

Roseville WaterSmart Plant List

Very Low, Low, and Moderate Water-Use

Plants for the Sacramento Region

Introduction and Definitions

The **Roseville WaterSmart Plant List** contains some of the most common **very low, low, and moderate water-use plants** appropriate for the Sacramento region and offers an extensive diversity of plants to suit any style and any size landscape. This list is intended as a tool for participants in rebate and incentive programs for selecting climate-appropriate plants and for calculating the living plant coverage requirement (oftentimes a minimum of 50% plant coverage) for the area converted from lawn (turfgrass) to plants. Refer to the rebate or incentive program for which you are an applicant for specific program requirements and to determine if you must use plants only from this list, or if you can use plants from this list and plants that are not on this list.

Information is provided as a public service and is not to be considered an endorsement of plant material, products, companies, organizations, or services, nor is the information a substitute for the exercise of sound judgment. Availability of plants from retailers and/or growers may vary, depending on the time of year (seasonal availability). Refer to the Credits and Resources section for more information.

Much of what we do in our landscapes can impact our environment and especially our waterways, either negatively or positively. Use of climate-appropriate plants is a key principle of the watershed approach to landscaping which, in the Sacramento region, is referred to as River-Friendly Landscaping (RFL). RFL is an environmentally-friendly way of landscaping or gardening that embodies an integrated approach to conserve water, use rainwater as a resource, improve air and water quality, reduce green waste, create and protect wildlife habitat, and prevent soil erosion and polluted runoff from our landscapes from entering drainage systems, local creeks, streams, and rivers.

River-Friendly landscapes are water efficient, beautiful, and help to promote a balance between our urban/suburban landscapes and the natural environment that surrounds our communities. River-Friendly Landscaping is a whole-systems approach to the design, construction, maintenance, and management of the landscape in order to support the integrity of one of California's most rich and diverse ecosystems -- the Sacramento River watershed.

Plant Lists

Plants on this list are climate appropriate and adapted to the conditions of the Sacramento region. Many plants are California natives that have evolved with our climate, soils, natural features, and wildlife, and have additional benefits and uses, such as drought resilience. Refer to Uses / Benefits section for more information.

Plants are categorized according to the plant type used in the *WUCOLS IV, Water Use Classification of Landscape Species*. Refer to Credits and Resources.

Plants have been divided into the following individual plant lists:

California Natives - These are very low, low, and moderate water-use California native plants that can be found on other lists within the WaterSmart Plant List. For additional native plants, refer to the California Native Plant Society plant database, <https://calscape.org/>, and other reputable resources.

Top Picks Plant List - This list was curated by horticulturists and practicing residential landscape designers in the Sacramento region.

Trees - Trees are woody plants that have a single trunk or multiple trunks and grow to 15 feet tall or more. Trees have been divided into two categories: Trees - Evergreen and Trees - Deciduous. Refer to Plant Type section below for definitions of Evergreen and Deciduous.



This symbol next to the Common Name of a tree means that it is on the Shade Tree Rebate Program Approved Tree List offered by the City of Roseville Electric Utility. Learn more about the Rebate Program and get help on selecting, planting, and caring for trees from the Roseville Urban Forest Foundation (RUFF) at <https://rosevilletree.org/shade-tree/>.

Shrubs - Shrubs are woody plants that can reach up to 15 feet tall, some shrubs even more. Shrubs tend to have deeper root systems than perennial plants, and many shrubs have showy flowers. Shrubs have been divided into three categories: Large Shrubs, Medium Shrubs, and Small Shrubs. Refer to Mature Size section below for the height ranges in each category.

Groundcovers - These plants are low-growing and some can spread to cover a wide area. Some groundcovers are appropriate to use as lawn substitutes. Groundcovers have varying tolerances for foot traffic, so when selecting a groundcover to use as a lawn substitute, select one that best matches the function of the area.

Vines - Vines are trailing or climbing plants. They can be supported by fences or structures, or they may be unsupported, growing on the ground, and considered groundcovers.

Perennials - Perennials are soft-stemmed plants that form little to no woody tissue or herbaceous plants that live from year to year and do not die after flowering once. Refer to Plant Type section below for more information about perennials.

Ornamental Grasses and Grass-Like Plants - Ornamental grasses are perennials and considered grass-like plants. These grasses can grow in bunches or clumps, or they can be running grasses that spread or creep by aboveground stems called stolons or underground stems called rhizomes. They can be cool-season grasses that start to grow early in the spring and may remain semi-evergreen or evergreen over winter. Others may be warm-season grasses that begin to show growth when the weather becomes stable and the soil warms. Warm-season grasses usually turn tan or brown during the fall and require cutting back before new growth begins in the spring.

Palms - Palms are not trees and not woody plants, nor do they have bark. Botanically-speaking, palms are more closely related to grasses and stemless plants than most of the other plants categorized as trees.

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Bulbs - An underground storage organ, comprising a short, flattened stem with roots on its lower surface, and above it fleshy leaves or leaf bases, surrounded by protective scale leaves that may provide means for vegetative reproduction, or for survival of the plant from one season to the next. Bulb-types also include rhizomes, tuberous roots, tubers, and corms.

Succulents - Plants on this list store water in their tissues (in leaves, stems, or both). Leaves are thick, firm, fleshy. Many succulents, but not all, such as cactus, have leaves that are clustered low and near the ground, and arranged similar to petals of a rose.

Column Headings on Plant Lists - Each plant list described above includes the following columns of information, which will be defined below:

| | | |
|--------------------------------|--------------|------------------------------------|
| Genus | Water Use | Mature Size Tall (T) / Wide (W) |
| Species | Plant Type | Plant Coverage Value |
| Variety / Cultivar / Hybrid | Sun Exposure | Bloom Color / Season |
| Common Names | Climate Zone | Uses / Benefits |

Plant Names

Genus and Species - The botanical (scientific) name has at least two words. The first word identifies the genus. Plants within a specific genus have certain botanical features in common, such as leaf arrangement, flower type, or growth habit. The first letter is always capitalized and the name is italicized, such as *Cercis*. The second word is the species name for a particular plant within the genus. This name can be based on the plant's attributes, habitat, or other distinguishing characteristics. This name is always in lower case, italicized letters, such as *canadensis*. These two words form the identifier for the plant, which in this case is *Cercis canadensis*.

Parentheses - A genus or species that has a name in parentheses after it indicates that this plant has an alternate (also known as) or previous name.

Species Abbreviations - Abbreviations for species are written as follows: sp. represents (means) species singular and spp. means species plural; ssp. means subspecies singular and sspp. means subspecies plural, or it may be written as subsp. When sp. or ssp. is the second word after the genus (instead of a specific species name), this abbreviation represents multiple species within one genus. For example, *Veronica* spp. A third word may be added to the botanical name to identify a distinct variety or cultivar within the species.

Variety - Varieties of plants often occur in nature. The variety is written in lower case, italicized letters and often has the abbreviation "var." preceding it. An example of how a variety's name is written: *Cercis canadensis* var. *alba*.

Cultivar - Cultivar means "cultivated variety" of a plant; a plant that has been produced in cultivation by humans and selective breeding; cv. is singular and cvs. is plural, as in cultivars. The first letter of a cultivar's name is capitalized, it is not italicized, and has a single quotation mark at the beginning and end, or it may have the abbreviation cv. before it. Examples of how cultivar names are written: *Cercis canadensis* 'Forest Pansy' or *Cercis canadensis* cv. Forest Pansy.

Hybrid - A hybrid plant is created by crossing two species; hybrids can be man-made or occur naturally. This crossing of two species results in some characteristics of each parent plant and perhaps result in a different creation. Hybrids are written with an "x", as in *Forsythia x intermedia*. When a genus is a hybrid, it is written with an "x" in front of the genus name, such as x *Chitalpa tashkentensis*.

Plant Patents - The abbreviations PPAF or PP after or within a variety's or cultivar's name indicate that a plant patent has been applied for (PPAF) or that a plant is patented (PP); these abbreviations may be accompanied by other patent-related letters and/or numbers. For example, EverColor® Everillo Carex, *Carex oshimensis* 'Everillo' PP# 21,002. In this case, the name EverColor® has an additional distinction in that it is a registered name.

