



Applying knowledge to improve water quality

# Pacific Northwest

## Regional Water Program

A Partnership of USDA CSREES & Land Grant Colleges and Universities

Summer 2007  
PNWWATER 111

### Dryland Farms:

## Factors Affecting Conservation Decisions

One of the most effective ways to improve the quality of water in the USA is to prevent the loss of soil via erosional processes on the landscape. Soil that is removed from the landscape often ends up in surface waters including streams and lakes. The suspended soil particles in water bodies can: (1) reduce the clarity of water, (2) add nutrients to water that may promote eutrophication, or (3) settle in the steam-bed which results in clogged waterways and reservoirs. Every year billions of taxpayer dollars are spent on dredging to keep shipping channels open. Many of these water quality problems can be reduced by simply implementing programs that keep soil where it belongs – on the landscape.

In last month's PNWWATER UPDATE (#109) we started to present survey data collected from 425+ farmers in the 15 to 30 inch annual precipitation zone of northern Idaho and eastern Washington. This survey was undertaken as part of a USDA-Conservation Effectiveness Assessment Program (CEAP) grant received by a team of University of Idaho researchers led by Dr. Jan Boll. Last month we presented data about grower perceptions of soil erosion, water quality, and associated conservation activities.

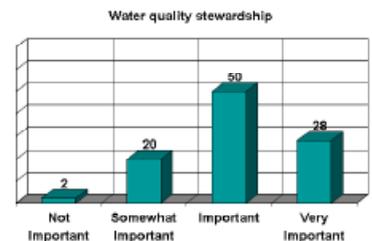
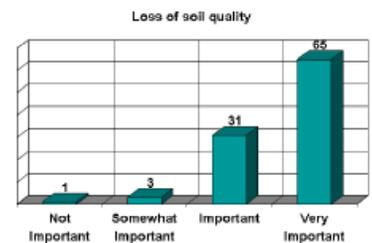
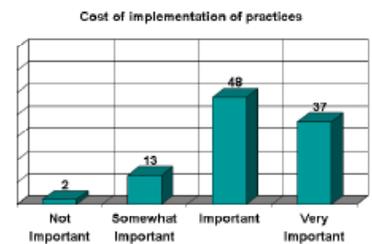
This UPDATE presents some of the early survey findings about the importance of various factors contributing to on-farm conservation decisions. Eighty-five percent of the growers responding to this survey said that the costs of conservation practices were very important (37 percent) or important (48 percent) in their decision-making process for implementation. After initiating practices to protect soil and water, the costs of maintaining the conservation practices were considered important (47 percent) or very important (34 percent) by the vast majority of respondents.

Growers listed both soil quality and water quality stewardship as important factors that led to the establishment and maintenance of conservation practices. Ninety-six percent of survey respondents consider the potential loss of soil quality an important (31 percent) or very important (65 percent) consideration in the implementation of conservation practices. From the results of this survey it is apparent that growers in dryland areas of the Inland Pacific Northwest consider conservation practices key to maintaining soil quality.

Water quality stewardship was also an important factor that affected a grower's willingness to implement conservation practices. Seventy-eight percent of survey respondents rated water quality stewardship important (50 percent) or very important (28 percent) when considering the implementation of conservation practices.

It is not surprising that the two most important natural resources on the farm – soil and water are highly regarded. Consequently, growers in the rain-fed areas of eastern Washington and northern Idaho have willingly implemented conservation practices to

### Levels of importance in conservation decisions



## 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/index.html>

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: Michael Cochrane:  
360-392-4299

[mcochrane@nwic.edu](mailto:mcochrane@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  
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### 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 Cooperative State Research, Education, and Extension System (CSREES).

### 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.

protect these resources. This idea of resource stewardship is deeply ingrained as almost 70 percent of the surveyed growers hope to have their children and future generations continue their farming operations.

In the 1970s many growers in eastern Washington and northern Idaho believed that conservation tillage operations were good for soil and water resources; however, grain yields were often depressed using conservation operations. Today however, over three quarters of survey respondents believe that conservation tillage does not result in reduced cereal yields compared to traditional conventional tillage operations. In fact, many believe that no-till (direct seed) results in crop yields that are at least equal to those achieved with conservation and conventional tillage operations.



### 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.

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

*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.*