# FireSmart Guide to Landscaping

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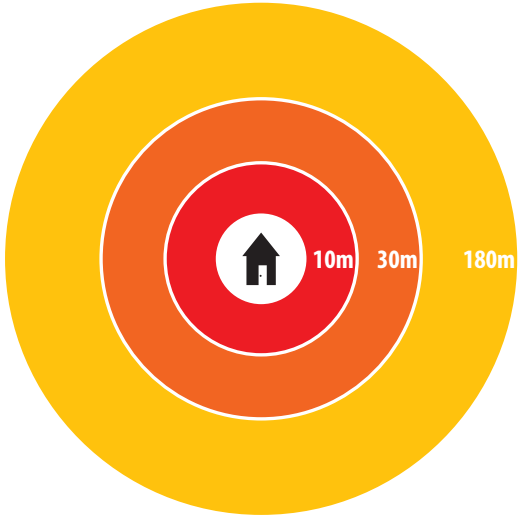
# Protect Your Home From Wildfire

Wildland fires are a natural part of most wildland ecosystems in Canada. An increasing number of homes are built in or on the boundary of these wildland areas– this is known as the wildland/urban interface. Homeowners building and living in the wildland/urban interface, must take special precautions to protect their lives and property.

### FireSmart Priority Zones

The FireSmart program identifies 3 priority zones that must be managed to reduce the wildfire threat to your home. Priority Zones 1 and 2 are the most critical– this is known as the Home Ignition Zone (HIZ). Homeowners, builders and landscapers should focus on reducing the risks in the HIZ.




In addition to the actual building design and construction material used to construct your home, the type of plant material and the design of the landscape immediately adjacent to your home is a critical factor in determining the likelihood of your home surviving a wildfire. It is important to select fire resistant plant material and design your landscape to reduce the risk, while maintaining a functional and watersmart landscape appropriate to your growing zone.

## What are Fire Resistant Plants?

Fire resistant plants are those that do not readily ignite from flame or other ignition sources. These plants can be damaged or even killed by fire; however, their foliage and stems do not significantly contribute to the fuel and fire intensity.

### Characteristics of fire-resistant plants

- Moist, supple leaves
- Little dead wood and tendency not to accumulate dead material
- Water-like sap with little or no odour
- Low amount of sap or resin material

### Characteristics of Highly Flammable Plant

- Contain fine, dry, dead material within the plant
- Plant stem, branches and leaves contain volatile waxes, terpenes or oils
- Leaves are aromatic
- Gummy, resinous sap with a strong odour
- Loose papery bark

* Avoid landscaping with highly flammable plants around your home.

# Appropriate Plant Selection

Selecting the right plant for the right spot depends on a number of factors.

### Choose the plants for your Hardiness Zones

When selecting plants for your landscape, ensure that you select plants that are appropriate to your area and hardiness zone. This indicates the ability of a plant to withstand an average minimum temperature. There are currently two systems used for classifying hardiness, the Canadian Hardiness Zone and the United States Department of Agriculture (USDA) Hardiness Zone System. This document uses the USDA system due to it's current extensive use by gardening enthusiasts, commercial horticulture and industry professionals.

The USDA system is comprised of zones based on the annual minimum temperatures; with zone 1 being the coldest zone and zone 11 being the warmest zone. These zones are displayed on a map covering all areas of North America

When choosing a plant, you want to pick a plant that falls within your zone or the next colder zone. For example, if you are in USDA zone 5, you can choose plants that are suitable for zones 1– 5.

The USDA system can be found online at http://www.usna.usda.gov/Hardzone/ushzmap.html

# Plant Water Requirements

In many wildland/urban interface areas water usage is also an ongoing concern. In some areas, watering restrictions or bans during summer months are common. This raises the concern of increased wildfire risk due to dry landscape vegetation. Even in the driest regions of Canada , homeowners can conserve water, and have beautiful FireSmart landscapes.

### Plan your Landscape for Water Use

There are many beautiful trees, shrubs and flowers with low water requirements that are also FireSmart (see the FireSmart plant list). If you choose FireSmart plants with higher water requirements, group them together so you can water your yard more efficiently.

### Consider Xeriscaping

We all love beautiful surroundings. Xeriscaping is a method of gardening that doesn't sacrifice beauty to conserve water. In fact, if a landscape isn't attractive, then it isn't a xeriscape. The principles of xeriscaping can be applied to any landscape style and can be as plain or elaborate as desired.

### Reasons to Xeriscape

The average Canadian uses 326 litres of water per day. In dry climates of Canada, summertime water usage can be as high as 2200 litres of water per person, per day! Eighty percent of the water consumed in the summer is used outdoors to water grass, hose driveways and to wash vehicles.

In addition to using less water, a xeriscape garden requires less weeding, fertilizing, pruning, mowing and pesticides.

### Xeriscaping is Relative

Drier climates of Canada can receive as little as 200 mm of rainfall per year, while wetter areas can receive 1500 mm of precipitation, or more! So, plants that are considered xeriscape in some places may not be suitable in others

### Turf and Water Use

A well maintained lawn can serve as an effective firebreak as part of your FireSmart landscape. Lawns can also add to the enjoyment of your yard, to property values, and help cool your home in the summer, reducing energy for air-conditioners. However, most lawns are much larger than required and consume high amounts of water in comparison to most other plantings.

- Take a look at your lawn and ask yourself these questions:
- How much of my lawn is actually walked or played on?
- Is it there because I don't know what else to do with that area?
- Are there areas that are difficult or dangerous to mow?

