

# NATIONAL INTEGRATED WATER QUALITY & INTEGRATED PEST MANAGEMENT CENTER PROGRAMS

## Meeting the Challenges of the 21st Century

### The Importance of Water

Water is at the heart of human life and culture. Water feeds us and quenches our thirst. It provides us with energy, transportation, scenic beauty, and recreational opportunities that contribute to our health and well being.

When the cycle of water supply and use is out of balance, the resulting conditions can be inconvenient, expensive, and even fatal. Higher levels of nutrients in lakes, streams, and estuaries decrease property values and damage commercial fisheries, resulting in estimated losses of over \$2 billion annually nationwide. Estimates of the total cost of the Midwest floods of 2008 are greater than \$10 billion. Conversely, drinking water sources are being depleted across the U.S., resulting in expensive and contentious water diversions and potential public health risks as lower quality sources of water are accessed. Understanding and managing water movement is critical to climate change adaptation. People are already experiencing climate change impacts through water excess and scarcity.

Water research, higher education, and Extension outreach to agencies, communities and entrepreneurs in the private sector are critical if we are to protect public health and property, and meet growing water demands in the future.

### The Section 406 National Integrated Water Program and Integrated Pest Management Center Programs

are a distinctive and highly effective asset to USDA, and should be maintained in future budget cycles. They will not be easily replicated if the existing programs are lost or reconfigured.

Please see inside for examples of how the National Integrated Water Quality Program is meeting federal, state, and local needs for water research, education and Extension outreach.



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## NIFA Proposed FY 2011 Budget – What Will Be Lost by “Zeroing” the Section 406 Integrated Water Quality and Regional Pest Management Center Programs

The Section 406 Integrated Program Lines of the NIFA Budget have helped promote a culture change in the Land Grant System – a change spearheaded by Extension leadership. The Land Grant Institutions, because of their strong Extension programs, have successfully competed for a substantial portion of these 406 funds. Unlike past years, NIFA has not only “zeroed” most of the 406 lines, it has also indicated that the 406 programs will not be moved into AFRI, creating confusion over the value that NIFA places on Extension-led integrated programming.

### **So, what is at risk if Section 406 Programs are lost from the FY 2011 budget?**

Using the 406 National Integrated Water Quality Program as an illustration:



- ✓ A regional and national network, focused on a set of nationally important environmental themes that expand the capacity of individual states and counties to address local issues.
- ✓ A collaborative program among the 1862, 1890, and 1994 Land Grant Institutions strengthening the ability to meet water-related needs in America’s diverse communities.
- ✓ Improved integration, interpretation, and distribution of scientific knowledge to solve today’s problems and avoid tomorrow’s problems.
- ✓ Broad based leveraging of local, state and regional funds to address the needs of stakeholders.
- ✓ A regional system of planning, review and accountability that employs Logic Models to assure performance-based program outcomes.

The 406 programs are built on the premise that many of America’s challenges must be addressed at multiple scales. America invested hundreds of billions of dollars improving municipal wastewater treatment systems – only to realize that the behaviors of individual farmers, rural and urban residents had to be addressed if our nation’s waters were to be restored and protected.

Progress at the community, farm and household level requires programs that recognize the importance of tailoring programs to the soils, climate, cropping systems, economic pursuits, organizational structures and educational backgrounds of stakeholders.

The upcoming AFRI RFAs will provide great insight into their desire for Extension-led, locally-relevant, problem solving programs that have demonstrated capacity building and strengthen regional and national networks.





