CSU The California State University
WATER RESOURCES AND POLICY INITIATIVES

# 2nd Annual Conference March 3, 2010

www.calstate.edu/water

**CSU Water Resources and Policy Initiative**
**Working Draft Document**

## Vision

The Water Resources and Policy Initiative will contribute to 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 Initiative (WRPI) will link the capabilities and resources within the twenty-three California State University campuses to provide academic preparation, applied research and policy development that addresses all aspects of water use. WRPI optimizes and links the many centers and programs of excellence within 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 education, training and professional capacity development with the water industry, governmental agencies, and the wider community;
- Develop new and advanced water technologies and services that will help drive economic development and job creation.

The WRPI will also enhance the universities' ability to attract exceptional students and faculty by providing a culture of collaboration and innovation within a multi-disciplinary water curriculum.

## Key Goals

The goals listed below support the key elements in the WRPI mission. The goals reflect the CSU comparative advantage in addressing current and emerging statewide water issues. The WRPI will be 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*** – The WRPI will raise awareness on careers in water and develop academic pathways for the next generation of professionals to meet the needs of businesses, government officials, tribal nations, water 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*** – The WRPI will provide a strong science 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.

# Conference Agenda

March 3, 2010
Alumni Center at CSU Sacramento

**Conference Objective:** Connect CSU faculty/staff with water agency staff and programs.

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| 8:00 am | Conference registration and continental breakfast | |
| 9:00 am | Welcome | *Jeri Echeverria*<br>Vice Chancellor for Academic Affairs |
| 9:10 am | WRPI update and overview | *David Zoldoske*<br>*WRPI* |
| 9:35 am | Greeting | *Congressman Jim Costa*<br>20th Congressional District |
| 9:50 am | Panel Presentation with Q&A<br>• *Mark Cowin, Director*<br>California Department of Water Resources<br>• *Charlie Hoppin,* Chair<br>State Water Quality Control Board | |
| 11:00 am | Break | All |
| 11:15 am | CSU/Agency Partnership: A Case Study | *Ramzi Mahmood*<br>Office of Water Programs |
| 12:00 pm | Lunch<br>Facilitated networking session(s) with State and Federal agency staff (USBR, Fish & Wildlife, DFG, DWR, SWQCB, CDFA, etc.) | All |
| 3:00 pm | Break | All |
| 3:15 pm | Wrap up | *David Zoldoske/All* |
| 4:00 pm - 5:00 pm | Conference Adjourn/Networking Social | |

# Jim Costa
# California's 20th District

In January 2005, following a distinguished 24-year career as a member of the California state Legislature, Jim Costa was sworn in as Member of the U.S. House of Representatives representing California's 20th Congressional District.

The grandson of Portuguese immigrants who settled in the fertile San Joaquin Valley near the turn of the 20th Century, Congressman Costa represents a district as diverse in people as it is in crops. Made up of portions of Fresno and Kern Counties and all of Kings County, the 20th Congressional District is home to a thriving agriculture industry which produces much of what America eats. Fresno County is the nation's number one agriculture producing county, Kern County ranks third and Kings County is ninth.

Raised on a dairy farm in Fresno's Kearney Park area, Costa is a third-generation family farmer. Costa's committee assignments reflect his long-standing interest in the 20th Congressional District's major issues including agriculture and water policy. He serves on the House Agriculture Committee, where he is a member of the Subcommittees on Livestock, Dairy and Poultry; and Conservation, Credit, Energy and Research. On the House Natural Resources Committee Costa is Chairman of the Subcommittee on Energy and Mineral Resources and is a member of the Subcommittee on Water and Power. Costa is also a member of the House Foreign Affairs Committee where he serves on the Subcommittees on the Middle East and South Asia; and Europe. Costa is a member of the fiscally-conservative Blue Dog Coalition and co-founder and co-chair of the Congressional Victims' Rights Caucus. He is also a co-founder of the Congressional Water Caucus and a co-founder of the Congressional Organ Donation Caucus.

During his first term in office, Congressman Costa put together a broad-based bipartisan coalition aimed at developing a Regional Water Plan for Central California. He also led the negotiations between the City of Fresno and the State of California that secured the final funding necessary to complete and open the new Amtrak station in Fresno. During the 109th Congress Costa continued to be an outspoken advocate for building High Speed Rail Systems in California and across the nation and played a leading role in the bipartisan effort to secure Highway 99 funding in the infrastructure bonds approved by California voters in November 2006. In addition, Costa was a principal in the successful bipartisan effort to secure Congressional approval of plans to keep Fresno's 144th Air National Guard Fighter Wing viable well into the future. The principal author of state legislation to create the San Joaquin Valley Air Pollution Control District, Costa continues to work with local and state officials to clean up the Valley's air.

Costa's legislative initiatives have including sponsoring a bill directed at resolving the beef crisis between the United States and Japan, legislation to extend the Farm Bill and helping draft the legislation which is a result of the Friant Water Settlement. He also was one of the leaders in the successful attempt to retain VOCA funding.

His efforts during the 109th Congress won Costa recognition from National Organization for Victim Assistance, which named him recipient of the Donald E. Santarelli Public Policy Award for demonstrating outstanding public policy leadership that has national impact. The American Farm Bureau Federation, named him a recipient of its "Friend of the Farm Bureau" award and Costa received the "Spirit of Enterprise" award by the U.S. Chamber of Commerce.

