

# Gravelly Slopes (M135S\_358)

## Ecoregion Classification

**Section:** South Central Mountains (M135S)

**Subsection(s):** Subalpine Mountains (M135S.M5L)

Alpine Mountains (M135S.M5)

## Physiographic Features

**Elevation (meters):** *RV* 695 *Range* 103 to 1,408

**Slope Gradient (percent):** 39 15 to 75

**Aspect (clockwise direction):** northeast to southwest

**Landform:** mountains

**Landform Positions:** backslopes; footslopes

**Flooding:** *Frequency* None

**Ponding:** None

## Climatic Features

**Annual Precipitation (millimeters):** *RV* 1,486 *Range* 408 to 3,285

**Annual Air Temperature (°C):** -4.7 -11.4 to 0.7

**Frost Free Days:** 65 50 to 90

## Soil Features

**Parent Materials:** silty volcanic ash and/or gravelly colluvium over gravelly colluvium derived from sedimentary rock  
silty volcanic ash and/or gravelly till over gravelly till

**Rooting Depth (cm):** *RV:* 32 *Range:* 10 to 78

## 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 4	slightly decomposed plant material	moderately rapid	.34	3.4 to 3.9	30	
8 to 15	silt loam	moderate or moderately rapid	.10 to .34	4.2 to 4.9	6 to 25	
6 to 15	very gravelly sandy loam; silt loam; extremely channery loam	moderate or moderately rapid	.10 to .18	4.2 to 5.2	6 to 25	

**Restrictive Features:** bedrock (paralithic) at 88 to 150 cm or more  
strongly contrasting textural stratification at 19 to 26 cm

**Water Table (May to September):** none

**Drainage Class:** well drained

## Vegetation Features

### Common Vegetation Types:

**Vegetation Type**

Bog blueberry dwarf alpine scrub

**Ecological Status**

Climax plant community

### Ecological Status-Transition Description:

A single plant community with bog blueberry dwarf scrub is identified on this site. No transitional pathways to other communities have been identified for 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.	
Bog blueberry dwarf alpine scrub	118	12	26	45	15

### Notable Plants:

Notable plants include rare plants, range extensions, and plants little known from Denali National Park and Preserve.

Vegetation Type	Symbol	Scientific Name
Bog blueberry dwarf alpine scrub	PHAL4	Phyllodoce aleutica

### Characteristics of Bog blueberry dwarf alpine scrub

**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 = 15. 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.		
SD-SM	BEGL	Betula glandulosa	0.1	24	40	53	36
SL-SM	SABA3	Salix barclayi	0.1	5	15	47	15
SD-SL	VAUL	Vaccinium uliginosum	25.0	48	80	93	67
SD	EMNI	Empetrum nigrum	5.0	22	45	100	47
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	3.0	12	60	87	32
SD	ARAL13	Arctous alpina	0.1	10	20	60	24
SD	LEPAD	Ledum palustre ssp. decumbens	0.1	6	15	60	19
SD	LUPE	Luetkea pectinata	0.1	5	15	33	13
FD	COCA13	Cornus canadensis	0.1	6	30	67	20
L	LICHEN	total lichens	0.1	14	40	100	37
L1	CLMI61	Cladina mitis group	10.0	15	20	20	17
M	MOSS	total bryophytes-mosses and liverworts	15.0	56	95	100	75
M1	ZZMOSS	unknown-mosses	10.0	24	85	100	49
M1	HYSP70	Hylocomium splendens	10.0	27	50	47	36
M1	PLSC70	Pleurozium schreberi	1.0	15	40	80	35
M1	DICRA8	Dicranum	0.1	5	10	60	17
M1	PTCR70	Ptilium crista-castrensis	0.1	5	20	40	14
M1	RACOM	Racomitrium	1.0	6	15	20	11
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	7.0	37	75	100	61
B	ROCK	mineral-surface rock fragments	0.0	1	5	100	10
B	LITTER2	litter-woody debris >2.5 cm	0.0	0	0	100	0
B	SOIL	mineral-bare soil	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	0.5	0.5	0.5	m	1
Medium shrubs	SM	1.0	1.2	1.3	m	3
Low shrubs	SL	20.0	42.8	80.0	cm	9
Dwarf shrubs	SD	3.0	8.1	20.0	cm	15
Tall and medium grasses and grass-likes	GT, GM	10.0	44.1	100.0	cm	11
Tall and medium forbs	FT, FM	20.0	42.0	70.0	cm	5
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	2.8	5.0	cm	30

### Mapunit Components

#### Common Name (Soils Name):

Alpine-scrub gravelly colluvial slopes, warm (Andic Dystrocryepts, loamy-skeletal)

Alpine-scrub gravelly till slopes, warm (Andic Dystrocryepts, 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):**

- 9SA44 Alpine Glaciated Lower Mountain Slopes  
(Andic Dystricrypts, loamy-skeletal Association, 20 to 70 percent slopes)
- 9SA5 Subalpine Mountain Colluvial Slopes  
(Andic Humicryods, medial-skeletal-Andic Dystricrypts, loamy-skeletal-Rock Outcrop-Association, 25 to 70 percent slopes)
- 9SA66 Subalpine Glaciated Lower Mountain Backslopes  
(Andic Humicryods, medial-skeletal-Andic Humicryods, medial over loamy-skeletal-Andic Dystricrypts, loamy-skeletal Complex, 20 to 70 percent slopes)
- 9TM Alpine and Subalpine Glaciated Mountain Backslopes  
(Andic Dystricrypts, loamy-skeletal-Andic Humicryods, medial over loamy-skeletal-Andic Dystricrypts, loamy-skeletal Association, 10 to 55 percent slopes)

### **Geographically Associated Landtypes**

**M135S\_363—Hummocks:**

This site has a thick loamy surface layer and hummocky surface micro-relief. The climax plant community is "Steller cassiope-crowberry-partridge foot alpine dwarf scrub."

**M135S\_421—Gravelly Colluvial Slopes:**

This site occurs on plain colluvial slopes. The climax plant community is "Barclay willow/mixed forb scrub mosaic."