

Major-river Floodplain Forest

State Rank: S2 - Imperiled



Major-river Floodplain Forest with young trees

Description: Floodplain forests are deciduous forested wetland communities that develop next to rivers and streams and receive annual (or semi-annual) overbank flooding and alluvial silt deposition. Major-river Floodplain Forests occur along mainstem sections of large rivers. Soils are predominantly sandy loams without soil mottles and without a surface organic layer. Flooding at these sites occurs annually and is usually severe. An island variant occurs on elevated sections of islands and riverbanks of major rivers where there are high levels of disturbance.

Characteristic Species: All types of floodplain forest in Massachusetts have silver maple as the defining tree, but associated plant species vary depending on the intensity and duration of flooding and on geographic location. Major-river

Major-River Floodplain Forests are strongly dominated by silver maple. They occur along large rivers where soils are enriched with nutrients brought by annual floods.

Floodplain Forests have silver maple strongly dominant in the overstory mixed with lower cover of cottonwood with American elm and/or slippery elm in the subcanopy. Shrubs are generally lacking. The herbaceous layer is usually dominated by a tall, dense cover of wood nettles. Ostrich fern can be abundant. Regular associates are white cut-grass, common woodreed, and jack-in-the-pulpit. An island variant of Major-river Floodplain Forests has similar species, but the overstory is an even mix of silver maple, cottonwood, sycamore, and American ash, with box elder and hackberry common in the subcanopy on the Housatonic River. The herbaceous layer is dominated by ostrich fern. The variant usually has species of disturbed areas, such as staghorn sumac and the non-native bittersweet.

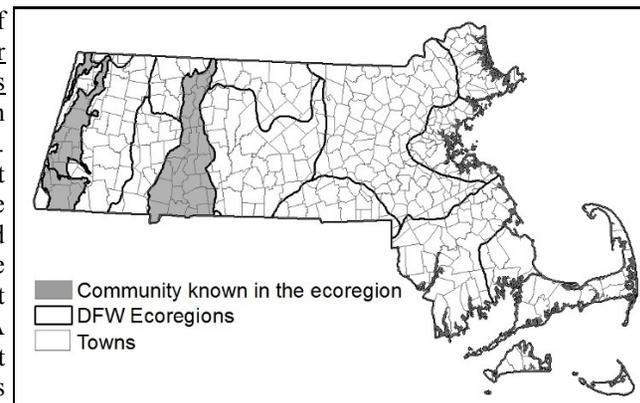


Tree spacing and lack of understory are visible in early spring with flood waters receding. Photo: Bruce A. Sorrie, NHESP.

Differentiating from Related Communities: Major-river, Transitional, and Small-river Floodplain Forests all occur along rivers with active annual flooding and silt deposition. They differ in the size of river on which they occur and in the flooding severity. They

are points in a continuum of scouring and drainage. Major-river Floodplain Forests occur along large rivers with severe flooding and scouring. Soils are predominantly not hydric and lack a surface organic layer. Cottonwood can be common in the canopy with silver maple, but few other trees are present. A shrub layer is usually absent and the herbaceous layer is often dominated by a near monoculture of wood nettle. Transitional Floodplain Forests are intermediate in severity of flooding, soil texture, and drainage, and usually lack a surface organic layer. Cottonwood is usually absent, but ash and elm trees are present. Tree saplings are common but shrubs are generally absent. The herbaceous layer is a mix of species. Small-river Floodplain Forests occur on small rivers where banks are low and overbank flooding occurs annually, but with limited water volume and scour. Soils are hydric silt or fine sandy loams, sometimes with a surface organic layer. They also lack cottonwood and have ash and elm trees, but have a distinct shrub layer and a diverse herbaceous layer. High-terrace Floodplain Forests are on high alluvial terraces that do not flood annually and then for a short duration. They have upland species such as sugar maple as well as floodplain species. They have more litter accumulated than other floodplain forests.

Habitat for Associated Fauna: Major-river Floodplain Forests are part of the habitat of the wide ranging riverine and upland animals. Raptors such as Bald



Eagles use riverbank trees as nest and perch sites. They often contain meander scars or backwater sloughs that function as vernal pools and provide important amphibian breeding habitat. Floodplain forests are insect-rich habitats that attract warblers, thrushes and other songbirds.

Examples with Public Access: Fannie Stebbins Memorial Wildlife Refuge, Longmeadow; Rainbow Beach WMA, Northampton; Robinson SP, Agawam; George L. Darey Housatonic Valley WMA, Pittsfield; Canoe Meadows WS (MAS), Pittsfield.



Silver maples in Major-river Floodplain Forest on edge of river. Photo: Patricia Swain, NHESP.

