USDA Natural Resources Conservation Service

Ecological site R220XY426AK
Maritime Shrub Low Flood Plain

Last updated: 3/10/2025
Accessed: 05/11/2025

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

MLRA notes

Major Land Resource Area (MLRA): 220X–Alexander Archipelago-Gulf of Alaska Coast

The Alexander Archipelago-Gulf of Alaska Coast area consists of a narrow arc of islands and lower elevation coastal mountains in the Southern Alaska Region. This area spans from the Alexander Archipelago in southeastern Alaska, north and west along the coast of the Gulf of Alaska and Prince William Sound, and further west to the southern tip of the Kenai Peninsula and the northeastern islands of the Kodiak Archipelago. The area makes up about 27,435 square miles (USDA 2006). The terrain primarily consists of low to moderate relief mountains that are deeply incised. Throughout the area glaciers, rivers, and streams have cut deep, narrow to broad valleys. The broader valleys have nearly level to strongly sloping flood plains and stream terraces. Alluvial and colluvial fans and short footslopes are common in the valleys along the base of the mountains. Rocky headlands, sea cliffs, estuaries, and beaches are common along the coast.

This area includes the Municipality of Juneau, Alaska's capital, and a number of smaller coastal towns and villages. Federally administered lands within this MLRA include Admiralty Island National Monument and part of Misty Fjords National Monument, Tongass National Forest, Chugach National Forest, and Glacier Bay, Wrangell-St. Elias, and Kenai Fjords National Parks and Preserves. The southern terminus of the Trans-Alaska Pipeline is in Valdez. During the late Pleistocene epoch, the entire area was covered with glacial ice. The numerous fjords of the Alexander Archipelago and Prince William Sound were formed chiefly as a result of glacial scouring and deepening of preglacial river valleys. Most glacial deposits have been eroded away or buried by mountain colluvium and alluvium, which cover about 90 percent of the present landscape. The remaining glacial and glaciofluvial deposits are generally restricted to coastal areas. During the Holocene epoch, volcanic activity within and adjacent to this area deposited a layer of volcanic ash of varying thickness on much of the landscape in the southeastern and northwestern parts of the area. Paleozoic, Mesozoic, and Lower Tertiary stratified sedimentary rocks and Cretaceous and Tertiary intrusive rocks underlie much of the area and are exposed on steep mountain slopes and ridges (USDA 2006).

The dominant soil orders in this MLRA are Spodosols, Histosols, and Entisols. Soils in the area typically have a cryic soil temperature regime, an udic moisture regime, and have mixed minerology. Spodosols are common on mountains and hills having been formed in gravelly or cobbly colluvium, glacial till, and varying amounts of silty volcanic ash. These Spodosols commonly range from shallow to deep, are well to somewhat poorly drained, and typically classify as Humicryods or Haplocryods. Histosols that are poorly to very poorly drained occur on footslopes, discharge slopes, and valley floors. These wet histosols commonly classify as Cryosaprists, Cryohemists, and Cryofibrists. Histosols that are well drained occur on steep mountainsides. These dry Histosols commonly classify as Cryofolists. Entisols are common on flood plains, stream terraces, and outwash plains having been formed in silty, sandy, and gravelly to cobbly alluvium. These Entisols are generally deep, range from well to somewhat poorly drained, and commonly classify as Cryaquents and Cryofluvents. Miscellaneous (non-soil) areas make up about 23 percent of the MLRA. The most common miscellaneous areas are avalanche chutes, rock outcrop, rubble land, beaches, river wash, and water.

This area represents the northern extent of the Pacific temperature rainforest and is characterized by productive

stands of conifers. Western hemlock and Sitka spruce are the dominant trees on mountains and hills at the lower elevations. Due to warmer temperatures, western red cedar and Alaska cedar are more prevalent in the southern part of the area. Black cottonwood and mixed forest types occur on flood plains. Areas of peat and other sites that are too wet for forest growth support sedge-grass meadows and low scrub. The transition to subalpine and alpine communities typically occurs at elevations between 1500 to 3000 feet (Boggs et al. 2010, Carstensen 2007, Martin et al. 1995), which characterize the vegetation of the Southern Alaska Coastal Mountains area.

For many decades, logging, commercial fishing, and mining have been the primary industrial land uses throughout much of the area. In recent years, changes in public interests, land use policies, and timber economics have contributed to a significant decline in the timber industry. Commercial fishing continues to be an important industry and most communities support a fleet of boats and fishing related facilities. A number of mines operate in the area and others have been prospected and proposed. Tourism and wildland recreation are becoming increasingly important. Subsistence hunting, fishing, and gathering provide food and a variety of other resources to local residents and remain the principal economy for residents of remote villages.

