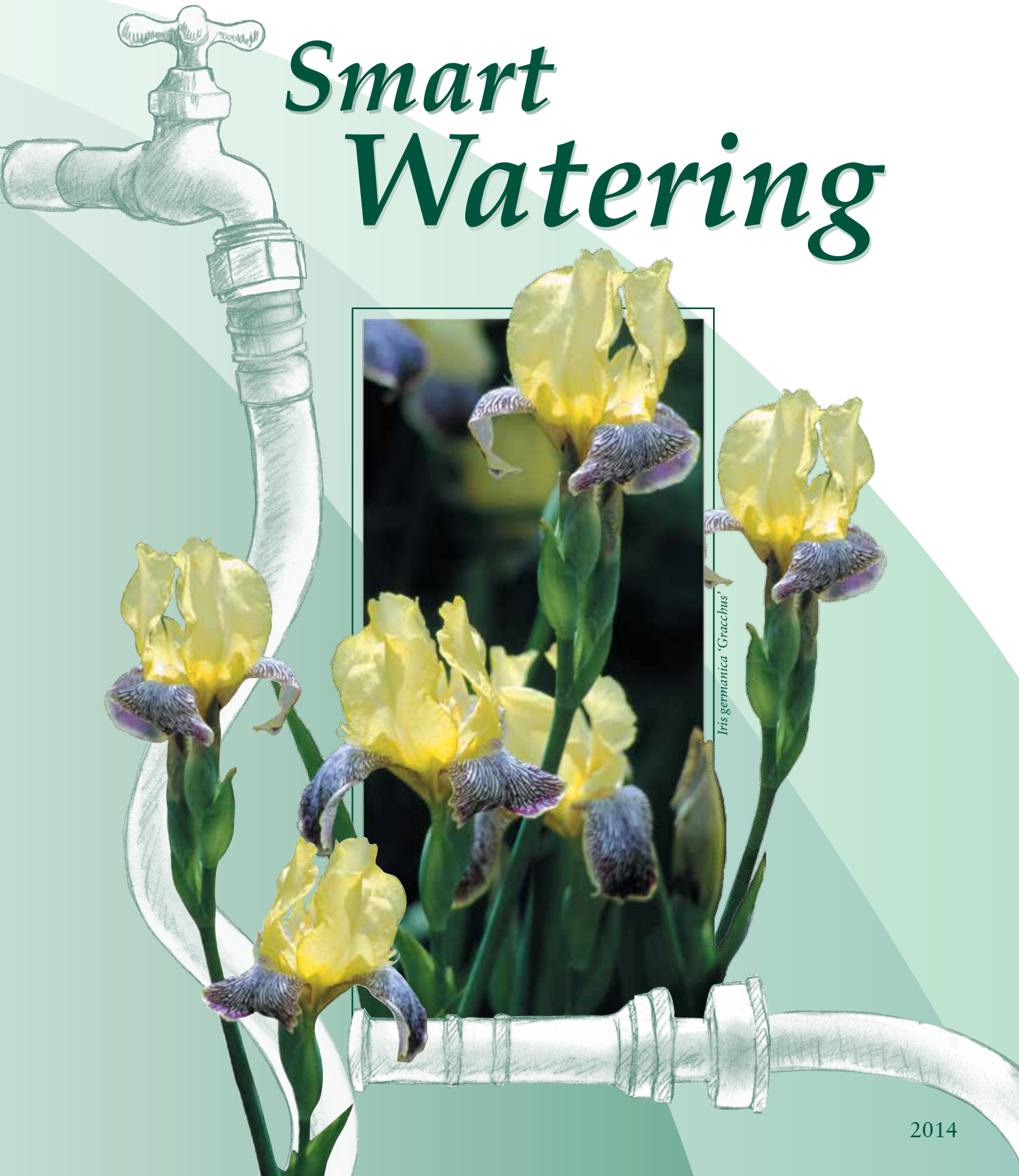


THE NATURAL LAWN & GARDEN
Healthy Landscapes for a Healthy Environment

Smart Watering



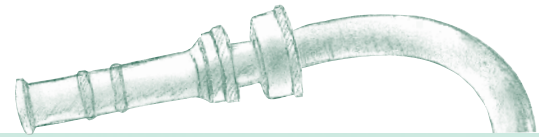
Iris germanica 'Gracchus'



Smart Watering is as Easy as 1, 2, 3

Smart Watering means more than just lower water bills. Smart watering:

- ◆ **Creates healthier gardens.** Watering too much or not enough produces weak plants that are susceptible to pests and disease. Learn to give plants the right amount of water for healthy growth, and to apply it so every drop counts.
- ◆ **Promotes a healthier environment.** By helping to keep plants healthier, smart watering practices may decrease the need for pesticide use. Smart watering may also lessen fertilizer and pesticide runoff from landscapes into streams and lakes, where it can affect birds, fish and their food sources.
- ◆ **Conserves water.** From May through September, water use in our region nearly doubles, primarily for lawns and gardens. Experts estimate that 50% or more of this water goes to waste, due to evaporation, runoff or simply overwatering.



START NEW PLANTS OFF RIGHT*

Smart watering will make a big difference in the long-term health of new plants.

Year 1 *(spring through fall, when weather is dry)*

- ◆ **When planting:** Water plants as soon as you get them in the ground. Allow the water to soak in, then water again until the soil is thoroughly moistened. Then cover the bare soil with mulch (compost or woodchips).
- ◆ **Week one:** Water plants daily or every other day. Just-planted roots will be able to absorb soil moisture from only a small area until they begin to grow.
- ◆ **Week two onward:** Unless the weather is extremely hot and dry, you may be able to decrease watering frequency to two or three times per week until the fall rains begin.

Years 2 & 3

Water deeply only once or twice per week. Exactly how often and how long you water will depend on your soil and other conditions. Follow the tips in this guide.

After Year 3

Properly planted and watered plants should be fairly well established and can thrive with less watering than you may expect. Drought-tolerant plants may need no supplemental water, whereas shallow-rooted plants or plants with greater water needs may need water weekly during dry weather. Many plants, when selected for the conditions in your yard, may need watering only once or twice a month in dry weather.

Deeper, less-frequent watering will grow plants with healthier and more extensive roots so plants are more resilient to stress and drier conditions.

* Reprinted with permission from City of Seattle Public Utilities from their *Start New Plants off Right* factsheet.

STEP 1: WATER-WISE CHOICES

Plant selection, soil preparation and your watering system's performance all play a role in determining how much water your garden needs, and how easy it is to water efficiently.



Build better soil with compost and mulch. Good soil absorbs water easily, drains well and retains moisture. There are two ways you can improve your soil:

- Mix compost into the soil when planting.
- Cover bare soil areas with mulch. See the *Growing Health Soil* guide for details.*

Group plants according to their water and light needs. Some plants prefer moist soils and others need drier conditions. Group plants with similar needs together in garden areas where they will thrive. See the *Choosing the Right Plants* and *The Plant List* guides to select plants that need only occasional watering after they are established.*

Plan lawns appropriately. Lawns need more water, more frequently, than most other plants to stay healthy and green. Improperly watered lawns can result in shallow roots, poor growth and disease. To keep lawns healthy, lay out planting areas and irrigation systems to make it easy to water your lawn separately. Refer to Step 3 on page 6 for lawn watering information. See the *Natural Lawn Care* guide for more information.*

Select the right watering system. Save water, time and money while growing a healthier garden by using the right system for the right plants in the right place. Drip irrigation and soaker hoses are the best way to water most plantings except lawns. See Step 2 on pages 4 and 5 for more information about drip and soaker irrigation. If you have an automated system, see Automatic Irrigation System Tips on page 5.

*Refer to the back cover for a list of all Natural Lawn & Garden guides and how to obtain them.

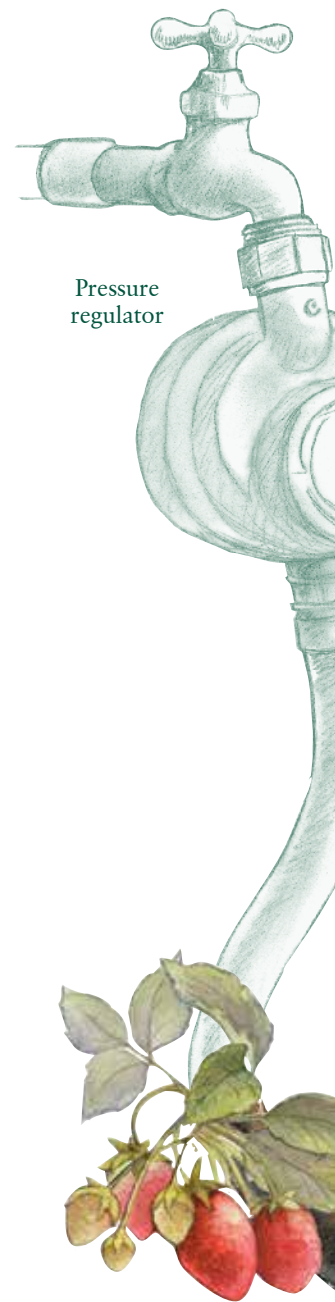
Waterwise Garden by Crooks Garden Design



