

Downtown Juneau Tree Guide



The Juneau Urban Forestry Partnership



2006

Introduction

This publication was developed by the Juneau Urban Forestry Partnership (JUFP) as an aid for residents and visitors to identify and deepen their appreciation for the trees that grow in our community. The Juneau downtown area was selected as the focus of this publication because of its diversity of tree species and its small area making most of the trees listed within a short walking distance of one another.

This publication is intended to be a companion to the JUFP's 'Downtown Juneau Tree Walk Brochure' that lists the locations of twenty of downtown Juneau's most significant native and ornamental trees. This guide provides additional information not found in the brochure and also provides information for residents on tree varieties that are appropriate for growing in Juneau.

Juneau has hundreds of outstanding tree varieties and it would be very difficult to list every cultivar found in our community. This guide highlights 40 of the tree species found in downtown Juneau and throughout our community. This guide was developed for the general public to gain a better understanding of the trees in Juneau and their characteristics. Additional information on the species listed, including botanical keys, can be found in the references listed in the bibliography of this publication. This publication uses the current scientific names listed in the USDA Plants online database.

The JUFP is a non-profit group that was formed to promote the development of an urban forestry program for our city. As part of this effort, we promote greater appreciation of the trees in our community through education. We are continually striving to update and improve our tree information and we welcome your comments and questions. You may contact us at:

Juneau Urban Forestry Partnership
5820 North Douglas Highway, Juneau , Alaska 99801
email: juneautrees@yahoo.com

The JUFP is comprised of Juneau citizens with an interest in trees in the Capital City and open to all members of the public. Membership information is available at the addresses above.

All images included in the guide were taken in the Juneau area with the exception of the Horse chestnut. Title page image: Vine maple at Centennial Hall in early summer.

Copyright 2006

Text in this publication is copyrighted by the Juneau Urban Forestry Partnership Inc. Images in this publication are copyrighted by Jeff Barnard. This publication may be reproduced for educational purposes by nonprofit organizations with the permission of the copyright holders.

Section One: The Conifers

Cone bearing needle or scale leaved trees and shrubs. About 600-650 species worldwide. Both evergreen and deciduous types in this group. Lacking true flowers, pollen is borne in catkin like structures, which are sometimes on separate trees from the female cones.

Genus Abies: The Firs

Pine family. About 40 species worldwide. Found in the cool, moist, mountainous parts of the northern hemisphere. Evergreen trees that have a narrow, conical form with short, blunt needles and barrel shaped cones that stand erect on the branches. Valued as ornamental trees, lumber, and as Christmas trees.

***Abies lasiocarpa* Subalpine Fir**

Size and Form: A medium to large evergreen tree. Has a dense, narrow, spire-like crown with rows of short, flat, horizontal branches.

Needles are stiff, pointed, blue-green, 0.75- 1 inch long and grow in an upswept “hockey stick” curve with whitish lines on the upper and lower surfaces.

Bark is gray, thin, and smooth with resin blisters on young trees.

Cones are dark purple with fine hairs, barrel shaped, 2 ½ - 4 inches long at maturity and stand upright on the highest branches. Seeds have long wings.

Habitat: Grows mainly in the subalpine zones of the mountains throughout the central Yukon and Southeast Alaska. Can be grown as an ornamental tree at sea level. Tolerates a variety of soil types and is somewhat shade tolerant.

Notes: Can be found on the slopes above the Perseverance Trail and downtown Juneau. The smallest of the western firs, a common tree in central B.C. and into the Yukon. Needles remain on the trees up to 20 years.

Pictured: Typical branches with young cones, early summer.

Genus Cupressus: The False Cypresses

Members of the Cypress family. Coniferous evergreen trees and shrubs with fine, scaly foliage. Six species and hundreds of ornamental cultivars in the genus. Differs from the true Cypresses in that the foliage sprays are flattened and the cones are smaller.

***Cupressus nootkatensis* Alaska Yellow Cedar**

Size and Form: A medium sized evergreen tree that grows to 70 feet in the wild but only half that height under cultivation. Branches tend to droop with hanging leaves creating a conical habit.

Needles: Are evergreen, pointed, flat and scale-like with a dark bluish green color and a length of 0.25 inches. They create a frond like appearance and have an opposite arrangement. Foliage emits an unpleasant resinous odor when crushed.

Flowers: includes individual male and female flowers borne on the terminal portion of lateral branches. Male flowers are yellow and produced in great mass while female flowers are small and inconspicuous.

Cones are small, usually less than 0.5 inches long, with a round shape with 4-6 sets of scales and a waxy covering. Cones mature in the second year.

Bark is reddish brown that sheds in long strips.

Habitat: Native range is from Northern California to Prince William Sound. Prefers cool, moist environments with rich, moist, well drained soils and full sun but protected from drying winter winds. Often found growing in poor sites, in thin, nutrient deficient soils over bedrock due to competition from faster growing conifers. In Alaska grows from sea level to the tree line. One of the slowest growing conifers. Valued for its rot resistant lumber and as an ornamental.

Notes: A common landscape cultivar is 'Pendula' with more pronounced drooping leaves and branches. *C. obtuse* (Hinoki False Cypress) is a related variety from Japan that has many cultivars in the landscape trade, many of which are dwarf varieties. Pictured: A close-up of the end of a branch.

Genus Larix: The Larches

Members of the Pine family. 10- 12 species of deciduous, coniferous shrubs and trees. Have 10-60 needles in clusters on short spurs from the branch. Native to the boreal forests of the northern hemisphere.

***Larix* species**

Larch species

Size and Form A small to medium sized deciduous conifer. Pyramidal in shape with branches that spread irregularly.

Needles emerge in tufts on small spurs from the branch. They emerge in the spring a bright green, darken over the summer. They turn golden yellow in the fall, then drop.

Cones: Have small cones that are upright on the branches, are green or purple turning brown in the fall.

Bark: The bark on young trees is gray, turning a dark reddish brown and scaly with age.

Habitat: A pioneer tree, it does not tolerate shade. Not tolerant of heat or drought. Favors moist, well-drained acidic, organic soil, but will tolerate wetter soils. Has a slow to moderate growth rate.

