

Swales, Wet (M135S_424)

Ecoregion Classification

Section: South Central Mountains (M135S)

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

Physiographic Features

Elevation (meters): *RV* 964 *Range* 499 to 1,614

Slope Gradient (percent): 16 12 to 30

Aspect (clockwise direction): non-influencing

Landform: drainageways on mountains

Landform Positions: footslopes; toeslopes

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 till over gravelly till

Rooting Depth (cm): *RV*: 36 *Range*: 12 to 59

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)
4	slightly decomposed plant material	moderately rapid	.34	6.2		80
8	silt loam	moderate	.40	6.2		25
24	very cobbly loam	moderately rapid	.10	6.0		6

Restrictive Features: strongly contrasting textural stratification at 13 cm

Water Table (May to September): 0 to 10 cm

Drainage Class: somewhat poorly drained

Vegetation Features

Common Vegetation Types:

Vegetation Type

Short stalked sedge-mixed forb wet meadow/scrub

Ecological Status

Climax plant community

Ecological Status-Transition Description:

A single plant community with short stalked sedge-mixed forb wet meadow is identified on this site. The site is often drained by small streams or springs. Willow is almost always present, but its percentage is not high enough to classify the site as scrub. 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.	
Short stalked sedge-mixed forb wet meadow/scrub	134	30	41	59	10

Notable Plants:

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

Vegetation Type

Short stalked sedge-mixed forb wet meadow/scrub

Symbol

ARAMP

COCO9

HIMO2

Scientific Name

Arnica amplexicaulis ssp. prima

Conocephalum conicum

Hippuris montana

Characteristics of Short stalked sedge-mixed forb wet meadow/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 = 10. 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	SABA3	Salix barclayi	0.1	15	35	80	35
SL-SM	SAPU15	Salix pulchra	1.0	8	20	30	15
SD	LUPE	Luetkea pectinata	15.0	30	60	80	49
SD	SAPO	Salix polaris	20.0	29	40	40	34
SD	SARE2	Salix reticulata	0.1	12	35	40	22
SD	SAST2	Salix stolonifera	10.0	12	15	20	15
GM	CAPO	Carex podocarpa	0.1	19	45	100	44
GM	CANI2	Carex nigricans	0.1	12	30	70	29
GM	CAAN10	Carex anthoxanthea	0.1	6	10	50	17
GM	ERAN6	Eriophorum angustifolium	0.1	6	15	40	15
GM	CAREX	Carex	0.1	5	10	20	10
FM	SAST11	Sanguisorba stipulata	1.0	22	45	100	47
FD-FM	EQAR	Equisetum arvense	5.0	9	20	80	27
FD-FM	LEPY	Leptarrhena pyrolifolia	0.1	9	30	80	27
FM	ARAR9	Artemisia arctica	1.0	8	15	40	18
FD	ANPA	Anemone parviflora	5.0	12	20	30	19
FD	DOFR	Dodecatheon frigidum	3.0	5	7	20	10
L	LICHEN	total lichens	0.0	1	5	100	10
M	MOSS	total bryophytes-mosses and liverworts	40.0	72	90	100	85
M1	ZZMOSS	unknown-mosses	40.0	67	90	90	78
M1	SPHAG2	Sphagnum	0.1	6	15	40	15
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	15.0	34	60	100	58
B	WATER	water	0.1	3	10	100	17
B	ROCK	mineral-surface rock fragments	0.1	2	7	100	14
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

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.		
Medium shrubs	SM	1.2	1.5	2.2	m	4
Low shrubs	SL	60.0	84.0	100.0	cm	5
Dwarf shrubs	SD	1.0	3.0	7.0	cm	7
Tall and medium grasses and grass-likes	GT, GM	5.0	26.8	60.0	cm	6
Tall and medium forbs	FT, FM	20.0	37.0	60.0	cm	5
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	2.5	8.0	cm	13

Mapunit Components

Common Name (Soils Name):

Alpine-scrub mosaic gravelly till drains (Aquandic 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):

9TM3 Alpine Cirque Valleys
(Andic Humicryods, medial over loamy-skeletal-Andic Dystrocryepts, loamy-skeletal-Aquandic Cryaquepts, loamy-skeletal Complex, 8 to 60 percent slopes)

Geographically Associated Landtypes

M135S_364—Hummocks, Moderately Wet:

This site has hummocky micro-relief and drier soils. The climax plant community is "Shrub birch-willow/crowberry scrub."

M135S_421—Gravelly Colluvial Slopes:

This site occurs on adjacent till plains and mountains and soils are drier. The climax plant community is "Barclay willow/mixed forb scrub mosaic."

M135S_536—Organic Depressions:

This site occurs in depressions and soils are wetter and have a thick organic surface layer. The climax plant community is "Water sedge-tufted bulrush-forb wet meadow."