

Pinus strobus L.
White pine, eastern white pine

Pinaceae (Pine Family)

Strobilus season: June

Plant:

Michigan Big Tree record: 200" girth, 150' tall,
Ontonagon County.

Conifer, generally 20-30 m tall and 60-100 cm diameter.

Branches at top of tall trees in exposed situations typically bend away from direction of prevailing wind giving tree a characteristic shape.

Branches in "annual artificial whorls" (Barnes and Wagner 1965) at intervals of 0.3-1 m.

Mid-crown branches at right angles to main trunk.

Wide spreading lateral roots; very wind-firm.

Long lived, moderately fast growing; can replace hardwoods long term.

Bark becomes thick, dark grey at maturity.



Leaves:

Needles, evergreen, in clusters of 5, triangular in cross section.

Medium green with blue tinged, 7-12 cm long, flexible and relatively soft.

Needles last from 1-4 years, commonly 2.

Strobilus:

Cone, properly called a strobilus, monoecious.

Female strobilus has pinkish-purple scales, and located in upper crown at branch tips.

Male strobilus yellow, 8 mm, clustered at "base of current year's growth in mid-crown"
(Kershaw 2006, p. 70).

Wind pollinated.

Fruit:

Seed 6-7 mm long, with wings 3 times that, two seeds per scale.

Strobili mature fall of second year, falling the winter or spring after.

Young strobili green, ripening to brown; woody scales somewhat flexible.

Mature cones 7.5-26 cm long, cylindrical, curved.

Often with hardened resin on outer part of scale.

Can be confused with:

The other two native pines in Michigan, jack pine (*Pinus banksiana* Lamb.) and red pine (*P. resinosa* Aiton) both have needles in clusters of 2, and have short, rounded strobili. White pine is the only native species in northeast North America with 5 needles to a bundle.

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Geographic range:

Type specimen location:

State: Throughout, except for south central and southeast counties; abundant in Upper Peninsula and northern Lower Peninsula.

Regional: Newfoundland to southwest Manitoba, south to northern Georgia, west to northeast Iowa.

Habitat:

Local: Throughout the Kasey Hartz Natural Area.

Regional: Often mixed woods, but also sandy plains and dunes with red and sometimes jack pine, “invading bogs with tamarack” and “even in cedar swamps” (Voss 1972, p.60).

Common local companions:

Red and jack pine, juniper, oaks, and maples.

Usages:

Human: Native Americans used dried bark in preparations for poultices and expectorants and possibly also for treating scurvy, but the evergreen used for that was more likely spruce or hemlock. Other uses included the wood for dugout canoes and arrows; the staminate catkins for food; resin for torches; and boughs as a carpet substitute in their lodges. Powder from decayed wood was used on babies with chafing or sores. Colonists used turpentine from it for treatment of desperate wounds, and pine tar for treatment of smallpox, ulcers, scurvy, asthma, and skin problems. Being widespread, common, and easily worked, it was used extensively for construction from colonial times and after, including rebuilding Chicago after the great fire. An extremely important early colonial use was as the timber for ship masts, and for this purpose was exported in large quantities to England in specially designed and constructed boats; in fact it was considered so important, that England’s Parliament passed a law that all white pine trees of 24" diameter belonged to the king, with a hundred pound fine for poaching. This law was one that figured in grievances leading to the American Revolution. Since virgin white pine forests included trees with 200-450 years of growth, leading to heights of 150-200', it had great value to a logged out Europe for ship building. The white pine is Michigan’s state tree, having served as the “backbone of the lumber industry”; the state possessed the “finest stands of this species in the world” (Voss 1972, p. 60). The tree’s sap was used to make vanillin, reported as a new use for the tree in 1880; the FDA has approved its use as a sweetness intensifier for baking.

Other animal: The pine squirrel, or red squirrel, *Tamiasciurus hudsonicus*, caches green cones for later eating. Various birds eat also eat the seeds. One insect depends on the white pine, to the detriment of the lumber industry: the white pine weevil, *Pissioides strobi* Peck, is a serious pest of the tree, especially in plantations.

Why is it called that? *Pinus* is Latin for pine; *strobus* is from the Greek for twisted, referring to the cone. White in the name refers to the white wood.

Prepared by: Barbara Lukacs Grob April 2008