

# Escarpments, Cool (M135A\_801)

## Ecoregion Classification

**Section:** Alaska Mountains (M135A)

**Subsection(s):** Teklanika Alpine Mountains & Plateaus (M135A.M6)

Alpine Mountains (M135A.M2)

## Physiographic Features

**Elevation (meters):** *RV* 707 *Range* 415 to 1,005

**Slope Gradient (percent):** 45 30 to 70

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

**Landform:** escarpments on plateaus; mountains

**Flooding:** *Frequency* None

**Ponding:** None

## Climatic Features

**Annual Precipitation (millimeters):** *RV* 540 *Range* 426 to 856

**Annual Air Temperature (°C):** -3.0 -4.8 to -2.0

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

## Soil Features

**Parent Materials:** gravelly colluvium  
silty eolian deposits over gravelly colluvium

**Rooting Depth (cm):** *RV:* 60 *Range:* 23 to 82

## 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)
6	moderately decomposed plant material	moderately rapid	.34	4.8	30	
4 to 13	very cobbly loam; silt loam	moderate	.18	4.5 to 5.8	6	16
6 to 41	very flaggy sandy loam; very cobbly sandy loam; very channery sandy loam; very channery loam; bedrock	moderate to rapid	.04 to .12	6.4	6	2 to 6

**Restrictive Features:** bedrock (paralithic) at 54 to 150 cm or more  
strongly contrasting textural stratification at 4 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**  
Dwarf poplar-aspen forest

**Ecological Status**  
Climax plant community

### Ecological Status-Transition Description:

A single plant community with dwarf poplar-aspen forest 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.	
Dwarf poplar-aspen forest	79	30	38	45	4

### Notable Plants:

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

Vegetation Type	Symbol	Scientific Name
Dwarf poplar-aspen forest	ASAB	Astragalus aboriginorum
	BOAL99	Botrychium alaskense
	DOGO	Douglasia gormanii
	FEBR2	Festuca brevissima
	SESI	Selaginella sibirica

### Characteristics of Dwarf poplar-aspen forest

**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 = 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.		
TS	POTR5	Populus tremuloides	30.0	58	80	71	64
TS	POBA2	Populus balsamifera	0.1	24	55	86	45
SL-SM	BEGL	Betula glandulosa	0.1	17	65	100	41
SM	SAGL	Salix glauca	0.1	5	15	43	15
SL	VAUL	Vaccinium uliginosum	0.1	9	20	71	25
SL	PEFL15	Pentaphylloides floribunda	1.0	6	10	29	13
SL	SHCA	Shepherdia canadensis	2.0	6	10	29	13
SD	ARUV	Arctostaphylos uva-ursi	0.1	15	30	71	33
SD	VAVIM99	Vaccinium vitis-idaea spp. Minus	0.1	11	35	57	25
SD	LIBO3	Linnaea borealis	2.0	11	20	29	18
SD	DROC	Dryas octopetala	0.1	5	15	43	15
SD	EMNI	Empetrum nigrum	5.0	5	5	29	12
GM	FEAL	Festuca altaica	0.1	8	20	43	19
FM-FT	EPAN2	Epilobium angustifolium	0.1	6	10	71	21
FD	COCA13	Cornus canadensis	0.1	15	35	43	25
L	LICHEN	total lichens	0.0	18	75	100	42
M	MOSS	total bryophytes-mosses and liverworts	0.0	14	55	100	37
M1	RHRU70	Rhytidium rugosum	3.0	16	35	43	26
M1	ZZMOSS	unknown-mosses	2.0	10	20	57	24
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	10.0	45	85	100	67
B	ROCK	mineral-surface rock fragments	0.1	16	65	100	40
B	SOIL	mineral-bare soil	0.1	13	35	100	36
B	LITTER2	litter-woody debris >2.5 cm	0.0	6	15	100	24
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	0.3	2.4	4.5	m	9
Tall shrubs	ST	3.3	3.3	3.3	m	1
Medium shrubs	SM	1.4	1.6	1.9	m	3
Low shrubs	SL	25.0	59.2	100.0	cm	6
Dwarf shrubs	SD	3.0	5.0	8.0	cm	3
Tall and medium grasses and grass-like	GT, GM	40.0	50.0	60.0	cm	2
Tall and medium forbs	FT, FM	20.0	33.3	40.0	cm	3
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	0.5	1.5	5.0	cm	7

## **Mapunit Components**

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

Subalpine-forested stunted hardwood gravelly colluvial slopes, dissected (Typic Eutrogelepts, loamy-skeletal)

Subalpine-scrub gravelly colluvial slopes, dry (Typic Eutrocryepts, 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):**

10ES Subalpine and Alpine Plateau Escarpments with Discontinuous Permafrost  
(Typic Eutrocryepts, coarse-loamy-Typic Historthels, loamy-skeletal-Typic Eutrogelepts, loamy-skeletal Complex, 10 to 70 percent slopes)

## **Geographically Associated Landtypes**

### **M135A\_180—Gravelly Frozen Slopes:**

This site occurs on less sloping areas with wetter soils that have permafrost at moderate depths. The climax plant community is "Shrub birch-mixed ericaceous shrub/sedge scrub."

### **M135A\_358—Gravelly Slopes:**

This site occurs on less sloping areas. The climax plant community is "Shrub birch-bog blueberry scrub."

### **M135A\_405—Swales:**

This site occurs on swales with seasonally wet soils that are moderately deep to very deep to bedrock. The climax plant community is "Green alder scrub mosaic."

### **M135A\_800—Escarpments:**

This site occurs on slightly lower elevations. The climax plant community is "White spruce forest."