Common Name - The common name for each plant is linked to plant photographs on the internet. Common plant names or common names of plants, also called vernacular names, local names, and country names, are plant names made up from language of every day life and can differ from region to region, as contrasted to specific plants according to botanical or scientific names. While usually easier to pronounce than botanical names, common names may not be accurate, lead to confusion, and apply to more than one plant. For example, when mentioning a Snowball Bush, one may think the plant is a Japanese viburnum, *Viburnum japonicum*, and another may think it's a Snowball Hydrangea, *Hydrangea arborescens*, which is not on this list because it is a high water-use plant. *Liriodendron tulipifera* is commonly known as a Tulip Tree, but it can also be called Yellow Poplar, even though it is not a Poplar tree.

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Water Use

Water-use classifications apply to established plants, not to newly installed plants.

Plant water-use classifications (except where noted) were obtained from *WUCOLS IV, Water Use Classification of Landscape Species*, California Department of Water Resources, University of California Center for Urban Horticulture, 2014, <https://ccuh.ucdavis.edu/wucols-db>. Sacramento is in Region 2, the Central Valley, in WUCOLS IV.

Plant cultivars and hybrids, with some exceptions, may not have been included in *WUCOLS IV* because it was presumed that many cultivars have the same water-use classification as the species.

VL - The abbreviation for **Very Low**. Plants in the VL water-use classification, such as Matilija Poppy, *Romneya coulteri*, generally require no supplemental irrigation except during times of below average fall/winter rainfall.

L - The abbreviation for **Low** water-use classification, such as Strawberry Tree, *Arbutus unedo*. Plants in this category are considered to be water conserving because they perform well with relatively small amounts of supplemental water.

M - The **Moderate** water-use classification is for plants, such as Purple Coneflower, *Echinacea purpurea*, and indicates that these plants need lesser amounts of water than high water-use plants, which are not included in this Plant List.

WNA - The abbreviation for **WUCOLS Not Applicable** pertains to a plant not listed in *WUCOLS IV*. In these instances, the Water Use classification is based on input from nursery and landscape professionals, UC Cooperative Extension and Master Gardeners, horticulturists, research, and reputable resources and references.

Plant Establishment - When plants and trees are first installed, they need a period of time to become established in their new environment. Proper plant establishment requires careful and proper planting, as well as careful watering and monitoring. Frequency of watering will vary based upon plant type, soil type, season, sun exposure, and root depth. Planting in the fall takes advantage of seasonal rains and cooler temperatures, reducing or eliminating the need to apply supplemental water. When planting in the spring or during an unusually dry fall, plants will require supplemental water.

Please note that even drought-tolerant and low water-use plants require a thorough soaking when first planted, and all newly installed plants need the soil to be kept evenly moist. The root ball of newly installed plants and the surrounding native soil should both receive water, in part, to encourage roots to grow into the native soil. For plants other than trees (e.g., shrubs, groundcovers, perennials, etc.), keep the root ball moist, but not soggy, during the first three months after planting. After the first three months, start to water less frequently, but more deeply. Then gradually, over a period of approximately 1 to 1-1/2 years, reduce the water frequency (or stated another way, increase the amount of time between watering) based on the water-use classification for that specific species. Keep in mind, that some low, very low, and no water-use California native plants, once established, do not want supplemental irrigation during summer months. To gain an understanding of how water moves into and through your soil in various seasons, from time-to-time before watering, check soil moisture with a probe, screwdriver, or moisture meter. Refer to the California Native Plant Society website at cnps.org for more information about California natives.

Tree Establishment - Young trees will require regular, weekly watering during warm, dry months and until the rainy season begins. The root ball of newly installed trees and the surrounding native soil should both receive water. Before watering, check soil moisture with a probe, screwdriver, or moisture meter about 8 to 12 inches down into the soil. If soil feels moist and cool, wait several more days before watering. If soil feels dry and crumbly, then water deeply. When watering, the objective is to apply water slowly and deeply so that the entire root ball receives water. According to the Sacramento Tree Foundation, sactree.org, young trees need about 10 to 15 gallons of water per week for the first 3 years. Trees can require regular watering for 3 to 5 years to become established. Refer to Drip Irrigation section below for more information.

