

Puget Sound Energy P.O. Box 97034 Bellevue, WA 98009-9734 pse.com/vegetation

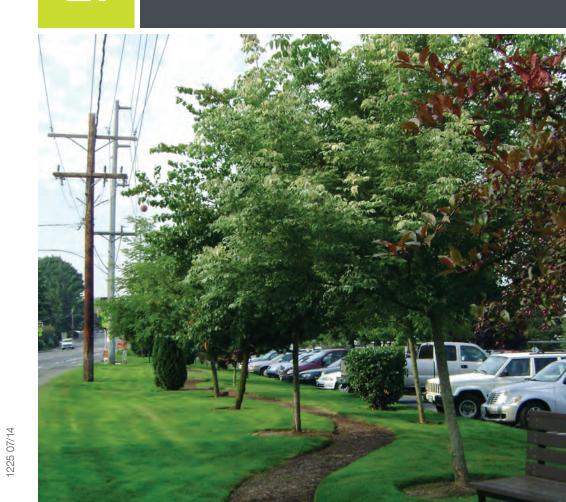


Energy landscaping



SOV INK

For your home



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About Puget Sound Energy

Puget Sound Energy is Washington state's oldest local energy company. We serve 1.1 million electric customers and more than 770,000 natural gas customers in 10 counties. For more information, visit **pse.com**. Also follow us on **Facebook** and **Twitter**.



The Evergreen State

Washington is known for its abundant trees in both rural and urban settings, which are vital to our quality of life. Trees provide us with wood products, wildlife habitat and watershed protection. They also provide shade, privacy, energy savings (both heating and cooling) and serve as windbreaks if properly placed. However, when trees are improperly placed or trimmed, they can become a hazard.

Help solve a growing problem and reduce outages

Reliable electric service is vital to our quality of life. When tree limbs come in contact with power lines, electrical service can be interrupted. A large portion of power outages affecting Puget Sound Energy customers are caused by trees. Fallen trees and tree limbs that become entangled in lines, wind-blown branches that cross the lines as they fall to the ground, and tree limbs that grow into power lines are all major causes of outages. Not only are these service interruptions inconvenient for customers, they can also threaten public safety. Also, because the moisture in and on trees can conduct electricity, a tree in a power line can be extremely hazardous for anyone nearby.

A safe solution

PSE operates and maintains two different types of electrical systems and a natural gas system.

Electric transmission lines transport high voltage electricity from power sources like dams and wind facilities to substations in local communities. Transmission normally takes place at voltages of 115 kilovolts (kV) or higher.

Distribution lines are critical links in the electrical system connecting substations and transformers directly to homes or businesses. Unlike transmission lines, distribution lines carry less than 69 kV. Distribution lines are installed both above and below ground.

PSE's natural gas system is underground and special care needs to be taken when selecting trees to plant over this system.

In addition, tree planting recommendations are different for transmission lines, distribution lines and underground facilities.

Guidelines for planting

Guidelines for planting near underground natural gas and electric systems

Underground utilities, including electric and natural gas lines, should also be considered prior to planting. The depth of underground utilities can vary, so it is important to plant smaller growing shrubs and ground cover within five feet on each side of the natural gas line or underground utility. To find out where underground natural gas and electrical facilities are located before planting, call **811** before you dig.

Guidelines for planting near 230 kV transmission lines

Keeping the wire and border zones clear around transmission lines is the most effective way to reduce tree-related power outages.

- The wire zone is the area directly underneath the transmission line, extending about 10 feet on either side of the lines.
- The border zone is located along those portions of the rights of way not located directly beneath the transmission lines.
- PSE owns easements or has rights-of-way under most wire and border zones.

PSE will also remove any trees outside these zones that pose a risk of falling into the transmission lines.

To provide increased reliable service to our customers and respond to current standards of the North American Electric Reliability Corporation (NERC), the organization in charge of improving the reliability and security of the bulk power system in North America, PSE has adopted vegetation management standards for electric transmission lines with voltages of 200 kV or higher.



