Gravelly Flood Plains (135A_201)

Ecoregion Classification

Section: Cook Inlet Lowlands (135A)

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

Physiographic Features

	RV	Range
Elevation (meters):	370	90 to 969
Slope Gradient (percent):	2	0 to 8

Aspect (clockwise direction): southeast to west

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

	Frequency	Duration	Beginning Month	Ending Month
Flooding:	Occasional	Brief	May	Sep
Ponding:	None			

Climatic Features

	RV	Range
Annual Precipitation (millimeters):	1,112	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 gravelly alluvium

Rooting Depth (cm): *RV:* 21 *Range:* 9 to 42

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)
1	moderately decomposed plant material	moderately rapid	.34	6.4		80
6 to 14	extremely cobbly coarse sand	rapid	.06	7.5 to 7.8		2

Water Table (May to September): none

Drainage Class: excessively drained

Vegetation Features

Common Vegetation Types:

Vegetation Type	Ecological Status
Poplar/soapberry forest	Climax plant community
Drummond mountain avens dwarf scrub	Early stage of primary succession on flood plains
Poplar/Drummond mountain avens woodland	Mid stage of primary succession on flood plains

Ecological Status-Transition Description:

Three plant communities are identified within this flood prone site. The potential community is a poplar/soapberry forest, with a mid-successional community of poplar/Drummond mountain avens woodland and an early-successional community of Drummond mountain avens dwarf scrub, each 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 Min.	Per Stand Avg.	Per Stand Max.	Number of Stands
Poplar/soapberry forest	44	44	44	44	1
Drummond mountain avens dwarf scrub	18	6	11	16	2
Poplar/Drummond mountain avens woodland	26	7	10	13	6

Alien Plants:

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

Vegetation Type	Symbol	Scientific Name
Poplar/soapberry 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/soapberry forest	AGGE2	Agrostis geminata
Drummond mountain avens dwarf scrub	SASE4	Salix setchelliana
Poplar/Drummond mountain avens woodland	SASE4	Salix setchelliana

Characteristics of Poplar/soapberry 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 = 1. Only those vascular, lichen, and bryophyte species with average cover >=5% and constancy >=15% are listed.

Stratum	Symbol	Scientific Name	Percent Canopy Cover Min.	Percent Canopy Cover Avg.	Percent Canopy Cover Max.	Percent Constancy	Importance Value
TM	POBA2	Populus balsamifera	60.0	60	60	100	77
SM	SHCA	Shepherdia canadensis	75.0	75	75	100	87
SD	DRDR	Dryas drummondii	7.0	7	7	100	26
L	LICHEN	total lichens	0.1	0	0	100	0
M	MOSS	total bryophytes-mosses and liverworts	40.0	40	40	100	63
M1	ZZMOSS	unknown-mosses	20.0	20	20	100	45
M1	PLSC70	Pleurozium schreberi	15.0	15	15	100	39
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	70.0	70	70	100	84
B	LITTER2	litter-woody debris >2.5 cm	1.0	1	1	100	10
B	SOIL	mineral-bare soil	0.1	0	0	100	0
B	ROCK	mineral-surface rock fragments	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 Min.	Height Avg.	Height Max.	Height Units	Number of Records
Trees	TT, TM, TS	8.0	8.0	8.0	m	1
Medium shrubs	SM	1.5	1.5	1.5	m	1
Dwarf shrubs	SD	19.0	19.0	19.0	cm	1
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	2.0	2.0	2.0	cm	1

Characteristics of Drummond mountain avens dwarf 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

Stratum	Symbol	Scientific Name	Percent Canopy Cover Min.	Percent Canopy Cover Avg.	Percent Canopy Cover Max.	Percent Constancy	Importance Value
SD	DRDR	Dryas drummondii	45.0	48	50	100	69
L	LICHEN	total lichens	0.1	0	0	100	0
M	MOSS	total bryophytes-mosses and liverworts	5.0	12	20	100	35
M1	ZZMOSS	unknown-mosses	2.0	14	25	100	37
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	45.0	50	55	100	71

Stratum	Symbol	Scientific Name	Percent Canopy Cover			Percent Constancy	Importance Value
			Min.	*Avg.*	*Max.*		
B	ROCK	mineral-surface rock fragments	20.0	28	35	100	53
B	SOIL	mineral-bare soil	5.0	10	15	100	32
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				Number of Records
		Min.	*Avg.*	*Max.*	*Units*	
Tree regeneration	TR	0.1	0.2	0.2	m	2
Medium shrubs	SM	1.5	2.2	3.0	m	2
Dwarf shrubs	SD	7.0	15.0	20.0	cm	3
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	0.3	0.7	1.0	cm	2

Characteristics of Poplar/Drummond mountain avens woodland

Ecological Status: Mid 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 = 6. 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.*		
TR	POBA2	Populus balsamifera	10.0	20	45	100	45
SL-SM	SHCA	Shepherdia canadensis	0.1	8	25	67	23
SD	DRDR	Dryas drummondii	20.0	39	65	83	57
L	LICHEN	total lichens	0.1	28	60	100	53
L1	STERE2	Stereocaulon	0.1	14	30	100	37
L1	CLADO3	Cladonia	0.1	14	30	83	34
L2	ZZCRUST	unknown-crustose and soil crust lichens	7.0	7	7	17	11
M	MOSS	total bryophytes-mosses and liverworts	3.0	16	45	100	40
M1	ZZMOSS	unknown-mosses	3.0	13	20	100	36
M1	POPI10	Polytrichum piliferum	15.0	15	15	17	16
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	4.0	49	90	100	70
B	ROCK	mineral-surface rock fragments	2.0	15	55	100	39
B	SOIL	mineral-bare soil	0.1	4	10	100	20
B	LITTER2	litter-woody debris >2.5 cm	0.0	0	1	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				Number of Records
		Min.	*Avg.*	*Max.*	*Units*	
Trees	TT, TM, TS	5.0	6.5	7.5	m	3
Tree regeneration	TR	1.0	2.2	4.0	m	6
Medium shrubs	SM	1.0	2.0	3.0	m	3
Low shrubs	SL	70.0	85.0	100.0	cm	2
Dwarf shrubs	SD	3.0	12.3	20.0	cm	7
Tall and medium forbs	FT, FM	60.0	60.0	60.0	cm	1
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	0.3	1.3	3.0	cm	9

Mapunit Components

Common Name (Soils Name):

Boreal-riparian forested hardwood gravelly flood plains (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):

13FP2 Boreal Flood Plains, Dry
(Typic Cryorthents, sandy-skeletal-Riverwash-Oxyaquic Cryorthents, sandy-skeletal Complex)

9AF2 Boreal Fans
(Typic Cryorthents, sandy-skeletal-Spodic Dystrocryepts, sandy-skeletal Association, 2 to 10 percent slopes)

Geographically Associated Landtypes

135A_100—Loamy Flood Plains:

This site occurs on soils with a thicker loamy surface layer. The climax plant community is "Poplar/alder forest."

135A_200—Gravelly Low Flood Plains:

This site occurs on wetter soils. The climax plant community is "Sitka alder-Barclay willow-Sitka willow scrub."

135A_500—Loamy Wet Flood Plains:

This site occurs on lower positions with a thicker loam surface mantle with wetter soils. The climax plant community is "Thinleaf alder-mixed willow scrub."

Riverwash—Alluvium, Nonvegetated:

This site occurs on barren alluvium on lower flood plains. The climax plant community is "Sparsely vegetated alluvium."

Similar Landtypes

135A_100—Loamy Flood Plains:

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