

# Loamy Slopes, Wet (M135A\_354)

## Ecoregion Classification

**Section:** Alaska Mountains (M135A)

**Subsection(s):** Boreal Mountains (M135A.M2L)

Boreal Outer Range & Kantishna Hills (M135A.M1L)

Glaciated Lowlands (M135A.G1L)

## Physiographic Features

**Elevation (meters):** *RV* 742 *Range* 273 to 1,152

**Slope Gradient (percent):** 17 3 to 45

**Aspect (clockwise direction):** non-influencing

**Landform:** fan terraces on alluvial fans on mountains; hills; mountains; valleys on mountains

**Landform Positions:** backslopes

*Frequency*

**Flooding:** None

**Ponding:** None

## Climatic Features

**Annual Precipitation (millimeters):** *RV* 565 *Range* 358 to 783

**Annual Air Temperature (°C):** -3.4 -5.7 to -2.4

**Frost Free Days:** 70 60 to 80

## Soil Features

**Parent Materials:** silty eolian deposits over gravelly colluvium derived from schist

silty eolian deposits over gravelly till

silty eolian deposits over sandy and silty alluvium over sandy and gravelly alluvium

**Rooting Depth (cm):** *RV*: 36 *Range*: 8 to 108

## 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)
3 to 9	slightly decomposed plant material	moderately rapid	.34	5.2 to 5.9	30	80
9 to 33	silt loam; mucky silt loam	moderate	.26 to .40	5.7 to 6.4		16 to 20
9 to 14	very channery silt loam; gravelly silt loam	moderate or moderately rapid	.12 to .40	6.0 to 6.4		6 to 20

**Restrictive Features:** bedrock (paralithic) at 103 to 150 cm or more  
strongly contrasting textural stratification at 18 to 62 cm

**Water Table (May to September):** 0 to 75 cm

**Drainage Class:** somewhat poorly drained or poorly drained

## Vegetation Features

### Common Vegetation Types:

**Vegetation Type**

White spruce/willow woodland, wet

White spruce/shrub birch-willow woodland, wet

**Ecological Status**

Climax plant community

Late 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 white spruce/willow woodland, wet and late-seral community with white spruce/shrub-birch-willow woodland, wet. 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.

Vegetation Type	Total	Per Stand			Number of Stands
		Min.	Avg.	Max.	
White spruce/willow woodland, wet	77	26	33	43	4
White spruce/shrub birch-willow woodland, wet	47	22	29	35	2

### Characteristics of White spruce/willow woodland, wet

**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 = 25. 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.		
TT	PIGL	Picea glauca	10.0	23	50	56	36
TM	PIGL	Picea glauca	3.0	13	25	52	26
SL-ST	SAPU15	Salix pulchra	0.1	14	40	76	33
SL-ST	ALVIC	Alnus viridis ssp. crispa	0.1	19	45	48	30
SL-ST	SALIX	Salix	5.0	35	60	20	26
SL-ST	SAGL	Salix glauca	0.1	11	35	44	22
SL-ST	SAAL	Salix alaxensis	0.1	7	20	28	14
SM	SARI4	Salix richardsonii	1.0	21	40	48	32
SL-SM	BEGL	Betula glandulosa	0.1	8	30	48	20
SD-SL	VAUL	Vaccinium uliginosum	0.1	20	45	96	44
SL	LEGR	Ledum groenlandicum	0.1	6	20	36	15
SD	EMNI	Empetrum nigrum	0.1	7	20	88	25
SD	SARE2	Salix reticulata	0.1	12	55	44	23
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	0.1	5	15	80	20
SD	ARRU6	Arctous rubra	0.1	5	15	52	16
GM-GT	CACA4	Calamagrostis canadensis	0.1	13	40	28	19
GM	CAREX	Carex	0.1	8	20	36	17
GM	CABI5	Carex bigelowii	0.1	12	40	16	14
FD-FM	EQAR	Equisetum arvense	0.1	21	70	44	30
FM	EQUIS	Equisetum	0.1	23	45	20	21
FM	EQSY	Equisetum sylvaticum	2.0	26	50	16	20
FD-FM	PEFR5	Petasites frigidus	0.1	6	25	52	18
L	LICHEN	total lichens	0.0	3	20	100	17
M	MOSS	total bryophytes-mosses and liverworts	5.0	59	90	100	77
M1	HYSP70	Hylocomium splendens	5.0	42	80	44	43
M1	PLSC70	Pleurozium schreberi	5.0	31	60	28	29
M1	ZZMOSS	unknown-mosses	0.1	9	35	32	17
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	5.0	21	70	100	46
B	LITTER2	litter-woody debris >2.5 cm	0.0	6	55	100	24
B	SOIL	mineral-bare soil	0.0	2	30	100	14
B	ROCK	mineral-surface rock fragments	0.0	0	0	100	0
B	WATER	water	0.0	0	10	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			Units	Number of Records
		Min.	Avg.	Max.		
Trees	TT, TM, TS	4.0	11.3	45.0	m	35
Tree regeneration	TR	0.1	2.4	5.0	m	15
Tall shrubs	ST	3.0	3.2	4.0	m	12
Medium shrubs	SM	1.0	1.8	3.0	m	37
Low shrubs	SL	10.0	43.8	100.0	cm	42
Dwarf shrubs	SD	10.0	10.9	20.0	cm	34
Tall and medium grasses and grass-likes	GT, GM	30.0	86.0	160.0	cm	5
Tall and medium forbs	FT, FM	20.0	23.7	50.0	cm	35
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	8.6	10.0	cm	32