A Tip

Due to these improved standards, PSE will remove any vegetation beside or underneath our 230 kV transmission rights of way that matures to a height of more than 15 feet.

Guidelines for planting near 115 kV high voltage distribution lines and underground natural gas lines

NERC vegetation standards do not apply to our 115 kV transmission or distribution line rights of way. Generally, PSE will remove trees that mature at a height of greater than 25 feet near high voltage distribution lines. However, some trees within the corridor with a height of greater than 25 feet, may be allowed to remain in the wire zone if they can be pruned in a manner that allows sufficient clearance from the lines.

Plan before you plant

You can help minimize power outages by simply taking care to select and plant the right sized trees at maturity near electric power lines, electric padmount transformers and underground natural gas lines.

To ensure reliable electric and natural gas service for the future, choose the right tree and best place to plant. Your wise decision now will support growth of easily maintained, healthy trees, and prevent future removal of mature trees. Careful tree selection should include how you plan to use the site, as well as area safety needs. When planting trees near buildings, look for opportunities to shield against hot summer sun and cold winter winds. If there are no utilities nearby, planting deciduous trees to the south and west of a building will help cool it in the summer and provide unimpeded natural warmth in the winter. Evergreen trees along the north side can also help slow down the affects of cold winter weather.

Since properly located trees can also increase your property value, taking care to plant the right tree in the right place is a wise investment. Properly planned tree planting also protects neighborhood streets and sidewalks, visibility and clearance, and prevents damage to pavement, sewers and buildings.

PSE has prepared this booklet to provide our customers with guidelines for sound tree management, placement and selection. Let the trees you plant today leave a legacy of beauty and safety for tomorrow.

Tools to help you plan your landscaping

Before planting trees and shrubs, consider what you want your yard to look like in 10 or 20 years. Then take an inventory of the factors that impact your site. Use a standard sheet of graph paper, map out your yard, house, driveway, street, type of power lines, underground padmount transformers, natural gas lines and other existing immovable elements. Consider where trees and shrubs can be added to complement your site.



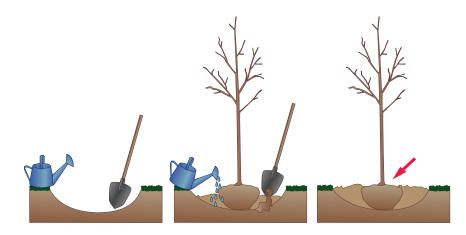
How to plant trees and shrubs

First, locate underground facilities. Washington state law requires local utilities be notified at least two business days before digging. Contact the Utility Notification Center at **811**.

Dig the hole for planting two to three times the width and the same depth as the ball or container. Before lowering trees into the planting hole:

- For balled burlapped trees, place the root ball in the hole. Remove burlap, twine and wires.
- For container trees, remove the tree and straighten any coiled roots. Loosen the root ball.
- For bare-root trees, prune damaged or circling roots and plant during the dormant season. Keep roots covered before planting. Spread the roots and cover with soil, except in high clay or sand conditions.

Fill the planting hole with soil, covering the root ball. Avoid using soil additives like peat moss or composted organic material, except in soils heavy with clay or sand. Water well. Soak the root ball and surrounding soil. Repeat in three days. Mulch the area two- to four-inches thick, extending about two feet from the trunk. Keep the mulch away from direct contact with the lower trunk. Stakes can be used; however, it is best to stake only when necessary, as it may result in a weaker root system. Use strips of fabric or burlap, not wires or ties, to secure the stake to the tree. Remove stakes after the first year of growth.



Planting near padmount transformers

When planting trees or other vegetation, be sure to allow the correct distance from padmount transformers.

A padmount transformer is a device that moves electricity safely from one circuit to another. It steps down the power (changes the voltage) so that it may be used in our homes and businesses. Because electricity flows through transformers, it is important to keep transformers clear of vegetation.

This diagram shows the minimum distances required when planting near padmount transformers.

Tips for safe planting around padmount transformers:

- Keep in mind that the transformer must be accessible for service at all times
- Select plants that are easily maintained and suitable for the site
- Allow plants sufficient growing room
- Do not plant in front of the transformer (the side with the padlock)
- Do not allow plantings to grow over the transformer
- Avoid disposing of liquids through grates on below-ground transformers
- Do not change grade levels around padmount transformers

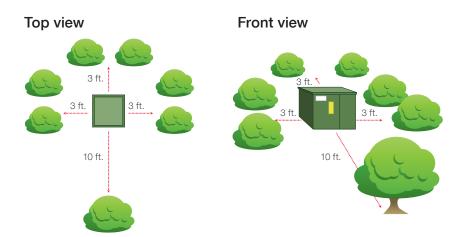
Tree selection

Most native trees and commonly used shade trees can grow to tremendous heights. Because of their great size, they do not fit well in the small spaces of many urban planting locations. Trees are often planted with little thought as to how large they will become once mature. These large trees are more likely to conflict with overhead power lines, sidewalks, buildings and streets. It can be difficult to imagine that the five or six foot tree purchased at the nursery will fit a space 80 feet tall and half again as wide. But large growing tree species in this climate will do that and well within our lifetime.

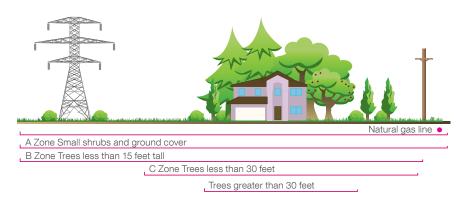
Sometimes trees are planted with the assumption that they can be pruned to keep them small. This can be very difficult with fast-growing plants, not to mention costly and time consuming. Ask yourself, if no one prunes this tree, will it become a menace? Selecting the right size trees can reduce, and even eliminate, the need for future pruning.

The Pacific Northwest climate supports a great diversity of plants. This booklet suggests only a few of the trees that can be grown in this area. Many more species are available. The following plant list has been prepared to help you select the proper size and species of trees and large shrubs for planting near utility lines or in restricted spaces. In addition to a mature size of less than 30 feet tall, these plants were selected for low maintenance, insect and disease resistance, availability, and beauty. The mature size listed represents the averages expected for our region. The actual growth of an individual plant will depend upon the soil, light exposure, moisture and temperatures of the site.

More information on planting and growing trees and shrubs can be obtained from the references listed at the end of this booklet.



Utility landscape zone diagram



Recommended shrubs (A Zone)

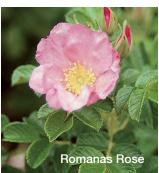
Compatible shrubs for planting near underground natural gas and electric facilities

Care should be taken to plant shrubs and ground cover at least five feet to the side of underground facilities. Tree root systems can grow several widths the size of the tree canopy. We recommend planting small shrubs and ground cover above underground natural gas and electric facilities. The recommended plant list is also compatible with overhead electric transmission and distribution systems.

Native plants are marked with a leaf symbol.



Forsythia – Forsythia x intermedia Mature size: 8-10 feet tall Shape: Broad rounded outline, wide spreading. Description: Flowers showy golden yellow. Blooms before leaves unfold in the spring. Adaptable to soils and climates. It can tolerate considerable shade, but flowers are most prolific when in full sun.



Weigela

Romanas Rose – Rosa rugosa (Salt Spray or Sea Tomato) Mature size: 3-6 feet tall Shape: Dense rounded bush. Description: A vigorous rose that can be used both as a specimen in the garden or as a screening hedge. It grows well in partial and full sun in both loamy and sandy soils. Can tolerate hard freezes, wind, arid and salt conditions. The leaves of some varieties turn yellow, bronze, orange or reddish in the fall. Stems are covered with small thorns.

