

172Xy106AK - Glaciolacustrine Uplands
Spruce/shrub birch woodland

Part A: Description of Site

1.c. Landscape Narrative: This site occurs on lacustrine terraces, till plains, and hills formed in loamy and clayey lacustrine deposits and gravelly and loamy glacial till. Permafrost is generally absent. Slopes in most places range from 0 to about 20 percent. Elevation is from 1900 to 2800 feet (579 to 853 m).

This site is found throughout the uplands in the Gulkana River area. It occurs intermittently on the same landscape with sites with shallow permafrost. This site is extensive at low to mid elevations throughout the Copper River basin.

MLRA (USDA 1981): 172X - Copper River Plateau

Ecological Unit (Nowacki and Brock 1995): 135A - Copper River Basin Section

1.d.(3). Associated Water Features Narrative: (BLM)

2.j. Climate Narrative: The subarctic continental climate of this site is characterized by long cold winters and short warm summers. Mean January temperature is -2 °F; mean July temperature is 54 °F. Mean annual precipitation ranges from 15 to 21 inches. Annual snowfall ranges from 54 to 102 inches. The frost-free season is about 60 to 80 days (28 °F base temperature). The growing season varies greatly from year to year and frosts can occur during any summer month.

3.s. Soils Narrative: The poorly developed soils on this site are formed in gravelly glacial till and fine-grained lacustrine deposits. The organic mat is generally less than 6 inches (15 cm) thick. Some soils have a surface mantle of silty eolian material up to 8 inches (20 cm) thick. In most places there is no water table present within the soil profile and the soils are well drained.

4.e. Vegetation Narrative: Spruce/shrub birch woodland is the correlated PNC on this site.

5.b. Wildlife Narrative: (BLM)

6. Community Dynamics (Fire, etc.): Vegetation on this site is highly susceptible to wild fire. In most instances, fire would kill the spruce trees and destroy much if not all of the woodland overstory. Following fires of moderate or less severity, sprouting from root crowns and other underground organs should initially produce Low shrub birch scrub or similar vegetation. A severe burn, one in which the moss-organic layer was consumed to mineral soil, would allow for the establishment of pioneering lichens, mosses, and herbs on the soil surface.

Regeneration of the woodland overstory will depend to a large degree on available seed sources, severity of burn, and suitability of the seed bed and environment. In the boreal forest zone, repeated fires generally favors the establishment of black spruce over white spruce. Continued tree regeneration and growth would eventually lead to Spruce/shrub birch woodland. Post-fire succession on severely burned areas may pass through a Spruce/lichen woodland stage. This vegetation could persist for an extended period of time until the moss-organic layer becomes re-established.

7. List of Commonly Associated Sites (number and names):

a. Upland:

172Xy107AK - Glaciolacustrine Uplands, Frozen

172Xy108AK - Sandy and Gravelly Terraces

172Xy109AK - Mountain Slopes, Shallow

172Xy110AK - Glaciolacustrine Uplands, Ruptic

b. Riparian or Wetland:

172Xy105AK - Terraces, Wet

172Xy202AK - Shallow Drainages

172Xy501AK - Wet Depressions

8. *List of Competing Sites (number and names):*

172Xy107AK - Glaciolacustrine Uplands, Frozen: similar position on lacustrine terraces, till plains, and hills; soils with shallow permafrost, a perched water table, and restricted drainage; Spruce/spruce muskeg sedge open forest vegetative potential.

107Xy108AK - Sandy and Gravelly Terraces: isolated strandline and outwash deposits and high stream terraces; soils formed in sandy and gravelly materials; Spruce/lichen woodland vegetative potential.

172Xy109AK - Mountain Slopes, Shallow: gently sloping to steep mountain slopes and crests; soils shallow to bedrock; similar vegetative potential.

