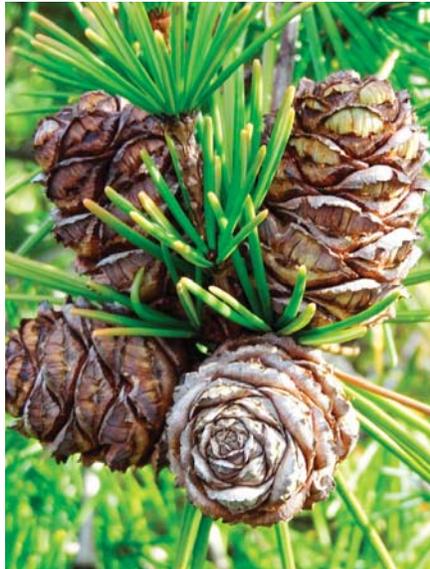
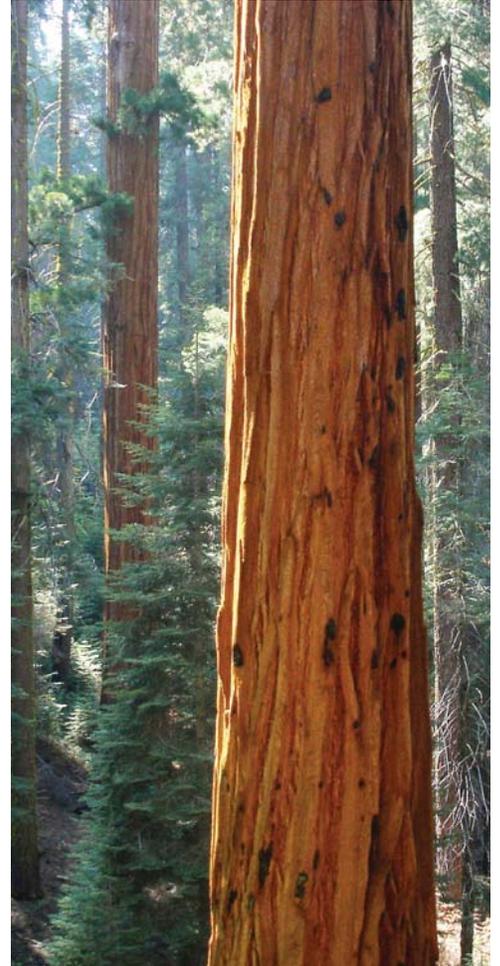




**PORTLAND PARKS & RECREATION**

Healthy Parks, Healthy Portland



## Lynch View Elementary School Tree Walk

**LEARNING LANDSCAPES**



## Lynch View Elementary School Tree Walk 2015 Learning Landscapes

Site data collected in Summer 2014.

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### Cover photos (from top left to bottom right):

- 1) A cone forming on a monkey puzzle tree.
- 2) Tiny flowers on the twig of a Persian ironwood.
- 3) A coast redwood's fluted trunk.
- 4) An Urban Forestry employee teaches students how to plant trees.
- 5) The stubby foliage of a blue Spanish fir.
- 6) The prickly, leathery leaves of an interior live oak.
- 7) *Sciadopitys verticillata* cones.
- 8) Fall color on the leaves of a willow oak.

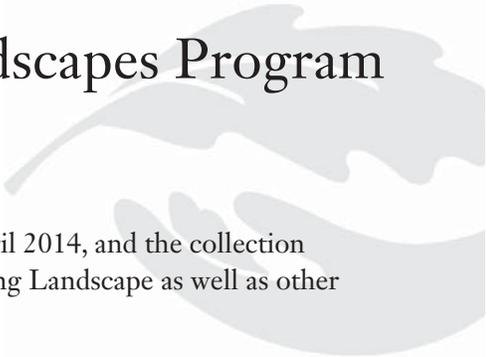
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Commissioner Amanda Fritz  
Director Mike Abbate

# The Learning Landscapes Program



## Lynch View Elementary School

The Lynch View Elementary School Learning Landscape was initiated in April 2014, and the collection includes 21 trees. This tree walk identifies trees planted as part of the Learning Landscape as well as other interesting specimens at the school.

## What is a Learning Landscape?

A Learning Landscape is a collection of trees planted and cared for at a school by students, volunteers, and Portland Parks & Recreation (PP&R) Urban Forestry staff. Learning Landscapes offer an outdoor educational experience for students, as well as environmental and aesthetic benefits to the school and surrounding neighborhood. Learning Landscapes contain diverse tree species. They are designed to teach students about biology and urban forestry issues, but can also be used to teach geography, writing, history and math, and to develop leadership skills.