Ecological site concept

This site occurs in river valleys and coastal plains on low flood plains adjacent to a river or stream channel. These low flood plains are frequently to occasionally flooded . Soil textures are stratified silt loams to loamy sands, often with lenses of gravel and sandier textures in deeper soil horizons. Relatively small, closed depressions occur on these low flood plains and often have very deep peat deposits as a result of long duration ponding. Drainage class ranges from very poorly drained on streambanks and depressions to moderately well-drained on elevated flood plain steppes.

This site supports a reference state composed of two communities that reflect a disturbance regime of high-intensity flooding. An open tall shrub community with abundant herbaceous understory plants is typical following severe flood events. In the absence of severe flooding, shrub abundance increases, herbaceous productivity decreases, and the community becomes a closed tall scrubland comprised dominantly of alder and willow.

Associated sites

F220XY427AK	**Maritime Forest Gravelly High Floodplain** Site F220XY427AK occurs adjacent to this site on the high floodplains of large rivers and tributaries, just upslope from this site.

Similar sites

F220XY427AK	**Maritime Forest Gravelly High Floodplain** Both of these sites occur on the floodplains of large streams and tributaries, but R220XY427AK occurs on the high floodplain and supports mature trees, while this site occurs on the low floodplain and does not support mature trees.
R220XY425AK	**Maritime Shrub Drainageway** R220XY425AK is associated with small drainageways that flood less frequently than this site.
R220XY444AK	**Maritime Scrub Gravelly Steep Drainageways** R220XY444AK is associated with steep small drainageways that flood less frequently than this site.

Table 1. Dominant plant species

Tree	Not specified
Shrub	(1) *Alnus viridis ssp. sinuata* (2) *Salix sitchensis*
Herbaceous	Not specified

Physiographic features

This site occurs in river valleys and coastal plains on low flood plains adjacent to a river or stream channel. These low flood plains are frequently to occasionally flooded, and may include some closed depressions where water

ponds on the surface for long durations. The water table depth increases with elevation above the stream channel, but is typically within 30 inches of the soil surface. Slopes range from 0 – 3% with elevations generally up to 500 feet.

Table 2. Representative physiographic features

Landforms	(1) Coastal plain > Flood plain (2) River valley > Flood plain (3) Coastal plain > Flood plain > Closed depression (4) River valley > Flood plain > Closed depression
Runoff class	Medium
Flooding duration	Brief (2 to 7 days) to long (7 to 30 days)
Flooding frequency	Occasional to frequent
Ponding duration	Brief (2 to 7 days)
Ponding frequency	None to rare
Elevation	0–500 ft
Slope	0–3%
Water table depth	0–30 in
Aspect	W, NW, N, NE, E, SE, S, SW

Table 3. Representative physiographic features (actual ranges)

Runoff class	Medium
Flooding duration	Brief (2 to 7 days) to long (7 to 30 days)
Flooding frequency	Occasional to frequent
Ponding duration	Very long (more than 30 days)
Ponding frequency	None to frequent
Elevation	0–1,850 ft
Slope	0–5%
Water table depth	0–60 in

Climatic features

Cloudy skies, moderate temperatures, and abundant rainfall characterize the temperate maritime climate of this site. Frequent winter storms may consist of snow or heavy rainfall. Moderate to strong winds from the south and southeast are common before and during storms throughout the year. Annual precipitation ranges from 44-94 inches, and annual snowfall ranges from 30-70 inches along the coast and up to 200 inches at higher elevations (USDA 2006). The average annual temperature at lower elevations ranges from about 38-43 degrees F (3-6 degrees C). The frost-free period ranges from about 90-140 days, and the freeze-free period ranges from about 125-180 days.