172Xy110AK - Glaciolacustrine Uplands, Ruptic: similar landforms and landscape position; soils formed in clayey and fine loamy lacustrine materials; microtopography a complex of frost boils and intervening swales and troughs; Spruce/shrub birch woodland vegetative potential.

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Part B: Interpretations for Use and Management of the Site

1.a. *Plant Community Characteristics:* see attached summary tables and diagrams for seral stages and stand characteristics.

1.b. *Riparian or Wetland Site Progressions:*

(2) *Degradation:* Snags and charred downfall, a thin, weakly developed moss-organic mat, and other evidence of past wild fires, are common in most stands suggesting that this site does in fact experience recurring wild fires. Additional evidence includes scattered spruce trees and clumps of trees in stands of seral Low shrub birch scrub. In places, this site occurs side-by-side on the same landform with ecological site 172Xy107AK - Glaciolacustrine Uplands, Frozen, suggesting that 172Xy106AK - Glaciolacustrine Uplands is a retrogressive stage of 172Xy107AK - Glaciolacustrine Uplands, Frozen that develops following wild fire. Prominent fire lines are evident between areas of the two sites.

Absence of fire for an extended period of time in 172Xy106AK - Glaciolacustrine Uplands would allow the moss-organic layer to thicken and insulate the soils, favoring the development of permafrost and restricted soil drainage. Continued development of the moss-organic layer and soil permafrost and vegetative succession would lead to site progression toward ecological site 172Xy107AK - Glaciolacustrine Uplands, Frozen.

1.k. *Applicable Field Offices:* BLM, Glennallen District Office

Ecological Site: 172Xy106AK - Glaciolacustrine Uplands
 Cover type: Spruce/shrub birch woodland

Seral status: PNC

Number of stands: 24

Source of data: Gulkana River Area

Key: Con = % constancy; Avg = average % canopy cover;
 Min = minimum % canopy cover; Max = maximum %
 canopy cover; Imp = importance value

Note: Avg, Min, and Max based only on stands in which a
 taxon occurred; Imp = sq root of (Con * Avg)

: Only taxa with >10% constancy included.

Common_name	Stratum	Con	Avg	Min	Max	Imp
black spruce	T2	13	28	15	45	19
quaking aspen	T2	17	2	1	3	5
spruce	T2	21	26	15	40	23
white spruce	T2	67	15	10	20	32
black spruce	T3	13	4	1	5	7
white spruce	T3	42	6	1	10	15
Labrador-tea	SS	100	24	7	60	49
black crowberry	SS	88	7	1	30	24
blueberry willow	SS	38	5	1	15	14
bog blueberry	SS	100	21	5	40	46
feltleaf willow	SS	13	15	5	20	14
grayleaf willow	SS	46	10	1	20	22
lowbush cranberry	SS	96	6	1	15	23
prickly rose	SS	50	2	1	5	9
red bearberry	SS	50	3	1	20	13
shrub birch	SS	88	37	2	70	57
shrubby cinquefoil	SS	17	3	1	5	7
small cranberry	SS	17	1	1	1	3
willow	SS	71	8	1	30	24
Canadian bunchberry	F	63	2	1	7	12
Labrador lousewort	F	42	1	1	1	5
arctic sweet coltsfoot	F	58	3	1	15	14
cloudberry	F	17	1	1	2	5
clubmoss	F	21	2	1	5	6
common fireweed	F	63	1	1	2	7
horsetail	F	63	9	1	25	24
northern commandra	F	13	7	3	15	9
ragwort	F	58	1	1	5	7
bluejoint reedgrass	G	38	1	1	2	5
polar grass	G	75	3	1	10	14
rough fescue	G	21	3	1	7	8
sedge	G	21	2	1	7	7
spruce-muskeg sedge	G	33	4	1	15	12
Moss layer	M	100	49	25	85	70
Lichen layer	L	100	19	1	40	43
Bare soil	B	50	2	1	5	10
Litter and mulch	B	100	12	1	30	34
Rock fragments	B	13	1	1	2	4
Woody litter (>1" dia.)	B	67	5	1	20	18

