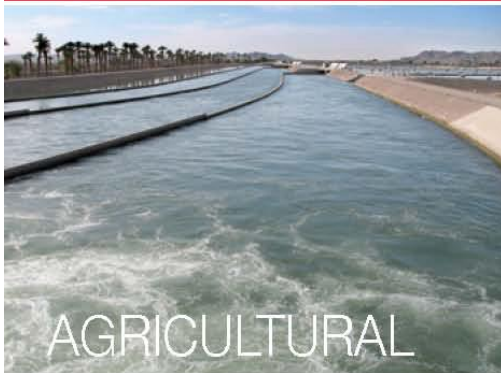


CSU

The California State University
WATER RESOURCES AND POLICY INITIATIVES

Annual Report
Fiscal Year
2010-2011

www.calstate.edu/water



Introduction and Program Overview

Under the leadership of Chancellor Charles B. Reed, the California State University (CSU) has identified the Water Resources and Policy Initiatives (WRPI) as an opportunity to leverage CSU's system wide academic excellence into an important resource for addressing the complex issues about water confronting California today and in its future.

Many other states and countries look to California and the CSU system for leadership in developing and executing solutions for sustainable water resource management. CSU's academic centers are recognized worldwide for contributing to next-generation policies, science and technology, and complex environmental, social and economic solutions.

As the largest and most diverse university system in the country, the CSU system is uniquely qualified to provide practical leadership in helping to solve immediate and long-term water management issues facing California:

- The CSU has hundreds of scientists and technicians on 23 campuses that feature almost 450,000 students and 47,000 faculty and staff.
- A system wide multidisciplinary academic program can serve as a platform for applying CSU and its resources to important sustainable water practices and policy initiatives.
- These resources can provide education, training and expertise to individuals already in or wanting to pursue diverse careers in the water industry.

The goals listed below support the key elements found in the WRPI mission. The goals reflect the CSU comparative advantage in addressing current and emerging statewide water issues. WRPI will become a leading resource for:

- **Partnerships with the water industry and government agencies**
WRPI will engage a broad group of water industry stakeholders and government agencies to leverage university resources to pursue the development of "good science" from which to base decision making and emerging water policy.
- **Education, training and professional capacity building**
WRPI will help raise awareness of careers in water and develop academic pathways for the next generation of professionals and the general public through outreach and training programs, professional capacity building, university curriculum development, and formal post secondary and graduate education.
- **Technology and economic development**
WRPI will provide a strong scientific base and business development support to help commercialize new ideas in water industries, services and professions in California. The outcome will be a creative climate of innovation, furthering economic growth in water technology.

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Director's Message

WRPI - A Year in Review

During FY10/11 the Water Resources and Policy Initiatives (WRPI) made significant strides in raising awareness about the quality and breadth of CSU faculty and research expertise across a wide range of water issues.

Effective July 1, 2010 the Chancellor's Office retained Susan Lien Longville from California State University, San Bernardino as the new Associate Director of WRPI. Susan is dedicating 20% of her time to work in collaboration with David Zoldoske. Together, they are charged with leveraging CSU's system wide academic excellence into an important resource for addressing the complex issues about water confronting California today and in its future.

WRPI held its third annual conference at the Chancellor's Office in Long Beach on April 27, 2011. Aside from faculty and staff attendance, selected students were invited to attend the meeting as well as participate in a poster session highlighting their research efforts. The focus of the conference was to address selected water issues facing California. Those topics included the Delta, water quality issues facing disadvantaged communities, new State legislation, and careers in water. The conference ended with a networking social designed to bring together both WRPI and COAST faculty researchers.

WRPI was also a co-sponsor with UC Merced for a workshop addressing Clean Water in the Central Valley. The event was held on December 3, 2010, and attracted about 100 attendees representing disadvantaged communities, academia, and elected officials. The opening remarks were given by Chancellor Steve Kang, UC Merced. The workshop focused on *"economically and socially sustainable capacity-building for small, decentralized water systems operations and management."*

On June 28, 2011 WRPI sponsored a conference in Rancho Cucamonga to highlight the funding sources available to agencies and NGO's to assist disadvantaged communities in improving water systems. The conference was well attended, with over 100 attendees and was seen as a critical first step in a larger effort by the CSU to take a leadership role in helping disadvantaged communities build infrastructure capacity and economic development.

