



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

Spring 2005
PNWATER 059

Water for Landscapes and Gardens during Drought

Conserving water makes sense and cents as water rates increase to meet increased demands and wells go dry more often. Recent changes in weather patterns and land use have decreased the available water throughout the PNW. The population has increased and water is needed for many other uses: fish habitat, food processing, agriculture, pools and hot tubs, firefighting, cleaning, recreation, as well as extensive lawns. Stormwater is running off site rather than seeping down to recharge groundwater. The result is reduced availability of water even when supplies are normal. Already public service messages warn of drought, water shortages, and urge us not to plant lawns, vegetable gardens, or landscape plants.

However, food gardens and landscapes are also valuable. They are a substantial investment and contribute to property value, provide environmental, wildlife, psychological, economic, and social benefits for long term sustainability. If we use available water wisely and harvest wasted water we can still plant higher value food crops, and smaller, more focused lawns; convert some of the turf and bare ground to diverse, multi-layered landscapes that intercept rainwater, provide bird habitat, reduce stormwater runoff, and increase groundwater recharge. Landscapes and lawns also produce oxygen, remove greenhouse gases, and sooth the stressed mind. The green industry provides jobs and is a major part of the economic community.

Sharpen your watering and landscape skills

Check soil moisture before and after watering. Soils vary in texture and water holding capacity. Check again in several (3–7) days. Apply water directly to the root zone with soaker hoses, drip irrigation, or hand watering. Check your results so you don't over- or under-water.

- ◆ WSU Drought Alert Website: http://www.drought.wsu.edu/pubs.html#Home_Garden
- ◆ Lawns and Other Turf: http://www.drought.wsu.edu/pubs.html#Home_Garden
- ◆ Watering Home Gardens and Landscape Plants: http://www.drought.wsu.edu/pubs.html#Home_Garden
- ◆ WSU Drought Advisory; Water Conservation in Gardens and Landscapes: http://www.drought.wsu.edu/pubs.html#Home_Garden
- ◆ (Myth) Leaf Wilt Is the Best Indicator of Insufficient Soil Moisture: http://www.puyallup.wsu.edu/%7ELinda%20Chalker-Scott/Horticultural%20Myths_files/Myths/Leaf%20wilt.pdf
- ◆ (Myth) Use of Drought-tolerant Plants Reduces Residential Water Consumption: http://www.puyallup.wsu.edu/%7ELinda%20Chalker-Scott/Horticultural%20Myths_files/Myths/Xeriscaping.pdf
- ◆ Links to Four Presentations on Trees and Drought (Utah State University Forestry Extension): http://extension.usu.edu/forestry/HomeTown/General_GreenConf2005.htm
- ◆ Water Efficient Landscape Plants: <http://extension.oregonstate.edu/catalog/pdf/ec/ec1546.pdf>
- ◆ Conserving Water in the Garden; Landscape and Lawn Care: <http://wellwater.oregonstate.edu/lawnsgardens.php>
- ◆ Water Efficient Landscaping; EPA 832-F-02-002: call 1-800-424-4372

Harvesting “wasted” water

Capture roof water at all downspouts with rain barrels or garbage cans, fitted with a fine mesh screen (to exclude mosquitoes). Catch rainwater in wheelbarrows, buckets, garbage cans and upturned lids, or other containers. Place containers in the shower or sink to catch the cold water while you wait for it to get hot.

- ◆ Home Water-Saving Methods: <http://cru.cahe.wsu.edu/CEPublications/eb0732/eb0732.pdf>
- ◆ Harvesting Rainwater for Landscape Use: <http://ag.arizona.edu/pubs/water/az1052/harvest.html>
- ◆ Home Use of Graywater, Rainwater Conserves Water: <http://cals.arizona.edu/AZWATER/arroyo/071rain.html>



Pacific Northwest Regional Water Quality Coordination Project Partners

Land Grant Universities

Alaska

Cooperative Extension Service
Contact Fred Sorensen:
907-786-6311

<http://www.uaf.edu/ces/water/>

University Publications:

<http://www.alaska.edu/uaf/ces/publications/>

Idaho

University of Idaho
Cooperative Extension System
Contact Bob Mahler: 208-885-7025

<http://www.uidaho.edu/wq/wqhome.html>

University Publications:

<http://info.ag.uidaho.edu/Catalog/catalog.html>

Oregon

Oregon State University
Extension Service
Contact Mike Gamroth: 541-737-3316

<http://extension.oregonstate.edu/>

University Publications:

<http://extension.oregonstate.edu/catalog/>

Washington

Washington State University
WSU Extension
Contact Bob Simmons:
360-427-9670 ext. 690

<http://wawater.wsu.edu/>

University Publications:

<http://pubs.wsu.edu/>

Northwest Indian College

Contact Dan Burns:
360-392-4328

dburns@nwic.edu or

<http://www.nwic.edu/>

Water Resource Research Institutes

Water and Environmental Research
Center (Alaska)