Consult the California Native Plant Society, plant retailers, horticulture and landscape professionals, gardening reference books, and/or other reliable resources to understand species-specific requirements, including planting, watering, and caring for young, established, and mature plants.

Drip Irrigation - To use water efficiently and effectively, install irrigation dripline with built-in emitters on the soil surface in a grid pattern with even spacing between lines for uniform watering. Avoid having one single emitter (referred to as point-source emitter) per plant. If point-source emitters are used, install two or more emitters per plant, depending on the size of the root ball, and place them halfway between the dripline of the young tree's or plant's canopy and the stem/trunk. The emitters are not to be next to or in contact with the stem/trunk. This will provide moisture to the root ball and the native soil with the objective of having widespread, uniform soil moisture to drive roots out from the root ball and deeper into the native soil.

For established trees, install irrigation dripline in a circular pattern around the drip line of the tree (this is the edge of the tree's canopy), so the soil receives water from the drip line in toward the trunk to about halfway between the trunk and the drip line, and out from the drip line approximately the same distance. As trees mature, install additional rings of irrigation dripline out beyond the dripline/canopy, with equal spacing between the driplines. For established and mature plants and trees, monthly or at least seasonally, examine soil moisture and site conditions to determine the need and frequency for supplemental water, adjusting the number and placement of drip emitters and the irrigation schedule.

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While drip irrigation is highly efficient, overhead watering may be desirable for some densely planted groundcovers or site-specific conditions. If overhead watering with sprinklers is to be used, new sprinkler heads with precision- or rotary-type nozzles should be used, or existing sprinklers should be retrofitted with precision- or rotary-type nozzles so that water is delivered at a slower rate that can soak into the soil to avoid water runoff. When deciding upon which method of irrigation to use, please consider the specific species of plant, especially because some plants may not tolerate overhead watering. **NOTE:** For participants in Cash-for-Grass or incentive programs, refer to program requirements and/or talk with program staff to determine if overhead watering is permissible.

Irrigation Hydrozone - This is an area of the landscape where all the factors that influence the watering regime are similar. Irrigation hydrozones divide a landscape's irrigation system based upon individual plant water needs and sun requirements, plant height, and planting density (e.g., whether the hydrozone is full of mature plants and/or plants that cover the ground surface completely, or whether it has immature and/or sparsely placed plants).

Factors that determine hydrozones include infiltration rate of water into the soil, soil type, slope, sun exposure, and water needs of the plants. (Infiltration rate is the rate at which water can be applied to the soil without causing runoff.)

Plant Hydrozone - The term **Plant Hydrozone** is a key component of a water-efficient irrigation system and landscape, and it is defined as the practice of grouping or clustering plants with the same water requirements. Through the practice of hydrozoning, it is possible to conserve water, improve efficiency, and avoid overwatering and underwatering through the customization of irrigation schedules for each hydrozone's needs.

Each plant hydrozone should be served by its own valve or control zone separate from other hydrozones, and use only one type of emission device (e.g., sprinklers or drip emitters) throughout that zone. Plants in that zone will be irrigated according to the same schedule, using the same irrigation method. For example, plants irrigated by sprinklers with multi-stream, rotary-type or precision-type nozzles will be on a separate schedule and valve from plants irrigated by drip emitters.

Plant Type

Note: Safety for People, Pets, Pollinators, and Other Garden Life - Refer to: The American Society for the Prevention of Cruelty to Animals, Poisonous Plants, Toxic and Non-Toxic Plants List, <https://www.aspc.org/pet-care/animal-poison-control/toxic-and-non-toxic-plants>, the Humane Society of the United States, <https://www.humanesociety.org/resources/plants-and-food-can-be-poisonous-pets>, and the Xerces Society for invertebrate conservation (especially bees, Monarchs, and other pollinators) and their habitat, <https://xerces.org>.

