

Gravelly Flood Plains, Cool (135A_257)

Ecoregion Classification

Section: Cook Inlet Lowlands (135A)

Subsection(s): Lowland Flood Plains & Terraces & Fans (135A.V1)

Physiographic Features

Elevation (meters): *RV* 566 *Range* 385 to 782

Slope Gradient (percent): 4 2 to 6

Aspect (clockwise direction): non-influencing

Landform: channels on flood plains

Flooding: *Frequency* Occasional *Duration* Brief *Beginning Month* May *Ending Month* Sep

Ponding: None

Climatic Features

Annual Precipitation (millimeters): *RV* 822 *Range* 678 to 989

Annual Air Temperature (°C): -0.1 -1.5 to 1.0

Frost Free Days: 80 70 to 100

Soil Features

Parent Materials: sandy and gravelly alluvium
sandy and gravelly alluvium derived from diorite

Rooting Depth (cm): *RV:* 21 *Range:* 1 to 51

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)
8 to 13	extremely cobbly coarse sand	rapid	.06	5.4 to 7.8	2	2

Water Table (May to September): none

Drainage Class: somewhat excessively drained

Vegetation Features

Common Vegetation Types:

Vegetation Type
Feltleaf willow-Barclay willow-Sitka willow scrub
Open willow scrub

Ecological Status
Climax plant community
Early stage of primary succession on flood plains

Ecological Status-Transition Description:

Two plant communities are identified within this flood prone site including a potential community with feltleaf willow-Barclay willow-Sitka willow scrub and an early-successional community with willow scrub on successively lower flood plain positions. Flooding is considered a transitional pathway between seral communities within this site as well as between this site and other geographically associated sites.

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.	
Feltleaf willow-Barclay willow-Sitka willow scrub	81	13	26	46	5
Open willow scrub	44	10	26	41	2

Notable Plants:

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

Vegetation Type

Open willow scrub

Symbol

POLE2
SASE4

Scientific Name

Poa leptocoma
Salix setchelliana

Characteristics of Feltleaf willow-Barclay willow-Sitka willow 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 = 5. 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.		
SM-ST	SAAL	Salix alaxensis	7.0	38	85	80	55
SM-ST	SABA3	Salix barclayi	0.1	23	45	80	43
SM-ST	SASI2	Salix sitchensis	0.1	18	40	80	38
SM	SACO2	Salix commutata	0.1	7	10	60	20
SD	EMNI	Empetrum nigrum	5.0	5	5	20	10
FM-FT	EPLA	Epilobium latifolium	0.1	8	20	80	25
FM	GYDR	Gymnocarpium dryopteris	5.0	5	5	20	10
FD	ANRI	Anemone richardsonii	10.0	22	35	40	30
FD	SIPR	Sibbaldia procumbens	15.0	15	15	20	17
FD	RUAR	Rubus arcticus	7.0	7	7	20	12
FD	PEFR5	Petasites frigidus	5.0	5	5	20	10
L	LICHEN	total lichens	0.1	15	25	100	39
L1	STERE2	Stereocaulon	10.0	13	15	60	28
L1	CLADO3	Cladonia	5.0	7	10	60	20
L2	ZZCRUST	unknown-crustose and soil crust lichens	7.0	11	15	40	21
M	MOSS	total bryophytes-mosses and liverworts	15.0	43	60	100	66
M1	ZZMOSS	unknown-mosses	10.0	28	50	100	53
M1	RACOM	Racomitrium	10.0	10	10	40	20
M1	RALA70	Racomitrium lanuginosum	20.0	20	20	20	20
M1	CLDE70	Climacium dendroides	3.0	6	10	40	15
M1	PLSC70	Pleurozium schreberi	5.0	5	5	20	10
M1	POLYT5	Polytrichum	5.0	5	5	20	10
M1	POPI10	Polytrichum piliferum	5.0	5	5	20	10
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	10.0	41	90	100	64
B	ROCK	mineral-surface rock fragments	0.0	15	40	100	39
B	LITTER2	litter-woody debris >2.5 cm	0.1	6	15	100	24
B	SOIL	mineral-bare soil	0.0	1	5	100	10
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.		
Tree regeneration	TR	2.5	2.8	3.0	m	2
Tall shrubs	ST	3.0	3.2	3.5	m	2
Medium shrubs	SM	2.0	2.4	3.0	m	3
Tall and medium grasses and grass-likes	GT, GM	90.0	100.0	110.0	cm	2
Tall and medium forbs	FT, FM	15.0	51.2	70.0	cm	4
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0	2.8	7.0	cm	9

Characteristics of Open willow scrub

Ecological Status: Early stage of primary succession on flood plains

Plant Species Cover, Constancy, and Importance:

Cover, constancy, and importance are based on 1997-2002 field season data. Number of stands sampled = 2. 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.		
SM	SAAL	Salix alaxensis	2.0	18	35	100	42
SM	SASI2	Salix sitchensis	20.0	20	20	50	32
FM-FT	EPLA	Epilobium latifolium	4.0	12	20	100	35
FM	EQVA	Equisetum variegatum	10.0	10	10	50	22
L	LICHEN	total lichens	0.1	15	30	100	39
L1	CLADO3	Cladonia	10.0	10	10	50	22
L1	STERE2	Stereocaulon	0.1	5	10	100	22
L2	ZZCRUST	unknown-crustose and soil crust lichens	0.1	5	10	100	22
M	MOSS	total bryophytes-mosses and liverworts	7.0	8	10	100	28
M1	ZZMOSS	unknown-mosses	4.0	6	7	100	24
B	ROCK	mineral-surface rock fragments	70.0	75	80	100	87
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	5.0	10	15	100	32
B	SOIL	mineral-bare soil	5.0	8	10	100	28
B	LITTER2	litter-woody debris >2.5 cm	0.1	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.		
Medium shrubs	SM	1.9	2.0	2.0	m	2
Tall and medium forbs	FT, FM	70.0	90.0	110.0	cm	2
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	0.3	1.1	2.0	cm	3

Mapunit Components

Common Name (Soils Name):

Alpine-riparian scrub gravelly diorite flood plains (Typic Cryorthents, sandy-skeletal)

Alpine-riparian scrub gravelly flood plains, warm (Typic Cryorthents, 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):

13F22 Alpine Diorite Flood Plains and Wet Mountain Toeslopes
(Typic Cryorthents, sandy-skeletal-Riverwash-Typic Cryaquents, coarse-loamy over sandy-skeletal Complex, 0 to 6 percent slopes)

Geographically Associated Landtypes

135A_150—Loamy Flood Plains, High Elevation:

This site occurs on higher positions and soils have a thicker loamy surface. The climax plant community is "Sitka alder-mixed willow scrub."

135A_152—Loamy Wet Flood Plains, High Elevation:

This site occurs in channels where hydrology and plant communities have been altered by beaver dams. The climax plant community is "Barclay willow-diamondleaf willow wet scrub."

Riverwash—Alluvium, Nonvegetated:

This site occurs on barren alluvium adjacent to streams. The climax plant community is "Sparsely vegetated alluvium."

Similar Landtypes

Gravelly Flood Plains (135A_201):

This site has is found at lower elevation. The climax plant community is "Poplar/soapberry forest."