



KITSAP COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT

614 DIVISION STREET MS-36, PORT ORCHARD WASHINGTON 98366-4687
(360) 876 7181 FAX (360) 895 4925

NON-PERMEABLE DRAINAGE

DROUGHT-TOLERANT PLANTS

This is a list of plant species which are generally considered to be drought-tolerant, and which may be used in "xeriscapes" (drought-tolerant landscapes) as allowed in the Kitsap County Zoning Ordinance. This list specifies plants which the County accepts in xeriscapes, but one needs to keep in mind that plants are living things that have developed characteristics which allow them to adapt to a specialized situation. In this case, we are listing plants which have evolved in dry, or arid situations. But there are different adaptations with a range of tolerances, and some plants are better able to exist in the driest of conditions. Alternatively, some plants may be quite drought-tolerant in a semi-shaded condition, but unable to thrive in full sun without more watering than appropriate in a "xeriscape" planting. This list is intended to be a general guide, and non-listed plants may be acceptable with specific approval from the staff. In addition, there are some things to consider beyond the simple question of whether or not a plant is rated as "drought-tolerant."

Essentially, this means that we have to recognize that there are some plants that will thrive in one situation with little or no watering, but not another situation with different conditions. The key is to recognize which conditions make one place different than another, and then either choosing a plant species that will thrive there, or alternatively, a construction/installation method that changes the condition. Some factors that affect this include:

- * Soil quality. "Good" soil (typically thought of as soil with a high organic content) retains water much longer than poor, or dry soil. One may either select plants that will thrive with little soil amendment or else add organic matter to the native dirt to increase the water retention capacity. (Note: This means changing the soil in an entire bed, and not simply adding topsoil in the planting hole. Research has demonstrated that plants ultimately do better in the long term when planted in the existing soil, with fertilizer but no topsoil, as compared to plants that are installed with soil changed only in the planting hole.)
- * Sun exposure. The more sun a site gets, the faster the soil dries out. Good organic soil reduces the impact in this regard, by reducing water loss. The choice is using tougher plants versus improving soil conditions. Conversely, some plants will handle low water conditions on the north side of a building where the ground is shaded, but not full sun conditions.
- * Slope. A steep slope loses water faster than a level area, as well as making it harder to apply water so that it soaks into the ground before it runs off down the hill. Hence, a sloped area in full sun is a "drier" spot than a level area with full sun exposure.
- * The native forest edge. In Kitsap County, it is quite common to have plantings that are installed on a property line, with the land changing quickly from cleared perimeter planting area to existing native forest. This affects the area like slope or full sun, in that the large trees next to the planter will quickly send roots into the planter area. These

roots seek water to nourish the large trees, thereby reducing the water available for the plantings. If the forest edge is to the south, this impact is reduced because the trees provide shade that reduces water loss. Conversely, if the trees are to the north, so that they do not provide shade, the impact is magnified.

The above discussion is a summary, and not intended to be a substitute for expertise. In short, it is an explanation rather than instruction, intended to help you appreciate the complexities rather than teach you how to do a landscape design.

There is one last issue that needs to be discussed in this overview, specifically the question of maintenance (including watering). It is critical to recognize two facts:

1. **NO PLANTING SCHEME IS TRULY DROUGHT-TOLERANT UNTIL THE PLANTS ARE ESTABLISHED, WHICH TAKES TWO OR MORE YEARS. ALL 'XERISCAPES' WILL NEED TO BE WATERED AND THERE MUST BE A WAY TO PROVIDE THIS IRRIGATION.**
2. **"DROUGHT-TOLERANT" IS NOT THE SAME AS "DROUGHT-PROOF". EVEN WELL DESIGNED PLANTINGS MAY NEED OCCASIONAL WATERING DURING AN UNUSUALLY DRY PERIOD!**

Drought-tolerant plants usually have wide-spreading and deep root systems that extract water from a large area. Until a plant has had an opportunity to grow such a root system, it is unrealistic to expect that it will survive a dry period. The establishment period is generally two years or more. Installing the plants in the fall, rather than the spring, lets them start to get established when we in Kitsap County do not need to water, it is raining all the time anyway! If installed in fall, the plantings may only need one year of regular irrigation before they are established sufficiently to cope with a normal dry summer. But we also need to recognize that the plantings need to be monitored. An extended drought can harm even established drought-tolerant plants. The health of the plantings, as well as the amount of rainfall that falls, need to be monitored. If we see that the plants look stressed, or we know that it has been a protracted drought, watering may be appropriate on occasion even with well-established plants. Replacing landscaping is expensive. Although there is always some loss when installing plants, it is well worth it to minimize the losses. Failing to pay attention to the watering needs can result in a widespread loss in a short amount of time.