### 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 glauca	52	18.8	7.9	20	B
	113	27.6	11.2		
	190	41.1	16.2		

### Tree Basal Area (all trees >1.5 m tall):

Min.	Avg.	Max.	Number of Stands
----- m <sup>2</sup> / ha -----			
11.5	21.9	32.2	2

### Characteristics of White spruce/shrub birch-willow woodland, wet

**Ecological Status:** Late 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 = 7. 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.		
TT	PIGL	Picea glauca	5.0	11	20	71	28
TM	PIGL	Picea glauca	10.0	10	10	57	24
TR	PIGL	Picea glauca	0.1	5	10	86	21
SM-ST	ALVIC	Alnus viridis ssp. crispa	5.0	6	7	29	13
SL-SM	SAPU15	Salix pulchra	0.1	32	80	71	48
SL-SM	BEGL	Betula glandulosa	0.1	16	45	100	40
SM	SABA3	Salix barclayi	10.0	17	30	43	27
SL-SM	SAGL	Salix glauca	5.0	8	10	57	21
SL-SM	SAAL	Salix alaxensis	0.1	5	10	29	12
SD-SL	VAUL	Vaccinium uliginosum	5.0	31	60	100	56
SD-SL	LEPAD	Ledum palustre ssp. decumbens	0.1	6	20	57	18
SD	EMNI	Empetrum nigrum	0.1	7	30	100	26
SD	SARE2	Salix reticulata	5.0	15	25	29	21
GM-GT	CACA4	Calamagrostis canadensis	1.0	7	15	43	17
GM	ZZGRASS	unknown-grasses	5.0	27	60	43	34
FD-FM	EQAR	Equisetum arvense	0.1	33	80	43	38
L	LICHEN	total lichens	0.1	4	15	100	20
M	MOSS	total bryophytes-mosses and liverworts	10.0	55	75	100	74
M1	ZZMOSS	unknown-mosses	10.0	13	20	43	24
M1	HYP70	Hylocomium splendens	10.0	15	20	29	21
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	5.0	48	90	100	69
B	LITTER2	litter-woody debris >2.5 cm	0.1	3	5	100	17
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	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			Units	Number of Records
		Min.	Avg.	Max.		
Trees	TT, TM, TS	5.0	12.0	24.0	m	9
Tree regeneration	TR	0.8	2.6	4.8	m	6
Tall shrubs	ST	6.0	6.0	6.0	m	1
Medium shrubs	SM	1.0	1.6	2.0	m	12
Low shrubs	SL	20.0	52.3	100.0	cm	13
Tall and medium grasses and grass-likes	GT, GM	30.0	45.0	60.0	cm	2
Tall and medium forbs	FT, FM	20.0	22.5	30.0	cm	4
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	2.5	3.0	cm	2

### 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 glauca	46	19.6	8.5	Min.	7	B
	93	25.7	11.0	Avg		
	130	32.8	14.6	Max.		

### Tree Basal Area (all trees >1.5 m tall):

Min.	Avg.	Max.	Number of Stands
----- m <sup>2</sup> / ha -----			
12.7	12.7	12.7	1

### Mapunit Components

#### Common Name (Soils Name):

- Boreal-forested gravelly till slopes, moderately wet (Oxyaquic Eutrocryepts, coarse-loamy)
- Boreal-forested loamy fan terraces (Oxyaquic Eutrocryepts, coarse-loamy)
- Boreal-forested silty schist slopes, wet (Humic Cryaquepts, loamy-skeletal)

### 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):

- 5MS21 Boreal and Subalpine Schist Mountains with Discontinuous Permafrost  
(Humic Cryaquepts, loamy-skeletal-Typic Dystrocrepts, loamy-skeletal-Typic Historthels, loamy-skeletal Association, 10 to 50 percent slopes)
- 7MS2 Boreal Glaciated Lower Mountain Slopes  
(Oxyaquic Eutrocryepts, coarse-loamy-Typic Eutrocryepts, loamy-skeletal Association, 10 to 45 percent slopes)
- 7TP3 Boreal and Alpine Hills with Discontinuous Permafrost  
(Typic Haplogelods, loamy-skeletal-Oxyaquic Eutrocryepts, coarse-loamy-Typic Historthels, loamy-skeletal Association, 0 to 35 percent slopes)
- 7V2 Boreal Fans and Mountain Footslopes  
(Oxyaquic Eutrocryepts, coarse-loamy over sandy-skeletal-Typic Eutrocryepts, sandy-skeletal-Typic Haplogeleods, sandy-skeletal Association, 0 to 32 percent slopes)
- 8MVF Boreal and Subalpine Schist Mountain Valleys  
(Humic Cryaquepts, loamy-skeletal-Oxyaquic Eutrocryepts, loamy-skeletal-Typic Dystrocrepts, loamy-skeletal Association, 12 to 50 percent slopes)

### Geographically Associated Landtypes

#### M135A\_303—Gravelly Mountains, Acid:

This site occurs on higher slopes and adjacent ridges. The climax plant community is "Green alder/red current/bluejoint scrub."

#### M135A\_355—Gravelly Mountains, Warm:

This site occurs on more convex positions. The climax plant community is "White spruce/green alder forest."

#### M135A\_400—Loamy Frozen Slopes:

This site occurs on wetter soils with permafrost at moderate depths. The climax plant community is "Black spruce/bog blueberry-Labrador tea woodland."

### ***Similar Landtypes***

#### ***M135A\_156—Loamy Wet High Flood Plains:***

This site is flooded. The climax plant community is "White spruce/Richardson willow/horsetail woodland."

#### ***M135A\_185—Gravelly High Flood Plains, High Elevation:***

This site has soils that are very shallow to sand and gravel. The climax plant community is "White spruce/willow forest."