Salix spp. includes: SALIX SAPL2

Ecological Site: 172Xy106AK - Glaciolacustrine Uplands

Cover type: Spruce/lichen woodland

Seral status: PNC (drier_microsites)

Number of stands: 10

Source of data: Gulkana River Area

Key: Con = % constancy; Avg = average % canopy cover;

Min = minimum % canopy cover; Max = maximum %

canopy cover; Imp = importance value

Note: Avg, Min, and Max based only on stands in which a
taxon occurred; Imp = sq root of (Con * Avg)

: Only taxa with >10% constancy included.

Common_name	Stratum	Con	Avg	Min	Max	Imp
black spruce	T2	60	25	10	40	39
black spruce	T3	60	6	3	10	19
quaking aspen	T3	20	1	1	2	5
white spruce	T3	30	6	5	7	13
Labrador-tea	SS	100	25	10	40	50
black crowberry	SS	60	4	2	10	16
blueberry willow	SS	60	3	1	5	13
bog blueberry	SS	100	26	8	45	51
grayleaf willow	SS	70	11	5	20	28
lowbush cranberry	SS	100	9	4	20	30
prickly rose	SS	50	2	1	5	10
red bearberry	SS	40	3	1	5	10
shrub birch	SS	90	30	1	65	52
willow	SS	50	8	3	10	19
Canadian bunchberry	F	50	1	1	2	7
arctic sweet coltsfoot	F	20	2	1	3	6
clubmoss	F	20	1	1	2	5
horsetail	F	30	3	1	6	10
northern commandra	F	20	1	1	1	3
polar grass	G	20	3	1	4	7
rough fescue	G	30	2	1	3	7
sedge	G	30	1	1	1	4
Moss layer	M	100	24	15	30	48
Lichen layer	L	100	45	30	65	67
Bare soil	B	80	2	1	5	12
Litter and mulch	B	100	15	1	35	38
Woody litter (>1" dia.)	B	70	8	1	25	23

Salix spp. includes: SAPL2

Ecological Site: 172Xy106AK - Glaciolacustrine Uplands

Cover type: Low shrub birch scrub

Seral status: early-mid

Number of stands: 9

Source of data: Gulkana River Area

Key: Con = % constancy; Avg = average % canopy cover;

Min = minimum % canopy cover; Max = maximum %

canopy cover; Imp = importance value

Note: Avg, Min, and Max based only on stands in which a
taxon occurred; Imp = sq root of (Con * Avg)

: Only taxa with >10% constancy included.

Common_name	Stratum	Con	Avg	Min	Max	Imp
white spruce	T1	56	9	1	15	22
white spruce	T2	33	4	2	8	12
white spruce	T3	56	12	1	30	25
Beauverd spiraea	SS	11	5	5	5	7
Labrador-tea	SS	100	27	10	40	52
Scouler willow	SS	11	1	1	1	2
black crowberry	SS	67	4	2	10	16
blueberry willow	SS	44	4	1	7	13
bog blueberry	SS	100	31	5	60	56
feltleaf willow	SS	22	1	1	1	3
grayleaf willow	SS	78	8	1	20	25
lowbush cranberry	SS	67	5	1	15	17
net vein willow	SS	33	2	1	2	7
prickly rose	SS	33	2	1	5	8
red bearberry	SS	44	4	1	5	13
shrub birch	SS	100	58	10	85	76
shrubby cinquefoil	SS	22	3	2	3	7
shurb birch (hybrid)	SS	11	1	1	1	2
willow	SS	78	3	1	5	16
Canadian bunchberry	F	44	2	1	3	8
Labrador lousewort	F	56	1	1	1	5
Unknown forb	F	11	1	1	1	2
arctic dock	F	11	1	1	1	2
arctic sweet coltsfoot	F	22	2	1	3	7
cloudberry	F	11	1	1	1	3
clubmoss	F	11	1	1	1	2
common fireweed	F	89	1	1	1	7
horsetail	F	33	1	1	3	7
marsh grass-of-parnassus	F	11	1	1	1	2
milk-vetch	F	11	1	1	1	2
ragwort	F	22	1	1	1	3
tall Jacob`s-ladder	F	22	1	1	1	3
bluejoint reedgrass	G	11	5	5	5	7
polar grass	G	44	2	1	6	9
rough fescue	G	67	1	1	2	7
spruce-muskeg sedge	G	22	28	1	55	25
Moss layer	M	100	34	15	65	59
Lichen layer	L	100	13	1	20	36
Bare soil	B	33	4	1	7	12
Litter and mulch	B	56	20	5	35	33
Rock fragments	B	11	1	1	1	2
Surface water	B	11	1	1	1	2
Woody litter (>1" dia.)	B	56	4	1	10	14