Obtaining multi-campus funding continues to be a priority for WRPI. For FY2010/11, two proposals were developed as system wide priorities. Each year the CSU system submits numerous requests for Federal funding. This year WRPI submitted its Federal request through the Chancellor's Office seeking \$950,000 in funding to support the establishment of an EPA-supported Technical Assistance Center (TAC) program in California. If successful, the funds would be used to support a Center for Disadvantaged Communities Water Assistance located on multiple California State University campuses.

A second proposal was submitted by WRPI to the USDA's Hispanic Serving Institutions (HSI) program. We are pleased to announce the proposal was awarded \$2,000,000 in funding to support paid watershed management internships for CSU students. WRPI will be acting as the lead for this regional collaboration which will involve the fourteen HSI campuses within the CSU system. California State University, San Bernardino will act as the fiscal agent for the grant, providing funding for up to 200 paid Watershed Management Internships at the undergraduate and/or graduate level. Faculty will develop an individualized scope of work in collaboration with each intern. The program is designed to fund 200 undergraduate and graduate students during the four year grant period.

The purpose of the grant is to encourage more students to pursue careers in water resources. The particular focus of the project is to provide a pipeline of qualified CSU students to apply for USDA jobs. Other Federal agencies and approved non-profits are also included in the targeted workforce development.

Another challenge facing WRPI was to develop its strategic plan. In the spring of 2011, this task was given to four MBA students on the campus of California State University, Fresno. During the semester, the student team sent out surveys to those involved in WRPI and conducted focus group meetings with the staff. A draft Strategic Plan has been developed and is available online for review and comment.

WRPI again hosted the second CSU affinity group meeting on May 5, 2011 at Fresno State. Leadership participated from CSUPERB, COAST, CEMHS, CASSRC/SSIRC, ARI, and the Chancellor's Office. The event highlighted common concerns and opportunities to improve communication and coordination among affinity groups. It was agreed that these meetings are useful and future plans call for at least one leadership summit annually.

Education and outreach are also important activities within WRPI. To better promote the role of CSU researchers in the water industry, selected faculty continued to write articles pertaining to their interests and expertise. During the FY10/11, CSU faculty provided articles for publication in "Water Efficiency" magazine where each edition reaches over 26,000 professionals in the water industry.

WRPI participated as part of a Water Action Team for the California Council for Science and Technology (CCST) to produce an assessment of California's innovations ecosystem titled ***California's Water Future: A Science and Technology-Based Water Innovation Road Map***. The California Council on Science and Technology was established in 1988 by the California Legislature to report to the presidents of the University of California, the University of Southern California, the California Institute of Technology, Stanford University, and the Chancellor of the California State University, and to respond to the Governor, the Legislature, and other entities on public policy issues related to science and technology. It is designed to offer expert advice to the state government and to recommend solutions to science- and technology-related policy issues.

CSU staff and faculty are active on several important committees in Sacramento. One is the SBx7 committee which was established by the California Department of Water Resources, in part to quantify the accuracy of water deliveries to farm fields, as well as develop a methodology for quantifying the efficiency of agricultural water use. The timeline for completing the current priorities is December 2011.

A second committee was formed around the DWR's Strategic Plan, Chapter 7, which looks to implement the 13 listed objectives. In the plan, Objective 11 addresses *Invest in New Water Technology*. The CSU, along with UC are co-chairing the caucus. One of the stated goals is to have *"state government work with California research and academic institutions to identify, prioritize, and begin funding applied research projects as part of a broad and diverse scientific agenda to fill gaps in the knowledge about California's water-related systems."*

There is still much work to be done in water. With your help we continue to make significant progress in raising the profile of the CSU in water education and research.

Best Regards,

A handwritten signature in blue ink that reads "David F. Zoldoske". The signature is fluid and cursive, with the first name "David" and last name "Zoldoske" clearly legible.

David F. Zoldoske, Executive Director
Water Resources and Policy Initiatives

Vision and Mission

Vision

The Water Resources and Policy Initiatives will help achieve a long-term, sustainable water supply for California through education, research and policy development while balancing the needs of urban, agricultural and environmental concerns.

Mission

The Water Resources and Policy Initiatives (WRPI) is designed to target the capabilities and resources within the 23 California State University campuses to provide academic preparation, applied research and policy development that addresses all aspects of water use. WRPI serves to focus synergistically with the many centers and programs of excellence within the CSU on water issues. The scope of WRPI activities include:

- Provide critical faculty- and staff-based expertise to support California's need for appropriate and sustainable water resources in the 21st century;
- Promote the need for education, training and professional capacity development with the water industry, government agencies, and the wider community; and
- Support the development of new and advanced water technologies and services that will help drive economic development and job creation.

