

Loamy Flood Plains (135A_100)

Ecoregion Classification

Section: Cook Inlet Lowlands (135A)

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

Physiographic Features

Elevation (meters): *RV* 281 *Range* 90 to 969

Slope Gradient (percent): 1 0 to 8

Aspect (clockwise direction): non-influencing

Landform: channels on flood plains; flood plains; flood plains on alluvial fans on mountains

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

Ponding: None

Climatic Features

Annual Precipitation (millimeters): *RV* 1,112 *Range* 408 to 3,051

Annual Air Temperature (°C): -1.8 -6.9 to 1.0

Frost Free Days: 75 60 to 100

Soil Features

Parent Materials: sandy and silty alluvium over sandy and gravelly alluvium

Rooting Depth (cm): *RV:* 28 *Range:* 4 to 62

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	moderately decomposed plant material	moderately rapid	.34	5.4	30	
13	stratified sand to silt	moderate	.15	5.5	15	
12	extremely cobbly coarse sand	rapid	.06	5.7		2

Restrictive Features: strongly contrasting textural stratification at 16 cm

Water Table (May to September): none

Drainage Class: somewhat excessively drained

Vegetation Features

Common Vegetation Types:

Vegetation Type	Ecological Status
Poplar/alder forest	Climax plant community
White spruce-poplar/Sitka alder forest	Post climax plant community

Ecological Status-Transition Description:

Two plant communities are identified on this site including a potential with poplar/alder forest and a post potential community of minor extent with white spruce-poplar/Sitka alder forest in areas of slightly lower flooding frequency or duration. Flooding disturbance is identified as a transitional pathway on 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.	
Poplar/alder forest	107	15	26	45	13
White spruce-poplar/Sitka alder forest	48	15	25	33	3

Alien Plants:

Alien plants include plants on Alaska Exotic Plant Information Clearinghouse Weed List, 2002.

Vegetation Type	Symbol	Scientific Name
Poplar/alder forest	POPA2	Poa palustris

Notable Plants:

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

Vegetation Type	Symbol	Scientific Name
Poplar/alder forest	BOVIE	Botrychium virginianum ssp. europaeum
	CIAL	Circaea alpina
	COCO9	Conocephalum conicum
	ELTRN	Elymus trachycaulus ssp. novae-angliae
	GLSTS	Glyceria striata ssp. stricta
	GOREO2	Goodyera repens var. ophioides
	OSDE	Osmorhiza depauperata
	POBRA	Polystichum braunii var. alaskense
	SASE4	Salix setchelliana
	SWST2	Swida stolonifera
	WISE2	Viola selkirkii

Characteristics of Poplar/alder 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 = 13. Only those vascular, lichen, and bryophyte species with average cover >=5% and constancy >=15% are listed.

Stratum	Symbol	Scientific Name	Percent			Importance Value	
			Canopy Cover	Constancy			
			Min.	Avg.	Max.		
TT	POBA2	Populus balsamifera	15.0	42	75	92	62
SM-ST	ALSI3	Alnus sinuata	5.0	44	70	77	58
SM-ST	ALTE2	Alnus tenuifolia	2.0	32	60	54	42
SM-ST	SABA3	Salix barclayi	0.1	10	15	62	25
SM-ST	SAAL	Salix alaxensis	0.1	9	30	46	20
SM-ST	SASI2	Salix sitchensis	0.1	10	30	38	19
SM-ST	SAPU15	Salix pulchra	1.0	6	10	15	9
SM	OPHO	Oplopanax horridus	0.1	25	85	85	46
SM	VIED	Viburnum edule	5.0	14	45	62	29
SL-SM	RITR	Ribes triste	1.0	9	25	54	22
SM	SHCA	Shepherdia canadensis	5.0	14	30	23	18
SL-SM	ROAC	Rosa acicularis	1.0	5	15	38	14
GT	CACA4	Calamagrostis canadensis	0.1	13	55	85	33
FT	DRDI2	Dryopteris dilatata	0.1	9	40	77	26
FM-FT	EPAN2	Epilobium angustifolium	0.1	7	20	46	18
FM	EQAR	Equisetum arvense	0.1	11	40	62	26
FD-FM	GYDR	Gymnocarpium dryopteris	1.0	10	40	62	25
FM	EQPR	Equisetum pratense	2.0	6	10	31	14
FD	PYAS	Pyrola asarifolia	0.1	12	60	69	29
FD	CIAL	Circaea alpina	7.0	7	7	15	10
L	LICHEN	total lichens	0.1	1	15	100	10
M	MOSS	total bryophytes-mosses and liverworts	2.0	15	51	100	39
M1	ZZMOSS	unknown-mosses	2.0	7	15	62	21
M1	PLSC70	Pleurozium schreberi	1.0	6	15	23	12
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	70.0	87	100	100	93

