

Fire-Resistant Alternatives to Arborvitae

Below is a list of evergreen/semi-evergreen shrubs that meet similar objectives of Arborvitae/Juniper/Cedar but are fire-resistant plants. Some of the genus/species are available in several different cultivars. Consult with WSU Master Gardeners, nurseries, or online resources to find and validate the specific cultivar to meet your needs. For example, some species may have cultivars that are very short (less than 1 foot) and other cultivars of the same species that are tall (more than 15 feet). Not all of the different species and cultivars are listed.

PLANTS LESS THAN 4 FEET TALL	Scientific Name	Common Name	Hardiness Zones	Size HxW	Comments
	Berberis thunbergii 'Crimson Pymgy'	Japanese barberry	5-8	1' X 2'	A spiny, broad-rounded, deciduous shrub with obovate green leaves. Leaves typically turn attractive shades of orange, yellow and red in fall.
	Ceanothus gloriosus	Point Reyes Ceanothus	7-9	3' x 6'	Varieties available. Small, wide-spreading shrub with dark-green, leathery foliage and purple-blue flowers in spring. Useful on steep slopes. Needs to be protected from wind. Lives 5-10 years.
	Cotoneaster species	Cotoneaster	5-8	Varied	Some are deciduous. Vary in size from 6" ground cover to 10' hedge plant. All species of cotoneaster feature a wide spread three times or more their height, glossy leaves, and red or black fall and winter berries. Most species shrug off adverse conditions like drought, strong winds, salt spray, infertile soil and variable pH.
	Cotoneaster dammeri	Barberry Cotoneaster	5-8	1' X 6'	Low-growing variety; makes good ground cover. In spring small white flowers, followed in late summer by red berries. Fall foliage is bronze/purple.
	Daphne cneorum	Rock daphne	5-8	1' X 3'	Low growing with bright hot-pink fragrant flowers that open mid spring. Can be kept at almost any size by pruning after flowering. Highly fragrant, showy flowers. Keep from excessivly wet soils. Can tolerate hot sun and drought.
	Mahonia repens	Creeping Oregon grape	3-8	1.5' X 2'	Similar to Oregon grapeholly, but smaller. Yellow flowers produce blue/black berries. Spreading branches feature green leaves that turn red/purple in autumn.
	Potentilla fruticosa	Shrubby Cinquefoil	3-8	3' x 3'	Easily grown in average, medium-moisture, well-drained soils in full sun. Best flowering occurs in full sun, but plants tolerate part shade. Established plants grow well in a wide range of conditions and have good drought tolerance. Plants have excellent winter hardiness. Prune in late spring after bloom.
	Pyracantha species	Firethorn, Pyracantha	6-8	12" X 10'	Impenetrable shrub for informal hedges, hedgerows, or dense screens. Also effective when massed to cover slopes. Severe pruning performed after flowering will adversely affect fruit production. Espaliers trained on wall or fence. Best planted in areas where thorns will not present hazard.
	Yucca glauca	Small soapweed	4-6	2'x4'	Adapted to low-water growth conditions. Also known as small soapweed, soapweed yucca, Spanish bayonet, Great Plains yucca and beargrass. Yucca glauca forms colonies of rosettes.
PLANTS OVER 4 FEET TALL	Yucca neomexicana	New Mexico Yucca	4-6	2'x2'	Small species forming clumps of rosettes.
	Yucca filamentosa	Adam's needle	5-10	2' x 4'	Swordlike, stiff leaves in various tones of green, gray-green or variegated yellow and green. In summer produces tall stalks topped by plumes of white flowers.
	Berberis x iologensis 'Apricot Queen'	Warty Barberry	5-8	10' X 10'	Dense grower with delicately arching branches. Small, dark evergreen leaves have bright, bluish-white undersides. Hidden stems are full of needle-sharp spines that make Berberis verruculosa an excellent barrier hedge.
	Cotoneaster species	Cotoneaster	5-8	Varied	Some are deciduous. Vary in size from 6" ground cover to 10' hedge plant. All species of cotoneaster feature a wide spread three times or more their height, glossy leaves, and red or black fall and winter berries. Most species shrug off adverse conditions like drought, strong winds, salt spray, infertile soil and variable pH.