Salix spp. includes: SABA3 SAPL2

172Xy106AK - Glaciolacustrine Uplands (106tech.doc)

Ecological Site: 172Xy106AK - Glaciolacustrine Uplands

Cover type: Low shrub birch/lichen scrub

Seral status: early (drier_microsites)

Number of stands: 5

Source of data: Gulkana River Area

Key: Con = % constancy; Avg = average % canopy cover;

Min = minimum % canopy cover; Max = maximum %

canopy cover; Imp = importance value

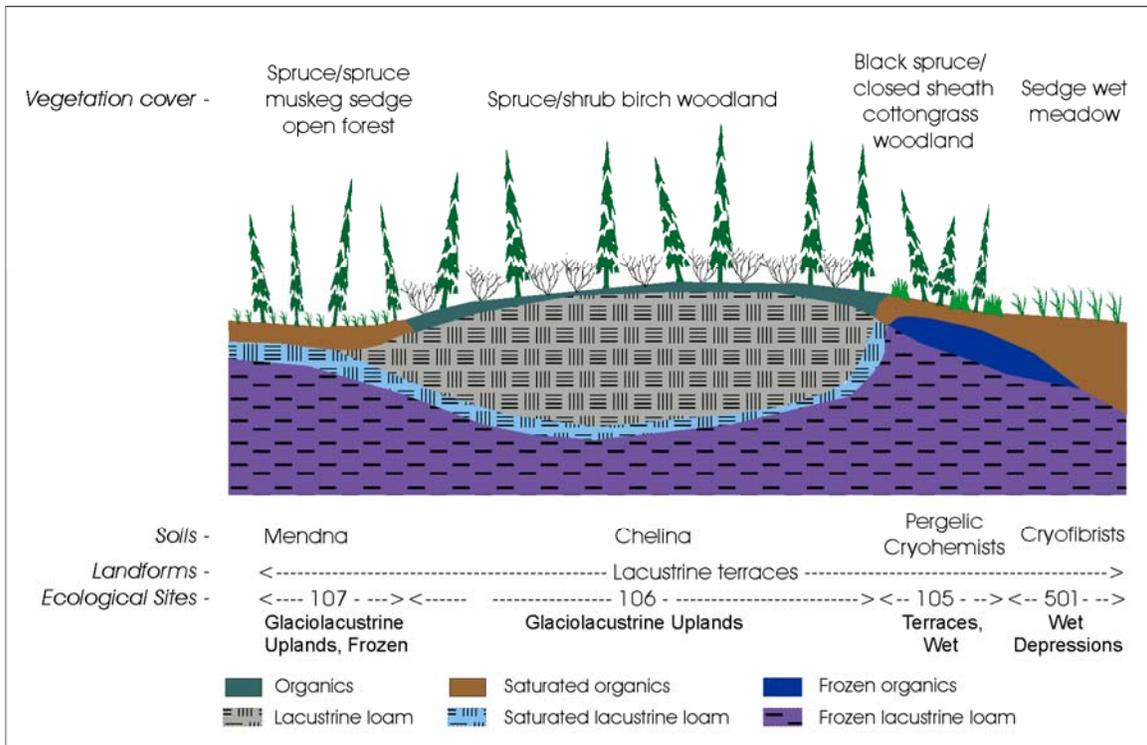
Note: Avg, Min, and Max based only on stands in which a

taxon occurred; Imp = sq root of (Con * Avg)

