

LANDFIRE Biophysical Setting Model

Biophysical Setting 7616710

Aleutian American Dunegrass Grassland

☐ This BPS is lumped with:

☐ This BPS is split into multiple models:

General Information

Contributors (also see the Comments field)

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Vegetation Type

Upland Grassland/Herbaceous

Map Zone

76

Model Zone

☒ Alaska

☐ N-Cent.Rockies

☐ California

☐ Pacific Northwest

☐ Great Basin

☐ South Central

☐ Great Lakes

☐ Southeast

☐ Northeast

☐ S. Appalachians

☐ Northern Plains

☐ Southwest

Dominant Species*

LEMO8 ANLU
FERU2 CLSI2
HEMA80
LISC3

General Model Sources

☐ Literature

☐ Local Data

☒ Expert Estimate

Geographic Range

This system occurs on the Alaska Peninsula, Aleutian Islands and possibly Kodiak Island.

Biophysical Site Description

The following information was taken from the draft Arctic Ecological Systems description (NatureServe 2008a):

Sites are level to steep. The substrates are commonly dunes or shallow to deep eolian sand deposits over bedrock, sometimes 2 km inland. The sites may be unstable, including eroding coastal bluffs and isolated blowouts. Other sites have loamy soils on colluvium that are nutrient-enriched by seabirds. Sites may or may not receive salt spray.

Vegetation Description

The following information was taken from the draft Arctic Ecological Systems description (NatureServe 2008a):

Leymus mollis cover is >25%. Other dominant or codominant species include Festuca rubra, Heracleum maximum (= Heracleum lanatum), Ligusticum scoticum, Angelica lucida and Claytonia sibirica (= Montia sibirica). Some sites have 1-2 foot tall tussocks.

Disturbance Description

Dunes perturbations include eroding coastal bluffs and isolated blowouts. Community self-replacement likely occurs. The disturbance processes on the mesic loamy-sandy substrates are unclear.

Adjacency or Identification Concerns

This type is separate from but often adjacent to the Aleutian Marine Beach and Beach Meadow system. It is not subjected to typical coastal processes such as overwash, is found at higher elevations and can extend

*Dominant Species are from the NRCS PLANTS database. To check a species code, please visit <http://plants.usda.gov>.

**Fire Regime Groups are: I: 0-35 year frequency, surface severity; II: 0-35 year frequency, replacement severity; III: 35-100-year frequency, mixed severity; IV: 35-100+ year frequency, replacement severity; V: 200+ year frequency, replacement severity

farther inland than the Marine Beach and Beach Meadow system.

Native Uncharacteristic Conditions

Recent research has shown that the abundance of graminoids in the Aleutian Islands can be reduced due to a reduction in nutrient inputs from seabird colonies; where seabirds have been impacted by introduced predators, the cover of graminoid species is lower (Croll et al. 2005, Byrd 1984).

Scale Description

Small to large patch

Issues/Problems

Comments

This model was created by Kori Blankenship and Keith Boggs based on information from the draft Arctic and Aleutians Ecological Systems description (NatureServe 2008a, NatureServe 2008b).

Vegetation Classes

Class A 100%

Mid Development 1 All Structures

Upper Layer Lifeform

- ☒ Herbaceous
☐ Shrub
☐ Tree

Indicator Species* and Canopy Position

LEMO8 Upper

Structure Data (for upper layer lifeform)

	Min	Max
Cover	Herbaceous	Herbaceous
Height	Herbaceous	Herbaceous
Tree Size Class	None	

☐ Upper layer lifeform differs from dominant lifeform.

Description

Zero plus years

This class represents the American Dunegrass Grassland system. *Leymus mollis* is the only indicator species. See the Vegetation Description for more information on species composition.

No disturbances modeled.

Class B 0%

[Not Used] [Not Used]

Upper Layer Lifeform

- ☐ Herbaceous
☐ Shrub
☐ Tree

Indicator Species* and Canopy Position

Structure Data (for upper layer lifeform)

	Min	Max
Cover		
Height		
Tree Size Class		

☐ Upper layer lifeform differs from dominant lifeform.

Description

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Class C 0 %

[Not Used] [Not Used]

Upper Layer Lifeform

- ☐ Herbaceous
☐ Shrub
☐ Tree

**Indicator Species* and
Canopy Position**

Structure Data (for upper layer lifeform)

	Min	Max
Cover		
Height		
Tree Size Class		

☐ Upper layer lifeform differs from dominant lifeform.

Description

Class D 0 %

[Not Used] [Not Used]

Upper Layer Lifeform

- ☐ Herbaceous
☐ Shrub
☐ Tree

**Indicator Species* and
Canopy Position**

Structure Data (for upper layer lifeform)

	Min	Max
Cover		
Height		
Tree Size Class		

☐ Upper layer lifeform differs from dominant lifeform.

Description

Class E 0 %

[Not Used] [Not Used]

Upper Layer Lifeform

- ☐ Herbaceous
☐ Shrub
☐ Tree

**Indicator Species* and
Canopy Position**

Structure Data (for upper layer lifeform)

	Min	Max
Cover		
Height		
Tree Size Class		

☐ Upper layer lifeform differs from dominant lifeform.

Description

Disturbances

Fire Regime Group:** NA

Historical Fire Size (acres)

Avg 0

Min 0

Max 0

Sources of Fire Regime Data

- ☐ Literature
☐ Local Data
☒ Expert Estimate

Fire Intervals

	Avg FI	Min FI	Max FI	Probability	Percent of All Fires
Replacement					
Mixed					
Surface					
All Fires					

Fire Intervals (FI):

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inverse of fire interval in years and is used in reference condition modeling. Percent of all fires is the percent of all fires in that severity class.

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Additional Disturbances Modeled

- ☐ Insects/Disease ☐ Native Grazing ☐ Other (optional 1)
☐ Wind/Weather/Stress ☐ Competition ☐ Other (optional 2)

References

Byrd, G.V. 1984. Vascular vegetation of Buldir Island, Aleutian Islands, Alaska, compared to another Aleutian island. *Arctic* 37(1):37-48.

Croll, D.A., J.L. Maron, J.A. Estes, E.M. Danner and G.V. Byrd. 2005. Introduced predators transform subarctic islands from grassland to tundra. *Science* 307:1959-1961.

NatureServe. 2008a. International Ecological Classification Standard: Terrestrial Ecological Classifications. Draft Ecological Systems Description for the Alaska Arctic Region.

NatureServe. 2008b. International Ecological Classification Standard: Terrestrial Ecological Classifications. Draft Ecological Systems Description for the Alaska Aleutians Region.

Talbot, S. S. and S.L. Talbot. 1994. Numerical classification of the coastal vegetation of Attu Island, Aleutian Islands, Alaska. *Journal of Vegetation Science* 5:867-876.

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