A product of Fresno County schools, Costa is a graduate of San Joaquin Memorial High School and has a Bachelor's Degree in Political Science from California State University, Fresno.

# Mark Cowin, Director
# Department of Water Resources

Mark W. Cowin was appointed Director of the California Department of Water Resources by Governor Arnold Schwarzenegger, effective February 1, 2010. Mr. Cowin has extensive experience with California water resources management and has worked over 29 years at DWR.

As DWR Director, Mr. Cowin heads a Department that protects, conserves and manages the state's water supply, including operation of the California State Water Project. The SWP is the largest state-run, multi-purpose water and power system in the United States. It provides a supplemental water source for 23 million Californians and about 750,000 acres of irrigated farmland and directly sustains over $400 billion of the state's economy.

DWR forecasts future water needs, evaluates and inventories existing water supplies, explores conservation and storage options, and supervises flood management, including emergency response to floods. In recent years, with the passage of Propositions 1E and 84, DWR has the additional responsibility of administering over $5 billion in bond funding for the purposes of flood protection and ecosystem restoration.

Faced with the challenges of population growth and changing climate, DWR is taking an active role in the promotion of sustainable resource management through its implementation of grants and other programs. DWR also plays a major role in the management of the Sacramento-San Joaquin Delta, and is committed to achieving the goal of a healthy, resilient Delta.

Prior to his appointment as Director, Mr. Cowin served as Deputy Director of Integrated Water Management for DWR. His primary responsibilities included overseeing DWR's flood management and dam safety programs, implementing Integrated Regional Water Management, coordinating DWR's efforts related to climate change, and updating and implementing the California Water Plan.

In previous assignments, Mr. Cowin served for five years as Chief of DWR's Division of Planning and Local Assistance and was responsible for the state's strategic planning for water management and for providing technical and financial assistance for water management to local agencies.

# Charlie Hoppin
# State Water Resources Control Board Chair

Charlie Hoppin of Yuba City was appointed by Governor Schwarzenegger as Chair of the State Water Resources Control Board effective March 2, 2009 and fills the position of water quality expert. He is a partner in a family operated diversified farming operation in Yolo and Sutter counties. The crop base includes, fresh market melons, rice, walnuts, and a variety of small grains and oil seed.

Mr. Hoppin serves on the California State University Advisory Committee, and on the Board of Directors of Farmers Rice Cooperative where he is currently audit and finance Chairman and Vice Chairman of its Board.

Prior to his appointment to the State Water Resources Control Board, Mr. Hoppin served as advisor to then Governor Pete Wilson during the 1997 California Flood Recovery Effort, a Board Member of Sutter Mutual Water Company and a Member of the State Board of Food and Agriculture. He is the immediate past Chairman of the California Rice Industry Association. During his tenure at the Rice Industry Association, Hoppin played a key role in the implementation of many of the industry's well-recognized environmental stewardship efforts.

Based on your survey results, the top three topics for the breakout groups have been identified as follows:

- Water Policy
- Water Quality
- Fish and Wildlife/Environment

The three breakout sessions (and topics) are designed to bring faculty and water agency staff together to discuss common interests. Some of the goals of the sessions are to:

1. Identify common interests and activities
2. Share background and expertise
3. Establish a communication platform (how best do we communicate after this meeting)
4. Discuss any specific or immediate areas for partnerships
5. How do we follow up and build on today's meeting

Additionally there is a fourth choice. We are taking the opportunity of having multi-campus faculty available to discuss a NSF funded solicitation. The forth session will be devoted to discussing the development of a NSF funded proposal seeking a planning grant as part of the Water Sustainability and Climate (WSC) solicitation. This solicitation is designed to understand and predict the interactions between the water system and climate change, land use, the built environment, and ecosystem function and services through place-based research and integrative models.

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Les Adler is Professor of History in the Hutchins School of Liberal Studies at SSU and former Dean of the School of Extended Education. His recent courses include "Water, Water Everywhere," an interdisciplinary and cross-cultural perspective on global water issues, and "Technology and the Environment."

**Elizabeth Ambos**
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Elizabeth (Beth) L. Ambos is Assistant Vice Chancellor for Research Initiatives and Partnerships. In this capacity, she supports California State University (CSU) system research and sponsored programs efforts, fostering external and internal support for CSU mission-related initiatives and partnerships that may involve multiple campuses, including support from federal and state government and private foundations. She also serves as Academic Affairs' liaison to Business and Finance in the areas of sponsored programs compliance, government relations, and University advancement, working with the Director for Sponsored Programs administration.

**Cristina Archer**
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I have been involved in studying the meteorology and wind power potential of California, including offshore, for the past 10 years. I am interested in attending the conference to explore collaboration possibilities with colleagues of other CSU campuses on water-related issues.

**Dirk Baron**
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Dirk Baron is a professor of geology and the chair of the Department of Physics and Geology at CSU Bakersfield. His expertise is in hydrogeology and the behavior of trace elements in pristine and contaminated groundwaters. He also has a long-standing interest in science education.

**David Brown**
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David L. Brown, Ph.D., Professor, joined the Geological and Environmental Sciences Department at CSU, Chico in 1997. He teaches courses in hydrology and environmental science. He supervises undergraduate and graduate student research in agricultural nonpoint source pollution, riparian hydrology and restoration, groundwater-surface water interactions, conjunctive use, and pesticide runoff. He has published papers in groundwater hydraulics, agricultural and forestry water quality, mine reclamation, and forest hydrology. Dr. Brown regularly reviews grant proposals for the National Science Foundation, and has served on several national grant review panels. He has served on the Technical Advisory Committee of the Butte County Water Commission.

