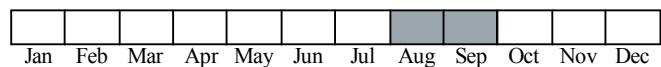


Best Survey Period



**Status:** State threatened

**Global and state rank:** G4/S2

**Other common names:** red ash, swell-butt ash

**Synonym:** *Fraxinus tomentosa* F. Michaux

**Family:** Oleaceae (olive family)

**Taxonomy:** Voss (1996) notes that the synonym, under which pumpkin ash was long known, is an illegitimate name.

**Total range:** *Fraxinus profunda* is a species primarily of the eastern United States, distributed from New Jersey to Florida and ranging west from southern Ontario through Missouri, Arkansas, and Louisiana. It is considered rare in the District of Columbia, Maryland, Mississippi, New Jersey, Ontario, and Pennsylvania (NatureServe 2003).

**State distribution:** Pumpkin ash was discovered in Michigan in 1992, when botanists from Indiana and Ohio exploring the northern range edge of this species documented its occurrence in Hillsdale County. Localities have now been confirmed in Berrien, Calhoun,, Wayne, Oakland, and Gratiot counties, suggesting that this species potentially occurs

throughout much of southern Lower Michigan. It is very likely that as botanists and others become familiar with this species and its potential habitat, new sites will continue to be discovered.

**Recognition:** Pumpkin ash is a medium-sized swamp forest tree with a relatively narrow, open crown and a swollen, expanded (buttressed) base. As in other *Fraxinus* species, it bears opposite, pinnately-compound leaves on stout twigs. The best distinguishing characters of this species are the leaves, twigs, and fruit. The narrowly elliptic leaflets, which are typically 7-9 in number, **have conspicuous stalks, smooth to very obscurely toothed margins, and are hairy beneath. The leaflets are borne from a rachis that is densely hairy, as are the twigs.** The most diagnostic character of pumpkin ash is its winged fruit or samara, which is markedly larger than those of Michigan's four other ash species, ranging from **4-7 cm long and 7-10 mm in width.** Pumpkin ash is most similar to *Fraxinus pensylvanica* (red ash), a common species that can be expected in the same habitats. Red ash can be distinguished by its more ovate, short-stalked leaflets that are often slightly toothed and a much smaller, narrower samara.

**Best survey time/phenology:** Mature fruits are necessary for identification, and thus surveys for this species should be conducted from approximately August



through September. It is conceivable that surveys could possibly be conducted somewhat earlier, as dispersed samaras have been observed by MNFI staff in late June.

**Habitat:** Pumpkin ash is exclusive to bottomlands, occurring in swamps and wet woods throughout its range. In Michigan this tree thrives in large tracts of southern swamp, especially in extensive lowland tracts formed on the expansive clay lake plains of post-glacial lake beds, such as glacial Lake Maumee in southeastern Lower Michigan (Barnes and Wagner 2004). It also occurs in small pockets of swamp found in small kettle hole depressions within upland forests in till plain landscapes as well lowlands in ground moraine regions. Recent discoveries of pumpkin ash have identified several populations occurring in southern floodplain forests, typically occurring in first or second bottom zones, especially in backwater areas that experience extended seasonal inundation.

Typical woody plant associates include such species as *Acer saccharinum* (silver maple), *Acer nigrum* (black maple), *Acer rubrum* (red maple), *Fraxinus pennsylvanica* (red ash), *F. nigra* (black ash), *Platanus occidentalis* (sycamore), *Quercus bicolor* (swamp white oak), *Q. macrocarpa* (bur oak), *Q. palustris* (pin oak), *Salix nigra* (black willow), *Nyssa sylvatica* (black gum), *Populus deltoides* (eastern cottonwood), *Lindera benzoin* (spicebush), *Carpinus caroliniana* (musclewood), *Carya lacinosa* (shellbark hickory), *C. cordiformis* (bitternut hickory), *Cephalanthus occidentalis* (buttonbush), *Crataegus* spp. (hawthorne), *Ulmus americana* (American elm), *Tilia americana* (American basswood), *Toxicodendron radicans* (poison ivy), and *Euonymus obovata* (creeping strawberry bush). Characteristic herbaceous associates include such species as *Aster lateriflorus* (side-flowering aster), *Saururus cernuus* (lizard tail), *Glyceria striata* (manna grass), *Impatiens capensis* (jewelweed), *Sium suave* (water-parsnip), *Cicuta maculata* (water hemlock), *Geum canadense* (white avens), *Arisaema dracontium* (green dragon), *A. triphyllum* (jack-in-the-pulpit), *Boehmeria cylindrica* (false nettle), *Symplocarpos foetidus* (skunk cabbage), *Osmunda cinnamomea* (cinnamon fern), *Dryopteris carthusiana* (woodfern), and *Cryptotaenia canadensis* (honewort).

Rare plant associates may include such species as *Quercus shumardii* (Shumard's oak), *Gymnocladus dioicus* (Kentucky coffeetree), *Euonymus atropurpurea* (wahoo), *Populus heterophylla* (black or swamp cottonwood), *Diarrhena americana* (American beak grass), *Galearis spectabilis* (showy orchis), *Hydrastis canadensis* (goldenseal), *Hybanthus concolor* (green violet), *Carex squarrosa* (sedge), *C. frankii* (sedge), *Lithospermum latifolium* (American gromwell), and *Morus rubra* (red mulberry), among others.

**Biology:** *Fraxinus profunda* is a wind-pollinated, dioecious species (comprised of male and female trees). According to Barnes and Wagner (2004) it is shade-intolerant and relatively fast-growing.

**Conservation/management:** As this species has been recently documented in the state, relatively little is known about its true status. Fewer than 10 localities have been documented in widely disparate areas in southern Lower Michigan, and it is possible that this species is overlooked. Most occurrences, however, appear to be very localized and comprised of few trees, and thus the current listing as a threatened species is warranted until more comprehensive data have been compiled. At least one occurrence (Oakland County) is threatened by a proposed development that would destroy significant habitat, whereas a significant occurrence in Belle Isle Park in Detroit is vulnerable to excessive recreational use and other activities.

**Comments:** The common name is reportedly derived from the swollen, buttressed appearance of the lower trunk (Barnes and Wagner 2004). Michigan's largest pumpkin ash occurs on Belle Isle in the Detroit River where it is associated with individuals of the rare Shumard oak (Campbell and Ehrle 2004).

**Related abstracts:** Southern floodplain forest, Virginia snakeroot, beak grass, showy orchis, goldenseal, red-shouldered hawk, cerulean warbler, eastern box turtle, Blanding's turtle

**Selected references:**

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NatureServe. 2003. NatureServe Explorer: An Online encyclopedia of life [web application]. Version 1.8. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: November 11, 2003).

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