Loamy Wet Flood Plains (M135A_153)

Ecoregion Classification

Section: Alaska Mountains (M135A)

Subsection(s): Lowland Flood Plains & Terraces & Fans (M135A.V1L)
Boreal Outer Range & Kantishna Hills (M135A.M1L)

Soil Features

Parent Materials: sandy and silty alluvium over sandy and gravelly alluvium
sandy and silty alluvium over sandy and gravelly alluvium derived from schist

Rooting Depth (cm): *RV:* 44 *Range:* 21 to 78

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 to 9	moderately decomposed plant material	moderately rapid	.34	5.5 to 6.4	30	80
12 to 29	stratified fine sand to silt; stratified highly decomposed plant material to sand to silt	moderate	.15 to .20	5.9 to 6.8		20
11 to 28	stratified sand to silt	moderate to rapid	.05 to .18	5.9 to 6.4		5 to 12

Restrictive Features: strongly contrasting textural stratification at 33 to 66 cm

Water Table (May to September): 0 to 70 cm

Drainage Class: very poorly drained

Vegetation Features

Common Vegetation Types:

Vegetation Type	Ecological Status
Feltleaf willow/shrubby cinquefoil/scouring rush meadow/scrub	Climax plant community
Beaver dam wet willow/sedge meadow/scrub	Beaver impacted site and vegetation

Ecological Status-Transition Description:

Two plant communities are identified within this flood prone site including a potential community with feltleaf willow/shrubby cinquefoil/scouring rush scrub and a community associated with beaver activity with willow/sedge scrub in which the site conditions have been significantly altered and are now wetter due to beaver dam construction. Flooding and beaver activity are considered transitional pathways between community types.

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
Feltleaf willow/shrubby cinquefoil/scouring rush meadow/scrub	54	23	32	42	2
Beaver dam wet willow/sedge meadow/scrub	74	32	36	42	3

Notable Plants:

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

Vegetation Type	Symbol	Scientific Name
Beaver dam wet willow/sedge meadow/scrub	CASTS	Calamagrostis stricta ssp. stricta
	TYLA	Typha latifolia

Characteristics of Feltleaf willow/shrubby cinquefoil/scouring rush 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 = 2. Only those vascular, lichen, and bryophyte species

Stratum	Symbol	Scientific Name	Percent Canopy Cover			Percent Constancy	Importance Value
			Min.	*Avg.*	*Max.*		
TR	POBA2	Populus balsamifera	10.0	10	10	50	22
SM	SAAL	Salix alaxensis	5.0	10	15	100	32
SM	SARI4	Salix richardsonii	15.0	15	15	50	27
SM	ALTE2	Alnus tenuifolia	5.0	5	5	50	16
SL	SAPS	Salix pseudomonticola	20.0	20	20	50	32
SL	PEFL15	Pentaphylloides floribunda	2.0	8	15	100	28
SD	DRIN4	Dryas integrifolia	5.0	5	5	50	16
SD	SARE2	Salix reticulata	5.0	5	5	50	16
GM	CAME4	Carex membranacea	1.0	16	30	100	40
GM	CAAQ	Carex aquatilis	10.0	10	10	100	32
GM	ERAN6	Eriophorum angustifolium	5.0	5	5	50	16
FD-FM	EQVA	Equisetum variegatum	20.0	40	60	100	63
FM	EQAR	Equisetum arvense	5.0	5	5	50	16
L	LICHEN	total lichens	0.0	0	0	100	0
M	MOSS	total bryophytes-mosses and liverworts	45.0	58	70	100	76
M1	ZZMOSS	unknown-mosses	60.0	60	60	50	55
M1	TONI70	Tomentypnum nitens	5.0	5	5	50	16
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	35.0	35	35	100	59
B	ROCK	mineral-surface rock fragments	1.0	8	15	100	28
B	WATER	water	3.0	6	10	100	24
B	SOIL	mineral-bare soil	0.1	4	7	100	20
B	LITTER2	litter-woody debris >2.5 cm	0.1	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	3.0	3.0	3.0	m	1
Tree regeneration	TR	0.7	0.7	0.7	m	1
Medium shrubs	SM	1.6	2.0	2.5	m	2
Low shrubs	SL	100.0	100.0	100.0	cm	1
Tall and medium grasses and grass-likes	GT, GM	50.0	50.0	50.0	cm	1
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	10.0	10.0	10.0	cm	1

Characteristics of Beaver dam wet willow/sedge meadow/scrub

Ecological Status: Beaver impacted site and vegetation

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.*		
TT	PIGL	Picea glauca	7.0	7	7	17	11
TM	POBA2	Populus balsamifera	5.0	5	5	17	9
ST	ALNUS	Alnus	35.0	35	35	17	24
SM	SAPU15	Salix pulchra	15.0	27	45	50	37
SL-SM	PEFL15	Pentaphylloides floribunda	0.1	6	15	83	22
SM	SAAL	Salix alaxensis	0.1	7	10	67	22
SM	SARI4	Salix richardsonii	0.1	15	30	33	22
SM	SALIX	Salix	0.1	7	20	50	19
SL	VAUL	Vaccinium uliginosum	15.0	18	25	50	30
GM-GT	CAAQ	Carex aquatilis	5.0	42	80	50	46
GT	CACA4	Calamagrostis canadensis	5.0	12	20	50	24
GT	ARLA2	Arctagrostis latifolia	0.1	5	10	50	16
GM	CAREX	Carex	80.0	82	85	33	52