Table 4. Representative climatic features

Frost-free period (characteristic range)	95-142 days
Freeze-free period (characteristic range)	147-183 days
Precipitation total (characteristic range)	55-145 in
Frost-free period (actual range)	84-170 days
Freeze-free period (actual range)	119-218 days
Precipitation total (actual range)	35-172 in
Frost-free period (average)	120 days

Freeze-free period (average)	168 days
Precipitation total (average)	97 in

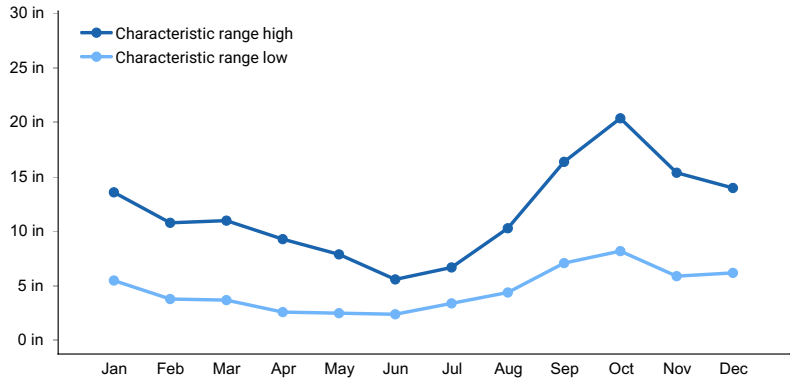


Figure 1. Monthly precipitation range

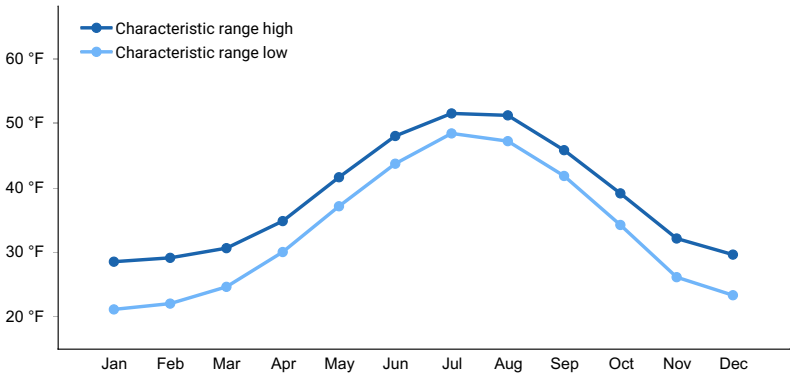


Figure 2. Monthly minimum temperature range

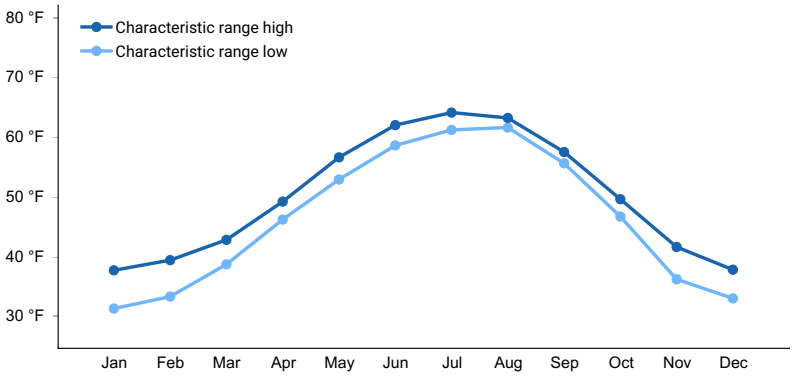


Figure 3. Monthly maximum temperature range

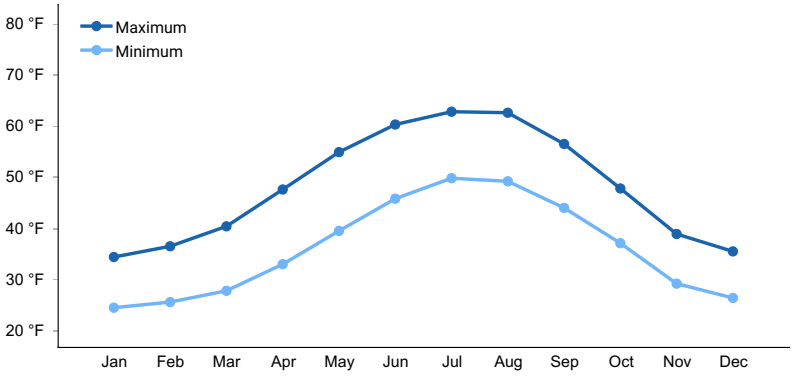


Figure 4. Monthly average minimum and maximum temperature

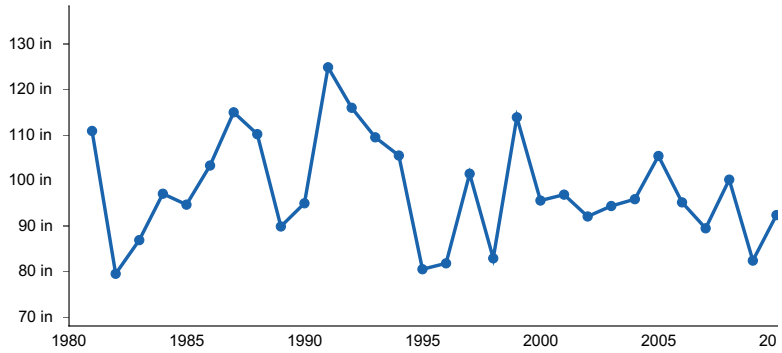


Figure 5. Annual precipitation pattern

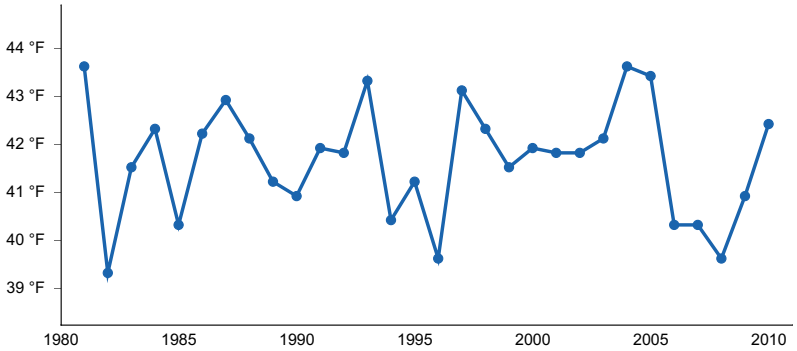


Figure 6. Annual average temperature pattern

Climate stations used

- (1) GUSTAVUS [USW00025322], Gustavus, AK
- (2) GLACIER BAY [USC00503294], Gustavus, AK
- (3) YAKUTAT STATE AP [USW00025339], Yakutat, AK
- (4) SKAGWAY AP [USW00025335], Skagway, AK
- (5) HAINES AP [USW00025323], Haines, AK
- (6) SELDOVIA AP [USW00025516], Homer, AK
- (7) MAIN BAY [USC00505604], Valdez, AK
- (8) CORDOVA M K SMITH AP [USW00026410], Cordova, AK
- (9) SITKA AIRPORT [USW00025333], Sitka, AK
