MONTANA WATER CENTER

2009 Highlights

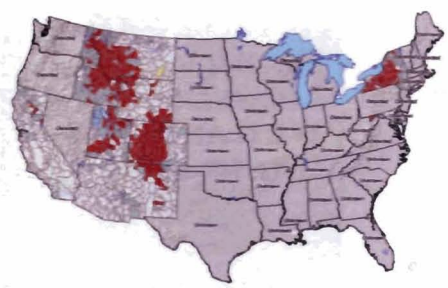
The Montana University System Water Center, located at Montana State University-Bozeman, was established by a 1964 Act of Congress that created Water Resources Research Institutes at universities in 50 states and four territories. Its mission is to mobilize the resources of Montana's public universities to resolve the state's water problems. It does this by sponsoring water-related research, providing training and education for working water professionals, educating future water professionals, and conducting outreach to Montana citizens on water issues.

This year the ***Water Resources Research Program*** is sponsoring three faculty research projects, as well as statewide outreach on water policy and science issues. Three graduate students and one undergraduate from Montana's public universities are receiving research fellowships. Program activities include:

Coalbed natural gas product water enters the Powder River at Burger Draw

- research to track human-derived nitrogen through stream food webs in the West Fork of the Gallatin River near Big Sky, Montana
- a study of organic wastewater chemicals (OWCs) in a shallow aquifer and stream in the Summit Valley near Butte, Montana
- analysis of carbon isotopes to quantify the amount of water contributed to surface water from coal aquifers targeted for coalbed methane production in the Powder River Basin
- organize and deliver the annual Montana Water Conference in Missoula in conjunction with the Montana Section of the American Water Resources Association
- circulate the monthly Montana Water e-newsletter to over 1,700 recipients
- compile and disseminate water quality and quantity information to various entities throughout the state including watershed groups, conversation districts, cities and counties.

Whirling Disease Initiative research is concentrated on understanding how the disease affects trout populations, and how management actions may intervene in the process. Subjects of current projects include:



Whirling disease detection in selected states, 1987-2008

- the population impacts of whirling disease in eight Montana watersheds
- a comprehensive review of whirling disease science
- the potential for disease control through manipulation of the alternate host
- disease effects on isolated populations of cutthroat trout in the southwestern states.

An online, interactive map of disease incidence shows up-to-date information from ten states. Research data from projects funded over the entire course of the initiative are being assembled into a database that can be used for comprehensive studies.

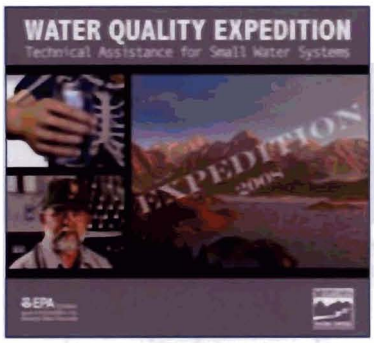
WATER POLICY INTERIM COMMITTEE
JULY 9, 2009
EXHIBIT 3

The purpose of the ***Wild Fish Habitat Initiative*** is to evaluate the costs and efficacy of measures to bolster wild fish populations, and publicize the findings among fishery and land managers. This year Initiative investigators are:

- » evaluating the biology of fluvial Arctic grayling to aid restoration efforts in the Big Hole River
- » testing physical and chemical techniques for eliminating invasive fish species from streams
- » assessing the success of techniques for restoring cutthroat trout in western watersheds
- » reviewing stream-restoration projects in the western states that were designed to benefit inland salmonid fish populations.

Arctic grayling from the Big Hole River

The Initiative is a scientific adjunct to the Partners for Fish and Wildlife program operated by the U.S. Fish and Wildlife Service for private landowners, aimed to enhance the effectiveness of that program's habitat restoration projects.



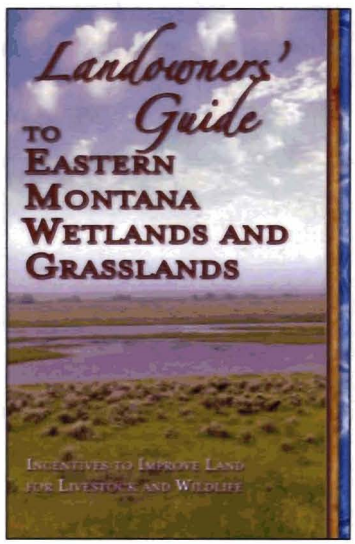
Water Quality Expedition 2008

The ***Small Systems Technical Assistance Center*** operated by the Water Center is the flagship of a nationwide network that helps small public water utilities provide safe, reliable and affordable drinking water. This year the Water Center is developing four electronic training courses. These cover water-system energy efficiency, use of alternative energy sources for small systems, water-loss testing and water conservation programs for customers. Each course will cover the basic attributes of the topic, plus cost calculations, case histories, and additional resources. A printed guide for each topic will also be available. The four modules will be distributed to water system personnel and technical assistance providers throughout the country.

The Water Center also operates the web site that provides access to the tools developed by all eight technical assistance centers, and co-sponsors the week-long Montana Water School that draws 250 water treatment operators. Its training courses will be presented at a number of national conferences and workshops this year. To date, more than 50,000 water-utility workers have taken the Center's training courses nationwide.

The ***Montana Watercourse*** is a statewide program for schools and citizens, providing water information, resources, tools and education. Among this year's projects are:

- » developing and leading water-resource education courses for realtors, educators, and citizens
- » developing a pilot program of certification for volunteer water quality monitors
- » updating the *Landowner's Guide to Montana Wetlands* for both eastern and western Montana
- » low impact development (LID) education and resources
- » supporting watershed education efforts throughout the state
- » circulating water-resource 'teaching trunks' among Montana elementary schools
- » facilitating Know-Your-Watershed tours in the Sun and Marias watersheds
- » organizing and conducting the *Montana Water Summit for Teachers and Students.*



Montana Water Center · Gretchen Rupp, Director · 101 Huffman Building · Montana State University · Bozeman, Montana 59717-2690
ph 406.994.6690 · fax 406.994.1774 · water@montana.edu · http://watercenter.montana.edu