



## CONIFERS

Often referred to as “softwoods”, conifers belong to the group of plants known as the gymnosperms. Conifers are cone bearing trees and shrubs that have needle or scale like leaves and resinous wood. All of Maine’s conifers except for tamarack are evergreen. There are 16 species of conifer native to Maine, 13 of these are trees and three others are more commonly found as shrubs. Several other species of conifer native to other parts of the world are commonly planted in Maine for both ornamental and timber production purposes.

*Photo location: Penobscot Experimental Forest, Bradley, Maine.*



# PINES *The Important Distinctions*

PINE

	<b>Eastern White Pine</b> <i>Pinus strobus</i>	<b>Red Pine</b> <i>Pinus resinosa</i>	<b>Pitch Pine</b> <i>Pinus rigida</i>
<b>NEEDLES</b>			
NUMBER/ CLUSTER	5	2	3
DESCRIPTION	Slender, flexible, 3–5 inches	Straight, flexible, 4–6 inches	Stout, not flexible, usually twisted, grow at right angles to the branchlets, 3–5 inches
COLOR	Bluish-green	Dark green	Dark yellow-green
SHEATH	Shed in late August	Persists	Persists
<b>CONES</b>			
LENGTH	4–8 inches	1½–2¼ inches	1½–3½ inches
DESCRIPTION	Borne on a long stalk; thin smooth scales without prickles	Borne on short stalks; scales without prickles. Several basal scales remain on branches when cone drops.	Borne on a short stalk, having prickles on the cone scales, flat-based when completely open. Often remain on branches for 10–12 years.

	<b>Jack Pine</b> <i>Pinus banksiana</i>	<b>Scots Pine</b> <i>Pinus sylvestris</i>
<b>NEEDLES</b>		
NUMBER/ CLUSTER	2	2
DESCRIPTION	Stout, flat, twisted, ¾–1½ inches	Stout, stiff, twisted, 1½–3 inches
COLOR	Light yellow-green, later becoming dark green	Dull blue-green
SHEATH	Persists	Persists
<b>CONES</b>		
LENGTH	1½–2 inches	1–2 inches
DESCRIPTION	Much curved inward, without stalk. Prickles minute. Often remain on branches for many years.	Egg shape, borne on a short stalk, scales with occasional prickles.





## EASTERN WHITE PINE *Pinus Strobus* L.



*Maine is known as the “Pine Tree State” and the Eastern white pine is the official tree of the State of Maine.*

**E**astern white pine has been an important tree for the people of what is now the State of Maine for hundreds, if not thousands, of years. Therefore, it is no coincidence that Maine has come to be known as the “Pine Tree State.” Recognizing its importance, in 1895 the Maine legislature designated the “Pine Cone and Tassel” as Maine’s official floral emblem. In 1945 the legislature Resolved: “That the white pine tree be, and hereby is, designated the official tree of the State of Maine.”

The availability and high quality of white pine lumber has played an important part in the development and economy of Maine since 1605, when Captain George Weymouth of the British Royal Navy collected samples here and brought them back to England for display. The shortage of ship masts in Europe led to England’s Broad Arrow Policy in 1691, whereby pines 24 inches or more in diameter within 3 miles of water were blazed with **the mark of the**





**broad arrow**; such trees to be reserved for use in the Royal Navy. The term **King's Arrow Pine** originated from this policy. Most of the accessible virgin pine was cut by 1850. Lumber production reached its peak in 1909, but white pine is still a valuable species that contributes greatly to the economy of the state.

White pine occurs in all localities in the state in moist situations, on uplands and on sandy soil, but develops best on fertile, well-drained soils. On sandy soil it often becomes established in pure or nearly pure stands. It is one of the major species planted in the state. The tree grows rapidly both in height and diameter, making an average growth in height of 1 foot or more each year.

When growing in the open, the young tree is symmetrical and conical in outline except when deformed by white pine weevil. White pine weevil is an insect that kills the topmost shoot, and often causes the tree to have multiple stems and a round profile. In the forest, a white pine tree has a narrow head; and

the trunk is commonly free of live branches for a considerable portion of its length. Old forest trees have a broad and somewhat irregular head. The branches are horizontal and in regular whorls, usually of 5 each. Very old trees often become very irregular and picturesque. The trunk tapers gradually, and the tree often attains a height of 100 feet. Commonly it is from 70–80 feet tall, and has a diameter of 1–3 feet.

The **bark** of young trees is smooth and thin, green with a reddish-brown tinge overall, or brown in spots. On old trees, it is from 1–2 inches thick, very dark, and divided into broad, flat ridges by shallow fissures.

**Leaves** are in clusters of 5, flexible, 3–5 inches long, bluish-green but whitish on one side. The papery sheath at the base of the new needle clusters falls in late August.

