



Forested Wetlands

Forested wetlands are the most abundant type of wetland in Vermont. A 1987 study identified 220,000 acres of wetland in Vermont, of which 120,000 acres are forested (Tiner 1987). Slightly more than half of these forested wetlands are hardwood-dominated swamps, with the remainder softwood-dominated swamps. In this study, swamps with a mix of hardwood and softwood trees were included in one or the other category based on what dominated the canopy.

Forested wetlands develop in all wetland settings in which the hydrologic regime allows trees to become established, grow to maturity, and reproduce. There are many wetland settings where trees do not persist, usually as a result of extended or frequent flooding. Trees are also absent from riverside settings that are regularly scoured by ice or shifting substrate. In raised, open peatlands tree development is often weak or lacking due to the saturated soils that are very low in dissolved oxygen and minerals.

For purposes of this classification, the broad category of forested wetlands includes both forests, which have 60 to 100 percent canopy closure, as well as woodlands, which have 25 to 60 percent canopy closure. Most of the natural communities

included in this section typically have well-developed canopies and are best considered forested wetlands, although individual examples of each community type may exist that have woodland canopies. Only two of the community types described in this section occur regularly as both forested and woodland swamps, namely Red Maple-Black Ash Swamps and Calcareous Red Maple-Tamarack Swamps.

Two wetland community types that have variable amounts of stunted conifer tree cover are not included here, namely Black Spruce Woodland Bog and Pitch Pine Woodland Bog. Both of these woodland communities are peatlands and are therefore included in the Peatlands section. Alluvial Shrub Swamp is another community type that may include scattered trees but is included in the Shrub Swamp section.

► HOW TO IDENTIFY

Forested Wetland Natural Communities

1. Understand the wetland's position in the landscape and how this may affect it. What is the climate? Is it in a basin, a river valley, or at the base of a slope?
2. What is the land use history of the wetland and surrounding upland areas? Is there evidence of recent human disturbance that may have changed the species composition or structure of the community?
3. What is the hydrologic regime of the wetland? What is the approximate size of the wetland's watershed? Is there a stream flowing into or out of the wetland? Is it in a closed basin? Is there a lake or river nearby that affects the wetland? Is there evidence of flooding, such as water or sediment marks on the trunks of trees? Are there seeps or springs on the margin of the wetland?
4. Examine the soils and determine if they are organic or mineral. For organic soils, what is the thickness and degree of decomposition of the organic layer? For mineral soils, what is the texture and are the soils gleyed or mottled? Are the mineral soils the result of alluvial deposition from an adjacent river?
5. Is there evidence of natural disturbance, including treefall, flooding, scouring by ice or water, changes in water levels, or recent beaver activity?
6. What is the dominant vegetation in each layer of the forest? What is the structure of the forest? Are there diagnostic species present, such as silver maple in many floodplain forests and northern white cedar in calcareous areas?
7. Use the key on the next page to determine which Forested Wetland Community you are in and go to the page indicated to learn more.



Floodplain Forests: These forests are usually dominated by silver maple or sugar maple, with abundant ostrich fern or sensitive fern. They are closely associated with river and lake floodplains and have exposed mineral soils of alluvial origin. Go to page 247.



Hardwood Swamps: Hardwood swamps are dominated by broad-leaved deciduous trees, but may have lesser amounts of conifers. Dominant trees may be red maple, silver maple, black ash, green ash, or black gum. Soils are mineral or organic. Go to page 263.



Softwood Swamps: Softwood swamps are dominated by conifers, including northern white cedar, red spruce, black spruce, balsam fir, tamarack, and hemlock. Broad-leaved deciduous trees may be present but are less abundant than conifers. Soils are mineral or organic. Go to page 287.



Seeps and Vernal Pools: These communities are typically very small and occur in depressions or at the base of slopes in upland forests. Trees in the wetland may be scarce, but there is an overhanging canopy from the adjacent forest. Seeps have abundant groundwater discharging at their margins and usually a lush growth of herbs. Vernal pools are depressions that fill with water in the spring and fall and typically have little herbaceous cover. Go to page 302.