**Christian Carleton**
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Christian Carleton is a professional hydrologist specializing in natural system hydrology, with experience in stream hydrology, fluvial geomorphology, watershed and hillslope hydrology, investigation of hydrologic pathways, and aqueous biogeochemistry which allows him to work in broad and diverse hydrologic systems. His professional experience provides Christian with an extensive knowledge of both field and analytical techniques. He has a solid understanding of California environmental and water issues ranging from WDR and NPDES regulations to environmental flows and hydrograph modification. Christian stays current with new advancements and issues in hydrology and water quality as an active member of several professional societies.

**Anita Chaudhry**
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Anita Chaudhry is interested in environmental and natural resource problems especially as they relate to economic growth and development. Her doctoral work and current research interest is related to water scarcity and economic development. She obtained her PhD in Economics from the University of Wyoming.

**Michael Cohen**
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Research in collaboration with the City of Santa Rosa investigates: (1) utilization of native aquatic vegetation to 'scrub' treated wastewater by removing nutrients and estrogenic contaminants; (2) production of biogas by anaerobic digestion of harvested aquatic vegetation combined with agricultural waste; and (3) application of spent digestate as a soil amendment to promote plant growth and suppress root disease.

**Ronald Coleman**
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My students and I work on the evolutionary ecology of fishes and frogs. We focus on reproduction, parental care, life history and conservation biology. We work in California (freshwater and marine) as well as tropical ecosystems. Recent and ongoing local work includes salmonid breeding habitat, costs of breeding in salmonids, movements and straying in salmonids, and lamprey life history.

**Kevin Cornwell**
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Dr. Cornwell is a Professor of Geology at California State University, Sacramento where he has been a full-time faculty member since 1998. His expertise is in Geomorphology where he has been actively working on water issues in the Sierra Nevada. His research focus has been on water supply issues associated with montane meadows and assessing the hydrologic benefits of maintaining healthy meadow systems.

**Matthew Cover**
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Dr. Cover is an assistant professor of ecology at CSU Stanislaus. His research focuses on the cumulative watershed effects of forestry practices, dams, agriculture, and urbanization on stream ecosystems, with a focus on salmonid habitat in Northern California. He is particularly interested in studies at the interface of geomorphology, hydrology, and ecology.

**Sean Craig**
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I'm a marine ecologist who specializing in Invertebrate zoology-and my research delves into how our local colonial suspension feeders are effected by rain/runoff from winter storms in Humboldt Bay, CA. I am currently the lead on the COSEE (Center for Ocean Science Education Excellence) pacific project at HSU and am heavily involved in marine education projects at Humboldt State University's Telonicher Marine Lab. Finally, I run a summer NSF funded REU program to supply research opportunities to minority/underprivileged students at HSU.

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Dr. Ellis received his Ph.D. from the University of Illinois at Urbana Champaign in 2003 developing Cr and Se stable isotopes systems, and followed it with a two year post doctoral fellowship at Northwestern University, Illinois. Prior to joining the faculty at CSULA in 2009, Dr. Ellis spent four years as assistant professor the University of Texas at El Paso. His research interests include isotope hydrology (Cr, Se, Sr, S etc), contaminant transport, groundwater flow and long-term carbon cycle studies in watersheds. Dr. Ellis' teaching experience includes graduate/undergraduate courses in hydrogeology, isotope geochemistry and global environment–water and geochemical cycles.

**Elizabeth Eschenbach**
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Professor Elizabeth A. Eschenbach teaches Environmental Resources Engineering at Humboldt State University. Beth graduated with honors in mathematics and psychology from UC Santa Cruz. She earned an MS and PhD in Environmental and Water Resources Systems Engineering at Cornell University. She completed postdoctoral research at UC Boulder at the Center for Advanced Decision Support in Water and Environmental Systems (CADSWES), and assisted in the design of the optimization component of RiverWare. Beth teaches multiple courses including hydrology and water resources planning and management. She has served as co-chair of the Education Committee of the NSF funded WATERS NETWORK Project Office.

**Horacio Ferriz**
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Dr. Horacio Ferriz leads the Applied Geology concentration of the CSU Stanislaus Geology program. Dr. Ferriz is a registered Professional Geologist and a Certified Engineering Geologist in California and Mexico, and has more than 20 years of professional geologic, geotechnical, hydrogeologic, and environmental experience. Over this time period he has worked as geologic problem-solver in projects throughout the world involving water supply, civil works design, environmental engineering, solid waste management, geothermal exploration, and mineral exploration. Dr. Ferriz is the Director of Water for the World, an educational project of California State University that has the stated goal of promoting capacity-building in the areas of development, management, and utilization of water resources.

**Brad Finney**
Professor Environmental Engineering
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Professor Finney has 32 years of research and consultancy experience in surface water and groundwater quality modeling, water resources systems management, wetland wastewater treatment, and wastewater reuse systems. He has been a professor of Environmental Resources Engineering at Humboldt State University for 30 years. Professor Finney has a strong interest in water and wastewater facility planning and decision support systems, participating in numerous resource planning and management teams solving community and basin-wide water quality problems. Current research includes (1) the use of constructed wetlands for wastewater treatment and reuse systems and (2) utilizing linked surface water and groundwater models for water resources planning in agricultural basins.

