

Ecological site R226XY059AK Forb/Sedge Tundra (Lowland) (AK653 St Paul Island)

Accessed: 04/20/2024

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

Table 2. Representative physiographic features

| | |
|-----------|-------------|
| Landforms | (1) Terrace |
| Elevation | 5–80 ft |
| 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) | 24 in |

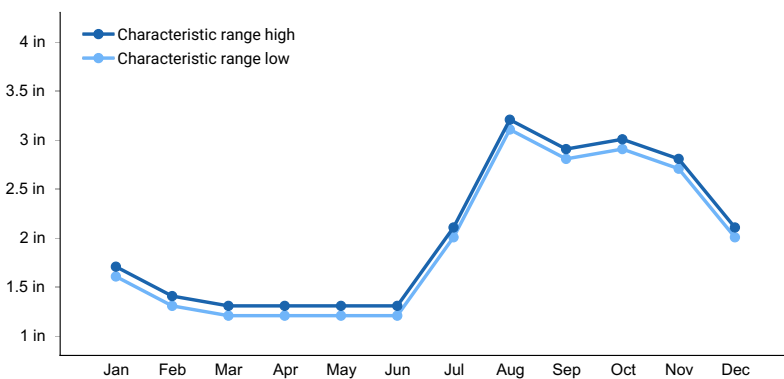


Figure 1. Monthly precipitation range

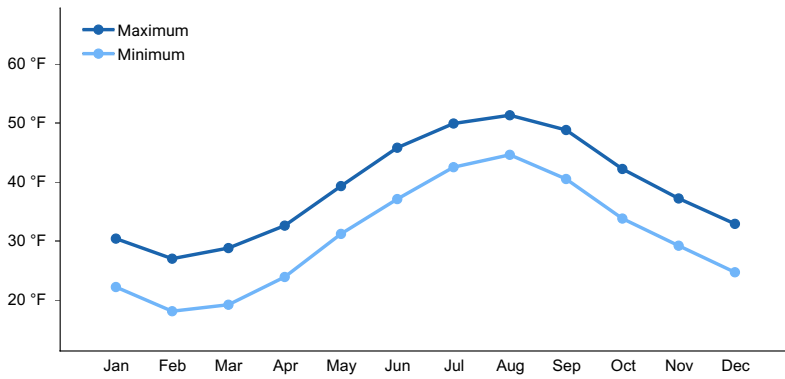


Figure 2. Monthly average minimum and maximum temperature

Influencing water features

Soil features

Soils are moderately deep to 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 | 20–60 in |
| Surface fragment cover <=3" | 0% |
| Surface fragment cover >3" | 0% |
| Available water capacity (0-40in) | 4–4.2 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) | 5.6–6 |
| 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 (Lb/Acre) | Foliar Cover (%) |
|------------------------|------------------------|--------|---|-----------------------------|------------------|
| Grass/Grasslike | | | | | |
| 1 | | | | 1200–1300 | |
| | Bigelow's sedge | CABI5 | <i>Carex bigelowii</i> | 575–600 | – |
| | fescue | FESTU | <i>Festuca</i> | 530–540 | – |
| | American dunegrass | LEMOM2 | <i>Leymus mollis ssp. mollis</i> | 30–40 | – |
| | bluegrass | POA | <i>Poa</i> | 20–25 | – |
| | spike trisetum | TRSP2 | <i>Trisetum spicatum</i> | 15–20 | – |
| | woodrush | LUZUL | <i>Luzula</i> | 10–20 | – |
| | sedge | CAREX | <i>Carex</i> | 15–20 | – |
| | alpine timothy | PHAL2 | <i>Phleum alpinum</i> | 5–15 | – |
| Forb | | | | | |
| 1 | | | | 1150–1250 | |
| | Nootka lupine | LUNO | <i>Lupinus nootkatensis</i> | 385–410 | – |
| | field horsetail | EQAR | <i>Equisetum arvense</i> | 280–290 | – |
| | seacoast angelica | ANLU | <i>Angelica lucida</i> | 220–230 | – |
| | Aleutian violet | VILA6 | <i>Viola langsdorffii</i> | 90–100 | – |
| | field sagewort | ARCAB4 | <i>Artemisia campestris ssp. borealis var. borealis</i> | 40–50 | – |
| | larkspurleaf monkshood | ACDE2 | <i>Aconitum delphiniifolium</i> | 30–40 | – |
| | boreal yarrow | ACMIB | <i>Achillea millefolium var. borealis</i> | 25–30 | – |
| | Bering chickweed | CEBE2 | <i>Cerastium beeringianum</i> | 10–20 | – |
| | whorled lousewort | PEVE | <i>Pedicularis verticillata</i> | 5–15 | – |
| | poppy | PAPAV | <i>Papaver</i> | 0–10 | – |
| | cuckoo flower | CAPR3 | <i>Cardamine pratensis</i> | 5–10 | – |
| | Pacific hemlockparsley | COGM | <i>Conioselinum gmelinii</i> | 5–10 | – |
| | springbeauty | CLAYT | <i>Claytonia</i> | 0–5 | – |
| | Tilesius' wormwood | ARTI | <i>Artemisia tilesii</i> | 0–5 | – |
| | dandelion | TARAX | <i>Taraxacum</i> | 0–5 | – |

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:**

- 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:

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

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

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

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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