Evergreen and Deciduous are terms used to describe growth cycles of plants, usually trees and shrubs.

Evergreen - Refers to plants that have persistent leaves; the plant's crown or canopy is never completely bare. The term evergreen also refers to trees in which there is no complete, seasonal loss of leaves, meaning that the trees shed old leaves and produce new ones throughout the year, rather than during particular periods.

Deciduous - Describes a plant that sheds its leaves at the end of the growing season, typically in the fall. Leaves will begin to change colors, slowly falling off branches, leaving them bare during the winter months. However, there are summer-deciduous plants, such as the California Buckeye, *Aesculus californica*, that is summer deciduous or dormant, which is thought to be an adaptation to drought and/or temperatures in hot summer months.

Semi-evergreen - Semi-evergreen plants fall between evergreen and deciduous in terms of growth. These plants may shed leaves for a short period of time in late winter and rejuvenate quickly; they may lose most, but not all, of their leaves for part of the year; and they may be called semi-evergreen due to their response in specific situations, such as droughts, weather/climate conditions, and/or certain insects.

Semi-deciduous - This term may be applied to a plant if their periods of dormancy are dependent upon certain weather conditions. They may shed leaves in cooler months but may retain them in milder/warmer months; they may lose their leaves for only a short period of time before regrowth, or lose their foliage just as new growth emerges.

Summer Dormant - Plants that may keep or lose their leaves in summer, such as the *Aesculus californica*, California Buckeye, which responds to heat or drought stress by dropping its leaves.

Perennial - Perennial plants are those that live more than two years. Technically speaking, trees and shrubs are perennial plants because they grow for more than two years; however, horticulturists usually categorize perennial plants into two types: Woody plants and herbaceous perennials, which can have little or no woody parts. Woody plants are trees, shrubs, and vines with above-ground parts that persist over the winter and resume growth in the spring. Generally, the top portion of a perennial plant dies back each winter and regrows the following spring from its root system, such as Purple Coneflower, *Echinacea purpurea*, whereas, other perennials keep their leaves year round, such as Shasta Daisy, *Chrysanthemum maximum*. Depending on local climate and growing conditions, perennials can behave as annuals.

Herbaceous - These are non-woody plants that die back to the ground each fall or winter; however, the roots survive the winter and the plant re-sprouts in the spring.

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Annual - Annual plants perform their entire life cycle from seed to flower to seed within one growing season. Roots, stems, and leaves of the plant die annually.

Warm-season Ornamental Grass - Often deciduous varieties go dormant in the fall when the soil temperature reaches 55 degrees F. and remain brown throughout the winter until they regrow in the spring. Many thrive during long, hot summer days when temperatures are between 80 and 95 degrees F. Flowering occurs in late summer and fall. Divide and/or transplant in spring when plants are actively growing, after they break dormancy in the spring to early summer. These grasses can also be replanted in fall before going into winter dormancy. Leaving the dried flower stems and foliage add interest and provide habitat in the winter garden.

Cool-season Ornamental Grass - These grasses can grow year round and are often evergreen or semi-evergreen. Flowering occurs in the spring and summer. Many grow more slowly or go dormant when temperatures are consistently above 75 degrees F. Do not divide or transplant these grasses when they are dormant or nearly so in the summer. They can be planted or divided in spring or fall, with spring being the preferred season.

Sun Exposure

Descriptions apply to established plants, not to newly installed plants.

In addition to grouping plants according to their water-use classification into hydrozones, plants within each zone need to have the same solar (sun) requirement.

For example, plants that have low water-use requirements and prefer full sun should be grouped together and irrigated on the same valve or zone (a valve separate from other zones). Plants with moderate water-use requirements that prefer part sun should be grouped together and irrigated on a separate valve or zone.

FS - Abbreviation for **Full Sun**. Plants in this category require direct sunlight for most of the day. Some plants in this category, such as Desert Spoon, *Dasyllirion wheeleri*, can tolerate harsh conditions. Examples of harsh conditions are reflective heat from buildings and heat that is given off dark surfaces, such as asphalt.

