



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

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PNWWATER 115

Master Gardeners Part II:

Landscapes and Water Quality

Gardening is a foundation of civilization. When people began to plant the food they had formerly gathered, a sense of place developed and soon villages were settled near garden plots. In the modern world, people are more apt to plant food and ornamentals for pleasure rather than need, allowing time to consider other aspects of gardening. Nineteenth century technology gave us numerous types of chemicals to apply to gardens to produce lush, huge crops. Our present knowledge of pesticides and herbicides and the harm caused to water bodies and groundwater has changed attitudes and behaviors when applying those chemicals, today.

When the Master Gardener (MG) Program began, the environmental movement was still in its infancy. (See Part 1, PNW074: http://www.pnwwaterweb.com/initiatives/pnw_074.htm). As water quality issues began to rise to the top of the political and environmental agenda, a water quality component was added into the Master Gardener training curriculum. The Oregon-Washington training manual *Sustainable Gardening* has a full chapter and training session devoted to “Your Yard and Water Quality.”



MG Program courtesy Latah County, ID.

In 1988, the King County horticulture team obtained one of WSU Extension’s first extramural water quality grants funding the “Sound Gardening” program (referring to both Puget Sound and sound practices). They produced 10 “Sound Gardening” fact sheets, a display, and trained Master Gardeners to present Sound Gardening programs in the county. According to Mary Robson, Extension Agent, the contents of these fact sheets were later adopted by the Chesapeake Bay protection group in Maryland and Delaware. In Seattle, Sound Gardening evolved into a three agency effort funded by the City of Seattle’s Hazardous Waste Program and renamed “Sustainable Gardening.” Currently it is called the Green Gardening program. With each name change the goal to protect human and environmental health has remained constant.

Many of the Master Gardener programs throughout the region focus on water quality and quantity as well as related issues such as invasive species, drought tolerance, restoration, etc.

- ◆ Master Gardeners in Spokane County are actively involved in protecting the Spokane-Rathdrum Prairie Aquifer, Spokane’s drinking water source. Master Gardeners promote a series of fact sheets distributed at public events. <http://www.spokane-county.wsu.edu/spokane/eastside/>
- ◆ WSU Master Gardeners are identified in the Washington State Department of Agriculture’s Generic State Pesticide Management Plan as an important component of public outreach and education.
- ◆ In Whatcom County, Washington, European crane fly is the number one pest people are concerned about. Since 2001, Master Gardeners surveyed 200 lawns in the Lake Whatcom watershed and have not found one lawn that needed to be treated, thus preventing needless applications of pesticide. They also are involved in public education about fertilizers to protect Lake Whatcom – the drinking water source for the city of Bellingham.
- ◆ In Oregon, “When the Master Gardener program began in mid-1970, its focus was primarily directed at diagnosing plant problems and offering solutions. While still a major focus, Master Gardeners are now designing and presenting proactive educational programs that address critical issues such as safe pest management practices, water quality protection, yard waste management ...”



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/>

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The magnitude of these efforts is extensive. In Oregon, over 2,918 volunteers donated 144,446 hours of service to the OSU Master Gardener™ (<http://extension.oregonstate.edu/mg/>) program in 2005 — the equivalent of an additional 69 OSU Extension employees with a monetary value of \$2.3 million! And OSU Master Gardeners™ had direct contact with 157,051 Oregonians in plant clinics and education programs.

In Washington in 2006, the total number of active MG volunteers was 3,667. They donated 205,593 hours, worth \$3.7 million dollars, and provided information and education to 355,242

homeowners and gardeners. In addition to garden and landscape information and plant problem diagnosis, documented impacts included water conservation and water quality. The end result is that 76 percent of participants (<http://mastergardener.wsu.edu/summary/summary.html>) indicated an intention to change their water quality practices.

Clean water for gardens and gardens for clean water are inseparably linked in the Master Gardener Programs and their educational efforts in the region.

Other Resources on Master Gardener water quality related projects:

- ◆ Stewardship Gardening:
<http://gardening.wsu.edu/stewardship/stewgard.htm>
- ◆ Groundwater Protection:
<http://gardening.wsu.edu/stewardship/grdwater/grdwater.htm>
- ◆ Invasive Aquatic Species and Shoreline Protection:
<http://gardening.wsu.edu/text/nvaquatic.htm>
- ◆ Landscaping by a Lake
<http://www.spokane-county.wsu.edu/spokane/eastside/Fact%20Sheets/C198%20Landscaping%20By%20the%20Lake%2005.pdf>
- ◆ MG Demo Gardens in Washington often focus on drought tolerant plants, water conservation techniques, water quality protection ideas:
<http://mastergardener.wsu.edu/demo/dg.html>
- ◆ *Master Gardeners: A Quarter of a Century of Service*, highlights some of the water quality programs in WA including Skagit County Master Gardeners who recently completed a video, “Keep it Clean: Environmentally Sound Gardening” promoting water quality enhancement.
<http://www.wsu.edu/NIS/Universe/Master.html>
- ◆ Idaho Landscapes and Gardens highlights not only how to irrigate a residential lawn, but how the type of grass, time of year, and soil type also affect the timing and length of irrigation.
<http://www.extension.uidaho.edu/idahogardens/lt/lw.htm#sprink>

National Water Quality Program Areas

The four land grant universities in the Pacific Northwest have aligned our water resource extension and research efforts with eight themes of the USDA’s Cooperative State Research, Education, and Extension System.

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| 1. Animal Waste Management | 5. Pollution Assessment and Prevention |
| 2. Drinking Water and Human Health | 6. Watershed Management |
| 3. Environmental Restoration | 7. Water Conservation and Management |
| 4. Nutrient and Pesticide Management | 8. Water Policy and Economics |

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.