Following is the list of plants that are acceptable in most "xeriscape" plantings, as allowed for in the Zoning Ordinance, broken down into broad categories such as "Large Evergreen Tree", "Deciduous Shrub" and "Groundcover". The botanical name is the first item listed, with the common name appearing next in parentheses (e.g. *Acer circinatum*, "Vine Maple") There are some symbols used to provide supplemental information on the specific species. The key is as follows:

Drought-Tolerant Plant List

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N = Native Plant S = Best in a shaded or semi-shaded area
U = Not widely available in nurseries, may be difficult to find a source

LARGE EVERGREEN TREES

<i>Abies grandis</i> , "GRAND FIR" (N)	<i>Pinus nigra</i> , "AUSTRIAN BLACK PINE"
<i>Calocedrus decurrens</i> , "INCENSE CEDAR"	<i>Pinus ponderosa</i> , "PONDEROSA PINE"
<i>Cedrus atlantica</i> , "ATLAS CEDAR"	<i>Pinus sylvestris</i> , "SCOTCH PINE"
<i>Cedrus deodora</i> , "DEODAR CEDAR"	<i>Pinus thunbergiana</i> , "JAP. BLACK PINE"
<i>Pinus contorta contorta</i> , "SHORE PINE" (N)	<i>Pseudotsuga menziesii</i> , "DOUGLAS FIR" (N)
<i>Pinus flexilis</i> , "LIMBER PINE"	<i>Sequoiadendron giganteum</i> , "SEQUOIA"

LARGE DECIDUOUS TREES

Gleditsia triacanthos inermis, "THORNLESS HONEYLOCUST"
Platanus acerifolia, "LONDON PLANE TREE"
Quercus garryana, "OREGON WHITE OAK" (U)
Robinia pseudoacacia, "BLACK LOCUST"
Tilia tomentosa, "SILVER LINDEN"

SMALL EVERGREEN TREES

Juniperus chinensis, *J. Scopulorum*, *J. Virginiana*, etc. "COLUMNAR JUNIPERS"
Use any of a wide variety of named cultivars such as "Pyramidalis", "Skyrocket" or "Spartan"

SMALL DECIDUOUS TREES

Acer circinatum, "VINE MAPLE" (N)
Acer ginnala, "AMUR MAPLE"
Acer glabrum douglasi, "DOUGLAS MAPLE" (N,U)
Aesculus californica, "CALIF. BUCKEYE" (U)
Amelanchier alnifolia, "SARVISBERRY" (N)
Amelanchier grandifolia, "SASKATOON"
Cercis occidentalis, "WESTERN REDBUD"
Clerodendrum trichotomum, "HARLEQUIN GLORYBOWER"
Cotinus coggygria, "SMOKETREE"
Crataegus phaenopyrum, "WASHINGTON HAWTHORN"
Kolreuteria paniculata, "GOLDEN RAIN TREE"
Rhus typhina, "STAGHORN SUMAC"

EVERGREEN SHRUBS

- Arbutus unedo (inc. Variety "compacta"), "STRAWBERRY TREE"
- Arctostaphylos columbiana (and related species), "MANZANITA VARIETIES" (N,U)
- Aucuba japonica, "JAPANESE AUCUBA" (S)
- Ceanothus vetchiana, C. 'Victoria', C. 'Julia Phelps', "WILD LILAC"
- Cistus species, "ROCKROSE"
- Cotoneaster parneyi, "PARNEY COTONEASTER"
- Escallonia species, "ESCALLONIA"
- Garrya elliptica, "COAST SILKTASSEL"
- Juniperus species, any spreading variety, "JUNIPER"
- Mahonia aquifolium, "OREGONGRAPE" (N)
- Myrica californica, "PACIFIC WAXMYRTLE" (N)
- Osmanthus delavayi, "DELAVAY OSMANTHUS"
- Osmarea burkwoodi, "OSMAREA"
- Picea abies (var. "Nidiformis, other dwarfs) "BIRD'S NEST SPRUCE"
- Pinus mugo mugo, "DWARF MUGO PINE"
- Pyracantha species, "FIRETHORN"
- Vaccinium ovatum, "EVERGREEN HUCKLEBERRY" (N)

DECIDUOUS SHRUBS

- Buddleia davidii, "BUTTERFLY BUSH"
- Cortaderia selloana, "PAMPAS GRASS"
- Daphne x burkwoodi, "DAPHNE"
- Euonymus alata 'Compacta', "DWARF BURNING BUSH"
- Holodiscus discolor, "OCEAN SPRAY" (N,U)
- Pennisetum setaceum, "FOUNTAIN GRASS"
- Philadelphus lewisii, "MOCK ORANGE" (N,U)
- Potentilla fruticosa, "SHRUBBY CINQUEFOIL"
- Ribes sanguineum, "FLOWERING CURRANT" (N)
- Rosa species (gymnocarpa, nutkana, rubrifolia, virginiana), "WILD ROSES"
- Sorbaria sorbifolia, "FALSE SPIREA"
- Spiraea prunifolia, "BRIDAL WREATH SPIREA"
- Symphoricarpos alba, "COMMON SNOWBERRY" (N)
- Vaccinium parvifolium, "RED HUCKLEBERRY" (N)

GROUNDCOVERS

Arctostaphylos uva-ursi, "KINNIKINNIK", (N)
Ceanothus gloriosus, "POINT REYES CEANOTHUS"
Fragaria chiloense, "BARREN STRAWBERRY" (N)
Gaultheria shallon, "SALAL" (N,S)
Genista pilosa, "BROOM"
Hypericum calycinum, "ST. JOHNSWORT"
Juniper species, prostrate varieties
Mahonia nervosa, "CREEPING OREGONGRAPE", (N,S,U)
Polystichum munitum, "SWORD FERN" (N,S)
Rubus calycinoides, "TRAILING BLACKBERRY"

NOTE: Plants which are demonstrably drought-tolerant and hardy in the area may be used in xeriscapes, notwithstanding that they are not included on this list. Alternative species must be specifically approved prior to inclusion in the plant list.