FS/PS - Abbreviation for **Full Sun or Part Shade**. Plants in this category will do well in direct sunlight for most of the day or shade for part of the day. Plants may tolerate exposure to hot afternoon sun, but many prefer some afternoon shade, especially in areas with hot summers, such as the Sacramento region.

PS - Plants in the **Part Shade** category prefer dappled shade. Plants will tolerate sun exposure in the morning but must be protected from hot afternoon sun.

PS/SH - Plants in the **Part Shade to Shade** category will do well in dappled shade or full shade and will tolerate some sun exposure in the morning but must be protected from hot afternoon sun.

SH - Plants in this category require full **Shade**. Plants will do best if they never receive direct sun exposure, especially during hot summer months.

Climate Zone

This information is from *The New Sunset Western Garden Book*, which takes into consideration temperature, latitude, elevation, ocean influence, and other factors to determine Climate Zones. If a *Sunset* climate zone was not available for a plant, the U.S. Department of Agriculture (USDA) Zone, which is based on minimum temperatures, was used and converted to the approximate *Sunset* climate zone. Climate zones for the Sacramento region are 8, 9, and 14.

Plants on this list are appropriate for the Sacramento region. Before selecting plants, however, first refer to the section "The West's Climate Zones" in *The New Sunset Western Garden Book* to learn about each zone's unique combination of conditions (e.g., heat and cold, rainy and dry periods, wind, humidity, growing season, etc.). For example, while both Zones 8 and 9 are in this region, they have different conditions. Zone 9 is considered the thermal belt that edges California's Central Valley, whereas Zone 8 includes the colder valley floor. The different conditions from one zone to another are important to understand, for example when considering a home orchard, because Citrus trees may thrive in one zone but not in the other.

Mature Size Tall-T / Wide-W

Mature Size - The mature size of each plant on this list is provided and expressed as Tall (high) / Wide. For example, a *Pistacia chinensis*, Chinese Pistache, can grow to 30-60' T / 45' W.

Tree Height - When placing trees, keep safety in mind and ensure that their mature height will not interfere with power lines, shade solar panels, or encroach on neighboring properties. There are many benefits to planting and growing healthy trees. Refer to Resources & References.

Shrub Sizes - Shrubs have been grouped into the categories of large, medium, and small based on **how tall** they grow once **mature**. Within each list, the mature size (tall and wide) specific to each plant is provided. For example, Bush Anemone, *Carpenteria californica*, is on the Shrubs - Large list because its mature size can be 6 to 10 feet tall and wide (6-10' T / W). Another example: Even though the Dark Star Ceanothus, *Ceanothus* 'Dark Star', can be 4 feet tall, it is on the Shrubs - Large list because it can grow from 4 to 8 feet tall at maturity (4-8' T / 8-10' W).

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Shrubs - Large Plants grouped on this list are those that are 6 - 15 feet or taller at maturity

Shrubs - Medium Plants grouped on this list are those that are 4 - 6 feet tall at maturity

Shrubs - Small Plants grouped on this list are those that are 4 feet tall or less at maturity

Plant Coverage Value

The Plant Coverage Value is expressed in square feet for each plant at its **mature width**. It is the value to be used to determine the canopy coverage regardless of the size of the plant at the time of planting and/or inspection for a rebate or incentive program.

Participants in rebate or incentive programs should consult with your specific program's terms and conditions to determine whether or not tree canopy coverage can be used to determine and meet the plant coverage requirement.

Plant Coverage Values on this list were obtained by determining the area of a circle using the plant's mature width as the diameter. To find the area of a circle, you must square the diameter and multiply by 0.7854. Use this calculation for plants not on this list. Calculation: Diameter x Diameter x 0.7854 = Plant Coverage Value in square feet. Example: 0.7854 x 5 ft. diameter x 5 ft. diameter = 20 sq. ft. Totals under 0.5, were rounded down to the next whole number. Totals above 0.5, were rounded up to the next whole number.

