

Ponds, including Carolina Bays and Sinkhole Ponds

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Nomenclature from Radford, Ahles and Bell, Manual to the vascular flora of the Carolinas; modern nomenclature can be found at the USDA Plants Database, or the UNC herbarium (Weakley). I've translated some that have come into more common usage.

NatureServe Ecological systems are tentative. The parenthetical key references are to the "Key to Ecological Systems (and selected Alliances) of the Francis Marion National Forest – 15 Nov 2012".

NATURESERVE ECOLOGICAL SYSTEMS:

CES203.262 (8c and 27b in key) – Southern Coastal Plain Depression Pond Shore

GENERAL NOTES on ponds: our isolated wetlands are typically forested with pond cypress, pond gum or a mix. I'm not sure what controls this species distribution, but I suspect logging and fire history.

Pond understory conditions range from completely open to partially shrubby (generally with pocosin shrub species) to completely shrubbed over (again, usually pocosin species). I think these differences are controlled by pond depth and fire history. Deeper ponds are generally more open, and sometimes have open water areas without trees.

Some very shallow ponds are described as depression meadows, vegetated with a variety of mostly herbaceous savanna species (see longleaf wet savanna list).

Pond edges that are flooded in wet times are either wet savannas or shrubbed over with pocosin species. This is controlled primarily by fire history but also by the steepness of the pond edge and the depth of the pond.

The most diagnostic features of ponds are that they are isolated depressions, and that they fill with ground and rainwater in the winter and generally dry out in the summer as the deciduous trees leaf out and transpiration resumes.

I am including Carolina Bays in this section, since they tend to function the same as most ponds, though their geomorphological origins differ. Also included are sinkhole depression ponds – these occasionally have a calcium influence. See notes on geomorphology for more information on ponds Carolina Bays and sinkhole ponds.

Canopy Trees:

Diagnostic indicators

Pond cypress – *Taxodium ascendens* (found primarily in ponds, sloughs and very wet savannas; typically not found in deeper, flowing wetlands; almost never overlaps with bald cypress)

Pond gum – *Nyssa biflora* (found primarily in ponds, but also in flowing wetlands)

Usually present, but also found in other ecosystems

Red maple – *Acer rubrum* (a fairly weedy wet site species)

Rare, but usually diagnostic

None in particular

Sub-canopy Trees:

Diagnostic indicators

Myrtle holly – *Ilex myrtifolia* (uncommon)

Dahoon holly – *Ilex cassine* (uncommon)

Usually present, but also found in other ecosystems

None in particular

Shrubs and Lianas:

Diagnostic indicators

None in particular

Usually present, but also found in other ecosystems

Fetterbush – *Lyonia lucida* (and sometimes additional pocosin species)

Rare, but usually diagnostic

Pondberry – *Lindera melissifolia*

Pond spice – *Litsea aestivalis*

Uncommon, found elsewhere very uncommonly

None in particular

Herbaceous:

Diagnostic Indicators:

Floating bladderwort – *Utricularia inflata* (also found in wet ditches and sometimes in swamp forest)

Waterlily – *Nymphaea odorata* (also found in wet ditches and pocosin openings)

Blue flag iris – *Iris virginica* (also found in wet ditches and on edges of swamp forest)

Virginia chain fern – *Woodwardia virginica* (edges, also found in pocosins and occasionally in other wet sites)

Cinnamon fern – *Osmunda cinnamomea* (edges, also found in other acidic wet sites)

Walter's sedge – *Carex walteriana* (I think this is the common pocosin and pond sedge, but have never seen it in flower to be certain)