Stratum	Symbol	Scientific Name	Percent Canopy Cover	Percent Constancy	Importance Value
			Min. Avg. Max.		
B	LITTER2	litter-woody debris >2.5 cm	3.0 9 15	100	30
B	SOIL	mineral-bare soil	0.0 2 20	100	14
B	ROCK	mineral-surface rock fragments	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.		
Trees	TT, TM, TS	10.0 23.2 36.0	m	14
Tree regeneration	TR	2.5 3.6 4.2	m	3
Tall shrubs	ST	3.0 4.5 5.0	m	11
Medium shrubs	SM	1.2 1.6 3.0	m	14
Low shrubs	SL	50.0 75.0 90.0	cm	4
Tall and medium grasses and grass-likes	GT, GM	100.0 137.5 200.0	cm	8
Tall and medium forbs	FT, FM	15.0 83.1 190.0	cm	13
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	1.0 3.6 10.0	cm	24

Characteristics of White spruce-poplar/Sitka alder forest

Ecological Status: Post 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 = 3. 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.		
TT	PIGL	Picea glauca	15.0 17 20	100	41
TT	POBA2	Populus balsamifera	10.0 15 20	67	32
TS	POBA2	Populus balsamifera	5.0 5 5	33	13
ST	ALSI3	Alnus sinuata	20.0 38 55	67	50
SM-ST	SABA3	Salix barclayi	1.0 9 15	100	30
ST	SAAL	Salix alaxensis	5.0 7 10	100	26
SL-SM	SHCA	Shepherdia canadensis	10.0 20 35	100	45
SM	SACO2	Salix commutata	15.0 15 15	33	22
SD-SL	VAUL	Vaccinium uliginosum	1.0 6 10	67	20
SD	EMNI	Empetrum nigrum	2.0 6 10	100	24
SD	ARRU6	Arctous rubra	5.0 5 5	67	18
L	LICHEN	total lichens	0.1 15 45	100	39
L1	CLADO3	Cladonia	1.0 10 20	67	26
L1	CLADI3	Cladina	10.0 10 10	33	18
L1	STERE2	Stereocaulon	10.0 10 10	33	18
L1	CLRA61	Cladina rangiferina group	5.0 5 5	33	13
M	MOSS	total bryophytes-mosses and liverworts	20.0 32 40	100	57
M1	PLSC70	Pleurozium schreberi	10.0 13 20	100	36
M1	ZZMOSS	unknown-mosses	5.0 8 10	100	28
M1	HYSP70	Hylocomium splendens	10.0 10 10	33	18
M2	PTPU99	Ptilidium pulcherrimum	5.0 5 5	33	13
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	20.0 58 80	100	76
B	LITTER2	litter-woody debris >2.5 cm	5.0 7 10	100	26
B	SOIL	mineral-bare soil	0.0 0 0	100	0
B	ROCK	mineral-surface rock fragments	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.		
Trees	TT, TM, TS	7.0	16.5	26.0	m	4
Tall shrubs	ST	3.0	4.3	5.0	m	3
Medium shrubs	SM	1.1	1.4	1.9	m	3
Low shrubs	SL	40.0	70.0	100.0	cm	2
Dwarf shrubs	SD	4.0	4.5	5.0	cm	2
Tall and medium forbs	FT, FM	30.0	30.0	30.0	cm	1
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	4.0	10.0	cm	7

Site Tree Measurements:

Only dominant, codominant, and open grown trees were measured. Height of Measurements = height above ground at which age and diameter was measured. G = ground level, B = breast height (ca 1.5 m).

Tree Species	Age (years)	Diameter (cm)	Height (m)	Number of Trees	Height of Measurements
Picea glauca	99	26.4	14.0	4	B
	124	28.4	15.9		
	143	30.0	17.7		
				Min.	
				Avg.	
				Max.	

Tree Basal Area (all trees >1.5 m tall):

Min.	Avg.	Max.	Number of Stands
17.2	21.3	25.3	2

Mapunit Components

Common Name (Soils Name):

Boreal-riparian forested gravelly high flood plains, Cook Inlet (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):

13FP	Boreal Flood Plains (Typic Cryorthents-Oxyaquic Cryorthents, sandy-skeletal-Riverwash Complex)
9AF2	Boreal Fans (Typic Cryorthents, sandy-skeletal-Spodic Dystrocryepts, sandy-skeletal Association, 2 to 10 percent slopes)

Geographically Associated Landtypes

135A_156—Loamy Wet High Flood Plains:

This site occurs on wet high flood plains. The climax plant community is "Mixed white spruce-poplar/thinleaf alder forest."

135A_200—Gravelly Low Flood Plains:

This site occurs on low flood plains. The climax plant community is "Sitka alder-Barclay willow-Sitka willow scrub."

135A_201—Gravelly Flood Plains:

This site occurs on flood plains. The climax plant community is "Poplar/soapberry forest."

135A_500—Loamy Wet Flood Plains:

This site occurs on wet flood plains. The climax plant community is "Thinleaf alder-mixed willow scrub."

Similar Landtypes

135A_156—Loamy Wet High Flood Plains:

This site has wetter soils. The climax plant community is "Mixed white spruce-poplar/thinleaf alder forest."

135A_201—Gravelly Flood Plains:

This site lacks a thick loamy surface mantle. The climax plant community is "Poplar/soapberry forest."