**Phillip Garone**
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My area of specialization is Environmental History. I completed my Ph. D. in History and an M.S. in Ecology at the University of California, Davis. My cur-

rent research is an ecological history of wetlands in California's Central Valley, the importance of those wetlands to migratory waterfowl of the Pacific Flyway, and the ways in which the fate of California's wetlands has been intrinsically tied to the state's water development projects. I am completing a manuscript on this subject for the University of California Press, entitled The Fall and Rise of the Wetlands of California's Great Central Valley.

**Dave Goorahoo**
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Dave Goorahoo is an assistant professor in the Plant Science Department and a Soil Scientist with the Center for Irrigation Technology (CIT) at California State University, Fresno. He teaches courses in "Food-Society and Environment", "Vegetable Production", "Organic farming" and "Soils in the Environment" at the Undergraduate level and courses to Soil- Plant- Water and Energy interactions at the graduate level. Dr. Goorahoo works closely with the CIT on "AgEnviron" research which focuses on nutrient and water use efficiency in vegetable crop production systems, with an emphasis on examining the impact of agricultural practices on the environment.

**Richard Gossett**
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I have been involved in the environmental chemistry field for nearly 33 years doing research and analysis samples including marine, freshwater, stormwater, and groundwater. I serve on the State Water Resources Control Board Natural Water Quality Committee and hav worked with many of the Regional Water Quality Control Boards, US EPA, NOAA, CDFG and US Fish and Wildlife. I am presently serving as Director of the Institute for Integrated Research into Materials, Environments, and Society (IIRMES) located at CSULB.

**Sargeant Green**
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Former irrigation district manager. Working on the implementation of the San Joaquin River Restoration Program as technical facilitator for landowners next to the River. Also charged with managing development of a San Joaquin Valley Integrated Water Management Plan.

**Jason Gurdak**
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I am a new (2009) assistant professor of hydrogeology in the Geosciences Department at San Francisco State University. My research explores the sustainability of water resource in California and the West, and in particular the effects on groundwater quantity and quality. In California, groundwater is the largest source of freshwater and is pumped at rates that exceed groundwater use in all other States. My group uses field, laboratory, and modeling-based research to better understand how groundwater interactions within the global water cycle, supports ecosystems and society, and responds to complex human activities that are coupled to climate variability and change.

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Appointee, Los Angeles Mayor's Blue Ribbon Committee on Water Rates, Mayor Bradley (Democrat) and Mayor Riordan (Republican). Consultant, , Evaluation of Cal-Trans' Benefit-Cost Assessment of Alternatives to Control Pollution in Surface Water Run-off , October 1998, Natural Resources Defense Fund, Los Angeles, CA. Advisor, The Application of Scenario Planning to Metropolitan's Integrated Area Studies, prepared for the Metropolitan Water District of Southern California, 12 December 2006, 37 pp. Author: (1) "Politically Feasible, Revenue Sufficient, and Economically Efficient Municipal Water Rates," Contemporary Economic Policy. Published Online: Jun 22 2009 9:42AM DOI: 10.1111/j.1465-7287.2009.00164.x, Vol. 27, No. 4,

October 2009, pp. 539-554. (2) 2009, "Prescriptive Public Choice: Application to Residential Water Rate Reform," Contemporary Economic Policy. Published Online: Jun 3 2009 10:34PM; DOI: 10.1111/j.1465-7287.2009.00163.x, Vol. 27, No. 4, October 2009, pp. 555-565.

**Don Hankins**
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Don's primary interests are in habitat conservation and management. He teaches a course on Water Resources Policy and Planning. He has career experience as a regulatory biologist with the U.S. Fish and Wildlife Service working in the Bay-Delta region. He has worked on numerous restoration and management projects in and around the Delta. He has a life-long interest in the Delta. He recently wrote a piece "Water as Sacred" for the California Tribal Water Summit.

**Colleen Hatfield**
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Landscape ecologist interested in interactions between land cover change and water quality and availability, ecological consequences of land cover change and interactions between land cover change and climate change.

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Dr. Hauselt researches agricultural water and land-cover dynamics using geographic information systems. Currently she is modeling California rice production water-use and examining issues of scaling in water-balance models. Past projects have been funded by a California DWR Water-Use Efficiency Grant and a NSF East Asia & Pacific Summer Institute Fellowship.

**Dan Hostetler**
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Dan Hostetler started at Cal Poly Pomona in 1976 and has served as the Chair of Plant Sciences & Technology Dept in the College of Agriculture since 1992. This Department also incorporates traditional Horticulture and Agronomy with Entomology, Soil Science and Water Management with an emphasis in Landscape Irrigation. His background is in Crop Science and farm management, specializing in field and forage crops as well as range and irrigated pastures. The Dept maintains over 1500 acres of farm laboratory, and AGRIscapes, a center (which includes the Farm Store @ Kellogg Ranch) to provide public education as to the impact of agriculture and the green industry to their daily lives.

**Eric Houk**
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Dr. Houk is an Associate Professor of Agricultural Business at California State University, Chico and his primary areas of expertise include Natural Resource Economics and Agricultural Production. Dr. Houk's research has resulted in a variety of publications that relate to the economics of water allocation and water conservation in the western United States. Specifically, he has examined the economic impacts of water transfers from agriculture for endangered species preservation, the economic effects of irrigation induced waterlogging and soil salinization, and the impact of water conservation efforts on residential water demand.