## Community Involvement

Community-building is crucial to the success of Learning Landscapes. PP&R works with Urban Forestry Neighborhood Tree Stewards, teachers, parents, students, and community members to design, plant, establish and maintain these school arboreta. PP&R facilitates this collaboration by working with the school district, neighborhood, students and teachers to create landscapes that meet the need of the individual school community.

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*By involving students and neighbors in the tree planting, the community has ownership of the trees and a tangible connection to their school.*

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## Tree Planting Experience

Learning Landscapes are planted by the school's students under the mentorship of middle or high school students and volunteers. On planting day, tree planting leaders teach students the benefits of urban trees, form and function of trees, and tree planting techniques. This leadership aspect of Learning Landscapes gives older students and volunteers the opportunity to connect with their peers, build confidence, and develop public speaking skills. Involving students and neighbors in the tree planting fosters community ownership of the trees and builds a tangible connection between school and neighborhood. This helps ensure a high tree survival rate by reducing vandalism and encouraging ongoing stewardship of the school's trees.

## Continued Hands-on Learning Opportunities

Once planted, Learning Landscapes are used by teachers and parents for service and leadership projects. Students and teachers continue to build projects around the trees with opportunities to water, prune, weed and mulch. These dynamic landscapes change year after year, depending on student and teacher interests, as new trees are planted and added to the collection.

## How can I get involved?

Visit <http://www.portlandoregon.gov/parks/learninglandscapes> for volunteer opportunities, to view more maps, and to learn how to plan a Learning Landscape in your community.

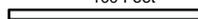
# Lynch View Elementary School Tree Walk



Learning Landscapes

<http://portlandoregon.gov/parks/learninglandscapes>

100 Feet



	Learning Landscapes tree
	other tree

# Lynch View Elementary School Tree Walk

Tree #	Common Name	Scientific Name
1	Arapaho crape myrtle	<i>Lagerstroemia x 'Arapaho'</i>
2	red maple	<i>Acer rubrum</i>
3	birch	<i>Betula</i> spp.
4	maple	<i>Acer</i> spp.
5, 6	incense cedar	<i>Calocedrus decurrens</i>
7, 9	Oregon white oak	<i>Quercus garryana</i>
8	interior live oak	<i>Quercus wislizeni</i>
10	Norway maple	<i>Acer platanoides</i>
11	Crimson King Norway maple	<i>Acer platanoides</i> 'Crimson King'
12	Persian ironwood	<i>Parrotia persica</i>
13	willow oak	<i>Quercus phellos</i>
14	Autumn Gold ginkgo	<i>Ginkgo biloba</i> 'Autumn Gold'
15	Chinese tupelo	<i>Nyssa sinensis</i>
16-18	black tupelo	<i>Nyssa sylvatica</i>
19	Chinese tupelo	<i>Nyssa sinensis</i>
20	blue Spanish fir	<i>Abies pinsapo</i> 'Glauca'
21	Wintergreen umbrella pine	<i>Sciadopitys verticillata</i> 'Wintergreen'
22	coast redwood	<i>Sequoia sempervirens</i>
23	giant sequoia	<i>Sequoiadendron giganteum</i>
24	monkey puzzle	<i>Araucaria araucana</i>
25	ornamental crabapple	<i>Malus</i> spp.
26, 27	ponderosa pine	<i>Pinus ponderosa</i>

## Tree Facts, A to Z

### Arapaho crape myrtle, *Lagerstroemia x 'Arapaho'*

*Origin: Asia – hybrid between two Chinese species (Lagerstroemia indica and L. limii) and the Japanese species L. fauriei*

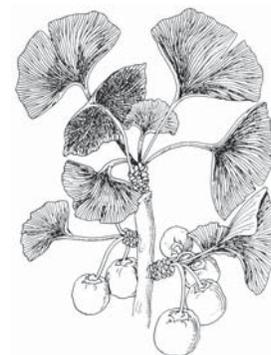
Introduced to the market by the U.S. National Arboretum in 2003, this is the first cross between two Chinese species (*Lagerstroemia indica* and the less well-known *L. limii*) and the hardy Japanese crape myrtle (*L. fauriei*). Arapaho gained strong resistance to powdery mildew from *L. limii*, cold hardiness and a tree-like form from *L. fauriei* and showy deep-pink to red flowers primarily from *L. indica*. A fast-grower with upright form when young, this cultivar will reach 20' in 15 years, probably topping out at around 25'. New leaves emerge purple, becoming glossy purple-green in summer before turning red in autumn. Flowers are a deep reddish-pink, verging on red. In Oregon they appear in August-September and are quite showy as well as attractive to butterflies. Bark is smooth and peeling, a light tan color. Trees require full sun. Crape myrtles live 100 to 175 years.