CSU Water Faculty and Staff

Over 250 CSU faculty and staff members are involved in water-related projects throughout the CSU system. A list of faculty and staff is available at <http://www.calstate.edu/water/staff.shtml>



Institutes, Centers and Programs

The CSU system houses a number of institutes, centers and programs that focus on water-related issues, technology and solutions including:

Fresno

Center for Irrigation Technology

International Center for Water Technology

(559) 278-2066

David Zoldoske

<http://www.californiawater.org>

<http://www.icwt.net>

California Water Institute

(559) 298-6072

David Zoldoske

<http://www.californiawater.org>

Humboldt

Klamath Watershed Institute

(707) 826-3258

Andrew Stubblefield, Director

<http://www.humboldt.edu/~kwi/>

Monterey Bay

The Watershed Institute

(831) 582-3689

Laura Lee Lienk, Doug Smith

<http://watershed.csUMB.edu/wi/index.htm>

Pomona

Center for Turf, Irrigation and Landscape Technology

(909) 869-2085

Ramesh Kumar

<http://www.csupomona.edu/~lis/ctilt>

Sacramento

Center for Collaborative Policy
(916) 445-2079
Susan Sherry
<http://www.csus.edu/ccp>

Office of Water Programs
(916) 278-6142
Ramzi Mahmood
<http://www.owp.csus.edu>

San Bernardino

Water Resources Institute
(909) 537-7681
Susan Lien Longville
<http://wri.csusb.edu>

San Diego

Coastal and Marine Institute
(619) 594-0995
Todd Anderson
<http://www.sci.sdsu.edu/CMI>

San Luis Obispo

Irrigation Training and Research Center
(805) 756-2434
Stuart Styles
<http://www.itrc.org>

Coastal Resources Institute
(805) 756-1774
James Vilkitis
<http://www.calpoly.edu/~cri>

Annual Conference

On April 27, 2011 the Third Annual WRPI Conference was held in Long Beach, California with CSU faculty and staff in attendance. The conference objective was to explore and discuss a number of water-related issues facing California. Complete conference materials are available online at <http://www.calstate.edu/water/conference/>

The conference agenda was as follows:

- **Delta Issue Panel**
 - Jeff Mount, UC Davis Center for Watershed Science
 - Richard Atwater, Southern California Water Committee
 - Leo Winternitz, CA Nature Conservancy
- **DWR Master Contract**
- **COAST Affinity Group**
- **WRCA Update**
- **Keynote Speaker:** Donald R. Glaser, Regional Director Mid-Pacific Region, Bureau of Reclamation
- **Water Quality Issues in Disadvantaged Communities**
 - Karl Longley, Central Valley Regional Water Quality Control Board
 - Greg Gearheart, State Water Resources Control Board
 - Rafael Maestu, State Water Resources Control Board
 - Karen McBride, Rural Community Assistance Corp.
- **SBX 7-7 Panel** (Urban 20/20 plan and Ag SBX7)
 - Manucher Alemi, Department of Water Resources
 - Chris Brown, CA Urban Water Conservation Council
 - Mike Wade, Ag Water Management Council
- **Careers in Water Panel**
 - Virginia Grebbien, Parsons Water & Infrastructure, Inc.
 - A.G. Kawamura, Former Secretary CDFG/Grower

Conference and Organizing Committee Members

Dirk Baron – California State University, Bakersfield

Brad Finney – Humboldt State University

Ramesh Kumar – California State Polytechnic University, Pomona

Susan Lien Longville – California State University, San Bernardino

Lars Pierce – California State University, Monterey Bay

Laura Ramos – California State University, Fresno/WRPI

Doug Smith – California State University, Monterey Bay

Stu Styles – California State Polytechnic University, San Luis Obispo

Ellen Suryadi – California State University, Fresno/WRPI

David Zoldoske – California State University, Fresno/WRPI



Proposals

USDA Proposal

A proposal was submitted by WRPI to the USDA's Hispanic Serving Institutions (HSI) program. We are pleased to announce the proposal was awarded \$2,000,000 in funding to support paid watershed management internships for CSU students. WRPI will be acting as the lead for this regional collaboration which will involve the fourteen HSI campuses within the CSU system

Funding under the Regional Collaboration (ROCN) is aimed at increasing retention and graduation of underrepresented students and to prepare graduates for scientific and professional careers in the USDA's workforce. The internships are designed to provide experiential learning and mentoring in watershed management. Underrepresented students comprise almost 42 percent of the total CSU enrollment with Mexican American and other Latinos representing over 71 percent.

