

Calcareous Pondshore/Lakeshore Community

State Rank: S2 - Imperiled



Along a calcareous lake shore. Photo: Patricia Serrentino, Consulting Wildlife Ecologist.

Description: Calcareous Pondshores/Lakeshores are submerged or saturated for a significant part of the year or continuously in wet years. The substrate is mineral soil and may range in texture from fine silts to sand and gravel. Organic material may accumulate creating mucky sediments. Some shores are steep mineral banks; others are gradual with emergent vegetation that grades into deep or shallow emergent marshes, calcareous fens, shrub swamps, or forested swamps that can form extensive wetland complexes within the basins. In Massachusetts calcareous ponds are restricted to limestone areas of Berkshire County.

Characteristic Species: Calcareous Pondshores/Lakeshores have abundant shrubs in many areas with red maple, speckled alder, and swamp rose. The herbaceous layer is dominated by sedges, especially awned sedge, porcupine sedge, lakeside sedge, tussock sedge, threeway sedge, and soft-stemmed spikerush. Northern blue flag is also common on the shore. Emergent species from the shallow

Calcareous Pondshore/Lakeshore Communities consist of shrubby, herbaceous, or graminoid vegetation along shores of hard water lakes. These communities are saturated for much of the year with some plants emerging only during low water.

water adjacent to the often ill-defined shoreline include bur reeds. The shores and surrounding marshes often have patches of the invasive species purple loosestrife, common reed and reed canary-grass. Sites with steep silty banks may have additional exotics such as true forget-me-not and moneywort. The ponds themselves contain beds of the green alga stonewort and support aquatic plants including several species of pondweeds that are restricted to calcareous waters.

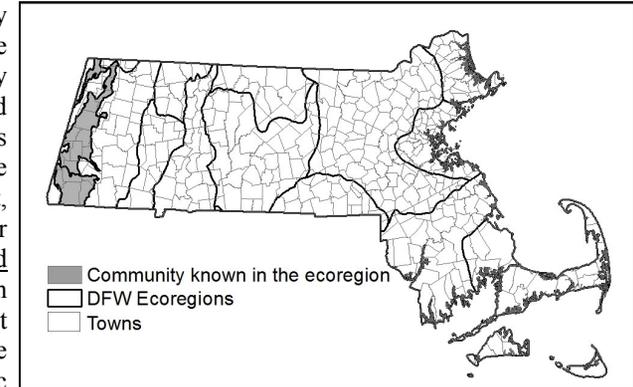
Differentiating from Related Communities: All the pondshore/lakeshore communities occur around water bodies that can be differentiated by setting and location. Calcareous ponds and lakes occur in the Marble Valleys of Berkshire County, have calcium in the



Calcareous pond shoreline with surrounding marsh dominated by purple loosestrife. Photo: Paul Somers, NHESP.

water derived from nearby limestone or dolostone bedrock. The ponds usually have inflow and outflow, and often have mats of stoneworts in the lake bottoms. The shore line is often not distinct, merging into marsh or other wetlands. Acidic ponds and lakes have lower pH than calcareous ponds, and do not have stoneworts. Many have inflow or outflows. Acidic pondshore vegetation is broadly defined, variable, and includes shorelines not explicitly included in calcareous or coastal plain pondshores. Coastal Plain Ponds are generally on sand in the coastal plain in closed basins that intersect groundwater that affects pond levels. The seasonally and annually fluctuating water table typically leaves an exposed shoreline by late summer that supports common and rare, generally coastal or southern, herbaceous dominated species. Coastal Plain Pondshores – Inland Variant also occur in closed basins in sandy outwash, but in the Connecticut River Valley. Coastal plain species grow in them, but include fewer specialists. Freshwater Mud Flat Communities are within ponds rather than shorelines. They have low, sparse annual herbaceous vegetation on recently exposed muddy sediments.

Habitat for Associated Fauna: Some shorelines immediately become shrub swamp and emergent marshes where inconspicuous (“secretive”) water birds nest. Such marsh nesters are not concerned with the water chemistry, but rather in the extent of habitat and lack of



human disturbance. Their use of extensive marshes and associated open water are not shore per se. There are a few species that specialize in calcareous ponds or lakes, but these invertebrates are associated with the waterbodies themselves.

Examples with Public Access: Three Mile Pond WMA, Sheffield. Agawam Lake WMA, Stockbridge.



Calcareous lake with emergents along shoreline. Photo: Chris Buelow, NHESP.

