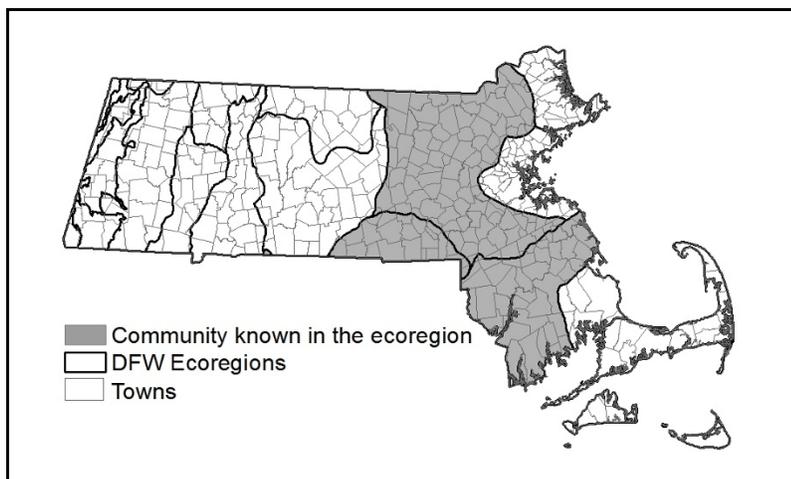


Alluvial Atlantic White Cedar Swamp

Community Code: CP1B1A4000

State Rank: S2



Concept: Forested swamps occurring along low-gradient rivers where Atlantic white cedar is co-dominant with red maple in the overstory.

Environmental Setting: Alluvial Atlantic White Cedar Swamps (AWCS) occur within the floodplain of low gradient rivers and streams or at the fringes of open marshy areas along ponds. They receive annual or semi-annual overbank flooding, making them more mineral-rich than other AWC wetlands. But like other AWCS, and unlike other floodplain communities, they are often poorly drained, retaining sediment saturating flood water well into the growing season. Groundwater from uplands and surrounding wetlands may maintain soil moisture over the growing season. Soils are typically silt loams with a mucky surface organic layer. Alluvial AWCS often occur in wetland mosaics with other alluvial and floodplain forests and swamps, as well as more open wetland communities.

Vegetation Description: Alluvial AWC swamps are highly variable in their composition. Atlantic white cedar (*Chamaecyparis thyoides*) and red maple (*Acer rubrum*) dominate the tree layer, and high bush blueberry (*Vaccinium corymbosum*) and sweet pepper-bush (*Clethra alnifolia*) occur in the shrub layer along with silky dogwood (*Swida amomum*). The herb layer is comprised of species common to very wet, open or enriched sites, including sensitive fern (*Onoclea sensibilis*), royal fern (*Osmunda regalis*), bugleweed (*Lycopus* spp.), marsh fern (*Thelypteris palustris*), and marsh St. John's-wort (*Triadenum virginicum*).

Differentiating Occurrences: Alluvial AWCS differ from other AWC wetlands in that they occur within the floodplain of low-gradient rivers and streams or at the fringes of open marshy areas along ponds, generally in the eastern part of the state. They receive annual or semi-annual overbank flooding making them more mineral-rich than other AWC wetlands. Silky dogwood, sensitive and royal ferns, bugleweed, and marsh St. John's-wort are more common than in other AWCS, and Sphagnum carpets are less dense in regularly flooded areas. As with all natural communities, transitions and mixes occur. Coastal AWCS are not along river floodplains, although geographic distribution and resultant coastal species may overlap with Alluvial AWCS. Inland AWCS may also overlap geographically, but are also not in floodplains. Yellow Birch is more common than in Alluvial AWCS. Inland AWCS have lower abundance of coastal indicators such as greenbrier, inkberry, dangleberry, swamp sweetbells, Virginia chain-fern, and netted chain-fern than Alluvial or Coastal AWCS. In Alluvial Red Maple Swamps, silver maple is often codominant with red maple; there is very little AWC (<25% cover), if it is present at all.

Habitat Values for Associated Fauna: Alluvial AWC swamps can function as vernal pool habitat if water remains standing for 2-3 months and they lack fish; these areas provide important amphibian breeding habitat.



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Threats:

The two greatest threats to AWC swamps are land clearing for agricultural, commercial and residential development, and interference of normal hydrological functioning as a result of development. Atlantic white cedar has been cut extensively for posts and shingles for over three centuries. In an extensive statewide vegetation inventory funded by NHESP in 1990, no uncut stands were found, but several sites contained cedars that were 100-200 years old. Selective cutting is detrimental to the persistence of AWC swamps, because hardwoods, such as red maple, out-compete and replace AWC. Any alterations to the natural hydroperiod of AWC swamps threatens their persistence.

Management Needs:

Due to the limited distribution of AWC swamps, it is recommended that no clearing or filling of these wetlands be allowed. Atlantic white cedar will regenerate best following catastrophic disturbance events such as hurricanes and fires. Data suggest that in the absence of disturbance, red maple and shrubs increase in abundance at the expense of Atlantic white cedar. Fire suppression negatively threatens the long-term persistence of AWC swamps, and controlled burning practices may be an appropriate restoration tool in many areas. Controlled burning should be accompanied by small-patch clearcuts to be most effective. By clear-cutting small patches, generally 20 m x 20 m, and removing the slash and competing vegetation, pure, even-aged stands of Atlantic white cedar are able to regenerate. AWC swamps require a natural cycle of wet and dry periods for their survival and reproduction. Standing water for much of the year is unfavorable for both seed germination and seedling survival, and young seedlings are killed by both drowning and drought. It is recommended that any alterations in water levels be avoided, this includes development and road construction in uplands surrounding AWC swamps which can alter water levels. Where cedar wetlands are associated with river systems, it is important to maintain normal hydrologic regime of the river.

USNVC/NatureServe:

Chamaecyparis thyoides Northern Peatland Alliance [A3400] -- *Chamaecyparis thyoides* - *Acer rubrum* / *Lycopus* spp. Forest (CEGL006364).