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I am a senior engineer with the Irrigation Training and Research Center at Cal Poly San Luis Obispo. I have worked for the last 9 years on numerous water conservation projects directly supervised by Cal Poly faculty members Dr. Stuart Styles and Dr. Charles Burt .

**Stuart Hurlbert**
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Stuart Hurlbert obtained his BA at Amherst College and PhD at Cornell University, and has taught ecology, limnology and experimental design at SDSU since 1970. He has published 100+ papers on salamander migration, pesticide-wildlife and fish-plankton relations in aquatic environments, limnology of Andean lakes, mathematical ecology, biostatistics, Salton Sea ecology, and population -environment relations. He was the first president of the International Society of Salt Lake Research, co-chairman of the 2005 Salton Sea Centennial Symposium. His work has received awards from the American Statistical Association, International Ecological Association, AAAS, and the US National Academy of Sciences. Recently he has been participating in San Diego County Water Authority tours of the regional water supply system.

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John Johnston is a professor of Civil Engineering at Sacramento State. For the past ten years he has also been a technical advisor to the Caltrans storm water research program through the Office of Water Programs. In that capacity he has planned experiments programs and analyzed monitoring data from small-scale and field-scale treatment devices and other Best Management Practices (BMPs).

**Krista Kamer**
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I am the Program Coordinator for the CSU Council on Ocean Affairs, Science and Technology (COAST). COAST was formed in 2008 to advance marine and coastal science research and education throughout the CSU and to disseminate this information to the public to promote the development of responsible public policy statewide.

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Dr. Keyantash is an Associate Professor in the Department of Earth Sciences, with specialization in hydrology. He researches drought, using statistical methods to quantify the severity of large-scale water deficiencies, across the constituent elements of the hydrologic cycle. He is interested in the timing and quantity of California streamflow, using GIS to analyze the spatial coverage of stream gages within drainage networks. He has also used numerical models to estimate the potential effects of climate change on California salmon populations.

**Tara Kneeshaw**
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I am an assistant professor of hydrogeochemistry at California State University, Fullerton. A primary concern of the research in my lab is the protection of our water resources, and thus human and environmental health. Research efforts are focused on understanding the fate and transport of chemicals (contaminants) in natural systems. The fate of chemicals in natural systems is using and developing new approaches to measure the behavior of elements such as C, O, N, P, S and Fe in modern terrestrial and aquatic habitats.

**Jamie Kneitel**
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Dr. Kneitel's interests are in community ecology and conservation biology. His research uses field and laboratory methods to address the factors that determine patterns of species diversity and ecosystem functioning, including food webs, spatial dynamics, eutrophication, fragmentation, and species invasions. Currently, Dr. Kneitel is conducting research in aquatic based ecosystems, including California vernal pools and Sierra Nevada's sub-alpine meadows.

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Michael Lee has 20 years of experience in the assessment, management and protection of water resources and watersheds. He has worked as a researcher, teacher and consultant in Central America, Africa, Australia, Europe and the United States in both urban and rural water systems. He teaches classes on water resources and watershed management, and sustainable development. He previously worked for EBMUD as a water conservation specialist and as an IRWP consultant in Callifornia and the West.

**Gary Li**
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Ph. D., Fluvial Study and GIS, State University of New York at Buffalo, 1997. 2007- Current, Professor, Dept. of Geography & Environ. Studies, CSU East Bay; Major research activities are in the fields of watershed overland flows, flow hydraulics & sediment transport, and GIS modeling. 1998-present Member of Editorial Board, International Journal of Sediment Research 1997-present Manuscript reviewer for peer-reviewed journals: i) Hydrological Processes, ii) Earth Surface Processes and Landforms, iii) Catena, iv) Water Resources Research, v) , Journal of Hydraulics/Proceedings of ASAE, vi) Geographic Information Sciences. 1997-present Member of Association of American Geographers (AAG), American Geophysical Union (AGU), World Association for Sediment and Erosion Research (WASER) 1999-present ESRI Authorized ArcGIS instructor

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Prior to joining Cal Poly's Center for Coastal Marine Sciences with the San Luis Obispo Science & Ecosystem Alliance, I worked as a law clerk at the California Coastal Commission, the Ocean Conservancy, and the Vermont Environmental and Natural Resources Law Clinic. Additionally, I served as an environmental educator with Michigan State Parks, and a shareholder advocate at Boston Common Asset Management. I earned my Juris Doctor at Vermont Law School concentrating on ocean and coastal law, and received a degree in the Program in the Environment at the University of Michigan School of Natural Resources and the Environment.

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Professional Positions. • Current Water Resources Coordinator and Past Director of the California Water Institute dedicated to research, public policy, and education. • Board Member of the Central California Regional Water Quality Control Board responsible for overseeing a number of activities including the development of basin plans, issuing waste discharge requirements, taking enforcement action against violators, and monitoring water quality. 35+ years of experience administering a wide variety of programs in the educational, governmental, and private sectors. • Engineering faculty member for over 30 years. • Registered professional engineer in California and Maryland.

