

# Low-energy Riverbank Community

State Rank: S4 - Secure



Low gradient river with Low-energy Riverbank Community. Photo: Matthew R. Burne, NHESP.

**Description:** 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 low summer water levels but below spring high water levels. The riverbanks are fine grain 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.

**Characteristic Species:** Low-energy Riverbank Communities generally have an open mixture of herbaceous and graminoid species with occasional scattered shrubs and trees at the inland margin. The species composition is variable and diverse. Common graminoids are reed canary-grass, cocksbur-grass, fall panic-grass, rice cut-grass, Canada bluejoint, and a variety of sedges. Broad-

Low-Energy Riverbank Communities are open herbaceous communities occurring on sandy or silty mineral soils of river and stream banks that do not experience severe flooding or ice scour.

leaf herbs commonly include devil's pitchforks, smartweeds, orange jewelweed, cardinal, various goldenrods, and sensitive and royal ferns. Species typical of disturbed areas (such as cocklebur) including non-native purple loosestrife and/or Japanese knotweed are common and may be abundant. Shrubs occur in local patches with the most common species including speckled alder, dogwoods, black elderberry, and highbush blueberry.

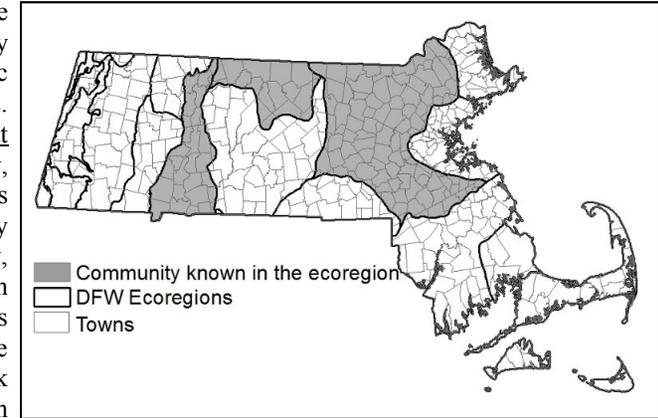
**Differentiating from Related Communities:** Low-energy Riverbank Communities are on slopes of river banks composed of a mix of relatively fine mineral materials (clay, silt, or sand) that



Low-energy Riverbank with silt covered plants from recent flooding. Photo: Matthew R. Burne, NHESP.

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 very small, an extension of the riverbank, and not extending far 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 Riverbank Communities 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.

**Habitat for 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, beavers, and river otters use banks for burrows. Turtles nest in flatter parts at the top of banks. Riverine dragonflies hunt over and rest in Low-energy Riverbank Communities.

**Examples with Public Access:** Millers River WMA, Athol and Phillipston; Bolton Flats WMA, Harvard, Lancaster and Bolton.



Densely vegetated Low-energy Riverbank Community. Photo: Matthew R. Burne, NHESP.