- Could sections of the lawn be replaced by groundcovers, shrubs or ornamental grasses that need less water and maintenance?
- Are there areas where hard surfaces like walkways or decks would make the living space more practical?

### Caution: Bark Mulch and Pine Needle Mulch

Bark mulch , pine needle mulches and other plant-based mulches offer many benefits to gardens. However, these mulches are susceptible to ignition from wildfire embers or cigarettes, increasing the fire threat to your home. When landscaping against your home, consider using gravel mulch, rock mulch, or a combination of plant mulch and decorative rock mulch to reduce the risk.

### Plant Exposure

Whether an area is sunny or shady, windy or protected, exposure will determine what plants will flourish where.

### Landscape Value

Try to plant for year round interest and enjoyment by considering more than just flowers. Think about colour and texture of leaves, bark and fruit, along with overall branching and shape of various plants.

### Maintenance

Plants vary greatly in the amount of care required to keep them looking attractive. Select plants that realistically meet your gardening time constraints.

### Invasive and Noxious Plants

You can help prevent the establishment and spread of invasive plants in Canada by knowing what you're planting. If you are unsure, check with credible sources to confirm that you are not planting invasives.

# Wildlife Conflicts and Your Landscape

In many wildland/urban interface areas most plants will attract wildlife. In most cases this does not result in conflict of high consequence. In some cases, however, it can result in very dangerous situations for both humans and wildlife. The most prominent example is that of human/bear conflicts. Consider these tips to reduce this conflict potential

### Fruit Trees

- Pick fruit and allow it to ripen indoors or pick daily as it ripens. Do not allow windfall to accumulate on the ground.
- If you do not want the fruit, prune the tree vigorously to prevent blossoms or spray spring blossoms with a garden hose to knock them off.
- If you would like to make the fruit available to others, contact a local fruit exchange program or food bank.

Consider using electric fencing to protect your fruit trees.

If you no longer want to manage your tree, consider replacement with a native, non-fruit bearing variety.

### Berry Bushes

- Berries should be picked as they ripen.
- Consider replacing your bushes with native, non-fruiting varieties if you do not want the fruit.

Consider using electric fencing to protect your fruit trees.

| TREES | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| Scientific Name | Common Name | | | | Very Low | Low | Medium | High |
| Acer circinatum * | Vine Maple | 4 | fs-psh | 4.5 - 6 m | | | ● | |
| Acer ginnala | Amur Maple | 2 | fs-psh | 4.5 - 6 m | | | ● | |
| Acer glabrum * | Rocky Mountain Maple | 4 | fs-psh | 3 - 4.5 m | | | ● | |
| Acer grandidentatum * | Big-tooth Maple | 4 | fs-psh | 3 - 6 m | | | ● | |
| Acer macrophyllum | Bigleaf Maple | 5 | fs | 9 - 23 m | | | | ● |
| Acer palmatum | Japanese Maple | 5 - 6 | ps | 4.5 - 7.5 m | | | | ● |
| Acer platanoides | Norway Maple | 3 | fs | 12 - 15 m | | | ● | ● |
| Acer rubrum | Red Maple | 3 | fs | 12 - 18 m | | | | ● |
| Acer saccharinum | Silver Maple | 3 | fs | 15 - 21 m | | | ● | ● |
| Aesculus hippocastanum | Horsechestnut | 3 | fs | 12 - 15 m | | | ● | |
| Alnus rubra * | Red Alder | 5 | fs-psh | 13 - 15 m | | | ● | |
| Alnus tenuiflolia * | Mountain Alder | 5 | fs | 6 - 7.5 m | | | ● | |
| Amelanchier alnifolia | Saskatoon | 4 | fs-psh | 2.5 - 3.5 m | | ● | | |
| Arbutus menziesii * | Madrone | 7 | fs | 6 - 30 m | | ● | | |
| Betula occidentalis * | Water Birch | 2 | fs-sh | 6 - 9 m | | | | ● |
| Betula spp. | Birch | 2 - 9 | fs | 9 - 12 m | | | | ● |
| Carpinus betulus | Hornbeam | 4 | fs | 12 - 18 m | | | | ● |
| Catalpa speciosa | Catalpa | 4 | fs | 12 - 15 m | | | ● | |
| Celtis occidentalis | Common Hackberry | 2 | fs-psh | 12 - 15 m | | | ● | |
| Cercis canadensis | Eastern Redbud | 4 | fs | 7.5 - 10.5 m | | | ● | |
| Cornus florida | Flowering Dogwood | 5 | fs | 6 - 9 m | | | | ● |
| Crataegus spp. | Hawthorn | 3 - 4 | fs | 4.5 - 6 m | | | ● | |
| Fagus sylvatica | European Beech | 4 | fs | 15 - 18 m | | | | ● |
| Fraxinus americana | White Ash | 3 | fs | 12 - 18 m | | | ● | |
| Fraxinus pennsylvanica | Green Ash | 3 | fs | 12 - 18 m | | ● | ● | ● |
| Ginkgo biloba | Ginkgo, Maidenhair Tree | 3 | fs | 15 - 25 m | | | ● | |