- (10) JUNEAU INTL AP [USW00025309], Juneau, AK
- (11) ANNETTE ISLAND AP [USW00025308], Metlakatla, AK
- (12) PETERSBURG 1 [USW00025329], Petersburg, AK
- (13) KETCHIKAN INTL AP [USW00025325], Ketchikan, AK
- (14) PELICAN [USC00507141], Hoonah, AK

Influencing water features

The hydrology of this site is characterized by frequent freshwater flooding during spring runoff and other large storm events. High-intensity flooding events periodically remove vegetation, resulting in high cover of alder and willow with very low tree cover. Closed depressions on the flood plain are frequently ponded for long durations.

Soil features

The soils of this site formed in deep alluvial deposits on low flood plains by freshwater rivers and streams. Soil textures are stratified silt loams to loamy sands, often with lenses of gravel and sandier textures in deeper soil horizons. A thin organic layer is common on the soil surface. Relatively small, closed depressions occur on these low flood plains, and often have very deep peat deposits as a result of long duration ponding. Drainage class ranges from very poorly drained on streambanks and depressions to moderately well-drained on elevated flood plain steppes. This site has an aquic or udic soil moisture regime.

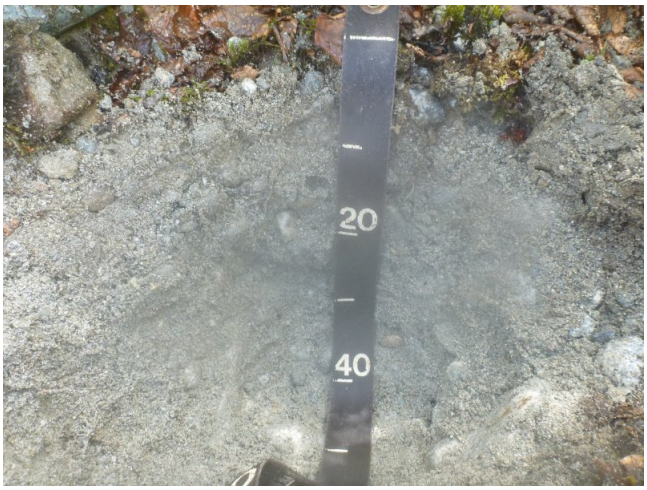


Figure 7. Typical soil profile associated with Puffin soils in AK692.

