

TIDAL SWAMP (CYPRESS–GUM SUBTYPE)

Concept: Tidal Swamps are closed or open-canopy forests or woodlands of freshwater tidal areas on lower rivers and creeks or estuarine shores. Tides may be either lunar or wind tides. The Cypress—Gum subtype covers the most common swamps, dominated by some combination of *Nyssa biflora*, *Nyssa aquatica*, and *Taxodium distichum*.

Distinguishing Features: Tidal Swamps are distinguished from other swamps by the occurrence of regular or irregular tidal flooding. Evidence of significant tidal fluctuation may be taken as distinguishing this type. This is accompanied by the presence of species associated with tidal flooding, such as *Morella cerifera*, *Rosa palustris*, and numerous herbaceous species shared with Tidal Freshwater Marshes. The transition from a blackwater or brownwater Cypress—Gum Swamp is often also marked by a blurring of the distinction, with both *Nyssa biflora* and *Nyssa aquatica* abundant. Also present is evidence of increased wetness and permanent saturation, and often evidence of stress caused by rising sea level, such as increased mortality and crown thinning. With the increasing openness of the canopy often comes an increase in herbaceous diversity. The transition from Nonriverine Swamp Forest is marked by a loss of the characteristic shrub and herb species such as *Ilex glabra*, *Lyonia lucida*, *Anchistea virginica*, and *Sphagnum* spp. The transition to Tidal Swamp often is also marked by the appearance of small Tidal Freshwater Marsh patches. Because tidal influence attenuates up rivers, the transition from Cypress—Gum Swamp to Tidal Swamp is gradual, and it may be that some tidal fluctuation could be detectable upstream of where the vegetation is affected.

The Cypress–Gum Subtype is distinguished from other subtypes by the dominance by combinations of *Nyssa biflora*, *Nyssa aquatica*, *Taxodium distichum*, and *Acer rubrum*, with *Fraxinus* spp. and *Ulmus americana* minority components.

Synonyms: *Nyssa biflora* - (*Taxodium distichum*, *Nyssa aquatica*) / *Morella cerifera* - *Rosa palustris* Tidal Forest (CEGL004484).

Ecological Systems: Southern Atlantic Coastal Plain Tidal Wooded Swamp (CES203.240).

Sites:

Soils:

Hydrology:

Vegetation:

Range and Abundance: Ranked G3G4

Associations and Patterns:

Variation: There is much variation within this type, which may warrant recognition of different subtypes. In particular, the distinction between tidal swamps on brownwater and blackwater rivers, might be ecologically significant, as might the distinction between regular lunar tidal

flooding and irregular wind tidal flooding. However, floristic analysis of North Carolina's examples shows no recognizable pattern correlating with these environmental differences.

Dynamics:

Comments:

Nyssa biflora - *Nyssa aquatica* - *Taxodium distichum* / *Saururus cernuus* Forest (CEGL004696) is a problematic association attributed to Virginia and North Carolina. It appears to overlap substantially in concept with the one named above and is probably not distinct. Milo Pyne and Gary Fleming (pers. comm. Jan. 2009) agree that it can be dropped (or lumped with this). [It has been lumped with 4484 – tidal swamp] *Pinus taeda* - *Nyssa biflora* - *Taxodium distichum* / *Morella cerifera* / *Osmunda regalis* var. *spectabilis* Forest (CEGL004651) is an association defined in southeast Virginia. It has pronounced hummock-and-hollow topography, coarse fibric peat, and little *Nyssa aquatica*. While these characteristics are present in some North Carolina examples of this type, no distinct community of this sort has been found.

Taxodium distichum / *Typha angustifolia* Woodland (CEGL004231) and several other tidal *Taxodium distichum* woodlands have been recognized and attributed to North Carolina. These do not appear to be distinct enough to be appropriate as community elements. Some appear to be ecotonal or transitional to Tidal Freshwater Marsh.

Rare species:

References: