

Reports

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Technical Report



Wetland Flora

No. 94-4 / May 1994

Gene Silberhorn

Green Ash

Fraxinus pennsylvanica Marsh.

Growth Habit and Diagnostic Characteristics

Green ash is a medium sized tree that rarely attains heights over 20 meters (approx. 60 feet). The bark is thick, deeply furrowed, alternating with firm ridges in mature trees, but otherwise not a distinguishing, diagnostic characteristic. Distinctive features are opposite, pinnately (feather-shaped) compound leaves and narrow-winged, dry fruits called samaras (1 - 2 cm long and 3 - 5mm wide). Only one other native tree species has opposite, pinnately compound leaves in Eastern North America and that is ash-leaved-maple or box elder (*Acer negundo*). The two species are easily differentiated by examining the following characteristics: 1) Box elder has 3 - 5 pinna (leaflets) per compound leaf and *F. pennsylvanica* has 5 - 7 pinna (usually 7) per leaf; 2) Each pinna of *A. negundo* is usually 3 pointed and somewhat lobed, whereas green ash rarely has obviously toothed margins; and 3) Box elder produces a double winged fruit (samara), typical of maples, while ashes have single samaras. The angular, flattened samaras of ashes are diagnostic characteristics. The only other trees with opposite compound leaves are the buckeyes (*Aesculus spp.*), but their pinna are palmately arranged, as the spokes of a wheel.

Distribution

Fraxinus pennsylvanica is found mainly in swamps and riverine terraces throughout much of the eastern half of the United States and southern Canada.

Habitat

Green ash is almost always found as a canopy tree in forested wetlands in the Mid-Atlantic Region. It also occurs as saplings in inundated bottomland forests dominated by bald cypress, *Taxodium distichum* (Wetland Flora, No. 93-7/ July 1993). The habit sketch depicts green ash as a sapling. *Fraxinus*

pennsylvanica often forms buttressed trunks when growing in seasonally flooded conditions. Swollen and fluted trunks are common morphological adaptations of trees growing in periodic standing water. Red maple, *Acer rubrum* (Wetland Flora, No. 91-7/ July 1991); American elm, *Ulmus americana*; and sycamore, *Platanus occidentalis* (Wetland Flora No. 94-1/ January 1994) are canopy species often associated with green ash in palustrine forested wetlands of Virginia's Coastal Plain.

Green ash saplings are frequently components of scrub/shrub wetlands; commonly occurring with shrubs such as swamp dogwood, *Cornus amomum*; buttonwood, *Cephalanthus occidentalis*; elderberry, *Sambucus canadensis*; and swamp rose, *Rosa palustris*. Other saplings co-occurring in this wetland type would be red maple, black willow, *Salix nigra*, and black gum, *Nyssa sylvatica*.

Ecological Value / Benefits

Since green ash is found in several different wetland types, the broad range of ecological values attributable to wooded wetlands in general may be accrued to this species. In wetlands, ecosystem processes or functions have a major influence on vegetation dynamics and wildlife habitat quality. Biotic diversity, especially the presence of rare, threatened or endangered species is a natural heritage value of many wetlands. Forested wetlands function as a natural filter of pollutants and flood abatement during storms.

Hydrophytic Factor / Wetland Indicator Status

According to the *National List of Plant Species that Occur in Wetlands: Virginia (1988)*, *Fraxinus pennsylvanica* is classified as a **facultative wetland plant (FACW)**. FACW plants "usually occur in wetlands (estimated probability 67-99%)."

Fraxinus pennsylvanica Marsh.



Note to our readers: Beginning with this issue, illustrations are by nature artist and sculptor Kent Forrest. Working in graphite, Kent captures the intricate detail and subtle characteristics of plants.

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Kent Forrest*

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