### Autumn Gold ginkgo, *Ginkgo biloba* 'Autumn Gold'

*Origin: Asia – male cultivar of a Chinese tree*

Ginkgo is a pyramidal to rounded deciduous tree growing 60' to 100' tall. The bark has vertical scales, becoming deeply furrowed in maturity. The branches are alternate with leaves emerging from prominent ½" long nodes along the stem. Each node displays a whorl of approximately 5-7 fan-shaped leaves.

Male and female trees are separate. The female tree produces edible fruit about ¾" long, which have been described as "nature's stink bomb." Only one species of ginkgo tree remains in this ancient tree family that dominated forests millions of years ago. This cultivar is a symmetrically-branched tree eventually reaching



40' x 30' wide. Nice butter yellow fall color. Leaves in autumn tend to drop all together (within a few days of each other) making fall cleanup quick rather than drawn out over weeks. Tolerant of full sun or shade, with no pests or diseases. Best growth with summer watering the first several years until well established, then drought tolerant.

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**birch, *Betula* spp.**

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*Origin: widespread in the Northern Hemisphere*

There are some 40 species of birches, all native to lands spanning the Northern Hemisphere. Wind-pollinated, they are pioneer species which colonize disturbed or vacant land, such as moraines left in the wake of retreating glaciers. Birches typically grow very fast when young but tend to be short-lived trees with weak wood. Most but not all birches are noted for exfoliating bark in shades from white to cream to tan-pink, although some have cherry-like bark. The arrival of the bronze birch borer in Portland is spelling doom for a large number of the city's birches, especially the paper, European white, and Himalayan species. However, birches are resistant to verticillium wilt, an often-fatal tree disease.

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**black tupelo, *Nyssa sylvatica***

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*Origin: North America - eastern USA from eastern Texas and eastern Missouri across the South and north to New York, New England and southern Ontario, Canada*

Black tupelo is an 80' tall broadleaf deciduous tree native to the eastern United States. The leaves are smooth and long (up to 6"), emerging as clusters and twisting at different angles from the ends of branches.



Trees are dioecious, with males and females occurring on different plants. A cluster of blue berries (smaller than 1/2") emerge from the end of the leaf clusters. These flowers and fruits are important food sources for bees and birds. The leaves turn from green to fiery red and yellow in autumn. The berries are said to taste bitter to humans but are an important food

source for birds. This species likes wet habitats and is being planted more frequently as a street tree in Portland, especially in bioswales.

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**blue Spanish fir, *Abies pinsapo* 'Glauca'**

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*Origin: Europe - Mountains of southern Spain and Morocco in North Africa*

Spanish fir is one of the most drought-tolerant firs. A conifer, it occurs in just a few locations in southern Spain and in the Rif Mountains of Morocco. The variety *numidica* grows in NE Algeria on Mt. Babor and Thababor and is sometimes considered a separate species. The thick, stiff needles are arranged straight out all around the twig or bent upward, slightly denser toward the sides. Pollen cones are reddish purple. Seed cones are cylindrical and mature to a yellowish to purplish brown. Grayish brown bark becomes deeply ridged and furrowed with age. This cultivar has handsome blue-gray needles. Otherwise, similar in all respects to the species. Spanish fir is listed on the IUCN Red List as endangered due to climate change and fires. It is one of the few trees with native populations in Africa which is hardy enough to grow in Portland. Drought tolerant, adapted to rocky soils, and does well in full sun.



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**Chinese tupelo, *Nyssa sinensis***

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*Origin: Asia - China*

This Chinese cousin of the American tupelo or black gum tree of the Eastern U.S. makes a handsome deciduous shade tree, especially in fall when the 6-inch long leaves flame into orange, red or scarlet. Reportedly shorter-growing than *N. sylvatica*, reaching only 35' to 50' and 25'-40' wide. The tiny spring flowers aren't showy. The small blue-berry like fruits turn dark blue by autumn and are quickly stripped from the tree by birds. Chinese tupelo seems less prone to leaf spot than *N. sylvatica* but both species appreciate moist soils and summer water.