Stratum	Symbol	Scientific Name	Percent Canopy Cover			Percent Constancy	Importance Value
			Min.	Avg.	Max.		
GM	CAME4	Carex membranacea	1.0	9	15	50	21
GM	CACA11	Carex canescens	0.1	8	15	33	16
GM	CAUT	Carex utriculata	15.0	15	15	17	16
GM	CABI5	Carex bigelowii	6.0	6	6	17	10
FT	EQFL	Equisetum fluviatile	2.0	14	25	67	31
FM	EQAR	Equisetum arvense	5.0	20	30	50	32
L	LICHEN	total lichens	0.0	0	0	100	0
M	MOSS	total bryophytes-mosses and liverworts	0.0	19	55	100	44
M1	SPHAG2	Sphagnum	10.0	12	15	33	20
M1	ZZMOSS	unknown-mosses	20.0	20	20	17	18
M1	TONI70	Tomentypnum nitens	7.0	7	7	17	11
M1	PASQ70	Paludella squarrosa	5.0	5	5	17	9
B	WATER	water	3.0	37	95	100	61
B	LITTER	litter-herbaceous, mulch, and woody debris <2.5 cm	10.0	21	50	100	46
B	LITTER2	litter-woody debris >2.5 cm	0.0	15	45	100	39
B	SOIL	mineral-bare soil	0.0	7	25	100	26
B	ROCK	mineral-surface rock fragments	0.0	2	10	100	14

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	8.5	12.0	m	2
Tree regeneration	TR	2.5	2.5	2.5	m	1
Tall shrubs	ST	3.0	3.0	3.0	m	1
Medium shrubs	SM	1.0	1.6	2.8	m	14
Low shrubs	SL	30.0	42.5	50.0	cm	4
Dwarf shrubs	SD	8.0	9.3	10.0	cm	3
Tall and medium grasses and grass-likes	GT, GM	30.0	87.5	130.0	cm	4
Tall and medium forbs	FT, FM	20.0	93.3	150.0	cm	3
Dwarf herbs, lichens, and bryophytes	GD, FD, L, M	0.5	5.9	10.0	cm	6

Mapunit Components

Common Name (Soils Name):

Boreal-riparian scrub loamy schist flood plains, wet (Typic Cryaquents, coarse-loamy over sandy-skeletal)

Boreal-riparian scrub loamy wet flood plains (Typic Cryaquents, coarse-loamy over sandy-skeletal)

Soil Map Units

This landtype is a minor component in the map units listed. It does not occur as a major component in any map units.

Symbol:	*Common Name (Soils Name):*
11FP	Boreal Flood Plains, High Elevation (Typic Cryofluvents, coarse-loamy over sandy-skeletal-Oxyaquic Cryorthents, sandy-skeletal-Typic Cryorthents, sandy-skeletal Association, 0 to 3 percent slopes)
7FP1	Boreal Flood Plains and Terraces (Typic Cryofluvents, coarse-loamy over sandy-skeletal-Oxyaquic Cryorthents, sandy-skeletal Complex)
7FP11	Boreal Diorite Flood Plains (Typic Cryaquents, coarse-loamy over sandy-skeletal-Typic Cryorthents, sandy skeletal-Oxyaquic Cryorthents, sandy-skeletal Complex)
8FP2	Boreal Schist Flood Plains and Terraces (Oxyaquic Cryorthents, sandy-skeletal-Typic Cryorthents, sandy-skeletal-Typic Haplogelods, sandy-skeletal Complex)
8MFS1	Boreal Schist Lower Mountain Slopes with Continuous Permafrost (Typic Historthels, loamy-skeletal-Typic Historthels, coarse-loamy-Typic Histoturbels, loamy-skeletal Association, 8 to 25 percent slopes)
G	Nonvegetated Alluvium, Alaska Mountains, Boreal (Riverwash, Alaska Mountains)

Geographically Associated Landtypes

M135A_100—Loamy Flood Plains:

This site occurs on slightly higher positions with well drained soils. The climax plant community is "Poplar-feltleaf willow scrub."

M135A_156—Loamy Wet High Flood Plains:

This site occurs on higher positions with lower flooding frequency. The climax plant community is "White spruce/Richardson willow/horsetail woodland."

Riverwash—Alluvium, Nonvegetated:

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

Similar Landtypes

M135A_203—Gravelly Low Flood Plains, Wet:

This site occurs on soils with a thin loamy surface mantle over sand and gravel. The climax plant community is "Entire mountain avens/sedge wet dwarf scrub."

M135A_250—Gravelly Low Flood Plains, Acid:

This site has soils that are very shallow to sand and gravel. The climax plant community is "Feltleaf willow-green alder scrub."

M135A_257—Gravelly Low Flood Plains, High Elevation:

This site has drier soils. The climax plant community is "Feltleaf willow scrub, cool."

M135A_258—Gravelly Flood Plains, Cool:

This site has soils that are very shallow to sand and gravel. The climax plant community is "Feltleaf willow-mixed shrub/herbaceous scrub."