River and Lake Drawdown Community

State Rank: SNR - Not Ranked

Drawdown area along a river. Photo: Patricia Swain, NHESP.

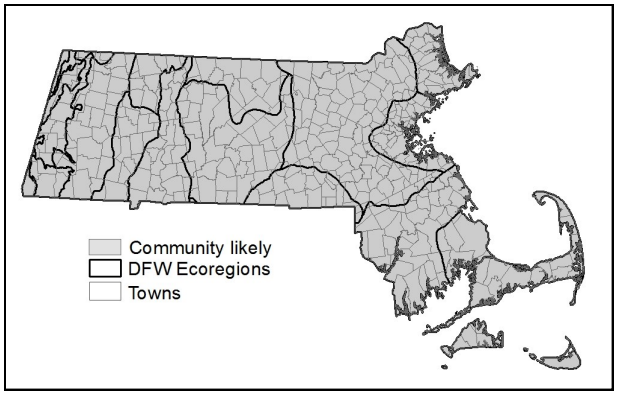
River and Lake Drawdown Communities occur on sediments exposed in reservoirs and behind dams when water levels are lowered for human mediated purposes such as dam repair or removal.

Description: River and Lake Drawdown Communities develop on sediments exposed when water levels are low in impounded waterbodies. They may be expansions of riverside beaches and pointbars or mudflats exposed by drawdown for any reason including for dam repair or removal. There is wide variability in substrate type, with rocky or sandy sediments abutting beaches and pointbars where water regularly flows, or mudflats where impoundment water is slow or still. Large areas of bottom sediments may be exposed as a result of drawdown. Sites are submerged when impoundments are full.

Characteristic Species: The vegetation of the River and Lake Drawdown Community is variable due to differences in substrate, flooding regime, length of time since flooding and geography. Vegetation is usually low growing with sparse to dense (<10% to >80% cover). Weedy – opportunistic, non-competitive, short-lived, quick to reproduce – species quickly dominate recently exposed sediments. Community development may start with species expanding from beaches, pointbars, or backwater mudflats, or seeds in the sediments germinating. These pioneers are quickly supplemented by readily transported seeds and plant parts from surrounding areas. Typical species include smartweeds, water purslane, false pimpernel, and various graminoids such as sandbar-lovegrass, sand sedge, awned flatsedge, spike-rushes, and beak rush or horned sedge. Some stranded floating leaved or emergent aquatic plants may temporarily survive in exposed sediments, including water lilies, bulrushes, and rushes. A wide range of other native and non-native species may occur.

Large drawdown expanded from a pointbar, with a dense population of an annual spike-rush. Photo: Patricia Swain, NHESP.

Differentiating from Related Communities: River and Lake Drawdown Communities occur on often large areas of exposed sediments of reservoirs and behind dams when water levels are lowered. Riverine Pointbar and Beach Communities are in high energy stream channels on sand or gravel. 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. The drawdown community shares many of the same opportunistic species of mud flats and pointbars but may cover more extensive areas.



Drawdown behind a removed dam, habitat for shorebirds, Least Sandpipers below and killdeer above. Photos: Bill Byrne, MassWildlife.

Habitat for Associated Fauna: Wide ranging animals include River and Lake Drawdown Communities opportunistically as part of their habitats. Shore birds forage for invertebrates on the exposed sediments throughout their breeding season and during migration. Adult fish normally swim to deeper water; during drawdowns, however, a year's reproductive class can be lost if fish have spawned on sediments that become exposed. And, if sediments become dewatered or desiccated, mortality of benthic dwelling organisms such as freshwater mussels or dragonfly larvae would increase.

Examples with Public Access: The communities are ephemeral and depend on recent management. They are potential statewide in any ponded river or reservoir.

Dry stream bed with emergents after a dam removal. Photo: Patricia Swain, NHESP.

From: *Classification of Natural Communities of Massachusetts* http://www.mass.gov/nhesp/
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