Notes: Native species are widely distributed from Northern New England and the Great Lakes to interior Alaska as part of the northern Boreal forest.

Pictured: Newly emerged spring foliage.

Genus Picea: The Spruces

Members of the Pine family. About 40 species worldwide. Spruce are tall, narrow, evergreen trees native to the cooler parts of the northern hemisphere. Great within species variation makes identification difficult. Where species range overlap, intermediate forms may exist. Cones are probably the most reliable identification feature. Valued as ornamentals and for their lumber.

Picea abies

Norway Spruce

Size and Form: A large evergreen tree. Pyramidal with drooping branches.

Needles: are straight and stiff, to 1 inch long, Branches are dark green on both the top and bottom.

Flowers: has pink female flowers at the end of the branches.

Cones: light brown, long and narrow, to 7 inches long with a tapered tip.

Bark: is reddish brown, becoming dark purplish brown with small scales as the tree ages.

Habitat: Grows in a variety of soils, but prefers moist, sandy, acid, well-drained soil. Somewhat shade tolerant.

Notes: Commonly used in reforestation in Eastern Canada and the Northeast U.S. Native to upland sites in Europe and Asia. Over 100 ornamental cultivars available.

Pictured: Branches in early spring with a fallen cone for reference.

Picea pungens **Blue Spruce**

Size and Form A medium sized evergreen tree. Has a dense, narrow, conical shape which opens with age. Stiff horizontal branches to the ground.

Needles spreading more or less all around the stem, more crowded above, stiff, stout, very prickly, 3/4- 1 1/4 inches long, 4-sided with 6 stomatal lines on each side. Foliage color is some variation of bluish-silver-green.

Flowers are pinkish-red.

Cones are cylindrical, pointed at each end, up to 5 inches long. Scales are wavy. Cone tip is blunt and jagged looking because of wavy scale margins.

Bark is gray brown color, breaking into coarse plates.

Habitat: Slow growing. Can grow quite large. Prefers full sun, adaptable to most soil types. This species is native to the Central and Southern Rocky Mountains: Colorado, Wyoming to New Mexico from 6-10,000 ft..

Notes: The most drought tolerant of the spruces. Valued as an ornamental for its outstanding color. The glauca ornamental cultivar was selected from the species.

Pictured: foliage of a young tree in summer.

Picea sitchensis **Sitka Spruce**

Size and Form: A large evergreen tree. Broadly conical with thin, horizontally spreading branches.

Needles are spined at the tip making the foliage prickly. Glossy green above, silvery-white below due to two white stomatal lines.

Flowers usually red or pinkish green, about 1 – 1.5 inches long.

Cones are cylindrical-oblong with wavy edged scales, 2- 4 inches long, hanging down from branches.

Bark is gray, smooth, and thin, becoming purplish-brown with scaly plates when older.

Habitat: Prefers full sun and a moist to wet, sandy soil and cool, moist air (e.g., the coastal fog belt). Found along the Pacific Coast from Northern California to Prince William Sound.

Notes: The state tree of Alaska. The largest of the spruces.

Pictured: Fall picture with nearly mature cones.

Genus Pinus

Pine family. About 95 species of trees and shrubs, almost all from the northern hemisphere. Pines are widely distributed, adaptable, ecologically and economically important. Valued as ornamentals for their ability to grow in poor conditions. The genus contains two broad categories: The soft or white pines often have 5 bluish- green needles per bundle. Twigs are smooth. The hard or red, black, and pitch pines often have 2 or 3 green or yellow- green needles per bundle. Twigs are ridged and furrowed.

Pinus contorta var. contorta **Shore Pine**

Size and Form: A medium to large evergreen tree. Usually grows tall and slender.

Needles in bundles of two. Needles are relatively long and stiff, 1- 2 1/4 inches long.

Cones: Has heavy, egg shaped cones, 3/4- 2 inches long.

Bark is gray to dark brown, thick and rough. Blobs of pitch often visible on the trunk.

Habitat: Commonly found on peat bogs or muskegs or dry, sandy, or gravelly sites. Prefers moist soils, but can tolerate low soil moisture and low soil nutrients. Grows in full sun. The only pine native to Alaska.

Notes: Same species as the Lodgepole pine, a widely distributed tree in the western U.S., Lodgepole Pine are a different variety (*Pinus contorta var. latifolia*).

Pictured: Tree in midwinter with immature cone.

Pinus nigra **Austrian Pine**

Size and Form: A medium to large evergreen tree. Dense pyramidal shape when young, becoming flat topped when older.

Needles in bundles of two and dark green. Needles are stiff and sharp, 3- 5.5 inches long.

Cones are shiny yellow-brown, oval or conical and 2 - 3 inches long by 2 inches wide.

Bark on mature trees is grey-brown to silver, thick, irregular, with deep furrows.

Habitat: Prefers well-drained soil but adapts to most soil types. Requires full sun. Native to central and southern Europe

Notes: One of the earliest tree introductions to the U.S., first reported in 1759. Reported to have become naturalized in parts of New England and the Great Lake states.

Pictured: Specimen in winter.

Pinus parviflora
Japanese White Pine

Size and Form: A small to medium evergreen tree. Young trees conical. Older trees flat topped.

Needles in bundles of 5, 1.5- 2.5 inches long, stiff and twisted, with a bluish green color.

Flowers are small yellow-green in clusters.

Cones are brownish-red, 1-1/2 to 4 inches long. Can remain on the tree several years.

Bark: Smooth, gray bark when young. Becomes dark gray and scaly when older.

Habitat: Prefers full sun. Tolerant of a wide range of soil types. Salt tolerant. Fairly slow growing. Native to Japan.

Pictured: Specimen in late fall with a mature cone.

Genus Thuja: The Arbor Vitaes and Cedars

Members of the Cypress Family. Six species in the genus. Many important ornamental cultivars in this genus. The arbor vites include some commonly used ornamental shrubs of many sizes, shapes, and colors.

Thuja plicata
Western Red Cedar

Size and Form: A large evergreen tree. Often has a conical form. Often buttressed at the base.

