LANDFIRE Biophysical Setting Model

Biophysical Setting 7617160 Aleutian Rocky Headland and Sea Cliff

☐ *This BPS is lumped with:*
☐ *This BPS is split into multiple models:*

General Information

Contributors (also see the Comments field **Date** 10/23/2008

Modeler 1	Kori Blankenship	kblankenship@tnc.org	**Reviewer**	Jeff Williams	Jeff_Williams@fws.gov
Modeler 2	Keith Boggs	ankwb@uaa.alaska.edu	**Reviewer**		
Modeler 3			**Reviewer**		

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*

EUPR7	LEMOM
PUTEA	ALVIS
POVI4	RUSP
XACA60	ARDIA

General Model Sources
☐ Literature
☐ Local Data
☑ Expert Estimate

Geographic Range
This system occurs on the Alaska Peninsula and Aleutian Islands.

Biophysical Site Description
This system includes rocky headlands and sea cliffs. Sea cliffs typically occur below 50m elevation; however, on some extremely exposed cliffs, such as those on outer headlands, salt spray from winter storms may affect cliffs at 100-200 m elevation (NatureServe 2008). Frequent exposure to salt spray distinguishes this system from inland and alpine rock outcrops and cliffs. In addition to salt spray, wind and wave erosion, desiccation, and slope failures create a harsh growing environment. Sea cliffs may be partially ice covered during the winter (Shacklette et al. 1969).

Vegetation Description
The following information was taken from the draft Aleutian Rocky Headland and Sea Cliff Ecological Systems description with slight modifications (NatureServe 2008):
Vegetation cover is typically sparse (<25% cover) to absent. Forbs, grasses and shrubs establish on ledges and in cracks. On Amchitka Island, Shacklette et al. (1969) described several sea cliff communities, including Eurhynchium-Puccinellia-Caloplaca (Eurhynchium praelongum, Puccinellia langeana ssp. alaskana and Caloplaca granulosa.), Potentiea-Draba-Saxifraga (Potentilla villosa, Draba hyperborea and Saxifraga bracteata.), Xanthoria-Ramalina (Xanthoria candelaria, Ramalina scoparia and R. almquistii) and (on less steep cliffs) Elymus (=Leymus mollis)-Ligusticum-Anemone (Elymus arenarius ssp. mollis var. mollis, Ligusticum scoticum ssp. hultenii and Anemone narcissiflora ssp. villosissima.). On the Alaska Peninsula, dominance may shift to Alnus viridis ssp. sinuata, Rubus spectabilis, Aruncus dioicus var. acuminatus, Heuchera glabra, Potentilla villosa, Phegopteris connectilis, Carex macrochaeta, Deschampsia spp., Lupinus nootkatensis, Campanula spp. and Chamerion latifolium.

*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 seve

Disturbance Description

This system is shaped by continual exposure to wave and wind action. Slope failure is a common disturbance.

Adjacency or Identification Concerns

Native Uncharacteristic Conditions

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

Scale Description

Small or large patch

Issues/Problems

Comments

This model was created by Kori Blankenship and Keith Boggs based on information from 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

EUPR7	Upper
POVI4	Upper
XACA60	Upper
ALVIS	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.

Open, low or tall shrubs can be the dominant upper layer lifeform.

Description

Zero plus years

This class represents the Aleutian Rocky Headland and Sea Cliff system. See 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 fir combined (All Fires). Average FI is central tendency modeled. Minimum and maximum show the relative range of fire intervals, if known. Probability is the inver 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

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

Shacklette, H.T., L.W. Durrell, J.A. Erdman, J.R. Keith, W.M. Klein, H. Krog, H. Persson, H. Skuja and W.A. Weber. 1969. Vegetation of Amchitka Island, Aleutian Islands, Alaska. Geological Survery Professional Paper 648. U.S. Government Printing Office, Washington, DC. 66 pp.

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