STEP 2: MAKE EVERY DROP COUNT

Much of the water applied to lawns and gardens never makes it to plant roots. To make the most of every drop, follow these simple guidelines:

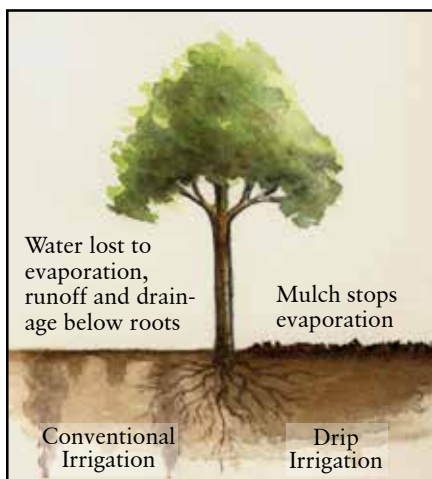
- ◆ **Mulch** to reduce evaporation from soil surface.
- ◆ **Repair** leaky faucets and hoses. Even small leaks waste lots of water.
- ◆ **Water deeply but less often** encourages deep roots and prevents diseases. Moistening the soil a little deeper than the roots grow draws them deeper—which is particularly important in the first 1 to 2 years after planting. Let the top few inches of soil dry before watering again so roots and soil life can breathe.
- ◆ **Water early or late in the day** to minimize evaporation, and when the wind is calm.
- ◆ **Use timers** to limit watering and make early morning irrigation convenient.
- ◆ **Split watering** into two or more applications, a few hours apart, to prevent runoff. This is especially helpful on dry, compacted or clay soils, or slopes and berms.
- ◆ **Use efficient watering systems**
 - Use drip irrigation, micro-sprays or soaker hoses on all plants except lawns.
 - Choose sprinklers with spray patterns that match the shape of your lawn or garden.
 - Use rotating or oscillating lawn sprinklers, not fixed sprays—except for properly designed, installed and maintained automatic irrigation systems.
 - Use sprinklers that apply water slowly enough so soil can absorb it without running off. If puddling occurs, run sprinklers for a short time, then turn them off and allow water to soak in before resuming watering.
 - Place sprinklers to avoid watering driveways, sidewalks or walls.
 - Adjust sprinklers to prevent fine misting that just blows away.



DRIP IRRIGATION AND SOAKER HOSES

By applying water directly to the soil, drip irrigation and soaker hoses offer several advantages over sprinklers or hand watering. They:

- Deliver water slowly, close to plant roots where they need it.
- Reduce water losses from evaporation and overspray.
- Are healthy for plants because they keep foliage dry, which reduces fungal diseases.



WHAT'S THE DIFFERENCE BETWEEN DRIP AND SOAKER HOSES?

- ◆ **Drip irrigation** uses flexible plastic tubing with tiny holes or “emitters” that slowly drip water into the soil. Tubing can be placed around individual plants or spaced regularly to soak entire beds in densely planted areas. See Resources on page 7.
 - **Drip tubing with emitters** can be placed around individual shrubs and trees, in planting beds and even containers. The number of emitters and their flow rates should be selected according to your garden layout and soil type.
 - **Drip tape** offers a simple and inexpensive way to thoroughly water closely planted beds or rows. Pre-installed emitters are spaced at intervals of 8 to 12 inches. Select the tubing thickness and emitter spacing that matches your soil and plant layout.
 - **Micro-sprays**, also known as microdrip irrigation, are low-volume spray heads used to water closely planted ground covers and plants that prefer moist foliage.
- ◆ **Soaker hoses** are made of porous material that “leaks” or seeps water all along the hose length. They can be used to thoroughly water dense plantings or individual plants. To avoid wasting water, you can also attach segments of solid hose in areas that do not need water.

HOW DO I CHOOSE? SOAKER HOSES ARE CHEAPER AND EASIER TO USE, BUT . . .

