

LANDFIRE Biophysical Setting Model

Biophysical Setting 7816570

Alaskan Pacific Maritime Shore Pine Peatland

☒ This BPS is lumped with: see below

☐ This BPS is split into multiple models: Alaskan Pacific Maritime Dwarf-Shrub-Sphagnum Peatland (1658).

General Information

Contributors (also see the Comments field)

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Reviewer

Vegetation Type

Wetlands/Riparian

Map Zone

78

Model Zone

- | | |
|--|--|
| ☒ Alaska | ☐ N-Cent.Rockies |
| ☐ California | ☐ Pacific Northwest |
| ☐ Great Basin | ☐ South Central |
| ☐ Great Lakes | ☐ Southeast |
| ☐ Northeast | ☐ S. Appalachians |
| ☐ Northern Plains | ☐ Southwest |

Dominant Species*

PICO	EMNI
CHNO	KALMI
TSME	LEDUM
TSHE	SPHAG2

General Model Sources

- ☒ Literature
☐ Local Data
☒ Expert Estimate

Geographic Range

This type is found from Yakutat Bay south through southeast AK along the Pacific Coast (Cope 1993). Shore pine does not occur north or west of Yakutat.

Biophysical Site Description

This type is found on flat, rolling, or sloped terrain. Soils are poorly drained with deep organic layers (Vioreck et al. 1992) and are usually saturated throughout the growing season. In AK shore pine occurs from sea level to the subalpine zone (Vioreck et al. 1992).

Vegetation Description

Trees, if present, are usually stunted. This type is often a complex of forested and non-forested peatlands. Tree canopy is typically very open (<30% tree cover). Common tree species include *Pinus contorta* and *Cupressus nootkatensis* (*Chamaecyparis nootkatensis*). Shrub cover is typically low and may include *Empetrum nigrum*, *Kalmia polifolia*, *Ledum* spp., *Vaccinium uliginosum* (NatureServe 2008). Other species include *Carex sitchensis*, *C. pluriflora*, *C. pauciflora*, *C. livida*, *Drosera* spp, *Trichophorum caespitosum*, *Eriophorum angustifolium*, *Sanguisorba menziesii*, *Andromeda polifolia*, *Oxycoccus microcarpus* and *Cornus canadensis* (NatureServe 2008). *Sphagnum* spp. (especially *S. fuscum*) dominates the moss layer (NatureServe 2008).

This type includes a range of canopy structure and composition from mixed conifer peatlands on sideslopes and benches with (*Cupressus nootkatensis*, *Tsuga mertensiana*, *Tsuga heterophylla*, *Pinus contorta*) to peatlands on level ground with scrub *Pinus contorta* (Demeo et al. 1992 (forest only), Martin et al. 1995 (forest only), Shephard 1995 (forest and nonforest). Banner et al (1988) describe this *Pinus contorta* peatland type as a "slope bog".

*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

Shore Pine Bogs and Poor Fens are a climax community (Viereck et al. 1992). The system is characterized by a lack of disturbance and sites are so poorly drained with deep peat accumulation that few other trees can grow on it. Over long time scales paludification may occur on these sites leading to tree death and bog formation (Viereck et al. 1992). Alternatively, on sites with improved drainage, hemlock or spruce may invade (Viereck et al. 1992).

Landslides can affect this community when it occurs on steep slopes. Fire is extremely rare in SE Alaska and likely not an important factor in the successional dynamics of shore pine communities (Cope 1993).

Adjacency or Identification Concerns

This type can grade into or be considered a variant of the Alaskan Pacific Maritime Poorly Drained Conifer Woodland type and occurs adjacent to other wetland types.

Native Uncharacteristic Conditions

Scale Description

Large patch or small patch

Issues/Problems

Comments

This model was based on input from experts who attended the LANDFIRE Juneau Modeling Meeting (Feb. 08) and refined by Karen Dillman. Review comments resulted in minor additions to the description.

Vegetation Classes

Class A 100 %

Mid Development 1 Open

Upper Layer Lifeform

- ☐ Herbaceous
☐ Shrub
☒ Tree

Indicator Species* and Canopy Position

PICO Upper
CHNO Upper
EMNI Lower
SPHAG2 Lower

Structure Data (for upper layer lifeform)

	Min	Max
Cover	Woodland (10-24% tree cover)	Open (25-59% tree cover)
Height	Dwarf Tree (< 3 m)	Tree (> 3 m)
Tree Size Class	Pole 5–9" (swd)/5–11" (hwd)	

☐ Upper layer lifeform differs from dominant lifeform.

Description

Zero plus years

This class represents the stable Shore Pine Bog and Poor Fen community. Canopy structure and species composition can be variable but stands are generally open and overstory trees may include *Pinus contorta*, *Cupressus nootkatensis* (*Chamaecyparis nootkatensis*), *Tsuga mertensiana* and *Tsuga heterophylla*. Trees may be pole to medium sized. See the Vegetation Description for a list of understory species.

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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- DeMeo, T., J. Martin and R.A. West. 1992. Forest plant association management guide, Ketchikan Area, Tongass National Forest. USDA Forest Service, Alaska Region. R10-MB-210. 405p.
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- Viereck, L., Dryness, C., Batten A. and K. Wenzlick. 1992. The Alaska vegetation classification. General Technical Report PNW-GTR-286. Portland, Oregon. USDA Forest Service, Pacific Northwest Research Station. 278 p.

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