USDA Natural Resources Conservation Service

Ecological site R226XY057AK
Forb Tundra (Lowland) (AK653 St Paul Island)

Accessed: 05/02/2024

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site is very similar to Forb Tundra (Coastal). In most instances, the site occupies inland areas subjected to less coastal influence than Forb Tundra (Coastal). The site is prevalent on lower slopes adjacent to sandy benches and plains.

Table 2. Representative physiographic features

Landforms	(1) Plain
Elevation	40–120 ft
Slope	1–8%

Climatic features

Table 3. Representative climatic features

Frost-free period (average)	120 days
Freeze-free period (average)	100 days
Precipitation total (average)	24 in

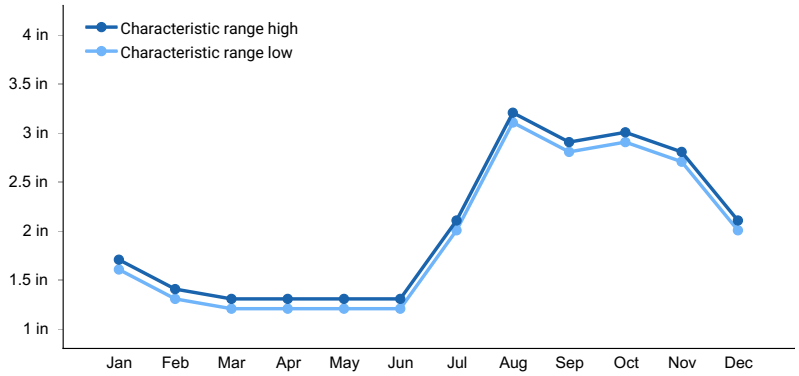

Figure 1. Monthly precipitation range

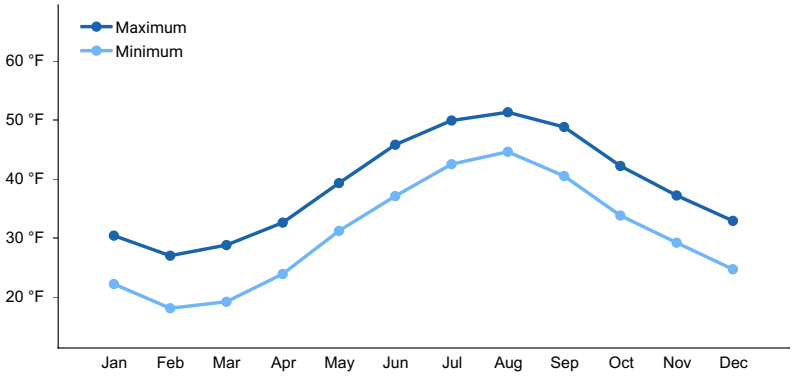

Figure 2. Monthly average minimum and maximum temperature

Influencing water features

Soil features

Soils are moderately deep to deep and moderately well to well drained. Textures are fine to medium and soil pH is strongly acid to slightly acid. Runoff is low and permeability is moderately slow to rapid.

Table 4. Representative soil features

Surface texture	(1) Stony silt loam
Family particle size	(1) Loamy
Drainage class	Moderately well drained to well drained
Permeability class	Moderately slow to rapid
Soil depth	20–60 in
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	15.2–15.4 in
Calcium carbonate equivalent (0-40in)	0%
Electrical conductivity (0-40in)	0 mmhos/cm
Sodium adsorption ratio (0-40in)	0
Soil reaction (1:1 water) (0-40in)	5.1–6.5
Subsurface fragment volume <=3" (Depth not specified)	0%
Subsurface fragment volume >3" (Depth not specified)	0%

Ecological dynamics

State and transition model

Ecosystem states

1. Angelica lucida/Lupinus nootkatensis

State 1 submodel, plant communities

1.1. Angelica lucida/Lupinus nootkatensis

State 1
Angelica lucida/Lupinus nootkatensis

Community 1.1
Angelica lucida/Lupinus nootkatensis

Forbs make up 60% and grasses 40% of the composition. Total annual vascular herbage production is 2600 pounds/acre.

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Lb/Acre)	Foliar Cover (%)
Grass/Grasslike					
1				450–550	
	American dunegrass	LEMOM2	*Leymus mollis ssp. mollis*	90–95	–
	wideleaf polargrass	ARLA2	*Arctagrostis latifolia*	55–65	–
	alpine timothy	PHAL2	*Phleum alpinum*	35–40	–
	shortstalk sedge	CAPO	*Carex podocarpa*	15–20	–
Forb					
1				2050–2150	
	seacoast angelica	ANLU	*Angelica lucida*	775–790	–
	Nootka lupine	LUNO	*Lupinus nootkatensis*	525–535	–
	boreal yarrow	ACMIB	*Achillea millefolium var. borealis*	240–250	–
	field horsetail	EQAR	*Equisetum arvense*	115–125	–
	Pacific hemlockparsley	COGM	*Conioselinum gmelinii*	105–115	–
	larkspurleaf monkshood	ACDE2	*Aconitum delphiniifolium*	30–40	–
	Bering chickweed	CEBE2	*Cerastium beeringianum*	20–30	–
	whorled lousewort	PEVE	*Pedicularis verticillata*	15–25	–
	Aleutian violet	VILA6	*Viola langsdorffii*	15–20	–
	captiate valerian	VACA3	*Valeriana capitata*	5–10	–
	draba	DRABA	*Draba*	5–10	–
	Tilesius' wormwood	ARTI	*Artemisia tilesii*	5–10	–
	cuckoo flower	CAPR3	*Cardamine pratensis*	0–5	–
	willowherb	EPILO	*Epilobium*	0–5	–
	northern starwort	STCA	*Stellaria calycantha*	0–5	–

Animal community

Grasses such as wide leaf polargrass, alpine timothy and bluegrass provide high value reindeer forage from spring to fall. These same grasses decline in forage value during the winter at which time their forage value is moderate. Lyme grass is seldom selected by reindeer during spring and summer and is of no value during the winter. The large variety of forbs provides provides excellent spring and summer forage.

Contributors

Swanson

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	

Approved by	
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:**
