



BROADLEAVES

Often referred to as “hardwoods,” broadleaf trees belong to the group of plants known as the angiosperms or flowering plants. Almost all of Maine’s hardwood species are deciduous, meaning they lose all of their leaves each autumn and grow new ones in the spring. Maine has over 50 species of native hardwood trees; only about half of these are considered important timber trees. The name “hardwood” is somewhat misleading since some hardwood species have wood that is soft.

Photo location: T1 R6 WELS



POPLARS & ASPENS *The Important Distinctions*

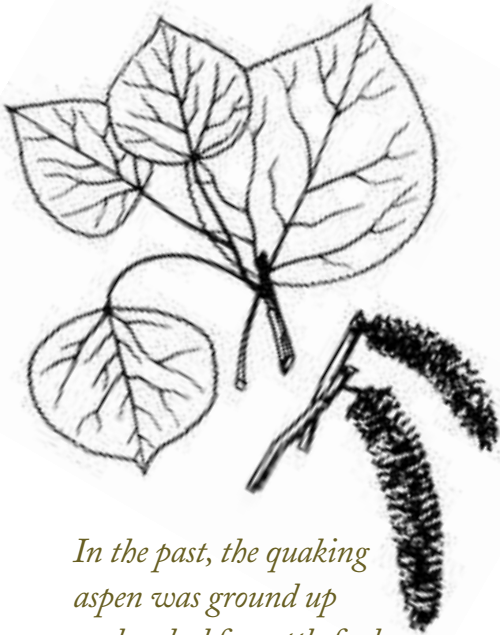
	Quaking Aspen <i>Populus tremuloides</i>	Bigtooth Aspen <i>Populus grandidentata</i>	Balsam Poplar <i>Populus balsamifera</i>
BARK			
TEXTURE	Smooth in younger trees, often with horizontal bands of circular wart-like outgrowths	Smooth in young trees; furrowed in older trees	Smooth or roughed by dark outgrowths; older trees furrowed with scaly ridges
COLOR	Light or grayish-green	Dark or olive green	Reddish-brown on younger trees
TASTE	Very bitter	Not bitter	Not bitter
LEAVES			
LENGTH	1½–3 inches	3–4 inches	3–5 inches
SHAPE	Circular	Broad egg-shaped	Egg-shaped
MARGIN	Finely toothed	Coarsely toothed	Finely toothed
SURFACE	Shiny upper, not rusty beneath	Not shiny upper, not rusty beneath	Very shiny upper, rusty beneath
PETIOLE	Flattened	Flattened	Flattened
BUDS			
TEXTURE	Not sticky; shiny	Not sticky; dull	Very sticky; shiny
SHAPE	Conical	Broad egg-shaped	Egg-shaped
SCALES	No hairs	Covered with white hairs	No hairs
ODOR	Not fragrant	Not fragrant	Sweet balsam fragrance

The pith of poplar twigs is star-shaped in cross section. Poplars belong to the willow family and resemble willows in flower and fruit characteristics. The nodding, “woolly bear” caterpillar-like staminate and pistillate catkins are borne on different trees. They open before the leaves are out and are conspicuous in the early spring. Poplars, like willows, have a transcontinental range. They can be propagated very easily from cuttings.





QUAKING ASPEN *Populus tremuloides* Michx.



In the past, the quaking aspen was ground up and cooked for cattle feed.

Quaking aspen, popple or trembling aspen is found statewide and is an abundant, rapid-growing tree occurring in either pure stands or in mixture with other species. It is found on many different kinds of soil, but makes the best growth on sandy, moist soils. Frequently it is the first species, with paper birch, to become established following heavy cuttings or burns. Intolerant of shade, it does not persist in dense woods. It is a graceful tree with slender branches that are far apart and often contorted. It has a round and narrow head. It grows to a height of 60–75 feet and a diameter of 10–16 inches.

The **bark** is smooth, often roughened by horizontal lines of wart-like outgrowths. It is a pale green with dark brown patches. The pale green areas feel waxy when rubbed. Bark on old trees is ash gray and dark at the base where it is divided into broad, flat ridges. It has a very bitter taste similar to quinine.





The **leaves** are alternate, rounded and short-pointed, with finely rounded teeth; dark green and shiny above and 1½–3 inches long. The flattened petiole causes the leaves to tremble in a breeze, resulting in a rustling sound.

The **flowers** are in catkins that appear before the leaves. The **fruit**, which ripens about June, is a capsule. The seeds are very small, light and cottony, and are carried long distances by the wind. The **buds** are dark brown, have a varnished appearance and may be slightly sticky. Flower buds are usually larger than the leaf buds.

The **wood** is close-grained, soft and rots very easily. It is used increasingly for trim, lumber, pallets, and for the manufacture of oriented strand board, landscape ties, plywood, core stock and expendable turnery items. It is used extensively for pulp. In the past, it was ground up and cooked for cattle feed. Sometimes referred to as “biscuit wood,” it was also used as firewood for cooking.