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**coast redwood, *Sequoia sempervirens***

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*Origin: North America - from Central California coast north to Curry County in SW Oregon*

Coast redwood is the tallest tree in the world, with the largest tree standing over 370' tall - that's about one-quarter the height of the Empire State Building! The red-brown bark is spongy, papery, and fire resistant. The leaves, bright green above and pale blue-green below are made up of



both scales on the shoots and needles averaging 1/2" long. The brown cones are round and about 1" long; cones need fire heat to open and disperse the seeds. Sometimes the bark grows burls that can fall off and sprout into a new tree. Redwoods typically live to a ripe old age, usually 600 years or more; however, one old stump contained about 2,200 tree rings. The trees range from southwest Oregon's Curry County to the middle of the California seacoast, where the trees are able to capture coastal mist to supplement water supply. The thin needles make the tree easily stressed by drought.

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**Crimson King Norway maple, *Acer platanoides* 'Crimson King'**

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*Origin: Europe - garden origin cultivar*

This is a purple-leafed cultivar of the deciduous Norway maple. The original seedling was selected in Belgium in 1937 for growing on. The Barbier & Co. nursery in Orleans, France trademarked the cultivar but it was not introduced in the USA until 1947. It has a spherical to oval crown growing 40' tall to 30' wide. It is more compact than the species and the samaras are purple. Gray bark develops shallow vertical crevices. Leaves range from 4-7" wide with 5 to 7 lobes spreading from the center like fingers from a hand and each lobe coming to a point. Fruit is a winged seed, about 2" across. A milky white sap emits from the leaf stem, unique to this species and bigleaf maple. There are many cultivars of Norway maple, with colors ranging from green (yellow in autumn)

to reddish purple. Norway maple's hardy nature and strong shading capacity make it one of the most prevalent trees planted in urban environments. The tree has escaped into natural habitats, shading out native woody species.

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**giant sequoia, *Sequoiadendron giganteum***

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*Origin: North America - California in the Sierra Nevada*

Giant sequoias are the world's largest tree by volume. The tallest can reach over 250' - shorter than the world's tallest trees - their coastal redwood cousins. Long lived trees, the oldest (as determined by ring count) was 3,500 years old. Millions of years ago the trees were widespread around the planet, growing in the Arctic during warmer periods in Earth's history. The trees eventually died out everywhere but in the Sierra Nevada of California. Restricted in nature now to only a few dozen isolated groves in a narrow elevational band between 4,500 and 7,100 feet, the trees were first discovered by Western scientists in the 1850s. Bark is fibrous. Needles are in flat sprays, sometimes with a decided bluish-gray color. Cones are small (1.6 to 2.8 inches long).

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**incense cedar, *Calocedrus decurrens***

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*Origin: North America - from Oregon south into California and northern Baja California in Mexico.*

Evergreen conifer with single straight trunk and capable of reaching 185'. Usually densely branched, columnar in form (broader in nature but with narrow forms



common). The needles are held in flattened sprays. Golden-yellow pollen is shed in winter and early spring. Oblong cones have three alternating pairs of scales with a bump just below the tip. Bark is smooth on young trees but becomes fibrous and reddish-brown with age. Highly decay-resistant wood is light, soft and fragrant, giving rise to the tree's common name in English. Primarily used to make pencils but also used in the Far West to make fenceposts or shingles. Trees can live 350 to 500 years. Only two other species in *Calocedrus* are known - both in Asia.

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**interior live oak, *Quercus wislizeni***

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*Origin: North America – California on upland slopes below 5,000' and in the Mexican state of Baja California*

An evergreen oak native to California and noted for its drought and heat tolerance. Can reach 70' but is usually shorter. Often as broad as they are tall and densely



branched. Leaves are leathery, elliptical, and up to 3 inches long. They can be smooth, toothed or spiny like a holly. On young trees, bark is smooth and light gray, becoming fissured and darker with age. Narrow acorns are cone-shaped and ¾ to 1 ½ inches long. They sit deeply in their cup and take up to two years to ripen. Many birds and animals eat the acorns and shelter in this tree. The trees survive in areas receiving as little as 15" of rain annually or up to 50".