Where a plant's width is expressed in a range, for example, 20-30' Wide (W), the middle of the width range, which in this example is 25' W, was used to determine the plant coverage value.




Bloom Color / Season

Color - Represents the predominate color of a plant's blooms. For example, the Santa Margarita Foothill Penstemon, *Penstemon heterophyllus* 'Margarita B.O.P.', has sky blue flowers that become violet and fade to light purple. The bloom color listed is blue-violet. When there is more than one color listed, such as, Penstemon, *Penstemon* hybrids, the bloom colors are listed as Red, Pink, Purple, White because this is a genus that includes many different species of Penstemons that may have any one of these colors.


Season - This is the season or seasons when the plant will or can bloom, depending on conditions and care. For example, Terra Cotta Yarrow, *Achillea millefolium* 'Terra Cotta', is listed as blooming in the Spring, Summer, Fall. Some plants with more than one season listed may have one season that is considered its peak bloom time or they may bloom continuously throughout these seasons. Some plants may be repeat bloomers if they have faded flowers removed (referred to as deadheading). Refer to nursery and/or landscape professionals, gardening reference books, and/or other reputable resources to understand the unique characteristics of each species.


Uses / Benefits

Descriptions apply to established plants, not to newly installed plants.

- Y** - When known, the letter "Y" in a column indicates that, Yes, this plant may be appropriate for the following use or benefit: Drought Tolerant, CA Native, Deer Resistant, supports Pollinators/Beneficial Insects/Wildlife, suitable for Rain Gardens, and/or Salt Tolerant/Tolerant of Recycled Water. Refer to the Credits and Resources section for more information and consult with nursery and/or landscape professionals, gardening reference books, and other reputable resources to understand the unique uses and benefits of each species, and suitability to your specific site's conditions.
-  **Drought Tolerant / Resilient** - Once established, drought-tolerant or drought-resilient plants can survive on natural precipitation with infrequent watering, **or** they may be able to withstand dry periods or repeated periods of drought, and recover from repeated wilting. Please note that at some point, plants may not be able to continue to survive. When a plant is considered drought tolerant/resilient, this term does not mean that it is necessarily a low water-use plant. For example, Emerald Carpet Manzanita, *Arctostaphylos* 'Emerald Carpet' is a moderate water-use plant, yet it can be resilient in drought conditions. Under these conditions, be sure to provide trees with supplemental water to help them survive. Trees have many benefits and are much more difficult to replace than other plants.
-  **California Native** - Plants with this symbol are suitable for this region's climate and conditions, and are California native plants. To learn more, visit the California Native Plant Society Calscape website at calscape.org.
-  **Deer Resistant** - Be advised that no plant is "deer proof", and deer in different areas may have different tastes, and tastes can vary from year to year. Some deer-resistant plants may require protection until they become established.

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 **Pollinators / Beneficial Insects / Wildlife** - This symbol indicates that the plant supports pollinators, beneficial insects, and/or other wildlife that play key roles in maintaining healthy ecosystems and are vital to our food supply. Landscapes that attract and support the greatest variety and abundance will have: 1) A diversity of plants, especially California natives adapted to our soils and conditions; host plants specific to a species; plants with overlapping bloom times to provide year-round food sources, and water. 2) Nesting and egg-laying sites and materials, such as, an area of unmulched, bare soil, woody vegetation, stumps; sheltered, undisturbed places at various levels, such as, ground, middle, and higher levels for nesting, security, shade. 3) Landscapes free of poisonous chemicals and pesticides. For more information, refer to The Xerces Society, xerces.org; California Native Plant Society, calscape.org; Pollinator Partnership, pollinator.org; National Audubon Society, audubon.org; UC Davis Haagen-Dazs Honey Bee Haven, beegarden.ucdavis.edu/BeeGardeningResources; UC Davis Arboretum and Public Garden, arboretum.ucdavis.edu/tags/pollinator-friendly-landscaping. OnlineWebFonts, credit for use of symbol of pollinator, onlinewebfonts.com.