Needles: Has fern-like branches, with shiny yellow-green scale-like needles. Foliage may discolor to yellow-green or brown in the winter. Foliage emits a cedar smell when crushed.

Cones: Has small woody oval cones less than an inch long with a point on the end. Stand erect on the branches.

Bark is red-brown, thin and shiny when young, older bark is grayish, fibrous, furrowed into narrow strips.

Habitat: An introduced ornamental Prefers full sun and moist organic soils. Native range from Southern Oregon to southern Southeast Alaska.

Notes: Highly valued for its high quality lumber. The provincial tree of British Columbia. The only member of the genus native to North America.

Pictured: Branch tip of a young tree in summer.

Genus Tsuga: The hemlocks

Members of the Pine family. Needles are short, blunt, usually not stiff. Have small cones. The leader typically droops. Commonly found in cool, damp, forested locations. About 10 species worldwide. Valued as ornamental trees and as lumber.

Tsuga heterophylla
Western Hemlock

Size and Form: A large evergreen tree. Has a narrow crown, down sweeping branches, and a noticeably drooping leading shoot.

Needles are short, flat and soft, of unequal length. Needles lie along the branch in a single plane.

Cones are oval, less than an inch long and golden brown.

Bark is reddish brown, smooth when young. Scaly and deeply furrowed in older trees. Wood is not particularly strong. May lose branches in winter storms.

Habitat: Native to the coastal forests of the Pacific Northwest to Southeast Alaska. Commonly found at low to mid elevations. Favors damp, organic soils. Tolerates shaded locations. Commonly the climax dominant species in Southeast Alaskan forests.

Pictured: Late fall branch with immature cones.

Tsuga mertensiana **Mountain Hemlock**

Size and Form: A medium to large evergreen tree. Commonly stunted at higher elevations or near muskegs. Has down sweeping branches that sweep upward at the tips. Leader droops slightly.

Needles are short, flat and soft, of equal length. Needles arranged radially on the branch.

Cones are oblong, 2-3 inches in length.

Bark is dark reddish-brown, rough and scaly, deeply furrowed in older trees.

Habitat: Commonly found at higher elevations and near muskegs. Favors damp, moist, organic soils. Ranges from the Sierra Nevada in Northern California to Cook Inlet.

Notes: Has the largest cones of the Hemlocks. Can reach over 800 years in age. Less shade tolerant than the Western Hemlock.

Pictured: Winter tree-top with cones.

Section Two: Broadleaf Trees

Deciduous and evergreen trees. Seeds are borne in fruits or nuts.

Genus Acer: The Maples

Maple family. About 124 species worldwide. A large genus of highly variable form (small shrubs to large trees) that are widely distributed. All have opposite leaves and winged seeds (samaras). Certainly the single most important genera of trees to the horticulture industry.

***Acer campestre* Hedge Maple**

Size and Form: A small to medium sized tree. Round crown, densely branched.

Leaves have 3 or 5 blunt lobes. Leaves are 2- 4 inches wide. Dull green. Fall leaf color is yellow to red and orange.

Flowers: Has small yellow-green flowers.

Bark is grayish black with shallow ridges and furrows.

Habitat: Tolerates many soil types. Tolerates soil compaction and urban conditions. Can be heavily pruned. Native to Europe, North Africa, and the Near East

Pictured: Early summer foliage with flowers.

***Acer circinatum* Vine Maple**

Size and Form: A shrub or small deciduous tree.

Leaves: Has opposite, 5, 7 or 9 lobed leaves, nearly round, a soft green color. Yellow or red fall colors.

Flowers: Has small purple and white flowers.

Seeds: Samaras are 1 ½ inches long, green and red in color.

Bark: Has thin smooth greenish-gray bark. Becomes reddish-brown as the tree ages.

Habitat: Prefers moist soils and shady locations but tolerates full sun. Usually an understory shrub. Native range from Northern California to British Columbia along streams and in moist forests.

Notes: One of the most useful Pacific Northwest native trees as an ornamental.

Pictured: Early summer foliage with flowers.

***Acer glabrum var. douglasii* Douglas Maple**

Size and Form: A small tree or deciduous shrub.

Leaves are 3 or 5 lobed, with the center lobe the longest. Coarsely double toothed. Has shiny green summer foliage. Yellow in the fall.

Flowers are yellow-green.

Seeds: Samaras are red.

Bark: Smooth reddish brown bark. Twigs are red.

Habitat: Grows as an understory tree in its native range. Prefers partial shade, and moist well-drained soil. Native range is from British Columbia to Southeast Alaska and through the western U.S.

Pictured: Early summer foliage with flower.

Acer japonicum **Fullmoon Maple**

Size and Form: A small tree or shrub. Rounded or vase shaped shape when young, becomes irregular with age.

Leaves are nearly round, have 7-11 lobes, 3-6 inches across, a soft green color. Foliage is usually very showy. Has brilliant yellow or more commonly brilliant red or gold fall color.

Flowers: Small purplish red flowers in clusters.

Bark: Smooth gray bark. Quite attractive.

Habitat: Grows in full sun to partial shade. Grows as an understory tree in its native range. Prefers moist, well-drained organic, acidic soil. Native to Japan, Korea, and Manchuria.

Notes: Difficult to distinguish twigs and bark from *A. palmatum*. Has a slow growth rate.

No picture available.

Acer palmatum **Japanese Maple**

Size and Form: A small tree or shrub. Often multi-stemmed. Rounded to irregular shape. Crown often wider than tall.

Leaves are 2- 5 inches long. Medium green color. Have 5-9 lobes. Double toothed. Fall color is a showy red, yellow, orange, or purple.

Flowers: Small red or purple flowers.

Seeds: Samaras are reddish tinged green or all green.

Habitat: Grows in full sun to partial shade. Grows as an understory tree in its native range. Prefers moist well-drained organic, acidic soil. Has a slow growth rate. Native to Japan, China, and Korea.

Notes: Hundreds of ornamental cultivars available.

Pictured: Foliage in fall.

Acer platanoides **Norway Maple**

Size and Form: A medium to large deciduous tree. Has a rounded crown, densely branched. Nearly as wide as tall.

