

## Bulrush Marsh



**System:** Palustrine

**Subsystem:** Herbaceous

**PA Ecological Group(s):** Marsh Wetland

**Global Rank:** GNR

**State Rank:** S3

### General Description

These are communities dominated by soft-stem bulrush (*Schoenoplectus tabernaemontani*), and/or hard-stem bulrush (*Schoenoplectus acutus*), or less commonly threesquare (*Schoenoplectus pungens*), bulrush (*Schoenoplectus purshianus*), river bulrush (*Schoenoplectus fluviatilis*), or Torrey's bulrush (*Schoenoplectus torreyi*). This community type occurs along slow moving sections of large rivers, lake and pond margins, on mudflats, and in shallow water – both tidal and non-tidal.

### Rank Justification

Vulnerable in the jurisdiction due to a restricted range, relatively few populations, recent and widespread declines, or other factors making it vulnerable to extirpation.

### Identification

- Clear dominance of great bulrush (*Schoenoplectus tabernaemontani*), and/or great bulrush (*Schoenoplectus acutus*)
- Found in a variety of wetland settings, most commonly in quiet-water areas along the shores of ponds, lakes, rivers, and larger streams, but also in flooded basins and ditches
- Deep water (usually 0.5-1 m deep)

- Seasonal spring flooding and heavy rainstorms provide nutrient input
- Substrate is usually either gravel and sand or deep muck overlying mineral soil; where wave action is more prevalent, the mineral soil may be exposed

### Characteristic Species

#### Herbs

- [Soft-stemmed bulrush \(\*Schoenoplectus tabernaemontani\*\)](#)
- [Hard-stemmed bulrush \(\*Schoenoplectus acutus\*\)](#)
- [Threesquare \(\*Schoenoplectus pungens\*\)](#)
- [Bulrush \(\*Schoenoplectus purshianus\*\)](#)
- [River bulrush \(\*Schoenoplectus fluviatilis\*\)](#)
- [Torrey's bulrush \(\*Schoenoplectus torreyi\*\)](#)

### International Vegetation Classification Associations:

[Bulrush Deepwater Marsh](#) (CEGL006275)

### NatureServe Ecological Systems:

[Laurentian-Acadian Freshwater Marsh](#) (CES201.594)

[High Allegheny Wetland](#) (CES202.069)

### Origin of Concept

Fike, J. 1999. Terrestrial and palustrine plant communities of Pennsylvania. Pennsylvania Natural Diversity Inventory. Harrisburg, PA. 86 pp.

### Pennsylvania Community Code

HR : Bullrush Marsh

### Similar Ecological Communities

Bulrush Marsh is easily distinguished by its clear dominance of bulrushes (*Schoenoplectus* spp.). It may occur in combination with virtually any community type that approaches a water body having the appropriate substrate.

### Fike Crosswalk

Bulrush Marsh

## **Conservation Value**

Several rare plants such as the state threatened hard-stem bulrush (*Schoenoplectus acutus*), state vulnerable river bulrush (*Schoenoplectus fluviatilis*), or state endangered Torrey's bulrush (*Schoenoplectus torreyi*) can occur in this community. This community may serve as important habitat for fish by providing cover and foraging grounds.

## **Threats**

Alteration to the hydrological regime and development are the major threats to this community (e.g., impoundments) and can lead to habitat destruction and/or shifts in community function and dynamics. Clearing and development of adjacent land can lead to accumulation of agricultural run-off and pollution as well as sedimentation.

## **Management**

A natural buffer around the wetland should be maintained in order to minimize nutrient runoff, pollution, and sedimentation. The potential for soil erosion based on soil texture, condition of the adjacent vegetation (mature forests vs. clearcuts) and the topography of the surrounding area (i.e., degree of slope) should be considered when establishing buffers. The buffer size should be increased if soils are erodible, adjacent vegetation has been logged, and the topography is steep as such factors could contribute to increased sedimentation and nutrient pollution. Direct impacts and habitat alteration should be avoided (e.g., roads, trails, filling of wetlands) and low impact alternatives (e.g., elevated footpaths, boardwalks, bridges) should be utilized in situations where accessing the wetland can not be avoided. Care should also be taken to control and prevent the spread of invasive species within the wetland.

## **Research Needs**

There is a need to collect plot data to characterize variations and guide further classification of this community. There is also a need to document how fauna use this habitat.

## **Trends**

These wetlands were probably more common but declined due to wetland draining/filling and clearing of the adjacent lands leading to increased evaporation of the standing water and sedimentation. The relative trend for this community is likely stable or may be declining slightly due to hydrological alterations.

## **Range Map**



### **Pennsylvania Range**

Statewide.

### **Global Distribution**

Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Virginia, Vermont, and West Virginia.

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