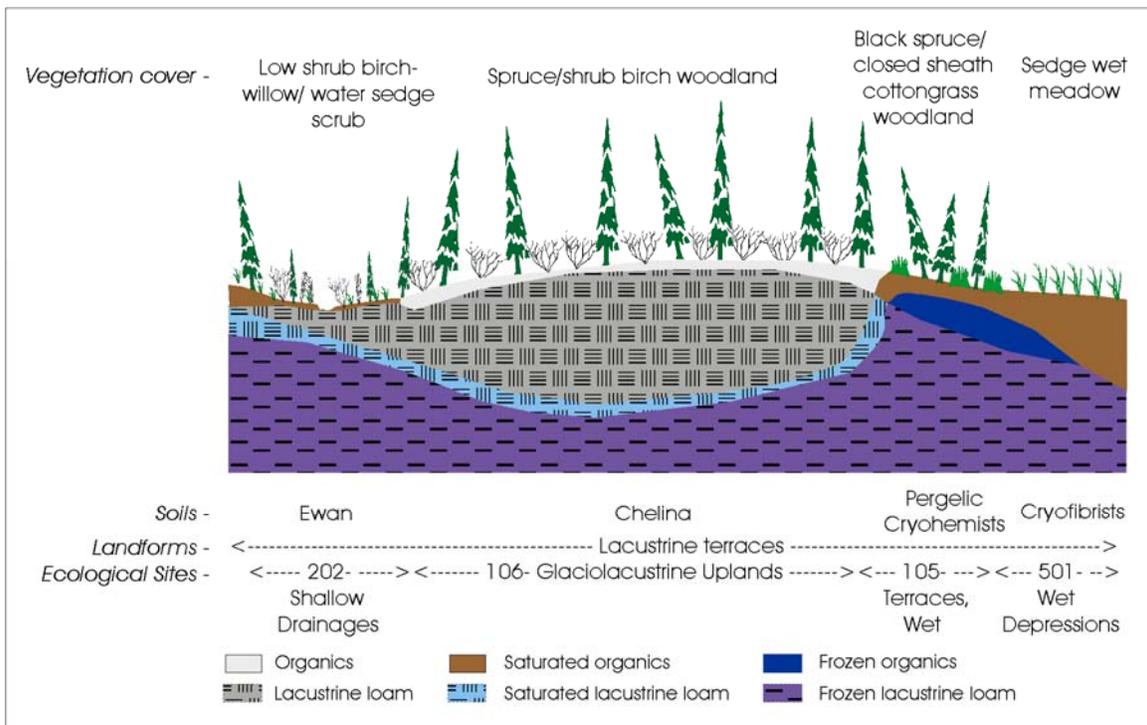
: Only taxa with >10% constancy included.