| TREES | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| Scientific Name | Common Name | | | | Very Low | Low | Medium | High |
| Gleditsia triacanthos | Honeylocust | 3 | fs | 9 - 21 m | | ● | | |
| Gymnocladus dioicus | Kentucky Coffee Tree | 3 | fs | 12 - 15 m | | | ● | |
| Juglans cinerea | Butternut | 3 | fs | 12 - 18 m | | | ● | |
| Juglans nigra | Black Walnut | 4 | fs | 12 - 18+ m | | | ● | |
| Koelreuteria paniculata | Golden Raintree | 5 | fs | 9 - 12 m | | ● | | |
| Laburnum watereri | Golden Chain Tree | 5 | fs-psh | 3.5 - 4.5 m | | | ● | |
| Larix occidentalis | Western Larch | 4 | fs | 30 - 55 m | | | ● | |
| Liquidambur styraciflua | Sweetgum | 5 | fs | 18 - 23 m | | | ● | |
| Liriodendron tulipifera | Tulip Tree | 4 | fs | 21 - 27 m | | | | ● |
| Maackia amurensis | Amur Maackia | 3 | fs | 6 - 9 m | | | ● | |
| Malus spp. | Crab Apple - Ornamental | 4 - 8 | fs-psh | 4.5 - 6 m | | ● | ● | |
| Morus alba | Mulberry | 4 | fs-psh | 9 - 15 m | | | ● | |
| Nyssa sylvatica | Blackgum, Black Tupelo | 3 | fs-psh | 9 - 15 m | | | | ● |
| Phellodendron amurense | Amur Corktree | 3 | fs | 9 - 14 m | | | | ● |
| Pinus nigra | Austrian Pine | 4 | fs | 15 - 18 m | | | ● | |
| Pinus ponderosa | Ponderosa Pine | 3 | fs | 18 - 30 m | ● | | | |
| Platanus acerifolia | London Planetree | 4 | fs-psh | 21 - 30 m | | | ● | |
| Platanus racemosa | Western or California Sycamore | 7 | fs | 12 - 24 m | | | ● | |
| Populus spp. * | Cottonwood | 2 - 3 | fs | 40 m | | | ● | |
| Populus tremuloides | Trembling Aspen, Quaking Aspen | 1 | fs-psh | 9 - 12 m | | | ● | ● |
| Prunus cerasifera | Flowering Plum | 4 | fs | 4.5 - 9 m | | ● | | |
| Prunus maackia | Amur Cherry | 2 | fs-psh | 10.5 - 13.5 m | | | ● | |
| Prunus padus commutata | Mayday Tree | 3 | fs-psh | 9 - 12 m | | | ● | |
| Prunus serotina | Black Cherry | 3 | fs-psh | 15 - 18 m | | | ● | |
| Prunus virginiana | Chokecherry | 2 | fs | 6 - 9 m | | | ● | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Prunus virginiana 'Schubert' | Schubert Chokecherry | 3 | fs-psh | 6 - 9 m | | | ● | |
| Pyrus spp. | Pear | 3 - 8 | fs | 9 - 15 m | | | ● | |
| Quercus alba | White Oak | 3 | fs | 15 - 25 m | | | | ● |
| Quercus falcata | Southern Red Oak | 7 | fs | 21 - 24 m | | | | ● |
| Quercus garryana * | Garry Oak | 6 | fs | 12 - 27 m | | | | ● |
| Quercus macrocarpa | Bur Oak | 2 | fs | 21 - 24 m | | | ● | |
| Quercus palustris | Pin Oak | 4 | fs | 15 - 21 m | | | ● | |
| Quercus rubra | Red Oak | 4 | fs | 18 - 23 m | | | ● | |
| Rhus copallina | Shining Sumac | 4 | fs | 8 m | | ● | | |
| Rhus typhina | Staghorn Sumac | 3 | fs-psh | 4.5 - 7.5 m | | ● | ● | |
| Robinia psheudoacacia 'Purple Robe' | Purple Robe Locust | 3 | fs | 9 - 12 m | | ● | | |
| Salix babylonica | Weeping Willow | 5 | fs | 9 - 12 m | | | | ● |
| Sassafras albidum | Sassafras | 4 | fs-psh | 9 - 18 m | | | | ● |
| Sophora japonica | Japanese Pagoda Tree | 4 | fs-psh | 15 - 21 m | | | ● | |
| Sorbus aucuparia | European Mountain Ash | 3 | fs-psh | 6 - 9 m | | ● | ● | |
| Sorbus scopulina * | Western Mountain Ash | 2 - 4 | fs-psh | 15 - 25 m | | | | ● |
| Tilia spp. | Linden | | | | | | ● | ● |

| SHRUBS | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| **Scientific Name** | **Common Name** | | | | | | | |
| Amelanchier sp. | Saskatoon, Serviceberry | 4 | fs-psh | 2.5 - 3.5 m | | ● | | |
| Amorpha fruticosa * | False Indigo, Indigobrush | 4 | fs-psh | 4.5 m | | | ● | |
| Aronia spp. | Chokeberry | 3 - 4 | fs-psh | 1.8 - 3 m | | | ● | |
| Atriplex sp. * | Saltbrush | 6 | fs | 0.9 - 1.8 m | ● | | | |
| Berberis sp. | Barberry | 4 - 9 | fs | 0.45 - 1.5 m | | ● | | |
| Buddleia sp. | Butterfly Bush | 5 | fs | 3 - 4.5 m | | | ● | |
| Caluna vulgaris | Heather | 4 | fs-psh | 10 - 60 cm | | | ● | |
| Caragana arborescens | Siberian Peashrub | 2 | fs-psh | 4.5 - 6 m | ● | ● | | |

| SHRUBS | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| Scientific Name | Common Name | | | | Very Low | Low | Medium | High |
| Caryopteris x clandonensis | Blue-mist Spirea | 5 | fs-psh | 0.90 - 1.5 m | | ● | | |
| Ceanothus gloriosus | Point Reyes Ceanothus | 7 | fs-psh | 30 - 90 cm | | ● | | |
| Ceanothus ovatus | Ceanothus | 4 | fs-psh | 60 - 90 cm | | ● | | |
| Ceanothus prostratus * | Mahala Mat | 5 | fs | 2.5 - 7.5 cm | | ● | | |
| Ceanothus spp. | Snowbrush, Buckbrush, Sticky Laurel | 4 | fs-psh | 0.5 - 3 m | | ● | | |
| Chaenomeles spp. | Quince | 4 | fs-psh | 0.6 - 3 m | | | ● | |
| Chrysothamnus spp. | Rabbitbrush, Rabbitbush | 3 | fs | 1 m | ● | | | |
| Cistus purpureus | Orchid Rockrose | 8 | fs | 0.90 - 1.20 m | | ● | | |
| Cornus sericea | Red-twig Dogwood, Redosier Dogwood | 2 | fs | 2.1 - 3 m | | ● | ● | ● |
| Corylus cornuta * | Beaked Hazelnut, Filbert | 4 | fs-psh | 1.2 - 2.4 m | | ● | | |
| Cotinus coggygria | Smoke Tree | 4 | fs | 3 - 4. 5 m | | ● | | |
| Cotoneaster acutifolius | Cotoneaster, Peking | 4 | fs-psh | 1. 8 - 3 m | | ● | ● | |
| Cotoneaster apiculatus | Cotoneaster, Cranberry | 4 | fs-psh | 90 cm | | | ● | |
| Daphne x burkwoodii | Daphne, Carol Mackie | 4 | fs-psh | 0.60 - 1.2 m | | | ● | |
| Elaeagnus commutata | Silverberry | 2 | fs | 1. 8 - 3.5 m | | ● | | |
| Euonymus alatus 'Compactus' | Burning Bush | 4 | fs-psh | 1.2 - 1.8 m | | | | ● |
| Forsythia spp. | Forsythia | 4 - 5 | fs | 2.5 - 3 m | | ● | ● | |
| Gaultheria shallon | Salal | 6 | fs-psh | 0.30 - 3 m | | | | ● |
| Hamamelis spp. | Witchhazel | 3 - 5 | fs-psh | 1.8 - 9 m | | | ● | |
| Hibiscus syriacus | Rose of Sharon | 5 | fs-psh | 2.5 - 3.5 m | | | ● | |
| Holodiscus discolor | Oceanspray | 5 | fs-psh | 1.8 - 2.7 m | | | ● | |
| Hydrangea quercifolia | Oakleaf Hydrangea | 5 | fs-psh | 1.2 - 1.8 m | | | ● | |
| Kerria japonica | Japanese Kerria | 4 | ps | 0.9 - 1.8 m | | | ● | |
| Ligustrum spp. | Privet | 3-8 | fs-psh | 1.8 - 4.5 m | | | ● | |
| Lonicera tatarica | Tatarian Honeysuckle | 3 | fs-psh | 3 - 3.5 m | | | ● | |

| SHRUBS | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| Scientific Name | Common Name | | | | Very Low | Low | Medium | High |
| Mahonia aquifolium | Oregon Grape | 3 | fs-psh | 1.5 - 1.8 m | | ● | ● | |
| Mahonia repens | Creeping Holly | 3 | fs-psh | 30 - 45 cm | | | ● | |
| Paxistima myrtifolia | Oregon Boxwood | 5 | fs-psh | 0.30 - 1.2 m | | | | ● |
| Philadelphus sp. | Mock Orange | 4 | fs-psh | 1.8 - 2.4 m | | ● | ● | |
| Physocarpus opulifolius | Ninebark | 2 | fs-psh | 1.5 - 3 m | | ● | ● | |
| Potentilla fruticosa | Potentilla, Cinquefoil | 2 | fs-psh | 0.3 - 1.2 m | | ● | | |
| Prunus besseyi | Western Sandcherry | 3 | fs-psh | 1.2 - 1.8 m | | | ● | |
| Prunus cistena | Purple-Leaf Sand Cherry | 2 | fs-psh | 2 - 3 m | | | ● | |
| Prunus tomentosa | Nanking Cherry | 2 | fs-psh | 1.8 - 3 m | | | ● | |
| Prunus triloba | Flowering Almond / Double Flowering plum | 3 | fs-psh | 3.5 - 4.5 m | | ● | ● | |
| Prunus virginiana melanocarpa* | Western Chokecherry | 2 | fs-psh | 5.5 - 7.5 m | | | ● | |
| Purshia tridentata * | Antelope Bitterbrush | 3 | fs | 1 - 2 m | | | ● | |
| Pyracantha coccinea | Firethorn / Pyrcantha | 6 | fs-psh | 1.8 - 5.5 m | | | ● | |
| Rhamnus frangula | Tallhedge Glossy Buckthorn | 2 | fs-psh | 2.5 - 3.5 m | | | ● | |
| Rhododendron macrophylum* | Pacific Rhododendron | 6 | fs-psh | 1.8 - 3.6 m | | | | ● |
| Rhododendron occidentale | Western Azalea | 6 | fs-psh | 1.5 m | | | | ● |
| Rhus aromatica | Fragrant Sumac | 3 | fs-psh | 0.6 - 1.8 m | ● | | | |
| Rhus glabra | Smooth Sumac | 2 | fs-psh | 2.75 - 4.5 m | | ● | | |
| Rhus trilobata * | Sumac, Skunkbrush | 4 | fs-psh | 0.9 - 1.8 m | | ● | | |
| Ribes alpinum | Alpine Currant | 2 | fs-psh | 0.90 - 1.8 m | | ● | ● | |
| Rosa rugosa 'Hansa' | Rugosa Rose | 2 | fs-psh | 1.5 - 1.8 m | | ● | ● | |
| Rosa woodsii * | Wood's Rose | 4 | fs-psh | 0.90 - 1.8 m | | | ● | |
| Rubus sp. | Raspberry | 3 - 5 | fs-psh | 2 - 150 cm | | | ● | |
| Salix spp. | Willow e.g. Blue Fox | 2 | fs | 1.8 - 3 m | | | | ● |
| Sambucus spp. | Elderberry | 3 - 5 | fs-psh | 1.5 - 9 m | | ● | | |

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|---|---|---|---|---|---|---|---|---|
| Santolina chamaecyparissus | Santolina, Grey Lavender, Lavender Cotton | 6 | fs | 30 - 60 cm | | ● | | |
| Shepherdia spp. | Buffaloberry | 2 | fs | 1.8 - 3.0 m | ● | | | |
| Spirea alba * | Meadowsweet | 3 | fs-sh | 0.9 - 1.8 m | | | ● | |
| Spiraea douglasii | Western Spirea, Hardhack | 4 | fs-psh | 0.90 - 1.8 m | | | ● | |
| Spiraea spp. | Spirea | 3 | fs-psh | 0.60 - 1.2 m | | ● | ● | |
| Symphoricarpos albus | Snowberry | 3 | fs-psh | 1.2 - 1.8 m | | ● | | |
| Syringa vulgaris | Common Lilac | 3 | fs-psh | 1.5 - 4.5 m | | ● | ● | |
| Vaccinum spp. | Blueberry | 2 - 8 | fs-psh | 0.15 - 3.5 m | | | ● | |
| Viburnum acerifolium | Maple Leaf Viburnum | 3 | sh | 1.2 - 1.8 m | | | ● | |
| Viburnum edule * | High-bush Cranberry | 5 | fs | 1.8 - 2.5 m | | | ● | |
| Viburnum trilobum | Cranberry Bush | 2 | fs-psh | 1.2 - 3.5 m | | | ● | |

| VINES AND GROUNDCOVER | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| **Scientific Name** | **Common Name** | | | | | | | |
| Ajuga reptans | Carpet Bugle | 4 | fs-psh | 10 - 25 cm | | | ● | |
| Antennaria rosea | Pussytoes | 4 | fs | 10 - 30 cm | | ● | ● | |
| Arctostaphylos uva-ursi | Kinnickinnick | 2 | fs-psh | 10 - 20 cm | ● | ● | | |
| Armeria maritima | Thrift | 4 | fs-psh | 15 - 25 cm | | ● | | |
| Artemisia caucasica | Silver Spreader | 4 | fs-psh | 15 - 20 cm | | ● | | |
| Artemisia stelleriana | Beach Wormwood, Dusty Miller | 3 | fs | 20 cm | | ● | | |
| Campshis radicans | Trumpet Vine | 4 | fs | 6 - 12 m | | | ● | |
| Cerastium tomentosum | Snow-In-Summer | 3 | fs-psh | 15 - 30 cm | | ● | | |
| Clematis spp. | Clematis | 3 - 5 | ps | 1.5 - 1.8 m | | | | ● |
| Cotoneaster dammeri | Cottoneaster, Bearberry | 5 | fs-psh | 30 - 45 cm | | | ● | |
| Cotoneaster horizontalis | Cotoneaster, Horizontalis | 4 | fs-psh | 60 - 90 cm | | | ● | |
| Duchesnea indica | Mock Strawberry | 5 | fs-psh | <15 cm | | n/a | | |
| Euonymus fortunei | Wintercreeper | 4 | fs-sh | 10 - 15 cm | | | ● | |

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|---|---|---|---|---|---|---|---|---|
| Gaultheria procumbens | Wintergreen | 3 | fs-psh | 15 cm | | | ● | |
| Lamium sp. | Dead Nettle | 3 | fs-psh | 10 - 30 cm | | | ● | |
| Lathyrus latifolius | Perrenial Sweet Pea | 3 | fs-psh | | | ● | | |
| Liriope spicatum | Lily-turf | 4 | fs-sh | 20 - 30 cm | | | ● | |
| Lonicera sp. | Honeysuckle | 4 | fs-psh | spread 3+m | | ● | | |
| Pachysandra terminalis | Japanese Spurge | 5 | fs-psh | 15 - 20 cm | | | ● | |
| Parthenocissus quinquefolia | Virginia Creeper | 3 | fs-sh | 9 - 15+ m | | ● | ● | |
| Potentilla neumanniana 'Nana' | Spring Cinquefoil, Creeping Potentilla | 4 | fs-psh | 5 - 10 cm | | | ● | |
| Rosa setigera | Climbing Rose | 4 | fs-psh | 1.0 - 4.5 m | | | ● | |
| Sedum sp. | Stonecrop, Sedum (creeping) | 3 | fs-psh | 5 - 30 cm | ● | | | |
| Thymus praecox | Creeping Thyme | 3 - 4 | fs-psh | 2.5 - 10 cm | | ● | ● | |
| Thymus pseudolanuginosus | Wooly Thyme | 3 | fs | 7.5 - 10 cm | | ● | | |
| Thymus spp. | Thyme | 3 - 5 | fs | 1 cm | | ● | | |
| Vinca major | Large Periwinkle | 7 | ps-sh | 30 - 45 cm | | | ● | |
| Vinca minor | Periwinkle | 3 | fs - sh | 7 - 15 cm | | | ● | |

| GRASSES | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| **Scientific Name** | **Common Name** | | | | | | | |
| Agropyron cristatum | Wheatgrass, Crested, Western | 3 | fs | 50 - 100 cm | ● | | | |
| Bouteloua gracilis | Mosquito Grass, Blue Grama Grass | 3 | fs | 30 cm | ● | ● | | |
| Buchloe dactyloides | Buffalograss | 4 | fs | 30 cm | | ● | ● | ● |
| Carex spp. | Sedges | 4 - 8 | fs-psh | 30 - 45 cm | | | | ● |
| Dactylis glomerata * | Orchardgrass | 5 | fs-psh | 30 - 60 cm | | ● | | |
| Elymus elymoides * | Squirreltail Grass | 3 | ps | 30 - 60 cm | | ● | | |
| Festuca arundinacea | Fescue, Tall | 2 | fs-psh | 1.2 m | | | ● | ● |
| Festuca cinerea | Fescue, Blue | 4 | fs-psh | 10 - 20 cm | | ● | | |
| Festuca rubra | Fescue, Creeping Red | 5 | fs-psh | 5 - 7.5 cm | | | | ● |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Koeleria macrantha | Junegrass | 4 | fs-psh | 30 - 60 cm | | | ● | |
| Lolium spp. | Ryegrass | 4 - 6 | fs | 30 - 80 cm | | ● | ● | |
| Pascopyrum smithii * | Western Wheatgrass | 5 | fs | 30 - 90 cm | | ● | | |
| Poa fendleriana * | Muttongrass | 3 | ps | 30 - 60 cm | | | n/a | |
| Poa secunda * | Sandberg Bluegrass | 2 | fs | 30 cm | | | n/a | |
| Scirpus atrovirens * | Bulrushes | 3 | fs | 1 - 1.5 m | | | n/a | |
| Sporobolus cryptandrus * | Sand Dropseed | 5 | fs | 1 m | | | n/a | |
| Heterostipa comata * | Porcupine Grass, Needle-and-thread Grass | 3 | psh | 90 cm | | ● | | |

## PERENNIALS AND BIENNIALS

| Scientific Name | Common Name | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| Achillea sp. | Yarrow | 4 | fs | 15 - 90 cm | ● | | | |
| Aconitum spp. * | Monkshood | 3 | fs-psh | 45 - 60 cm | | | | ● |
| Alcea rosea | Hollyhock | 3 | fs | 120 - 180 cm | | | ● | ● |
| Alchemilla sp. | Lady's Mantle | 3 | ps | 30 cm | | | ● | |
| Allium sp. | Chives | 4 | fs-psh | 30 - 60 cm | | ● | ● | |
| Anaphalis margaritacea | Pearly Everlasting | 4 | fs | 20 - 90 cm | | ● | | |
| Anemone blanda | Windflower | 5 | fs-psh | 15 - 30 cm | | | ● | |
| Aquilegia sp. | Columbine | 3 | fs-psh | 25 - 90 cm | | | ● | |
| Arabis sp. | Rockcress | 3 | fs | <30cm | | | ● | |
| Armeria maritima | Sea Pinks | 3 | fs-psh | 15 - 30 cm | | | ● | |
| Artemisia frigida * | Pasture Sage, Fringed Sage | 3 | fs | 30 - 60 cm | ● | | | |
| Asarum caudatum * | Wild Ginger, Winterfat | 7 | ps | 10 cm | | | ● | |
| Asclepias incarnata | Swamp Milkweed | 3 | fs-psh | 1.2 m | | | ● | |
| Aster puniceus * | Swamp Aster | 2 | fs-psh | 50 - 100 cm | | | ● | |
| Aster spp. | Aster | 3 | fs | 0.15 - 1.8 m | | | ● | |
| Aubrieta deltoidea | False Rockcress | 4 | fs-psh | 7.5 - 20 cm | | ● | | |
| Aurinia saxatalis | Basket of Gold | 3 | fs | 20 - 45 cm | | ● | ● | |

# PERENNIALS AND BIENNIALS

| Scientific Name | Common Name | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category: Very Low | Water Use Category: Low | Water Use Category: Medium | Water Use Category: High |
|---|---|---|---|---|---|---|---|---|
| Bergenia cordifolia | Bergenia | 3 | fs-psh | 30 - 35 cm | | | | ● |
| Campanula rotundifolia | Common Harebell | 3 | fs-psh | 15 - 30 cm | | | ● | |
| Centranthus ruber | Red Valerian | 4 | fs-psh | 60 - 75 cm | | ● | | |
| Claytonia lanceolata * | Spring Beauty | 5 | fs | 15 - 45 m | | | | ● |
| Convallaria majalis | Lily-of-the-valley | 2 | sh | <30 cm | | | | ● |
| Coreopsis auriculata var. Nana | Coreopshis, Dwarf Mouse Ear | 3 | fs | 30 - 60 cm | | ● | | |
| Coreopsis sp. | Coreopshis, Tickseed | 3 | fs-psh | 25 - 60 cm | | ● | | |
| Delosperma cooperi | Ice Plant - Purple | 5 | fs-psh | 2.5 - 10 cm | | ● | | |
| Delosperma nubigenum | Ice Plant - Yellow | 4 | fs-psh | 2.5 - 7.5 cm | | ● | | |
| Delphinium sp. | Delphinium | 3 | fs-psh | 30 - 210 cm | | | ● | |
| Dianthus sp. | Dianthus, Garden Carnation, Pinks | 3 | fs-psh | 5 - 30 cm | | | ● | |
| Dodecatheon meadia | Shooting Star | 4 | sh-psh | 50 cm | | | | ● |
| Doronicum sp. | Leopard's Bane | 4 | fs-psh | 30 - 60 cm | | | ● | |
| Echinacea purpurea | Purple Coneflower | 3 | fs | 60 - 90 cm | | | ● | |
| Epilobium angustifolium * | Fireweed | 3 | fs-psh | 60 - 90 cm | | ● | | |
| Erigeron hybrids | Fleabane | 4 | fs | <30 cm | | ● | | |
| Erysimum asperum * | Western Wallflower | 3 | fs-psh | 30 cm | | | ● | |
| Eupatorium maculatum | Joe Pye Weed | 5 | fs-psh | 1 - 1.5 m | | | ● | |
| Eupatorium perfoliatum | Boneset | 3 | fs-psh | 50 - 100 cm | | | ● | |
| Euphorbia epithymoides | Cushion Spurge | 3 | fs | 30 - 45 cm | | ● | | |
| Fragaria sp. * | Strawberry, Wild | 5 | fs | 20 - 25 cm | | | ● | |
| Gaillardia sp. | Blanket Flower | 3 | fs | 20 - 90 cm | | ● | | |
| Galium boreale * | Northern Bedstraw | 5 | sh | <30 cm | | | | ● |
| Geranium cinereum | Cranesbill, Grayleaf | 4 | fs-psh | 10 - 15 cm | | ● | ● | |
| Geranium maculatum | Cranesbill, Wild Geranium | 5 | fs-psh | 45 - 75 cm | | | ● | |