**Susan Lien Longville**
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Susan Lien Longville was appointed the Director of the Water Resources Institute (WRI) at California State University San Bernardino in June of 2006 after serv-

ing as the Associate Director for three years. The WRI is an interdisciplinary center that develops and encourages sound research and analysis and provides educational support on water resource issues affecting Southern California communities. Located in the Pfau Library, the WRI maintains the Joseph Andrew Rowe Water Resources Archives that serve as regional repository for academics and the public to access water-related documents and data including historical and technical information. Ms. Longville has an extensive background in Southern California water issues and is recognized for her expertise in multi-objective water resource management strategies. In 2007, Susan was appointed to DWR's 2007 Independent Review Panel that published recommendations for flood management in a report entitled A California Challenge—Flooding in the Central Valley. Under Susan's leadership, the WRI is serving as the Coordinator of DWR's Alluvial Fan Task Force that is developing Planning Manual for sustainable land use on this unique landform.

**Marc Los Huertos**
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As a faculty member in the Division of Science & Environmental Policy, I teach a wide range of classes based on my interests. The undergraduate courses include Aquatic Ecology and Environmental Monitoring. I also teach a number of graduate courses that teach students how to integrate science and policy and research methods.

**Jose Emir Macari**
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Dr. Macari is Dean of the College of Engineering at the California State University, Sacramento. He has been involved in water engineering issues for most of his career. He is the founding member of the LSU Hurricane Center and has worked on Levees and Dam engineering for over 20 years.

**Ramzi Mahmod**
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Richard R. Marcus works on water politics and policy issues with particular interest in the relationship between macropolicy changes and local farmer implementation. He has extensive experience in Madagascar and Kenya, is a co-PI for the USDA Southeast Climate Consortium examining strategic water options for farmers in the SE in times of drought and policy limits of doctrinal approaches, and has also looked at extractable lessons from the Klamath Basin.

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Dr Mason received his Ph.D. from the University of Wales in 1983 and subsequently completed a NERC Post Doctorate at the University of Reading, followed by a MRC Post Doctorate at the University of Sussex, UK. Dr Mason joined CSULB in 1989 after a brief appointment at the University of London. He is the Founding Director of the Institute for Integrated Research in Materials Environments and Society, is currently the Associate Dean for Research in the College of Natural Sciences and Mathematics as well as a Professor in Biology. Dr Mason serves on the Executive Council of COAST, a sister organization to WRPI.

**Saad M. Merayyan, Ph.D.**
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Born and raised in Jordan. Saad received his BS in Civil Engineering (water resources) from Jordan Univ. of Science & technology. In 1993, he attended the Univ. of Missouri Columbia and obtained his MS in Civil Engineering (Hydraulics). He received a Fellowship from Wayne State University in Detroit to pursue his PhD. In 2001 he received PhD in Civil Engineering (Water Resources). After Graduation, Dr. Merayyan worked for 3 years as a Water Resources Engineer at Tetra Tech, Inc. In 2004 he joined Cal Poly, SLO where he worked for two years and then he joined CSU Sacramento in 2006.

**Stephanie Molloy**
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My research interests include water quality microbiology and aquatic biofilm ecology. I am interested in microbial pollution source tracking in both coastal and inland waters - specifically in the development of source-specific genetic markers, and in understanding the transport and fate of pollution indicator organisms and pathogens in water and sediments. Current projects include investigating the effect of metals pollution on microbial biofilm communities in San Francisco Bay and the impact of septic systems on surface water quality. Previous work includes microbial source tracking in New Zeland oyster farms, surface waters in Michigan and investigating microbe transport mechanisms in water.

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Professor Nelson has been working in the field of water quality research for 25 years. He holds a BS in Chemical Enngineering from UC Berkeley and MS and Ph.D. degrees in Environmental Engineering from Cornell University. He has been teaching at Cal Poly since 1999. His research interests are 1. Bioremediation of groundwater contaminants, 2. Biological interactions affecting trace metal transport in aquatic environments, and biogeochemistry. 3. Phytostimulation of bacterial hydrocarbon degradation. 4. Biodiesel production from algae in conjunction with wastewater treatment.

**James Noblet**
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I am an environmental analytical chemist with primary expertise in water quality. My past research interests focused on the measurement, transport and effects of pollutants in both freshwater and marine aquaitc systems. More recently my interests have shifted toward limnology and the sustainability of water resources in California.

**June Oberdorfer**
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Dr. Oberdorfer is a hydrogeologist with over thirty years of experience in water resource and contaminant investigations. She is a registered Professional Geologist and Certified Hydrogeologist in the State of California. She has participated in a number of field based investigations and has utilized analytical and numerical models to better understand those field situations. Recent research interests have focused on quantifying submarine groundwater discharge.

**Kurt Ohlinger**
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Kurt Ohlinger is the Associate Director of the Office of

Water Programs at California State University Sacramento and a part-time faculty member in the Department of Civil Engineering. Prior to beginning his academic career, Kurt worked for 14 years in the wastewater treatment industry as a process engineer and an operations manager. He is a licensed Professional Civil Engineer and a certified Grade 5 Wastewater Treatment Plant Operator in California. Kurt earned his Bachelor's and Master's Degrees in Civil Engineering from California State University and his Ph.D. in Environmental Engineering from the University of California, Davis. Kurt's interest in operator education and his experience working with operators inspired him to begin exploring computer-based training methods to train operators. He has developed 16 computer-based distance education courses and two distance education certificate programs for operators of drinking water and wastewater facilities.