Weigela – Weigela florida (also called Oldfashioned Weigela)

Mature size: 6-10 feet tall by 9-12 feet wide Shape: Densely rounded shrub with course, spreading branches that arch to the ground. Description: Profuse red, pink, white or varicolored flowers bloom in late spring to summer. Weigela should be pruned lightly after blooming to remove dead branches. Grows well in sun to partial shade and thrives in ordinary well-drained soil.









Red Flowering Currant – Ribes sanguineum Mature size: 6-10 feet tall Shape: Broad rounded outline, wide spreading.

Description: Dark green leaves are lobed and very textured. Prolific blooms in the spring, producing clusters of fruit with a heavy wax coating. Does well in full sun to partial shade and tolerates some drought.

Salal – Gaultheria shallon Mature size: 1-3 feet tall Shape: Dense evergreen shrub/groundcover.

Description: Dense leathery leaves. White flowers in the spring, producing large black edible berries. This perennial groundcover is adaptable to full sun and shade.

Oregon Grape – Mahonia aquifolium Mature size: 1-5 feet tall Shape: Small evergreen bold textured shrub.

Description: Thick leathery leaves resembling holly leaves. Yellow flowers in the spring and produces edible small purple-black fruit. Oregon grape is resistant to summer drought, tolerates poor soils, and does not create excessive leaf litter. Its berries attract birds.

Kinnickinick – Arctostaphylos uva-ursi Mature size: 3-6 inches tall Shape: Low growing groundcover forming dense spreading mats.

Description: Evergreen groundcover with small, dark green leaves. Flowers are small, white and urn-shaped in the spring. Produces red fruit in late summer through the winter. Prefers acidic soils and full sun to light shade. An excellent evergreen groundcover, which has year round interest. Can provide good erosion protection for slopes and hillsides. Can be difficult to establish and grows quite slowly.

Recommended trees and shrubs (B Zone)

Compatible trees and shrubs for planting in 230 kV transmission rights of way and near electric distribution lines

The following plants are compatible with 230 kV transmission lines, 115 kV transmission lines and distribution lines; their mature height is less than 15 feet.



Smoke Tree – Cotinus coggygria Mature size: 10 feet tall by 15 feet wide Shape: Upright with rounded habit. Loose, spreading habit often grows wider than it is tall. Description: Rounded blue green leaves turn yellow red or purple in the fall.



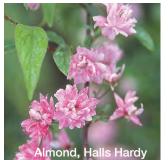
Lilacs – Syringa vulgaris Mature size: 8-10 feet tall Shape: Random upright. Description: Lilacs are enjoyed for their beautiful sweet-scented flowers that bloom in early May. Because they spread vigorously by root suckers, a single shrub can form a spreading thicket.



Leatherleaf Viburnum – Viburnum rhytidophyllum Mature size: 10-15 feet tall by 3-10 feet wide

Shape: Rounded. Description: This striking shrub is quite tolerant.

It prefers sun to shade, but can tolerate heavy shade. Produces creamy white flowers in the spring and berries in the fall, which first appear red and change to glossy black.











Almond Halls Hardy – Prunus glandulosa 'Halls Hardy'

Mature size: 10-15 feet tall Shape: Small to medium sized tree with a spreading, open canopy.

Description: A beautiful ornamental tree with attractive foliage and pale pink flowers. Produces an edible nut within 3-5 years and, unlike its short-lived cousin the peach tree, can produce for up to 50 years. The almonds are good for cooking and eating, and are valuable food for deer, squirrels and birds.

Hydrangea – Hydrangea spp Mature size: 3-10 feet tall Shape: Rounded.

