

BLACKWATER BOTTOMLAND HARDWOODS (SWAMP TRANSITION SUBTYPE)

Concept: Blackwater Bottomland Hardwoods are forests of blackwater river terraces and floodplain ridges, generally dominated by wetland oaks and lacking a significant component of *Betula nigra* or *Planera aquatica*. The Swamp Transition Subtype encompasses communities that are transitional to Cypress–Gum Swamp, having a mix of oaks with *Taxodium* or *Nyssa* in the canopy and having lower strata that are intermediate or are more similar to Cypress–Gum Swamp.

Distinguishing Features: Blackwater Bottomland Hardwoods are distinguished by dominance or codominance by bottomland oaks on blackwater river floodplains, in sites where overbank flooding is, or has been, a significant ecological influence. The Swamp Transition Subtype is distinguished from other subtypes by having a significant component of *Taxodium* and *Nyssa*, by lacking most herbs less water tolerant than *Saururus cernuus*, and usually by the absence of a well-developed shrub layer. It is distinguished from Cypress–Gum Swamp by having a substantial component of oaks.

The Swamp Transition Subtype may resemble the Oak-Gum Slough subtype of Nonriverine Wet Hardwood Forest but occurs on blackwater river floodplains rather than on nonriverine wet flats.

Synonyms: *Quercus lyrata* - *Quercus laurifolia* - *Taxodium distichum* / *Saururus cernuus* Forest (CEGL004735).

Ecological Systems: Atlantic Coastal Plain Small Blackwater River Floodplain Forest (CES203.249).

Sites: Blackwater Bottomland Hardwoods occur on large blackwater river floodplains. The Low Subtype occurs at elevations just above those that support Cypress–Gum Swamp, on lower ridges or in shallow sloughs. In some upstream areas, Cypress–Gum Swamp may be limited and the Swamp Transition Subtype may occupy the lowest areas.

Soils: The Swamp Transition Subtype has wet sandy alluvial soil that may be organic-rich. Johnston (Cumulic Humaquept) is the most frequently mapped soil series, but many examples are mapped as Muckalee (Typic Fluvaquent).

Hydrology: The Swamp Transition Subtype is seasonally flooded. Its flood regime is intermediate between the Low Subtype and Cypress–Gum Swamp, and it may be inundated well into the growing season. When not inundated, the water table may still be high and the soil saturated for significant periods. Patches in sloughs may carry flowing water with enough current to cause some local scouring.

Vegetation: The Swamp Transition Subtype is a forest dominated by combinations of *Quercus laurifolia* and *Quercus lyrata* with *Nyssa biflora* and *Taxodium distichum*. *Acer rubrum* var. *trilobum* or *Liquidambar styraciflua* are usually present and may be abundant. Small numbers of *Ulmus americana* or other species may be present in the canopy. The understory usually is dominated by *Fraxinus caroliniana*, *Carpinus caroliniana*, or *Acer rubrum* var. *trilobum*. *Persea palustris*, *Ilex opaca*, or large *Cyrilla racemiflora* may also be present. The shrub layer is usually sparse. Species may include *Ilex decidua*, *Vaccinium elliotitii*, *Ilex laevigata*, *Eubotrys racemosa*,

and *Alnus serrulata*. Vines are often prominent. High frequency species include *Muscadinia rotundifolia*, *Toxicodendron radicans*, *Smilax rotundifolia*, *Smilax walteri*, *Berchemia scandens*, *Bignonia capreolata*, *Campsis radicans*, *Parthenocissus quinquefolia*, *Smilax bona-nox*, and *Smilax glauca*. The herb layer generally is sparse, with the predominant species shared with Cypress–Gum Swamp as much as with other Bottomland Hardwoods subtypes. Frequent species include *Saururus cernuus*, *Boehmeria cylindrica*, *Hypericum walteri*, *Lorinseria areolata*, *Mikania scandens*, *Mitchella repens*, *Persicaria* spp., *Carex intumescens*, *Carex bromoides*, and other *Carex* spp. Other characteristic species include *Hypoxis curtisii*, *Lycopus virginicus*, *Osmunda spectabilis*, *Peltandra virginica*, *Apios americana*, *Tillandsia usneoides*, *Phoradendron leucarpum*, and *Pleopeltis michauxiana*.

Range and Abundance: Ranked G3G5, but probably more truly G3. In North Carolina, the Low Subtype occurs on all the large blackwater rivers and may be an important part of the floodplain mosaic where it remains intact. However, the presence of this subtype often is not apparent in site descriptions, making it difficult to be certain how much remains. This community occurs in South Carolina but the synonymized NVC association has not been attributed to any other states.

Associations and Patterns: The Swamp Transition Subtype occurs as part of a floodplain mosaic with other subtypes and with Cypress–Gum Swamp. Conceptually it falls between the Low Subtype and Cypress–Gum Swamp, but well-developed patches of these are often not present adjacent to it.

Variation: No variants are recognized. Variation within a site often is greater than among sites.

Dynamics: Dynamics are similar to other floodplain forests.

Comments: The vegetation description for this subtype has less detail than for other subtypes. Plot data are scarce or are not recognized as this community. This subtype is also often not recognizable in many site descriptions. It is, however, readily recognizable in the field.

Quercus laurifolia / *Carpinus caroliniana* / *Justicia ovata* Forest (CEGL07348) is an NVC association of low blackwater bottomland hardwoods defined in South Carolina and attributed to North Carolina. It appears to overlap the concept of this subtype but does not seem distinct enough to warrant recognition as a separate element. Areas with abundant *Justicia ovata* are present on the Black River.

Rare species:

Vascular plants: *Hymenocallis pygmaea* and *Sagittaria weatherbiana*.

Vertebrate animals: *Corynorhinus rafinesquii macrotis* and other bats.

References: