

SECURE WATER ACT

HEARING

BEFORE THE
SUBCOMMITTEE ON WATER AND POWER
OF THE
COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

TO

RECEIVE TESTIMONY ON THE BUREAU OF RECLAMATION'S IMPLEMENTATION OF THE SECURE WATER ACT, TITLE 9501 OF P.L. 111-11, AND THE BUREAU OF RECLAMATION'S WATERSMART PROGRAM, WHICH INCLUDES THE WATERSMART GRANT PROGRAM, THE BASIN STUDY PROGRAM, AND THE TITLE XVI PROGRAM

MARCH 16, 2010



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SECURE WATER ACT

TUESDAY, MARCH 16, 2010

U.S. SENATE,
SUBCOMMITTEE ON WATER AND POWER,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:03 a.m. in room SD-366, Dirksen Senate Office Building, Hon. Debbie Stabenow presiding.

OPENING STATEMENT OF HON. DEBBIE STABENOW, U.S. SENATOR FROM MICHIGAN

Senator STABENOW. Good morning. We are very pleased to have all of you with us, and we thank our distinguished panel this morning.

Today's hearing is an oversight hearing to receive testimony on the Bureau of Reclamation's implementation of the SECURE Water Act and the Bureau of Reclamation's water conservation initiative known as the WaterSMART program.

Senator Risch is our ranking member today and will be joining us shortly, and I will turn it over to him for comments and in a moment to our chairman, distinguished chairman whose leadership has brought us the SECURE Water Act. We are very pleased to have Senator Wyden with us this morning as well.

We all know that water is a precious resource for all of us, and the legislation, the SECURE Water Act, authored by our chairman, Senator Bingaman, is a very important piece of legislation to protect that resource.

This law, enacted last year, expands the tools available to increase water use efficiency, acquire additional water use data, improve water management, and enhance our understanding of climate change impacts on water availability and energy production in the United States.

Simulations suggest that water supplies could be significantly affected by climate change over the course of the coming decade. So it is important to try to address these issues right now. The Department of Interior's WaterSMART initiative is designed to tackle the challenges of water issues today.

We have a great group of witnesses. We appreciate your being here. Before turning it over to our witnesses, let me call on our chairman, Senator Bingaman.

[The prepared statement of Senator Risch follows:]

PREPARED STATEMENT OF HON. JAMES E. RISCH, U.S. SENATOR FROM IDAHO

Senator Stabenow, it's a pleasure to be here today, and I thank you for chairing this important hearing.

I am pleased to join you in welcoming the witnesses and members of the public. I know Chairman Bingaman has a lot of interest in this hearing, in particular as it relates to the implementation of the Secure Water Act.

This oversight hearing provides us an opportunity to examine what the US Bureau of Reclamation is currently undertaking to ensure we have access to a reliable, safe and secure water supply, while maintaining and preserving the natural habitats of some of our nation's most valuable wildlife.

However, as we address the role of Reclamation in providing a reliable water supply, we need to ensure the government and its agencies recognize water resources are the responsibility of the individual state and the citizens and groups within that state.

Allocation decisions and recommendations on all water resources projects and their management should be a state decision. Each federal agency, including the Bureau of Reclamation, must recognize and work within the state's own water resources planning structure.

In Idaho, our lakes, rivers and streams are a critical natural resource for all of our state. How Idaho rivers build into the greater Columbia Basin impacts the entire northwest region. This relationship provides great opportunities and challenges that need better understanding.

Once again, I thank the witnesses for coming today. And thank you, Senator Stabenow, for conducting this hearing. I look forward to today's testimony.

**STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM
NEW MEXICO**

The CHAIRMAN. Thank you very much, Senator Stabenow. Thanks for holding this hearing and chairing it.

This is an important issue, and it is great to have Mike Connor back here. He worked hard on this, of course, and is the reason that we were able to get this legislation put together. Now, of course, the Bureau of Reclamation, with him as the head of that bureau, has the job of trying to implement this legislation.

So I do think it is an extremely timely subject and one that is very important for my State of New Mexico and for the entire West and the entire country. So I look forward to hearing all the witnesses and learning what we can about how we are doing with the vision that we had in enacting the legislation.

Thank you very much.

Senator STABENOW. Thank you very much, Chairman Bingaman.

Senator WYDEN, if you wanted to make a comment, we would welcome it.

**STATEMENT OF HON. RON WYDEN, U.S. SENATOR
FROM OREGON**

Senator WYDEN. Thank you very much, Madam Chair, and I appreciate the courtesy of being able to come.

Water is of enormous importance to our area, as Dan Keppen, who I will introduce in just a moment, knows. I think it is fair to say that at home in Oregon, we probably wish that some of the snow that fell in Washington, DC, in February had somehow migrated to our part of the world.

I think you are going to enjoy, Madam Chair, Dan Keppen, an Oregonian. He is representing today the Family Farm Alliance. There is probably nobody in the solar system who knows more about water and agriculture issues in our State than Dan.

Senator Merkley and I are working together to get assistance for the farmers in the hard-hit Klamath area from the Federal agencies. It brings home the stark fact that every gallon of water is a precious thing.

Just very briefly, Madam Chair, in our part of the world, disputes in the West about taking water from a river used to be resolved with a gun. Now they tend to be resolved with steel pipe and water conservation projects, and that is why, as you noted, the WaterSMART program is such an extraordinary breakthrough in terms of water management.

In our part of the country, with the help of the bureau, the Central Oregon Irrigation District's Juniper Ridge Project in the Deschutes Basin is going to replace 2.5 miles of irrigation canal with steel pipe and return an additional 12.7 million gallons of water in the river during the 6-month irrigation season.

Water conservation efforts in Oregon, though, don't just begin or end with modernizing irrigation canals. The city of Hermiston, where I just had a town meeting, has proposed a new water treatment plant that is going to deliver enough additional water to the local irrigation district to irrigate 600 acres of high-value crops.

So what we are going to hear from our witnesses today is new approaches to sustaining the farm economy in the rural West, not just in Hermiston, but in a variety of western areas that certainly face an uncertain future because of dwindling water supplies.

The House has already passed legislation to authorize that Hermiston project, and I look forward to the committee taking action on companion legislation I have introduced, S. 1573, to do the same.

One final point, it is very good that we have Mike Connor at his post, working on these issues. In my view, the administration has made an excellent choice. Mike knows that all of us on the committee are ready to work with him to truly make water conservation one of the tools that our States can use to make our rural communities economically viable while we preserve our natural treasures.

So, Madam Chair, you are kind to let me, in effect, barge in and make this statement. You have got a great panel of witnesses, and I look forward to working with you and them and particularly appreciate Dan being back here. He is somebody who has consistently given me good counsel on water and ag issues over the years, and we appreciate him being included.

Senator STABENOW. Thank you very much for your leadership as well.

Mr. Keppen, you have a high threshold now. The solar system, I think, is what Senator Wyden said.

[Laughter.]

Senator STABENOW. So that is a pretty high bar.

First, we are going to hear from Mike Connor, the Commissioner of Reclamation. Next, we will hear from several witnesses who represent water users and important interest groups that have a stake in dealing with water supply issues.

Ms. Melinda Kassen, the managing director of Western Water Project of Trout Unlimited in Boulder, Colorado. Welcome.

Mr. Dan Keppen, who is in the solar system an executive director of the Family Farm Alliance, Klamath Falls, Oregon.

Mr. John Entsminger, deputy general counsel to the Southern Nevada Water Authority, representing the Colorado River Basin States in Las Vegas, Nevada. Welcome as well.

Mr. Tony Pack, general manager of the Eastern Municipal Water District in Perris, California.

So, we welcome all of you, and we will turn it now to Mr. Connor. Welcome.

**STATEMENT OF MICHAEL L. CONNOR, COMMISSIONER,
BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR**

Mr. CONNOR. Thank you very much.

Madam Chairwoman, members of the subcommittee, Chairman Bingaman, Senator Wyden, I appreciate the opportunity to be here. I am Mike Connor, the Commissioner of the Bureau of Reclamation.

As a threshold matter, I would just like to say I appreciate the high expectations, and I have a new appreciation for the implementation side of things, as opposed to the idea creation on the legislative side of things.

But I am pleased to be here to discuss Reclamation's implementation of the SECURE Water Act and its relation to the department's WaterSMART program, an initiative that was announced just a few weeks ago. My written statement has been submitted for the record, and I will summarize it briefly.

The WaterSMART program stands for Sustain and Manage America's Resources for Tomorrow. We believe it will assist local communities in stretching limited water supplies and help alleviate conflicts over water. The initiative is highlighted in the fiscal year 2011 budget request.

The American West is now the fastest-growing region of the country and faces serious water challenges. Extended droughts are impacting water availability, and climate change is likely to compound the situation. At the same time, there is an ever-increasing competition for limited water resources. Environmental needs are much more apparent, population is growing, energy needs are on the increase, and regions of the West that have been relying on groundwater are seeing aquifer levels decline significantly.

With respect to climate change, the most immediate impact will be on the hydrologic cycle. In the western United States, rising temperatures are increasing evaporation and perhaps the severity of recent droughts. A greater portion of winter precipitation is falling in the mountains as rain rather than snow, reducing the winter snowpack. Winter low temperatures are rising, and the snowpack is melting earlier.

Collectively, these trends for precipitation and temperature are producing earlier runoff, making it harder to use the winter precipitation later in the summer. These changes require new approaches to water management.

The SECURE Water Act was developed with these water related challenges in mind. Fundamentally, it provides authority to ensure that Federal water and science agencies work together with the States and local water managers to plan for climate change and

other threats to water supplies. Ultimately, Reclamation's goal in implementing the SECURE Water Act and the WaterSMART initiative is to promote certainty and sustainability in the use of limited water resources, whether it be for agricultural, municipal, industrial, environmental, or power generation purposes.

Science is fundamental to effective water management, and Reclamation will be expanding its research into the effects of climate change on the water cycle. Some highlights of the research program include, one, creation of downscaled climate projection archives. This is an archive of global climate model projections downscaled to scales that are useful for water management.

Two, evaluations of global climate model projections to determine how flood frequencies may change in the 21st century and, 3, evaluation of whether the ability to predict water supply is diminished by climate change, and the identification of possible new, more accurate methods of prediction.

Reclamation will use the activities described above and other available data to undertake West-wide Climate Change Risk Assessments. As required by the SECURE Water Act, these assessments will provide for all of the major river basins in the West initial projections of how climate change will affect temperature and precipitation, water supply, and water demand. These assessments will also include reconnaissance-level analysis of how project operations and environmental conditions may be affected by changes in hydrologic conditions.

Building on basic scientific information, WaterSMART includes Reclamation's Basin Studies program by which Reclamation is partnering with an array of stakeholders to conduct comprehensive studies that evaluate the impacts of climate change and define options for meeting water demands in the specific river basins in the West.

The Basin Studies will identify adaptation strategies to resolve basin-wide water supply issues, including changes to the operation of water supply systems, modifications to existing facilities, development of new facilities, or nonstructural changes. In fiscal year 2009, Reclamation provided \$3 million in funding to initiate the first 3 basin studies—Colorado River Basin, the Yakima River Basin in Washington, and the St. Mary's and Milk River systems in Montana.

Although a better understanding of water resources is critical, improved water management is an ongoing process with immediate opportunities. Simply put, maximizing the efficient use of water is essential to any adaptation strategy.

Currently, Reclamation is implementing projects to help advance water conservation and water reuse through the WaterSMART initiative. Reclamation's Fiscal Year 2011 request for the WaterSMART program is \$62 million, of which \$6 million is slated for the Basin Studies program I just discussed. The balance of the \$62 million request is for projects to improve water management, including \$27 million for WaterSMART grants and \$29 million for the Title XVI program.

WaterSMART grants, which were previously known as challenge grants, will continue to provide cost-shared funding for on-the-ground projects. To date, the grants have enabled huge strides in

water conservation, water marketing among willing sellers and buyers, and have helped build projects that improve water management while incorporating renewable energy aspects or addressing endangered species needs.

Since 2004 through fiscal year 2009, over \$74 million in Federal funding has been awarded to 167 grant projects for improvements in 16 western States. The improvements resulting from these grants are projected to conserve approximately 580,000 acre-feet per year when fully constructed.

Reclamation committed \$40 million of its \$950 million Recovery Act appropriation to the grant program, and as evidence of the program's popularity, Reclamation received funding requests exceeding \$350 million for that \$40 million opportunity. The grants will leverage Federal funding by requiring a minimum 50 percent non-Federal cost-share contribution.

I will quickly summarize since I am running out of time.

Title XVI provides authority for Reclamation's water recycling and reuse program and is the third major component of the WaterSMART program. Reclamation currently has a backlog of \$626 million in authorized Title XVI projects, even after the allocation of \$135 million in Recovery Act funds.

Overall, Federal investment in Title XVI has totaled about \$524 million and resulted in an estimated 245,000 acre-feet annually of recycled water. We project that to grow to 350,000 acre-feet through fiscal year 2011. The administration recognizes the success of this program and, for that reason, has significantly increased the budget request for these projects in 2011.

Obviously, there is a lot going on with respect to the SECURE Water Act and the WaterSMART initiative. My written statement provides greater details.

Thank you for the opportunity to discuss the programs, and I will answer questions at the appropriate time.

[The prepared statement of Mr. Connor follows:]

PREPARED STATEMENT OF MICHAEL L. CONNOR, COMMISSIONER, BUREAU OF RECLAMATION, DEPARTMENT OF THE INTERIOR

Madam Chairwoman and Members of the Subcommittee, I am Mike Connor, Commissioner of the Bureau of Reclamation (Reclamation). I am pleased to be here today on behalf of the Department of the Interior (Department) to discuss the WaterSMART Program and the Department's efforts through that program to implement the Secure Water Act (Title IX, Subtitle F of Public Law 111-11). The WaterSMART Program (Sustain and Manage America's Resources for Tomorrow) will assist local communities in stretching water supplies, and is highlighted in the fiscal year 2011 Budget request released by the President. The FY 2011 Budget provides a total of \$73 million for the WaterSMART Program, \$62 million for Reclamation and \$11 million for the U.S. Geological Survey (USGS).

The FY 2011 Bureau of Reclamation Budget provides:

- \$29 million for water recycling and reuse projects (Title XVI);
- \$27 million for competitive WaterSMART grants (formerly called challenge grants); and
- \$6 million for water basin studies.

Through its WaterSMART program, the Department of the Interior has set an ambitious high priority performance goal of conserving up to 350,000 acre-feet of water by 2012.

The USGS also has \$11 million in its FY 2011 Budget for its scientific endeavors under the WaterSMART program. I will discuss the Reclamation and USGS efforts related to the Secure Water Act and the WaterSMART program in detail later in this statement.

Water Security: Challenges Ahead and the Need for Coordinated Action

I want to start by briefly discussing the factors that led Congress to enact the Secure Water Act and that spur our commitment to use the levers we have available as a federal agency to confront water management challenges. The American West is now the fastest growing region of the country and faces serious water challenges. Competition for finite water supplies, including water for environmental needs, is increasing as the need for water continues to grow. At the same time, extended droughts are impacting water availability and climate change is likely to compound the situation. As our climate changes and the earth warms, the most immediate impact is on the hydrologic cycle. Warming impacts where precipitation falls, how much falls, in what form, and the rate of consumption. These changes directly affect the water supply available for drinking, irrigating crops, generating electricity, supplying industry, terrestrial and aquatic habitats, and filling our lakes, rivers, and aquifers.

In the Western United States, these changes are not just anticipated for the future, but are being measured today:

- Average temperatures are rising, thereby increasing evaporation and perhaps increasing the severity of recent droughts;
- A greater portion of winter precipitation is falling in the mountains as rain rather than snow, reducing the winter snowpack;
- Winter low temperatures are rising, and the snowpack is melting earlier in the spring; and
- Collectively, these trends for precipitation and temperature are producing earlier runoff, making it harder to use the winter precipitation later in the summer (i.e. reducing the capacity for natural storage).

