

PORT-ORFORD-CEDAR SERIES

Chamaecyparis lawsoniana

CHLA

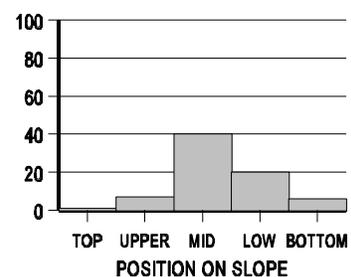
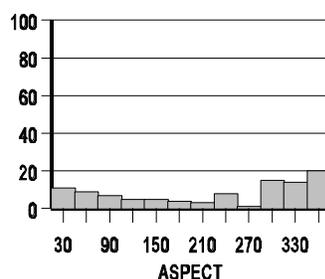
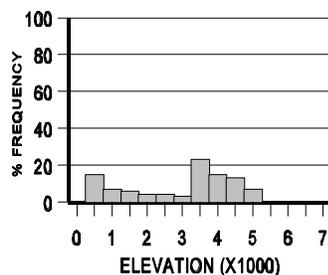
Vince Randall

Lands climax to Port-Orford-cedar were classified into eight plant associations. Most plots were located in Oregon. However, observations indicate that application in northern California is limited. Thomas Jimerson's (1994) Port-Orford-cedar guide should be consulted for areas south of the Siskiyou crest that divides the Rogue and Klamath basins.

Port-Orford-cedar, a member of the Cupressaceae family, occupies a restricted range, compared to most northwest conifers. Its range somewhat coincides with the Klamath Geological Province, which roughly forms a square with Coos Bay, Eureka, Redding, and Roseburg as the corners. Except for an isolated population near Mount Shasta, inland stands, east of the Coast Range crest are uncommon. They occur where moisture stress is dampened by summer fog (topographically protected drainages, on north aspects).

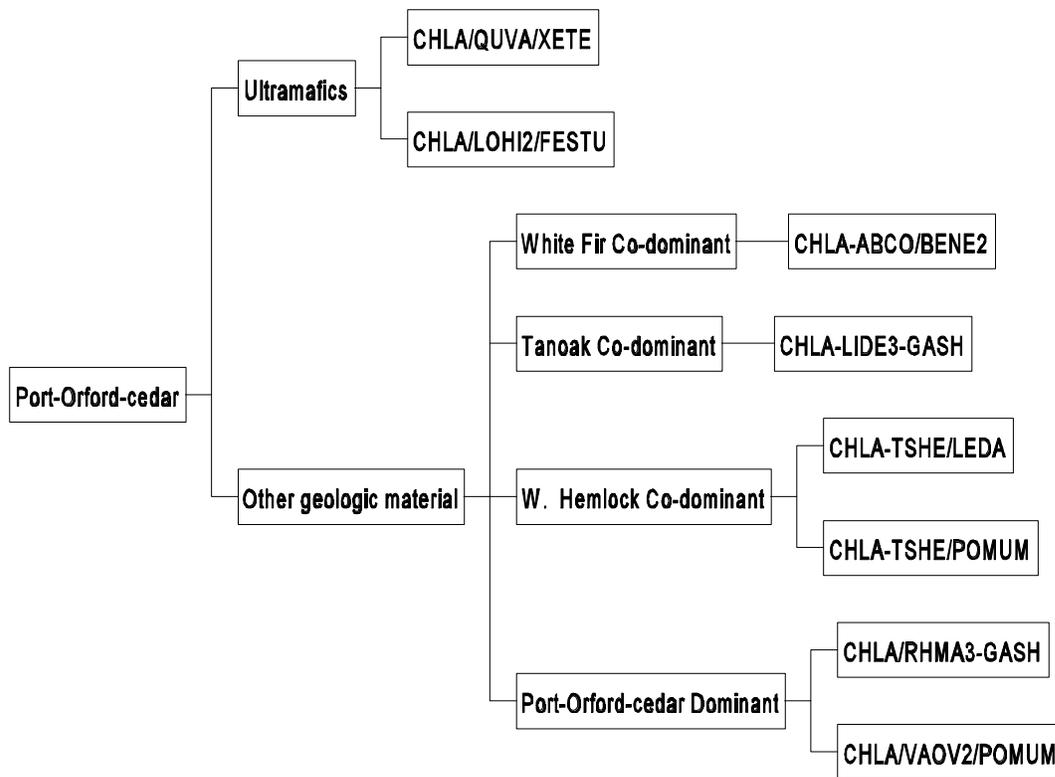
North of the California border, Port-Orford-cedar occurs throughout the landscape. In the Powers, Coos Bay area, it commonly occurs on upper slope topographic positions. Inland it is rarely found on ridges or upper slope positions; density increases toward the lower slope positions and bottoms. In northern California, populations are mostly associated with bottoms and lower slope positions (Jimerson, 1994). Throughout its range, Port-Orford-cedar occurs on ultramafic parent material, particularly where the water table is close to the surface (perched). Scattered, perched water tables are characteristic of ultramafic parent material. The Port-Orford-Cedar/Huckleberry Oak/Common Beargrass and the Port-Orford-Cedar/Hairy Honeysuckle/Fescue Associations often occur on perched water tables.