	Daphne burkwoodii 'Carol Mackie'	Carol Mackie Daphne	4-8	4' X 4'	Semi-evergreen shrub with variegated leaves. Features fragrant, pink/white star-sharped flowers in spring.
	Escallonia Spp and cultivars	Escallonia	7-9	5'X6'	Escallonia shrubs grow relatively fast and have both attractive foliage and lovely flowers. The blossoms are tube-shaped, generally white, pink or red, and appear on leafy panicles in summer. Plants can grow to 15 feet in either direction, depending on the cultivar.
	Euonymus x fortunei	Winter creeper	4-7	4'x3.5'	A low-growing, erect to semi-erect shrubby form which typically grows as a dense, sprawling, tangled, bushy mat. Features lustrous, ovate to elliptic, toothed, dark green leaves (1-1.5" long) edged with gold. Leaves turn pinkish-red in fall and winter. Inconspicuous, green-ish-white flowers might appear in June. Flowers at best sparse, but usually not present. If given support, 'Emerald 'n' Gold' will climb a wall.
	Euonymus kiautschovicus 'Manhattan'	Spreading Euonymus	5-8	6'X4'	Tolerates a wide range of soil conditions, except for wet ones. May be propagated by rooted stem cuttings. Good tolerance for urban conditions. Foliage is evergreen in warm winter climates, but semi-evergreen to deciduous in cold winter climates (USDA Zones 5 and 6) where leaves may turn yellow or leaves may drop or plants may die back to the ground.
	Lonicera nitida 'Baggesen Gold'	Golden boxleaf honey-suckle	6-9	5' x 5'	Grow this tough evergreen shrub in moist towell-drained location. It will perform well in sand or clay with adequate drainage. The foliage color is chartreuse in a shady location. It response well to pruning and can easily be shaped and sheared,
	Mahonia aquifolium	Oregon grapeholly	3-9	6' X 6'	Upright growth habit. Shiny, dark-green foliage in summer. Yellow flowers open in spring, followed by blue/black berries in late summer. In autumn leaves turn red-purple.
	Paxistima myrtifolia	Oregon boxwood	5-8	4' X 4'	Thick, light-green leaves on low-growing shrub. Remains more compact in areas with full sun.
	Prunus laurocerasus	Cherry Laurel	6-8	18' X 25'	Broad, dense, spreading habit. No fall color. Tiny, cup-shaped, creamy white flowers in upright clusters bloom from the leaf axils in April-May. Highly fragrant flowers give way to somewhat inconspicuous black drupes that ripen in mid-summer. This bitter fruit loved by birds.
	Prunus laurocerasus 'Otto Luyken'	Compact Cherry Laurel	6-8	4' X 8'	Compact cultivar. Free-flowering.
	Pyracantha angustifolia 'Gnome'	gnome pyracantha	6-7	6'x8'	Noted for spring white flowers in drooping clusters, glossy green leaves, needle-like spines, and orange-red berries in fall.
	Rhododendron macrophyllum	Pacific rhododendron	6-9	12' X 12'	Native to the Northwest. Dark green leaves. Pale pink to lavender flowers in spring. Grows best in acidic soil.
	Rhododendron species	Rhododendron/azalea	4-9	Varied	A genus of 500 to 900 species that includes both of what are commonly called rhododendrons and azaleas. Most are evergreen; some deciduous. Appreciated for their showy spring flowers and, in the case of evergreen types, for their attractive winter foliage. Colors range from white to pink, red, and purple.
	Viburnum burkwoodii	Burkwood Viburnum	5-8	10' X 5'	Densely branched, multi-stemmed habit. Fragrant white flowers arranged in flat-topped cymes (2-4" wide) in spring. Flowers are followed by pendulous clusters of red berry-like drupes which ripen black. Fruit is not particularly showy. Glossy dark green leaves (to 4" long) turn maroon in fall.
	Viburnum species & cultivars	Viburnum	2-9	4'-15'	"Not all are evergreen. This group of shrubs has showy flowers, many of which are fragrant. Flowers followed by clusters of berries that may be yellow, orange, red, blue or black. Grow in full sun to partial shade in well-drained soil amended with organic matter. Useful in a shrub border or as a screen. Not bothered by rabbits, squirrels or deer.