Description: Hydrangeas are generally grown for their stunning flowers and spectacular foliage. For most hydrangea cultivars, blue flowers will be produced in acidic soil (pH 5.5 and lower); whereas neutral to alkaline soils (pH 6.5 and higher) will usually produce pink flowers. Hydrangeas grow best in moist, well-drained soil. Most hydrangeas benefit from some shade, especially in hot climates.

Strawberry Bush – Calycanthus floridus Mature size: 6-10 feet tall by 6-12 feet wide Shape: In sun, dense and rounded. In shade, loose open and irregular.

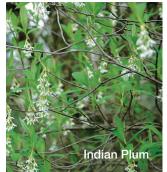
Description: Deciduous shrub that blooms fragrant brown to maroon flowers from May-July. Fragrance is similar to that of strawberries. The leaves and fruit are aromatic when crushed. Tolerates some drought.

Mountain Laurel – Kalmia latifolia Mature size: 5-12 feet tall Shape: Rounded. Description: This evergreen plant has showy

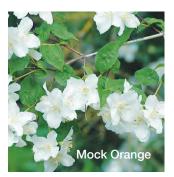
flowers lasting two weeks or more that bloom in late May and early June. Normal color is pink that fades to nearly white. Plant in partial shade to full sun and in cool, moist, acidic, organic soil for best performance. Foliage is poisonous to livestock.



California Lilac – Ceanothus impressus 'Victoria' Mature size: 5-10 feet tall Shape: Rounded, spreading. Description: Evergreen shrub with profuse blue flowers in the spring. Good in coastal gardens with dry sandy soil, it does not like its feet wet, so plant well away from sprinklers and irrigation. Makes for a great hedge, screen, or windbreak. Bees love the fragrant flowers.



Indian Plum – Oemleria cerasiformis (Osmaronia cerasiformis) Mature size: 6-12 feet tall Shape: Large shrub or small tree. Description: Light green foliage with white flowers in the spring and black fruit or seeds. Indian Plum is the first shrub to leaf out in the spring and the first to turn color in the fall. It is a native shrub that does well in a wide range of conditions, from moist stream banks to dry woodland edges. Prefers partial shade.





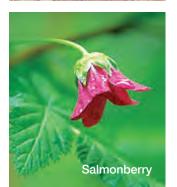
Mock Orange – Philadelphus spp Mature size: 6-10 feet tall Shape: Fountain-like form. Description: Medium green foliage with clusters of very fragrant flowers in late spring/early summer. A deciduous shrub that prefers partial shade in hottest areas. Tolerant of a wide range of soil conditions. Prune in May by removing old wood or cutting to the ground. You may also want to consider the native species, Philadelphus lewisii, it will survive full sun to part shade.

Ocean Spray – Holodiscus discolor Mature size: 6-12 feet tall

Shape: Many stemmed spreading shrub. Description: Large cascading clusters of white flowers drooping from the branches give the plant its two common names. Ocean Spray is a native shrub that grows in areas of seasonally heavy rainfall. It does well on droughty slopes or at forest edge and is also very hardy in salt air maritime conditions.



Red Osier Dogwood





Pacific Ninebark – Physocarpus capitatus Mature size: 6-13 feet tall Shape: Multi-stemmed, deciduous shrub. Description: Moist to wet sites, somewhat open areas - full sun to partial shade. Excellent soil-binding qualities. Flowers are small, white and borne in popcorn-like clusters.



Description: Also known as Red Twig Dogwood. Moist, well-drained soils. Tolerates seasonal flooding. Full sun to partial shade. Excellent soil binding qualities. You may also want to consider "Yellow Twig" Dogwood, which is a cultivar readily available in most nurseries.

Salmonberry – Rubus spectabilis Mature size: 3-10 feet tall

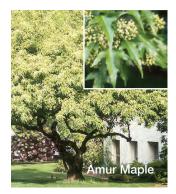
Shape: Erect, largely unarmed, branching. Description: Moist to wet places, forests and disturbed sites - full sun to full shade. Spreads by a vigorous underground stem system, often forming dense thickets. Edible fruit is single, pink to reddish purple, large (about 1-1/2" across), raspberry-like, appearing in late spring and ripening over a fairly long period, becoming yellow/orange to deep red.