The Port-Orford-Cedar Series is most common west of the Coast Range crest, but is associated with lower third to bottoms or moist ultrabasic material inland. Coastal sites are low, averaging less than 1500 feet; inland sites average about 3500 feet.



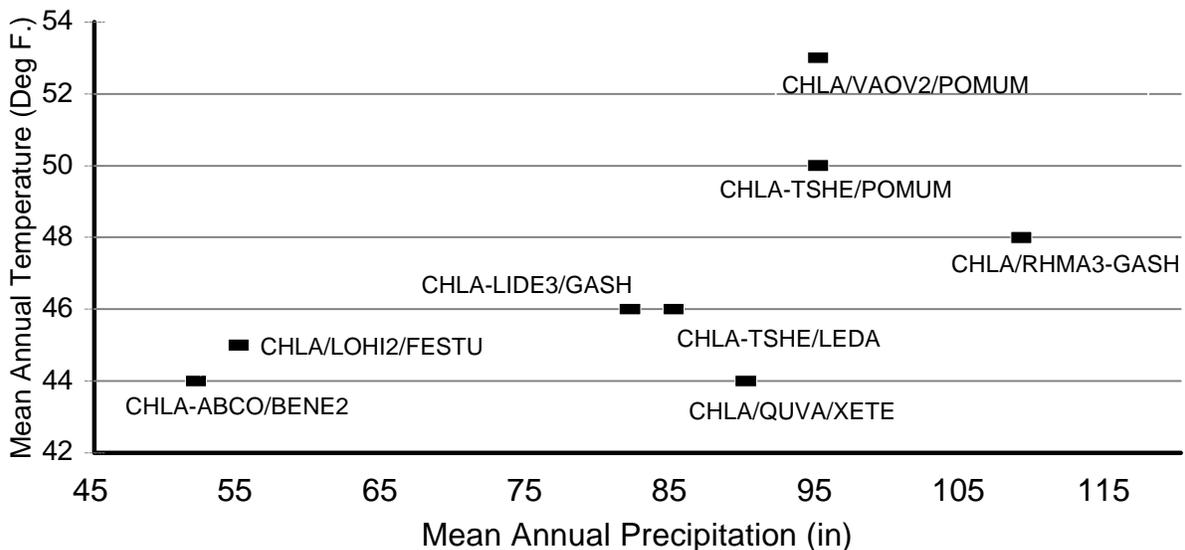
CHLA 2

The Series can be divided into associations occurring on ultramafic parent material, those co-climax with other species, and those dominated by Port-Orford-cedar. The diagram below illustrates the relationship among the associations.



The “Other geologic material” fork is arranged from cold, dry to warm, wet. The Port-Orford-cedar-White Fir/Dwarf Oregongrape Association is at the upper limits of the Series, where cold limits survival, growth, and reproduction. The Port-Orford-cedar-Tanoak/Salal Association intergrades with the Tanoak Series in the hotter, drier

Environmental Graph



environments. The Western Hemlock group, including the Port-Orford-cedar-Western Hemlock/Sierra-laurel Association, and the Port-Orford-cedar-Western Hemlock/Western Sword-fern Association, intergrades with the Western Hemlock Series at the warm, wet extreme for the Port-Orford-Cedar Series.

Port-Orford-cedar root rot, *Phytophthora lateralis*, introduced into the northwest early in this century (infections were first found in southwest Oregon about 40 years ago) is thought to be fatal to Port-Orford-cedar. Infected trees occur along streams, roads, and are sparsely scattered throughout the landscape. However, survivors are often found within infected areas, indicating the possibility of resistance or uneven distribution of the pathogen (spores). We have not yet determined the reasons for the existence of these survivors, but resistance, if it does exist, may be related to plant association. For example, the drier associations seem to be less susceptible to infection.

