

Red Spruce Swamp

State Rank: S3 - Vulnerable



Red Spruce Swamp with open understory. Photo: Glenn Motzkin.

Description: Red Spruce Swamps are tall (>20 m) forested coniferous wetlands typically found at higher elevations in the central and western parts of the state. They tend to occur in poorly drained basins with no obvious inlets and small intermittent outlets that may form stream headwaters. Deep (often >2m) organic sediments (peat or muck) in these swamps create acidic and nutrient poor conditions.

Characteristic Species: The tree canopy in Red Spruce Swamps is typically closed and dominated by red spruce; associates with variable but much lower abundance include white pine, eastern hemlock, balsam fir, red maple, black gum, and yellow birch. Black spruce may be present in low numbers. The subcanopy is usually low in percent cover and may be comprised of one or more of the canopy species. The shrub component is often fairly sparse and grows primarily on the tops and sides of the hummocks. A diagnostic shrub of these swamps is mountain holly. Associated shrubs may include highbush

Red Spruce Swamps are forested wetlands with red spruce dominant in the canopy and sphagnum lawns. They occur primarily in stream headwaters or in poorly drained basins in the highlands of central and western Massachusetts.

blueberry, wild raisin, winterberry, and an occasional swamp azalea or maleberry. The herb layer may be prominent and dominated by cinnamon fern with Massachusetts fern, bluebead-lily, bunchberry, goldthread, and small amounts of three-seeded bog sedge. On the drier hummocks starflower and wild sarsaparilla may occur in small amounts. The ground is often a carpet dominated by sphagnum moss.

Differentiating from Related Communities: Red Spruce Swamps have tall, large diameter trees, dominated by red spruce, generally with an open understory. Creeping snowberry and twinflower are good indicators of Red Spruce Swamps but do not always occur. Rich Conifer Swamps are characterized



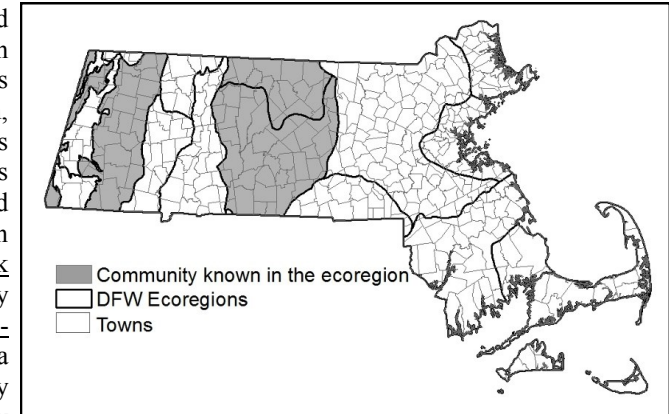
Red spruce needles and cones. Photo: Keith Kanoti, Maine Forest Service, Bugwood.org.

by a canopy of mixed red spruce, hemlock, with balsam fir and deciduous trees including black ash, and species such as spicebush that indicate less acidic conditions, and pockets of moss rather than sphagnum lawns. Hemlock Swamps are dominated by eastern hemlock. Spruce - Tamarack Bogs have a dense tree canopy dominated by generally short (<10m tall) black spruce and tamarack, with bog indicator species such as Labrador tea and bog laurel in the often dense shrub layer.



Twinflower. Photo: Rob Routledge, Sault College, Bugwood.org.

Habitat for Associated Fauna: Red Spruce Swamps are part of the habitat of large mobile animals. Conifer swamps are densely shaded and are relatively cool in the summer, making them preferred areas for animals such as moose. Areas of Red Spruce Swamps where water remains standing for 2-3 months can function as vernal pools.



Examples with Public Access: Greylock SR, Williamstown; Chalet WMA, Dalton; October Mountain SF, Washington; Cookson SF, New Marlborough; Warwick SF, Warwick; Tully Lake property (USACE) and Birch Hill WMA, Royalston; Phillipston WMA, Phillipston; Ashburnham SF, Ashburnham.



Red Spruce Swamp with open understory and sphagnum ground cover. Photo: Glenn Motzkin.

