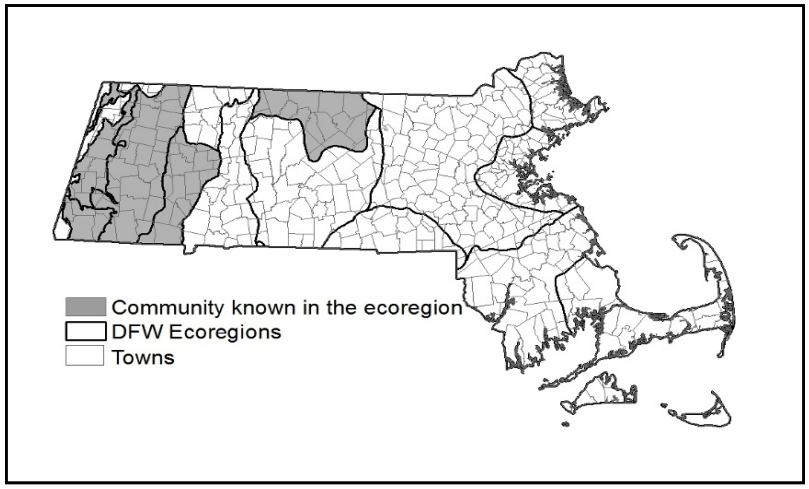
Rich Conifer Swamp

Community Code: CP1A130000

State Rank: S3



Concept: Species-rich conifer swamps with eastern hemlock, balsam fir, or red spruce as important canopy species, along with variable amounts of hardwoods and white pine.

Environmental Setting: The canopies of Rich Conifer Swamps are dominated by mixed conifers with a high proportion of deciduous trees. Mineral-enriched water flows or seeps into the community and supports a high diversity of species in all strata. The surface is hummocky with areas of moss on the hummocks and bare soil or water in the hollows. Most plants grow on hummocks above deep pockets of muck. The substrate is saturated for much of the year.

Vegetation Description: The vegetation of Rich Conifer Swamps is variable. The canopy is dominated by conifers (eastern hemlock (*Tsuga canadensis*), balsam fir (*Abies balsamea*), or red spruce (*Picea rubens*), alone or together) mixed with red maple (*Acer rubrum*), yellow birch (*Betula alleghaniensis*), American elm (*Ulmus americana*), and black ash (*Fraxinus nigra*). Species indicative of mineral enriched conditions are typical in the understory. Dense patches in the shrub layer may include spicebush (*Lindera benzoin*), witch hazel (*Hamamelis virginiana*), or hornbeam (*Carpinus caroliniana*). The variable and diverse herbaceous layer may include jack-in-the-pulpit (*Arisaema triphyllum*), foamflower (*Tiarella cordifolia* var. *cordifolia*), lesser mitrewort (*Mitella nuda*), wild oats (*Uvularia sessilifolia*), oak-fern (*Gymnocarpium dryopteris*), slender mannagrass (*Glyceria melicaria*), delicate sedge (*Carex leptalea* ssp. *leptalea*), swamp-saxifrage (*Micranthes pensylvanica*), northern horse-balm (*Collinsonia canadensis*), golden ragwort (*Packera aurea*), golden saxifrage (*Chrysosplenium americanum*), rough-leaved goldenrod (*Solidago patula* var. *patula*), swamp-goldenrod (*S. uliginosa*), and purple avens (*Geum rivale*).

Differentiating Occurrences: Rich Conifer Swamps are characterized by a canopy of mixed red spruce, hemlock, with balsam fir and deciduous trees including black ash. Shrubs may be dense and include species such as spicebush that indicate less acidic conditions with greater nutrient availability. The surface has pockets of moss rather than Sphagnum lawns. The canopy in Red Spruce Swamps is dominated by red spruce: lower strata are sparse. Sphagnum often forms a continuous ground cover. Although all types of forested wetlands can include scattered patches of eastern hemlock, only in Hemlock Swamps is it the dominant canopy species throughout the community. Lower strata are sparse in Hemlock Swamps where Sphagnum may form a continuous ground cover. Red Maple Swamps and named variants such as Red Maple-Black Gum Swamps are dominated by deciduous trees, particularly red maple. Atlantic White Cedar Swamps are dominated by Atlantic white cedar trees.

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Habitat Values for Associated Fauna:

Rich Conifer Swamps are part of habitat of large mobile animals. Ground level browsers, including white-tailed deer (*Odocoileus virginianus*), snowshoe hare (*Lepus americanus*), and New England cottontail (*Sylvilagus transitionalis*), use shrubby areas in the community. Conifer swamps tend to have dense shade and are relatively cool in the summer, making them preferred areas for moose (*Alces alces*), animals that get too hot and have trouble controlling their body's temperature. Birds that nest or forage in canopies or mid sections of conifers don't differentiate on whether the site is wet or not: many birds of upland conifer forest also use Rich Conifer Swamps. Areas of Rich Conifer Swamps where water remains standing for 2-3 months and that lack fish can function as vernal pool habitat for amphibian breeding.

Threats:

Invasive exotic insect pests (e.g., Hemlock Woolly Adelgid (*Adelges tsugae*) and elongate hemlock scale (*Fiorinia externa*)); altered hydrology.

Management Needs:

Removal of invasive exotic plants where they are established. The use of undisturbed natural buffers around the best occurrences of the community reduces the potential for impacts from changes in the surrounding environment.

USNVC/NatureServe:

Tsuga canadensis - *Acer rubrum* Saturated Forest Alliance (Eastern Hemlock - Red Maple Saturated Forest Alliance) - *Betula alleghaniensis* - *Acer rubrum* - (*Tsuga canadensis*, *Abies balsamea*) / *Osmunda cinnamomea* Forest [CEGL006380]; (Hardwood - Conifer Seepage Forest; *Picea mariana* / *Alnus incana* / *Sphagnum* spp. Forest (CEGL002452).