USDA Natural Resources Conservation Service

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

Accessed: 05/12/2025

## 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 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 | 12–37 m |
| 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) | 610 mm |

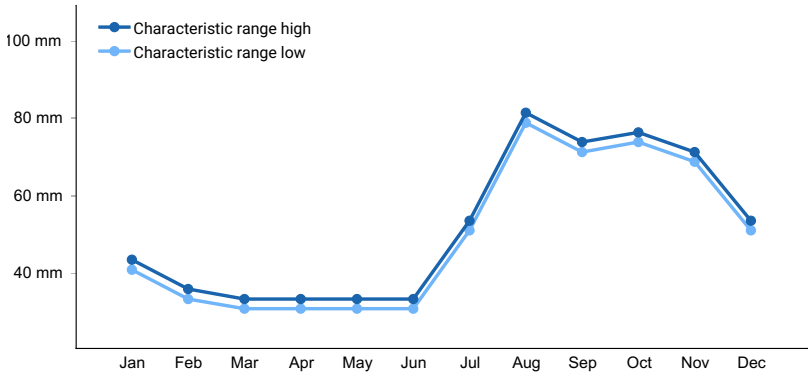


**Figure 1. Monthly precipitation range**

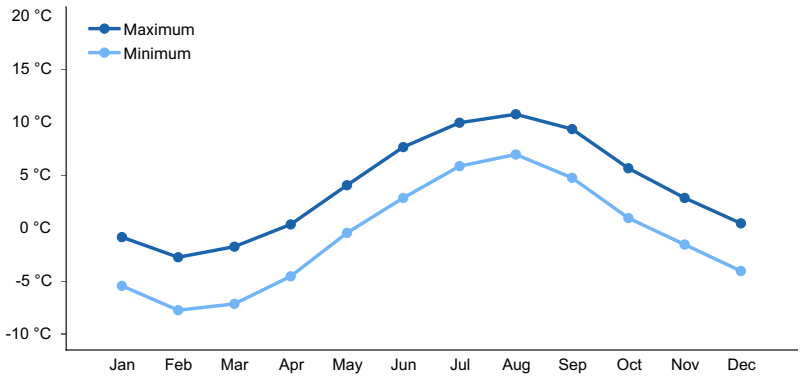


**Figure 2. Monthly average minimum and maximum temperature**

## Influencing water features

## Soil features

Soils are moderately deep to 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 | 51–152 cm |
| Surface fragment cover <=3" | 0% |
| Surface fragment cover >3" | 0% |
| Available water capacity (0-101.6cm) | 38.61–39.12 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) | 5.1–6.5 |
| 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 (Kg/Hectare) | Foliar Cover (%) |
|---|---|---|---|---|---|
| **Grass/Grasslike** | | | | | |
| 1 | | | | 504–616 | |
| | American dunegrass | LEMOM2 | *Leymus mollis ssp. mollis* | 101–106 | – |
| | wideleaf polargrass | ARLA2 | *Arctagrostis latifolia* | 62–73 | – |
| | alpine timothy | PHAL2 | *Phleum alpinum* | 39–45 | – |
| | shortstalk sedge | CAPO | *Carex podocarpa* | 17–22 | – |
| **Forb** | | | | | |
| 1 | | | | 2298–2410 | |
| | seacoast angelica | ANLU | *Angelica lucida* | 869–885 | – |
| | Nootka lupine | LUNO | *Lupinus nootkatensis* | 588–600 | – |
| | boreal yarrow | ACMIB | *Achillea millefolium var. borealis* | 269–280 | – |
| | field horsetail | EQAR | *Equisetum arvense* | 129–140 | – |
| | Pacific hemlockparsley | COGM | *Conioselinum gmelinii* | 118–129 | – |
| | larkspurleaf monkshood | ACDE2 | *Aconitum delphiniifolium* | 34–45 | – |
| | Bering chickweed | CEBE2 | *Cerastium beeringianum* | 22–34 | – |
| | whorled lousewort | PEVE | *Pedicularis verticillata* | 17–28 | – |
| | Aleutian violet | VILA6 | *Viola langsdorffii* | 17–22 | – |
| | captiate valerian | VACA3 | *Valeriana capitata* | 6–11 | – |
| | draba | DRABA | *Draba* | 6–11 | – |
| | Tilesius' wormwood | ARTI | *Artemisia tilesii* | 6–11 | – |
| | cuckoo flower | CAPR3 | *Cardamine pratensis* | 0–6 | – |
| | willowherb | EPILO | *Epilobium* | 0–6 | – |
| | northern starwort | STCA | *Stellaria calycantha* | 0–6 | – |

## 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:**

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