induced secondary succession

Plant Species Cover, Constancy, and Importance:

Cover, constancy, and importance are based on 1997-2002 field season data. Number of stands sampled = 14. Only those vascular, lichen, and bryophyte species with average cover >=5% and constancy >=15% are listed.

Stratum	Symbol	Scientific Name	Percent Canopy Cover			Percent Constancy	Importance Value
			Min.	*Avg.*	*Max.*		
SL-SM	BEGL	Betula glandulosa	0.1	13	25	100	36
SD-SL	LEPAD	Ledum palustre ssp. decumbens	5.0	25	55	100	50
SD-SL	VAUL	Vaccinium uliginosum	5.0	11	20	93	32
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	0.1	10	25	100	32
GM	ERIOP	Eriophorum	60.0	70	80	50	59
GM	ERBR6	Eriophorum brachyantherum	30.0	46	60	50	48
FD	RUCH	Rubus chamaemorus	0.1	5	20	100	22
L	LICHEN	total lichens	0.0	4	15	100	20
M	MOSS	total bryophytes-mosses and liverworts	15.0	47	85	100	69
M1	SPHAG2	Sphagnum	10.0	36	85	93	58
M1	ZZMOSS	unknown-mosses	5.0	8	10	50	20
M1	PLSC70	Pleurozium schreberi	2.0	10	15	36	19
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	0.0	28	75	100	53
B	LITTER2	litter-woody debris >2.5 cm	0.0	2	15	100	14
B	SOIL	mineral-bare soil	0.0	0	5	100	0
B	ROCK	mineral-surface rock fragments	0.0	0	0	100	0
B	WATER	water	0.0	0	0	100	0

Stratum Height:

Stratum height is based on 1997-2002 field season data. All plant species and ground layer records from all stands are included in the calculations.

Stratum Name	Included Strata	Height				Number of Records
		Min.	*Avg.*	*Max.*	*Units*	
Trees	TT, TM, TS	1.0	4.0	9.0	m	22
Tree regeneration	TR	0.3	1.0	2.0	m	16
Medium shrubs	SM	1.1	1.4	1.7	m	5
Low shrubs	SL	10.0	40.4	100.0	cm	23
Dwarf shrubs	SD	5.0	10.0	20.0	cm	19
Tall and medium grasses and grass-likes	GT, GM	20.0	40.0	60.0	cm	7
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	5.4	10.0	cm	21

Site Tree Measurements:

Only dominant, codominant, and open grown trees were measured. Height of Measurements = height above ground at which age and diameter was measured. G = ground level, B = breast height (ca 1.5 m).

Tree Species	Age (years)	Diameter (cm)	Height (m)		Number of Trees	Height of Measurements
Picea mariana	59	3.8	2.1	*Min.*	1	B
	59	3.8	2.1	*Avg*		
	59	3.8	2.1	*Max.*		
Picea mariana	24	4.8	2.1	*Min.*	3	G
	37	5.3	3.0	*Avg*		
	50	6.4	3.7	*Max.*		

Mapunit Components

Common Name (Soils Name):

Boreal-taiga/tussock silty colluvial slopes, frozen (Typic Histoturbels, coarse-silty)

Boreal-taiga/tussock silty loess slopes, frozen (Typic Histoturbels, coarse-silty)

Soil Map Units

Only those map units in which the landtype is a major component are listed. The landtype also may occur as a minor component in other map units.

Symbol: Common Name (Soils Name):

3C Boreal Colluvial Hill Footslopes with Continuous Permafrost
(Typic Histoturbels, coarse-silty and Typic Historthels, coarse-silty Soils, 4 to 15 percent slopes)

3DH Boreal Loess Footslopes and Gravelly Colluvial Hills With Continuous Permafrost
(Typic Histoturbels, coarse-silty-Typic Historthels, coarse-silty Association, 3 to 45 percent slopes)

3FG Boreal Loess Plains with Continuous Permafrost
(Typic Histoturbels, coarse-silty-Typic Historthels, coarse-silty Association, 0 to 10 percent slopes)

3FG3 Boreal Loess Plains and Peat Plateaus with Continuous Permafrost
(Typic Historthels, coarse-silty-Typic Histoturbels, coarse-silty-Glacic Folistels, dysic Association, 0 to 14 percent slopes)

3FU Boreal Loess Plains and Hills with Continuous Permafrost
(Typic Historthels, coarse-silty-Typic Histoturbels, coarse-silty Association, 0 to 10 percent slopes)

3FU2 Boreal Peat Plateaus and Loess Plains with Continuous Permafrost
(Glacic Folistels, dysic-Typic Histoturbels, coarse-silty-Typic Historthels, coarse-silty Association, 0 to 10 percent slopes)

3Y Boreal Ice Cored Loess Hills and Plains with Continuous Permafrost
(Typic Historthels, coarse-silty-Typic Histoturbels, coarse-silty-Typic Umbrorthels, coarse-silty Association, 0 to 26 percent slopes)

Geographically Associated Landtypes

131B_400 — Loamy Frozen Slopes:

This site occurs on slightly drier soils that have permafrost at moderately depths. The climax plant community is "Black spruce/Labrador tea woodland."

131B_530 — Depressions, Bogs:

This site occurs on soils that are very deep and wetter. The climax plant community is "Sedge/sphagnum moss bog."