16530

Alaskan Pacific Maritime Mesic Herbaceous Meadow

BpS Model/Description Version: Nov. 2024

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Vegetation Type

Herbaceous

Map Zones

75, 77, 78

Geographic Range

This Biophysical Setting (BpS) is found from Prince William Sound through southeast AK.

Biophysical Site Description

Mesic herbaceous meadows are a widely distributed type found on a variety of landforms and at varying elevations. Some occur on subalpine sideslopes with colluvial accumulations of well-drained soils. It can also occur at lower elevations on stream levees or higher elevation sites that tend to hold snow and have a relatively short growing season. The main factor is deep, nutrient-rich, well-drained soils.

Vegetation Description

This herbaceous system includes a wide variety of vegetation types dominated by forbs, graminoids or ferns (NatureServe 2008). In the northern portion of the range (Yakutat to Kodiak) meadows dominated by *Calamagrostis canadensis* and *Chamerion angustifolium* are common but occur less frequently in the southern portion of the range. Forb (particularly large umbel) and fern meadows occur throughout the range. The most common diagnostic assemblages include *Angelica genuflexa, Calamagrostis canadensis* and *Chamerion angustifolium*. One or more of the following species can also be present: *Veratrum viride, Athyrium filix-femina,* or *Heracleum maximum*. Other common species may include *Lupinus nootkatensis, Aconitum delphiniifolium, Sanguisorba canadensis, Senecio triangularis, Nephrophyllidium crista-galli* and *Angelica genuflexa* (Shephard 1995; DeVelice et al. 1999).

BpS Dominant and Indicator Species

|  |  |  |
| --- | --- | --- |
| **Symbol** | **Scientific Name** | **Common Name** |
| ANGE2 | *Angelica genuflexa* | Kneeling angelica |
| CHANA2 | *Chamerion angustifolium ssp. angustifolium* | Fireweed |
| HEMA80 | *Heracleum maximum* | Common cowparsnip |
| ATFI | *Athyrium filix-femina* | Common ladyfern |
| VEVI | *Veratrum viride* | Green false hellebore |
| LUNO | *Lupinus nootkatensis* | Nootka lupine |
| ACDE2 | *Aconitum delphiniifolium* | Larkspurleaf monkshood |
| SACA14 | *Sanguisorba canadensis* | Canadian burnet |

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

Disturbance Description

Successional relationships for this type are largely unknown (Viereck et al. 1992; III.B.2.). Some mesic herbaceous types may persist for quite a while. Shrubs and tree seedlings are inhibited due to very dense vegetation cover and lack of substrate for tree seedling germination.

It is unclear what disturbances affect this system in the Maritime region of AK. A reviewer noted that many, if not all of the non-forest communities on level or gentle terrain accumulate incompletely decayed vegetation (peat) over centuries, and for all practical purposes have no disturbance.

Fire Frequency

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

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

Small patch

Adjacency or Identification Concerns

This system can be found adjacent to Alaskan Pacific Maritime Subalpine Alder-Salmonberry Shrubland, Alaskan Pacific Maritime Avalanche Slope Shrubland, Alaskan Pacific Maritime Shrub and Herbaceous Floodplain Wetland (near stream levees) and most forest types.

Issues or Problems

There is little information about disturbances affecting this community or its successional status.

Native Uncharacteristic Conditions

Comments

This model was based on input from experts who attended the LANDFIRE Juneau Modeling Meeting (Feb. 08) and refined by Rick Turner. Review resulted in minor descriptive changes.

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 | UN | UN | UN | UN | UN | UN | UN | UN |
| Shrub | 0.5-1.0 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Shrub | 1.0-3.0 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Shrub | >3.0 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 0-5 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 5-10 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 10-25 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | 25-50 | A | A | UN | UN | UN | UN | UN | UN | UN | UN |
| Tree | >50 | A | A | UN | UN | UN | 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** |
| ANGE2 | *Angelica genuflexa* | Kneeling angelica | Upper |
| CHANA2 | *Chamerion angustifolium* ssp*. angustifolium* | Fireweed | Upper |
| HEMA80 | *Heracleum maximum* | Common cowparsnip | Upper |
| ATFI | *Athyrium filix-femina* | Common ladyfern | Upper |

Description

This class represents the Mesic Herbaceous Meadow BpS. Forbs, grasses and/or ferns dominate the site.

*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** |

References

DeVelice, R.L., Hubbard, C.J., Boggs, K. et al. 1999. Plant community types of the Chugach National Forest. Tech. Publ. R10-TP-76. Juneau, AK: USDA Forest Service, Alaska Region. 375p.

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

Shephard, M.E. 1995. Plant community ecology and classification of the Yakutat Foreland, Alaska. Technical Report R10-TP-56. Juneau, AK: USDA Forest Service Alaska Region. 206 p.

Viereck et al. 1992. The Alaska vegetation classification. Pacific Northwest Research Station, USDA Forest Service, Portland, OR. Gen. Tech. Rep. PNW-GTR286. 278 p.