The initial funding will allow 200 undergraduate or graduate level students and their CSU faculty mentors from participating campuses to address water issues confronting California. The experiential learning and mentoring program is modeled after the successful Watershed Management Internship Program developed by the Water Resources Institute (WRI) at CSU-San Bernardino and has been successfully funded during two previous awards cycles from the USDA.

Acting as the lead agency for this regional collaboration, California State University, San Bernardino will be the fiscal agent for this grant. Susan Lien Longville will act as the Project Manager and David Zoldoske will serve as Project Director. Faculty will be expected to develop an individualized scope of work in collaboration with each student intern. The internships will be supervised and mentored by faculty, overseeing student efforts at various CSU water-related centers and institutes, or partnering agencies. Upon completion of the internship, each intern will submit a Final Report that will be published on the WRPI website to share insights into the knowledge gained across a broad spectrum experiential learning.

Center for Disadvantaged Communities

WRPI submitted a second proposal to seek an increase of \$950,000 to the base funding supporting the existing eight states of Alaska, Illinois, Kentucky, Mississippi, Missouri, Montana, New Hampshire, and Pennsylvania, which comprise a key element of the EPA's Technical Assistance Center (TAC) program. If approved, the additional funds will be used to establish a Center for Disadvantaged Communities Water Assistance in California within the California State University system. The mission is achieved by sharing and direct application of knowledge designed to improve the physical, financial, managerial and organizational components of systems as they strive to increase the availability of safe, sustainable and reliable drinking water and wastewater treatment systems for all Californians.

A safe, reliable and affordable small community drinking water and wastewater system generates multiple benefits to its constituents. First and foremost, it protects public health, safety and the environment. Additionally, it has been documented that an increased investment in public-sector drinking water and wastewater infrastructure brings higher private-sector profits in the community, spurs additional private investment in plant and equipment, and improves growth in private-sector labor productivity. It is estimated that the number of disadvantaged communities (DACs) in California potentially served by this program, both rural and urban, ranges in the thousands.

Strategic Plan

It was determined that developing a Strategic Plan would be beneficial to the long-term growth and direction of the Water Resources and Policy Initiatives. Help was enlisted by a team of four MBA students from Fresno State during the spring of 2011. They were given the task of developing a draft Strategic Plan for WRPI. The project was an effort to look down the road and envision what path and goals WRPI should take over the next five years. As part of the process, CSU faculty and staff were sent questionnaires to collect data to help develop the Strategic Plan. Furthermore, selected focus group meetings were held with staff to collect additional information.

A copy of the draft plan can be found at <http://www.calstate.edu/water/goals.shtml>. Comments are welcome on the draft plan. Please share your thoughts with David Zoldoske at davidzo@csufresno.edu

Disadvantaged Communities Conference

Disadvantaged communities (DACs) are often an enigma for the agencies that are there to serve them. Too often agencies, through no fault of their own, lack the knowledge of funding opportunities that are available to help disadvantaged communities with badly needed water and wastewater infrastructure.

On June 28, 2011 WRPI sponsored a conference in Rancho Cucamonga to highlight the funding sources available to agencies for assisting Disadvantaged Communities in obtaining this funding. Several speakers recognized the CSU for helping organize the event. This conference was a critical first step in a larger effort to assist agencies involved in addressing disadvantaged communities' needs to build infrastructure capacity and improve economic conditions. WRPI Associate Director Susan Lien-Longville and Project Manager Dr. Karl Longley assisted in coordinating the event. Over 100 people attended the conference, including engineers, water district managers, researchers, community advocates and others in the day-long conference.

The conference presented case studies of success stories including one in Enchanted Heights, a small community bordering Riverside, California, where they received \$13 million for installation of a sewer system. Speakers included Ms. Fran Spivy-Weber, Vice Chair of the State Water Resources Control Board; Dr. Andrew Bodman, Provost for Academic Affairs at CSU San Bernardino; and Ms. Maria Elena Kennedy, Environmental Justice Pillar-One Water, One Watershed.