Table 5. Representative soil features

Parent material	(1) Alluvium (2) Organic material
Surface texture	(1) Silt loam (2) Gravelly silt loam (3) Very fine sandy loam (4) Loamy sand (5) Peat
Family particle size	(1) Coarse-silty (2) Coarse-loamy over sandy or sandy-skeletal (3) Sandy
Drainage class	Very poorly drained to moderately well drained
Permeability class	Moderately slow to rapid
Soil depth	60 in
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0%
Available water capacity (0-10in)	1.1–2.7 in
Calcium carbonate equivalent (0-40in)	0%
Clay content (0-20in)	2–10%
Electrical conductivity (0-40in)	0 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	4.5–7.3
Subsurface fragment volume <=3" (0-60in)	0–30%
Subsurface fragment volume >3" (0-60in)	0–3%

Table 6. Representative soil features (actual values)

Drainage class	Very poorly drained to moderately well drained

Permeability class	Moderately slow to very rapid
Soil depth	60 in
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0–15%
Available water capacity (0-10in)	0.2–3.9 in
Calcium carbonate equivalent (0-40in)	0–4%
Clay content (0-20in)	0–10%
Electrical conductivity (0-40in)	0–2 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	3.5–8.4
Subsurface fragment volume <=3" (0-60in)	0–75%
Subsurface fragment volume >3" (0-60in)	0–15%

Ecological dynamics

This site is associated with flood plains of large rivers and tributaries along the Gulf of Alaska. Until about 10,000 years ago, this area had many continental-scale ice sheets that advanced and retreated many times over millennia (Chapin 1994). The final advance of these glaciers occurred during the Little Ice Age, which peaked about 1750 AD. Since then, many glaciers have thinned and retreated inland, while numerous tidewater glaciers still exist in the area (Lawson 2015). The 250-year glacial retreat is attributed to less regional snowfall in the mountains, rising winter temperatures, and decreased cloud cover and lower precipitation during the growing season in summer (Hall et al. 2003).

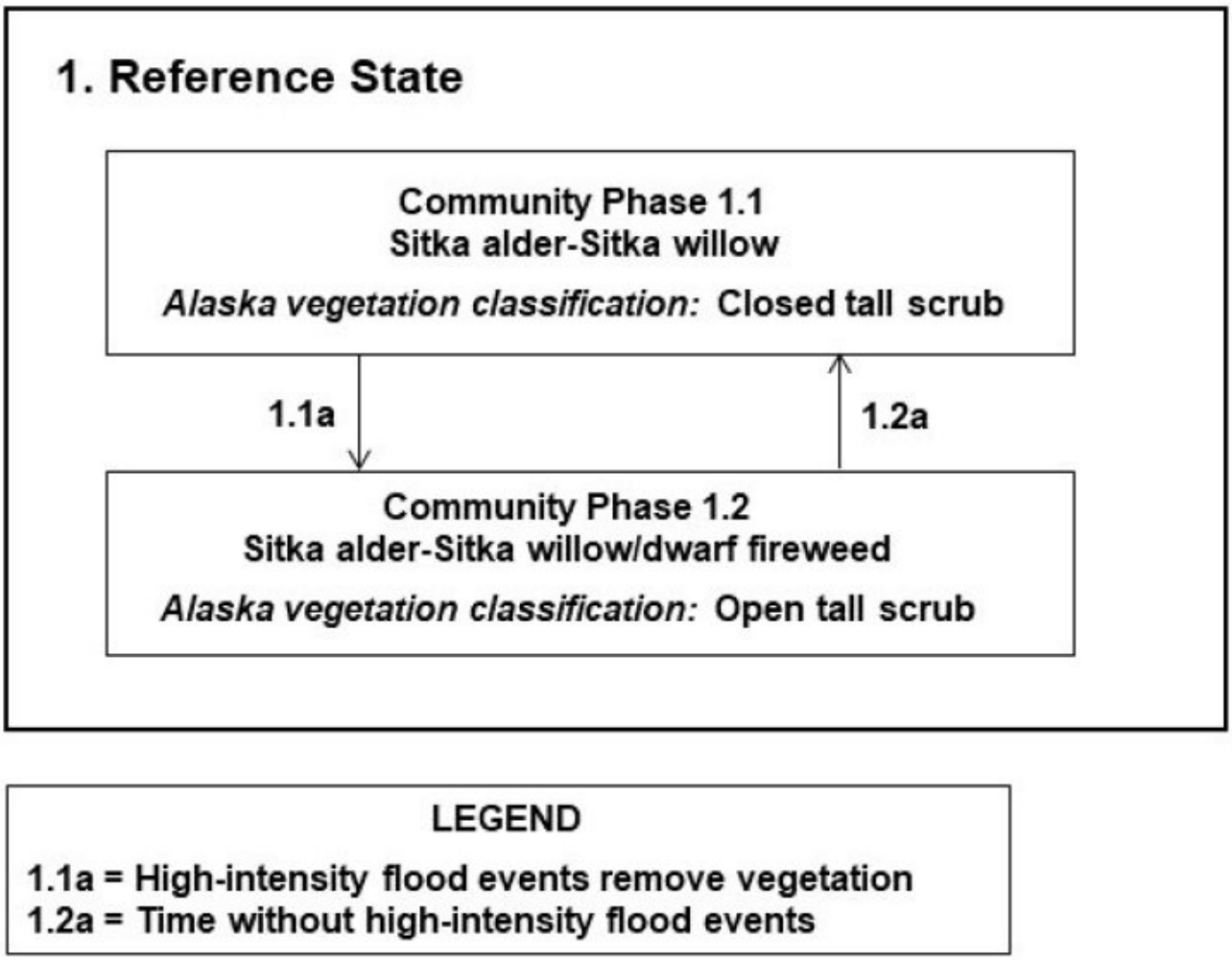
During the past 250 years of glacial retreat, meltwater transported and deposited a large amount of silt and sediment via numerous short, high-gradient rivers. Alluvial and colluvial fans and long footslopes are common in the valleys along the base of the mountains. The flood plains in this area are generally broad and braided with a high gradient, and feed into the tidally influenced estuarine areas.