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**maple, *Acer* spp.**

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*Origin: found across Europe, northern Africa and North America, with most species concentrated in Asia*

There are many species of maples and interspecific hybrids, as well as a dizzying array of cultivars. Use this description for trees identifiably in the *Acer* genus but where there is uncertainty as to which species it is. Maples were once placed in their own family, the Aceraceae, but botanists have reclassified them into the soapberry family, Sapindaceae, along with horsechestnuts and goldenrain trees. All maples are subject to a disease called verticillium wilt. Where trees have died of this disease, maples should not be planted.

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**monkey puzzle, *Araucaria araucana***

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*Origin: South America - Andes Mountains of Chile, Argentina*

This conifer is instantly recognized by its unique shape. The tree can grow up to 164' but rarely exceeds 80'. The branches are in horizontal whorls, producing a dense, evergreen dome. This is confined to the top of the tree as lower branches are shed. The overlapping leaves are glossy, dark green and ovate to 2" long and ¾" wide. They are rigid and viciously spined, completely obscuring the shoot. Bark is gray

and wrinkled. Flowers are 4" long, the males brown and females green-brown. The fruit is an ovoid brown cone up to 6" long. The cones disintegrate on the tree and shed the heavy edible seeds. This species grows in hill country and volcanic slopes up to 5,000' in Chile and Argentina. Monkey puzzle trees appeared in Portland at the turn of the 20th century, often brought by sailors traveling from South America. In 1905, many seedlings were given away at the Lewis & Clark centennial exposition. Large monkey puzzles in Portland are a result of these early distributions.

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**Norway maple, *Acer platanoides***

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*Origin: Europe - from Scandinavia and western Europe (but not the British Isles) east to Ukraine, Russia, Georgia, Armenia, Turkey and Iran*

Norway maple is a deciduous tree with a spherical to oval crown growing 40-70' tall. Like other maples, branching is opposite. Gray bark develops shallow vertical crevices, the coarse texture providing a place for moss to take hold. Leaves range from 4-7" wide with 5 to 7 lobes spreading from the center like fingers from a hand and each lobe coming to a point. Fruit is a winged seed, about 2" straight across. If you pull a leaf off the tree, a milky white sap emits from the leaf stem, unique to this species and bigleaf maple. There are many cultivars of Norway maple, with colors ranging from green (yellow in autumn) to reddish purple. Norway maple's hardy nature and strong shading capacity make it one of the most prevalent trees planted in urban environments. The tree's robust nature causes it to occasionally escape into natural habitats, shading out native woody species.

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**Oregon white oak, *Quercus garryana***

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*Origin: North America - southern British Columbia, Canada through Washington and Oregon west of the Cascades and northern California*

Oregon white oak is a deciduous tree growing up to 90' tall. Branches are dense and wide, with limbs of solitary trees reaching to the ground.



The leaves (3-6" long) are thick and shiny with rounded lobes. A distinguishing feature is the presence of galls on the underside of leaves or small twigs. The

galls are the home of little wasps that lay their eggs inside oak leaves. The fruit of the Oregon white oak is an acorn about 1" long that protrudes from a narrow cap. These trees prefer open grassland habitats where they cannot be shaded out by other species. Oregon white oak was once one of the predominant trees in the Willamette Valley, but has declined to only 1% of its original range due to land development for farms and cities, and a reduction in wildfires. The tree's nickname, Garry oak, is after Nicholas Garry, the secretary of Hudson's Bay Company who helped botanist David Douglas.

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**ornamental crabapple, *Malus* spp.**

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*Origin: distributed across the temperate zone of the Northern Hemisphere*

There are hundreds of crabapple varieties, cultivars and species, including Oregon's native *Malus fusca* (a small tree from 12-35' tall with pale pink buds opening to white flowers). Ornamental crabapples have flowers ranging from white to pink to rosy-purple. Some cultivars have purplish foliage. Crabapple fruits are most often red or purple but some varieties are gold. Common cultivars in Portland include 'Prairiefire,' 'Purple Prince,' 'Professor Sprenger' and the yellow-fruited 'Golden Raindrops.' Often plagued by powdery mildew, scab, cedar-apple rust, or fireblight. Look for disease-resistant varieties. These are short-lived trees.

