USDA Natural Resources
Conservation Service

Ecological site R226XY054AK
Beach Dunes and Ridges (Old) (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 occurs on the inland side of active beach dunes and beach ridges. This site is comparable to Beach Dunes and Ridges. Because of the inland nature and development of this site, relief is smoother and the site more stable than the more recent Beach Dunes and Ridges. This site consists of low discontinuous rounded sand ridges that have been deposited by high velocity winds from active Beach Dunes and Ridges and Sandy Beach sites.

Table 2. Representative physiographic features

Landforms	(1) Beach ridge (2) Dune
Elevation	40–80 ft
Slope	0–30%

Climatic features

Table 3. Representative climatic features

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

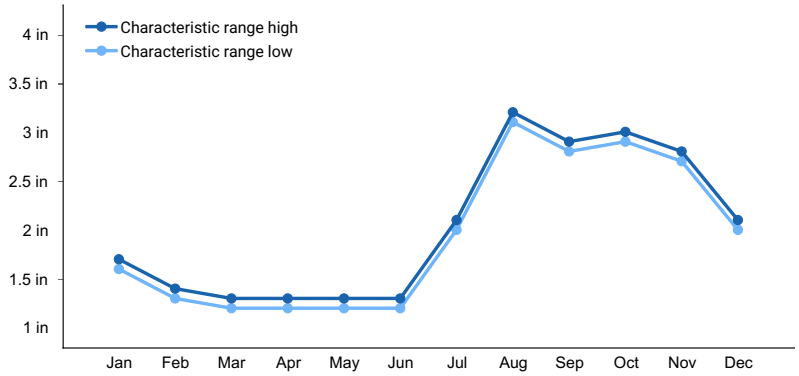

Figure 1. Monthly precipitation range

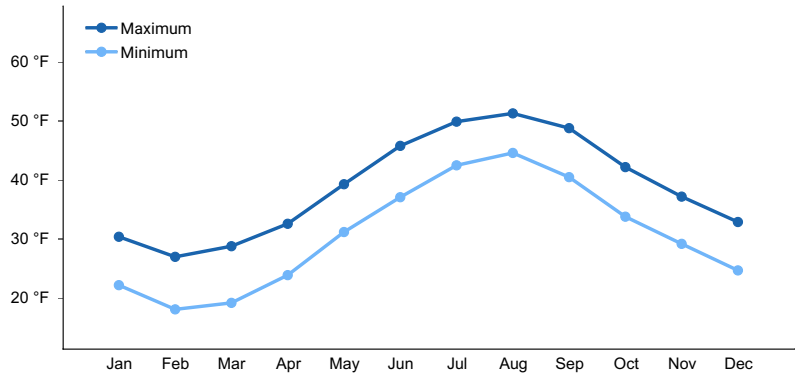

Figure 2. Monthly average minimum and maximum temperature

Influencing water features

Soil features

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

Table 4. Representative soil features

Surface texture	(1) Peaty fine sandy loam
Family particle size	(1) Sandy
Drainage class	Well drained
Permeability class	Moderately rapid to very rapid
Soil depth	40–60 in
Surface fragment cover <=3"	0%
Surface fragment cover >3"	0%
Available water capacity (0-40in)	6.9–7.1 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)	5.6–6.5

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. Elymus mollis/ Lupinus nootkatensis

State 1 submodel, plant communities

1.1. Elymus mollis/ Lupinus nootkatensis

State 1
Elymus mollis/ Lupinus nootkatensis

Community 1.1
Elymus mollis/ Lupinus nootkatensis

Sedges and grasses make up about 40% and forbs about 60% of the composition. Total annual vascular herbage production is 4100 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				1500–1600	
	American dunegrass	LEMOM2	*Leymus mollis ssp. mollis*	1430–1440	–
	red fescue	FERU2	*Festuca rubra*	95–100	–
	Gmelin's sedge	CAGM	*Carex gmelinii*	5–10	–
	oatgrass	TRISE	*Trisetum*	2–8	–
	sedge	CAREX	*Carex*	0–5	–
Forb					
1				2500–2600	
	Nootka lupine	LUNO	*Lupinus nootkatensis*	1150–1200	–
	seacoast angelica	ANLU	*Angelica lucida*	500–520	–
	Pacific hemlockparsley	COGM	*Conioselinum gmelinii*	260–270	–
	field horsetail	EQAR	*Equisetum arvense*	185–195	–
	Hornemann's willowherb	EPHOB	*Epilobium hornemannii ssp. behringianum*	65–75	–
	boreal yarrow	ACMIB	*Achillea millefolium var. borealis*	60–70	–
	Aleutian violet	VILA6	*Viola langsdorffii*	20–30	–
	Tilesius' wormwood	ARTI	*Artemisia tilesii*	15–25	–
	tall Jacob's-ladder	POAC	*Polemonium acutiflorum*	10–20	–
	whorled lousewort	PEVE	*Pedicularis verticillata*	2–8	–
	arctic starflower	TREU	*Trientalis europaea*	3–8	–
	draba	DRABA	*Draba*	3–8	–
	larkspurleaf monkshood	ACDE2	*Aconitum delphiniifolium*	0–5	–
	starwort	STELL	*Stellaria*	0–5	–
	beach pea	LAJAM	*Lathyrus japonicus var. maritimus*	0–1	–

Animal community

The grass portion of the vegetation production for this site has very little grazing value for reindeer. Winter forage is low quality. Reindeer do not utilize lyme grass, to any great extent, even during spring and summer. The large number of forbs provides excellent spring and summer forage.

Recreational uses

Because of the rolling terrain and sandy soils, this site is sometimes used by four wheeler enthusiasts. This site's vegetation does not hold up well to four wheeler traffic, however, and when the soil is exposed the area is succeptible to wind erosion and blow outs.

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):

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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:**
