

# Loamy Depressions, High Elevation (M135A\_551)

## Ecoregion Classification

**Section:** Alaska Mountains (M135A)

**Subsection(s):** Alpine Mountains (M135A.M2)

## Physiographic Features

**Elevation (meters):** *RV* 1,320 *Range* 701 to 1,974

**Slope Gradient (percent):** 26 15 to 35

**Aspect (clockwise direction):** northwest to east

**Landform:** depressions on cirque floors; depressions on moraines; depressions on mountains; flood plains on alluvial fans on mountains; swales on moraines

**Landform Positions:** summits

*Frequency* *Duration* *Beginning Month* *Ending Month*  
**Flooding:** None or rare May Sep

**Ponding:** None

## Climatic Features

**Annual Precipitation (millimeters):** *RV* 1,024 *Range* 552 to 2,466

**Annual Air Temperature (°C):** -5.6 -10.7 to -2.5

**Frost Free Days:** 60 50 to 70

## Soil Features

**Parent Materials:** gravelly till  
gravelly till derived from diorite  
silty eolian deposits over gravelly till derived from diorite  
silty eolian deposits over sandy and gravelly alluvium

**Rooting Depth (cm):** *RV:* 52 *Range:* 16 to 102

## 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	moderately decomposed plant material	moderately rapid	.34	5.1 to 6.1	30 to 85	80
7 to 13	silt loam	moderate	.18 to .40	5.3 to 6.1	12 to 16	16
35 to 42	extremely cobbly sandy loam; gravelly loam	moderately rapid	.03 to .10	5.9 to 7.4		2 to 6

**Restrictive Features:** strongly contrasting textural stratification at 10 to 24 cm in some components

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

**Drainage Class:** somewhat excessively drained or well drained

## Vegetation Features

### Common Vegetation Types:

Vegetation Type	Ecological Status
Netleaf willow-mountain avens/herbaceous dwarf alpine scrub	Climax plant community

### Ecological Status-Transition Description:

A single plant community with netleaf willow-mountain avens/herbaceous dwarf scrub is identified on this site. No transitional pathways to other communities have been identified for this site. The concave surface relief typical of this site favors snow drifting during winter followed by temporary saturation of soils during early summer from snow melt.

### 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.	
Netleaf willow-mountain avens/herbaceous dwarf alpine scrub	127	28	44	73	8

### Notable Plants:

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

Vegetation Type	Symbol	Scientific Name
Netleaf willow-mountain avens/herbaceous dwarf alpine scrub	DRLOL	Draba lonchocarpa var. lonchocarpa

### Characteristics of Netleaf willow-mountain avens/herbaceous 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 = 11. 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-SL	SABA4	Salix barrattiana	10.0	13	15	18	15
SD-SL	SAAR4	Salix arctica	0.1	7	15	27	14
SD-SL	VAUL	Vaccinium uliginosum	0.1	5	15	36	13
SD	SARE2	Salix reticulata	5.0	37	65	91	58
SD	DRAL7	Dryas alaskensis	10.0	23	30	36	29
SD	SAPO	Salix polaris	0.1	10	25	64	25
SD	DROC	Dryas octopetala	0.1	6	20	45	16
GM	CAREX	Carex	30.0	40	50	18	27
GM	CAPO	Carex podocarpa	0.1	9	30	73	26
GM	CAMI4	Carex microchaeta	1.0	8	15	18	12
FD-FT	BORI2	Boykinia richardsonii	2.0	7	15	45	18
FD-FM	ANPA	Anemone parviflora	0.1	8	25	73	24
FD-FM	DOFR	Dodecatheon frigidum	0.1	6	20	55	18
L	LICHEN	total lichens	0.0	2	10	100	14
M	MOSS	total bryophytes-mosses and liverworts	5.0	49	90	100	70
M1	PLSC70	Pleurozium schreberi	10.0	35	70	45	40
M1	ZZMOSS	unknown-mosses	5.0	26	70	55	38
M1	RACA11	Racomitrium canescens	4.0	7	10	18	11
M1	THRE7	Thuidium recognitum	4.0	7	10	18	11
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	10.0	40	75	100	63
B	SOIL	mineral-bare soil	0.0	1	5	100	10
B	LITTER2	litter-woody debris >2.5 cm	0.0	0	0	100	0
B	ROCK	mineral-surface rock fragments	0.0	0	2	100	0
B	WATER	water	0.0	0	3	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.		
Tree regeneration	TR	0.5	0.5	0.5	m	1
Low shrubs	SL	30.0	30.0	30.0	cm	1
Dwarf shrubs	SD	2.0	6.4	20.0	cm	11
Tall and medium grasses and grass-like	GT, GM	10.0	30.7	100.0	cm	7
Tall and medium forbs	FT, FM	10.0	38.1	120.0	cm	8
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	6.2	10.0	cm	31

## **Mapunit Components**

### **Common Name (Soils Name):**

Alpine-dwarf scrub gravelly diorite fans, cool (Humic Eutrogelepts, loamy-skeletal)

Alpine-dwarf scrub-meadow mosaic gravelly diorite till depressions (Humic Eutrogelepts, loamy-skeletal)

Alpine-dwarf scrub-meadow mosaic gravelly fan swales (Typic Gelorthents, sandy-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):**

7MSC Alpine Mountain Fans

(Typic Eutrogelepts, sandy-skeletal-Typic Gelorthents, sandy-skeletal-Typic Eutrogelepts, loamy-skeletal Association, 15 to 70 percent slopes)

### **Geographically Associated Landtypes**

#### **M135A\_306—Gravelly Mountains, Moist:**

This site occurs on colder more northerly slopes. The climax plant community is "Cassiope-polar willow-mountain avens dwarf alpine scrub."

#### **M135A\_310—Gravelly Mountains, High Elevation:**

This site occurs on warmer more southerly slopes. The climax plant community is "White mountain avens-mixed ericaceous shrub dwarf alpine scrub."

#### **M135A\_ROC—Rock and Ice, Nonvegetated:**

This site is interspersed with the others and is more prevalent at higher elevations. The climax plant community is "Sparsely vegetated mountain slopes, Interior."