 **Rain Garden** - This symbol represents that the plant is appropriate for use in a Rain Garden. In general, there are three planting zones in rain gardens:

Zone 1 are areas of periodic or frequent, standing or flowing water. Plants in the basin (bottom of the rain garden) are those that can tolerate longer wet conditions. These plants may need supplemental water during this region's seasonally dry summers, once established.

Zone 2 areas are periodically moist or saturated soils during larger storms. Plants are typically planted on the side slopes in this zone and can help to protect against erosion once established. Plants in this zone can handle both dry and wet soil conditions.

Zone 3 areas have drier soils and are infrequently subject to inundation or saturation. Plants may be planted on a berm or just outside the perimeter of the rain garden. Plants in this zone can tolerate extended periods of dry soil conditions. This zone can blend with the existing landscape if desired.

 **Salt Tolerant / Tolerant of Recycled Water for Landscape Plants** - Historically in California and for most landscape plantings, sprinkler irrigation was preferred over drip because it could require less maintenance and be less vulnerable to damage, although sprinkler irrigation could also waste a great deal of water due to improper scheduling, over watering, and water runoff. With current-day advances in irrigation technology and increased regulations for landscape water use and efficiency, now is the time to make water conservation a California way of life and for all of us to continue to practice environmental stewardship. Such practices include the use of alternative water sources for irrigating our landscapes, such as recycled water and the use of rain water, as opposed to relying on potable water for our landscapes.

Landscape plants respond differently to salt concentrations in irrigation water depending on the method of irrigation used, such as drip irrigation for soil surface application or sprinkler irrigation (overhead spray). Plants irrigated with a sprinkler system are subject to injury, not only from salts in the soil, but also from salts absorbed directly through wetted leaves, making drip irrigation preferable when recycled water is being used. In addition, management of sprinkler irrigation can affect the degree of leaf injury caused by salt deposits. Infrequent, deep irrigation should be applied rather than frequent, light irrigation. Irrigating using recycled water should be done at night or early in the morning. Using drip irrigation will prevent contact of recycled water with the foliage of salt-sensitive shrubs and groundcovers.

Soil salinity also increases between irrigations with the evaporation of soil water. Plant growth closely responds to the change of salt concentrations in the root zone. Therefore, the tolerance of plants to soil salinity is related to salinity integrated over time and is affected by the salt concentration in the root zone where roots absorb most of the water. Modification of soil physical properties and improvement of management practices can reduce salt accumulation in the root zone and, therefore, improve plant growth.

Invasive Plants

Invasive plants have not been included in the WaterSmart Plant List. The following information about invasive plants is to assist in making informed decisions when selecting plants:

What is an Invasive Plant? A plant that is non-native to the ecosystem under consideration and whose introduction is likely to cause economic or environmental harm or harm to human health.

What is the problem? Invasive plants harm California's environment and economy in many ways. Invasive plants have a competitive advantage because they are no longer controlled by their natural predators and can quickly spread out of control. They can overtake crops or rangeland; harm wildlife by eliminating plants they need for food and shelter; clog waterways used for commerce or recreation; and increase fire hazards and flood risk.

What are the alternatives? There is no shortage of superior alternative plants to use. The vast majority of garden plants are well behaved and will not become an invasive problem. For example, instead of planting Mexican Feather Grass, *Stipa tenuissima*, plant Purple Three-awn, *Aristida purpurea*. Plants that are considered invasive in the Sacramento region are not included on this plant list; however, plants that are potentially invasive continue to be observed and invasive plant lists are updated.

**Roseville WaterSmart Plant List
Very Low, Low, and Moderate Water-Use
Plants for the Sacramento Region
Introduction and Definitions**

What can you do to prevent the introduction and use of invasive plants? 1) Be part of the solution by learning which plants are invasive in your area at Cal-IPC.org and PlantRight.org. 2) Avoid using known invasive plants in gardens and landscapes. 3) Encourage your local nursery or retailer not to sell invasive plants. 4) When purchasing plants, look for products free of noxious weeds and remove weeds in growing pots before planting. 5) Educate others about invasive plants. 6) Volunteer with creek groups, at parks, and with local conservancy groups to remove invasive plants in your community.

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