Leaves: Has opposite, 5-7 lobed leaves, 4 to 6 inches across. The species type and some ornamental varieties have dark green summer leaf color and yellow or orange fall color. Other ornamental varieties in summer develop a dark maroon, purple, or bronze leaf color. Many fall leaf colors available.

Flowers: Has small yellow green flowers in the spring.

Seeds: Samaras are 1.5- 2 inches long, change from a green to tan color during the summer.

Bark is very dark gray, covered with shallow ridges and furrows.

Habitat: Prefers full sun. Tolerates many soil types. Native to Europe

Notes: This is the most common maple planted in Juneau. Many ornamental cultivars available. Has become naturalized in New England and is considered an invasive species there.

Pictured: Foliage in early summer with flowers. **Also Pictured:** a red leaf cultivar, midsummer.

Acer rubrum **Red Maple**

Size and Form: A medium to large deciduous tree. Has a rounded or upright oval appearance when mature.

Leaves: Has opposite, 3 or 5 lobed leaves, 2-4 inches long, medium green color. Smaller than Norway maple leaves. Yellow to bright red fall color.

Flowers: Has small red-green flowers in the early spring before the leaves appear.

Seeds: Samaras are 0.75 of an inch long, reddish-tan in color.

Bark is smooth and light grey when young, scaly dark grey-brown when older.

Habitat: Prefers sun and wet soils but tolerates a variety of soil types and some shade. Fast growing. In the wild often found in wet areas in partial shade. Native to the eastern U S and southern Canada.

Notes: Often used as a shade or street tree.

Pictured: Summer foliage.

Genus *Aesculus* The Horse Chestnuts or Buckeyes

Horse Chestnut family. About 15 species from Southeast Europe, Asia, and North America. Have large nut like seeds. Leaves are in opposite pairs of 3-11 large leaflets. Valued as ornamentals.

Aesculus hippocastanum **Horsechestnut or Common Horsechestnut**

Size and Form: A medium to large deciduous tree. Has an oval to rounded form. Lower branches hang down with branch tips turning upward.

Leaves are dark green, opposite, palmately compound, usually 7 but sometimes 5 leaflets, each 4-10 inches long, held on the tree late into the fall. Veins are impressed in the leaflets making them appear corrugated. Yellow/gold/scarlet in autumn.

Flowers are white and in tall spiked clusters of up to 100, sometimes with a bit of yellow and red at base. The spiked clusters are up to 12 inches high.

Nuts have hard spines 2-2.5 inches across. They split in October to release one or two shiny brown “conkers.”

Bark is dark reddish or grayish brown and splits into large plates.

Habitat: Prefers moist well-drained soil and full sun. Can grow quite broad. Native to Northern Greece and the Balkans.

Notes: There are only a few of these in Juneau’s gardens. All parts of the tree, particularly the nuts, are poisonous to people.

Pictured: Summer foliage with flowers.

Genus *Alnus*: The Alders

Members of the Birch family. About 30 Alder species worldwide. Seeds are contained in small cones. Leaves are oval and toothed. Not highly valued as ornamentals, but important ecologically as some of the few trees that fix their own nitrogen from the atmosphere and for their fast growth on poor sites.

***Alnus rubra* Red Alder**

Size and Form: A medium sized deciduous tree, to 65 feet with a narrow, pyramidal top and pendulous branches.

Leaves are broad, oval, 2-6 inches long, dark green, and often have wavy rolled-over edges with coarse rounded teeth. Leaves mostly green when they drop in the fall.

Fruit is a cone-like structure, 0.5-1 inch long, containing tiny samaras.

Bark is thin, smooth and gray, often covered with whitish lichens.

Habitat: Prefers sunlight and moist soil. Grows at low elevations on stream banks, beach fringes. Found throughout Southeast Alaska and in coastal areas down to Oregon. Often found in disturbed sites. Not shade tolerant.

Pictured: Leaves from late summer.

***Alnus viridis sinuata* Sitka Alder**

Size and Form: A large shrub or small multi-stemmed, deciduous tree.

Leaves: Oval shaped leaves are 2-5 inches long, shiny. Leaf edges are irregularly saw-toothed and not rolled over. Leaves mostly green when they drop in the fall.

Fruits: are cone-like structures 0.5- 0.75 inches long that contain tiny samaras.

Bark is gray, thin and smooth, somewhat birch-like but not peeling.

Habitat: Prefers full sun. Often found in cool, moist sites that are frequently disturbed. Found from sea level to above tree line in avalanche chutes, landslide areas, stream banks and forest edges throughout southeast Alaska. Ranges from Southeast Alaska down to Washington state from the coast to the Rocky mountains.

Notes:

Pictured: Leaves in late summer.

Genus Amelanchier: The Serviceberries

Members of the Rose family. About 16 species native to North America. All hybridize freely. Deciduous shrubs and small trees valued as ornamentals. Have alternate leaves. Fruit is edible.

Amelanchier canadensis

Canadian Serviceberry or Shadblow

Size and Form: A multi-stemmed large shrub or small tree to 20 feet with a rounded crown.

Leaves are oval, 1.5- 2.5 inches long with a dark green color. Toothed leaf margins. Has gold fall color. Leaves drop early.

Flowers: Has small white flowers in racemes 2-4 inches long. Quite showy but short-lived.

Fruit: Has an edible red fruit that changes to black.

Bark: Smooth grayish silver bark.

Habitat: Native to the Atlantic coast from southern Canada to Georgia. Commonly found in wet sites and lowlands. Prefers full sun and rich moist to wet soils. Many ornamental cultivars of this species.

Notes:

Pictured: Foliage in late summer. **Also pictured:** spring flowers and foliage of *A. grandiflora* (Apple Serviceberry) 'Autumn Brilliance'. One of the better ornamental varieties available.

Amelanchier interior

Pacific Serviceberry

Size and Form: A multi-stemmed shrub or small tree

Leaves: Oval to almost round, 1- 2 inches long. Coarsely toothed, with distinct veins. Fall color is a plain yellow

Flowers are small and white, with 5 petals in erect clusters.

Fruit: Has large fruit, dark purple to black with whitish dusting.

Bark: Brown to gray, fairly smooth.