*Above left: young bark.
Above right: old bark.
Left: Quaking aspen buds are dark brown and very shiny.*

MAINE REGISTER OF
BIG TREES 2008
Quaking Aspen
Circumference: 43"
Height: 69'
Crown Spread: 21'
Location: Richmond





BIGTOOTH ASPEN *Populus grandidentata* Michx.

Bigtooth aspen, poplar or popple occurs statewide and commonly grows with quaking aspen. It is a rapid grower in various soils and in different situations. It grows best in a rich, sandy and fairly moist soil. It is more shade-tolerant, and therefore more competitive, than quaking aspen and grows with other species in either scattered or small groves. Bigtooth aspen tends to have better form than quaking aspen. It attains a height of 60–80 feet and a diameter of 10–20 inches.



When first emerging in spring, the bigtooth aspen leaf is a distinctive silvery-green.





The **bark** is smooth, and olive to gray-green. At the base of old trees, it is dark and divided into broad, irregular, flat ridges.

The **leaves** are alternate, 3–4 inches long, broadly egg-shaped in outline, and have a dark green upper surface. When first emerging in spring, they are a distinctive silvery-green. The edges are coarsely and irregularly toothed. The petiole, or leaf stalk, is flat.

The **flowers** are in catkins, and appear before the leaves.

The **fruit** ripens in May about the time the leaves begin to come out. The seeds are small, light and are carried long distances by the wind. The **buds** are dull gray, slightly hairy and not sticky.

The **wood** is like that of the quaking aspen and is used for the same purposes, as well as rails for apple-picking ladders.

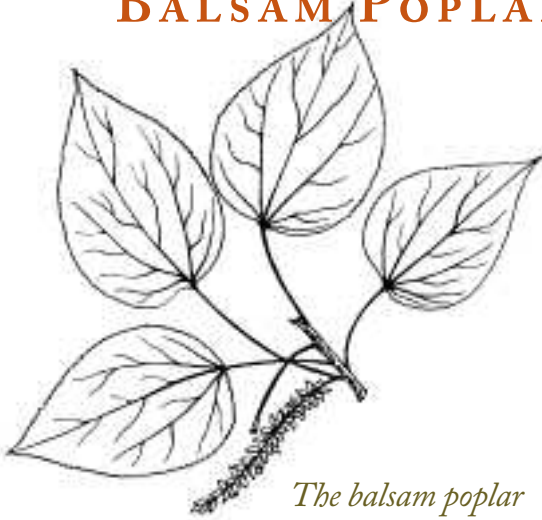


NATIONAL AND MAINE REGISTER OF
BIG TREES 2008
Bigtooth Aspen Circumference: 151"
Height: 76' Crown Spread: 45' Location: Appleton





BALSAM POPLAR *Populus balsamifera* L.



The balsam poplar gets its name from the fragrance of the resinous, sticky buds.

Balsam poplar, or Balm-of-Gilead, inhabits the borders of swamps and the low bottomlands along rivers throughout the state, except in York County. It gets its name from the fragrance of the resinous, sticky buds.

The tree is somewhat different from the two preceding poplars. The branches are stout, erect, more or less contorted at the ends and form an open, rather narrow head. It reaches a height of 30–70 feet, and a diameter of 15–30 inches.

The **bark** on young trees is smooth, or sometimes roughened by dark outgrowths, and is greenish to reddish-brown. On the trunk of old trees, it is gray and separated into broad, rough ridges.





The **leaves** are alternate, ovate, 3–5 inches long and 2–3 inches wide. They are deep dark green and shiny on the upper surface, light green and usually with rusty blotches on the under side. The edges are lined closely with small, rounded teeth. The petioles are round in cross section. In late summer the entire tree can have a rusty appearance.

The **flowers** are in catkins that appear early in spring just before the leaves.

The **fruit** ripens the end of May or early in June. Each seed is attached to a cottony mass, so that it is often carried long distances by the wind.

The **wood** is somewhat like that of quaking and bigtooth aspen, but it is not as strong. The wood is prone to decay while growing. Larger logs are sawed into landscaping ties. OSB—oriented strand board, a structurally engineered wood product—can include a small percentage of balsam poplar.



Balsam poplar has large sticky buds that have a sweet fragrance.



MAINE REGISTER OF BIG TREES 2008
Balsam Poplar Circumference: 99" Height: 93' Crown Spread: 50' Location: Yarmouth





BLACK WILLOW *Salix nigra* Marsh.

WILLOWS *Salix* spp. L.

Maine has many willows, but this is a large and difficult group to identify. The Revised Checklist of the Vascular Plants of Maine, 1995 (see Appendix Four, p. 105) shows 58 native and exotic species, varieties, and hybrids known to be present in the state.

