



Applying knowledge to improve water quality

# Pacific Northwest

## Regional Water Program

A Partnership of USDA NIFA  
& Land Grant Colleges and Universities

Fall 2009  
PNWWATER 170

### New Water Team Member:

## *Heritage University Joins PNW Water Team*

The Pacific Northwest Water Program welcomes Heritage University (HU) and Kazuhiro Sonoda Ph.D., the Dean of the College of Arts and Science, to the team of natural resource educators from the PNW land grant institutions. Heritage University, a private, liberal arts, and hispanic-serving institution, serves the Yakima Valley from its location on the Yakama Indian Reservation. Heritage is the only four-year institution in the valley, with the mission to provide quality, accessible education to multicultural populations that have been educationally isolated, which expresses HU's commitment to meet the needs of disadvantaged residents.

In fall of 2008, Heritage University completed a new 32,000 square foot Science and Technology Center, which replaced the previous inadequate science and technology classroom and laboratory facilities. Heritage University is in the process of modernizing the Environmental Science and Natural Resource Programs to meet the need for well trained environmental scientists who can be employed in areas such as water quality and natural resources.

Heritage University's initial project is to study an on-going problem in the Lower Yakima Valley, the proliferation of Concentrated Animal Feeding Operations (CAFOs) and large dairies. Monitoring and testing of the shallow wells in the valley has revealed that a very large percentage of wells are contaminated with nitrate and bacteria. Dr. Sonoda's Environmental Science students will be the testers and ambassadors within a very diverse population that speaks predominantly Spanish and because of immigration issues are quite reticent to allow strangers onto their property for water well testing.

With appropriate funding, Dr. Sonoda plans to have students collect bi-weekly well water samples from 20 to 30 domestic wells throughout lower Yakima Valley. Well water samples will be analyzed for nitrate-nitrite and total nitrogen concentrations. Data collection will continue throughout the year. He believes that these continuous comprehensive data sets will provide us with much needed detailed information on how nitrate concentration levels vary seasonally and spatially throughout the valley. He will utilize existing GIS data to complete analysis of relationships between land use patterns and nitrate-nitrite concentration levels in well water samples. A complete annual report on well water data will be compiled by the Heritage University science department and will be published (either online, downloadable from the university web site, or in hard copy). Scientifically significant findings will be published in peer-reviewed journals. Furthermore, students who are involved in this project are expected to present their findings at local and national conferences.



## 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](mailto: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](mailto:seago.jan@epa.gov)

### The Project

Land Grant Universities, Water Research Institutes, and EPA Region 10 have formed a partnership to provide research and education to communities about protecting or restoring the quality of water resources. This partnership is being supported in part by the USDA's National Institute of Food and Agriculture (NIFA).

### Our Goal and Approach

The goal of this Project is to provide leadership for water resources research, education, and outreach to help people, industry, and governments to prevent and solve current and emerging water quality and quantity problems. The approach to achieving this goal is for the Partners to develop a coordinated water quality effort based on, and strengthening, individual state programs.

### Our Strengths

The Project promotes regional collaboration by acknowledging existing programs and successful efforts; assisting program gaps; identifying potential issues for cross-agency and private sector collaboration; and developing a clearinghouse of expertise and programs. In addition, the Project establishes or enhances partnerships with federal, state, and local environmental and water resource management agencies, such as by placing a University Liaison within the offices of EPA Region 10.

US EPA Region 10 and Washington State Ecology are developing a workplan to begin the monitoring and identification of polluting producers so responsibility can be placed on polluters and not the innocent well water users. The PNW Water Program Liaison is communicating with the several non-profits and user groups in the Lower Valley that have been working with this issue for several years.

Additional information on Heritage University programs and students may be found at <http://www.heritage.edu/>.



### 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 National Institute of Food and Agriculture.

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

*This material is based upon work supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, under Agreement No. 2008-51130-04734.*