

Mixed Forb Marsh



System: Palustrine

Subsystem: Herbaceous

PA Ecological Group(s): Basin Wetland

Global Rank: GNR

State Rank: S3

General Description

This is a highly variable type which community occurs along lake margins, flooded depressions, and other wetlands that remain inundated throughout the growing season. The plant composition is variable and includes aquatic emergent plants as well as submerged aquatic species. Characteristic species include three-way sedge (*Dulichium arundinaceum* var. *arundinaceum*), halberd-leaf tearthumb (*Persicaria arifolia*), tearthumb (*Persicaria sagittata*), dock (*Rumex* spp.), sharp-fruited rush (*Juncus acuminatus*), beggar-ticks (*Bidens* spp.), jewelweed (*Impatiens capensis*), sensitive fern (*Onoclea sensibilis*), wapato (*Sagittaria latifolia*), sedges (*Carex stricta*, *C. lacustris*, *C. lurida*, *C. crinita*, *C. stipata*, *C. tribuloides*, *C. scoparia*, *C. projecta*, *C. comosa*, *C. hystericina*, *C. baileyi*), sweet-flag (*Acorus calamus*), and rice cutgrass (*Leersia oryzoides*). The invasive species purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis* ssp. *australis*) are frequently a major problem in these systems.

Rank Justification

Uncommon but not rare; some cause for long-term concern due to declines or other factors.

Identification

- Occurs along lake margins, flooded depressions, and other wetlands that remain inundated throughout the growing season
- Substrate is variable, often muck or sandy soil

- Composition is variable and includes aquatic emergent plants as well as submerged aquatic species

Characteristic Species

Herbs

- [Sedge \(*Carex lacustris*\)](#)
- [Sedge \(*Carex lurida*\)](#)
- [Short hair sedge \(*Carex crinita* var. *crinita*\)](#)
- [Sedge \(*Carex stipata*\)](#)
- [Sedge \(*Carex tribuloides*\)](#)
- [Broom sedge \(*Carex scoparia*\)](#)
- [Sedge \(*Carex comosa*\)](#)
- [Sedge \(*Carex hystericina*\)](#)
- [Three-way sedge \(*Dulichium arundinaceum* var. *arundinaceum*\)](#)
- [Halberd-leaf tearthumb \(*Persicaria arifolia*\)](#)
- [Tearthumb \(*Persicaria sagittata*\)](#)
- [Sedge \(*Carex baileyi*\)](#)
- [Sharp-fruited rush \(*Juncus acuminatus*\)](#)
- [Beggar-ticks \(*Bidens* spp.\)](#)
- [Jewelweed \(*Impatiens capensis*\)](#)
- [Sensitive fern \(*Onoclea sensibilis*\)](#)
- [Wapato \(*Sagittaria latifolia*\)](#)
- [Sedge \(*Carex projecta*\)](#)
- [Rice cutgrass \(*Leersia oryzoides*\)](#)

Exotic Species

- [Reed canary-grass \(*Phalaris arundinacea*\)](#)
- [Narrow-leaved cat-tail \(*Typha angustifolia*\)](#)

- [Sweet flag \(*Acorus calamus*\)](#)
- [Purple loosestrife \(*Lythrum salicaria*\)](#)
- [Common reed \(*Phragmites australis* ssp. *australis*\)](#)

International Vegetation Classification Associations:

None

NatureServe Ecological Systems:

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

[Southern and Central Appalachian Bog and Fen](#) (CES202.300)

Origin of Concept

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

Pennsylvania Community Code

HF : Mixed Forb Marsh

Similar Ecological Communities

This type is distinguished from the various graminoid-dominated marsh types by its broad-leaf dominants. The Herbaceous Vernal Pond type is related to this, but occurs exclusively in upland depressions that dry out substantially to completely in the dry season. This type is distinguished from the various forb and graminoid-dominated marsh types by species composition and landscape position. It is distinguished from the graminoid-dominated marsh types by the dominance of broad-leaved species. Although reed canary-grass (*Phalaris arundinacea*) and bluejoint (*Calamagrostis canadensis* var. *canadensis*) may occur in this community type, they are not dominant. If one of these species or a combination of the two dominates the community, the community may be better represented by Bluejoint – Reed Canary-grass Marsh. If tussock sedge (*Carex stricta*) strongly dominates the community, then the community would better be represented by Tussock Sedge Marsh. The Rice Cutgrass – Bulrush Vernal Pool or Wool-grass – Mannagrass – Mixed Shrub Vernal Pool types may resemble the Mixed Forb Marsh type but these two occurs exclusively in upland depressions that dry out substantially to completely in the dry season. The Mixed Forb Marsh community may also resemble the Freshwater Tidal Mixed High Marsh and Riverbank Freshwater Tidal Marsh communities. However, the presence of tidal marsh species such as wild-rice (*Zizania aquatica*), salt-marsh water-hemp (*Amaranthus cannabinus*), and swamp beggar's-ticks (*Bidens bidentoides*) in these types differentiates from the more Mixed Forb Marsh.

Fike Crosswalk

Mixed Forb Marsh

Conservation Value

This community can serve as habitat for odonate and bird species and may host rare plant species such as cyperus-like sedge (*Carex pseudocyperus*), backward sedge (*Carex retrorsa*), downy willow-herb (*Epilobium strictum*), purple fringeless orchid (*Platanthera peramoena*), and bedstraw (*Galium trifidum*). This community also serves as a buffer for sediment and pollution runoff from adjacent developed lands by slowing the flow of surficial water causing sediment to settle within this wetland.

Threats

Alteration to the hydrological regime and development are the major threats to this community (e.g., impoundments, beaver dams) and can lead to habitat destruction and/or shifts in community function and dynamics. Clearing and development of adjacent land can lead to an accumulation of agricultural run-off and pollution, sedimentation, and insolation/thermal pollution. Invasive plant species such as purple loosestrife (*Lythrum salicaria*), narrow-leaved cat-tail (*Typha angustifolia*), and common reed (*Phragmites australis* ssp. *australis*) can occur in this community.

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. Alterations to groundwater sources should be minimized.

Research Needs

There is a need to collect plot data to characterize variations and guide further classification of this community.

Trends

These wetlands are probably less common due to wetland draining/filling and clearing of the adjacent lands leading to sedimentation. The relative trend for this community is likely stable or may be decreasing slightly due to hydrological alterations.

Range Map



Pennsylvania Range

Statewide

Global Distribution

New York, Pennsylvania, and West Virginia

References

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