Ecological site R220XY426AK supports a reference state composed of two communities that reflect a disturbance regime of frequent flooding for extended periods. An open tall shrub community with abundant herbaceous understory plants is typical following severe flood events. In the absence of severe flooding, the abundance of shrubs increases, herbaceous productivity decreases, and the community becomes a closed tall scrubland comprised dominantly of alder and willow. If flooding becomes even less frequent, balsam poplar (*Populus balsamifera*) seedlings and saplings may establish but do not dominate on this site.

Browsing by moose on willow species was observed on this ecological site, but it does not appear to affect the ecological processes enough to alter the communities.

State and transition model

R220XY426AK – Maritime Shrub Low Flood Plain



State 1
Reference State

The reference state has two associated community phases that transition along reversible pathways related to flooding frequency and intensity.

Resilience management. This state has been observed to be resilient and/or resistant to current disturbance

drivers, lacking alternative states and at-risk communities.

Dominant plant species

- Sitka alder (*Alnus viridis ssp. sinuata*), shrub
- Sitka willow (*Salix sitchensis*), shrub

Community 1.1
Sitka alder-Sitka willow

Community 1.1 is characterized as closed tall scrubland. The canopy is primarily a dense thicket of shrubs. Common shrubs include Sitka alder, Sitka willow, and salmonberry. Balsam poplar and Sitka spruce (*Picea sitchensis*) are common, but primarily occur as seedlings with low cover. The vegetative strata that characterize this community phase are tall shrubs (greater than 10 feet in height) and medium shrubs (between 3 and 10 feet in height). The soil surface can be bare soil, or covered with herbaceous litter, rock fragments, and/or bryophytes. Common bryophytes include goose neck moss (Rhytidiadelphus spp.), Ceratodon moss (Ceratodon spp.), and Schreber's big red stem moss (*Pleurozium schreberi*).

Dominant plant species

- Sitka alder (*Alnus viridis ssp. sinuata*), shrub
- Sitka willow (*Salix sitchensis*), shrub
- salmonberry (*Rubus spectabilis*), shrub
- feltleaf willow (*Salix alaxensis*), shrub
- squashberry (*Viburnum edule*), shrub

Table 7. Soil surface cover

Tree basal cover	0-1%
Shrub/vine/liana basal cover	0-2%
Grass/grasslike basal cover	0%
Forb basal cover	0%
Non-vascular plants	5-40%
Biological crusts	0-3%
Litter	16-93%
Surface fragments >0.25" and <=3"	0-30%
Surface fragments >3"	0-35%
Bedrock	0%
Water	0%
Bare ground	0-85%

Community 1.2
Sitka alder-Sitka willow/dwarf fireweed

Figure 8. Typical plant community associated with community 1.2.