And the Western States are not alone in experiencing water supply challenges. In 2007, parts of Georgia, Alabama, North Carolina, South Carolina and Tennessee, traditionally water-rich states, had their lowest annual rainfall on record, and streamflows in many areas were at all-time lows. As recently as 2008, low precipitation in Georgia, Alabama, and Florida and conflicting demands for water for metropolitan supply, agricultural demands, power generation, and ecosystem needs resulted in litigation costing those States millions of dollars. Neither the East nor the West is immune to water shortages. That is why a national program is so important.

It is interesting to note that the majority of irrigation withdrawals and irrigated acres are still in the Western states, but significant increases in irrigation have occurred in several eastern and southern states. According to a recent USGS report, "Estimated Uses of Water in the United States in 2005," Circular 1344, irrigation withdrawals declined by nearly 6 million AF in the 17 Western States from 1995 to 2005, while they increased by 4.5 million AF in the 31 eastern States during this decade. Irrigated acres in the 17 Western States increased steadily to a peak of nearly 49 million acres in 1980, and varied from 45 to 47 million acres since then. On the other hand, irrigated acres in the 31 Eastern States have steadily increased in each reporting year, gaining nearly 3.4 million acres between 1995 and 2005 when nearly 16 million acres were irrigated.

The science is quite clear that climate change will add to the challenges we face today in managing our water supply, water quality, flood risks, wastewater, aquatic ecosystems, and energy production. These new stresses are likely to be felt first in the fastest growing region of the nation—the West. The Western States accounted for 32% of the nation's population growth from 1990 to 2000, with some of the fastest growth in the driest areas.

The fundamental purpose of the Secure Water Act is to provide authority so that the Federal water and science agencies can work together with the States and local water managers to plan for climate change and the other threats to our water supplies, and take action to secure our water resources for the communities, economies, and the ecosystems they support.

The Department of the Interior's strategy for implementing the Secure Water Act includes collaboration among agencies to enhance climate change science, which will allow us to better assess the threats to our water systems and implement mitigation strategies. The particular areas of concern are:

- Water supply, including both surface storage and groundwater aquifers;
- Generation of hydroelectric power;
- Cooling water for thermal power plants;
- Water required for development of new energy sources;
- River flows to maintain ecosystems and water quality;
- Recreational use of lakes and rivers; and

- Protection from floods and rising sea levels.

INTRODUCTION TO WATERSMART

Given increased demands for water from growing populations and energy needs, amplified recognition of environmental water requirements, and the potential for decreased supplies due to drought and climate change, a water balance cannot be achieved without water conservation and water reuse. Federal leadership is critical to widespread acceptance and implementation of effective conservation and recycling techniques. The purpose underlying the Department's WaterSMART Program is to work to achieve a sustainable water strategy to meet our Nation's water needs.

Reclamation's WaterSMART Program includes WaterSMART Grants, the Basin Studies Program, including West-wide Climate Change Risk Assessments (WWCCRA), and the Title XVI Water Recycling and Reuse Program, which will be discussed at the end of this Statement. Reclamation will also partner with States, tribes and local entities under WaterSMART to develop incentives and best practices for implementing water conservation and water recycling projects. USGS will also play an important role through the USGS WaterSMART Availability and Use Assessment program. An interdisciplinary science approach will be used to implement this assessment.

The remainder of this statement will discuss the Department of the Interior's implementation of the Secure Water Act, including the relevant programs that fit within the WaterSMART framework. We have grouped the federal programs discussed to reflect the following overarching goals: Collaboration among Federal Water Agencies, Enhancing Climate Change Science, Assessing and Preparing for Threats to the Water Supply, and Implementing Mitigation Strategies.

COLLABORATION AMONG FEDERAL WATER AGENCIES

The Secure Water Act requires increased collaboration among the Federal water agencies. Reclamation is working closely with the lead science agencies in the areas of climate and water, namely the USGS and the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA), through the NOAA-led interagency National Integrated Drought Information System (NIDIS) and NOAA's Regional Integrated Sciences and Assessments (RISA) university centers to ensure that the best information and science is available for water management. As contemplated by the Act, collaboration will also extend to applicable State and local entities, non-governmental organizations (NGO's), academic institutions and tribes.

These partnerships will also build on collaborations that have already begun:

- Together with the United States Army Corps of Engineers (USACE), NOAA, and the USGS, Reclamation has formed the Climate Change and Water Working Group (C-CAWWG) to bring the water managers and climate scientists together to create efficient research and development (R&D) collaborations and information sharing across the federal agencies toward understanding and addressing climate change impacts on Western water supplies and water use.
- Reclamation, the USACE, NOAA and the USGS collaborated to write Climate Change and Water Resources Management: A Federal Perspective, USGS Circular 1331. This report represents the two primary water "operating agencies" and the two primary water "science agencies" collaborating to address the need for a comprehensive assessment of approaches for including climate change in water resources management.
- As part of CCAWWG coordination, Reclamation and the USACE are developing detailed descriptions of information and tools that water managers need from the science agencies and other researchers. Perspectives from both State and local water managers will also be sought and included in this report.
- Reclamation is working with the USGS and NOAA, including NOAA's RISA program to develop a Climate Change Training program for water managers. In discussions with water managers, a credible, consistent source of climate information and training is always one of the highest priorities identified.
- Reclamation is providing input to NOAA as it plans for the next generation of Global Circulation Models (GCMs) to define the types of outputs that will be of most value to water managers.
- Reclamation is participating in the Postdocs Applying Climate Expertise (PACE) Fellowship program with NOAA to sponsor research activities focused on water management needs. There are currently three active postdocs participating in this program—two focused on water supply questions for the Colorado River Basin and one studying potential changes to extreme precipitation events.

ENHANCING CLIMATE CHANGE SCIENCE

Reclamation's Role

Reclamation will expand its research into the effects of climate change on the water cycle and how that may be managed for now and in the future. Some highlights of the research program and research underway include:

- Creation of a downscaled climate projection archive. This is an archive of GCM projections downscaled to spatial scales useful for water management analyses;
- Evaluations of global climate model projections to determine how flood frequencies may change in the 21st century;
- Evaluation of whether our ability to predict water supply is being diminished by climate change, and identification of possible new, more accurate methods; and
- Evaluation of how various hydrologic forecast models perform under climate change scenarios, leading to more informed choices among models.

The USGS Role

The USGS will bring its science to bear on water cycle climate effects through its participation in the Department's Energy and Climate Change Council, which is coordinating activities within and across the bureaus to develop and implement an integrated strategy for climate change and energy response by the Department. Close coordination between this Council and the WaterSMART Program is a Departmental priority. Finally, at Congressional direction, the USGS created a National Climate Change and Wildlife Science Center (NCCWSC) to meet the climate adaptation science needs of resource managers. The USGS engaged Federal agencies, States, Tribes, NGOs, and others to design the structure and operations of the Center. Over the next two years, the Department will establish five of the proposed eight regional Climate Science Centers (CSCs) that will be staffed by USGS and partner scientists and information specialists to deliver basic climate-change-impact science. All of these measures will aid us in determining the effects of climate change on the water cycle.

ASSESSING AND PREPARING FOR THREATS TO THE WATER SUPPLY

West-wide Climate Change Risk Assessments (Section 9503(b)(1)-(3) of Secure Water Act)

Reclamation will use the research and development activities described above to undertake West-wide Climate Change Risk Assessments. These assessments will provide consistent projections for all of the major river basins in the West of how climate change will affect:

- Temperature and precipitation;
- Water supply; and
- Water demand and consumptive use.

These assessments will also include reconnaissance-level analysis of how water project operations may be affected.

This information will provide a sound and consistent foundation for the Basin Studies and other planning activities that will formulate local and regional mitigation strategies to address climate change and other threats to our water supplies.

Basin Studies (\$6 million in the FY 2011 Budget) (Section 9503(b)(1)-(4) of Secure Water Act)

Through the Basin Study Program, Reclamation will partner with basin stakeholders to conduct comprehensive studies to evaluate the impacts of climate change and define options for meeting future water demands in river basins in the West. The Basin Studies will identify adaptation strategies to resolve basin-wide water supply issues, including changes to the operation of water supply systems, modifications to existing facilities, development of new facilities, or non-structural changes. The Basin Studies will build on the West-wide Risk Assessments to develop basin-specific strategies to help meet water demands. By encouraging input from basin stakeholders, the Basin Studies will also build capacity and collaboration in the process of identifying water management solutions.

In FY 2009, Reclamation provided funding to initiate the first three basin studies under this program, including:

- The Colorado River Basin Water Supply and Demand Study (\$1 million Reclamation, \$1 million matching) covering portions of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming;

- Yakima River Basin Study and Associated Basin Restoration Implementation Plan, covering south central Washington (\$1.3 million Reclamation, \$1.3 million matching); and
- Modeling for the Future of the Milk and St. Mary River Systems in north central and southern Montana (\$350,000 Reclamation, \$350,000 matching).

The Colorado River study provides an ideal example of the collaborative process that we will employ under the Basin Study Program. The study encompasses the Colorado River Basin (upper and lower) and those areas of the seven basin states—Wyoming, Colorado, Utah, New Mexico, Arizona, Nevada, and California (Basin States)—that receive Colorado River water. Cost-share partners include each of the seven Basin States. The proposal is to complete a comprehensive review of water supply and current and long-term demands through 2060 within the Colorado River Basin; to assess options for resolving water supply imbalances; and to develop recommendations for future consideration to address current and projected imbalances. Paramount to the study is an assessment of the potential impacts of climate variability and climate change on water supplies and demands, including impacts on hydropower.

WaterSMART Water Availability and Use Assessment Initiative

To answer the question, “How much water do we have in the United States?” the USGS will put together a cohesive national picture of water availability and how it varies across our country through a new initiative called the WaterSMART Water Availability and Use Assessment. Many factors affect the amount of water that is available—precipitation patterns, streamflows, groundwater availability, and land uses. Trends in availability are already apparent in many locations across the country. The WaterSMART Water Availability and Use Assessment Initiative will account for the changing amount, quality, and use of water resources across the Nation. It gives a standard way for the Nation to understand water availability using measurements or estimates of the different components of the water cycle, including precipitation, surface water, and groundwater. The key components of this initiative include:

- A nationwide system to deliver information about the water availability factors that every manager needs to know when dealing with availability questions—precipitation and evapotranspiration, surface-water runoff and baseflows, recharge to groundwater and changing storage in aquifers.
- Increased knowledge of water-use science—withdrawals, demands, consumption, and return flows.
- An investment in the science of ecological flows.
- A new grant program for State water resource agencies to assist them with critical work on their water use databases.
- A series of “focus area” studies where there is a desire on the part of watershed stakeholders to conduct a comprehensive three-year technical assessment of water availability with the best available tools. The USGS will work with watershed stakeholders and the various agencies involved in these geographic focus areas to scope and conduct these studies.

IMPLEMENTING MITIGATION STRATEGIES

The science activities just mentioned are necessary to inform the management needs that exist with respect to water resources. Improved management, however, is an ongoing process and much more can be done now. With increased demands for water from growing populations and energy needs, amplified recognition of environmental water requirements, and the potential for decreased supplies due to drought and climate change, a certainty and sustainability with respect to the use of water resources cannot be achieved without water conservation and water reuse. Federal leadership is critical to widespread acceptance and implementation of effective strategies to mitigate the impacts of climate change.

WaterSMART Grant Program (\$27 million in the FY 2011 Budget)

WaterSMART Grants (previously Water Conservation Initiative Challenge Grants) provide cost-shared funding for the following types of on-the-ground projects: (1) water conservation and efficiency projects that allow users to decrease diversions and to use or transfer the water saved; (2) water marketing projects with willing sellers and buyers, including water banks, that transfer water to other uses to meet critical needs for water supplies; (3) projects that improve water management by increasing the use of renewable energy, by increasing operational flexibility (constructing aquifer recharge facilities or making system optimization and management improvements), or by addressing endangered species and other environmental

issues; and (4) pilot and demonstration projects that address the technical and economic viability of treating and using brackish groundwater, seawater, impaired waters, or otherwise creating new water supplies within a specific locale.

WaterSMART Grants leverage Federal funding by requiring a minimum of 50 percent non-Federal cost-share contribution. Grants are available to States, tribes, irrigation and water districts, and other entities with water or power delivery authority. Beginning in 2010, Reclamation can also provide cost-shared assistance to universities, non-profits, and organizations with water or power delivery authority for research activities designed to enhance the management of water resources, including developing tools to assess the impacts of climate change on water resources, and research that will increase the use of renewable energy in the management and delivery of water and power. Additionally, to ensure that the most effective conservation and reuse approaches are employed, Reclamation will begin partnering with States, tribes and local entities to develop incentives and best practices in water conservation techniques, water recycling and reuse methodologies, and land use policies.

Since 2004 through fiscal 2009, over \$73.8 million in Federal funding (including Recovery Act funding) has been awarded to 167 Grant projects for improvements in 16 western states. We expect that these projects will conserve 540,000 acre-feet per year when fully constructed. Reclamation committed \$40 million of its \$950 million Recovery Act appropriation to the Grant Program, and as evidence of the Program's popularity, Reclamation received funding requests exceeding \$350 million for that \$40 million opportunity. We are continuing the Program in 2010, and will solicit applications for 2010 WaterSMART Grants within the next several weeks.

Based on Reclamation performance data, challenge grants have provided a yearly average of 87,273 estimated acre-feet conserved since 2004. Grant projects include such activities as converting leaky dirt canals to pipeline, eliminating water losses due to seepage and evaporation to result in substantial water savings; installation of measuring devices, including Supervisory Control and Data Acquisition (SCADA) systems to improve control over water deliveries and to reduce operational spillage; installation of automation technology to allow more precise, remote control of water diversions and deliveries; and projects involving water marketing such as a pilot water bank in the Deschutes River Basin in Oregon aimed at facilitating the voluntary transfers of water among users.

Title XVI Water Reclamation and Reuse Program (\$29 million)

Title XVI of P.L. 102-575, as amended (Title XVI), provides authority for Reclamation's water recycling and reuse program. The Title XVI program is focused on identifying and investigating opportunities to reclaim and reuse wastewaters and naturally impaired ground and surface water in the 17 Western States and Hawaii. Under the program, Reclamation makes available cost-shared funding for planning, design, and construction of water recycling projects, as well as research and demonstration projects.

For purposes of the Title XVI program, a water reuse project is a project (including the necessary facilities and features) that reclaims and reuses municipal, industrial, domestic, or agricultural wastewater and naturally impaired groundwater and/or surface waters. Consistent with State law, reclaimed water can be used for a variety of purposes, such as environmental restoration, fish and wildlife, groundwater recharge, municipal, domestic, industrial, agricultural, power generation, or recreation. Water reuse is an essential tool in stretching the limited water supplies in the West. Title XVI projects develop and supplement urban and irrigation water supplies through water reuse, thereby improving efficiency, providing flexibility during water shortages, and diversifying the water supply. Overall, Federal investment in Title XVI has totaled about \$524 million through FY 2009, and resulted in an estimated 245,000 acre-feet of water made available in 2009, a figure that will grow as projects reach full build-out. This Administration has significantly increased the budget request for these projects in 2011. New criteria Reclamation is developing in 2010 will enable us to review and rank Title XVI project funding proposals, and fund them. Some of the issues that will be looked at include reducing existing diversions or addressing specific water supply issues in a cost-effective manner, addressing environmental and water quality concerns, and meeting other program goals.

Feasibility Studies

The Secure Water Act authorizes Reclamation to conduct feasibility studies to study the feasibility and impacts of constructing infrastructure necessary to address the effects of global climate change on water resources. New infrastructure could include the construction of water supply or water management facilities, or infrastructure to benefit environmental needs or enhance habitat.

I have described initial efforts of an implementation process that will unfold over the coming years. Both the WaterSMART Program and the Secure Water Act hold the potential to enable tremendous strides forward in preparing both our water supply infrastructure and the people who manage it for meeting the challenges of tomorrow.

Thank you for the opportunity to address the subcommittee. I am please to answer any questions you may have.

Senator STABENOW. Thank you very much.

I did forget to indicate in the beginning that we do ask 5 minutes, and we will take your written statements as well so we have enough time for questions.

So, Ms. Kassen, welcome.

STATEMENT OF MELINDA KASSEN, J.D., DIRECTOR, WESTERN WATER PROJECT, TROUT UNLIMITED

Ms. KASSEN. Thank you, Madam Chairwoman, Senator Bingaman—Mr. Chairman—Senator Wyden.

Thank you for having this hearing today on the SECURE Water Act. Trout Unlimited supported SECURE because Reclamation must address water availability in light of increased population and, whether it is drought or climate change, less water in the West.

I believe that conservation work on the ground will be critical to ensuring that SECURE lives up to its promise of protecting and restoring ecological resiliency—the phrase in the statute—in all of the West's rivers.

TU is a national not-for-profit conservation organization, organized in Michigan, with over 135,000 members, almost all of whom are sportsmen and women dedicated to healthy fisheries and their habitats. TU started the Western Water Project, which I direct, in 1998 to use and improve State water law systems to achieve our goal of providing clean, flowing water for native and wild trout and salmon. We now operate in 7 States with 25 staff—lawyers, engineers, and biologists.

Our approach is less of a top-down one than to work collaboratively with land owners to improve stream flows on the ground. We have proven this strategy throughout the West. We have provided leadership and innovative ideas for partnerships to protect and restore flows, which means things like we buy—help irrigators buy solar pumps that will help them maintain their water yield but will also allow a change in diversion infrastructure so that stream flows improve.

These kinds of partnerships, we believe, are key to sustaining and restoring ecological resiliency from headwaters to deltas. We focus more on the headwaters, but it is the same needs throughout the system.

One of the innovations of SECURE, from our standpoint, was that it put ecological resiliency and helping to ensure and maintain other environmental—sorry, other water needs at the same level in the statute. It was equally important to protect ecological resiliency as it was to protect existing yield for existing users, and that obviously requires balance. But it is different from many previous authorities that have been given reclamation, and we see that as an innovation.

The other innovation that we think is important is that Reclamation was directed not just to work with traditional States and beneficiaries, but also with other entities who have other kinds of interests, like NGO's and nondirect beneficiaries. That since our experience, whether in the Wenatchee and the Blackfoot in the Little Snake, our experiences suggest that having a broader table helps come about with solutions. We think that is a terrific approach.

As Commissioner Connor said, there are currently 3 basin studies proceeding. Trout Unlimited is involved in the Yakima and in the Colorado River Basin studies. The—I guess we are glad that this hearing is happening because we were a little disappointed not with the amount and dedication of money for this program in the President's new budget, but with the way the Colorado River Basin study, in particular, is proceeding.

Because unlike the Yakima study, where rural economy and ecology are sort of twin goals, and it is a big table with NGO's and growers and local governments and the States, the Colorado River Basin study has 5 program objectives. Environmental flows, ecological resiliency are not there. The table has been set for the States and Reclamation, and there are no NGO's. There are no irrigation districts. Nobody else is at the table.

We are allowed to comment, but as you guys know, it is very different to be at the table than to be allowed to say something after things have been crafted. So we are hopeful that there can be a slight course correction relatively soon not only for the Colorado River Basin study, but to make sure that all of the new studies that are done under SECURE and all of the processes going forward can live up to the mandate of SECURE, which was not only to have everyone at the table, but to consider ecological resiliency as well as traditional water uses.

Thank you.

[The prepared statement of Ms. Kassen follows:]

PREPARED STATEMENT OF MELINDA KASSEN, J.D., DIRECTOR, WESTERN WATER PROJECT, TROUT UNLIMITED

Madame Chairman Stabenow, Ranking Member Brownback, and Subcommittee members, thank you for providing oversight this morning for the Bureau of Reclamation's implementation of the SECURE Water Act, originally introduced by Chairman Bingaman and passed last year as part of the Omnibus Public Land Management Act of 2009 (PL 111-11). Trout Unlimited (TU) strongly supported SECURE from its introduction. We believe that our work on the ground in the West will be a critical component of ensuring that SECURE lives up to its promise of protecting and restoring ecological resiliency for western rivers in the face of the impacts predicted as a result of climate change.

WHO WE ARE

TU is a non-profit conservation organization with over 135,000 members nationwide, almost all of whom fish and many of whom are sportsmen and -women dedicated to the protection and restoration of cold water fisheries and their habitats. TU created the Western Water Project in 1998 to use and improve state water law systems so that they all include the tools needed to achieve our goal of providing clean, healthy flowing water for native and wild trout and salmon. TU's Western Water Project now operates in seven states and employs 26 professional staff, including lawyers, engineers and biologists.

WHY TU CARES ABOUT SECURE

A defining feature of TU's Western Water Project is our determination not to approach the challenges facing western rivers just from the top down, but rather to

work collaboratively, on-the-ground with landowners to improve stream flows. We have proven the efficacy of this strategy throughout the West by providing leadership and innovative ideas for enhancing instream flows through partnerships. Expanding these kinds of partnerships must be an integral part of protecting and restoring the ecological resiliency of the West's rivers, from headwaters to deltas. As a result, we believe that non-governmental organizations (NGO) collaboration with water users will be fundamental to the success of SECURE.

As TU develops projects to reconnect tributary streams to mainstem rivers, for example, we work both to improve aquatic habitat and increase the efficiency of an irrigator's water delivery system. We want our projects to be truly win-win, resulting both in more secure water deliveries and in healthier fisheries. In Montana, we are leasing water from ranchers in the Blackfoot River to replenish stream flows, while also funding improvements to ranchers' irrigation systems. In Idaho, we have pioneered the use of the state's water bank to move water through rivers in ways that both increase fish habitat and restore the depleted Eastern Snake Plain Aquifer. And we have learned to harness renewable energy in these projects, so that when we work with a landowner to replace a diversion structure that has historically dried up a reach of a creek, we can install a solar-powered pump so that the producer does not incur fuel costs for delivery of water.

Our work reconnecting cold water fishery habitat in the headwaters of western states improves the resiliency of both native and wild fish. Connected habitats allow fish to move within a system, for example, to avoid localized drought or fire. Increasing the size of a fishery by reconnecting streams over a larger habitat improves the genetic pool for the fish, thereby giving them a healthier long term prognosis over smaller, more isolated populations. TU is working hard on the ground to recover endangered species of trout, but also to keep sensitive species from ever being listed. Thus, for example, we sought and won passage of a new provision of Utah law that allows fishery organizations to lease water from irrigators to improve flows for native species of trout in hopes that this will lead to stronger populations of both Bonneville cutthroat trout and Colorado River cutthroat trout—species whose habitats have declined, but are not yet listed.¹

Cold water fish in the West will be especially affected by increases in temperature; these fish require cold water to survive. For this reason, projected impacts from climate change make our work in the West of securing robust populations of cold water fish all the more pressing. Re-operations of Bureau of Reclamation facilities, such as we helped achieve on the South Fork of the Snake River in Idaho early in the last decade, provide critical flows of cold water for native trout while maintaining water yields for Reclamation's project beneficiaries. TU scientists are continuing to use climate models and spatial data to anticipate climate-related stressors on native trout so that we can develop strategic partnerships to proactively address these challenges.²

Because of the threats associated with a warming climate, including warmer water and lower flows, TU strongly supported passage of the SECURE Water Act. My staff worked closely with staff for this committee to help develop the concepts embodied in SECURE.

THE SECURE WATER ACT

Among a host of other excellent programs, SECURE authorizes a multi-step process to address projected climate change impacts from Reclamation facilities in eight major river basins.³ First, the Secretary shall analyze climate change impacts in the major river basins.⁴ Then, the Secretary shall develop strategies to mitigate those impacts.⁵ Next, the Secretary shall conduct feasibility studies as to these strategies.⁶ Finally, the Secretary may make grants to implement activities that prevent water crises, address climate related impacts to water supplies or increase ecological resiliency in the face of climate change.⁷

¹ Colorado River Cutthroat Trout currently occupy 16% of the subwatersheds in their historical range. See, <http://www.tu.org/science/conservation-success-index/colorado-river-cutthroat>. Bonneville Cutthroat Trout occupy 35% of their historical range. See, <http://www.tu.org/science/conservation-success-index/bonneville-cutthroat>.

² For more information about TU's Conservation Success Index, see, www.tu.org/science/conservation-success-index. For a specific example of the work, which shows the status of Colorado River cutthroat trout, see <http://www.tu.org/science/conservation-success-index/colorado-river-cutthroat>.

³ These basins are listed in §9502(12)(B).

⁴ See, §9503(b)(3).

⁵ See, §9503(b)(4).

⁶ See, §9503(d).

⁷ See, §9504.

TU supported SECURE as important additional authority for Reclamation because it requires the agency not only to confront the potential impacts of climate change on rivers where Reclamation's facilities are located, but also to brainstorm, analyze and ultimately implement solutions to the negative impacts of climate change that the models and water managers anticipate. Thus,

- The Congressional findings in SECURE repeatedly place water for the environment on the same list of important considerations as water supplies for cities and agriculture.⁸
- The climate change adaptation program that SECURE directs the Secretary to establish, is supposed to “ensure . . . that strategies are developed . . . to address potential water shortages, conflicts, and other impacts to water users [in], and the environment of, each service area” (emphasis added).⁹
- The basin analyses must look at impacts both to “fish and wildlife habitat” and “flow and water dependent ecological resiliency,”¹⁰ along with Reclamation's ability to deliver water to its contractors, generate power, manage flood control, provide recreation, and protect endangered species and water quality.
- The Secretary is to consult non-Federal participants (including NGOs) about mitigating these impacts, including strategies related to “habitat restoration plans”¹¹ along with reservoir operations, water conservation and water storage;
- The Act also authorizes the Secretary to cooperate with non-Federal participants to “conduct . . . studies to determine the feasibility and impact on ecological resiliency of implementing each mitigation and adaptation strategy” that the Act identifies, and that the Secretary determines to be necessary, to address the effects of climate change on water resources;¹² and,
- In the grant program for states, tribes and organizations or districts with water or power delivery authority, the Secretary is authorized to make grants and enter agreements for many purposes, including “to address any climate-related impact to the water supply . . . that increases ecological resiliency to the impacts of climate change.”¹³

We now look to Reclamation to lead effective implementation of SECURE, and to Congress to provide useful oversight and adequate funding to bring it to fruition.

Other important programs in SECURE that TU strongly endorses are the climate change and water panel to review, gather and extend scientific research regarding the effects of climate change on western rivers,¹⁴ the national streamflow information program of the US Geological Survey,¹⁵ and the national water availability and use assessment program.¹⁶ We will not be able to overcome our challenges without data, and each of these programs will improve our understanding of what we have now and what the future may bring.

IMPORTANT INNOVATIONS IN SECURE

For TU, one of the most important innovations in SECURE is that, both for the analysis of impacts and for the development of solutions, Reclamation was directed to consider not only affects on water supply and yield, but also on the ecological resiliency of the West's rivers. SECURE effectively recognized that ensuring healthy environmental flows needed to be on the same footing with providing water to sustainable agriculture and growing cities. We agree with this principal because our work on the ground in rural communities has demonstrated time and again, from Washington's Wenatchee to Montana's Blackfoot to Colorado and Wyoming's Little Snake, that healthy rivers are an integral component of healthy communities. Cities build river walks for a reason; even Las Vegas celebrates the location where desert springs provided water for a nascent metropolis. And rural communities celebrate the waters that run through them as well, from building kayak courses through town as has happened in a dozen Colorado towns, to promoting river recreation as a critical part of a diversified rural economy, as we see in Idaho's Big Lost and Wood River basins.

⁸ See, §§9501(1), (2), (3) and (7).

⁹ See, §9503(a)(2).

¹⁰ See, §9503(b)(3)(D) and (G).

¹¹ See, §9503(b)(4)(B).

¹² See, §9503(d)(1).

¹³ See, §9504(a)(1)(H)(i). Subsection (a)(3)(B) of §9504 limits grants for irrigation improvements so as not to increase water for irrigation, but rather to conserve water for other uses, presumably municipal, industrial, recreation or ecological resiliency.

¹⁴ See, §9506.

¹⁵ See, §9507.

¹⁶ See, §9508.

Another innovation in SECURE is its directives to Reclamation to work on water matters not only with states and project beneficiaries, as they have long done, but also with non-governmental organizations. We appreciate that SECURE inherently recognizes that the successes of TU and other conservation NGO's working in western communities mean that we can make a valuable contribution to Reclamation's analyses and implementation of the strategies SECURE identifies.

CURRENT IMPLEMENTATION

The President signed SECURE into law less than one year ago, on March 30, 2009, so this process is still in its infancy. Reclamation recognized the importance of the new law by moving \$3 million in funds to Basin Studies and seeking \$18 million for the challenge grant program established under §9504. TU appreciates that Reclamation is taking its responsibilities seriously.

In fact, when the law was signed, Reclamation had already begun a competitive process to choose rivers for basin studies under different authority. Last September, it formally announced the winners: the Colorado, Yakima and Milk-St. Mary's. (Due to the cold water resources in Washington, Colorado, Utah and Wyoming, TU is especially interested in the Colorado and Yakima Basin Studies.) While the Basin Study processes began under previous authorizations before passage of the Act, they have become the vessel into which Reclamation is pouring its SECURE efforts. Thus, it will be important that these and future Basin Studies are modified during implementation to meet all of the goals of the SECURE Water Act.

In its FY11 budget request, Reclamation envisions continuing the Basin Studies, expanding its capacity to award grants, and adding some west-wide scientific analyses and two, new, not-yet-established Landscape Conservation Cooperatives in the Colorado River Basin. With regard to the Basin Studies, the Reclamation budget justifications, submitted last week, stated:

Through the Basin Studies, Reclamation will work with States, Tribes and local partners to analyze the impacts of climate change on water and power facilities in the West and identify mitigation strategies to adapt to climate variability and chronic water shortages. Such efforts are critical in Western States as they cope with the impacts of climate change and areas experience record droughts and populations increases. Each study includes state of the art projections of future water supply and demand on a basin-wide scale; analysis of how the basin's existing water and power operations and infrastructure will perform in the face of changing water realities; and recommendations on how to optimize operations and infrastructure in the basin to supply adequate water in the future.¹⁷

TU was disappointed with the failure of this description to mention the impacts of climate change on environmental flows or the need to identify mitigation strategies to maintain or improve ecological resiliency.

Notwithstanding this oversight, the Yakima Basin Study, where the sole non-Federal cost-share partner is the State of Washington's Department of Ecology, has developed an integrated management plan framework, including needs analysis, that specifically proposes elements related to fishery habitat restoration and enhancement. The workgroup that guides the Yakima study and implementation process also includes one conservation NGO (American Rivers) with a long-standing presence in the Basin. The challenge for that workgroup will be to reach an agreement where the ultimate balance of strategies includes an economically efficient mix of traditional responses (e.g., new storage) and innovative ones, like conservation and water marketing.

However, in the Colorado River Basin Study, the basin states and non-Federal partners like the Southern Nevada Water Authority (who Pat Mulroy on this panel directs) are engaged in a much less open process. The first fact sheet that Reclamation released describing the focus of the program did not mention either environmental or ecological water needs.¹⁸ The same is true for the five program objectives listed in the plan of study.¹⁹ Moreover, not only are there no conservation NGOs at the table, but the stakeholder plan that Reclamation recently released provides for public comment,²⁰ but not for direct engagement in crafting the analyses being done in the next year, or in determining which alternatives are ripe for consideration as adaptation strategies. While Reclamation's project manager for this study

¹⁷The U.S. Department of the Interior, Bureau of Reclamation. Budget Justifications and Performance Information, Fiscal Year 2011. Water and Related Resources, p. 2.

¹⁸See fact sheet link at, <http://www.usbr.gov/lc/region/programs/crbstudy.html>.

¹⁹See, <http://www.usbr.gov/lc/region/programs/crbstudy/pop.pdf>.

²⁰See, <http://www.usbr.gov/lc/region/programs/crbstudy/pip.pdf>.

has met with several interested conservation NGOs (including TU) about the study, outreach we genuinely appreciate, having an opportunity to comment simply does not equate to having a seat at the table where the study and strategies are shaped.

Thus, while Reclamation is just beginning to implement SECURE, TU is concerned that, especially in the Colorado River Basin Study, because the process began under other authorities, it is proceeding without adequate emphasis on ecological resiliency, and without providing conservation NGOs with the opportunities that SECURE set out regarding the development and assessment of basin strategies.