<http://www.uaf.edu/water/>

Idaho Water Resources
Research Institute

<http://www.boise.uidaho.edu/>

Institute for Water and
Watersheds (Oregon)

<http://water.oregonstate.edu/>

State of Washington
Water Research Center

<http://www.swwrc.wsu.edu/>

Environmental Protection Agency

EPA, Region 10

The Pacific Northwest

<http://www.epa.gov/r10earth/>

Office of Research and Development,
Corvallis Laboratory

<http://www.epa.gov/wed/>

For more information contact
Jan Seago at 206-553-0038 or
seago.jan@epa.gov

- ◆ Rain Gardens in EPA's Water Talk Newsletter: [http://yosemite.epa.gov/R10/WATER.NSF/0/45d05f427eb6a0fb8825687900594fce/\\$FILE/20030428_WaterTalk-print.pdf](http://yosemite.epa.gov/R10/WATER.NSF/0/45d05f427eb6a0fb8825687900594fce/$FILE/20030428_WaterTalk-print.pdf)

New plantings

Select the right plant for the right place, not just any spot available. Learn how to plant and water correctly. Plant during moist cool weather when possible or in the late afternoon or evening. Shade plants with temporary wetted cloth such as lightweight white sheets, especially if you must plant/transplant in summer heat.

- ◆ Horticultural Techniques for Successful Plant Establishment: <http://www.puyallup.wsu.edu/%7ELinda%20Chalker-Scott/Fact%20Sheets/Planting%20fact%20sheet.pdf>
- ◆ Wood Chip Mulch Improves Plant Establishment and Survival: <http://www.puyallup.wsu.edu/%7ELinda%20Chalker-Scott/Fact%20Sheets/Mulch%20fact%20sheet.pdf>
- ◆ (Myth) Antitranspirants Prevent Drought Stress, Especially In Newly Installed Trees and Shrubs: http://www.puyallup.wsu.edu/%7ELinda%20Chalker-Scott/Horticultural%20Myths_files/Myths/Antitranspirants.pdf
- ◆ Conserving Water in the Garden; Designing and Installing a New Landscape: <http://extension.oregonstate.edu/catalog/html/ec/ec1530-e/>
- ◆ Watering New Trees: <http://news.ag.uidaho.edu:591/News/Homewise-db/FMPro?-db=homewise.fp5&-format=story2.htm&-lay=generic&-sortfield=title&level3=Tree%20and%20shrub%20irrigation&-recid=87&-find=>

Food production gardens (vegetables, small fruits, and fruit trees)

Home gardens and orchards are an increasingly important component of landscapes. In an uncertain economy they can take the edge off grocery bills and provide nutritious, fresh fruit and vegetables, provide exercise, and stress reduction.

- ◆ Conserving Water in the Garden; Growing a Vegetable Garden: <http://extension.oregonstate.edu/catalog/html/em/em8375-e/>
- ◆ Tree Fruits: http://www.drought.wsu.edu/pdf/Tree_Fruit_EM4820.pdf

Landscape modification

- ◆ Plant water loving plants near downspouts
- ◆ Redesign and cluster plants in zones to meet minimum water and sun/shade needs
- ◆ Convert slopes to terraces; level ground retains water better
- ◆ Locate lawns in focus areas; replace remaining lawn areas with trees, shrubs, and groundcovers
- ◆ Replace thin lawns in shady areas with groundcovers and shrubs

Turf

Smaller lawn areas can be quite satisfying. They do not need daily or excessive watering. Lawn functions include producing oxygen, absorbing CO₂, and protecting soil from UV radiation, compaction, and erosion.

- ◆ Maintaining a Healthy Lawn in Western Oregon: <http://extension.oregonstate.edu/catalog/html/ec/ec1521/>
- ◆ Home Lawns Bulletin EB0482: <http://cru84.cahe.wsu.edu/cgi-bin/pubs/EB0482.html>
- ◆ Thatch and Its Control: <http://cru.cahe.wsu.edu/CEPublications/eb0482/eb0482.pdf>
- ◆ Lawn Renovation: <http://cru.cahe.wsu.edu/CEPublications/eb0924/eb0924.html>
- ◆ Lawns and Watering: <http://news.ag.uidaho.edu:591/News/Homewise-db/FMPro?-db=homewise&-lay=generic&-format=titles2.htm&subcategory=Lawns&-sortfield=title&-find>
- ◆ Lawn Establishment: <http://www.uaf.edu/ces/publications/freepubs/HGA-00036.pdf>
- ◆ Establishing a Lawn in Southeast Alaska: <http://www.uaf.edu/ces/publications/freepubs/HGA-00238.pdf>

Conclusion

We are a creative and resourceful society. We can stop wasteful practices and come up with innovative solutions for harvesting and conserving water so that we, and future generations, can enjoy functional landscapes that benefit the soul and the environment.

CSREES is the Cooperative States Research, Education, and Extension Service, a sub-agency of the United States Department of Agriculture, and is the federal partner in this water quality program.