If you live in the Pacific Northwest, you've seen plenty of them in the landscaping of residences and businesses: Arborvitae. They're the columnar, evergreen shrubs used singly -- say, to flank a window -- or in rows to provide shade in summer and year-round privacy between properties. Or, they are low-growing evergreens used as low-maintenance ground covers.

Often pruned into hedges, the tall varieties are relatively inexpensive to buy and easy to grow with tolerance for various soil types and varying amounts of light and water.

But people who value their homes or businesses need to be wary of the significant danger posed by Arborvitae. Because of the oily composition of their needles and their tendency to accumulate dead, dry plant material on the interior, Arborvitae are like plant torches. They are extremely flammable and provide ideal fuel for high-intensity blazes!

Once ignited, Arborvitae can cause fire losses not only for the immediate property owner but also to adjacent and distance properties because they generate high temperatures and dangerous showers of fire brands (sparks carried by the wind) from this fire-prone plant. A burning Arborvitae is a threat to the entire surrounding area.

Arborvitae can function as a tree, shrub/hedge, or as a ground cover allowing it to fulfill a variety of landscape roles. This brochure will focus primarily on fire-resistant alternative evergreen shrubs available to replace the fire-prone plant commonly called Arborvitae.

Beware of
ARBORVITAE
Plant Torches

Is it Arborvitae or Juniper? It doesn't matter!!

There are approximately nine species and more than 30 cultivars of plants called Arborvitae. Most plants that are called Arborvitae are species of the genera Thuja, Juniperus, and even some Cedrus.

Thuja is the scientific name for the genus of five species often called Arborvitae. Two of the plants are North American natives and are the most common. American Arborvitae or Eastern Arborvitae (Thuja occidentalis) is a mainstay of many residential landscapes because it is widely available and has more than 30 cultivated varieties from which to choose.

Western red cedar or giant Arborvitae (Thuja plicata) generally maintains more of the tree form, is used for large hedge rows and is the larger of the species. The different cultivars are available in a wide variety of sizes and shapes. The genus Juniperus also has several species called Arborvitae that may be in the form of a tree, hedge row, or a low-growing shrub.



Fire in the Wildland Urban Interface

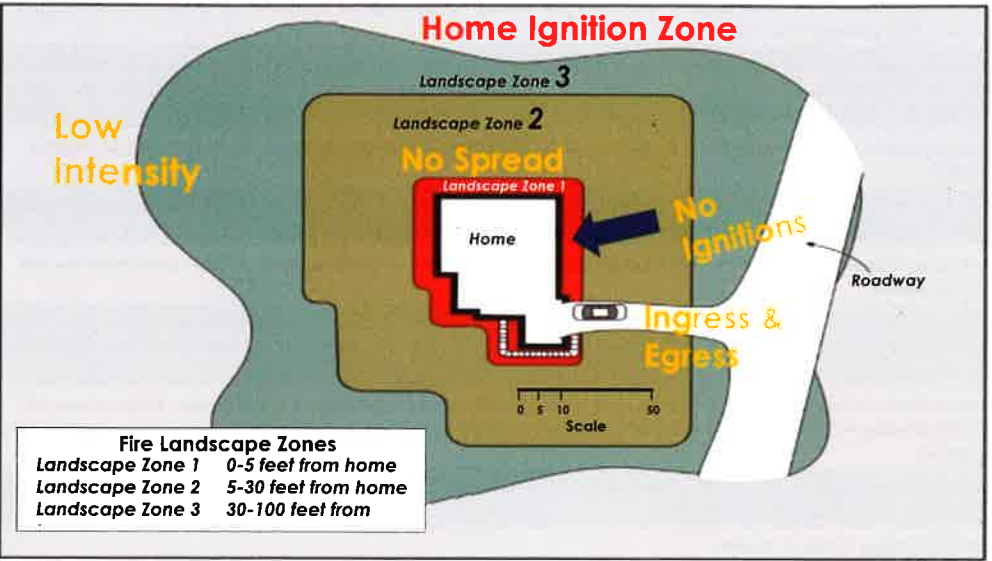
The Wildland Urban Interface (WUI) is one of the most challenging areas in which to effectively provide fire protection. The WUI, the area where wildland fuels (forest or shrub lands) meet with human development (homes and businesses), is not just the edge of the developed properties but an area as far as burning embers can travel. That distance is often well more than a mile from the nearest wildlands. For this reason and others, people living in a fire-prone environment need to design their home and landscape in a Firewise manner. The siting of their homes, the construction materials and the vegetation surrounding their homes determine the survivability not only of their home, but that of other properties as well. Once one home is ignited it often leads to additional homes catching fire. So it is imperative that everyone participate in making communities Firewise.