Habitat: Native to the Pacific Northwest and North Central North America.

Pictured: Foliage in late summer with fruit.

Genus Betula: The Birches

Members of the Birch family. About 50 species worldwide, 12 native to North America. Small to medium sized trees. Closely related to the beech/oak family, Fagaceae. Have simple leaves which may be toothed or lobed. Male flowers and seeds are contained in long catkins. Have a distinctive thin bark with long horizontal lenticels. Valued as ornamentals and as timber. Favor cool damp climates. Birches freely hybridize, making identification difficult.

Betula papyrifera

Paper Birch

Size and Form: A medium to large deciduous tree, 40-70 ft, loosely pyramidal when young. Older trees become oval to rounded, with increasing irregularity in shape.

Leaves are simple, alternate, 2-4 inches long, rounded or sometimes wedge shaped, often with a pointed tip, coarsely and finely toothed, and dark green. Bright yellow in the fall.

Flowers: The male flowers (pollen catkins) are 1 inch long, usually in 3's but sometimes in pairs. Female catkins are 1-1.5 inches long. Bloom in early spring.

Fruits or seed catkins, 1- 1.5 inches long. Shed seed in the fall. The seed is winged.

Bark on young branches is smooth, reddish-brown with horizontal lenticels becoming papery, chalky-white after about 4 seasons. Bark exfoliates or peels in strips to expose orange inner bark. On very mature trunks, the white is mixed with rough, black patches.

Habitat: Prefers cool climates, full sun and rich, very moist soils. Relatively fast growing.

Notes: The most widely distributed (east to west) of all North American birches. It ranges from Labrador to Alaska, south into the Northern Rocky Mountains, the northern plains states and Pennsylvania. The North American native birches have sustained large population declines over large areas of their ranges called Birch decline. The cause is unknown. Does not perform well as a street tree. Leaves are susceptible to insect pests. The subspecies native to our region can be seen at the overlook near Snowslide Gulch on the Perseverance Trail.

Pictured: Early summer foliage with catkin.

Betula pendula **European White Birch**

Size and Form: A medium to large deciduous tree, 40-100 ft. Has a pyramidal form when young, becoming rounded and graceful when mature.

Leaves are alternate, simple, 1- 3 inches long by 0.75- 1.5 inches wide, sharply and finely toothed, tapered to the tip. More triangular than paper birch. Leaves have a dark green summer color becoming yellow in fall.

Flowers in April, male catkins mostly in pairs, but sometimes singly or in three's, 1.5 – 3.5 inches long, female catkins 0.75- 1.25 inches long.

Fruits are small nutlets held in cylindrical catkins.

Bark is whitish, does not peel as easily as other birches. With age, trunk becomes mostly black.

Habitat: Prefers full sun and moist soils. Not tolerant of heat or drought. Native to Europe and some high altitude parts of Asia.

Notes: The most commonly planted birch in North America.

Pictured: Summer foliage.

Genus Carpinus: The Hornbeams

Hornbeam family. About 30 species in the genus. Deciduous trees and shrubs from the northern hemisphere. Have alternate, simple, toothed leaves. Males and female flowers bloom in separate catkins. Has winged seeds that are borne in clusters

Carpinus betulus **European Hornbeam**

Size and Form: A medium sized deciduous tree. Pyramidal or oval when young, broad and round when mature.

Leaves are alternate, 2- 5 inches long, sharply and finely toothed. Heavily textured with deep veins. Somewhat similar appearance to Beech leaves. In summer leaves are dark green. In fall leaves are yellow or yellow-green. Brown leaves may persist on the tree into the winter.

Seeds: Has brown, three-pronged winged seeds.

Bark: Has smooth, gray bark.

Habitat: Prefers full sun, but tolerant of light shade. Tolerates a wide range of soil types as long as they are well drained. Native to Europe and Southwest Asia

Notes: Tree is long-lived, tolerant of pruning. It makes a good urban or street tree. Can be pruned as a hedge.

No picture available.

Genus Crataegus: The Hawthorns

Members of the Rose family. Shrubs and small trees that produce small fruits called haws. Nearly all have thorny branches. Leaves small and jaggedly lobed. Have 5-petaled flowers in clusters. Many species and varieties available as ornamentals. Like many rose family members, they can be susceptible to a wide range of insect and disease problems.

***Crataegus* species The Hawthorns**

Size and Form: Commonly a small deciduous tree to 15 feet with an equal spread. Has a low branching, round form.

Leaves are alternate, simple with 3- 5 rounded lobes. Leaves are approximately 2 inches long and nearly as wide with a dark green color

Flowers are typically white but cultivars include red, rose and pink and include double flowering varieties making hawthorns a preferred flowering tree. Flowers are 5/8 inches in diameter and borne in clusters of 5-12 in early June.

Fruit is scarlet red and less than 0.5 inch in diameter. Fruit matures in September and can persist through winter.

Bark is gray brown with furrowed texture. Hawthorn branches have thorns up to 1 inch long.

Habitat: Prefer full sun, tolerant of a wide array of soil types and pH but need well drained soils.

Notes: All hawthorns tend to tip over when mature due to wet soils and declining root systems. Leaves are susceptible to hawthorn leaf blight causing spotting and premature dropping of leaves in August.

The *C. laevigata* (English Hawthorn) variety 'Paul's Scarlet' with rose-like double red flowers is the most common local cultivar. It is very susceptible to leaf blight in the wet Juneau climate but it is beautiful for the two weeks it is in bloom. Native to Europe.

Other common species of hawthorn include *C. cus-galli* (Cockspur Hawthorn) with 3 inch long simple leaves, white flowers, red fall leaves and 2 inch long thorns. Native to eastern North America.

C. phaenopyrum (Washington Hawthorn) has leaves with 3-5 lobes, white flowers, 2" thorns and orange autumn color. Native to the Southeast U.S.

Pictured: Pauls Scarlet Hawthorn in flower early summer.

Also: Washington Hawthorn with flowers in early summer.

Genus Fagus: The Beeches

Beech family. 10 species from the northern hemisphere belong to the genus. Large deciduous trees. Grown for their shade, lumber, and ornamental value. Often the dominant trees in the forests where they occur.

