Hardwood Seepage Forest

State Rank S3

Community Description

These closed canopy to partial canopy forests support a mixture of mostly deciduous overstory trees. Yellow birch, red maple, and/or green, black, or white ash are usually prominent species (35-85% cover each, sometimes lower). Hemlock or, less often, red spruce may create a mixed canopy (>25% conifer), with locally dense conifers. Sugar maple, beech, and red oak are occasional. The understory is usually open, with few shrubs and patches of tree regeneration. The herb layer is typically patchy, and reflects the underlying seepage gradients. Skunk cabbage, jewel weed, sensitive fern, and cinnamon fern occur in the wettest areas, and species less restricted by soil moisture occur elsewhere. Bryoids are sparse.

Soil and Site Characteristics

Sites occur on slight slopes (<15%) and adjacent bottoms where an impervious soil layer (~30 cm deep), such as marine clay or packed till, forces seepage water near the surface. Sites often occur at breaks in slope – either at the base of a slope, or on a slope bench. Soils are loamy, or grading to silty in flats, and moderately acidic to neutral (pH 5.2-7.0). Soils place this as a wetland type, but some sites may grade from wetland to upland as one moves upslope. Small sites, or 'forest seeps' (i.e., less than one acre) are frequent and are typically considered as inclusions within the broader forest rather than distinct natural communities.

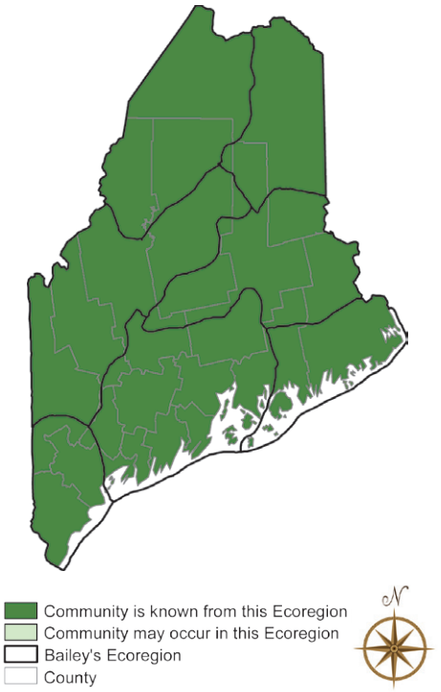
Diagnostics

Ash and/or yellow birch are common in the canopy (red oak is prominent at some sites). Red maple may be present but is not dominant. Wetland species are common in the herb layer. Soils are saturated and often temporarily flooded.

Similar Types

Hemlock - Hardwood Pocket Swamps feature hemlock and/or red maple as dominants, have heaths or winterberry in the shrub layer, and typically occur in distinct basins. Some Maple - Basswood - Ash Forests may have areas of wet soils, but have very different herb layer composition. Red Maple - Sensitive Fern Swamps can occur in similar settings but have different canopy composition.

Location Map



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Conservation, Wildlife, and Management Considerations

Many sites are on land with a long settlement history and have been either cleared or harvested in the past. Because these tend to occur as small forest patches, their conservation depends in part on maintaining some surrounding forest cover (both upslope and downslope) as a buffer. Like vernal pools, recognition of this type is more difficult in the winter, when snow cover and plant senescence may make it difficult to distinguish these sites from upland forest. Seeps may remain unfrozen through the winter, making it difficult to operate logging equipment.

Birds using a variety of hardwood types may use these communities. Cool, well oxygenated forested seeps provide habitat for the northern spring salamander. Occurrences of this community type in southern Maine may host the rare spicebush swallowtail butterfly, whose larvae feed only on spicebush and sassafras.

Distribution

Statewide, though not well documented

Landscape Pattern: Small Patch. Occurrences less than one acre are generally considered inclusions rather than distinct natural communities.

Characteristic Plants

These plants are frequently found in this community type. Those with an asterisk are often diagnostic of this community.

Canopy

American beech
Eastern hemlock*
Green ash*
Red oak
Red spruce
Sugar maple
Yellow birch*

Sapling/shrub

American beech
Red spruce*

Herb

Bluejoint
Cinnamon fern*
Common speedwell
Goldthread
Jack-in-the-pulpit
New York fern
Sensitive fern*
Spinulose wood fern

Bryoid

Dicranum moss
Sphagnum mosses*

Associated Rare Plants

Spicebush
Swamp saxifrage

Associated Rare Animals

Northern spring salamander
Spicebush swallowtail

Examples on Conservation Lands You Can Visit

- Dickwood IFW Lot – Aroostook County
- Sears Island – Penobscot Co

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