Visit the Firewise Demonstration Garden next to the fire station at the corner of 4th St. NE and Eastmont Ave., East Wenatchee, WA.

Home Ignition Zones

The home ignition zone (HIZ) is the area that includes a structure and its surroundings out to 100-200 feet. The HIZ can be further delineated into three landscape zones. Each of the zones 1, 2 and 3 has a specific goal if a fire approaches a structure. Zone 3 is the area of low-intensity fire behavior. In zone 2, fire spread is stopped. In zone 1, nothing is ignitable. Below is a diagram of the HIZ showing the distance from the structure and the goal in each landscape zone.



Right Plant in the Right Place

Below are the categories of vegetation best suited for each landscape zone.

Landscape Zones 1

- Non-coniferous, succulent ground covers
- Herbaceous perennials and annuals
- Herbaceous vines
- Turf grasses

Landscape Zones 2

- Native/adaptive, non-turf grasses (well-spaced and green)

Landscape Zones 3

- Shrubs and Trees

Fire-Prone Vegetation

Some plants, because they possess certain characteristics, lead to easy ignition and ability to carry fire. These plants are prone to burn and often add to the combustibility of the WUI. When fire-prone plants are replaced by more fire-resistant vegetation the survivability rate of people and home is increased. The following is a list of fire-prone plant characteristics. **Arborvitae possess all of these fire-prone plant characteristics.**

- Tall
- Woody
- Low moisture content
- Evergreen
- Thick/ sticky sap
- Thick/dense growth
- Fine textured parts (needles)
- Loose bark
- High percentage of dead fuel material

Fire-Resistant Vegetation

All vegetation can and will burn if exposed to high enough temperature for an extended period of time; however some plants are much less likely to ignite and carry fire when they possess certain characteristics. The following are some of the attributes of fire-resistant vegetation. Plants exhibiting these characteristics are considered fire-resistant. **All of the plants listed in this brochure possess these fire-resistant characteristics.**

- Low-growing
- Open configuration
- High moisture content/ succulent parts
- Water-like sap
- Broad- leaves
- Herbaceous
- Low accumulation of dead materials
- Tight bark

Maintenance

Maintenance is essential for a fire-resistant landscape. Plants that are fire-resistant, if allowed to grow unchecked and are poorly maintained, will become fire hazards. Practice, "if it is brown, trim it down". Proper maintenance of shrubs -- as well as the entire landscape is crucial and cannot be ignored. **The following are some of the key procedures to maintain shrubs in a Firewise landscape.**

- Pruning
- Thinning
- Spacing
- Weeding
- Hosing out dead material from plant
- Cleaning up dead/ dry debris
- Disposing of yard waste properly

Complementary Publications

The WSU Extension publication, **SELECTING PLANTS FOR SCREENS AND HEDGES** by Charles A. Brun and Paula Dinius - Contains a wealth of information on the benefits, layout and design of installing screen and hedges. You are encouraged to consult that publication for additional information on shrubs.

Available online at:
<https://pubs.wsu.edu/ListItems.aspx?CategoryID=221>

FIRE RESISTANT PLANTS FOR CHELAN/ DOUGLAS COUNTY WASHINGTON, A Step-by-Step guide for choosing the Right Pant for the Right Place. A WSU Master Gardeners publication that provides Firewise concepts and a list of fire-resistant plants suitable for the Eastside of the Cascade Mountains.

Available on line at:
<https://s3.wp.wsu.edu/uploads/sites/2086/2018/01/fireresistantplants2017.pdf>

WSU Chelan/Douglas County Master Gardeners
400 Washington Street, Wenatchee, WA 98801
509.667.6540

Chelan/Douglas County
Master Gardener Program
WASHINGTON STATE UNIVERSITY
EXTENSION

WSU Extension programs and employment are available to all without discrimination. Evidence of noncompliance may be reported through your local Extension office.