Community 1.2 is characterized as an open tall scrubland. Common shrubs include Sitka alder and various willow (most commonly Sitka willow). Common forbs and graminoids include dwarf fireweed, marsh grass of Parnassus , and tufted hairgrass. The vegetative strata that characterize this community phase are medium shrubs (between 3 and 10 feet in height), medium forbs (between 4 and 24 inches in height), and medium graminoids (between 4 and 24 inches in height). The soil surface may have any combination of herbaceous litter, rock fragments, bare soil, and moss.

Dominant plant species

- Sitka alder (*Alnus viridis ssp. sinuata*), shrub
- grayleaf willow (*Salix glauca*), shrub
- undergreen willow (*Salix commutata*), shrub
- Sitka willow (*Salix sitchensis*), shrub
- Barclay's willow (*Salix barclayi*), shrub
- dwarf fireweed (*Chamerion latifolium*), other herbaceous
- marsh grass of Parnassus (*Parnassia palustris*), other herbaceous

Table 8. Soil surface cover

Tree basal cover	0%
Shrub/vine/liana basal cover	0%
Grass/grasslike basal cover	0%
Forb basal cover	0%
Non-vascular plants	0-60%
Biological crusts	0%
Litter	5-26%
Surface fragments >0.25" and <=3"	5-55%
Surface fragments >3"	5-20%
Bedrock	0%
Water	0%
Bare ground	0-30%

Pathway 1.1a
Community 1.1 to 1.2

Sitka alder-Sitka willow

Sitka alder-Sitka willow/dwarf fireweed

Ecological process: tall shrub cover is mechanically reduced by force of floodwaters, resulting in higher resource availability for herbaceous species, including light, heat, and space. Indicators: flood indicators, such as lodged debris, soil scouring, fresh sediment deposits, and open plant community structure.

Pathway 1.2a
Community 1.2 to 1.1

Sitka alder-Sitka willow/dwarf fireweed

Sitka alder-Sitka willow

Ecological process: tall shrub cover increases due to natural succession, such that strong competitors (alder and willow) reduce the availability of light, heat, and space for herbaceous understory species. Indicators: dense shrub cover, litter build up, closed plant community structure and lack vegetation changes.

Additional community tables

Table 9. Community 1.1 forest overstory composition

Common Name	Symbol	Scientific Name	Nativity	Height (Ft)	Canopy Cover (%)	Diameter (In)	Basal Area (Square Ft/Acre)
Tree							
balsam poplar	POBA2	*Populus balsamifera*	Native	–	1–10	–	–
Sitka spruce	PISI	*Picea sitchensis*	Native	–	0–2	–	–

Table 10. Community 1.1 forest understory composition

Common Name	Symbol	Scientific Name	Nativity	Height (Ft)	Canopy Cover (%)
Grass/grass-like (Graminoids)					
reedgrass	CALAM	*Calamagrostis*	Native	–	0–2
smallawned sedge	CAMI4	*Carex microchaeta*	Native	–	0–1
water sedge	CAAQ	*Carex aquatilis*	Native	–	0–1
Forb/Herb					
bride's feathers	ARDI8	*Aruncus dioicus*	Native	–	0–10
common cowparsnip	HEMA80	*Heracleum maximum*	Native	–	0–5
sidebells wintergreen	ORSE	*Orthilia secunda*	Native	–	0–5
liverleaf wintergreen	PYAS	*Pyrola asarifolia*	Native	–	0–5
green false hellebore	VEVI	*Veratrum viride*	Native	–	0–2
common yarrow	ACMI2	*Achillea millefolium*	Native	–	0–2
dwarf fireweed	CHLA13	*Chamerion latifolium*	Native	–	0–2
Tilesius' wormwood	ARTI	*Artemisia tilesii*	Native	–	0–1
beach strawberry	FRCH	*Fragaria chiloensis*	Native	–	0–1
claspleaf twistedstalk	STAM2	*Streptopus amplexifolius*	Native	–	0–1
northern starwort	STCA	*Stellaria calycantha*	Native	–	0–1

