



## Alluvial Hardwood Flat Community

**Community Code:** CP1A2A4000

**State Rank:** S3



**Concept:** Fairly open hardwood forests on alluvial flats along small rivers and large streams.

**Environmental Setting:** Alluvial Hardwood Flat Forests occur along moderate-gradient reaches of small rivers and large streams where flooding is of short, intense duration, as the small watersheds respond rapidly to local weather events. The soils tend to be coarse sand and gravel, with mesic to locally hydric moisture regimes.

**Vegetation Description:** White pines (*Pinus strobus*), substantially taller than the hardwood canopy, are sparsely emergent above the canopy. The sparse to closed tree canopy has black cherry (*Prunus serotina*) co-dominant with red maple (*Acer rubrum*) and scattered American elm (*Ulmus americana*), white ash (*Fraxinus americana*), sugar maple (*Acer saccharum*), and white pine. The mid-story layer consists of saplings of the tree species, plus ironwood (*Carpinus caroliniana*), smooth shadbush (*Amelanchier laevis*), alternate-leaved dogwood (*Swida alternifolia*), witch hazel (*Hamamelis virginiana*), and blackberry (*Rubus alleghaniensis*). A wide variety of shrubs and saplings are consistently present, but never at high density. Tree species that are absent from the canopy, such as red oak (*Quercus rubra*), paper birch (*Betula papyrifera*), and eastern hemlock (*Tsuga canadensis*), are common in the shrub layer. The herbaceous layer is dense and species-rich, with mesic forbs, ferns, grasses and sedges well-represented. The structure of the herbaceous layer varies from stand to stand and is often patchy within a stand. Woodgrass (*Brachyelytrum aristosum*) and New York fern (*Parathelypteris noveboracensis*) are two characteristic species normally present, often with substantial cover in dominant patches. Other fairly common plants in the layer include jack-in-the-pulpit (*Arisaema triphyllum*), lady fern (*Athyrium filix-femina* var. *angustum*), sensitive



fern (*Onoclea sensibilis*), interrupted fern (*Osmunda claytoniana*), bristly dewberry (*Rubus hispidus*), and tall meadow-rue (*Thalictrum pubescens*). The non-native invasive shrub glossy buckthorn (*Frangula alnus*) is often encountered, but seldom at high densities. Meander scars support pockets of diverse wetland vegetation and, sometimes, aquatic species.

**Differentiating Occurrences:** Alluvial Hardwood Flats are along small streams that have multiple short flooding events throughout the year after storms. Black cherry and white pine are usually abundant in the canopy with red maple, but not silver maple. Alluvial Red Maple Swamps, along low-gradient rivers, flood annually and are slow to drain. Silver maple is often a codominant with red maple. High-terrace Floodplain Forests do not flood annually. They have a mix of floodplain trees, including silver maple, and mesic, deciduous hardwoods. The diverse herbaceous layer includes floodplain species and others more typical of rich forests. Red Maple Swamps are in basins or hillside seeps along small drainage ways. They are dominated by red maple.

**Associated Fauna:** Alluvial Hardwood Flats provide shade for the associated stream and filter water coming from surrounding uplands, improving water quality for the fish and other animals of the stream. Being small communities, they are part of the habitat of the wide-ranging riverine and upland animals. Old meander scars and depressions without fish provide vernal pool habitat.

**Public Access:** Tully Lake Reservation (US Army Corps of Engineers), Royalston; Royalston Falls Reservation (The Trustees of Reservations) and Royalston State Forest, Royalston; Warwick State Forest, Warwick.

**Threats:** Invasives. Succession.

**Management Needs:**

**USNVC/NatureServe:** *Acer rubrum* - *Prunus serotina*/*Cornus amomum* Forest, CEG1006503 *Quercus bicolor* - *Acer rubrum*/*Carpinus caroliniana* Forest.