10840

North Pacific Montane Shrubland

BpS Model/Description Version: Aug. 2020

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| None | None | None | None |

Vegetation Type

Shrubland

Map Zone

1

Geographic Range

This system occurs throughout the North Pacific region.

Biophysical Site Description

This system occurs on ridgetops and upper to middle mountain slopes and is more common on sunny southern aspects. It occurs from about 152m (500ft) elevation up to the lower limits of subalpine parkland on toe slopes to upper slopes, within the forested zone, but it is largely absent from the windward sides of the coastal mountains where fires are rare due to very wet climates.

Vegetation Description

Vegetation is a rather stable combination of deciduous broadleaf shrubs, cryptograms, and herbs, sometimes mixed with shrub-stature trees or sparse evergreen needleleaf trees. Species composition is highly variable depending on location and soil ash content. Some of the most common species include *Acer circinatum*, *Vaccinium membranaceum*, *Ceanothus velutinus*, *Holodiscus discolor*, and *Rubus parviflorus*. Vegetation varies with moisture regime, temperature, and vegetation zone.

BpS Dominant and Indicator Species

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** |
| ACCI | *Acer circinatum* | Vine maple |
| VAME | *Vaccinium membranaceum* | Thinleaf huckleberry |
| CEVE | *Ceanothus velutinus* | Snowbrush ceanothus |
| HODI | *Holodiscus discolor* | Oceanspray |
| RUPA | *Rubus parviflorus* | Thimbleberry |
| XETE | *Xerophyllum tenax* | Common beargrass |

Species names are from the NRCS PLANTS database. Check species codes at http://plants.usda.gov.

Disturbance Description

This type consists of long-lived seral shrublands that persist for centuries or more. These sites are maintained by topo-edaphic conditions and do not experience much disturbance.

Fire Frequency

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Severity** | **Avg FI** | **Percent of All Fires** | **Min FI** | **Max FI** |
| Replacement | 10460 | 100 |  |  |
| Moderate (Mixed) |  |  |  |  |
| Low (Surface) |  |  |  |  |
| All Fires | 10460 | 100 |  |  |

Fire interval is expressed in years for each fire severity class and for all types of fire combined (All Fires). Average FI is the central tendency modeled. Percent of all fires is the percent of all fires modeled in that severity class. Minimum and Maximum FIs show the relative range of fire intervals as estimated by model contributors, if known.

Scale Description

This type occurs as small to large patches scattered throughout the montane zone.

Adjacency or Identification Concerns

This type occurs in the montane zone and is adjacent to a variety of montane types, more commonly ABAM, TSME, and ABLA types.

Issues or Problems

These substrates are too rocky to support trees. Volcanic ash can be the determining factor for whether trees establish. Perpetuated by topo-edaphic conditions, not fire. Fire could get into the very edges before going out. Significant changes in the area of this type would be due to climate change, volcanism, or human activities.

Native Uncharacteristic Conditions

Comments

Succession Classes

**Mapping Rules**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Upper Layer Lifeform** | **Height (m)** | **Canopy Cover (%)** | | | | | | | | | |
| **0-10** | **11-20** | **21-30** | **31-40** | **41 - 50** | **51-60** | **61-70** | **71-80** | **81-90** | **91-100** |
| Herb | 0-0.5 | A | A | A | A | A | A | A | A | A | A |
| Herb | 0.5-1.0 | A | A | A | A | A | A | A | A | A | A |
| Herb | >1.0 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 0-0.5 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 0.5-1.0 | A | A | A | A | A | A | A | A | A | A |
| Shrub | 1.0-3.0 | A | A | A | A | A | A | A | A | A | A |
| Shrub | >3.0 | A | A | A | A | A | A | A | A | A | A |
| Tree | 0-5 | A | A | A | A | A | UN | UN | UN | UN | UN |
| Tree | 5-10 | A | A | A | A | A | UN | UN | UN | UN | UN |
| Tree | 10-25 | A | A | A | A | A | UN | UN | UN | UN | UN |
| Tree | 25-50 | A | A | A | A | A | UN | UN | UN | UN | UN |
| Tree | >50 | A | A | A | A | A | UN | UN | UN | UN | UN |

Succession class letters A-E are described in the Succession Class Description section. Some classes use a leafform distinction where a qualifier is added to the class letter: Brdl (broadleaf), Con (conifer), or Mix (mixed conifer and broadleaf). UN refers to uncharacteristic native or a combination of height and cover that would not be expected under the reference condition. NP refers to not possible or a combination of height and cover which is not physiologically possible for the species in the BpS.

**Description**

Class A 100 Mid Development 1 - All Structures

Indicator Species

|  |  |  |  |
| --- | --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** | **Canopy Position** |
| ACCI | Acer circinatum | Vine maple | Upper |
| RUPA | Rubus parviflorus | Thimbleberry | Mid-Upper |
| VAME | Vaccinium membranaceum | Thinleaf huckleberry | Mid-Upper |
| XETE | Xerophyllum tenax | Common beargrass | Low-Mid |

Description

This vegetation type is quite stable. No disturbances initiate primary succession or set it back, save for the rare fire that burns the edges of the patch. These rocky substrates have limited soils, preventing tree colonization.

*Maximum Tree Size Class*  
None

Model Parameters

Deterministic Transitions

|  |  |  |  |
| --- | --- | --- | --- |
| **From Class** | **Begins at (yr)** | **Succeeds to** | **After (years)** |
| Mid1:ALL | 0 | Mid1:ALL | 999 |

Probabilistic Transitions

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Disturbance Type** | **Disturbance occurs In** | **Moves vegetation to** | **Disturbance Probability** | **Return Interval (yrs)** | **Reset Age to New Class Start Age After Disturbance?** | **Years Since Last Disturbance** |
| Replacement Fire | Mid1:ALL | Mid1:ALL | 0.0001 | 10000 | Yes | 0 |

References

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