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**Persian ironwood, *Parrotia persica***

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*Origin: Asia – Alborz Mountains of Iran, Talish Mountains of Azerbaijan and the Caucasus*

Native to Iran's Alborz Mountains, where it forms part of the lush Caspian-Hyrcanian forest, and the Caucasus. A deciduous tree, Persian ironwood grows 20' to 45' high and often spreads as wide. Leaves are dark green in color and veined. Fall color varies from pure yellow to shades of orange, red or purple; multiple colors are often on the same tree. Small red shaving-brush flowers without petals appear in late winter but aren't showy. Slow growing, Persian ironwoods have strong wood; their branches



rarely break in wind or ice storms. With age, patches of bark flake off, giving their trunks a lovely cream and gray mottling. Generally free from pests and diseases. Persian ironwood is in the same family as witch hazels. Rare in Portland before the 1990s, it has become a widely planted this century due to its drought tolerance, strong wood, lack of messy fruits and good fall color.

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**ponderosa pine, *Pinus ponderosa***

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*Origin: North America – from British Columbia, Canada south through the Northwest and other Western states east to Nebraska and south to northern Durango and Tamaulipas states in Mexico.*

Ponderosa pine is the most widely distributed pine in North America after lodgepole pine. In 1826 David Douglas first named the tree “ponderosa” after the ponderous or heavy wood. These evergreen trees grow up to 180' tall and may live 500 years or more in the wild. Needles are 5–10" long and grow in bundles of three. Cones are egg-shaped at 3–5" long. As ponderosa pines age, their bark turns from a dark brown to a yellow or orange hue, giving older trees the nickname “yellow bellies” or “punkins.” For a sweet surprise, cuddle up with a yellow belly and smell the cracks in the bark—it's reminiscent of baking cookies with sweet tones of vanilla and butterscotch. Lumber is valued for light construction and millwork. Native Americans who lived near ponderosa pines had many medicinal uses for the tree. Some Native Americans also used the roots of ponderosa pine to make a blue dye. The seeds are consumed by a wide range of birds and by chipmunks and squirrels.



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**red maple, *Acer rubrum***

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*Origin: North America – eastern Canada, eastern USA from Minnesota to Maine south to Florida and east Texas*

In urban environments, red maple is a fast grower up to 40', but in the wild it may reach three times that height. It has a roundish to diamond-shaped crown.

Bark is smooth, luminous gray with patterned lines, and furrowed when old. New twigs are shiny, reddish, and have white flecks. Leaves are opposite, 3–5" long with three major lobes, turning brilliant red, orange-red or yellow in the fall. The tree explodes into deep red flowers before the leaves emerge in spring. Fruit is a double-winged samara, joined at an angle usually larger than 45 degrees with bulbous seeds which are reddish at first and brown when ripe in the summer. Red maple is toxic to horses, and the alluring scarlet leaves cause massive destruction of horses' red blood cells when ingested. Trees adapt to local conditions and over generations, northern trees have become more cold-tolerant while southern trees have become more heat-tolerant. Neither is very drought tolerant.

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**willow oak, *Quercus phellos***

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*Origin: North America - New Jersey south to the panhandle of Florida and west to eastern Texas*

Deciduous oak usually reaching 40 to 50 feet but capable of exceeding 100 feet on good soil.

In forests it tends to grow straight with a full, symmetrical crown. Often found on poorly drained bottomlands and along streams, it can tolerate wetter soils than many oaks. Grows faster than many oaks, making it a popular street tree in the eastern U.S., although uncommon in Portland due to its rather disappointing fall color (some leaves turn yellow while others are still green, leading to a subdued display). Leaves are long, thin and unlobed, leading to



the tree's common name of willow oak. Bark is usually smooth and gray, although on very old trees it can be nearly black and broken into irregular plates by narrow fissures. A member of the red oak group.

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**Wintergreen umbrella pine,**  
*Sciadopitys verticillata* 'Wintergreen'

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*Origin: Asia - A relict species restricted to the islands of Honsbu and Kyushu in Japan.*

An evergreen conifer with distinctive dark green needles in whorls from the main trunk and branches. Slowly grows 30' to 40' (in the wild they can reach up to 120'). Wintergreen was selected by Sidney Waxman at the University of Connecticut because the thick needles remain green in winter rather than turning a bronze, yellow-green color. Tidy, conical growth form. Cones 2" to 4". Difficulty in propagating and very slow growth keeps the tree rare in cultivation. Fossil cones, needles and pollen of *Sciadopitys* dating back more than 200 million years have been found. Much of the amber around the Baltic was from resin flowing from umbrella pines millions of years ago. Over time, it became extinct in Europe and elsewhere, becoming restricted to moist mixed forests in Japan. The tree is considered near-threatened due to forests where it grows being replanted to monocultures of Japanese cedar. The white wood is durable, water resistant and fragrant. It was introduced to the West in 1860.