- ◆ They are not “pressure-compensating,” so do not work well on slopes.
- ◆ They only work in lengths of up to 200 feet—because the flow of water decreases beyond this length.
- ◆ Some are made of recycled rubber so may not be a great choice for food crops.

TIPS FOR DRIP AND SOAKER SYSTEMS (see Resources on page 7 for more info)

- ◆ **Keep your layout simple** and map it, especially if it will be buried under mulch.
- ◆ **Inform everyone** who works in your garden about the system to prevent accidental damage.
- ◆ **Cover over** soaker and drip systems with 2 inches or more of mulch (wood chips or compost). This will prevent evaporation and help spread the water flow.
- ◆ **You may also need:**
 - **Backflow preventer:** Keeps dirty water or fertilizers from entering drinking water, and is required by Washington State law. Contact your water provider for more information. Check to see if a backflow preventer is already part of your outdoor water lines.
 - **Filter:** Prevents clogging from within your plumbing system.
 - **Pressure regulator:** Drip systems and soaker hoses are designed to operate within a certain range of pressure. Use a pressure regulator to deliver water evenly and help prevent damage to the systems.
 - **Timer:** As a rule of thumb, a soaker hose may need to run approximately 30 to 40 minutes a week to water most annual plantings. To verify, dig into the soil 1 hour after watering to check the soil moisture for depth. See the Watering Chart on page 6 to determine the watering needs for your plants.

Soaker
hose

AUTOMATIC IRRIGATION SYSTEMS

Automatically controlled systems can make efficient watering easier, yet they often waste large amounts of water due to improper scheduling or maintenance. Follow these smart-watering tips:

- ◆ Adjust your watering schedule to track weather conditions at least once or twice a month.
- ◆ Install a rain shut-off device to prevent watering when it rains. Refer to the Resources section on page 7 for helpful guides and sources.
- ◆ Inspect your system a few times during the watering season while it is running. Look for and repair leaking or broken sprinklers, and reposition those that spray unintended areas.
- ◆ Hire an irrigation professional to test and adjust your system annually.

STEP 3: HOW OFTEN AND HOW MUCH TO WATER

The best way to find out if plants need water is to watch for signs that they are thirsty. You can also check to see if the root zone is moist by digging into it with a garden trowel. If the soil feels moist, wait a day or two and check again. Use the chart below to determine when and how much to water for your plants to be healthy.

	WHEN TO WATER	HOW MUCH TO WATER	ROOT ZONE
Trees, Shrubs & Perennials	<ul style="list-style-type: none"> — Varies widely by plant (see <i>The Plant List</i>*). — Look for wilted leaves that don't perk up in the evening, deciduous leaves that are yellow before autumn, or evergreen leaves that are dull or bronze. 	Water deep enough to moisten the whole root zone (6 to 12 inches). Dig into the soil before watering to see if water is needed, and an hour after watering to check for adequate moisture.	Root systems can go down a couple of feet and may extend two to five times the branch spread.
Annuals (flowers and vegetables)	<ul style="list-style-type: none"> — Soil is dry below the surface. — Try not to let annuals wilt; many will be stunted or die if allowed to dry out. 	Check the soil often to make sure it is moist 1 or 2 inches below the surface.	Most roots are in the top 1 to 12 inches of soil, spreading a short distance from the plant.
Lawns	<ul style="list-style-type: none"> — Dull green color. — Footprints show for a long time. 	<ul style="list-style-type: none"> — To keep a lawn green during the dry summer months, lawns need about 1 inch of water per week, spread over 2 or 3 waterings (see Measuring Lawn Sprinkler Output below). Watering deeply and less often is generally best to moisten the whole root zone. — Lawns allowed to go brown do best if watered deeply once a month in summer to keep the roots alive. 	Typically 4 to 6 inches deep, and only under areas covered by grass.

*Refer to the back cover for a list of all Natural Lawn & Garden guides and how to obtain them.

STEPS FOR MEASURING LAWN SPRINKLER OUTPUT

Most lawns need only 1 inch of water each week, spread over 2 or 3 waterings, to stay green during Northwest summers, and only half that much in September. To find out how long your sprinkler takes to supply this amount:

- ◆ Place several short, straight-sided, empty containers (like tuna or cat food cans) on your lawn. Be sure to place some near the edges of the spray pattern and some near the center.
- ◆ Turn on the sprinklers for 15 minutes, then measure the water depth in each can with a ruler, and then determine the average depth.
- ◆ Use the average depth to calculate the length of time your sprinkler(s) should run in order to apply 1 inch of water per week. It is best to spread out this time over 2 to 3 watering during the week to allow the water to soak in and not run off.



