



## Forest Seep Community

**Community Code:** CT1C2B1000

**State Rank:** S4



**Concept:**

Small (usually <0.25 ac) pockets in forests on slopes, with small springs and seeps on mucky soils. The canopy is from or similar to the surrounding forest, but shrub and herbaceous layers species are typical of wetlands or moist areas.

**Environmental Setting:**

Forest Seep Communities are very small (often <<1 ac) wetlands in upland forests. They occur where groundwater emerges, often on a slope or at the base of one, as patches or linear areas perpendicular to slopes. Seeps may produce or be near stream headwaters, or may be isolated with the water absorbed into the surroundings. Upland trees rooted in the surrounding forest form the canopy, but species of the shrub and herbaceous layers are predominantly those of wetlands or moist areas. Seeps support diverse herbaceous layers suggesting nutrient enrichment relative to the surroundings. Downed logs are common due to the slopes and wet soils promoting periodic windthrow. The ground surface is generally dominated by plant litter, though there may be areas of bare soil and scattered stones. The soils are generally mineral, although a shallow organic layer may form.

**Vegetation Description:**

In Forest Seep Communities, the canopy is primarily (>75% cover) from trees from the surrounding forest that are rooted outside the seep. Because Forest Seep Communities occur statewide in all types of forest, the canopy cover trees may be northern hardwoods, conifers, oak, or mixed. The shrub layer is variable, dense, or barely present, and may include mixed wetland and upland plants including (depending on location) highbush blueberry (*Vaccinium corymbosum*), mountain laurel (*Kalmia latifolia*), hobble-bush (*Viburnum lantanoides*), swamp dewberry (*Rubus hispidus*), silky dogwood (*Swida amomum*), winterberry (*Ilex verticillata*), and, in coastal areas, sweet pepperbush (*Clethra alnifolia*). Many Forest Seep



Communities have dense herbaceous layers, with species dependent on location in the state. Golden saxifrage (*Chrysosplenium americanum*) primarily occurs in seeps. Jewelweeds (*Impatiens* spp.), golden ragwort (*Packera aurea*), and crooked-stemmed aster (*Symphotrichum prenanthoides*) are typical, but not restricted to seeps. Scouring rush (*Equisetum hyemale*), water avens (*Geum rivale*), and an assortment of sedges, including eastern rough sedge (*Carex scabrata*), bladder sedge (*Carex intumescens*), and three-seeded sedge (*Carex trisperma*), are among the other plants regularly found at seeps. A mix of wetland and upland ferns may also be present, including cinnamon fern (*Osmundastrum cinnamomeum*), ostrich fern (*Matteuccia struthiopteris*), silvery spleenwort (*Deparia acrostichoides*), rattlesnake fern (*Botrychium virginianum*), and Christmas fern (*Polystichum acrostichoides*). Some Forest Seep Communities have dense, shallow patches of sphagnum or other non-vascular plants. Invasive species can include multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergii*), and common buckthorn (*Rhamnus cathartica*).

**Differentiating Occurrences:** The intention of defining Forest Seep Communities is to identify small areas that retain the overstory of the surrounding upland forest, but are wet and may not show up as wetlands on wetlands maps. Sites where wetland trees rooted in a seep contribute >25% of the canopy cover are defined as swamps. Swamps may receive seepage waters at upland edges; however, the vegetation of such areas is considered to be a variation in the swamp community and not separated out as separate community types. Seeps in forested edges of streams or stream corridors, including intermittent streams, can produce linear versions of this community, or grade into floodplain or alluvial forests dominated by wetland tree species. Riverside Seep Communities occur at the base of steep riverbanks where groundwater emerges out of the upland slope; they are generally not forested and are associated with High-energy Riverbank Communities along high-gradient, fast-flowing rivers. Many calcareous wetland communities receive seepage waters, but are defined as separate communities with distinct floras. Rich, Mesic Forests on slopes can have seasonally seepy patches that are included in the forest variation and not separated as distinct communities.

**Associated Fauna:** These small communities provide parts of the habitats of the species of surrounding communities. Most tree-dwelling species would not be affected by the presence of small seeps below. Star-nosed moles (*Condylura cristata*) would be expected in seeps of any kind. If the water from the seeps stays in topographic low areas, those may function as vernal pools and support vernal pool breeding species. Where mounds of sphagnum moss build up, four-toed salamanders (*Hemidactylium scutatum*) may be found, and in larger patches, southern bog lemmings (*Synaptomys cooperi*) may be present.

**Public Access:** Russell Millpond Conservation Area, Plymouth; Southeast Mass Bioreserve, Fall River; Warwick State Forest, Warwick; Hiram Fox WMA, Huntington.

**Threats:** Invasive exotic species include multiflora rose (*Rosa multiflora*), Japanese barberry (*Berberis thunbergii*), common buckthorn (*Rhamnus cathartica*), water-cress



(*Nasturtium officinale*), forget-me-not (*Myosotis scorpioides*), and yellow iris (*Iris pseudacorus*). Water flow needs to be maintained (could be impacted by large wells). Several locations have had natural mud or rock slides

**Management Needs:**

Exotic removals in sites where practical.

**USNVC/NatureServe:**

A1685 *Carex scabrata* - *Chrysosplenium americanum* Herbaceous Seep Alliance -- *Chrysosplenium americanum* Herbaceous Vegetation [CEGL006193]; and A3374 *Impatiens capensis* - *Symplocarpus foetidus* - *Tiarella cordifolia* Herbaceous Seep Alliance -- *Symplocarpus foetidus* - *Impatiens capensis* Herbaceous Vegetation [CEGL006567] and *Symplocarpus foetidus* - Mixed Forbs Seep [CEGL002385]. Calcareous seeps are explicitly within definition of Rich, Mesic Forest *Acer saccharum* - *Fraxinus americana* - *Tilia americana*/*Acer spicatum*/*Caulophyllum thalictroides* Forest [CEGL005008].