RECOMMENDATIONS

TU is encouraged that Reclamation is taking seriously its authority to implement the SECURE Water Act. Obviously, to meet the additional challenges that may occur for water needs for cities, irrigators, the environment and industry as a result of the predicted impacts due to climate change, Reclamation will need to work with all of its partners in the West, including NGOs. In addition, Congress will need to provide the necessary funding to achieve the goals of SECURE so that we can have vibrant cities and rural communities, along with healthy rivers. TU is confident in Reclamation's ability to make the adjustments necessary to fulfill the goals of SECURE, and supports Reclamation's budget request for the WaterSMART program.

While there are many aspects of its plans that we appreciate and endorse, TU believes that Reclamation's implementation of SECURE would be substantially improved were it to place appropriate emphasis on ecological resiliency, and expand the Basin Studies to bring conservation NGOs to the table as they work with the states and project beneficiaries to analyze impacts and develop strategies, as well as to find the funds necessary for the Secretary to conduct feasibility analyses on such strategies. TU believes that our work and that of other conservation NGOs demonstrates that we can add substantial value to the process of adapting the nation's water supply to the challenges posed as a result of drought and increased populations in the West such that we should have a seat at the table for these discussions.

Thank you for the opportunity to testify. I look forward to answering your questions.

Senator STABENOW. Thank you very much.
Mr. Keppen.

STATEMENT OF DAN KEPPEM, EXECUTIVE DIRECTOR, FAMILY FARM ALLIANCE

Mr. KEPPEM. Good morning, Madam Chair and Senator Bingaman and Senator Wyden.

Great to see you and really appreciate the support of you and Senator Merkley on our situation in Klamath. I have got a pit in my stomach thinking about it right now, but thank you for your leadership.

The Family Farm Alliance is a group. We are a nonprofit. We represent farmers, ranchers, allied industries, irrigation districts in the 17 western States. All we are focused on is ensuring availability of reliable, affordable irrigation water for our western farmers and ranchers.

Today, I was asked to talk about SECURE Water Act and the Bureau of Reclamation's water conservation initiative, and I have also been asked to explain a case study that we are putting together, which will really have relevance to a lot of things that we are talking about today. I have actually included 2 of the case studies in the written testimony I submitted to you earlier.

I will start with the SECURE Water Act. My organization has twice testified before this committee on climate change and water, when Senator Bingaman's legislation was moving through the last Congress, and we offered specific recommendations on that SECURE legislation as it was being crafted. We were pleased to see

that many of our recommendations were included in the final law, which was signed by President Obama a year ago.

We supported SECURE in part because it provides water managers with effective, on-the-ground tools to fix infrastructure problems that are further complicated by climate change. SECURE expands opportunities for the types of programs already funded through Reclamation's WaterSMART grant program, and these projects provide for improved water management, enhanced supplies, water conservation, and then better efficiencies.

We strongly support SECURE, but we do have questions about how this program is being implemented. It is kind of in its infancy. Our members want to know where the dollars are being spent, what types of programs and projects are receiving priority, and most importantly, how can they get involved. In particular, I think we would like to see projects that really do tie in to Reclamation's core mission of providing water and power to their customers.

We are also curious to see how SECURE is going to fit into the bigger picture efforts by Congress to address climate change. We think that the goals and programs of the SECURE Water Act should actually specifically be included in the comprehensive climate legislation that is underway to ensure that this program is funded with priority.

I would like to focus now a little bit on the Reclamation's water conservation initiative and, in particular, on the WaterSMART grant component. This program, formerly known as a challenge grant program, is one that many of our members have benefited from in recent years. Appendix B of my written testimony summarizes how the Tulare Irrigation District in California has really funded a variety of really innovative water-saving projects with the assistance of this grant program.

My testimony also identifies some of the shortcomings in the administration of this grant program, and we offer recommendations on how to address those. They are pretty minor. Overall, most of our members have benefited from this WaterSMART grant program.

I believe, really, there is just not enough money in it to address the needs that are out there. So, we were pleased to see in Reclamation's budget request this year \$27 million for that program. That is twice as much as what was funded in the last fiscal year, and we think that is a great start.

I was asked by this subcommittee to talk about our case study report, and I am in the process of putting that together. We are a pretty thin organization, you know? We don't have a lot of overhead, a lot of administration staffing. So we are in the process of getting it together. It is coming together nicely but will be released in the next month or so.

This report is going to include several case studies that highlight real-world examples of water conservation, water transfers and markets, aging infrastructure, and water restoration and enhancement activities. We are going to describe water conservation and management projects that work well, especially those that have benefited from WaterSMART program grants, and then pass those lessons learned on those projects to our partners with the Bureau of Reclamation.

Our report can further be used to describe the types of conservation activities that should be funded under the climate change bills currently moving through Congress.

Finally, we want to describe the complications facing local water users, the creative solutions that can be developed to meet those problems and offer recommendations that lead to more local success stories. One case study in Wyoming, included as appendix to my written testimony, describes the efforts of the Little Snake River Conservation District to take the lead in creating truly holistic watershed solutions.

This land owner-driven organization is now working collaboratively with over 30 different partner organizations, including Trout Unlimited, and this example supports an important objective of our report. We want to demonstrate that water managers, ranchers, and farmers are experienced and creative individuals, and they should be looked to as an important resource to help resolve the water conflicts of the West.

When we are done, this report will cover about 12 different case studies that will span probably every major watershed in the western United States.

The impacts of climate change on western water supplies will challenge all water users in the near future. Being prepared requires investment and adaptation in the management of western water supplies. To survive this trial, our efforts need to begin today—before crises, before conflict, and before there are winners and losers.

Unfortunately, in some parts of the West, that may be too late. We need to get going quickly, and we think that the Reclamation's water conservation initiative is a positive step in the right direction.

Thank you.

[The prepared statement of Mr. Keppen follows:]

PREPARED STATEMENT OF DAN KEPPEL, EXECUTIVE DIRECTOR, FAMILY FARM ALLIANCE

Good afternoon, Chairwoman Stabenow, Ranking Member Brownback, and Members of the Subcommittee. My name is Dan Keppen, and I serve as executive director of the Family Farm Alliance (Alliance).

The Alliance is a grassroots organization of family farmers, ranchers, irrigation districts and allied industries in 16 Western states. The Alliance is focused on one mission: To ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers. We are also committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental and national security reasons—many of which are often overlooked in the context of other policy decisions.

I would like to acknowledge and thank Alliance Members Dick Moss (Provost & Pritchard, Visalia, California), Tom Knutson (Nebraska State Irrigation Association), Pat O'Toole (Ladder Ranch, Wyoming) and Larry Hicks (Little Snake River Conservancy District, Wyoming) for their assistance in developing this testimony.

INTRODUCTION

I am honored to be here today to discuss the SECURE Water Act (SECURE) and the Bureau of Reclamation's Water Conservation Initiative, which includes the WaterSMART Grant Program, the Basin Study Program, and the Title XVI Program. The Family Farm Alliance has twice previously testified before the Committee on climate change and water, and offered specific recommendations on the SECURE legislation. We were pleased to see that many of our recommendations were included in the final law. I will address SECURE in this testimony, particularly as it relates to broader climate change legislation that may be considered by

the Senate. The Alliance believes that the goals and programs of the SECURE Water Act should be specifically incorporated into any comprehensive climate legislation to ensure that they receive adequate resources and emphasis.

I have also been asked today to explain the Family Farm Alliance Water Management Case Study Report, which we are currently developing, and has relevance to several of the topics on this hearing's agenda. I have included two of these case studies as appendices to this testimony, which we hope will provide insight into the positive and negative aspects associated with implementing conservation projects involving agricultural water users and government partners.

ALLIANCE INVOLVEMENT WITH THE SECURE WATER ACT AND CLIMATE CHANGE ISSUES

The Family Farm Alliance Board of Directors in 2007 established a subcommittee to develop a white paper that addresses the important issue of climate change, its possible impact on Western water supplies and irrigated agriculture, and recommendations on how to plan and provide stewardship for this change. The report was prepared by an Alliance climate change subcommittee, our Advisory Committee, and water resources experts from around the West. That document—titled “Water Supply in a Changing Climate: The Perspective of Family Farmers and Ranchers in the Irrigated West”—was released just over two years ago.

Our report shows that climate change could further strain fresh water supplies in the American West. We must begin to plan for that now, and not wait until we are forced to make decisions during a crisis.

REINFORCING THE SECURE WATER ACT

Last year, Congress moved to address the potential impacts of climate change on western state water supplies. It approved the SECURE Water Act (signed into law by President Obama in March 2009 as P.L. 111-11, Title IX, Subtitle F) creating federal inter-agency programs to assess the effects of climate change on water supplies, develop strategies and technologies to address potential water shortages and increase the collection of data on current and future water supply availability. The Family Farm Alliance supported the SECURE Water Act in part because it provides water managers with highly beneficial “on-the-ground” solutions to infrastructure problems exacerbated by global climate change. SECURE authorizes the Secretary of the Interior to provide cost-shared grants for planning, designing, or constructing improvements to water infrastructure that conserve water, provide management improvements, and promote increased efficiencies. This expands opportunities for the types of projects already funded through the Bureau of Reclamation's WaterSMART Grant Program, which many Family Farm Alliance members have benefited from. These projects provide for improved water management, enhanced supplies, water conservation, and greater efficiencies, thereby stretching dwindling water supplies.

QUESTIONS ABOUT IMPLEMENTATION OF THE SECURE WATER ACT

The Alliance strongly supported the SECURE Water Act. Our members now have questions about how this program is being implemented. They want to know where the dollars are being spent, what types of projects and programs are receiving priority—and, most importantly—how can they get involved? It is our hope that today's hearing will lead to improved dialogue between the Bureau of Reclamation and Western water users that begins to answer these questions.

OTHER CLIMATE CHANGE LEGISLATION CONSIDERATIONS

There is broad scientific consensus that even modest changes in the global climate would likely alter precipitation patterns in ways that could pose serious threats to water supplies and agricultural production worldwide, particularly in arid regions such as the American West where a large portion of agricultural production is dependent upon irrigation. A significant reduction in the amount of food and fiber produced by American farmers would have adverse consequences for our economy and national security and for our trading partners abroad.

In the past year, legislation has been introduced to address climate change in a comprehensive and aggressive manner. We had hoped that Congress would share our concern that safeguarding the nation's ability to feed itself should be one of the principal goals of any legislation whose purpose is to marshal a national effort to minimize and adapt to the effects of climate change. Unfortunately, while House-passed climate legislation (H.R. 5424) and legislation (S. 1733) introduced by Senators Boxer and Kerry would commit the federal government to employ “all practical means” to protect fish and wildlife from the adverse effects of climate change, those proposals include no comparable commitment to ensuring the continued vitality of

domestic agriculture and agriculturally-based rural communities. Legislation (S. 1933) introduced by Chairman Bingaman takes a more reasonable approach to natural resources adaptation, and it specifically incorporates the goals and measures of SECURE. But it, too, places the greatest emphasis on fish and wildlife.

The Family Farm Alliance supports the goal of conserving natural resources with fish and wildlife adaptation planning, research and programs. But the lack of comparable attention to adaptation needs of domestic agriculture and rural communities calls into question the intent and effects of a large-scale effort focused exclusively on natural resources.

If Congress enacts comprehensive climate-change legislation, it must include additional adaptation programs for irrigated agriculture and rural resource-based communities if such efforts are to be given the necessary attention and resources. Farms and communities in the western United States face the prospect of economic disruption and increased competition and conflict over agricultural and water resources as a result of climate change. Helping them adapt to and withstand the impacts of climate change should be no less a national priority than meeting the needs of fish and wildlife and of farmers in other nations.

We refer you to the October 27, 2009 statement the Alliance submitted to the Senate Committee on the Environment and Public Works. It provides specific observations and recommendations on how Congress can provide adaptation programs that benefit Western irrigated agriculture and rural communities. We hope this subcommittee can play a role in advancing these recommendations as the Senate considers climate change legislation.

THE BUREAU OF RECLAMATION'S WATERSMART (CHALLENGE) GRANT PROGRAM

Reclamation's Challenge Grants—now renamed WaterSMART Grants—leverage Federal funding by requiring a 50 percent non-Federal cost-share contribution. Grants are available to States, tribes, irrigation and water districts, and other entities with water or power delivery authority. Many members of the Family Farm Alliance have benefited from this program in recent years. Appendix B summarizes how one of our members—Tulare Irrigation District (CALIFORNIA)—has funded a variety of water-saving projects with the assistance of WaterSMART Grant funds.

Tulare Irrigation District (TID) is fortunate to have aggressive staffers who are always looking for opportunities and are willing to invest time and money to secure grants for projects that conserve water and promote conjunctive management of surface and groundwater. TID has benefited from partnering with others and sharing project benefits. These types of partnership generate significant local and regional support for project proposals. The keys to TID's grant success have been: 1) Paying close attention to grant requirements; 2) Sufficient planning to demonstrate a thoughtful and consistent approach; and 3) Recognition that a "phased" approach can be used to incrementally fund larger projects.

TID and other Alliance members have also identified shortcomings in the administration of the WaterSMART Grant program and have developed the following recommendations on how to address those problems:

A. There is often a "disconnect" between required funding timelines and needed National Environmental Protection Act/National Historic Preservation Act (NHPA) reviews. In California, local water users believe these reviews could be satisfied in a much more expeditious manner by relying on existing, similar state reviews. For aging water infrastructure, the historic review requirements should be modified, perhaps by developing a programmatic approach to the NHPA requirements for water facilities.

B. Federal administrators sometimes have a lack of understanding about the limited construction "window" that is available when working on water delivery systems. Early "kickoff meetings" with project proponents and Reclamation personnel should be a required step in these projects.

C. Grant applicants sometimes face financial and time-management difficulties looking for multiple partners to share the benefits of a proposal, especially for smaller grants. If multiple benefits and collaborative efforts are to be emphasized, commensurate funding should be made available to support these necessary administrative actions.

The vast majority of Family Farm Alliance members who have benefited from WaterSMART Grants believe that there is not enough money to address the needs that are out there (see "Other Needs" below). We were pleased to see that the Bureau of Reclamation's Fiscal 2011 budget request includes \$27 million of WaterSMART Grants, double the FY 10 level of funding. This is a good start.

Our Members and others in western irrigation also lament the absence of any current program to address major rehabilitation needs, similar to the now-defunct “Small Reclamation Projects Rehabilitation and Betterment Program”.

IMPORTANCE OF FEDERAL CLIMATE CHANGE, CONSERVATION AND INFRASTRUCTURE ASSISTANCE

Water conservation, recycling and desalination efforts and water transfers are important tools for improved management of increasing scarce water resources. However, these demand-management actions must be balanced with supply enhancement measures that provide the proper mix of solutions for the varying specific circumstances in the West.

Supply enhancement should include rehabilitation of existing facilities and construction of new infrastructure. Rehabilitation measures should focus on maximizing the conservation effort through increased delivery efficiencies, construction of re-regulation reservoirs to minimize operational waste, and construction of new dams and reservoirs in watersheds with inadequate storage capacity to increase beneficial use and provide operational flexibility. Additional groundwater supplies should also be developed, but in a manner where groundwater use falls within the safe yield or recharge parameters of the aquifer. Conjunctive management of surface and groundwater supplies should be encouraged. Installation of additional stream gauges, water meters, groundwater recharge projects to employ during times of high surface flow, groundwater monitoring wells and better estimates of consumptive use are of paramount importance for the equitable management of available water supplies.

The federal government needs to seriously consider adopting a policy of supporting new projects to enhance water supplies while encouraging state and local interests to take the lead in the planning and implementation of those projects. Local and state interests have shown enormous creativity in designing creative water development projects. For example, the State of Wyoming has initiated its Dam and Reservoir Program, in which proposed new dams with storage capacity of 2,000 acre feet or more and proposed expansions of existing dams of 1,000 acre feet or more qualify for state funding. Wyoming water managers and policy makers recognize that dams and reservoirs typically provide opportunities for many potential uses. While water supply is emphasized in the Wyoming program, recreation, environmental enhancement, flood control, erosion control and hydropower uses are also explored as secondary purposes.

