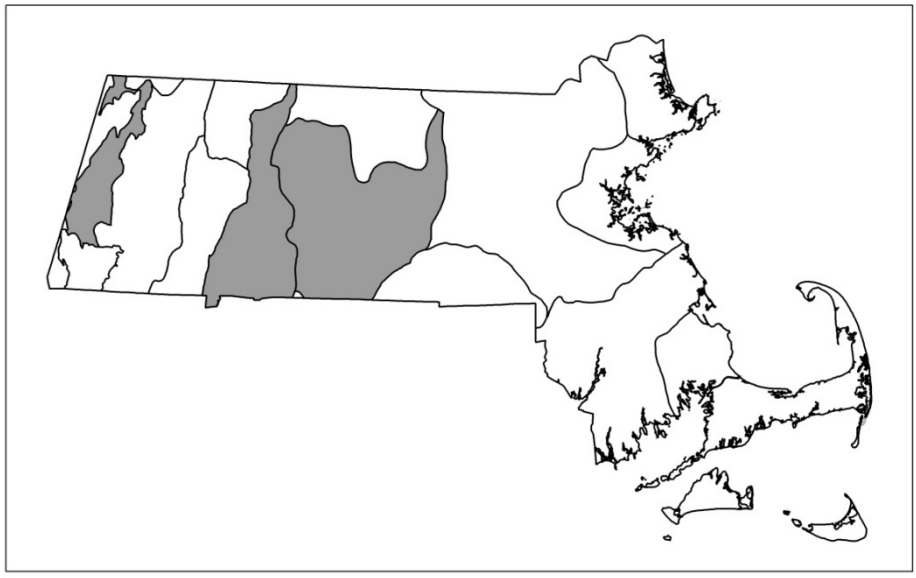
# Freshwater Mud Flat Community

**Community Code**: CP2A0B2100

**State Rank:** S4



**Concept:** Sparsely vegetated herbaceous community dominated by low, usually annual, herbs, developing on recently exposed muddy pond or river-bottom sediments.

**Environmental Setting:** Freshwater Mud Flat Communities develop over the summer as water levels go down and sediments are exposed in low-gradient stream channels, backwaters, abandoned channels, beaver ponds, oxbow ponds, and other ponds that are usually flooded during winters or other times of high water. The mucky, silty mineral soils are poorly drained and may remain saturated even when the surface is exposed. Succession to other communities occurs at all sites, notably in abandoned beaver ponds, when flooding is removed.

**Vegetation Description**: Often sparsely vegetated, mudflat vegetation is typically dominated by annuals or herbaceous perennials such as water-purslane (*Ludwigia palustris*), smartweeds (*Persicaria* spp.), rice cut-grass (*Leersia oryzoides*), swamp-candles (*Lysimachia terrestris*), ditch-stonecrop (*Penthorum sedoides*), or little spike-rush (*Eleocharis acicularis*). Mudflat spike-rush (*Eleocharis intermedia*) is restricted to calcareous or circumneutral mudflats. In oxbows, trees such as silver maple (*Acer saccharinum*) or American elm (*Ulmus americana*) may overhang these communities providing partial cover. In ponded situations, mud flat communities may include floating and emergent aquatic plants, such as yellow water-lily (*Nuphar variegata*), duckweeds (*Lemna* spp.), and bladderworts (*Utricularia* spp.), stranded when the water receded.

**Differentiating Occurrences:** Freshwater Mud Flat Communities have low, sparse, annual herbaceous vegetation on recently exposed muddy (fine mixed organic and mineral materials) sediments in

rivers and ponds, where they may include stranded aquatic vegetation. They are closely related to Low-energy Riverbank Communities, which are on slopes of river banks composed of a mix of relatively fine mineral materials (clay, silt, or sand). The stream bottoms of Low-energy Riverbanks can merge into Freshwater Mud Flats; separation depends on patch size and connectedness. High-energy Riverbank Communities occur along the shores of fast-flowing, high energy rivers with sparse plants growing in sediment caught between rock cobbles. Riverine Pointbar and Beach Communities are along higher energy rivers on sand or gravel. Deep and Shallow Emergent Marshes have dense graminoid emergent plants on mucky sediments, often with standing water at the base of the plants. In tidal areas, mud flats are considered to be parts of adjacent Fresh/Brackish Tidal Marshes. Mud flats in coastal plain ponds are treated as parts of the Coastal Plain Pondshore Community. Mud flats that emerge from human-mediated water lowering in lakes or rivers, including for dam repair or removal, or for nuisance plant control, are usually temporary and would develop River and Lake Drawdown Communities that might be extensions of naturally occurring mud flat communities.

**Associated Fauna:** Shorebirds, such as Spotted Sandpiper (*Actitis macularius*) and Solitary Sandpiper (*Tringa solitaria*), forage on mud flats throughout their breeding season and those and additional shorebirds such as Greater Yellowlegs (*Tringa melanoleuca*) stop at mud flats during migration.

**Public Access:** Hop Brook WMA, Lee.

**Threats:** True forget-me-not (*Myosotis scorpioides*) and moneywort (*Lysimachia nummularia*) are mat-forming, non-native plant species that can appear to be crowding out native plants. Purple loosestrife (*Lythrum salicaria*) can also occur in these habitats.

**Management Needs:** Exotic control where practical.

**USNVC/NatureServe:** River Mudflats Sparse Vegetation [CEGL002314]; Lake Mudflats Sparse Vegetation [CEGL002313].