

Highbush Blueberry – Meadow-sweet Wetland



System: Palustrine

Subsystem: Shrubland

PA Ecological Group(s): Basin Wetland

Global Rank: G4, G3G5

State Rank: S5

General Description

This community type usually occurs in small upland depressions or in basins surrounding small streams and drainages. The substrate is typically very poorly drained but lacks a thick organic layer. These wetlands are seasonally to permanently flooded, often influenced by beaver or other impoundments. The pH of these wetlands is less acidic to circumneutral.

Highbush blueberry (*Vaccinium corymbosum*) and meadow-sweet (either *Spiraea latifolia* or *Spiraea alba*) are usually both present. Additional woody species include shadbush (*Amelanchier* spp.), speckled alder (*Alnus incana* ssp. *rugosa*), arrow-wood (*Viburnum recognitum*), steeplebush (*Spiraea tomentosa*), swamp dewberry (*Rubus hispidus*), winterberry (*Ilex verticillata*), elderberry (*Sambucus canadensis*), and seedling and sapling size red maple (*Acer rubrum*). The herbaceous layer is generally dominated by graminoids such as tussock sedge (*Carex stricta*), rushes (*Juncus* spp.), and spike-rushes (*Eleocharis* spp.), and by ferns, especially cinnamon fern (*Osmunda cinnamomea*), royal fern (*O. regalis*), sensitive fern (*Onoclea sensibilis*), and marsh fern (*Thelypteris palustris*). Forbs like marsh St. John's-wort (*Triadenum virginicum*), skunk-cabbage (*Symplocarpus foetidus*), and jewelweed (*Impatiens* spp.) may also occur. Sphagnum either forms a continuous layer or occurs on hummocks.

Rank Justification

Common, widespread, and abundant in the jurisdiction.

Identification

- Occurs on saturated soils in small upland depressions or basins surrounding small streams and drainages
- Soils are typically very poorly drained shallow peat or mineral soils that lack a thick organic layer
- The pH of this wetland type ranges from less acidic to circumneutral
- Highbush blueberry (*Vaccinium corymbosum*) and meadow-sweet (either *Spiraea latifolia* or *Spiraea alba*) are usually both present and dominant in the shrub layer along with other less abundant shrub species
- A sphagnum layer is present

Characteristic Species

Shrubs

- [Highbush blueberry \(*Vaccinium corymbosum*\)](#)
- [Meadow-sweet \(*Spiraea alba*\)](#)
- [Meadow-sweet \(*Spiraea latifolia*\)](#)
- [Speckled alder \(*Alnus incana* ssp. *rugosa*\)](#)
- [Northern arrow-wood \(*Viburnum recognitum*\)](#)
- [Swamp dewberry \(*Rubus hispidus*\)](#)
- [Winterberry \(*Ilex verticillata*\)](#)
- [American elder \(*Sambucus canadensis*\)](#)
- [Red maple \(*Acer rubrum*\)](#)
- [Shadbush \(*Amelanchier* spp.\)](#)

Herbs

- [Tussock sedge \(*Carex stricta*\)](#)
- [Cinnamon fern \(*Osmunda cinnamomea*\)](#)
- [Sensitive fern \(*Onoclea sensibilis*\)](#)
- [Marsh fern \(*Thelypteris palustris*\)](#)
- [Skunk cabbage \(*Symplocarpus foetidus*\)](#)

- [Jewelweed \(*Impatiens* spp.\)](#)
- [Rushes \(*Juncus* spp.\)](#)
- [Spike-rushes \(*Eleocharis* spp.\)](#)

Bryophytes

- [Sphagnum spp.](#)

International Vegetation Classification Associations:

[Highbush Blueberry – Swamp Azalea – Coastal Sweet-pepperbush Shrubland](#) (CEGL006371)
[Highbush Blueberry Bog Thicket](#) (CEGL006190)

NatureServe Ecological Systems:

[North-Central Interior and Appalachian Acidic Peatland](#) (CES202.606)
[Northern Atlantic Coastal Plain Basin Peat Swamp](#) (CES203.522)

Origin of Concept

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

Pennsylvania Community Code

SH : Highbush Blueberry – Meadow-Sweet Wetland

Similar Ecological Communities

The Highbush Blueberry – Sphagnum Wetland is a similar community type to the Highbush Blueberry – Meadow-sweet Wetland but the Highbush Blueberry -Sphagnum Wetland is found in more acidic conditions, is more often glacial in origin, and has a stronger heath component such as swamp azalea (*Rhododendron viscosum*) and leatherleaf (*Chamaedaphne calyculata* var. *angustifolia*).

Fike Crosswalk

Highbush blueberry - meadow-sweet wetland

Conservation Value

Plant species of conservation concern found in this community may include screwstem (*Bartonia paniculata*). 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

Highbush Blueberry – Meadow-sweet Wetlands are threatened by habitat alteration (e.g., conversion to agricultural land, logging in adjacent uplands), deposition (e.g., sedimentation, nutrient loading), and alterations to the hydrological regime (e.g., removal of beaver dams or other impoundments, lowering of the water table). Invasive species such as reed canary-grass (*Phalaris arundinacea*) may alter the species composition of this community type.

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 (e.g., 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 cannot 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

Research is needed to fill information gaps about the longevity of this community type since, under some conditions, it may represent a successional community type.

Trends

Wetland protection has most likely stabilized the decline of these communities. The relative trend for this community is most likely stable or may decline slightly due to hydrological alteration or ecological succession, although this community can be created through beaver impoundments.

Range Map



Pennsylvania Range

Statewide

Global Distribution

Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, and Rhode Island

References

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