Many water projects are ready to be developed in the West, as demonstrated by studies completed by the Family Farm Alliance and the Bureau of Reclamation in 2005. While conservation and recycling programs have done a tremendous job of meeting new growth, only a small amount of new water storage capacity has been developed in the past 30 years. Maintaining the status quo simply isn't sustainable in the face of unstoppable population growth, diminishing snow pack, increased water consumption to support domestic energy, and increased environmental demands. It's time to start building the water infrastructure needed to cope with a changing climate, meet the needs of a burgeoning population, and support a healthy agricultural base in the West.

FAMILY FARM ALLIANCE WATER MANAGEMENT CASE STUDY REPORT

The Family Farm Alliance is currently compiling in to a report a number of case studies that highlight real-world examples of water conservation, water transfers and markets, aging infrastructure problems, and watershed restoration / enhancement. This document will be used in several forums. For example, we would like to describe water conservation and management projects that work well (best management practices), especially those that have benefited from WaterSMART grants, and pass the lessons learned from those projects on to the Bureau of Reclamation. One of those case studies, involving the Tulare Irrigation District (CALIFORNIA), is included as an appendix to this testimony. We are also hoping that observations and recommendations from these types of projects can be used to help influence how the SECURE Water Act will be implemented by Reclamation. Our report can further be used as a template to advocate for the types of conservation activities that could be potentially funded under the climate change bills currently moving through Congress.

Another area of focus in our report will include water markets and transfers, where we would like to provide examples of successful efforts, identify where there are impediments to success, and describe where adverse impacts negated such benefits. These studies will help form the framework for Alliance policy on water transfers, which will be advanced in the agricultural / urban / environmental water sharing coalition we are involved with in the Colorado River Basin. We are already as-

sembling work for transfer programs undertaken in the Central Valley (CALIFORNIA), in the Klamath Basin (CALIFORNIA / OREGON), in Southern California, and along the Front Range of the Rocky Mountains (COLORADO).

We will also include examples of aging water infrastructure predicaments facing our members. Findings and recommended solutions can be used in our ongoing efforts to implement the loan guarantee provisions we advocated for in the Rural Water Supply Act and to underscore the additional funding needs that are required to address key infrastructure issues in the West, such as the St. Mary Facilities (MONTANA) and rehabilitation of Minidoka Dam spillway (IDAHO).

Finally, we will describe the complications facing local water users, the creative solutions that can be developed to meet those problems and recommendations that ensure continued, locally-driven success. We already have developed one case study in Nebraska, where irrigation districts have completed project transfers resulting in expanded opportunities to partner with new entities to improve infrastructure, flood control, and water management. Another case study in Wyoming that describes the efforts of a local conservation district to take the lead in implementing holistic watershed solutions is included as an appendix to this testimony.

An important objective of our final report will be to demonstrate that water managers, ranchers and farmers are resourceful and creative individuals that should play an active role in resolving the water conflicts of the West.

When our report is completed, it will include at least a dozen individual case studies for projects located in virtually every major river basin in the Western United States. We look forward to sharing the final report with this committee and other important water policy makers.

OTHER NEEDS

The SECURE Water Act and Reclamation's WaterSMART Grant Program are two important tools that improve the availability of reliable, affordable irrigation supplies and partially mitigate for climate change impacts to Western water resources. However, critical problems remain to be solved, and the Bureau of Reclamation and Congress can help address these needs.

1. Create Flexible Financing Options to Help Water Managers Proactively Deal with Aging Infrastructure and Climate Impacts to Western Water Supplies

The Bureau of Reclamation (Reclamation) built and manages the largest part of the critical water supply infrastructure that is the foundation of the economic vitality of the 17 Western States. Much of this federally-owned infrastructure is now 50-100 years old, approaching the end of its design life, and needs to be rebuilt and rehabilitated for the next century. The Congressional Research Service has calculated the original development cost of this infrastructure to be over \$20 billion, and Reclamation estimates the current replacement value of its water supply and delivery infrastructure at well over \$100 billion. These facilities are an essential component of the nation's food-production system and their operation helps ensure our ability to provide reliable and secure food for its own citizens and the rest of the world.

The problem with fixing aging public infrastructure is primarily financial. There are not enough federal dollars to go around for these burgeoning needs. Yet, in the case of Reclamation water facilities, most of the rebuilding of this federal water infrastructure is paid for by the end users who contract with Reclamation for their water supplies. Reclamation estimates that \$3 billion will be needed from project users in the near-term to provide for essential repairs and rehabilitation of Reclamation facilities.

This is where the problem begins: under its legal authority, Reclamation must treat expensive, major rehabilitation and replacement projects as operation and maintenance costs (O&M) that must be paid for by the water users both in advance, and in the year in which the costs are incurred. For some of these projects, it is not uncommon for annual O&M bills for these rehab projects to be thousands of times larger when compared to previous years, with little time for water users to prepare. With the federal government holding title to these facilities, water users can not easily obtain financing to meet their O&M obligations, nor can they simply pass along huge increases in costs to their water customers in such a short period of time.

In the past, Reclamation offered its water users direct loans to cover their share of these major expenses, allowing them to finance over many years their contractual share of these costs over time. However, these direct loans had been discontinued, as mounting pressures on the federal budget redirected funds that were traditionally dedicated to these loan programs. As a result, in most of these cases, the unthinkable happens: these vital rehabilitation and replacement projects are delayed

or dropped, leaving the facility in badly decomposing or unsafe condition for future generations to deal with, and setting up the perfect storm of facility failure and resulting damages to property and person.

With leadership from your Committee, Congress has sought creative ways to address this challenge, and we are encouraged by two recent key legislative fixes:

A. P.L. 111-11, signed into law last March, includes new authorities to address aging canal systems in urbanized areas of the West. An important part of this law, (Title IX, Subtitle G) authorizes the Secretary of Interior to advance funding for the costs of “extraordinary operation and maintenance work” that can be repaid by local authorities, with interest, over 50 years. The 50-year repayment option applies to both reserved works and those works whose management has been transferred to local entities by Reclamation. This extended repayment authority has been welcomed by our members as a means of securing affordable financing for repairs to federal facilities.

B. Title II of the Rural Water Supply Act of 2006 (PL 109-451) authorized a loan guarantee program within Reclamation that would leverage a small amount of appropriated dollars into a large amount of private lender financing available to qualified Reclamation-contractor water districts with good credit. In other words, the Congress has given the authority to Reclamation to co-sign a loan to help their water contractors meet their contract-required, mandatory share of rebuilding and replacement costs of federally-owned facilities.

I regret to report that this latter tool—the Reclamation loan guarantee option—continues to be held up because of incorrect interpretations of clear Congressional direction by the Office of Management and Budget (OMB). An April 3, 2008 memo prepared by OMB concluded that the Bureau can carry out the loan program only if it is willing to siphon large amounts of funding away from other programs and needs within its budget. This is not what Congress intended. In 2008, we shared with this Committee our findings that showed OMB’s conclusions are wrong and that they are driven by a desire to prevent implementation of the program. We are baffled by OMB’s opposition to a device specifically designed to help non-federal entities raise non-federal money to repair federally owned infrastructure at little or no cost to the federal government.

We need your help, through Congressional oversight and possibly new legislative language, to tell OMB that they are wrong, and to allow the Bureau of Reclamation to proceed with implementation of the loan guarantee program as Congress intended it to function. In addition, further Congressional attention and effort will be necessary in order to help western water managers deal with aging water infrastructure and climate impacts to western water supplies.

2. Streamline the Regulatory Permitting Process

Modern, integrated water storage and distribution systems can provide tremendous physical and economic flexibility to address climate transformation and population growth. However, this flexibility is limited by legal, regulatory, or other institutional constraints, which can take longer to address than actually constructing the physical infrastructure. The often slow and cumbersome federal regulatory process is a major obstacle to realization of projects and actions that could enhance Western water supplies.

The Family Farm Alliance has long worked on finding ways to streamline the regulatory process, and worked closely with past administrations and Congress towards that end. In the past year, our members are becoming increasingly concerned about the number of environmental policies that are currently being re-written by this Administration. It appears the changes being contemplated could result in stricter requirements that would further slow down federal approvals on water projects that are already very time-consuming and challenging. We are concerned about the following administrative actions that could carry the risk of real potential harm for Western irrigators:

- **Economic and Environmental Principles & Guidelines for Water and Related Resources Studies.**—The White House in December released a draft of new standards for federal water projects that for the first time put environmental goals on the same plane as economic development concerns. The proposed overhaul of 1983 standards for the Army Corps of Engineers (Corps) directs the agency to fold non-monetary benefits into project assessments by measuring improvements to wildlife habitats and biodiversity. These proposed changes for the Corps and Bureau of Reclamation may have a significant impact on new water project planning and federal funding in the future.
- **National Environmental Policy Act Expansion.**—It is our understanding that the Administration may soon issue an executive order adding climate change to

the list of factors federal agencies must take into account when evaluating projects and policies. Some conservation groups have pushed for the expansion of the 40-year-old National Environmental Policy Act (NEPA), which currently requires agencies to consider environmental factors such as land use, biodiversity and air quality. Our members fear that requiring analysis of climate change impacts during the NEPA process, especially at the project-specific level, will slow economic recovery while providing no meaningful environmental benefits.

- **ESA Administrative Revisions.**—The U.S. Fish and Wildlife Service (USFWS) is considering wide-ranging revisions to the 1973 Endangered Species Act (ESA), that could provide new definitions for some key provisions, including those addressing critical habitat and consultations between service biologists and other agencies over projects that could impact protected animals and plants. For example, the USFWS earlier this year proposed to revise a 2005 designation of critical habitat for the bull trout, a threatened species protected under the ESA. If finalized, the proposal would increase the amount of stream miles originally designated as bull trout critical habitat in five Western states by 18,851 miles and the amount of lakes and reservoirs designated as critical habitat by 390,208 acres. The problem here is, for many Western water users, the maze of requirements for ESA permits that can restrict activities or delay projects for months or years. We essentially supported the administrative regulatory changes put forward prior to 2009 that would have streamlined the consultation process. It now looks like those changes have been reversed, with no apparent request for agency input offered to the regulated community.
- **EPA Pesticide Restrictions.**—EPA is making a precedent-setting decision to impose pesticide restrictions that will essentially prohibit their use in large areas of Washington, Oregon, California and Idaho. The most serious deficiency in EPA's announced plan involves expansion of no-use buffer zones to every ditch, drain, canal, and irrigation furrow that might eventually drain from an agricultural field into a salmon habitat. EPA also recently singled out the state of Florida as the first state in the nation on which they are proposing to establish a nutrient standard for all bodies of water. These proposed standards are being imposed on the basis of an EarthJustice lawsuit and will establish nitrogen and phosphorus standards different from the rest of the country. This is another very disturbing development, but consistent with other recent administration actions.
- **EPA Reconsideration of the "Water Transfers Rule".**—A 2008 U.S. EPA rule allows water transfers from one water body to another without Clean Water Act (CWA) permits. We now understand that EPA is planning on reconsidering the "Water Transfers Rule", which states that a mere transfer of water from one meaningfully distinct navigable body of water to another does not require a NPDES permit, even though the water being transferred may add new pollutants to the receiving body of water. The Justice Department in a recent document says EPA may abandon the rule, a move that would subject water transfers throughout the nation to pollution permitting requirements. This could have severe consequences in states like California, where huge quantities of water are moved from one basin to another.

Many of the above administrative changes are drawing praise from environmental organizations that have been advocating them for some time. The Family Farm Alliance hopes that the Administration will give equal consideration to the concerns of agricultural organizations. We pledge to work with the Administration, Congress, and other interested parties to build a consensus for improving the regulatory processes associated with improving water systems.

CONCLUSION

The impacts of climate change on sensitive Western water supplies, while not totally understood today, will significantly challenge all water users in the West—municipal, industrial, agricultural, and environmental—in the near future. Being prepared requires investment and adaptation in the management of Western water supplies. To survive this trial, our efforts need to begin today—before crises, before conflict, and before there are winners and losers. The SECURE Water Act is a very positive step in the right direction, providing much needed opportunities for partnerships with federal agencies; providing direction for federal policymakers in dealing with the impacts of climate change on our precious water supplies; and providing some innovative new tools that will be necessary in order for the federal government to proactively work with local and state water authorities on real solutions. The WaterSMART Grant Program could be improved in some minor ways, but, over-

all, a consistent complaint we hear from throughout the West is that there isn't enough money in the program to meet the overall need.

We stand ready to assist you, Madame Chair, and the Members of this Subcommittee in furthering these efforts that are so important to all our communities in the face of such an uncertain and challenging future. We must emphasize, however, that we are facing water problems right now. As evidenced in California's San Joaquin Valley, legislation, water transfers and data collection alone will not resolve these problems. The amount of water on the planet remains the same. We need policy and water decisions that are based on sound science. And we need the infrastructure to conserve, reuse, store, treat, manage and convey water to where and when it is needed, at the quality and quantity needed, to resolve these problems and avoid even more severe consequences that loom on the horizon.

Thank you for the opportunity to testify before this Committee today. I would be happy to answer any questions you might have.

APPENDIX A: TULARE IRRIGATION DISTRICT—A CASE STUDY HIGHLIGHTING MORE RECENT GRANT (“CHALLENGE GRANT”, NOW TERMED “WATERSMART GRANTS”) AND FUNDING OPPORTUNITIES WITH A FOCUS ON USBR PROGRAMS

Backdrop

Many Western water projects are reaching the end of the original economic and design life. Dollars for preventative maintenance and system rehabilitation are hard to come by, while at the same time, costs are increasing because less water is being sold, regulations are increasing, farmed acreage is reduced, and energy and labor are more expensive. Water supply reliability has been reduced in recent years, which means that ways to increase additional yield are needed to even get back close to meeting demand. Fortunately, new technology is available to improve operational control. And local water managers are realizing that new partnerships are needed in order to obtain reasonable costs for improvements, all the while ensuring that benefits are shared.

In California, Integrated Regional Planning (IRP) efforts are gaining in prominence. The State of California has embedded the IRP approach in Propositions 50 and 84 and the water bond proposal that will be voted upon in November 2010. The IRP approach advocates for collaboration and achievement of multiple benefits. It encourages a blending/exchange of resources to maximize local benefits, and the outcome is usually controlled more by regional partnerships than any one individual agency.

Organization

Tulare Irrigation District (TID) covers 67,600 acres in California's San Joaquin Valley. TID is a Central Valley Project Friant contractor with major water rights on the Kaweah River and access to groundwater. Two growing communities—Visalia and Tulare—affect TID's operations. The district is water-short and located in an area of regional groundwater overdraft, exacerbated by conditions caused by San Joaquin River restoration efforts.

Key Actions

System Optimization Review (SOR)—TID in 2009 undertook a \$655,000 planning study (with \$300,000 USBR cost share) that will evaluate historic diversions, currently available supplies; existing delivery system capacity; past and projected demands; and groundwater pumping estimates (municipal and agricultural) and estimated safe yield. The SOR will assess potential groundwater recharge/banking projects and other projects/programs (pre-feasibility level), addressing specific issues raised in the SOR study. Based on this assessment, the SOR Study will prepare a Strategic Plan to address the pressing issues TID faces in the next several years. It will update the TID Groundwater Management Plan and re-assess current resources and capabilities. The Study will include a focused strategic planning effort to engage in regional collaboration, especially with nearby cities and other regional water managers. Projects and programs pre-feasibility analysis will also be performed.

Plum Basin Phase 1

This \$1,060,000 project (including a 2009 Challenge Grant cost share of \$300,000 and partnered with the City of Tulare) proposes the construction of groundwater recharge basins and control structures.

SCADA Upgrade

Improvements to District canal operations with new SCADA equipment and construction of new automated control structures will cost \$765,300, with 2005 Challenge Grant cost share of \$300,000.

Other TID grant successes

- USBR Field Services Grant \$50,000 in FY 2007 for SCADA improvements at the Tagus Basin, a District water recharge and regulation facility;
- USBR Field Services Grant \$50,000 in FY 2008 for the design and installation of a ramp flume on Rockford Canal near Da Costa Basin.
- NRCS AWEP funding in FY 2009 for conservation projects—\$4,000,000 to be spent over 5 years with TID growers;
- ARRA Drought Relief Funding in FY 2009 of \$925,000 for 2 well enhancements and 26 well rehabs for TID growers.