Glossy Abelia – Abelia × grandiflora Mature size: 3-6 feet tall Shape: Multi-stemmed and dense with arching branches.

Description: Pink and white flowers that bloom in May and continue through the summer. Autumn color is bronze and quite showy. Prefers acidic to neutral soil that is well drained. Can be planted in full sun to partial shade. Attracts butterflies.

Recommended trees and shrubs (C Zone)

Compatible trees and shrubs for planting in 230 kV transmission border zones only, 115 kV transmission line and distribution line rights of way



Amur Maple – Acer ginnala Mature size: 20 feet tall by 20 feet wide Shape: Dense upright crown that usually grows in multi-stem form.

Description: This hardy, deciduous tree grows well in the colder regions of the Northwest. It is easy to transplant and tolerates heat, cold and drought. Plant in full sun to light shade. It is often used as a street tree, in small gardens, on patios and in landscaped containers. You may also want to consider a close relative to Amur maple, the Rocky Mountain Maple (Acer glabrum).



Japanese Maple – Acer palmatum Mature size: 25 feet tall by 25 feet wide Shape: Horizontal branching. Description: This popular garden tree is often used as a lawn specimen or shrub border. It grows best in filtered shade in rich, well-drained soils. While moderately drought tolerant, it is not well suited to dry gravelly soils. It should be protected from prevailing winds. Different leaf shapes and colors are available. Green leaves turn orange or deep red in fall.



Vine Maple – Acer circinatum Mature size: 15-25 feet tall by 20 feet wide Shape: Upright crown and usually grows in multi-stem form. Vine-like in shade, large shrub or small tree in sun.

Description: This popular Northwest native makes an exceptional landscape tree for a small garden. These trees are very shade tolerant and could easily be used in most plantings in place of Japanese Maple (Acer palmatum). Green leaves turn brilliant orange and deep red in the fall.









Serviceberry – Amalanchier alnifolia (also called Shadebush or Juneberry) Mature size: 20-25 feet tall by 15 feet wide Shape: Upright spreading. Description: Good form and strong branching make this an attractive tree. It displays reliable

make this an attractive tree. It displays reliable spring blooms and spectacular fall cover. You may want to consider a close relative, Amalanchier grandiflora, that is commonly found in most nurseries.

Leprechaun Ash – Fraxinus pennsylvanica 'Johnson'

Mature size: 15-20 feet tall Shape: Dense compact round tree. Description: Genetic dwarf form of Green Ash. The bark is smooth on young plants. The bark of mature trees is rough with vertical cracking developing with age. Is resistant to drought, salt tolerant and urban tolerant. Does not produce fruit.

Witch Hazel – Hamamelis spp Mature size: 15-20 feet tall by 15-20 feet wide Shape: Broad spreading habit. Description: Witch Hazel is known for producing

an astringent used in the treatment of superficial wounds and cosmetics. It is a popular shrub in gardens and parks due to its fall-winter blooming season. Some turn golden yellow in the fall and others will turn brownish-red.

Star Magnolia – Magnolia stellata Mature size: 20 feet tall by 10 feet wide Shape: Dense, oval or rounded. Description: The Star Magnolia is an attractive small tree or shrub with fragrant flowers. Large white or pink fragrant flowers bloom in mid-April before leaves develop. Avoid planting in south facing exposures that can cause early flowering. Slow growing.





Crabapple – Malus spp

Mature size: 20-25 feet tall by 12-20 feet wide Shape: Open to dense spreading. Description: These hearty fruit trees are tolerant of drought and compact soil and require little pruning. They thrive in well-drained soils in full sun. Varieties suggested for planting are the Red Jewel, Snowdrift, and Prairie Fire. Often turns yellow in the fall. Flowers can be white, pink or red, singles or doubles. Fruit is red, yellow or green. Fruitless varieties are also available.