threeleaf foamflower	TITR	*Tiarella trifoliata*	Native	–	0–1
burnet	SANGU2	*Sanguisorba*	Native	–	0–1
locoweed	OXYTR	*Oxytropis*	Native	–	0–1
Fern/fern ally					
field horsetail	EQAR	*Equisetum arvense*	Native	–	0–3
spreading woodfern	DREX2	*Dryopteris expansa*	Native	–	0–1
western oakfern	GYDR	*Gymnocarpium dryopteris*	Native	–	0–1
common ladyfern	ATFI	*Athyrium filix-femina*	Native	–	0–1
Shrub/Subshrub					
salmonberry	RUSP	*Rubus spectabilis*	Native	–	0–70
Sitka willow	SASI2	*Salix sitchensis*	Native	–	2–70
Sitka alder	ALVIS	*Alnus viridis ssp. sinuata*	Native	–	10–65
feltleaf willow	SAAL	*Salix alaxensis*	Native	–	0–10
Scouler's willow	SASC	*Salix scouleriana*	Native	–	0–7
Barclay's willow	SABA3	*Salix barclayi*	Native	–	0–5
squashberry	VIED	*Viburnum edule*	Native	–	0–5
devilsclub	OPHO	*Oplopanax horridus*	Native	–	0–2
Drummond's mountain-avens	DRDR	*Dryas drummondii*	Native	–	0–2
Nonvascular					
goose neck moss	RHYTI2	*Rhytidiadelphus*	Native	–	0–10
ceratodon moss	CERAT9	*Ceratodon*	Native	–	0–5
Schreber's big red stem moss	PLSC70	*Pleurozium schreberi*	Native	–	0–4
hookeria moss	HOOKE	*Hookeria*	Native	–	0–3
tree climacium moss	CLDE70	*Climacium dendroides*	Native	–	0–1
dicranum moss	DICRA8	*Dicranum*	Native	–	0–1
polytrichum moss	POLYT5	*Polytrichum*	Native	–	0–1
knights plume moss	PTCR70	*Ptilium crista-castrensis*	Native	–	0–1
rhizomnium moss	RHGL70	*Rhizomnium glabrescens*	Native	–	0–1

Table 11. Community 1.2 forest understory composition

Common Name	Symbol	Scientific Name	Nativity	Height (Ft)	Canopy Cover (%)
Grass/grass-like (Graminoids)					
tufted hairgrass	DECE	*Deschampsia cespitosa*	Native	–	0–5
American dunegrass	LEMO8	*Leymus mollis*	Native	–	0–3
common woodrush	LUMU2	*Luzula multiflora*	Native	–	0–2
arctic rush	JUAR2	*Juncus arcticus*	Native	–	0–2
water sedge	CAAQ	*Carex aquatilis*	Native	–	0–2
twocolor sedge	CABI4	*Carex bicolor*	Native	–	0–2
Mertens' sedge	CAME6	*Carex mertensii*	Native	–	0–2
bluejoint	CACA4	*Calamagrostis canadensis*	Native	–	0–1
Forb/Herb					
dwarf fireweed	CHLA13	*Chamerion latifolium*	Native	–	0–20
marsh grass of Parnassus	PAPA8	*Parnassia palustris*	Native	–	0–15
Nootka lupine	LUNO	*Lupinus nootkatensis*	Native	–	0–3
beach strawberry	FRCH	*Fragaria chiloensis*	Native	–	0–2
fireweed	CHAN9	*Chamerion angustifolium*	Native	–	0–1
Fern/fern ally					
scouringrush horsetail	EQHY	*Equisetum hyemale*	Native	–	0–2
Shrub/Subshrub					
Sitka alder	ALVIS	*Alnus viridis ssp. sinuata*	Native	–	0–20
undergreen willow	SACO2	*Salix commutata*	Native	–	0–10
grayleaf willow	SAGL	*Salix glauca*	Native	–	0–10
Sitka willow	SASI2	*Salix sitchensis*	Native	–	0–5
Barclay's willow	SABA3	*Salix barclayi*	Native	–	0–5
balsam poplar	POBA2	*Populus balsamifera*	Native	–	0–1

Inventory data references

All data currently reside in NASIS under the User Site IDs in the following table:
NASIS ID Plant community
13TD06801 community 1.1
13NP02403 community 1.1
13NP01801 community 1.1
13TD00401 community 1.2
13NP01802 community 1.2
13NP00803 community 1.2
2015AK282010 community 1.1
2015AK282013 community 1.1
2015AK282108 community 1.1

Other references

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Approval

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Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	
Date	05/11/2025

Approved by	Marji Patz
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

2. **Presence of water flow patterns:**

3. **Number and height of erosional pedestals or terracettes:**

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

5. **Number of gullies and erosion associated with gullies:**

6. **Extent of wind scoured, blowouts and/or depositional areas:**

7. **Amount of litter movement (describe size and distance expected to travel):**

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

Dominant:

Sub-dominant:

Other:

Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

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17. **Perennial plant reproductive capability:**