## A few examples of how 406 National Integrated Water Quality (NIWQP) Regional Water Programs are addressing important water-related issues across the country:

### New England States and Caribbean Islands Regional Water Program

Onsite wastewater treatment systems serve approximately 25 percent of the United States population. In rural areas throughout the US, onsite wastewater systems are often the only means to safely treat wastewater to protect environmental and public health. When systems fail, nitrogen, phosphorus, and pathogens degrade water quality – impairing the use of drinking water supplies, lakes, rivers, estuaries, shell and fin fishing grounds, and surrounding coral reef systems. The New England Onsite Wastewater Training Program, housed at the University of Rhode Island, has been addressing knowledge gaps by bringing research based outreach education on conventional and alternative wastewater treatment technologies to communities, professionals, and regulators throughout the region. Impacts include a 27% increase in the use of advanced treatment technology in Rhode Island, the development of national standards for operation and maintenance service providers, and the creation of a regulatory guidance document based on research for bottomless sand filter technology, which has been adopted in MA, NY and RI.



### What can we do?

We have exemplary programs in the 406 Water Quality and the Regional Integrated Pest Management Centers. We ask that Extension-led integrated programs be maintained, so they can continue to make the most of federal investments in agriculture, the environment, and local communities.

### Great Lakes Regional Water Program

As the public grows increasingly aware of our collective ecological footprint and its relationship to climate change and water quality, the effort to add living cover to our landscape in the form of cover crops can generate new sources of renewable energy, mitigate greenhouse gases, reduce the use of agricultural chemicals and provide novel income streams for rural communities. The Midwest Cover Crop Council (MCCC) is coordinating cover crop research priorities and reaching hundreds of people through the MCCC website ([www.mccc.msu.edu](http://www.mccc.msu.edu)), Extension publications and distance learning programs, and face-to-face trainings. MCCC is helping to spread the word about cover crop successes, such as a model NRCS cover crops cost-share program in Indiana that has resulted in nearly 130,000 having additional protection from extreme storm events. This initiative has leveraged nearly \$200,000 from other sources.



### Pacific Northwest Regional Water Program

The Pacific Northwest is often thought of as a water-rich region. However, more than half the area of Idaho, Oregon, and Washington receives less than 25 inches of annual rainfall. In the last 100 years, the use of irrigation technology has transformed much of this arid landscape into highly productive farmland. Consequently, more

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## Pacific Northwest Regional Water Program – *continued from inside*

than 6 million irrigated acres are currently being farmed in the arid Inland Pacific Northwest. These areas are at risk due to changing snowpack conditions and increased demand for water resources in the region. To address the information needs of dry area farmers, Extension irrigation specialists from the Land Grant institutions in Washington, Idaho, and Oregon developed a regional web site, *Irrigation in the Pacific Northwest* (<http://irrigation.wsu.edu>). The website is improving the understanding of irrigation planning and management, with an emphasis on water use efficiency. Web site highlights include:

- (1) sprinkler, chemigation, general and water measurement calculators;
- (2) irrigation scheduling tools and aids;
- (3) sprinkler and drip irrigation equipment; and
- (4) irrigation strategies for regionally important crops.

Over the past year the site has received more than 150,000 hits from 16,000 users.



## Southern Regional Water Program

Land Grant institutions make the most of federal resources by increasing the adoption research based knowledge and technologies in local communities. The Southern Regional Water Program is developing the knowledge base of Cooperative Extension Master Gardeners in southern states. These volunteers answer questions on water quality and gardening, and help citizens apply what they learn in their homes and communities. A three-part training for Master Gardener Volunteers covers waterSmartSM Landscape design, treatment of landscape pollution, the role of impervious surfaces, irrigation audits, rain gardens and rain harvesting. Participants learned to identify healthy streams via visual, chemical, physical, and biological assessment. In the past year, 293 Master Gardeners were trained in Alabama, Georgia, Tennessee, and South Carolina. Participating Master Gardener volunteers estimated they worked with a total 16,135 home gardeners each year, thus reaching a larger audience.



### For further information:

Success Stories from the Section 406 National Integrated Water Quality Program:

**<http://www.usawaterquality.org/success.html>**

Home page of Integrated 406 Water Quality Program:

**[www.usawaterquality.org](http://www.usawaterquality.org)**



*Applying knowledge to improve water quality*

**National  
Water Program**

*A Partnership of USDA NIFA  
& Land Grant Colleges and Universities*