Atlantic White Cedar Bog

State Rank: S2 - Imperiled

AWC Bog in a large basin, with leatherleaf and Virginia chain-fern. Atlantic white cedar, red maple and other trees surround the bog. Photo: Thomas O'Shea, MassWildlife.

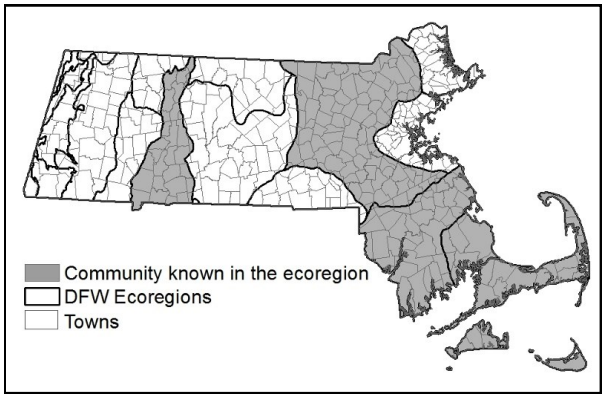
Description: Atlantic White Cedar Bogs (AWC Bogs) are semi-forested acidic dwarf-shrub peatlands - wetlands with incompletely decomposed plant material (peat) that accumulates when saturated year round by water that is cool, acidic, poorly oxygenated, and low in nutrients. Short (2-10m (6-30 ft.)) AWC trees dominate the open canopy. An open to nearly continuous, low (~1m (~3ft.)) shrub layer often includes small AWC. In Massachusetts, many AWC Bogs occur as small (<3 acre) openings within larger AWC Swamps, in parts of the state where Oak and Oak – Pine Forests dominate the landscape. The settings are variable: pond borders, patches in large swamps, and on Cape Cod, in kettleholes where they are surrounded by upland Pitch Pine - Oak Forests and Pitch Pine - Scrub Oak Communities.

Atlantic White Cedar Bogs are characterized by a nearly continuous heath shrub layer and an open canopy dominated by Atlantic white cedar. A carpet of sphagnum moss is underlain by deep, wet peat.

Small patch of AWC Bog with black spruce and dense leatherleaf. Photo: Keith Love.

Characteristic Species: Atlantic White Cedar dominates the sparse (<25% total cover) canopy, with red maple and occasional white and/or pitch pine, grey birch, and black spruce. A variably dense shrub layer dominated by leatherleaf includes black and/or dwarf huckleberry, dangleberry, and sheep laurel mixed with clumps of tall shrubs such as highbush blueberry and swamp azalea. Large and small cranberry, sundews, and pitcher-plants occur throughout on a well-formed layer of sphagnum moss below the shrubs. Virginia chain-fern can be abundant in occurrences in southern Massachusetts.

Differentiating from Related Communities: Atlantic White Cedar Bogs have sparse canopy (averaging <25%, but there may be local clumps of trees) cover of Atlantic White Cedar over sphagnum on peat. AWC Bogs share many species and characteristics with other acidic peatlands including Level Bogs, and Kettlehole Level Bogs and Acidic Graminoid Fens. The most obvious difference is the presence of Atlantic White Cedar in the sparse tree layer and as scattered shrubs on the sphagnum mat. AWC Bogs often occur as openings in Coastal, Inland, and Northern AWC Swamps, which are forested wetland communities with closed canopies (>25% tree cover overall), with >25% cover of AWC. AWC Bogs have, overall, <25% cover of canopy species (clumps of trees with locally greater cover may be present; the coverage is for the entire extent of the community) with AWC dominating the canopy that does occur. Whether AWC Bogs are considered to be separate entities or openings in the prevailing AWCS depends on the size and abundance of patches: 2 acres that may be cumulative across local patches are necessary for NHESP to map an occurrence.



Habitat for Associated Fauna: Winged animals and large terrestrial animals can use peatlands as part of their habitat. White-tailed deer browse on shrubs in acidic peatlands. Birds use peatlands for nesting or foraging. The acidity and low oxygen content make peatlands poor habitat for most amphibians and reptiles, although four-toed salamanders nest in sphagnum hummocks over water and individuals may incorporate AWC Bogs as part of their habitat. Many species of dragonflies and damselflies inhabit acidic peatlands, especially where there is adjacent open water. AWC Bogs with dense patches of Virginia chain-fern or water willow are likely to support species of moths that specialize in those plants.

Examples with Public Access: Mashpee WMA, Mashpee; Hockomock Swamp WMA (Nunkets Pond, Lake Nippenicket), Bridgewater; Blue Hills Reservation (Ponkapoag Pond), Canton; Peters Pond Area (town), Dracut.

AWC Bog on a pond shore abutting a dense AWC Swamp. Photo: Patricia Swain, NHESP.

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