Page CHLA 3 below shows the relationship of draft and final plant associations. Draft associations are underlined and final associations are listed below in the order they most likely fall into the final associations. This cross reference could be used to determine how sites keyed with the draft should fall into the final classification. However, re-keying in the field or running existing species information through the final key is recommended.

CHLA/BENE/ACTR N=4
CHLA-ABCO/BENE2 (100%)

CHLA/BENE/LIBOL N=10
CHLA-ABCO/BENE2 (85%)
CHLA/QUVA/XETE (15%)

CHLA/GABU N=2
LIDE3-PIMO3/QUVA/XETE (50%)
PIMO3-LIDE3/QUVA/XETE (50%)

CHLA/GASH N=15
CHLA/RHMA3-GASH (67%)
CHLA-ABCO/BENE2 (33%)

LITERATURE CITED

Jimerson, T.M. 1994 A Field Guide To Port Orford Cedar Plant Associations In Northwest California. USDA Forest Service, Six Rivers National Forest, Eureka, CA. 109 p.

CHLA 4

KEY TO THE PORT-ORFORD-CEDAR PLANT ASSOCIATIONS

- 1a. Vegetation dominated by ultramafic parent material, or soils with ultramafic influence (Serpentine, Peridotite). 2
- 1b. Vegetation not as above. 3
- 2a. Huckleberry oak (QUVA), common beargrass, and whitevein pyrola (PYPI2) present. CHLA/QUVA/XETE
Page CHLA 6
- 2b. Huckleberry oak (QUVA), common beargrass (XETE), and whitevein pyrola (PYPI2) absent. Hairy honeysuckle (LOHI2) and fescue (FESTU) present. (Usually found on shallow ultramafic soils) CHLA/LOHI2/FESTU
Page CHLA 8
- 3a. Area usually between the Pistol River and 4 Mile Creek within twenty miles of the ocean, at less than 1,000 feet elevation. Western sword-fern (POMUM) present with at least 25% cover. Fragrant bedstraw (GATR3) usually present at 5% cover. Salmonberry (RUSP) is common. CHLA/VAOV2/POMUM
Page CHLA 10
- 3b. Western hemlock (TSHE), tanoak (LIDE3), or white fir (ABCO) seldom codominant or subdominant to Port-Orford-cedar (CHLA) in the understory and/or overstory layers. Pacific rhododendron (RHMA3) and salal (GASH) frequently dominate the shrub layer. (Areas are mainly found scattered along the western flank of the coastal crest, although they can occasionally be seen widely scattered on the east side of the Siskiyou) CHLA/RHMA3-GASH
Page CHLA 12
- 3c. Western hemlock (TSHE), tanoak (LIDE3), or white fir (ABCO) present and codominant or subdominant to Port-Orford-cedar (CHLA) in the understory and/or overstory layer. 4
- 4a. Tanoak (LIDE3) found codominant or subdominant to Port-Orford-cedar in the understory. Salal (GASH), dwarf Oregongrape (BENE2), and red huckleberry (VAPA) frequently found in the shrub layer. (Areas are usually found east of the coastal crest between 2,400 and 4,100 feet elevation) CHLA-LIDE3/GASH
Page CHLA 14

4b. White fir (ABCO) present and codominant or subdominant to Port-Orford-cedar (CHLA) in the understory. Dwarf Oregongrape (BENE2) present, rattlesnake-plantain (GOOB2), western twinflower (LIBOL), and western starflower (TRLA6) frequently present. (Areas are usually found in or near the eastern half of the Illinois Valley Ranger District of the Siskiyou National Forest above 3,000 feet elevation). CHLA-ABCO/BENE2
Page CHLA16

4c. Western hemlock (TSHE) codominant or subdominant to Port-Orford-cedar (CHLA) in the understory and/or the overstory. 5

5a. Western hemlock (TSHE) present and codominant or subdominant to Port-Orford-cedar in the understory. Western swordfern (POMUM), Oregon oxallis (OXOR), dwarf Oregongrape (BENE2), and salal (GASH) present. (Area is usually in or near the Powers Ranger District of the Siskiyou National Forest, less than 3,200 feet elevation). CHLA-TSHE/POMUM
Page CHLA 18

5b. Western hemlock (TSHE) frequently present and codominant or subdominant to Port-Orford-cedar in the understory. Sierra-laurel (LEDA) and salal (GASH) frequently present. (Area is usually within the upper reaches of Silver Creek and Howard Creek on the Siskiyou National Forest, above 3,200 feet). CHLA-TSHE/LEDA
Page CHLA 20