***Fagus sylvatica* European Beech**

Size and Form: A medium to large deciduous tree. Form is pyramidal to oval, with a short, thick trunk sometimes 6-8 ft across. Branches often touch the ground.

Leaves are oval and pointed, 2-4 inches long, dark green above, light green beneath. Have a corrugated appearance. Reddish-bronze in fall. Leaves tend to persist on the tree into the winter.

Nut: The beechnut is a hard, woody, tan-brown nut, 5/8 inch long, triangular, usually two beechnuts are enclosed by a four lobed husk (1 inch long) covered with bristles. Beechnuts are edible but rarely eaten.

Bark is smooth and gray, developing an elephant hide appearance on older trunks.

Habitat: Prefers full sun to partial shade and moist well-drained acidic soil. Have a slow growth rate. Does poorly in wet soils. Native to Europe.

Notes: Trees are long lived. Can be magnificent landscape specimens. Have been cultivated in North America since at least the 1750's.

Pictured: Leaves in late summer.

Genus Fraxinus: The Ashes

Members of the Olive family. 60-70 species of mostly deciduous trees and shrubs. Native to the temperate regions. Grown for their shade and ornamental value. Have opposite compound leaves.

***Fraxinus pennsylvanica* Green Ash**

Size and Form: A medium to large deciduous tree. Crown is narrowly pyramidal.

Leaves are compound, having 5-9 leaflets, up to 12 inches long with smooth or toothed margins. The fall leaf color is yellow.

Flowers: Flowers are green and inconspicuous.

Fruit is a tan samara about 2 inches long found in clusters.

Habitat: Prefers full sun and moist, rich deep soils for best growth. Native to Central and Eastern North America.

Notes: Cultivated throughout North America as a street tree. Relatively fast growing. Female trees produce lots of seedfall. The wood is relatively weak; there is a risk of winter storm damage.

Pictured: Leaves in early summer.

Genus Malus: The Apples and Crabapples

Members of the Rose family. Deciduous trees and shrubs. Over 500 cultivars and species of the apples and crabapples are available. Cultivated since ancient times, they are highly valued as

ornamentals and for their fruit production. Fruit smaller than 2 inches in diameter is known as a crabapple.

Genus Malus

The Apples and Crabapples

Size and Form: a small flowering deciduous tree from 15 to 25 feet tall. Often have a rounded form but the multitude of cultivars include most any size and form.

Leaves are typically simple and 3 inches long with a medium green color however the variety of cultivars offer purple, red, dark green, light green leaves and a range of leaf sizes. Typically have no or little fall color but a small group does have some coloration.

Flowers are typically 1.5 inches in diameter white single flowers with 5 petals; however, there are cultivars with every color ranging from pink, rose, red and all colors in between. Cultivars can include double flowering, fragrant and profuse bloomers with flowers larger than 2 inches in diameter.

Fruit: Crabapple fruit typically is 1 inch in diameter or less and changes color from green to red and matures in late summer. Cultivars with fruit from 0.25 inch to just less than 2 inches and in colors ranging from yellow, orange and red are available. Some cultivars have fruit that persist through the winter.

Bark is a shiny gray-brown that becomes scaly with age.

Habitat: Prefers moist, well-drained acid soils with full sun for best flowering and fruiting.

Notes: An introduced ornamental, Malus are extremely susceptible to scab, rust, fire blight, leaf spot and powdery mildew due to the wet climate of Southeast Alaska. The Malus native to our region, *M. fusca*, (Pacific crab apple) is commonly found near streams, wet forests, and Muskegs. Fruit larger than 2 inches (apples) can be grown in Juneau but require careful variety and growing site selection. Crabapples freely cross pollinate to create new hybrids. Some of the most popular crabapple ornamental cultivars include 'Dolgo', 'Donald Wyman', 'Floribunda', 'Profusion', 'Sargentii' and 'Snowdrift'.

Pictured: Fall foliage and fruit of "pink spires".

Also pictured: Early summer foliage and flowers of "snowdrift".

Genus Populus: The Aspens, Cottonwoods, and Poplars

Members of the Willow family. 30 to 40 species of deciduous trees. Most native to the temperate Northern Hemisphere. Valued for their fast growth, light wood, and for wildlife habitat, and as ornamentals. Relatively short-lived. Identification in this genus is difficult.

Populus balsamifera trichocarpa

Black Cottonwood

Size and Form: A large deciduous tree. Grow to 120 feet with an open crown of erect branches.

Leaves are 3-6 inches long, 2-4 inches wide, broad at the base, narrowing to pointed tip; shiny dark green, whitish underneath with patches of brown resin. Fall leaves are yellow.

Seeds: are covered with white fluffy hairs. They are contained within catkins.

Bark is gray and smooth when young, becoming dark and deeply furrowed when older.

Habitat: Prefers full sun. Grows in moist to wet soils along rivers and on disturbed upland sites. Native range is along the mainland coast from the Pacific Northwest to Southeast Alaska.

Notes: Large specimens can be seen near Gold Creek at the end of Basin Road and near the beginning of the Perseverance Trail. A favorite food of Beaver and Porcupine. This species is the largest broadleaf tree in Alaska.

Pictured: Early summer foliage.

Genus Prunus: The Plums, Cherries, Apricots, and Almonds

Members of the Rose family. A genus of some 400 species of trees and shrubs. Alternate leaves. Have 5 petals (or double) of white or pink flowers. Often in clusters. Alternate, pointed oval leaves. Relatively short lived, they are prone to many diseases and pests. One of the earliest genera of trees to become domesticated. Valued for fruit production and as ornamentals.

Prunus maackii

Amur Chokecherry

Size and Form: A small to medium sized deciduous tree. Has a rounded crown.

Leaves: Simple, alternate leaves, somewhat oval. Has toothed leaf margins. Leaves are 2- 4 inches long, medium green. Has yellow fall leaf color.

Flowers are small, white in elongated clusters.

Fruit: is small, dark. shiny and bitter.

Bark: Reddish-brown peeling bark, similar in appearance to birch bark.

Habitat: Prefers full sun but tolerates partial shade, favors moist well drained acid soil.