The **cones** are 4–8 inches long, cylindrical and borne on a long stalk. They take 2 years to mature, and open to discharge the seed shortly after ripening





*Young bark (left) and old bark (right).*

in late August through September of the second season.

The **wood** is light in color and durable, except when in prolonged contact with moisture. It is soft, not heavy and is easily worked. The wood is used extensively for interior trim, doors, windows, cabinetmaking, sash and door manufacture, patternmaking, furniture, small building construction, interior and exterior finish, and boat planking.

Pine furniture is always popular in North America. Lumber from Maine is

sold from Newfoundland to Washington state and south into Mexico. Lower grade boards have clear sections cut to size for sale. These clear short pieces may also be finger-jointed to create longer lengths of clear wood. Any part of a pine not making log grade is used for pulp. Ceiling tiles and paper are made from this pulp.



*Eastern white pine leaves (needles) are 3–5 inches long and in clusters of 5.*



**NATIONAL AND MAINE REGISTER OF BIG TREES 2008**

**Eastern White Pine**

**Circumference:** 229"

**Height:** 125'

**Crown Spread:** 72'

**Location:** Morrill

**Nominator:** C. Brown 2004

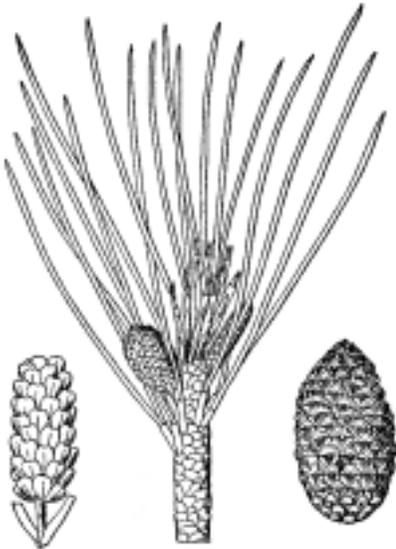




*White pine has been an important timber tree in Maine for more than 300 years.*



## RED PINE *Pinus Resinosa* Soland.



*The red pine is named for its reddish-brown bark and pale red heartwood.*

**R**ed or Norway pine, though common, is found only locally throughout the state, growing on dry, rocky ridges, or light, sandy soil. Stands are usually scattered through forests of other species. The beautiful “Cathedral Pines” occur near Eustis.

Young trees often have branches extending to the ground and form a conical outline. Later, the head is rounded and picturesque. Branches are generally horizontal. It attains a height of 60–80 feet, and a diameter of 2–3 feet. The trunk is straight and tapers slowly. Red pine is not tolerant of shade.

The reddish-brown **bark** is divided into broad, flat ridges by shallow fissures.

The **leaves** are arranged in clusters of two. They are 4–6 inches long, dark green, soft and flexible. When doubled between the fingers, they break cleanly, at a sharp angle.

The **cones** are egg-shaped and are about 2 inches long. They lack prickles and are borne on short stalks. The base





of fallen cones is hollow. They mature in the fall of the second season and usually remain on the branches until the following summer. Cones may be collected for seeds from September throughout the fall and winter, due to their gradual release of seed.

The **wood** is a little heavier and harder than white pine, close-grained, and fairly strong. It is used for lumber, poles, piles, building construction and pulp. It is treated readily with wood preservatives, and therefore is a locally-produced alternative to southern yellow pine. Older stands produce large, high-value poles.

Owing to the reddish bark and the pale red heartwood, the name “red pine” is appropriate. The name “Norway pine” refers to its original finding near Norway, Maine. Since it implies that the tree is foreign in origin, use of this name is discouraged.



*The reddish-brown bark of the red pine is divided into broad, flat ridges by shallow fissures.*



MAINE REGISTER OF BIG TREES 2008  
Red Pine Circumference: 88" Height: 96' Crown Spread: 36' Location: Weld Nominator: M. Gill 1988





## JACK PINE *Pinus banksiana* Lamb.



*The cones of the jack pine usually remain closed for several years unless exposed to extreme heat, and often do not fall for 12–15 years.*

**J**ack or gray pine grows on sandy, rocky, shallow acidic soils. It is known to occur naturally at Alamoosook Lake in Orland, Schoodic Point in Winter Harbor, Great Wass Island in Beals, Matagamon Lake, Cliff Lake, Lobster Lake, and in the areas south and west of Jackman.

The spreading **branches** are long and flexible, and form an open head symmetrical in outline. At maturity the tree is about 50–60 feet tall and 8–10 inches in diameter. Trees in the coastal populations tend to be much shorter and usually have a picturesque, gnarled look. **Cones** are often produced when the trees are only a few years old.