Common_name	Stratum	Con	Avg	Min	Max	Imp
white spruce	T1	20	1	1	1	4
black spruce	T2	20	1	1	1	3
white spruce	T2	80	6	2	15	21
black spruce	T3	20	5	5	5	10
white spruce	T3	100	2	1	5	14
Beauverd spiraea	SS	20	1	1	1	3
Labrador-tea	SS	100	25	4	60	50
Scouler willow	SS	20	1	1	1	4
black crowberry	SS	80	7	2	15	24
blueberry willow	SS	20	4	4	4	9
bog blueberry	SS	100	16	5	40	40
grayleaf willow	SS	60	2	1	5	11
lowbush cranberry	SS	100	3	1	4	17
prickly rose	SS	20	1	1	1	3
red bearberry	SS	40	1	1	2	7
russet buffalo-berry	SS	20	4	4	4	9
shrub birch	SS	100	55	10	85	74
shrubby cinquefoil	SS	20	1	1	1	3
willow	SS	80	4	1	7	19
Canadian bunchberry	F	20	1	1	1	3
Labrador lousewort	F	40	1	1	1	4
arctic sweet coltsfoot	F	40	3	1	5	11
cloudberry	F	20	1	1	1	4
clubmoss	F	20	1	1	1	4
common fireweed	F	60	1	1	1	6
horsetail	F	60	4	1	10	15
ragwort	F	20	1	1	1	3
blue grass	G	20	1	1	1	3
bluejoint reedgrass	G	40	1	1	1	4
closed-sheath cottongrass	G	20	1	1	1	3
narrow false oat	G	20	1	1	1	3
polar grass	G	40	1	1	2	7
rough bent	G	20	1	1	1	3
rough fescue	G	40	4	1	6	12
sedge	G	20	1	1	1	3
Moss layer	M	100	35	25	45	59
Lichen layer	L	100	41	30	55	64
Bare soil	B	60	2	1	5	11
Litter and mulch	B	100	18	5	30	42
Rock fragments	B	40	1	1	1	4
Surface water	B	20	1	1	1	3
Woody litter (>1" dia.)	B	80	4	1	7	18

