Spatterdock – Water-lily Emergent Wetland

System: Palustrine
Subsystem: Non-persistent
PA Ecological Group(s): Emergent Wetland and Marsh Wetland

Global Rank: G4G5
State Rank: S4

General Description

A combination of emergent and floating-leaved, rooted hydromorphic vegetation dominates this community type. This type occurs in lakes, ponds, and slow-moving streams. The substrate is usually mineral soil overlain by loose sediments that vary from mineral to organic. Water levels may fluctuate seasonally, but the substrate is seldom dry. The most typical species are spatterdock (*Nuphar advena/ N. variegata*) and fragrant water-lily (*Nymphaea odorata*). Other species include water smartweed (*Persicaria amphibia*), bur-reed (*Sparganium* spp), wapato (*Sagittaria latifolia*), broad-leaved water-plantain (*Alisma subcordatum*), soft-stem bulrush (*Schoenoplectus tabernaemontani*), and arrow-arum (*Peltandra virginica*). There is usually an admixture of submerged and free-floating aquatic species such as pondweeds (*Potamogeton* spp.), water-milfoils (*Myriophyllum* spp.), coontail (*Ceratophyllum demersum*), and duckweeds (*Lemna* spp.).

Rank Justification

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

Identification

- Rooted aquatic or open marsh community occupies shallow-water depressions, oxbow ponds, backwater sloughs of river floodplains, slow-moving streams, ponds, and borders of lakes

- Dominated by rooted, floating-leaved aquatic species, with both submergent and emergent aquatics
- Spatterdock (*Nuphar advena and N. variegata* (split)) and fragrant water-lily (*Nymphaea odorata*) are dominants, either in combination together, or singly

Characteristic Species

Herbs

- Spatterdock (*Nuphar advena*)
- Spatterdock (*Nuphar variegata*)
- Water smartweed (*Persicaria amphibia*)
- Wapato (*Sagittaria latifolia*)
- Broad-leaved water-plantain (*Alisma subcordatum*)
- Soft-stemmed bulrush (*Schoenoplectus tabernaemontani*)
- Arrow-arum (*Peltandra virginica*)
- Bur-reed (*Sparganium spp*)

International Vegetation Classification Associations:

Water-lily Aquatic Wetland (CEGL002386)

NatureServe Ecological Systems:

Great Lakes Coastal Wetlands Complex (CECX005702)
Laurentian-Acadian Freshwater Marsh (CES201.594)
Northern Great Lakes Coastal Marsh (CES201.722)
Central Interior Highlands and Appalachian Sinkhole and Depression Pond (CES202.018)

Origin of Concept

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

Pennsylvania Community Code

HY : Spatterdock – Water Lily Wetland

Similar Ecological Communities

Spatterdock – Water-lily Emergent Wetland may occur intermingled with or surrounded by the Pickerel-weed – Arrow-arum – Arrowhead Emergent Wetland. These two types may intergrade but the Spatterdock – Water-lily Emergent Wetland represents the rooted aquatic vegetation dominated by spatterdock (*Nuphar advena/ N. variegata*) and fragrant water-lily (*Nymphaea odorata*).

Fike Crosswalk

Spatterdock - water lily wetland

Conservation Value

Spatterdock – Water-lily Wetland may serve as important habitat cover for amphibian, reptile, fish, and shore and marsh bird species.

Threats

Alteration to the hydrological regime is a major threat to this community (e.g., draining, 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.

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.

Trends

These wetlands were probably more common but declined due to wetland draining/filling. Wetland protection has most likely stabilized the decline of these communities.

Range Map

Pennsylvania Range

Statewide

Global Distribution

Alabama, Arkansas, Connecticut, Delaware, Florida, Georgia, Iowa, Illinois, Indiana, Kentucky, Louisiana, Maryland, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, North Carolina, New Jersey, New York, Oklahoma, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Texas, Vermont, Virginia, Wisconsin, West Virginia, and Ontario, Canada.

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