



**Written testimony  
to the  
House Natural Resource Committee  
Water, Oceans, and Wildlife Subcommittee  
regarding H.R. 3510 the Water Resource Research Amendments Act  
Submitted by Dr. Dan Devlin, President, NIWR**

**July 24, 2019**

Chairman Huffman and Ranking Member McClintock,

Thank you for this opportunity to submit testimony on behalf of National Institutes for Water Resources (NIWR) in support of H.R. 3510, the bipartisan Water Resources Research Amendments Act (WRRRA), sponsored by Reps. Harder, Wittman, Napolitano, and Griffith.

The Water Resources Research Act, enacted in 1964, was designed to expand and provide more effective coordination of the Nation's water research. The Act established water resources research institutes (Institutes) at lead institutions in each state, as well as for Washington D.C., Guam, Puerto Rico, the Virgin Islands, the Federated States of Micronesia, the Commonwealth of the Northern Mariana Islands and American Samoa.

Congress created the Institutes to fulfill three main objectives:

- Develop, through research, new technology and more efficient methods for resolving local, state and national water resources challenges;
- Train water scientists and engineers through on-the-job participation in research; and
- Facilitate water research coordination and the application of research results through the dissemination of information and technology transfers.

Since 1964, the Water Resources Research Institutes have fulfilled these three objectives in partnership with the U.S. Geological Survey. The Institutes, managed by a director in each state, promote water-related research, education, and technology transfer at the national, state, and local level through grants and sponsored projects. The program is the only federally-mandated research network that focuses on applied water resource research, education, training, and outreach.

The Water Resources Research Institutes program is a state-based network dedicated to solving problems of water quantity (supply) and quality in partnership with universities, local

governments, the water industry, and the general public. The program requires each state to match federal funding thus ensuring that local and regional priorities are addressed and the impact of federal dollars is maximized. The Institutes are a direct, vital link between federal water interests and needs and the expertise located within the states' research universities. In fact, last year the Institutes collaborated with 150 state agencies, 180 federal agencies, and more than 165 local and municipal offices.

While these projects primarily focus on state needs, they also address water issues relevant to our Nation. There are two grant components of the USGS Water Resources Research Institutes program. The State Water Research Grants provide competitive seed grant funding opportunities for state water institutes for research priorities that focus on local and community water resources problems. The study areas span the spectrum of water supply, water quality, and public policy issues of water management. The National Competitive Grants program promote collaboration between the USGS and university scientists in research on significant national and regional water resources issues and promote the dissemination and results of the research funded under this program.

With our funding and educational services, water-related professionals and researchers provide solutions to the water management challenges we face including toxicity in urban storm water runoff, managing aquifer recharge in drought – stricken communities, and monitoring and alleviating human and ecological health impacts associated with water reuse, especially in energy development practices.

The following are examples of Institute's research support that benefits stakeholders throughout the nation:

The Kansas Water Resources Institute (KWRI) has had long history of working with the Kansas Farm Bureau (KFB), the premier agricultural organization in Kansas representing thousands of Kansas farmers. KWRI scientists have discovered new agricultural management practices that have led to improved water quality outcomes and helped conserve valuable groundwater resources while improving economic outputs from agriculture.

With the rise in frequency and severity of harmful algal blooms (HABs) in lakes and reservoirs, it has become critical to develop early warnings and solutions to alleviate this problem. In Ohio, this is an especially pressing issue because of the reliance on Lake Erie and many inland lakes for drinking water and the economic impacts of recreation and tourism. Under certain conditions, HABs can produce toxins that water treatment facilities are not equipped to remediate. Researchers funded by the Ohio Water Resources Center at the Ohio State University are making strides in understanding the dynamics of HABs and developing technologies to reduce risks associated with them. Early warning detection buoys are being deployed to collect and transmit information to water treatment plants, lake managers, and communities that may use the water as a drinking water source to alert them to a bloom before it grows and becomes potentially dangerous. This research emphasizes protecting human health through mitigating the adverse impacts of HABs to communities. Early detection allows for better communication and preparation to ensure citizens have safe drinking water in Ohio and the Great Lakes Region.

A team of researchers from the Minnesota Water Resources Research Center designed a novel bioreactor which, when installed in agricultural ditches, treats water from subsurface tile drains, removing nitrogen and phosphorus from the water leaving the farm fields. Unlike other bioreactors this new version removes both nitrogen and phosphorus, preventing nutrients from entering surface streams and rivers in the Midwest. This project should lead to greater sustainability of agricultural production in Midwestern regions where corn and soybeans are produced.

Researchers at the Nevada Water Resources Research Institute are researching issues associated with water reuse--a water supply strategy of particular importance to water-scarce regions. Work includes identifying contaminants, evaluating existing and emerging treatment technologies, assessing potential public health and environmental health impacts, and outreach to the public.

The work being funded through the Maine Water Resources Research Institute will help determine what remediation efforts might be required by drinking water utilities in the wake of an increase in the rate and intensity of precipitation events and associated rapid runoff. These extreme events wash organic matter into lakes that can ultimately cause a buildup of organic carbon that can trigger algal blooms, taste and odor problems, and may form unhealthy by-products. Their work will inform the development of management and adaptation strategies to ensure sustained high water quality.

The California Institute for Water Resources recently sponsored a project that emphasizes irrigation management for almond trees. According to the University of California Agricultural Issues Center, the almond industry in California generates over \$20 billion in economic revenue. With the recent droughts in California, almond farmers reached out to the Institute to help with solutions on improving orchard water productivity, thus increasing profits and enhancing groundwater sustainability.

Reauthorization of the Water Resources Research Act H.R. 3510 will enable water researchers to continue to address critical water management problems, create the pool of scientists needed to implement those solutions and support the water infrastructure across the nation.

We are especially pleased to see that the reauthorization bill requires a match of 1:1 for both grant programs in WRRRA. Previously, the grant programs had different matching requirements, creating some hardships for smaller centers. We are likewise grateful that the reauthorization aligns the review process for centers with the 5-year grant process while keeping the annual reporting mechanisms.

Finally, the reauthorization pegs the overall authorization of appropriations at \$10 million, a level consistent with the House Appropriations' Interior Committee mark for FY 2020 for the program.

Our Nation faces growing challenges in providing water for agriculture, human consumption, industrial use, and natural resource applications. We are pleased to see that this committee is focusing on water solutions for our country and we look forward to working with you to advance H.R. 3510 this Congress.