Lessons Learned

Tulare Irrigation District (TID) is fortunate to have aggressive staffers who are always looking for opportunities and are willing to invest time and money to successfully secure grants for projects that conserve water and promote conjunctive management of surface and groundwater. TID has benefited from partnering with others and sharing project benefits, which generates significant local and regional support for their project proposals. The keys to TID's grant success have been: 1) Paying close attention to grant requirements; 2) Sufficient planning to demonstrate a thoughtful and consistent approach; and 3) Recognition that a "phased" approach can be used to incrementally fund larger projects.

TID and other Alliance members have also identified some defects with Challenge Grant administration and have offered up recommendations to repair those flaws:

A. There is often a "disconnect" between required funding timelines and needed National Environmental Protection Act/National Historic Preservation Act (NHPA) reviews. In California, local water users believe these reviews could be satisfied in a much more expeditious manner by relying on existing, similar state reviews. For aging water infrastructure, the historic review requirements should be modified, perhaps by developing a programmatic approach to the NHPA requirements for water facilities.

B. Federal administrators sometimes have a lack of understanding about the limited construction "window" that is available when working on water delivery systems. Early "kickoff meetings" with project proponents and Reclamation personnel should be a required step in these projects.

C. Grant applicants sometimes face a conflict between the desire to spread the grant program benefits and the efficacy of spending significant sums of money to secure smaller grants.

TID believes there is not enough Challenge Grant money to address the needs that are out there. They also lament the absence of any current program to address major rehabilitation needs, similar to the now-defunct "Small Reclamation Projects Rehabilitation and Betterment Program".

APPENDIX B: LITTLE SNAKE RIVER CONSERVATION DISTRICT—A CASE STUDY HIGHLIGHTING INTEGRATED COLLABORATIVE WATERSHED MANAGEMENT AND THE IMPORTANCE OF LOCALLY-LED MANAGEMENT EFFORTS

Backdrop

In most Western states, much of the water used derives from snowmelt in mountainous areas. We are hearing more frequent reports from state and local governments and water users who question how the federal government is managing the watersheds. Forested lands cover about one-third of the nation's land area, and although they have roles in timber production, habitat, recreation and wilderness, their most important output may be water. Forests provide natural filtration and storage systems that process nearly two-thirds of the water supply in the U.S. Forest vegetation and soils, if healthy and intact, can benefit human water supplies by controlling water yield, peak flows, low flows, sediment levels, water chemistry and quality. One of the biggest threats to forests, and the water that derives from them, is the permanent conversion of forested land to residential, industrial and commercial uses.

Real management is needed in the real "reservoir" of the West—our federally-owned forest lands in upper watershed areas.

Location

The Little Snake River is a Colorado River Headwaters Basin arising on the continental divide with land in both Colorado and Wyoming. It is a major tributary to the Yampa and Green Rivers in the Upper Colorado Basin.

Geography and Hydrology

The area is relatively geographically isolated from any large metropolitan or urban communities (> 300 miles from Denver or Salt Lake City). Population in the basin is less than 1,000 people. There are three towns in the basin, Baggs, Dixon, and Savery with populations of 400, 82, and 26, respectively. There are 20,000 acres of irrigated lands adjacent to the main stem of the Little Snake River and its major tributaries. Land ownership in the basin is approximately 31% private, 8% state, and 61% federal (BLM & USFS).

Elevations and precipitation in the basin range from 10,000 feet and 55 inches of annual precipitation to 6,000 feet and 8 inches of annual precipitation. Low elevation landscapes are dominated by desert shrub land communities and transition to mixed mountain shrub, aspen, and pine/spruce/ fir plant communities at the highest elevation.

Average annual water yield out of the basin is approximately 449,000 acre-feet (AF) per year. Total consumptive water use in the basin is approximately 44,000 AF per year. The largest annual consumptive use is for municipal water project via a trans-basin diversion (21,000 AF) followed by agriculture (20,000 AF) and environmental and miscellaneous uses (3,000 AF). The first water rights for irrigation were filed with the Territory of Wyoming in March of 1875.

Land Use and Habitat Characteristics

Predominant land uses are range land agriculture, recreation, and—more recently—fluid mineral development (oil & gas). Historically, the basin also supported some timber harvest and hard rock mining for copper, gold, and silver. Because of the basin's geographic isolation and low population, it has not incurred major deleterious impacts associated with human activity until the recently development of fluid minerals. Consequently, the area has a fairly intact ecosystem that supports the largest population of Colorado Cutthroat Trout, flannel-mouth suckers, and round-tailed chubs. It also supports some of the largest populations of Columbian Sharp-tail and Greater Sage Grouse in the U.S. The basin is also home to 8,000 elk, 21,000 mule deer, 22,000 antelope, 130 species of birds, 15 species of fish, and numerous other species of mammals and amphibians.

In 1844 John C Fremont traversed the Little Snake River Valley and noted in his journals "The country here appeared more variously stocked with game than any part of the Rocky mountains we had visited: and its abundance is owing to the excellent pasturage and its dangerous character as a war ground". The game (wildlife) that attracted the warring Native American tribes to area was a byproduct of the excellent pasturage that Fremont spoke of. It is also the reason the area attracted early ranchers. The first cattle entered the Little Snake Basin in 1871 when Noah Reader brought 2,000 head that were turned out at the mouth of Savery Creek. In 1873 George Baggs brought 2,000 head into the valley near the vicinity of the town bearing his name. Today the area supports around 25,000 head of cattle, 6,000 head of sheep, and 2,500 head of horse both domestic and wild.

Organization

The Little Snake River Conservation District (LSRCD) has a locally elected board of supervisors and is staffed by dedicated professionals.

Key Integrated Collaborative Watershed Management Actions

- Muddy Creek and Savery Creek Clean Water Act Section 319 Watershed Projects. The LSRCD has received and administered over \$1 million dollars from EPA to implement best management practice for livestock grazing.
- Muddy Creek Wetlands. Established the largest wetland project in the State of Wyoming and received over \$800,000 in grant funding for this project including \$165,000 from Ducks Unlimited.
- Little Snake River Aspen Conservation Joint Venture. Locally lead effort with BLM & USFS, private land owners to restore and enhance 12,000 acres of Aspen forest.
- Little Snake River Watershed Fish Barrier Assessment. Collaborative effort with Trout Unlimited, LSRCD, and local landowners/irrigators.
- Little Snake Watershed Fish Barrier Removal and Aquatic Ecosystem Restoration Project. Joint project with numerous local, state, federal, and NGO partners. Current expenditure and obligation for this project is \$2.5 million.

- Cooperative Conservation Planning Initiative (CCPI). This is a USDA-NRCS farm bill program. The LSRCD is the local sponsor on two different CCPI projects including the Fish Barrier Removal and Hazardous fuels—forest health projects in the Little Snake Basin.
- Battle Collaborative Stewardship Contract. The USFS and the LSRCD agreed to address hazardous fuels on 3,000 acres of the Medicine Bow National Forest due to bark beetle infestation.
- Little Snake River Conservation Planning initiative. This is a joint effort among the LSRCD, NRCS, The Nature Conservancy (TNC), and private land owners. It consists of inventorying and updating conversation plans for 42,000 acres of private lands for consideration under Conservation Easements.

Results

- In 2005 the local community, working with the State of Wyoming, constructed a 23,000 acre foot \$30 million dollar water storage project to provide water for municipal, agricultural, fisheries and recreational use.
- As part of the overall watershed project, Clean Water Act Section 319 monies were utilized to implement grazing Best Management Practice to restore and enhance riparian and upland areas. Other funds and partners have assisted with the restoration and enhancement of more than 20 miles of river and stream channels for both cold and warm water fish species. Over 800 acres of wetland habitat has been constructed, improved, and enhanced.
- 3,500 acres of forest treatment has been completed to reduce hazardous fuels and improve wildlife habitat.
- Thousands of acres have been put under conservation easements in order to perpetuate agricultural use and protect critical wildlife habitat.
- Ten irrigation diversion structures have been modified to allow for fish passage and in 2011 all remaining irrigation diversion structures in the Little Snake basin are scheduled for modification for fish passage.

Recognition

Since 1991 numerous agencies, organization, and NGO's have recognized the Little Snake River community and the local governmental natural resource agency, the Little Snake River Conservation District (LSRCD), as leaders in natural resource conservation. Following are list of acknowledgments and achievements.

- 1996 USDI-BLM Rangeland Stewardship Award.
- 1996-2000 National Demonstration Project "Seeking Common Ground—Livestock and Big Game on Western Range Lands"
- 1997 & 2002 EPA volume II & III Section 319 Success Stories.
- 2007 National Association of Conservation District South West Region Collaborative Conservation Award.
- 2009 Rocky Mountain Elk Foundation Imperial Habitat Partner.

Numerous articles featuring work conducted by the LSRCD, area land owners, and its partners have been featured in popular publications like Farm Journal, Beef Today, Bugle Magazine, Wyoming Wildlife, and Range Magazine as well as peer reviewed journal publication in the Journal of Soil and Water Conservation (2008) and the Journal of Rangeland Ecology (2009).

Lessons Learned

These efforts have all been locally-led. Conservation of natural resources in the Little Snake River Basin integrated with agrarian life style and perpetuation of this culture is the highest priority for the local community in the Little Snake Basin. In Wyoming, the local residents have passed a conservation property tax to carry on this work. Since 1990 this tax has generated approximately \$8 million dollars in local revenues. These funds have leveraged over \$40 million dollars in project money to implement conservation and development projects in the Little Snake River Basin.

Today the Little Snake River Basin hosts a myriad of wildlife, and robust natural resources while sustaining compatible agricultural uses and natural resource based recreation business. This was accomplished through local leadership and commitment of the Little Snake River Conservation District working collaboratively with over 30 different partner organizations and agencies that have assisted in the conservation of the Little Snake Basin, in a collaborative locally-led process.

Properly managing federal watersheds and encouraging federal agencies to work with the agricultural community to solve local water problems is imperative. Through thoughtful planning, the Administration can play a truly important role in helping find the solutions that have proved so elusive to date.

Senator STABENOW. Thank you very much.
Now, Mr. Entsminger, welcome.

**STATEMENT OF JOHN ENTSMINGER, REPRESENTING THE
COLORADO RIVER BASIN STATES**

Mr. ENTSMINGER. Thank you, Madam Chair.

I am happy to be here today on behalf of the Colorado River Basin States and to provide our views about the Colorado River Basin Water Supply and Demand Study, which is a cooperative effort between the Bureau of Reclamation and the basin States. I would also like to touch on some of the conservation programs we have in southern Nevada.

The Colorado River Basin includes parts of seven western States, supplies water for municipal, industrial, agricultural, and environmental needs and includes most of the major western areas in the western and southwestern United States, including Denver, Salt Lake City, Albuquerque, Phoenix, Tucson, Los Angeles, and Las Vegas.

The reservoirs on the main stem can store about 4 times the annual average flow of the Colorado River, and this storage has allowed us to weather past droughts, including a significant drought in the last 10 years.

However, there is increasing concern on the river that increasing droughts, population growth, and climate change, which is projected to reduce the available yield of the river by as much as 10 to 30 percent over the next half century, could exacerbate supply and demand imbalances.

With this in mind, we strongly support Reclamation's ongoing water conservation initiative, which includes the Basin Studies program. Reclamation has committed \$1 million to the Colorado River Basin study over the next 2 years, and the basin States have matched that \$1 million with both cash and in-kind services so that it is a 50/50 cost-share over the next 2 years.

We are pleased that that program kicked off on January 22nd of this year, and the one concern we would note with the program is with a program of this magnitude and complexity, we want to ensure that there is sufficient funding to complete the program and ask that Congress look at that as necessary.

Now I would like to turn my attention to some of our conservation efforts, and we note that there are significant conservation programs all over the Colorado River Basin, but in southern Nevada, 90 percent of our water supply that we use to supply 2 million people with water comes from the Colorado River. So conservation is not a small component of our resource program. It underlies our entire resource program.

To date, we have enacted a number of demand management strategies. Our local governments, cities, and counties have passed ordinances which limit the amount of turf that can be installed in new homes. We have daily, weekly, and seasonal frequency limitations. Significantly, we have a block-tiered rate structure so that the lower rates, on the lower tiers, you have a lifeline rate that is for indoor usage. But as you go up and as you use more water outdoors, we send a pricing signal to try to curtail outdoor use in a very strong way.

But we also provide incentives. To date, our WaterSMART Landscape Program has provided \$155 million to the residents of southern Nevada to remove turf from our community. That program has resulted in the removal of over 140 million square feet of turf, or the equivalent of 3,200 acres of turf, with an average annual savings of more than 7 billion gallons of water for our community.

However, we know that conservation is not going to be the only answer. We know that in the coming decades, new water supply projects will be needed, and that is why we are so supportive of the basin States program so that we can look at these supply and demand imbalances and, hopefully, be ahead of the curve in finding solutions for those imbalances.

With that, I thank you for your time today, and I will be happy to answer any questions.

[The prepared statement of Ms. Mulroy follows:]

PREPARED STATEMENT OF PATRICIA MULROY, GENERAL MANAGER, SOUTHERN
NAVADA WATER AUTHORITY, LAS VEGAS, NV

Madam Chairman, I am Patricia Mulroy, General Manager of the Southern Nevada Water Authority (SNWA), Las Vegas, Nevada. I am pleased to provide my views to you today concerning the Bureau of Reclamation's Basin Study Program and specifically the Colorado River Basin Water Supply and Demand Study (Study), a cooperative effort between Reclamation and the seven Colorado River Basin States (Basin States). I would also like to describe our efforts at SNWA to promote water conservation to help meet our current and future demands.

BACKGROUND

The Colorado River Basin (Basin) includes parts of the seven states of Arizona, California, Colorado, New Mexico, Nevada, Utah and Wyoming and is one of the most critical sources of water in the west. The Colorado River and its tributaries provide water to over 30 million people for municipal use, supply water to irrigate nearly 4 million acres of land, and is also the lifeblood for at least 15 Native American tribes, 7 National Wildlife Refuges, 4 National Recreation areas, and 5 National Parks.

Many of the largest urban areas of the west and southwest such as Denver, Salt Lake City, Albuquerque, Las Vegas, Phoenix, Tucson, Los Angeles and San Diego rely on the Colorado River or its tributaries for all or a part of the water supply. Hydropower facilities along the Colorado River provide more than 4,200 Megawatts of generating capacity, helping to meet the power needs of the west while reducing the use of fossil fuels. The Colorado River is also vital to Mexico to meet both agricultural and municipal water needs.

Most of the flow of the Colorado River and its tributaries originates as snowmelt from high mountain areas in Wyoming, Utah, and Colorado and moves downstream through some of the most arid regions of the U.S. Because of variations in weather and water use, Colorado River flows have fluctuated significantly each year and throughout the year. The reservoirs on the mainstream and its tributaries provide storage capacity of approximately four times the average annual natural flow. This storage has provided the ability to meet most demands in the Basin, even over periods of sustained drought, such as has been experienced since 2000.

However, concern has increased regarding the adequacy of Colorado River runoff to meet future needs. This is based on recent severe and persistent drought, projection of continued population growth in the west and southwest, and predictions by Climate Scientists for as much as 10-30 percent decreases in average yield of the Colorado River due to climate change.

In fact, water supply and demand imbalances already exist in some geographic areas in the Basin and are projected to increase in both magnitude and extent in the future. Over the past nine years, average annual Upper Basin water use has decreased by approximately 400,000 acre-feet (a decrease of approximately 11 percent) due in large part to water shortages caused by the current drought.

BASIN STATES AND RECLAMATION WILL CONDUCT COLORADO RIVER BASIN WATER
SUPPLY AND DEMAND STUDY

The Basin States strongly support Reclamation's ongoing Water Conservation Initiative which includes the Challenge Grant, Title XVI, and Basin Study Programs. All of these Programs offer potential ways to help evaluate and meet current and future water supply challenges in the west and southwest areas served by the Colorado River.