California Wax Myrtle – Myrica californica Mature size: 15-20 feet tall by 15 feet wide Shape: Spreading.

Description: The California Wax Myrtle enjoys sun to partial shade and is drought tolerant once it is established. Its bark is light brown and smooth when young. Older trees may have flaky outer bark revealing pinkish inner bark or dark patches. Some trees have white, pink-lavender or purple flowers which grow in upright clusters at the tip of each twig. Flowers bloom typically from April through June.



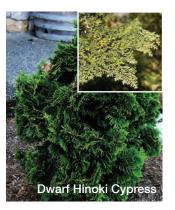
Flowering Cherry/Plum – Prunus spp Mature size: 20-25 feet tall by 20-25 feet wide Shape: Vase shaped to rounded. Description: Many different dwarf varieties of cherries and plums are available. All are generally valued for their flower, texture of foliage and fall color. Both Cherries and Plums are moderately drought tolerant. Most ornamental varieties are fruitless.

Jack Pear – Pyrus calleryana 'Jaczam' Mature size – 20 feet tall 10 feet wide Shape: Upright oval Description: Compact canopy works well in small lots. This tree produces abundant white flowers in the spring that appear bright above the dark green leaves.



Japanese Snowbell – Styrax japonicus Mature size: 20-25 feet tall by 20-25 feet wide Shape: Rounded to horizontal branching. Description: Plant this graceful tree in full sun to partial shade. It does best in a moist, acidic, well-drained organic soil. The smooth, attractive bark has orange-brown interlacing fissures adding winter interest to any landscape. Dark green summer foliage may turn yellow to red in fall. Small white flowers hang below upwardpointing leaves along the branches. Blooms in early June.

Recommended Evergreen Trees



Dwarf Hinoki Cypress – Chamaecyparis obtuse Mature size: 8-20 feet tall Shape: Softly pyramidal to conical. Description: Frond-like branchlets give a fernlike appearance in form and texture. Dark green needles have silvery undermarkings. The dwarf form of the Hinoki Cypress works well in rock gardens. It enjoys moist, well-drained, acidic soils and full sun to partial shade.



Bristlecone Pine – Pinus artistata Mature size: 8-20 feet tall Shape: Bushy and conical. Description: Among the oldest living plants, specimens have been found to be 2,000-7,000 years old. Long branches are covered with needles that resemble a fox tail. Makes an interesting evergreen needle plant for rock gardens or as an accent or specimen. Grows well even in poor, rocky soils; however, is not tolerant of shade or winter winds.







ese ese prine spreading upward-arching branches. Description: This hardy species has exquisite decorative red-brown or orange bark. Plumes of rich green, three to five inch evergreen needles grow in twos. It can be used as a specimen or in groupings. It is quite heat tolerant, but needs well-drained soil.

Mature size: 10-20 feet tall

Upright Irish Yew – Taxxus baccatta 'Stricta' Mature size: 20 feet tall by 5 feet wide Shape: Bushy and conical with a dense crown and multi-pointed top.

Dwarf Japanese Red Pine – Pinus densiflora

Shape: When young, these trees grow with a crooked or leaning habit. With time, the habit

becomes more vase-shaped, with wide

'Umgraculifera' (also called Dwarf Tanyosho Pine)

Description: Widely grown as a hedge in gardens, the Upright Irish Yew is long-lived, tolerant of heavy pruning and is generally a low maintenance plant. Fairly drought tolerant. Once it is established, it enjoys sun to shade. Often used as a screen or shrub border. Male and female flowers are carried on different trees. Female plants bear small red fleshy fruits with highly poisonous seeds.