*Jack pine cones are curved and persist on the tree for many years.*

The **bark** is thin with irregular rounded ridges. It is dark brown with a slight tinge of red. The **leaves** are in clusters of two, and are  $\frac{3}{4}$  to  $1\frac{1}{2}$  inches long. They are stout, yellow-green at first, dark green later, rather flat, and twisted at the base. The cones require 2 years to mature, are rather slender,  $1\frac{1}{2}$ –2 inches long, lack a stalk and are curved. The scales have minute prick-

les that are often deciduous. The cones usually remain closed for several years unless exposed to extreme heat, and often do not fall for 12–15 years.

The **wood** is moderately hard, heavy, and close-grained. It is used mostly for pulp; historically it was used for firewood and box boards.

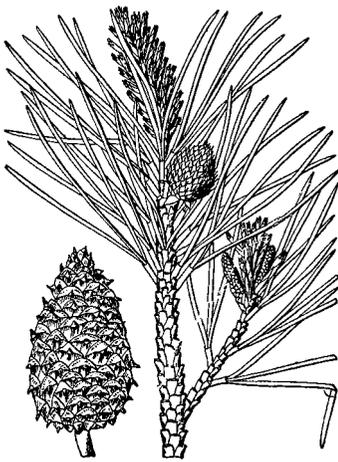


*Jack pines growing on the coast in eastern Maine are often stunted and gnarled.*





## PITCH PINE *Pinus rigida* P. Mill.



*Pitch pine wood is used for construction lumber, pulp and fire-starting “fat wood.”*

**P**itch pine grows on sandy barrens or plains, and on gravelly soil of the uplands. It is quite common in the southern part of the state, on the sand plains near Brunswick and Oxford and on Mt. Desert Island.

Branches are horizontal, rigid, contorted and form an open crown. Pitch pine attains a diameter of 1–2 feet, and a height of only 30–40 feet. The trunk tapers rapidly and generally is straight. Often the tree produces cones when small. It is the only native pine that will resprout when damaged by such factors as fire.

The **bark** is rough, even on young stems and branches. On old trees, it is irregularly divided into continuous broad flat ridges, and is deep gray or reddish-brown.

The **leaves** are in clusters of three, and are 3–5 inches long. They are dark yellow-green and stiff, standing at right angles to the branch.

The **cones** require 2 years to mature, are 1½–3½ inches long, borne





*Pitch pine cones have a sharp prickles at the end of each scale.*

*Pitch pine often has needles growing directly out of the trunk. This plus its clusters of 3 needles make it easy to recognize.*

on short, hardly-noticeable stalks, and are often produced in clusters. A sharp, rigid, curved prickles is produced on the tip of each scale. The cones open gradually during midwinter. Seeds are released over a period of several years. Cones often remain on the trees 10–12 years. Fresh cones are used in wreath decorations.

The **wood** is moderately heavy, strong, hard and stiff. It is used for construction lumber, pulp and fire-starting “fat wood.” In the past, considerable quantities of pitch and turpentine were obtained from this tree; these commodities were referred to as “naval stores,” a term originally applied to the resin-based components used in building and maintaining wooden sailing ships. Today naval stores are used in the manufacture of soap, paint, varnish, shoe polish, lubricants, linoleum and roofing material.



MAINE REGISTER OF BIG TREES 2008  
Pitch Pine Circumference: 97" Height: 80' Crown Spread: 44' Location: Poland





## SCOTS (SCOTCH) PINE *Pinus sylvestris* L.

**S**cots pine is the most widely distributed pine in the world but is not native to Maine. A native of northern Europe and Asia, it grows naturally from Scotland almost to the Pacific Ocean and from above the Arctic Circle in Scandinavia to the Mediterranean. In parts of its native range, Scots pine grows to be a tall timber tree in dense stands. There are many strains of this species; the trees that have been planted in Maine often have very poor growth habits. This, plus its susceptibility to snow, porcupine and bird injury, makes it undesirable for timber production here. Scots pine will grow on very poor soils. Some strains are planted for Christmas trees, and it has been widely used in ornamental plantings.

The **bark** in the crown region of medium to large trees has conspicuous orange coloration. The lower bark of

mature trees is gray to red-brown and has irregular ridges and furrows.

The **leaves** are needles in clusters of two. They are 1½–3 inches long, stout, stiff, twisted, dull blue-green with distinctive lines of stomata.

The **cones** are 1½–2 inches long and numerous, even on comparatively young trees; the scales are armed with small, blunt spines.

The **wood** is similar in character to red pine; however, due to its poor form, in Maine it is seldom used for lumber. It is occasionally used for pulp and fuel.

*Scots pine, as the name suggests, is not native to Maine.*

MAINE REGISTER OF BIG TREES 2008

Scots Pine Circumference: 124" Height: 60' Crown Spread: 45' Location: Falmouth