The Study is one example of how the Water Conservation Initiative can provide assistance in managing the Basin's limited water supply. The Basin States received notification from Reclamation in September of this year that our proposal was selected and would receive Federal cost-share funding. Reclamation has Federal funds in the amount of \$1,000,000 that will be provided over a two-year period toward completion of this Study. The Basin States have committed to a 50 percent cost share with Reclamation through cash and in-kind services to match the Federal contribution.

The Study will analyze through the year 2060 water supply and demand imbalances throughout the Basin and in those regions outside the Basin that receive Colorado River water, assess options for resolving such imbalances, and develop recommendation to address current and projected imbalances. We view the Study as a critical next step in moving forward to address both short-term and long-term water supply needs and for identifying potential solutions for the Basin. It will build upon previous efforts by water utilities, the Basin States, and Reclamation to manage the Colorado River in the most effective way possible. We have worked closely with Reclamation to develop the necessary agreements and the final Plan of Study. I am pleased to report that the Study was initiated in January of this year.

While we deeply appreciate the Federal contribution for this Study, we have some concern about whether the federal and non-federal funding will be sufficient to get the best results for a study of this scope and magnitude. We urge Congress to carefully consider the potential to provide additional funding to enable further cost sharing to fully achieve the goals of the Study.

SOUTHERN NEVADA WATER AUTHORITY'S WATER CONSERVATION PROGRAMS

I would now like to describe SNWA's conservation programs to provide the Subcommittee insight with respect to our efforts to help manage, conserve and stretch our supply of Colorado River water. While my remarks will focus on SNWA, I would point out that most urban and agricultural water entities throughout the Basin also have aggressive conservation programs.

As you know, the Las Vegas area is located in one of the most arid parts of the U.S. At present, 90% of SNWA's water supply comes from the Colorado River. Promoting the efficient use of water is central to our mission. Our success in increasing efficiency of water use and reduction of water waste wherever possible has a direct link to the volume of water we will need in the future.

While we consider conservation as one of the resources in our water portfolio, it is fundamentally different from other water resources. Unlike our "wet" resources such as the Colorado River, banked water, and groundwater, conservation is a tool we use to reduce overall demands.

We have implemented a number of conservation activities since our formation in 1991. While we actively promote indoor conservation, our greatest opportunity for water conservation lies in reducing outdoor use, which accounts for about 60% of SNWA's water use. We use several tools to aggressively promote conservation in the SNWA service area. These include regulation, water pricing, incentives and education.

During the past 18 years, city and county governments have adopted a variety of land use codes and water use ordinances to promote more efficient use of water in the Southern Nevada area. For example, a 2003 code for construction of new homes prohibits turf in the front yard and limits it to 50% of the backyard landscaping. Restrictions also prohibit watering during the hottest times of day and limit how often residents may water during the week on a seasonal basis. More stringent policies have also been implemented to offset drought impacts and more recently these have become permanent measures to assist in overall conservation of water.

Water rates, including block or tiered rates, are one of our most effective conservation tools. Higher rates are charged as water use increases. This measure encourages efficiency while ensuring affordability of water for essential uses. Rates are reviewed regularly to ensure they keep up with inflation, maintain their effectiveness in encouraging conservation, and maintain the fiscal integrity of the water utility.

A variety of incentives are encouraging community participation in water conservation. Incentives encourage residential and commercial property owners to convert lawn to water-efficient landscaping. For example, since its inception, we have provided nearly 155 million dollars toward removal of turf as part of our Water Smart Landscapes Program. This has resulted in conversion of over 140 million square-feet of lawn (over 3,200 acres); saving more than 7 billions gallons of water annually in the SNWA service area.

Last but not least, education is an integral element of our conservation program. This tool helps communities in the Southern Nevada area learn about the importance of conservation and what they can do to help conserve water.

In closing, we will continue our efforts in conservation; however it is clear that conservation alone will not enable us and many other water users in the Basin to meet the projected Basin water demands through 2060. Additional development of water resources will be required. The efforts of all the water managers and users in the Basin will be needed to accomplish this goal. In our view, the Study and Reclamation's efforts in other areas of its Water Conservation Initiative are critical factors in achieving this goal.

Madam Chairman, we thank you and other members of this Subcommittee for your interest, support, and efforts to assure that the Basin and adjacent regions that receive Colorado River water will continue to have adequate supplies in the future.

I would be pleased to answer any questions.

Senator STABENOW. Thank you very much.

Mr. Pack.

**STATEMENT OF ANTHONY J. PACK, EASTERN MUNICIPAL
WATER DISTRICT**

Mr. PACK. Madam Chair, Senator Bingaman, thank you for the opportunity to appear before you today.

I am the general manager of Eastern Municipal Water District, which provides water and wastewater services to 675,000 people in Riverside County in southern California.

California is in a water crisis. Southern California has experienced the first year of region-wide mandatory water rationing, and the initial allocation from the State water project was the lowest it has ever been.

EMWD has long recognized the serious challenges that will confront water agencies throughout the West and have made supply self-sufficiency our most critical strategic objective. Over the past decade, we have committed over \$235 million of our own funds just to implement programs that provide local water in our service area. We have done this to reduce our need for imported water supplies from Colorado River and the California Delta.

As a result, we have reduced our dependence on imported water from 82 percent down to 56 percent, while our connections have gone up 34 percent in the last decade. We have accomplished this by building brackish water desalination plants, local water filtration plants, expanding our recycled water system, aggressive water conservation, and demand-based water rates.

I would like to comment on a few of the items contained in Reclamation's WaterSMART initiative that we are already in the process of doing.

EMWD is a member of the Santa Ana Watershed Project Authority, or SAWPA, which is a Joint Powers Authority, which is composed of 5 water agencies tributary to the upper Santa Ana River. The Santa Ana Watershed Basin is approximately 2,800 square miles in portions of 4 counties and is home for approximately 5.6 million people. SAWPA and Eastern have participated in basin-

wide studies and management activities for many years, and SAWPA today is recognized by the State of California as the most sophisticated and effective watershed planning agency in the State.

The element that is most important to our agency is the Title XVI program. My agency's largest, most successful local resource development effort is our nearly 50-year-old water recycling program. EMWD's recycled water has provided for agriculture, landscaping, environmental purposes, construction, manufacturing, industrial customers, and "in lieu" customers who take the water in lieu of groundwater.

In 2009, EMWD sold 73 percent of the recycled water produced by our wastewater treatment plants. In perspective, the State-wide usage number is about 15 percent, and nationwide, it is about 5 percent of beneficial reuse.

The Bureau of Reclamation's Title XVI program provides a means for funding water recycling projects. However, the program has never been adequately funded until the recent infusion of funding from the American Recovery and Reinvestment Act of 2009. Under that program, my agency received \$9.46 million, which is used to construct storage tanks, pipelines, and a booster plant to provide more reliable pressure to our users.

While the primary objective of the project is to improve system reliability and pressurization, it will also generate approximately 3,200 acre-feet of new demand.

I want to comment on some of the programs that we have done to reduce—to deal with the area of climate change, energy use, and emission reduction. We have evaluated and quantified the energy usage and emissions for each of our 5 sources of water. Recycled water is lower in both areas by a significant amount. Even the desalination plants use less energy and have fewer emissions than our 2 imported water sources, which gives even more importance to reducing our use of imported water.

Our water distribution system is managed by a computer program that automatically determines the most efficient combination of pumps to run and the time of day with the lowest electric rate structure. Our entire headquarters facility is powered by a series of nine natural gas-fired micro-turbines, which also provides the hot water for the buildings and 150 tons of air conditioning.

We recently upgraded our large wastewater treatment plant by adding 3 ultra-clean power plants that use fuel cell technology and are fueled by gas generated during the treatment process. This has enabled us to reduce energy costs and the carbon footprint while generating clean, reliable energy onsite.

The 3, 250-kilowatt fuel cells will allow the plant to meet 40 percent of its energy needs with zero emissions, reducing the carbon footprint by approximately 1,200 tons of carbon dioxide per year.

We also are test piloting a process for producing biodiesel feedstock from restaurant grease waste. Currently, more than 5 million gallons of restaurant grease trappings are produced each year in the service area and are being disposed of in a landfill site. The oil that can be separated from the grease trappings should be able to produce enough biodiesel to power our entire fleet, and then some.

I have several other items, but I see my time is up. So these are all detailed in my written comments.

[The prepared statement of Mr. Pack follows:]

PREPARED STATEMENT OF ANTHONY J. PACK, EASTERN MUNICIPAL WATER DISTRICT

INTRODUCTION

Thank you, Chairwoman Stabenow and members of the Subcommittee on Water and Power for the opportunity to testify before you today regarding the implementation of the SECURE WATER ACT and the Bureau of Reclamation's (Reclamation) WaterSMART Initiative. I am the General Manager for the Eastern Municipal Water District (EMWD), which provides water and wastewater services to 675,000 persons in Riverside County in Southern California.

Approximately five years ago, I testified before the House of Representatives, Subcommittee on Energy and Resources. I expressed then that the participation of the federal government in water resource management is essential, as the federal government has the ability to undertake or coordinate interstate and regional water development and energy projects. I further recommended that the federal government should participate by providing technical support by funding important basic research to solve water and related energy problems. The SECURE WATER ACT begins to address those issues, and confirms the obligation of the Federal Government to support the States, as well as regional, local, and tribal governments in the management of water resources. This is proposed to be achieved through nationwide data collection and monitoring, agency collaboration, basin studies, and further climate change evaluation and activities to increase the efficiency of the use of water in the United States. While these Congressional findings are tremendously important, the implementation of the results is what will determine our future.

California is in a water crisis. Southern California has experienced its first year of region-wide mandatory water rationing and the initial allocation from the State Water Project is the lowest it has ever been. EMWD has long recognized the serious challenges that will confront water agencies throughout the West, and have made supply self sufficiency one of our most important strategic objectives. Over the past decade, we have committed over \$235 million just to implement projects that will develop new local supplies in our service area, and reduce our need for imported water supplies from the Colorado River and the California Delta. As a result, we have reduced our dependence on imported water from 82 percent down to 56 percent, while our connections have increased 34 percent over the same period. We have accomplished this by building Brackish Water Desalination Plants, Local Water Filtration Plants, expanding our Recycled Water System, and aggressive water conservation and demand based water rates.

Reclamation's WaterSMART Initiative includes the Basin Study Program, cost-shared grants for water management improvement projects, and funding of water reuse and recycling projects through the Title XVI, Water Reclamation and Reuse Program and the WaterSMART Clearinghouse. Together, these programs are the principal components of Reclamation's implementation of the SECURE WATER ACT. I would like to share with you some of the ways my agency has participated in these programs.

EMWD is a member of the Santa Ana Watershed Project Authority (SAWPA), a Joint Powers Authority (JPA), which is composed of the five water agencies tributary to the upper Santa Ana River. The Santa Ana Watershed Basin is approximately 2800 square miles in portions of four counties, and home for approximately 5.6 million people. SAWPA and Eastern have participated in basin wide studies and management activities for many years and is recognized by the State of California as the most sophisticated and effective watershed planning agency in the state.

We have participated with Reclamation in several different grant programs that addressed the goal of reducing outside water use, a desalter brine reduction study, development of a landscape water use database, and public school water efficiency retrofits. We look forward to participating in these programs in the future. These programs are very important as agencies must often commit their limited financial resources to the more immediate needs of community growth and system repair and replacement.

The third element, and the one most familiar to our agency is the Title XVI program. My Agency's largest, and most successful local resource development effort is our nearly 50 year old water-recycling program. Water recycling, until recently considered an innovative use of resources, is becoming commonplace as pressures on potable water supplies continue to grow. In the past 10 years, due to extensive research and elaborate public awareness programs, public acceptance of recycled water has been greatly enhanced. This coupled with the easing of regulatory restrictions has enabled local water agencies to tap into this most important resource to

meet the ever-increasing need for water. EMWD's recycled water is provided for agricultural interests, landscaping, environmental purposes, construction, manufacturing and industrial customers and "in lieu" customers that will use recycled water "in lieu" of historically used ground water. In 2009, EMWD sold 73 percent of the recycled water produced by our wastewater treatment plants. In perspective, the statewide usage number is about 15 percent, and the nation as a whole only averages five percent beneficial reuse.

The Bureau of Reclamation's Title XVI program provides a means of funding water recycling projects; however, the program has never been adequately funded until the recent infusion of funding from the American Recovery and Reinvestment Act of 2009 (ARRA). EMWD tried unsuccessfully for several years to receive an authorization through legislation until 2008, when we finally received a \$12 million dollar authorization. Subsequently, EMWD received \$9.46 million in funding under ARRA to construct storage tanks, pipelines, and a booster plant to provide more reliable pressure to our users. One project has been awarded, three projects will be awarded next month and one project is being delayed because of the land condemnation process. We also have three additional projects that were in the original Congressional Authorization that could be implemented relatively quickly if additional funding becomes available. While the primary objective of the projects is to improve system reliability and pressurization, it will also generate approximately 3,175 acre feet of new usage.

The Title XVI program allows the Federal Government to leverage its investment four to one, and in these difficult economic times, it was a struggle for EMWD to commit the \$30 million representing our share of the projects. While this is a burden for the local agency it gives credibility to the program as no properly managed agency would submit a project that did not have significant resource benefits, knowing that it had to pay 75 percent of the costs.

There exists a substantial backlog of projects in the program. In Southern California alone, 17 projects have been approved through amendments to the Act. If all projects are completed they are projected to generate 400,000 acre feet of recycled water annually. The Title XVI program is vital to meeting the water supply needs of the nation and we urge you to adequately fund the program to eliminate the backlog of authorized projects.

The last component of the WaterSMART Initiative is the Clearinghouse which is still under development. Once fully developed, it will provide a focal point for obtaining information on a number of water, conservation, and energy related issues.

Finally, I would like to address some of the activities we have undertaken to address the areas of climate change, energy use, and emissions reduction that align with the objectives of the SECURE WATER ACT.

We have evaluated and quantified the energy usage and emissions for each of our five sources of water. Recycled water is lower in both areas by a significant amount. Even the Desalination Plants use less energy, and have fewer emissions than our two imported water sources, which gives even more importance to reducing our use of imported water.

Our water distribution system is managed by a computer program that automatically determines the most efficient combination of pumps to run, and the time of day with the lowest electric rate structure. We reduced our energy costs an average of 10 percent when we implemented the program. We also use natural gas engines, with state of the industry emission controls, in many of our pumping plants.

Our entire headquarters facility is powered by a series of nine natural gas fired micro-turbines which also provides the hot water for the buildings and 150 tons of air conditioning as a secondary benefit.

We recently upgraded one of our large Wastewater Treatment Plants by adding three ultra-clean power plants that use fuel cell technology and are fueled by the gas generated during the treatment process. This has enabled us to reduce energy costs and the carbon footprint while generating clean, renewable, reliable, energy onsite. The three 250 kilowatt fuel cells will allow the plant to meet 40 percent of its energy needs at peak hours with near zero emissions, reducing the carbon footprint by approximately 1,200 tons of carbon dioxide per year. EMWD is planning to install three additional 300 kilowatt fuel cells at another Wastewater Treatment Facility, which could be operational by 2012.

EMWD is currently test piloting a process for producing a biodiesel feedstock from restaurant grease waste. Currently more than five million gallons of restaurant grease trappings are produced each year in the EMWD service area and are being disposed of in a landfill site, necessitating a 180-mile roundtrip. The oil that can be separated from the grease trappings should be able to produce enough biodiesel to power our entire fleet, and then some, of diesel powered vehicles.

We have installed Global Positioning Systems on the majority of our vehicles which resulted in a reduction 288,000 miles driven in just nine months of use, compared to the same period in the previous year. This resulted in a Green House Gas (GHG) reduction of 15 percent or more from our vehicle use.

In summary, I would like to stress that your efforts here today are critically important to California and the nation. California, and indeed all the Western States, are currently experiencing unprecedented multiple threats to their water supplies including continuing drought, dwindling supplies, crumbling infrastructure, climate change concerns, and population growth. The initiatives discussed here today are essential for providing a secure water future for the Western states. Madam Chairperson, I would like to thank you and the Subcommittee members again for the chance to testify before you today and I will respond to your questions.

