

Ecological site R226XY059AK

Forb/Sedge Tundra (Lowland) (AK653 St Paul Island)

Accessed: 05/13/2025

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.

Table 1. Dominant plant species

Tree	Not specified
Shrub	Not specified
Herbaceous	Not specified

Physiographic features

This site occurs on nearly level terraces and on toe-slopes of rocky uplands near the coast.

Table 2. Representative physiographic features

Landforms	(1) Terrace
Elevation	2–24 m
Slope	0–3%

Climatic features

Table 3. Representative climatic features

Frost-free period (average)	120 days
Freeze-free period (average)	100 days
Precipitation total (average)	610 mm

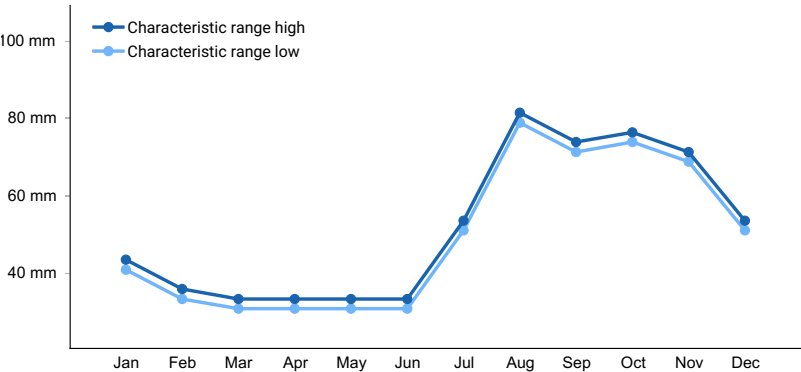


Figure 1. Monthly precipitation range

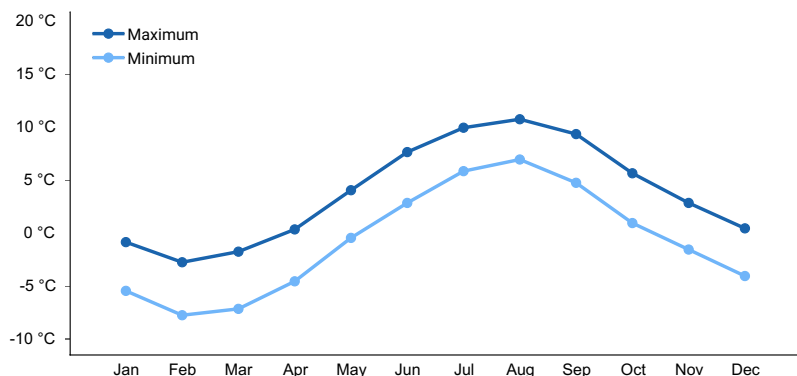


Figure 2. Monthly average minimum and maximum temperature

## Influencing water features

### Soil features

Soils are moderately deep to very deep and well drained. Textures are medium to coarse and soil pH is moderately acid. Runoff is negligible to very low and permeability is moderately rapid to rapid.

Table 4. Representative soil features

Surface texture	(1) Mucky sandy loam
Family particle size	(1) Loamy
Drainage class	Well drained
Permeability class	Moderately rapid to rapid
Soil depth	51–152 cm
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0%
Available water capacity (0-101.6cm)	10.16–10.67 cm
Calcium carbonate equivalent (0-101.6cm)	0%
Electrical conductivity (0-101.6cm)	0 mmhos/cm
Sodium adsorption ratio (0-101.6cm)	0
Soil reaction (1:1 water) (0-101.6cm)	5.6–6
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. Carex  
bigelowii/Festuca

State 1 submodel, plant communities

1.1. Carex  
bigelowii/Festuca

State 1  
Carex bigelowii/Festuca

Community 1.1  
Carex bigelowii/Festuca

Grasses make up 51% and forbs 49% of the composition. Total annual vascular herbage production is 2450 pounds/acre.

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production (Kg/Hectare)	Foliar Cover (%)
<b>Grass/Grasslike</b>					
1				1345–1457	
	Bigelow's sedge	CABI5	<i>Carex bigelowii</i>	644–673	–
	fescue	FESTU	<i>Festuca</i>	594–605	–
	American dunegrass	LEMOM2	<i>Leymus mollis ssp. mollis</i>	34–45	–
	bluegrass	POA	<i>Poa</i>	22–28	–
	spike trisetum	TRSP2	<i>Trisetum spicatum</i>	17–22	–
	woodrush	LUZUL	<i>Luzula</i>	11–22	–
	sedge	CAREX	<i>Carex</i>	17–22	–
	alpine timothy	PHAL2	<i>Phleum alpinum</i>	6–17	–
<b>Forb</b>					
1				1289–1401	
	Nootka lupine	LUNO	<i>Lupinus nootkatensis</i>	432–460	–
	field horsetail	EQAR	<i>Equisetum arvense</i>	314–325	–
	seacoast angelica	ANLU	<i>Angelica lucida</i>	247–258	–
	Aleutian violet	VILA6	<i>Viola langsдорffii</i>	101–112	–
	field sagewort	ARCAB4	<i>Artemisia campestris ssp. borealis var. borealis</i>	45–56	–
	larkspurleaf monkshood	ACDE2	<i>Aconitum delphiniifolium</i>	34–45	–
	boreal yarrow	ACMIB	<i>Achillea millefolium var. borealis</i>	28–34	–
	Bering chickweed	CEBE2	<i>Cerastium beeringianum</i>	11–22	–
	whorled lousewort	PEVE	<i>Pedicularis verticillata</i>	6–17	–
	poppy	PAPAV	<i>Papaver</i>	0–11	–
	cuckoo flower	CAPR3	<i>Cardamine pratensis</i>	6–11	–
	Pacific hemlockparsley	COGM	<i>Conioselinum gmelinii</i>	6–11	–
	springbeauty	CLAYT	<i>Claytonia</i>	0–6	–
	Tilesius' wormwood	ARTI	<i>Artemisia tilesii</i>	0–6	–
	dandelion	TARAX	<i>Taraxacum</i>	0–6	–

## Animal community

Grasses such as wide leaf polargrass and bluegrass provide high value reindeer forage 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 winter. The large variety and production of forbs provides excellent early, high quality spring 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:**

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

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

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

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

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

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

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

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

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

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11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be**

mistaken for compaction on this site):

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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:**
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