WATERING TIPS

- ◆ **Check the soil before you water.** Probe with a finger or trowel to see if the soil is still damp a few inches down. When it is dry down at the root zone, it is time to water.
- ◆ **Water deeply, but less frequently.** An hour after watering, check the soil again to see if the water has reached the root zone. Adjust your watering time to moisten the whole root zone, but then wait until the upper few inches of soil are dry before watering again, which encourages deeper roots.
- ◆ **Water slowly to prevent surface runoff** and give water time to penetrate. If water puddles on the surface before it is absorbed by the soil, start and stop your watering several times, as needed, to allow the water to soak in.
- ◆ **Get water right to the roots,** by using a watering wand, with a shutoff, for small areas. For larger areas, use drip irrigation or soaker hoses under mulch to deliver water efficiently right to the roots.
- ◆ **Make every drop count.** Water early or late in the day to reduce evaporation, build your soil with compost and mulch, and choose low water use plants.



Waterwise Garden by Crooks Garden Design

RESOURCES

WSU SNOHOMISH COUNTY EXTENSION

- ◆ Master Gardener Hotline. Call (425) 357-6010 or email: MG.help@wsu.edu.
- ◆ Irrigation Classes. Call (425) 338-2400 or visit www.snohomish.wsu.edu.

DRIP AND SOAKER IRRIGATION SYSTEM GUIDES

- ◆ Simple tools to improve the efficiency of automatic irrigation systems: Irrigation Water Management Services for the Seattle region, www.iwms.org.
- ◆ Step-by-step instructions on how to set up and operate irrigation systems, www.irrigationtutorials.com.
- ◆ Visit www.savingwater.org and search for “Drip Irrigation” and “Soaker Hoses.”
- ◆ Catalogs and website of mail order suppliers
 - Dripworks, www.dripworks.com.
 - The Urban Farmer, www.urbanfarmerstore.com.
 - DIG Irrigation Products, www.digcorp.com.
- ◆ *Drip Irrigation for Every Landscape in All Climates* by Robert Kourik; Metamorphic Press, 2009.

DEMONSTRATION GARDENS

- ◆ WSU Master Gardener Demonstration Garden, 600-128th St SE, Everett, <http://tinyurl.com/WSUdemogarden>.
- ◆ Woodinville Water District’s Waterwise Garden, 17238 NE Woodinville-Duvall Rd, Woodinville.
- ◆ Waterwise Garden at Bellevue Botanical Garden, 12001 Main St, Bellevue, www.bellevuebotanical.org.
- ◆ Bradner Gardens Park, 29th Ave South and South Grand St, Seattle. For directions, visit www.seattletilth.org/directions/bgardens.

PROFESSIONAL ASSISTANCE

- ◆ Washington Association of Landscape Professionals, www.walp.org.
- ◆ Washington State Nursery & Landscape Association, www.wsnla.org.
- ◆ Visit the irrigation department of local nursery and home improvement stores.

Photographs by Richard Hartlage and Deb Harvey; Illustrations by Wilda Boyd



Waterwise Garden at the Bellevue Botanical Garden

TO REQUEST A NATURAL LAWN & GARDEN GUIDE, CONTACT:

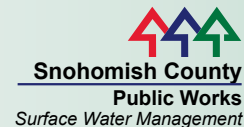
- ◆ **Snohomish Conservation District**
(425) 335-5634, www.snohomishcd.org
- ◆ **Snohomish County Public Works, Surface Water Management Division**
(425) 388-3464, www.naturallyard.surfacewater.info
- ◆ **WSU Snohomish County Extension Master Gardeners**
(425) 357-6010, www.snohomish.wsu.edu
Email: MG.help@wsu.edu

NATURAL LAWN & GARDEN GUIDES:

- ◆ Composting at Home
- ◆ Choosing the Right Plants
- ◆ Growing Healthy Soil
- ◆ Natural Lawn Care
- ◆ Natural Pest, Weed & Disease Control
- ◆ Natural Yard Care (summary)
- ◆ Smart Watering
- ◆ The Plant List

FOR ADDITIONAL INFORMATION, VISIT:

www.naturallyardcare.org



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