Notes: Valued as an ornamental for its beautiful golden-brown bark. Native to Manchuria and Korea.

Pictured: Leaves in early summer with flower buds.

Prunus padus

Mayday Tree or European Bird Cherry

Size and Form: A medium sized deciduous tree. Has a rounded shape.

Leaves: Simple, alternate leaves, somewhat oval. Serrated leaf margins. Leaves 4- 8 inches long by 1.5- 2.5 inches wide. Leaves are a dull green on top, grayish underneath. Fall leaf color yellow to bronze.

Flowers: Has numerous small white flowers in elongated clusters.

Fruit: Has a small shiny dark fruit.

Bark: Has rough bark, grey to dark brown.

Habitat: Tolerates partial shade and a wide range of soil types. Native to Europe and Asia. One of the most northerly cherries.

Notes This tree is reported to have become naturalized in disturbed areas near streams in Anchorage. Seeds are bitter to humans but are eaten and dispersed by birds. Leaves are large and not as pointed or coarsely toothed as most Cherries. Closely related to *P. virginiana*, but it is larger, produces suckers, and the flowers are larger than those of *virginiana*.

Pictured: A tree branch in late summer with fruit.

Prunus sargentii
Sargent Cherry

Size and Form: A medium-sized deciduous tree. Upright spreading or round form.

Leaves: Has alternate leaves, somewhat oval with a small point. Coarsely toothed leaf margins. Leaves 3-5 inches long, wide, dark green. New growth is purplish. Fall leaf color is among the best for a cherry, a showy yellow, orange, or red.

Flowers: Has rose-like pale pink or white flowers up to 1 1/2 inches in diameter on 1 1/2 inch long stalks. Flowers open in the spring before the leaves. Quite showy.

Fruit: Has a small red to black fruit that is very bitter.

Bark: Has shiny reddish-brown bark with horizontal bands.

Habitat: Has a fast growth rate. Prefers full sun to partial shade. Tolerates a wide range of soil types. Native to Northern Japan and Korea.

Notes: Is longer lived and has fewer pest problems than most other Cherries.

Pictured: Flowers and foliage, May.

Prunus virginiana
Chokecherry

Size and Form: A shrub or small deciduous tree with a rounded crown.

Leaves: Simple, alternate leaves, somewhat oval, glossy above, somewhat hairy on underside. Finely toothed leaf margins. Leaves are 2 to 4 inches long, 1 inch wide. Some varieties develop a dark maroon leaf color in early summer.

Flowers: Has small white flowers in elongated clusters in the spring.

Fruit: Has a small dark fruit

Bark: Has thin gray bark.

Habitat: Tolerates partial shade and a wide range of soil types. Native to much of the continental U S and southern Canada.

Notes: The most common local ornamental cultivar is Canada Red. Its leaves emerge in the spring green then change to a dark maroon over the summer.

Pictured: A Canada Red branch in late summer with fruit. **Also pictured:** Spent Canada Red flowers and green foliage beginning to change color, late May.

Genus Quercus: The Oaks

Members of the Beech family. About 500 species of trees and shrubs. Most are from the Northern hemisphere. Often the dominant species in the forest where present. All Oaks produce an acorn. There are three groups of North American Oaks: The White Oak's acorn matures in one year, have blunt leaf lobes, and the bark is pale. The Red or Black Oak's acorn usually matures in two years, the leaf lobes are bristly, and the bark is usually dark. The live Oaks are evergreen. Most species will hybridize with others within their group, producing intermediate forms. Members of the White Oak group are best identified by their leaves and twigs. Red or Black Oak group members are best identified by their buds, acorns, and bark. Oaks are economically important for lumber and other products.

Quercus rubra **Northern Red Oak**

Size and Form: A large deciduous tree with a rounded shape.

Leaves: Alternate leaves, 5-8 inches long by 4-6 inches wide. Have 7-11 lobes, sharply tipped. Leaves are dark lustrous green. Fall leaf color is red, yellow or tan. Leaves stay on the tree late into the fall.

Flower: Male flower (catkin) is pale yellow-green.

Nut: Has a large, 0.75-1 inch long brown acorn. They occur singly or in pairs.

Bark is smooth when young, brown to black with fissures when older.

Habitat: Prefers full sun to partial shade and well-drained, acidic, sandy soil. Native to the Northeast and North Central U.S, and Southern Canada.

Notes: One of the most common Oaks in its native range. Can be long lived and grow quite large. Relatively fast growing. Can be impressive landscape specimens.

Pictured: Summer foliage.

Genus Salix

Willow family. About 400 species worldwide of deciduous trees and shrubs. Most from the northern hemisphere, especially China. Most found in moist to wet soils. Not shade tolerant. Male and female flowers are in catkins on separate plants. Seeds usually with silky downy hairs. Identification is difficult as species may hybridize. Willows have been cultivated since ancient times.

Salix alba **Golden or White Willow**

Size and Form: A large deciduous tree. Has a rounded crown, with branches drooping “weeping” near to the ground.

Leaves: Simple alternate leaves with toothed edges. Leaves long and narrow, 4 inches long by 3/4 inch wide. Underside of leaf has fine hairs. Leaves dark green with silver undersides. Have a yellow-bronze fall color.

Flowers: Has catkins in the spring.

Fruit: The fruit is a capsule containing seeds.

Bark: Has yellowish furrowed bark. Stems and twigs are yellowish. Wood is weak, susceptible to ice damage.

Habitat: Fast growth rate. Prefers moist to wet soil and full sun. Native to Central and Southern Europe.

Notes: Has become widely naturalized in the continental U S and possibly here in Juneau. Somewhat “messy” with deposits of fallen branches and leaves. The most distinctive feature in winter is the pretty yellowish twigs. Prone to attack by many insect pests and diseases. Wood is relatively weak, making the tree prone to winter storm damage.

Pictured: Summer foliage.

Genus Sorbus: The Mountain Ashes and Whitebeams

Rose family. Over 120 species of deciduous trees and shrubs from North America and Europe. Favor cool, moist, northern climates. Have white flowers in flat-topped clusters and small red fruit. Three leaf types in the genus: Mountain Ashes have compound leaves. Whitebeams have simple Alder-like leaves. Three species have a leaf type intermediate between the simple and compound leaves.