**Lars Pierce**
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My water-related research is focused on improving agricultural irrigation efficiency by combining site-specific information on climate (online CIMIS weather station data), canopy growth (from aircraft or satellite imagery), and soils within a water balance simulator to develop daily irrigation schedules that are tailored to local environmental conditions and plant needs.

**Hong-lie Oiu**
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Dr. Qiu joined the Department of Geography & Urban Analysis, Los Angeles in 1996 and he is currently a professor specializing in GIS and remote sensing. During the last 10 years, he has been involved in the study of Lop Nor, a dried up salt lake in northwestern China and its recent history based on remotely sensed imagery, ground survey data, and historical literatures. He is interested in the changes of the inland lakes as proxy data for reconstructing past climate. Dr. Qiu also uses remote sensing and GIS for mapping and monitoring vegetation at multiple scales in southern California.

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Shikha Rahman received her Ph. D. degree from Georgia Institute of Technology in Civil Engineering after receiving the MS and BS degrees from Bangladesh University of Engineering and Technology (BUET). Her specialization is in Water Resources Engineering and the research interests include environmental hydraulics, experimental fluid mechanics, open channel hydraulics, groundwater hydraulics, pipe and pump hydraulics, surface water hydrology, sediment transport, scientific visualization, and engineering education. Shikha has publications in leading journals on experimental fluid mechanics, limnology, and visualization. She holds membership in several professional associations and also a Registered Professional Engineer (PE).

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I am a plant ecologist and botanist with research expertise in interactions between plants and water, include root water uptake, water transport in plants, transpiration, plant responses to irrigation, and water conservation issues. I am a founding member of the Sustainability Task Force at Cal State Fullerton. Before my current position at Cal State Fullerton, where I am tenured as associate professor, I held postdoctoral positions at Duke University and the National Center for Ecological Analysis and Synthesis. I hold a Ph.D. degree in Ecology from UC Santa Barbara.

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My field of expertise is hydrology and water resources engineering with emphasis in groundwater flow and contaminant transport modeling, vadose zone hydrology, groundwater remediation techniques, optimization

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**Robert Sheath**
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Phycologist working on state Water Board funded projects to analyze the water quality of watersheds throughout the state and create an index of biotic integrity as well as a data base of algal descriptions and photos.

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Dr. Douglas Smith received a Ph.D. from U.C. Santa Barbara in Geological Sciences. He is an Associate Professor in the Division of Science and Environmental Policy at CSU Monterey Bay. He teaches Geology, Geomorphology, and Hydrology in undergraduate and graduate courses. Advanced courses have GIS, geospatial analysis, hydraulics, hydrology, sediment transport, river restoration and computer modeling components. Dr. Smith's watershed research includes the impact of upland wells on base flow, urban and wildland river restoration, fire impacts on streams and water resources, and combining LiDAR with seafloor mapping technology to quantify reservoir capacity.

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Dr. Steven J. Steinberg, Director of the Institute for Spatial Analysis (ISA); Co-Director of the Klamath Watershed Institute (KWI); and a Professor of Geospatial Sciences at Humboldt State University since 1998.

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Michelle Stevens has worked in wetland ecology, water quality and restoration for the past 20 years. Her current work includes ongoing ecocultural restoration of the Mesopotamian Marshes with Iraqi scientists, and the historic ecology of the Northern Delta. Prior to her assistant professor position at CSU Sacramento, Michelle worked doing restoration and wetland ecology work with DWR Foodplain Management, and on the Sacramento-San Joaquin Delta. She conducted wetland research at Cache Slough in the Delta for 6 years.

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Dr. John Suen is a Professor at CSU Fresno and has served as chair of the Department of Earth and Environmental Sciences, and founding Program Coordinator of the UC Riverside - CSU Fresno Joint Degree Program in
Environmental Sciences. Before joining the university, Dr. Suen was a (full) scientist at Brookhaven National Laboratory where he developed hydrogeologic models of radioisotope transport in the subsurface. He also did research work on heavy/enhanced oil recovery. Dr. Suen's current research interests include contaminant, isotope, and fracture hydrology. Dr. Suen has served on a number of advisory capacities, including an EPA Science Advisory Board review panel. He is a registered Professional Geologist and a Fellow of the Geological Society of America.

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Dr. Thompson received his Bachelor of Science degree in physics from Michigan State University in 1972 and his Doctor of Philosophy degree in molecular biophysics from Florida State University in 1976. After spending 6 years at the National Institutes of Health, he joined the College of Medicine, Department of Cell and Structural Biology, at the University of Illinois, Urbana-Champaign. In 1988, he moved to the Department of Biology, California State University, San Bernardino. He served as Chair of the Biology Department from 1998 to 2005. He is currently the Associate Provost for Research.

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James R. Tischer Program Manager International Center for Water Technology Jim Tischer is a program manager for the International Center for Water Technology at California State University, Fresno. He is currently tasked with assisting the Mendota Advanced Bioenergy Beet Cooperative to determine if a 800,000 T/yr sugar beet biorefinery is feasible, economically viable and sustainable in the western San Joaquin Valley. Tischer is also assigned to the California Water Institute at Fresno State and is working with the Governor's appointed California Partnership for the San Joaquin Valley leadership, elected leaders, water community, and public to develop an Integrated Regional Water Management Plan Framework. Jim is a graduate of the University of California, Davis with a B.S. in Irrigation and Fellow of the prestigious California Agricultural Leadership program

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Project Manager for Center For Irrigation Technology (CIT) at Fresno State. Manages the Wateright For Kids program and wateright website. Before working for CIT worked as a Pump Applications Engineer and Software Analyst.