Maine's willows range in size from large trees to small prostrate shrubs found in the alpine tundra. With the exception of black willow, most of Maine's native willows are small trees or shrubs. Some of the exotic species can grow to be very large. All willows share the following characteristics: Buds are covered with a single, cap-like scale with silky, gray hairs beneath the scale. Leaves are alternate, mostly narrow, and the petioles are short or lacking. Flowers occur in catkins. Fruits consist of small, usually two-valved capsules filled with silky hairs that are attached to the seeds.

Black willow occurs primarily in southern and western Maine. It grows to a height of 45–65 feet, and is found along streams and ponds. The stout, upright, spreading branches give the tree a broad, irregular outline. It is probably our largest native willow. The **bark** on old trees is shaggy and dark brown. The **leaves** are very narrow, sometimes sickle-shaped, finely-toothed, 3–6 inches long and green on both sides. The **wood** is soft, light, weak and is used occasionally for farm lumber and pulp.

Top right: A typical willow twig.

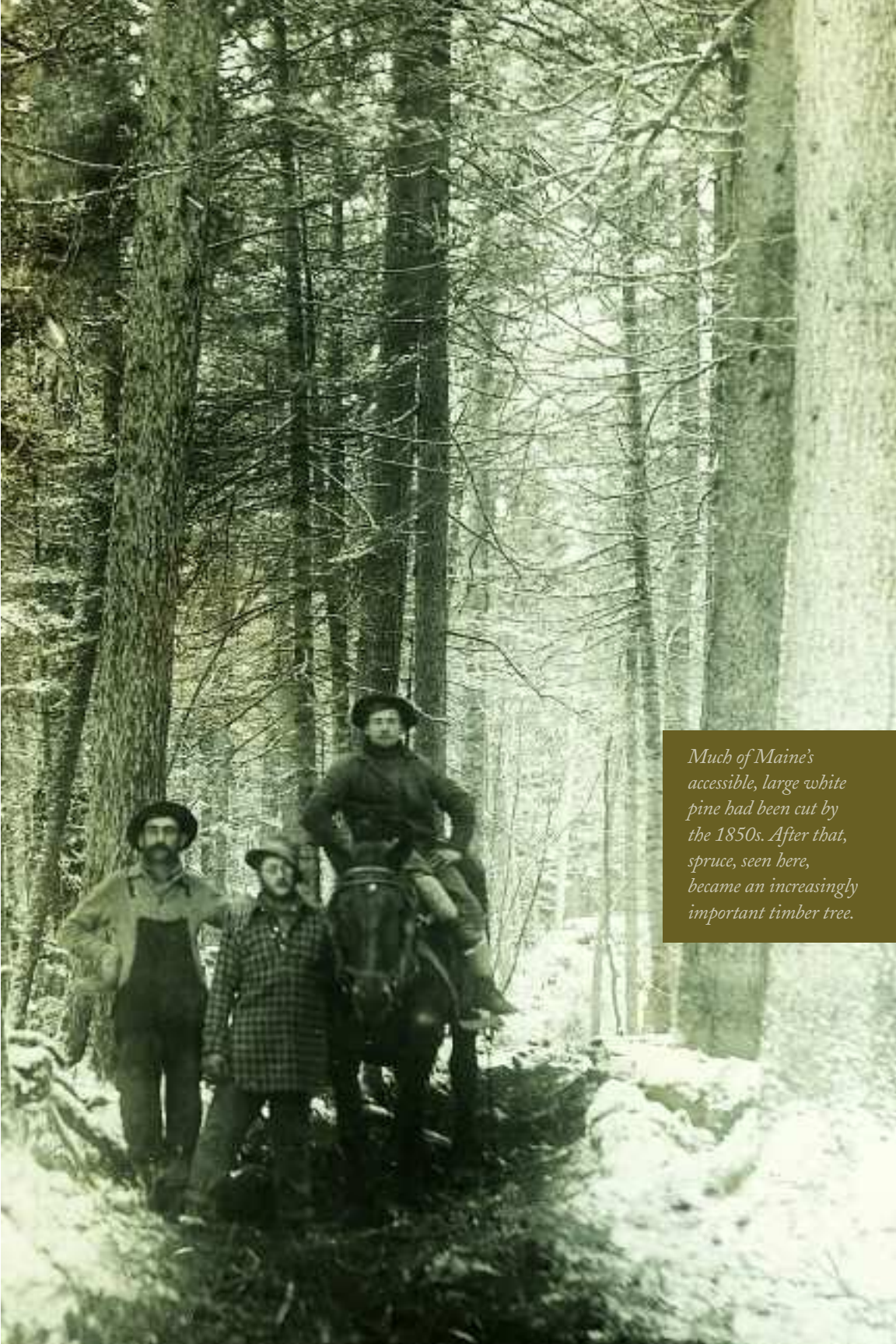


MAINE REGISTER OF BIG TREES 2008

Black Willow Circumference: 266" Height: 84'

Crown Spread: 64' Location: Yarmouth





Much of Maine's accessible, large white pine had been cut by the 1850s. After that, spruce, seen here, became an increasingly important timber tree.