***Sorbus aucuparia* European Mountain Ash**

Size and Form: A small to medium sized deciduous tree. Upright oval to rounded form. Main trunk often short, very multi-branched.

Leaves: Has compound leaves, 5 to 9 inches long, with 9 to 15 leaflets per leaf. Dark green color. Leaves serrated near the tips. Have a yellow-red fall color.

Flowers; Has clusters of small white flowers in the spring.

Fruit: Has clusters of red fruits that may remain on the tree after the leaves drop. Commonly eaten by birds in winter.

Bark: Has thin, grayish-brown bark. Often rough, split, and peeling on older trees. Somewhat similar in appearance to Birch bark.

Habitat: Prefers cool, moist soils and full sun. Relatively short-lived. A common downtown Juneau tree. Not as commonly planted as it once was. Native to Northern Europe and Asia

Notes: Has become naturalized in the Juneau area. *S. sitchensis*, the Sitka Mountain Ash, a small shrub, is native to southeast Alaska. Its compound leaves are similar in appearance to the European mountain ash.

Pictured: Summer foliage.

***Sorbus hybrida* Oakleaf Mountain Ash**

Size and Form: A small to medium sized deciduous tree. Upright oval to rounded form.

Leaves: Alternate leaves are composed of 2-6 free leaflets and one large, much lobed portion. Leaves are oval, Have a yellow-red fall color.

Flowers: Has clusters of small white flowers in the spring.

Fruit: Has red fruits in clusters.

Bark: Has thin, grayish-brown bark Often rough and split on older trees.

Habitat: Prefers cool, well-drained soils and full sun. Native to northern Europe.

Notes: An introduced ornamental.

Pictured: Summer foliage with immature fruit.

Genus Tilia: The Lindens, Limes, or Basswood

Linden family. About 30 species of deciduous trees, native to the northern hemisphere. Have toothed, heart-shaped leaves.

Tilia americana

American Linden or Basswood

Size and Form: A large deciduous tree, pyramidal when young. Has an upright oval form with low, down swept branches. Coarsely textured.

Leaves are alternate, 4-8 inches long, heart-shaped with a short tip on the end. Leaves have fine teeth. Dark green above, lighter green below. Leaves fade to pale green or yellow before dropping in the fall.

Flowers: Light greenish-yellow flowers in 2-3 inch wide clusters. Fragrant.

Nuts: Has a small gray nut that remains on the tree until winter.

Bark: Has grey-brown bark, smooth until tree is large. Then lightly furrowed.

Habitat: Prefers sun, moist, well drained soils. Native to the Eastern U.S.

Notes: Commonly planted in landscape or park settings. Grows quite broad.

Pictured: Foliage and flowers, late July.

Tilia cordata

Littleleaf Linden

Size and Form: A medium to large deciduous tree. Form is dense branched pyramidal or conical when young, upright oval when older.

Leaves are alternate, 1 1/2 to 3 inches long, heart shaped with a short tip. Leaves have fine serrations. Shiny bright green above, light green below. Has yellow fall color.

Flowers: Light yellow or cream colored flowers in small clusters. Fragrant.

Nuts: Has a tiny cream-colored nutlet.

Bark: Has gray-brown bark, lightly furrowed.

Habitat: Prefers sun, moist, well-drained soils. Native to Europe.

Notes: Widely planted as a landscape or street tree.

Pictured: Summer foliage.

Glossary

Alternate leaves: One of the ways leaves are arranged relative to one another along a twig. The converse is opposite leaves. Conifer needles may also be arranged in a whorl around the twig.

Compound leaves: leaves containing two or more leaf segments that share a central portion.

Lenticels: bumps and thin horizontal lines in the bark. Easily seen on the trunks of birch and alder. Their function is to allow gas exchange for the tissues under the bark.

Naturalized: A species not native to a given area but growing wild there, reproducing side by side with the native plants.

Opposite leaves are arranged opposite one another along the twig, rather than alternate or whorled.

Samara: A winged seed. Typically seen in the maples.

Simple leaves A leaf not divided into leaflets.

Stomata: Small openings on the underside of leaves and on needles. They can open and close, allowing the plant to regulate its gas and fluid pressure.

Bibliography

Audubon Society Field Guide to North American Trees – Western Region
New York Alfred A. Knopf 1980.

Burns, Russell M. and Honkala, Barbra H. Technical Coordinators. Silvics of North America: Vol. 1 Conifers, and Vol. 2 Hardwoods. U S Dept. of Agriculture Handbook 654 Washington D.C. 1990.

Common Plants of the Temperate Rainforest Zone of Alaska. Laminated reference cards U. S. Department of Agriculture, Forest Service 1999.

Dirr, Michael A. Dirr's Hardy Trees and Shrubs: An Illustrated Encyclopedia. Portland,OR. Timber Press, 1996.

E-flora BC: An Electronic Atlas of the Plants of British Columbia: <http://www.eflora.bc.ca/> February, 2006.

Farrar, John Laird Trees of the Northern United States and Canada Ames, Iowa. Iowa State University Press 1995.

Hugh Johnson's Encyclopedia of Trees Galley Books 1984.

Jacobson, Arthur Lee. North American Landscape Trees. Berkeley, CA Ten Speed Press 1996.

Landscape Plants Images, Identification, Information. Oregon State University Dept. of Horticulture. <http://oregonstate.edu/dept/ldplants/> February, 2006.

Oxford Encyclopedia of Trees of the World Oxford University Press 1981.

Phillips, Roger. Trees of North America and Europe. New York Random House. 1978.

PLANTS Database. USDA, NRCS National Plant Data Center <http://plants.usda.gov> January, 2006.

Roth, Susan A., Taylor's Guide to Trees, New York Houghton Mifflin 2001.

UConn Plant Database of Trees, Shrubs, and Vines. University of Connecticut Dept. of Plant Science <http://www.hort.uconn.edu:591/FMPro> January, 2006.

Viereck, Leslie A. and Elbert L. Little, Jr. Alaska Trees and Shrubs. USDA Forest Service.1972.