

LANDFIRE Biophysical Setting Model

Biophysical Setting 7617190

Aleutian Crowberry-Herbaceous Heath

☐ This BPS is lumped with:

☐ This BPS is split into multiple models:

General Information

Contributors (also see the Comments field) **Date** 10/27/2008

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Modeler 2 Keith Boggs ankwb@uaa.alaska.edu **Reviewer**

Modeler 3 **Reviewer**

Vegetation Type

Upland Shrubland

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*

EMNI LUNON
HAST3 POAC
PHAL4 CHANA
VAVIM

General Model Sources

- ☐ Literature
☐ Local Data
☒ Expert Estimate

Geographic Range

This system occurs on the Alaska Peninsula, Aleutian Islands and Kodiak Island (NatureServe 2008).

Biophysical Site Description

This system is common in valley bottoms, sideslopes, stabilized dunes, terraces, moraines and fans (NatureServe 2008).

Vegetation Description

Dwarf-shrub cover is >25% and dominated by *Empetrum nigrum*; herbaceous cover is variable, ranging from 0% to well over 50%. Other dwarf-shrub species include dwarf willows, *Harrimanella stelleriana*, *Phyllodoce aleutica*, *Vaccinium vitis-idaea* and *Arctostaphylos alpina*. Herbaceous species include *Lupinus nootkatensis*, *Polemonium acutiflorum*, *Chamerion angustifolium*, *Solidago* spp. and grasses. A more abundant herbaceous component, particularly graminoids, may be due to nutrient inputs from seabird colonies; where seabirds have been impacted by introduced predators, the cover of herbaceous species appears to be lower. Fruticose lichens and *Racomitrium lanuginosum* may also be common. Heath hummocks may occur (NatureServe 2008).

Disturbance Description

Modelers had no information on the successional dynamics of this system.

Adjacency or Identification Concerns

This system typically occupies lower elevation sites than Aleutian Mixed Dwarf-Shrub-Herbaceous Shrubland (BpS 1720; CES105.231; NatureServe 2008).

Native Uncharacteristic Conditions

*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

This type is not departed from its "Reference Condition."

Scale Description

Patch size is large patch to matrix forming.

Issues/Problems

This type occurs more often on islands where seabirds have been reduced by introduced rats or fox (Croll et al. 2005, Byrd 1984).

Comments

This model was created by Randy Swaty and Keith Boggs based on the draft Aleutians Ecological Systems description (NatureServe 2008).

Vegetation Classes

Class A 100 %

Mid Development 1 All Structures

Upper Layer Lifeform

- ☐ Herbaceous
☒ Shrub
☐ Tree

Indicator Species* and

Canopy Position

EMNI Upper

Structure Data (for upper layer lifeform)

	Min	Max
Cover	Open Shrub (25-74% shrub cover)	Closed Shrub (> 75% shrub cover)
Height	Dwarf Shrub (< 20 cm)	Dwarf Shrub (< 20 cm)
Tree Size Class	None	

☐ Upper layer lifeform differs from dominant lifeform.

Description

Zero plus years

This class represents the Aleutian Crowberry-Herbaceous Heath. *Empetrum nigrum* will have at least 25% cover and its dominance is the only indicator of this type. Herbaceous cover can be 25-75% of the total overstory cover. 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. 2008. International Ecological Classification Standard: Terrestrial Ecological Classifications. Draft Ecological Systems Description for the Alaska Aleutians Region.

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