



CALFED Progress Report
California Sea Grant College Program

ConfirmationNumber
20110830083006

Printed: 8/30/2011 8:37:50 AM ProjectYear\_2A 2nd ProjectNo\_2C R/SF-30
TypeQuestionnaire\_2B Interim Questionnaire

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Project Information

ProjectNo\_2C R/SF-30 StartDate\_3a 01/2008 EndDate\_3b 06/2011
ProjectTitle\_4 Environmental Water: Developing Indicators and Identifying Opportunities

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Additional Research Mentors and Community Mentors

Additional Research Mentors\_8

Form with 10 horizontal lines for entering additional research mentors.

Additional Community Mentors\_9

Form with 10 horizontal lines for entering additional community mentors.

**Project Objectives: Please type your responses, and answer the questions in a style appropriate for laymen.**

**ProjectObjectives\_10**

The objectives of the project are to better understand the drivers of decision making for urban water supplies. Cities are the fastest growing water user in California. A better understanding of city-scale decision making about water resources is needed to understand the implications of growth in this sector for fisheries and other environmental amenities in California. This project has developed a 15-year dataset of urban water production and provision in California using the Public Water System Survey. The data are being analyzed to determine (1) what the patterns of urban water production have been over time, (2) how institutions and risk influence these decisions over time, and (3) how California water policy can better target the incentives of cities to achieve desired outcomes. In addition, this study examines the influence of political institutions on the production of recycled water for cities in California. Recycled water is a local source of water cities can develop to meet growing needs. Using recycled water could reduce urban water demand on freshwater sources leaving more water in rivers and lakes. Australia is used as a comparative case: while California and Australia share many climatic characteristics they have very different systems of government.

**Summary of progress in meeting each of these goals and objectives**

**ProgressSummary\_11**

A 15-year dataset of urban water production and provision in California has been compiled and preliminary analyses have been completed. The data were gathered from the Department of Water Resources in Sacramento. Additional data on the institutional features of urban water management have been compiled. The data have been used to predict whether and why urban water agencies are willing to commit to a voluntary water conservation program (the CUWCC MOU on urban water conservation). The findings show that municipal water agencies and small agencies are less likely to participate in the program. Policy and institutional analyses for recycled water development has been completed for both California and Australia.

**PROJECT MODIFICATIONS:** Please explain any substantial modifications in research plans, including new directions pursued. Describe major problems encountered, especially problems with experimental protocols and how they were resolved. Describe any ancillary research topics developed.

**Modifications\_12**

The PWSS production data turned out to have many missing values so complete time series were not able to be produced. As a result an alternative approach has been developed: the data that are available are used to generate baseline values of water production and use that are then used to predict an agency's decision to voluntarily commit to a water conservation program.

**BENEFITS AND APPLICATIONS:** Suggest the relevance of these new findings to management. Describe any accomplishment, that is significant effects your project has had on resource management or user group behavior. CALFED is looking for "management cue" (see <http://science.calwater.ca.gov/pdf/soemgmtcues.pdf>).

**BenefitsApplic\_13**

The findings demonstrate that political institutions play a role in urban water agencies' decisions about conserving water. This influence can be targeted or taken into account when developing incentive programs for water conservation. For example, more resources may be needed for small urban water agencies.

**PUBLICATIONS:** List any publications, presentations, or posters that have resulted from this funded research. Give as many details as possible, including status of paper (e.g., in review; in press), journal name, conference location and date of presentation. Please note (as outlined in the conditions of the award) that each fellow is required to submit an abstract for an oral or poster presentation at each State of the Estuary conference and CALFED Science Conference during the duration of the fellowship.

**Publications\_14**

Non-referred article: "Urban governance and modern challenges: Evaluating urban water services," Urbanization and Global Environmental Change Viewpoints, 2009

Presentation: "Institutions and Sustainable Cities" International Human Dimensions Program Open Meeting, Bonn, Germany. 2009

Presentation: "Urban water agencies and organizational strategy: Implications for adaptation" Midwest Political Science Association Meeting, Chicago, IL. 2009

Presentation: "Understanding the Strategies and Decision Making of California's Urban Water Agencies" Bay-Delta Science Conference, Sacramento, CA. 2010

**COOPERATING ORGANIZATIONS:** List those agencies and/or persons who provided financial, technical or other assistance to your project since inception. Describe the nature of their collaboration.

**CoopOrganiz\_15**

Department of Water Resources, Dong Chen. Allowed me access to the PWSS database

**AWARDS:** List any special awards or honors that you, or mentor or members of the research team, have received during the duration of this project.

**Awards\_16**

University of California, Santa Barbara Affiliate's Graduate Fellowship, 2010

UC Santa Barbara Dean's Fellowship

**KEYWORDS:** List keywords that will be useful in indexing your project.

**Keywords\_17**

policy, institutions, water management, cities

**PATENTS:** List any patents associated with your project.

**Patents\_18**

