Fresh/Brackish Tidal Swamp

Community Code: CE1A000000

State Rank: S1

Concept: Low-stature forested wetland located along coastal rivers, at the upper limit of tidal influence, and flooded by daily tides. Dense shrub understory and unusually rich herbaceous layer.

Environmental Setting: Tidal swamps occur along free-flowing coastal rivers, occurring upstream of Freshwater Tidal Marshes, within the upper limits of tidal influence. The community represents an ecotone from tidal marsh to more typical non-tidal forested wetlands. Another variation of this community occurs along smaller streams at the upper limit of tidal influence. Tidal amplitude may range from 0 to 40 cm or more (estimated), and average annual salinity is less than 0.5 ppt in freshwater areas, with gradients to 5 ppt. Brackish occurrences (average annual salinity (0.5) 5 - 18 ppt) may also occur.

Vegetation Description: Red maple (*Acer rubrum*), swamp white oak (*Quercus bicolor*), Atlantic white cedar (*Chamaecyparis thyoides*), and occasionally green ash (*Fraxinus pennsylvanica*) and/or American elm (*Ulmus americana*) occur on elevated hummocks and form an open forest canopy. The shrub layer is often very dense, and typically includes northern arrow-wood (*Viburnum dentatum* var. *lucidum*), winterberry holly (*Ilex verticillata*), hornbeam (*Carpinus caroliniana*), and silky dogwood (*Swida amomum*). Common greenbrier (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), and grapes (*Vitis* sp.) weave through the shrub layer. Large mucky hollows flooded by daily tides support a diverse assemblage of herbs and graminoids. Most of these are typical of the nearby freshwater tidal marsh habitat, and include jewelweed (*Impatiens capensis*), sensitive fern (*Onoclea sensibilis*) and wild rice (*Zizania aquatica*).

Differentiating Occurrences: The key difference from other types of forested wetlands, particularly Red Maple Swamp, Alluvial Red Maple Swamp, and Alluvial Atlantic White Cedar Swamp, is that Fresh/Brackish Tidal Swamps are restricted to the area of freshwater tidal action on coastal rivers, above the zone of regular saltwater incursion. Being associated with freshwater and brackish tidal marshes, the presence of species from those communities in the openings between trees would be indicative of freshwater tidal conditions; however, the best indicators, estuary beggar-ticks and Eaton's beggar-ticks, are very uncommon. Tidal swamps are forested, dominated by trees, which differentiates them from tidal shrublands, which are dominated by shrubs (<5m, generally multi-stemmed), with <25% trees in the canopy.

Associated Fauna: The size of the swamp and structure produced by the forest and shrubs present are more important to most animals that would use a tidal swamp than are the slight daily fluctuations in water levels from the tides. Fresh/Brackish Tidal Swamps and Shrublands provide habitat for nesting Gray Catbird (*Dumetella carolinensis*), Common Yellowthroat (*Geothlypis trichas*), Swamp Sparrow (*Melospiza georgiana*), Wood Duck (*Aix sponsa*), Marsh Wren (*Cistothorus palustris*), and Veery (*Catharus fuscescens*). The habitat is also used as roosting areas by resident Great Blue Heron (*Ardea herodias*), Green Heron (*Butorides striatus*), Red-tailed Hawk *(Buteo jamaicensis*), and other raptors.

Public Access: Willow Brook Farm Preserve (Wildlands Trust), Pembroke.

Threats: Alteration of river hydrology from excessive water withdrawal may have significant effect on plant communities. Exotic shrubs including honeysuckles can become dense.

Management Needs: Determine hydrologic requirements, and develop system for monitoring hydrologic stress. Investigate occurrences along small streams and in brackish wetlands.

USNVC/NatureServe: *Acer rubrum - Fraxinus pennsylvanica* Tidal Woodland Alliance -- *Acer rubrum - Fraxinus pennsylvanica*/*Polygonum* spp. Woodland [CEGL006165].