# PERENNIALS AND BIENNIALS

| Scientific Name | Common Name | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category: Very Low | Low | Medium | High |
|---|---|---|---|---|---|---|---|---|
| Geranium sanguineum | Cranesbill, Blood-red | 3 | fs-psh | 10 - 30 cm | | | ● | |
| Geum triflorum * | Old Man's Whiskers, Prairie Smoke | 5 | fs-psh | 45 cm | | | ● | |
| Helianthemum nummularium | Sun Rose | 3 | fs-psh | 30 - 50 cm | | ● | | |
| Hemerocallis hybrids | Daylily | 3 | fs-psh | 30 - 120 cm | | ● | ● | |
| Heuchera sanguinea | Coral Bells, Heuchera | 3 | fs-psh | 30 - 50 cm | | ● | ● | |
| Hosta sp. | Hosta, Plantain Lily | 3 | fs-psh | 15 - 90 cm | | | | ● |
| Iberis sempervirens | Candytuft | 3 | fs | 23 - 30 cm | | | ● | |
| Ipomopsis aggregata * | Scarlet Gilia | 7 | fs-psh | 30 - 60 cm | ● | | | |
| Iris hybrids | Iris | 3 | fs | 40 - 60 cm | | ● | ● | |
| Iris missouriensis * | Rocky Mountain Iris | 3 | fs | 30 - 60 cm | | | ● | |
| Kniphofia uvaria | Red-Hot Poker | 4 | fs | 30 - 120 cm | | ● | ● | |
| Lavandula sp. | Lavender | 4 | fs | 30 - 60 cm | | | ● | |
| Leucanthemum x superbum | Shasta Daisy | 4 | fs-psh | 60 - 90 cm | | ● | ● | |
| Leucocrinum montanum * | Sand Lily, Star Lily | 6 | fs | <30 cm | | n/a | | |
| Liatris puncata * | Dotted Gayfeather | 3 | fs | 30 - 60 cm | | | | |
| Limonium latifolium | Sea-lavender, Statice | 4 | fs | 75 cm | | | ● | |
| Linum perenne | Perennial Flax | 2 | fs-psh | 30 - 50 cm | | ● | | |
| Lupinus argenteus * | Silver Lupine | 3 | ps | 30 - 90 cm | | ● | | |
| Lupinus hybrids | Lupine, Russell Hybrids | 4 | fs-psh | 45 - 120 cm | | | ● | |
| Medicago sativa | Alfalfa | 5 | fs | 100 cm | | n/a | | |
| Mertensia lanceolata * | Narrow-leaved Chiming Bells | 3 | ps | 30 - 60 cm | | n/a | | |
| Mertensia virginica | Virginia Bluebells | 3 | ps | 50 cm | | | | ● |
| Monarda fistulosa | Wild Bergamot, Native Beebalm | 3 | fs-psh | 30 - 60 cm | | ● | | |
| Nepeta racemosa | Catmint | 3 | fs | 30 - 60 cm | | ● | ● | |
| Oenothera spp. | Primrose | 3 | fs-psh | 15 - 30 cm | | ● | | |

