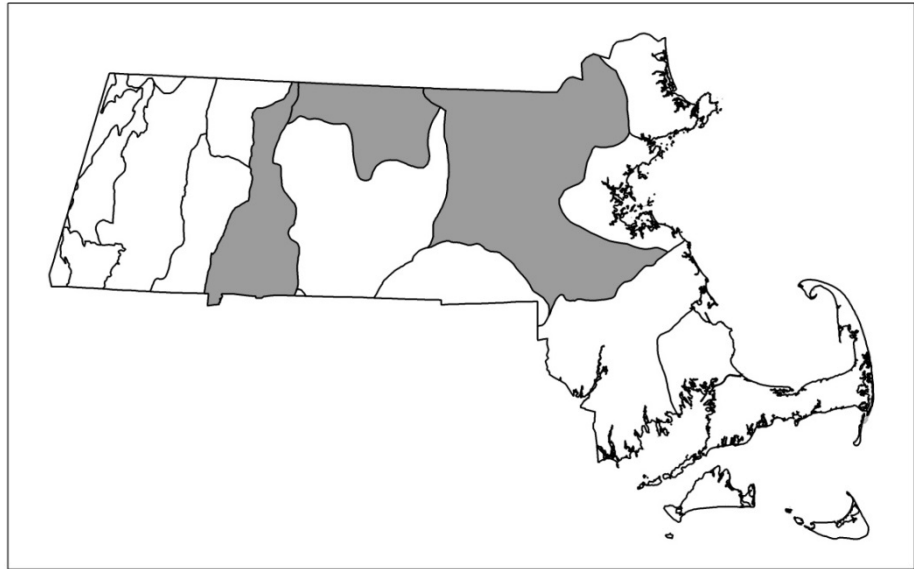




Low-energy Riverbank Community

Community Code: CP2A0B2300

State Rank: S4



Concept: Open herbaceous/graminoid communities occurring on sandy or silty mineral soils of river and streambanks that do not experience severe flooding or ice scour.

Environmental Setting: Low-energy Riverbank Communities are on low-gradient sections of rivers of various sizes that flood but do not experience severe scouring; they often occur between higher gradient sections of the river where there are rapids and rocky shorelines. The linear, often narrow, community develops on gravelly bars and shorelines just above summer low-water levels but below spring high-water levels. The riverbanks are fine-grained material (sand, silt, and possibly clay) with the vegetation growing on mineral soil, rather than the peaty or mucky soil that characterizes marshes and wet meadows.

Vegetation Description: The structure of Low-energy Riverbank Communities is generally an open mixture of herbaceous and graminoid species with occasional scattered shrubs that may dominate locally and trees at the inland margin. The species composition is variable and diverse. Common graminoids are reed canary-grass (*Phalaris arundinacea*), cockspur-grass (*Echinochloa muricata*), fall panic-grass (*Panicum dichotomiflorum*), rice cut-grass (*Leersia oryzoides*), and Canada bluejoint (*Calamagrostis canadensis* var. *canadensis*). Broad-leaf herbs commonly include devil's pitchforks (*Bidens frondosa*), smartweeds (*Persicaria* and *Polygonum* spp.), orange jewelweed (*Impatiens capensis*), cardinal flower (*Lobelia cardinalis*), various goldenrods (*Solidago* spp.), and sensitive and royal ferns (*Onoclea sensibilis* and *Osmunda regalis*). Species typical of disturbed areas (such as cocklebur (*Xanthium strumarium* var. *canadense*)) including non-native purple loosestrife (*Lythrum salicaria*) and/or Japanese knotweed (*Fallopia japonica*) are common and may be abundant. Shrubs



occur in local patches with the most common species including speckled alder (*Alnus incana* ssp. *rugosa*), dogwoods (*Swida* spp.), black elderberry (*Sambucus nigra* ssp. *canadensis*), and highbush blueberry (*Vaccinium corymbosum*).

Differentiating Occurrences: Low-energy Riverbank Communities are on the slopes of riverbanks which are composed of a mix of relatively fine mineral materials (clay, silt, or sand) and lack both the cobble substrate of high-energy areas and the organic materials of marshes. Freshwater Mud Flat Communities have low, sparse, annual herbaceous vegetation on recently exposed muddy (mucky, silty mineral) sediments in ponds and streams. Mud flats at the base of banks may be included in a bank community if they are very small and an extension of the riverbank, and do not extend much into the stream channel. High-energy Riverbank Communities occur along the shores of fast-flowing, high-energy rivers with sparse plants growing in sediment caught between rock cobbles. Low-energy Riverbank communities have sparser vegetation than marshes and wet meadows. Shallow and Deep Emergent Marshes are dominated by perennial graminoids and are permanently saturated. Unlike Low-energy Riverbanks with a mineral substrate, marshes typically have a layer of well-decomposed organic muck at the surface overlying mineral soil. Wet Meadows have dense mixed herbaceous/graminoid vegetation growing on permanently saturated mucky sediments.

Associated Fauna: Few animals are restricted to these narrow, linear, riverside communities, but many wide-ranging riverine and upland animals include low-energy riverbanks as part of their habitats. Muskrats (*Ondatra zibethicus*), beavers (*Castor canadensis*), and river otters (*Lontra canadensis*) build burrows in banks. Turtles nest in flatter parts at the top of banks. Riverine dragonflies hunt over and rest in Low-energy Riverbank Communities.

Public Access: Millers River WMA, Athol/Phillipston; Bolton Flats WMA, Harvard/Lancaster/Bolton.

Threats: Invasion by non-native plant species is the greatest threat to the community.

Management Needs: Non-native plant species removal.

USNVC/NatureServe: Includes *Calamagrostis canadensis* *Phalaris arundinacea* Herbaceous Alliance [CEGL005174] and *Phalaris arundinacea* Eastern Herbaceous Vegetation [CEGL006335]. Clay Bank Sparse Vegetation NVC CEGL002584.