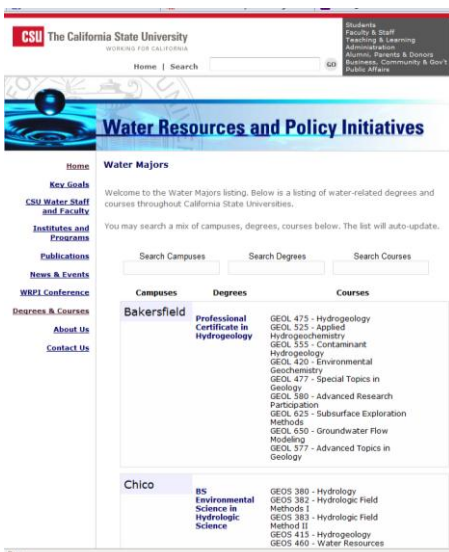
The conference supported WRPI's larger effort to foster environmental restoration and economic development in disadvantaged communities by improving water infrastructure. The CSU has proposed to create a federally designated "technical assistance center" to help California's disadvantaged communities develop and manage effective, sustainable water and wastewater systems.

CSU Affinity Group Meeting

WRPI hosted the second CSU affinity group meeting on May 5, 2011 at Fresno State. Leadership participated from CSUPERB, COAST, CEMHS, CASSRC/SSIRC, ARI, and the Chancellor's Office. The event highlighted common concerns and opportunities to improve communication and coordination among affinity groups. It was agreed that these meetings are useful and future plans call for at least one leadership summit annually. The group will continue to work on improving communications and coordination among affinity groups and their next steps are to:

- promote grant writing opportunities;
- engage CSU provost community (as distinct from the University Presidents' community);
- develop general guidelines on how CSU affinity groups operate;
- improve linkages between centers and institutes; and
- continue the practice of an annual affinity group meeting.

Courses and Degrees



In an effort to provide more information to the general public as well as students interested in water-related courses, an online searchable database of courses and degrees for the 23 CSU campuses was developed.

The online database allows users to search in three main categories: by campus, by degree or by course. This will assist potential students to find water related programs and courses that would otherwise not be easily identified throughout the CSU system.

We hope CSU faculty and staff will take the opportunity to direct potential students interested in water careers to the website.

Magazine/Articles Committee

Public Outreach

Below are articles prepared in 2010/2011 by WRPI faculty/staff. The pieces have or will be published in “Water Efficiency” magazine with a circulation of over 26,000 water industry professionals. Complete copies are available online at <http://www.waterefficiency.net/>

- **The State of Knowledge: External impacts of water transfers**
Anita Chaudhry – California State University, Chico
- **Unincorporated and Underserved: Proposed center for disadvantaged communities water assistance**
Karl Longley, Brian Haddix, Sarge Green, David F. Zoldoske – California State University, Fresno
- **A Tale of Two Cities: Rainwater harvesting has been used extensively as a low tech solution to human water needs for millennia**
Michael Lee – California State University, East Bay
- **Emerging Technology for Reservoir Capacity Study: In the face of predicted climate changes and snowpack loss, California reservoirs will take on more critical role, making precise reservoir capacity ratings important.**
Douglas Smith – California State University, Monterey Bay

Magazine/Articles Committee

Anita Chaudhry – California State University, Chico
Michael Cohen – Sonoma State University
Dave Goorahoo – California State University, Fresno
Maureen Kerner – California State University, Sacramento
Charles Krauter – California State University, Fresno
Michael Lee – California State University, East Bay
Susan Lien Longville – California State University, San Bernardino
Ed Norum – California State University, Fresno
Lars Pierce – California State University, Monterey Bay
Doug Smith – California State University, Monterey Bay

Outlook and Planning for FY 2011/2012

- Plan and conduct fourth WRPI conference.
- Continue to encourage grant development and submittal. WRPI will be funding faculty release time this year for the first time to develop and submit grant proposals.
- Continue to meet and work with other CSU affinity groups.
- Appoint a WRPI advisory board and conduct first board meeting.
- Review and proceed as appropriate with faculty articles in “Water Efficiency” magazine.
- Continue to conduct campus visits to promote mission and vision of WRPI.
- Continue to develop the WRPI website.
- Write and publish annual report.
- Continue to update the draft strategic plan that was published July 2011.
- Continue to work in collaboration with local communities educating voters about the 2012 Water Bond directing \$50 million for WRPI research and education on agricultural water.