# PERENNIALS AND BIENNIALS

| Scientific Name | Common Name | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category: Very Low | Low | Medium | High |
|---|---|---|---|---|---|---|---|---|
| Onoclea sensibilis | Sensitive Fern | 4 | sh-psh | 50 cm | | | | ● |
| Opuntia polycantha * | Prickly Pear Cactus | 3 | fs | 5 - 60 cm | | ● | | |
| Papaver orientale | Oriental Poppy | 3 | fs-psh | 60 - 90 cm | | | ● | |
| Penstemon spp. | Penstemon, Beardtongue | 3 | fs-psh | 10 - 120 cm | | ● | | |
| Perovskia atriplicifolia | Russian Sage | 4 | fs | 90 - 150 cm | | ● | ● | |
| Phlox subulata | Moss Phlox | 3 | fs | 10 - 15 cm | | | ● | |
| Platycodon grandiflorus | Balloon Flower | 3 | fs | 75 - 90 cm | | | ● | |
| Polemonium spp. | Jacob's Ladder | 2 | fs-psh | 30 - 90 cm | | | ● | |
| Potentilla fissa * | Bigflower Cinquefoil, Leafy Potentilla | 4 | ps | 30 cm | | n/a | | |
| Potentilla nepalensis | Nepal Cinquefoil | 5 | fs-psh | 45 - 60 | | ● | | |
| Pulsatilla patens | Pasque Flower | 5 | fs-psh | 30 cm | | | ● | ● |
| Ratibida columnifera | Prairie Coneflower, Mexican Hat | 3 | fs | 60 cm | | | ● | |
| Rudbeckia fulgida | Black-eyed Susan | 3 | fs | 60 - 90 cm | | | ● | |
| Salvia spp. | Sage, Perennial Salvia | 3 - 5 | fs | 30 - 120 cm | | ● | ● | |
| Saponaria sp. | Soapwort | 2 | fs | 10 - 23 cm | | ● | | |
| Saxifraga hirsuta | Saxifrage | 5 | fs-psh | 15 cm | | | ● | ● |
| Sedum spectabile | Stonecrop, Sedum (upright) | 3 | fs-psh | 30 - 45 cm | | ● | | |
| Sempervivum sp. | Hen-and-chicks | 4 | fs-psh | 5 - 15 cm | ● | | | |
| Solidago missourinesis * | Prairie Goldenrod, Missouri Goldenrod, Smooth Goldenrod | 3 | fs | 30 - 60 cm | | | ● | |
| Stachys byzantina | Lamb's Ears | 4 | fs | 30 - 38 cm | | ● | ● | |
| Tanacetum coccineum | Painted Daisy | 5 | fs-psh | 60 cm | | ● | | |
| Thermopsis montana | False Lupine | 3 | fs-psh | 60 - 90 cm | | | ● | |
| Tradescantia occidentalis * | Prairie Spiderwort, Western Spiderwort | 4 | fs-psh | 45 cm | | ● | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Verbena hastata | Blue Vervain | 3 | fs | 50 - 150 cm | | | ● | |
| Veronica spicata | Veronica, Speedwell | 3 | fs-psh | 2.5 - 15 cm | | | ● | |
| Viola canadensis * | Canadian Violet | 3 | fs-psh | 30 cm | | | | ● |
| Waldsteinia sp. * | Barren Strawberry | 4 | ps | <30 cm | | n/a | | |
| Yucca filamentosa | Yucca | 4 | fs-psh | 60 - 90 cm | ● | | | |

| ANNUALS | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| **Scientific Name** | **Common Name** | | | | | | | |
| Antirrhinum majus | Snapdragon | n/a | fs | 60 - 90 cm | | | ● | ● |
| Gazania ringens | Gazania | n/a | fs | 20 - 40 cm | | | ● | |
| Geranium sp. | Geranium | n/a | fs-psh | 30 - 45 cm | | ● | ● | |
| Lantana sp. | Lantana | n/a | fs | 45 - 75 cm | | ● | | |
| Lathyrus odoratus | Sweet Pea | n/a | fs-psh | 2 m | | | ● | |
| Salvia spp. | Salvia | n/a | fs | 15 - 45 cm | | | ● | |
| Senecio cineraria | Dusty Miller | n/a | fs | 30 - 60 cm | | ● | ● | |
| Viola sp. | Pansy | n/a | fs-psh | 15 - 20 cm | | | ● | ● |

| BULBS | | Hardiness Zone(s) | Sun / Shade | Approx. Mature Height | Water Use Category | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Very Low | Low | Medium | High |
| **Scientific Name** | **Common Name** | | | | | | | |
| Allium cernum | Nodding Onion | 3 | fs-psh | 30 cm | | | ● | |
| Crocus sp. | Crocus | 5 - 8 | fs | 6 - 14 cm | | ● | | |
| Lilium sp. | Lily | 4 - 5 | fs-psh | 60 - 180 cm | | | ● | |
| Narcissus sp. | Daffodil | 4 | fs | 30 - 60 cm | | ● | | |
| Tulbaghia violacea | Society Garlic | 7 | fs | 30 cm | | | ● | |
| Tulipa sp. | Tulip | 4 | fs-psh | 15 - 90 cm | | | ● | |

## LEGEND INFO

* NATIVE PLANTS THAT MAY NOT BE COMMERCIALLY AVAILABLE

Irrigation requirements during growing season:

| | |
|---|---|
| Less than 350 mm (14”) | ● |
| About 350-450 mm (14-18”) | ● |
| About 450 mm+ (18”+) | ● |
| About 500 cm+ (20”+) | ● |

Some plants fit into more than one water use category as they are more adaptable.

## SUN/SHADE

| | |
|---|---|
| Prefers full sun | fs |
| Prefers full sun to part shade | fs-psh |
| Part sun | ps |
| Prefers full shade | sh |

For greatest success and efficient water use, group plants together with similar water requirements.

Not all plants are suitable for every area. Check plant specific requirements.

Turfgrass is in a category all itself - it uses 890 - 1020 mm (35-40 inches) per year.

| | |
|---|---|
| Poa pratensis | Kentucky Bluegrass |

## PLANTS TO AVOID

| Scientific Name | Common Name |
|---|---|
| Cortaderia selloana | Pampas Grass |
| Genista sp. | Broom |
| Ilex spp. | Holly |
| Juniperus spp. | Juniper |
| Pennisetum spp. | Fountain Grass |
| Picea pungens | Colorado Spruce |
| Pinus sp. | Pine |
| Taxus spp. | Yew |
| Thuja spp. | Cedar, Arborvitae |

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