

Terrestrial & Palustrine Plant Communities Of Pennsylvania

By Jean Fike

Herbaceous vernal pond

This community type is characterized by seasonally fluctuating water levels; it may dry out completely in the summer. The substrate is mineral soil with or without a layer of muck. The species composition is variable between sites, as well as annually and seasonally. Larger examples of this community type may exhibit strong zonation. Many smaller, shaded vernal ponds are unvegetated, their bottoms covered by dead leaves and algae. Cover may be sparse, species composition is extremely variable, some typical representatives include (although only a few are likely to be found on any one site) *Dulichium arundinaceum* (three-way sedge), *Glyceria acutiflora* (mannagrass), *Leersia oryzoides* (rice cut-grass), *Scirpus cyperinus* (wool-grass), *S. ancistrochaetus*^S (northeastern bulrush), *Lycopus uniflorus* (bugleweed), *Torreyochloa pallida* (pale meadow grass), *Polygonum* spp. (smart-weeds), *Thelypteris palustris* (marsh fern), *Carex gynandra* (a sedge), *C. crinita* var. *crinita*^S (short hair sedge), *C. leptonevia* (a sedge), *C. stipata* (a sedge), *C. canescens* (a sedge), *C. vesicaria* (a sedge), *Juncus effusus* (soft rush), *Woodwardia virginica* (Virginia chain fern), *Bidens* spp. (beggar-ticks), *Hypericum mutilum* (dwarf St.-John's-wort), *Osmunda cinnamomea* (cinnamon fern), *O. regalis* (royal fern), *H. canadense* (Canadian St.-John's-wort), *Agrostis scabra* (hairgrass), *Utricularia geminiscapa* (bladderwort), *Triadenum virginicum* (marsh St.-John's-wort), *Sagittaria rigida* (arrowhead), *S. latifolia* (arrowhead), and *Eleocharis* spp (spike-rushes).

Although this community type is dominantly herbaceous, shrubs and small trees may be present. Typical woody species include *Vaccinium corymbosum* (highbush blueberry), *Lyonia ligustrina* (maleberry), *Quercus palustris* (pin oak), *Nyssa sylvatica* (black-gum), *Acer rubrum* (red maple), *Salix* spp. (willows), *Cephalanthus occidentalis* (buttonbush), and *Ilex verticillata* (winterberry). These ponds lack mature fish populations and therefore can provide critical breeding habitat for several species of amphibians. They are also an important habitat resource for many species of birds, mammals, reptiles, amphibians, and invertebrates.

Related types: This community often occurs in association with shrub and woodland community types such as the "Buttonbush wetland" or "Red maple - mixed shrub palustrine woodland" community types. On some sites, the distinction becomes a matter of scale, as small herbaceous openings often occur on shrub-dominated sites.

Range: Entire state.

Selected references: PNDI field surveys.

[Crosswalk: Smith's "Ephemeral / Fluctuating Natural Pool," TNC—no direct crosswalk.]