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Dr. Wright began his career with Black & Veatch consulting engineers after earning a BS degree in Civil Engineering from UC Berkeley in 1986. Following that he earned MS and PhD degrees in Civil and Environmental Engineering at UC Davis and has been a faculty member in Civil Engineering at CSU Fresno since 1999. He is responsible for courses in environmental and water resources engineering. His research interests include water and wastewater treatment with an emphasis on removal of taste and odor compounds and nitrate; and vapor-phase biofiltration (an air pollution control technology that utilizes microorganisms to degrade volatile contaminants).

**David Zoldoske**
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Director of the California Water Institute at California State University, Fresno and serves as the Executive Director for the Water Resources and Policy Initiatives for the California State University system. Major areas of emphasis cover water use in agriculture, urban and the environment, and include policy, education and training, equipment testing and economic development. David has served as president of the Irrigation Association and president of the California Chapter of the American Society of Agronomy. Additionally he served as vice-chair for the AB2717 Landscape Task Force. David has authored or co-authored over 100 articles on irrigation and water technology, and most recently completed a book titled "Golf Course Irrigation: Environmental Design and Management Practices."

# Alumni Center Layout

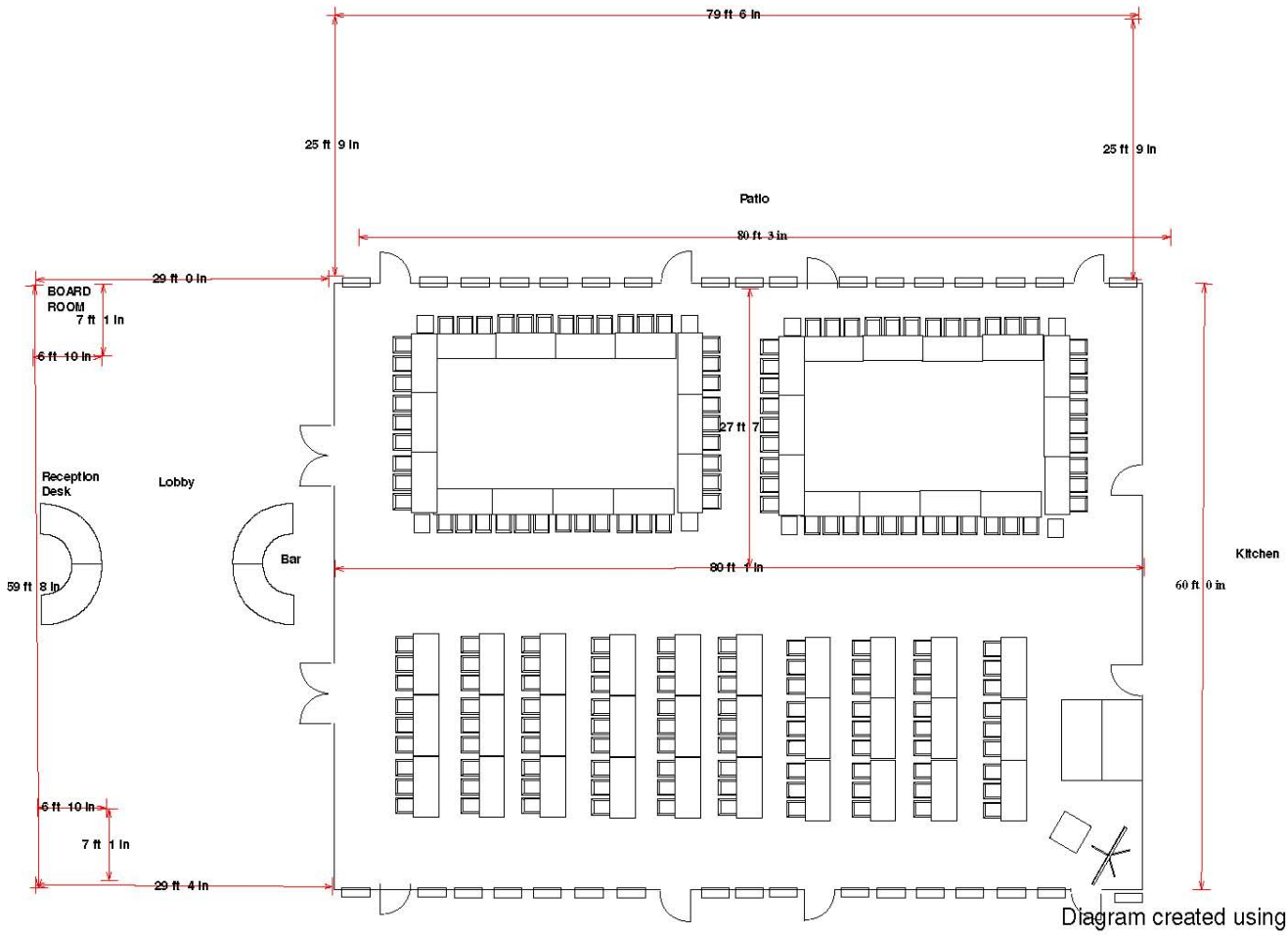


Diagram created using Room

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