Pyramidalis – Thuja occidentalis 'Pyramidalis' Mature size: 5-20 feet tall

Shape: Strongly fluted and buttressed at the base with a narrow compact pyramidal crown. **Description:** This shrub tolerates very alkaline soil. It prefers sandy soil rather than moist or clay soils. Its reddish-brown bark is ridged and fissured lengthwise and can be pulled off in long fibrous strips. This shrub is often used for ornamental hedges.

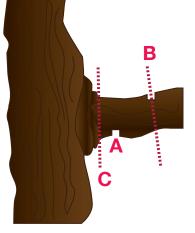
Pruning

Pruning is essential for the growth and well-being of landscape plants. The health of the tree is improved or maintained by removing dead, diseased, and damaged wood. The quality and quantity of flowers and fruit are increased with proper pruning.

Here is the general procedure for pruning trees:

- A. Remove dead, diseased and damaged wood.
- B. Remove or prune branches that are crossing other branches or growing in the wrong direction.
- C. Thin, as necessary, to allow light and air into the center of the tree, and for even spacing of branches.

When a pruning cut is made, the wound should be as small as possible. Before a branch is removed, locate the branch collar—the small fold of bark at the base of a branch where it joins the trunk. Make your cut just outside of this ridge (see diagram below). Cutting into the collar increases the wound size and the possibility of decay. To remove a large branch, undercut it first to avoid tearing the bark.



- A. Make the first cut on the underside of the branch, sliding out from the branch collar.
- B. Remove the entire branch with the second full cut from the top, just outside the undercut.
- C. Remove the remaining stub by the third cut at the edge of the collar.



Recent research indicates that applying a wound dressing to the cut area is not necessary and may, in some cases, be detrimental to the tree.

Sources and additional resources

Books

Dirr's Hardy Trees and Shrubs An Illustrated Encyclopedia © 1997 Michael A. Dirr Timber Press, Portland, Ore.

Gardening with Natives of the Northwest Arthur Kruckeberg © 1982 University of Washington Press Seattle, Wash.

Sunset Western Gardening Book © 1996 Sunset Publishing Corp. Menlo Park, Calif.

Trees and Shrubs for Pacific Northwest Gardens Second Edition John A. Grant and Carol L. Grant Timber Press, Portland, Ore.

Web sites

mygarden.com horticopia.com oregonstate.edu/dept/ldplants treesaregood.com arborday.org

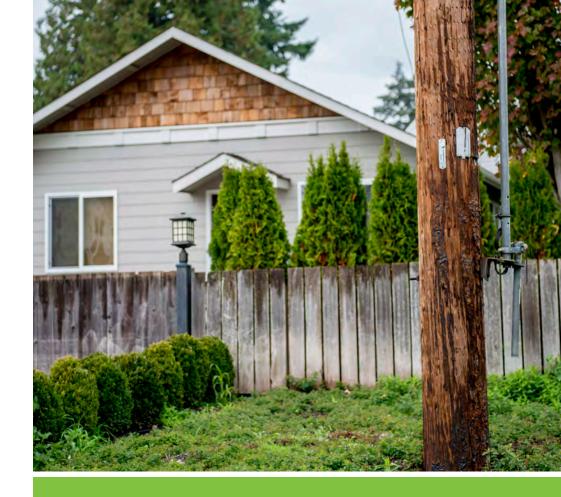
Information services

Center for Urban Horiticulture and Washington Park Arboretum University of Washington 206-543-8616 depts.washington.edu/hortlib

Washington State Nursery and Landscape Association wsnla.org

Washington State University Cooperative Extension Service ext.wsu.edu (look for your local county cooperative extension under county offices listed in the telephone directory)

Washington Urban and Community Forestry Program 800-523-8733



If you have any questions regarding the selection of trees or shrubs near natural gas or electric facilities, please contact a vegetation management manager at **1-888-225-5773**, or by email at **vegetationmanagement@pse.com**.

All plant photos courtesy of:

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