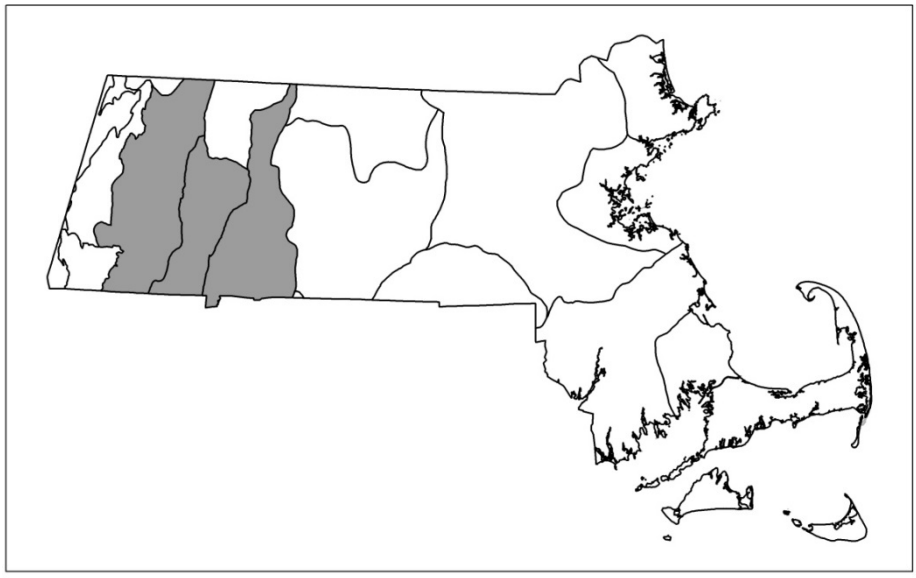
Riverine Pointbar and Beach Community

Community Code: CP2A0B2500

State Rank: S4



Concept: Sparsely vegetated exposed sand/gravel beaches and pointbars of rivers and large streams.

Environmental Setting: Riverine Pointbar and Beach Communities occur on sands and gravels deposited in the channel below the streambank on the insides of meander curves. River currents move faster on the outside of a turn and more slowly on the inside. Coarser sediments settle on the outside, where velocity is higher, with finer sediments on the inside, nearer to the shoreline. These areas are scoured by ice in the spring and by periodic flooding during high-water periods following snow melt or after major storm events. Flooding and ice scour limit the extent to which woody vegetation can become established. Constant flooding, scouring, and deposition limit soil development. Pointbars and beaches can move around in the channel depending on water dynamics.

Vegetation Description: The vegetation tends to be sparse, with bare sand or gravel dominating, at least on the most recently exposed areas; it is patchy, flood-battered, and highly variable with seasonal and spatial zonation. Herbaceous and graminoid vegetation dominates in more frequently flooded areas, with woody vegetation where less frequently flooded. Plants start growing as water levels go down, so the areas closer to the uplands tend to start growing sooner in the spring, and lower areas may have young plants into the summer. Tall beggar's-ticks (*Bidens vulgata*) is typical but will be scattered. Other species include smartweeds (*Persicaria* and *Polygonum* spp.), cocklebur (*Xanthium strumarium*), soft-stemmed spike-sedge (*Eleocharis obtusa*), Smith's club-sedge (*Schoenoplectus smithii*), awned flatsedge (*Cyperus squarrosus*), pondshore-flatsedge (*Cyperus dentatus*), and lovegrasses (*Eragrostis* spp.). On

smaller rivers, cardinal flower (*Lobelia cardinalis*) often grows on pointbars. Non-native weedy species may include barnyard grass (*Echinochloa crus-galli*), crab-grass (*Digitaria sanguinalis*), chickweeds (*Myosoton aquaticum* and others), and members of the mustard family, along with purple loosestrife (*Lythrum salicaria*) and Japanese knotweed (*Fallopia japonica*).

Differentiating Occurrences: Riverine Pointbar and Beach Communities are in high-energy stream channels on sand or gravel. River and Lake Drawdown Communities develop on sediments exposed in reservoirs and behind dams when water levels are lowered. High-energy Riverbank Communities occur on the banks of fast-flowing, high-energy rivers with sparse plants growing in sediment caught between rock cobbles. Low-energy Riverbank Communities are on slopes of river banks composed of a mix of relatively fine mineral materials (clay, silt, or sand). The communities may include scattered shrubs or trees along with herbaceous species. Freshwater Mud Flat Communities have low, sparse, annual herbaceous vegetation on recently exposed muddy (fine mixed organic and mineral materials) sediments in river backwaters and ponds, where they may include stranded aquatic vegetation.

Associated Fauna: Few animals are restricted to these patchy, ephemeral communities, but wide-ranging animals include Riverine Pointbar and Beach Communities as part of their habitats. Shorebirds forage on pointbars and beaches throughout their breeding season and during migration. Turtles nest in drier parts of point bars and beaches. The larvae of several species of tiger beetle live in burrows in sandy point bars and beaches, and the adults hunt the same areas. Many river dragonflies include pointbars and beaches in their hunting territories.

Public Access: Robinson State Park, Agawam; Farmington River Watershed, Sandisfield; Tully Lake Reservation (US Army Corps of Engineers), Royalston.

Threats: Trampling from campers and boaters negatively impacts both the plant and animal communities of Riverine Pointbar and Beach Communities. Alterations to normal flooding regimes can impact alluvial deposition, resulting in expansion or reduction of beach size. The exotic invasive Japanese knotweed (*Fallopia japonica*) is a very aggressive colonizer of riverside communities and can displace native species where it becomes established.

Management Needs: Cocklebur (*Xanthium strumarium*) and Japanese knotweed (*Fallopia japonica*) removal may be necessary from areas used as larval habitat by Puritan tiger beetles. The two species grow quickly and shade large areas, thus eliminating habitat for the tiger beetles. More information is needed to assess the management needs for pointbars and beaches.

USNVC/NatureServe: Inland Freshwater Strand Beach Sparse Vegetation (CEGL002310). Included in the broadly described: *Lysimachia ciliata - Apocynum cannabinum* sparse vegetation (CEGL006554); Related concept to: Riverine Sand Flats - Bars Sparse Vegetation (CEGL002049).