

LANDFIRE Biophysical Setting Model

Biophysical Setting 7617250

Aleutian Marine Beach and Beach Meadow

☐ This BPS is lumped with:

☐ This BPS is split into multiple models:

General Information

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

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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*

COGR6 LEMO8
ACMIB LAJAM
HOPE EMNI
MEMA3 COSU4

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 consists of coastal beaches, beach dunes and vegetation that has stabilized the sand deposits. Cobble beaches are also included. Soils are dry to mesic (occasionally tidally inundated) and typically sandy.

Vegetation Description

The following information was taken from the draft Arctic Ecological Systems description with slight modifications (NatureServe 2008):
Bare sand or cobble are common. Three existing vegetation map classes may dominate the system: salt-tolerant forb, *Leymus mollis* and *Empetrum nigrum*. Salt-tolerant forb communities occur just above mean high tide and are dominated or codominated by *Cochlearia groenlandica* (= *Cochlearia officinalis*), *Achillea millefolium* var. *borealis*, *Honckenya peploides* and/or *Mertensia maritima*. As dune height and distance from the ocean increase, sites are dominated by the *Leymus mollis* class that may include near-monocultures of *Leymus mollis* to more species-rich associations, including *Leymus mollis*, *Lathyrus japonicus* var. *maritimus* (= *Lathyrus maritimus*), *Achillea millefolium* var. *borealis*, *Festuca rubra*, *Fragaria chiloensis*, *Senecio pseudoarnica*, *Deschampsia beringensis*, *Heracleum maximum* and *Poa eminens*. The *Empetrum nigrum* map class often grows in narrow stringers on the older beach ridges behind the *Leymus mollis* map class. Herbaceous species are common, including *Cornus suecica*. The *Leymus mollis* and *Empetrum nigrum* map classes are above the high tide line but still experience storm surges, high winds and salt spray.

*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

Disturbance Description

Processes that define the system include sand deposition, wind erosion, long-shore transport, dune formation and water erosion such as overwash from storm surges (NatureServe 2008). Herbaceous species stabilize the sand deposits (dunes, beaches; NatureServe 2008).

Adjacency or Identification Concerns

This type is separate from but often adjacent to the Aleutian American Dunegrass Grassland system. It is subjected to typical coastal processes such as overwash and its elevation is typically less than 3 meters.

Native Uncharacteristic Conditions

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

Scale Description

Patch size can be small to large and is often linear.

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

COGR6 Upper
ACMIB Upper
LEMO8 Upper
EMNI 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.

The dwarf shrub *Empetrum nigrum* often is the dominant species.

Description

Zero plus years

This class represents the Marine Beach and Beach Meadow system. *Honckenya peploides* and *Mertensia maritima* are also important indicator species. See Vegetation Description for more information on species composition.

No disturbances modeled.

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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****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**

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Fire Regime Group:** NA

Historical Fire Size (acres)

Avg 0

Min 0

Max 0

Sources of Fire Regime Data

- ☐ Literature
☐ Local Data
☒ Expert Estimate

Additional Disturbances Modeled

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

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.

References

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