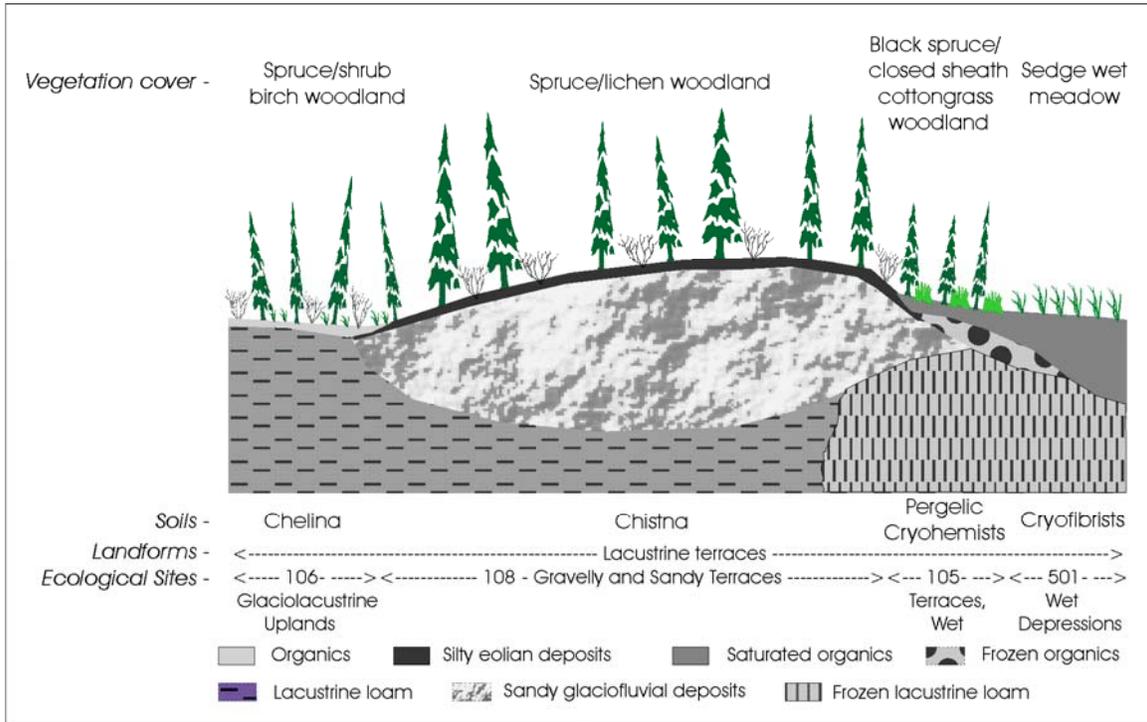
Salix spp. includes: SABA3 SAPL2



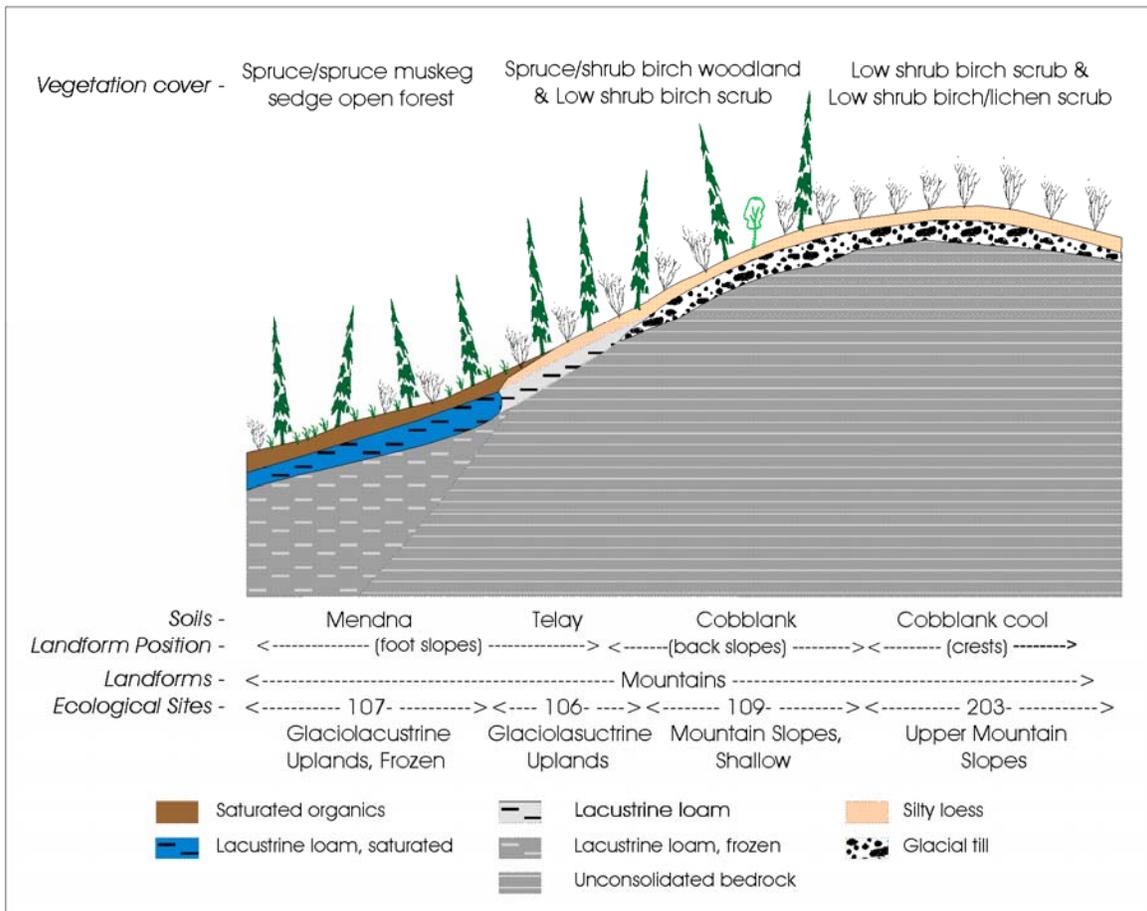
Representative cross section in the glaciolacustrine uplands above the Main Stem.



Representative cross section in the glaciolacustrine uplands above the Main Stem.



Representative cross section in the glaciolacustrine uplands above the West Fork.



Representative cross section of mountains slopes above the upper Main Stem.