

Loamy Depressions (M135S_551)

Ecoregion Classification

Section: South Central Mountains (M135S)

Subsection(s): Alpine Mountains (M135S.M5)

Physiographic Features

Elevation (meters): *RV* 1,135 *Range* 406 to 2,018

Slope Gradient (percent): 34 20 to 70

Aspect (clockwise direction): non-influencing

Landform: swales on mountains

Frequency

Flooding: None

Ponding: None

Climatic Features

Annual Precipitation (millimeters): *RV* 1,568 *Range* 509 to 3,285

Annual Air Temperature (°C): -5.9 -11.4 to -1.7

Frost Free Days: 60 50 to 70

Soil Features

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

Rooting Depth (cm): *RV:* 46 *Range:* 14 to 87

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)
2 to 3	moderately decomposed plant material; slightly decomposed plant material	moderately rapid	.34	3.4 to 4.4	30	
4 to 23	loam; gravelly loam	moderate	.12 to .34	4.6	12 to 25	
7 to 33	extremely channery loam; very cobbly sandy loam; extremely cobbly sandy loam	moderately rapid	.10	5.0 to 5.7	6	6

Restrictive Features: bedrock (paralithic) at 72 to 150 cm or more
strongly contrasting textural stratification at 6 cm

Water Table (May to September): none

Drainage Class: well drained

Vegetation Features

Common Vegetation Types:

Vegetation Type

Partridge foot-dwarf willow/mixed forb dwarf alpine scrub

Ecological Status

Climax plant community

Ecological Status-Transition Description:

The position of this site in depressions promotes snow drifting, which shortens the effective growing season and development of woody vegetation. A single plant community type of partridge foot-dwarf willow/mixed forb 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.	
Partridge foot-dwarf willow/mixed forb dwarf alpine scrub	138	15	33	52	14

Notable Plants:

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

Vegetation Type	Symbol	Scientific Name
Partridge foot-dwarf willow/mixed forb dwarf alpine scrub	DRLO	Draba lonchocarpa
	FEBR2	Festuca brevissima
	PHAL4	Phyllodoce aleutica

Characteristics of Partridge foot-dwarf willow/mixed forb 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 = 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.		
SD	LUPE	Luetkea pectinata	0.1	30	70	86	51
SD	EMNI	Empetrum nigrum	0.1	8	40	93	27
SD	SAPO	Salix polaris	5.0	13	35	57	27
SD	CAST33	Cassiope stelleriana	0.1	7	25	71	22
SD	SARE2	Salix reticulata	0.1	5	15	29	12
GM	CAMI4	Carex microchaeta	0.1	11	35	64	27
GM	FEAL	Festuca altaica	0.1	8	30	64	23
GM	CAPO	Carex podocarpa	0.1	5	15	43	15
FD-FM	ARAR9	Artemisia arctica	0.1	7	35	100	26
FD	DIAL5	Diphasiastrum alpinum	0.1	8	20	93	27
L	LICHEN	total lichens	0.1	17	55	100	41
L1	CLADO3	Cladonia	0.1	5	20	86	21
L1	CLADI3	Cladina	1.0	7	15	50	19
L1	CLMI61	Cladina mitis group	1.0	8	15	29	15
M	MOSS	total bryophytes-mosses and liverworts	10.0	42	85	100	65
M1	ZZMOSS	unknown-mosses	10.0	31	50	86	52
M1	POLYT5	Polytrichum	1.0	5	15	64	18
M1	DICRA8	Dicranum	4.0	6	10	43	16
M1	RACOM	Racomitrium	0.1	7	10	21	12
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	15.0	48	90	100	69
B	ROCK	mineral-surface rock fragments	0.1	2	10	100	14
B	SOIL	mineral-bare soil	0.1	1	3	100	10
B	LITTER2	litter-woody debris >2.5 cm	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.		
Low shrubs	SL	30.0	30.0	30.0	cm	2
Dwarf shrubs	SD	1.0	4.9	20.0	cm	14
Tall and medium grasses and grass-like	GT, GM	10.0	26.8	60.0	cm	13
Tall and medium forbs	FT, FM	23.0	31.5	40.0	cm	2
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	2.3	10.0	cm	33

Mapunit Components

Common Name (Soils Name):

Alpine-dwarf scrub-meadow mosaic gravelly colluvial slopes (Andic Dystrocryepts, loamy-skeletal)

Alpine-dwarf scrub-meadow mosaic gravelly diorite swales (Andic Dystrocryepts, loamy-skeletal)

Soil Map Units

This landtype is a minor component in the map units listed. It does not occur as a major component in any map units.

Symbol: Common Name (Soils Name):

9MSA	Alpine Diorite Mountains (Andic Dystricryepts, loamy-skeletal-Rock Outcrop Association, 20 to 150 percent slopes)
9MSH	Alpine Mountains (Rock Outcrop-Andic Dystricryepts, loamy-skeletal Association, 20 to 150 percent slopes)
9TM3	Alpine Cirque Valleys (Andic Humicryods, medial over loamy-skeletal-Andic Dystricryepts, loamy-skeletal-Aquandic Cryaquepts, loamy-skeletal Complex, 8 to 60 percent slopes)

Geographically Associated Landtypes

M135S_307—Gravelly Mountains, Moist:

This site occurs on convex or plain northerly facing micro-sites. The climax plant community is "Steller cassiope-crowberry dwarf alpine scrub."

M135S_310—Gravelly Mountains:

This site occurs on convex or plain southerly facing mountain slopes. The climax plant community is "Lichen/mixed ericaceous shrub dwarf alpine scrub."

M135S_421—Gravelly Colluvial Slopes:

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