Senator STABENOW. Thank you very much. Thank you to each of you for your thoughtful and very important testimony as we move forward.

Let me start with Commissioner Connor, and thank you again for your leadership. You talk in your testimony about the ongoing work of the Climate Change and the Water Working Group that I know partners with USGS and the Army Corps and NOAA. Could you talk more about the practical effects of the partnership and how you are working to avoid duplication efforts? When do you anticipate the report regarding potential climate change adaptation strategies to be available?

Mr. CONNOR. Yes, Senator. The point of that collaboration, as you say, is exactly that. I mean, this is an era of limited resources. As we know from the President's State of the Union address, we are going to be at flat budgets here on the discretionary side for a while.

So it is absolutely imperative that we collaborate, not duplicate efforts, and through that collaboration, we can make headway on these projects. So, with respect to that working group, I have got an example there of its first product was a report that we did on climate change and water resources management, which is an incredibly useful tool for identifying data gaps. That was initially a key part of this.

We have general circulation models that provide some sense of what is going to happen with precipitation patterns and how that might affect water resources. But we need to look at how to downscale those models so that we can work them on a basin-by-basin basis.

So there is a lot of data that we need to put into that effort. NOAA has those global circulation models. The USGS has the hydrologic data that can feed into that. The Corps has flood expertise that we need to understand in managing the system. Of course, we have a good handle—we, the Bureau of Reclamation—on water demands, water needs, and in a lot of basins, environmental needs, too, that we need to manage for.

So that collaborative process I think will lead to a good strategy for obtaining data, putting that into a useful forum that we can use, and then managing from that data.

With respect to an overall next-generation report, I am not sure what the timing of that is. Yes, I will be happy to answer that question for the record.

Senator STABENOW. OK. Thank you very much.

Ms. Kassen, first, I come from Michigan. We are very proud of Trout Unlimited and its origins in our great fishing State.

You talk in your testimony about examples of successful cooperative efforts to restore habitat and also improve water supply efficiencies, develop renewable energy supplies. Can you talk a little bit more about examples and tell us what really, from your perspective, is the key to success in those efforts?

Ms. KASSEN. Sure. Thank you, Madam Chairwoman.

I can give you an example from the Little Lost Basin, for example, since the Senator from Idaho just joined us. In many western—if you think about your basic western valley, there are little tributaries coming down. There is a main stem at the bottom of the valley, and there are irrigation ditches coming off of those tributaries about a mile up from the confluence with the main stem.

So the last mile of these tributaries can be dewatered and sometimes dry during the late irrigation season, which would naturally be the lowest flow over the course of the year. Using farm bill money and after being in a valley for a while and building relationships, Madam Chairwoman, I think that may be the most important component of success is it is—even with my staff on the ground in a State, they can't just walk up to one of Dan's members and say, "Hey, we have got a great project for you. Trust us."

We may not be the Government, but it just sort of doesn't work that way. So we spend a lot of time, a lot of my staff spend a lot of what I would call "coffee shop time" and learning about what is important to the growers in the area, in the district, and talking about the needs of the fisheries.

A lot of the rural areas where agriculture is important are also areas where the recreation economy is growing, where land owners can make as much money leasing private fishing rights as they do growing hay. Certainly, it is a balance and an addition to income.

So, after we spend some time hanging out in a valley, talking and developing relationships, then we can go in and work on improvements to irrigation districts. Maybe use irrigation infrastructure. Maybe you start with a fish ladder. Maybe you start with a screen on a diversion structure so that the fish don't end up in the ditch as opposed to in the river, which is important especially when you have fish that could be listed on the Endangered Species Act list, but which are not good in the irrigation ditch for a number of other reasons if you are a grower.

So, first, we might do some relationship building doing those kinds of projects. Then, since our interest is in trying to get the tributary opened back up for habitat, we would move to an application for EQIP money under the farm bill, for example, to change the point of diversion from that one mile up that dewateres the bottom of the tributary onto the main stem or into groundwater, put in a solar pump so that nobody is spending any energy. It is renewable energy. The water now comes from the main stem, and the tributary flows all summer long into the main stem.

So you have opened up 1, 5, 8, 20 miles of habitat. The water yield is the same. There is a solar pump. So it is not costing in terms of energy, which can be a big deal for producers. We like to think of it as being a win-win-win-win all the way around. It is good for the fish, and it shows that sort of nontraditional allies can work together.

Senator STABENOW. Thank you very much.

We have been joined by Senator Risch. Welcome. I am going to turn to our chairman for a few questions, and then come back to Senator Risch.

Mr. Chairman.

The CHAIRMAN. Thank you very much.

Thank you all for your testimony.

Let me just ask one—I will ask Mike Connor. One of the issues that is obviously undergirding all of this is as the cooperation and coordination between Federal agencies, we have got the Interior and the Corps of Engineers, and that is primarily what you have addressed. We have also got the Department of Agriculture, and Ms. Kassen has talked about the farm bill in various comments.

I guess I would be interested in knowing the extent to which this push for smart use of water and sustainable use of water and conservation of the water resources has been implemented and is being implemented in the Department of Agriculture, in addition to the extent to which it is being implemented in Interior. Because, obviously, in my State—I am sure this is true in all western States—by far, the biggest user of water is agriculture. If you have any thoughts on that?

Mr. CONNOR. I do have thoughts. I don't have a lot of anecdotal data and evidence about how USDA has been working some of these same types of programs, with same objectives as we have. I know they have the programs. They have the EQIP program, which I think is driven toward on-farm water conservation.

So it is a perfect partnership that can be created between our approach, which is usually we look at conservation, rehabilitation of our existing system—delivery systems. Then if you couple that with on-farm improvements, which is the primary goal of the EQIP program, I think we can have a collective strategy that addresses problems on a more broader basis than any particular river basin.

They also have a rural energy program. We are in the process, driven by a couple of crises that we are dealing with, with respect to the California Bay Delta and the Klamath Basin situation, of looking at forming partnerships with the USDA and trying to just do that, addressing these conflict situations where we have water shortages and not just combine our conservation efforts for the long-term solution, but also combine it with the USDA and then integrate a renewable energy strategy as part of that.

So that is the goal. It is something that is already in the works, and the proof will be in the next couple of years of whether we can start coordinating our efforts, having projects on the ground that yield those benefits on a broader spectrum.

The CHAIRMAN. All right. Let me ask Mr. Pack a question.

You made a statement in your testimony that I found interesting. You say we have evaluated and quantified the energy usage and emissions for each of our 5 sources of water. Recycled water is lower in both areas by a significant amount. Even the desalination plants use less energy and have fewer emissions than our 2 imported water sources.

Commissioner Connor and I were at a ceremony at the Bureau of Reclamation's laboratory that they have set up to try to help develop desalination technology and see what more can be done with that. Can you tell a little more detail about how you concluded that

getting water from your desalination plants uses less energy and has fewer emissions than your imported water sources? That surprises me as a conclusion.

Mr. PACK. Yes, Senator. I do have a graph that I should have included in my written testimony. But Commissioner Connor, in his former job, has seen it, and I think you will remember it and the staff has as well. But we calculated the total energy usage of the State project and the Colorado project from the point of source to the point of delivery in our service area and calculated the pumps, such as the pumping over the Tehachapis.

Then we looked at the energy usage of the 2 plants, desalinization plants that we have running. These are groundwater, brackish plants treating about 2,000 TDS water. As you know, the lower the TDS, the less energy required to push it through the membranes and quantified those as well.

On the recycled water, we do not use any of the energy costs within the wastewater treatment plant, only from the fence line on out because the wastewater treatment process is required, of course, by law. So we only calculated what was in the distribution system for the recycled water. I have all those numbers.

The CHAIRMAN. Thank you very much. I appreciate it.

Senator STABENOW. Thank you very much, Chairman Bingaman.

We are going to continue with a few questions. Senator Risch will please jump in as you wish.

To Mr. Keppen, from the standpoint again of family farms, that your alliance is so important in talking about the partnership between agriculture and conservation and how all these partnerships come together. You talk in your testimony about the inclusion of measures to address climate change, adaptation needs of agriculture in rural communities.

I wonder if you talk more about examples of the kinds of measures that you think would be best?

Mr. KEPPEL. Sure. Thanks for this opportunity.

Many of those tools are available in SECURE. That is why we were so supportive of that legislation initially. I mean, a lot of it comes down to uncertainty when you are talking about climate change. SECURE allows and promotes installation of additional stream gauges and snow measurement devices, that sort of thing. That is hugely, hugely important right now.

I think there is studies all over the board about what the impacts of climate change will be on water resources in the West. Regardless of what is causing the climate change, we are seeing it in a lot of places. I think most of those studies are consistent in predicting that we are likely to see periods of snow melt happening sooner and then having longer and drier summers.

So another tool that our association advocates for is creating new storage to trap that water and capture it and use it not only to help irrigation and late summer needs, but also to provide flood control and other benefits.

Senator STABENOW. Thank you.

I am wondering, coming from a State of Michigan, where we have a lot of water. But we have a lot of family farms, and we have a lot of challenges and different impacts as it relates to climate change and so on. What kinds of conversations go on between your

alliance on the west coast and people in the middle of the country and so on as it relates to sharing information, even if there is right now a different impact?

I am wondering what kinds of conversations are happening?

Mr. KEPPEL. That is a great question. By the way, my parents are both from the Detroit area. So—

Senator STABENOW. OK. Great.

Mr. KEPPEL. But, well, see, our organization was created about 20 years ago, and you notice we are in the western States. The reason for that is we have a real strong partnership with the Bureau of Reclamation. A lot of our members are bureau customers. So, really, this side of the Mississippi, we have no members.

We do work with other organizations, and in particular in the last year, we have been working with the Johnson Foundation out of Racine, Wisconsin. They have got this really great environmental forum set up, and we have been real active in that. They are going to be rolling out a public session here in June that is going to kind of encapsulate 3 or 4 meetings that they have had in the last 2 years, talking about fresh water in the United States.

I was part of a 3-day forum in Racine last fall. There were about 30 of us there, conservation groups and ag groups, trying to find common ground in particular on water quality issues in farming. So, yes, that dialog is going on, and in my view, that is the most effective forum I have seen so far.

Senator STABENOW. Right. I would encourage that very much.

Senator RISCH.

Senator RISCH. Thank you, Madam Chairman.

Thank the chairman, who isn't here, for arranging for this meeting.

First of all, in response to that last question, I grew up in Wisconsin, and I now live in Idaho. I can tell you that the use of water is very much different in the Midwest than it is the western States. I appreciate the attempt to find some common ground, but I am telling you, it is a whole different deal. We irrigate with a teaspoon sometimes out West, where that isn't necessarily true in the Midwest.

I had a question for Ms. Kassen. I am familiar with the description, you had a description, I think, was it on the Pahsimeroi River that you are referring to, where we had the dewatering stretches? Was that the river you were talking about?

Ms. KASSEN. Actually, a tributary—

Senator RISCH. Tributaries?

Ms. KASSEN. It was actually a tributary to the Little Lost, but it would also be true on the Pahsimeroi.

Senator RISCH. Same thing. I was aware of the conversion to pumps in some of the areas. I guess I was not aware that you were doing the pumping through—or that the farmers were encouraged to do a project that has the pumping through solar. What size of a pump can you run with solar?

You know, on my farms, I have run 100 horse, and I have run 60 horse, and I can't see one of those turning with solar power. But how big a pump are you talking about?

Ms. KASSEN. OK. We are not talking about a center pivot, Senator. We are not. We are talking about this is a stream which is

probably—we are putting one CF—by doing this project, we are putting a CFS or a CFS and a half back into—back into the stream. So—

Senator RISCH. How many horse pump? I guess that is what it comes down to.

Ms. KASSEN. Off the top of my head, I honestly don't know. But it is not—it is fived. It is smaller. So let me find out for you.

Senator RISCH. Do you think you can run a 5 horse pump on solar?

Ms. KASSEN. I will tell you how much it is—

Senator RISCH. OK. I appreciate it.

Ms. KASSEN [continuing]. For the record.

Senator RISCH. I would be interested. For those who don't understand, I mean, this may seem small. But Ms. Kassen would affirm that when you are talking about 1 CFS up in the Upper Salmon stretches or the Little Lost or the Big Lost, that is a critical piece of habitat for fish. So even though it sounds small, it is really important.

So thank you.

Senator STABENOW. Let me ask Mr. Entsminger. Am I pronouncing that correctly? Is that—

Mr. ENTSMINGER. Entsminger, Madam Chair.

Senator STABENOW. Entsminger. OK. Thank you very much.

I wonder if you might talk from a practical standpoint. What do the Colorado River Basin States hope to gain, if you could talk a little bit more about what they hope to gain through the current study, and what additional work will be done after the study is completed? What will need to be done?

Mr. ENTSMINGER. I think I will answer the second part first and say I think we won't know what needs to be done until we complete the first phase of the study. Because the study itself, all the States, all the water users do a lot of work within their areas, assessing their water supply needs, but there hasn't been a basin-wide holistic look at what is everybody's projections for the next 50 years. Where are these supply and demand imbalances most likely to occur?

Then, as Commissioner Connor stated in his testimony, what are the logical steps that can be taken to address those supply and demand imbalances? So that is really the crux of this study—A, identify where these imbalances occur and, B, look at realistic, real-world solutions that can be implemented to address them.

Senator STABENOW. Thank you.

Commissioner Connor, you have released a draft criteria you intend to use to allocate funding for Title XVI water reuse programs. I am wondering how the criteria will be used to address the backlog? We are hearing about the backlog today. We know there is a backlog that exists, and we know there is about 10 new projects, I believe, awaiting authorization.

What will be the criteria used to prioritize the newly authorized projects, and how will you address the current backlog?

Mr. CONNOR. You are correct. There is a substantial backlog in the Title XVI program based on its popularity and the results that are being achieved. So it is the definition of an oversubscribed program, if there is any Federal program. It is about \$600 million.

That is \$600 million after we put, as Mr. Pack mentioned, \$135 million of Recovery Act money toward Title XVI projects.

So we are making incremental gains with respect to that Title—with respect to Recovery Act money. We were able to initiate some activity on some newly authorized projects. We are going to try and keep that going with our budget request for 2011, which was \$29 million, which was about 115 percent increase over the prior enacted year. So we are trying to demonstrate the commitment to getting at that oversubscribed nature and that backlog.

The criteria that you mentioned are going to be key to that effort. If we can increase—over the last few years, we have just incrementally tried to keep the 2 or 3 or 4 projects that were authorized back in 1992 moving toward completion. Certainly, Congress had increased that amount over time. But for our budgets, we had pretty much limited activity to those existing projects in construction.

Now that we are seeking additional resources, particularly through fiscal year 2011, we need to have a set of criteria to define for the 2011 request how we would use the \$20 million of undesignated Title XVI money that we are asking for and then in future years, as we are developing budgets.

So the criteria are going to be key for that. We put them out for public comment, I believe, yesterday. We want to be transparent. We want to revise the criteria as a result of the discussions that we get and the comments that we get.

We are looking at certainly water supply. That is a key factor in the criteria. What is the bang for the buck with respect to the investment and the yield on recycled water? Is it a regional approach? Are there partners involved in this process? Does it help alleviate conflicts? That is another aspect of the program.

A new aspect of the program, and obviously, Mr. Pack's projects would fare well, is the integration of renewable energy strategies and energy efficiency opportunities through these projects.

So that is the whole—that is not the entirety of it. That is kind of some key criteria that are going to be moved forward, and they are going to be key to us prioritizing projects and whittling down the backlog.

Senator STABENOW. Further on Title XVI, it is my understanding that the projects that have been authorized and funded so far are in California, and I am wondering what Reclamation is doing to ensure that programs benefits are utilized throughout the Reclamation States?

Mr. CONNOR. Certainly, you are correct that the vast majority of projects have been focused on California. Originally, the program was actually created to help address and alleviate the oversubscription of southern California and the Colorado River Basin, and it has been very effective from that standpoint in generating well over 200,000 acre-feet of recycled water over time to help wean southern California off the Colorado River and also to help address its reliance on the Bay Delta.

There have been other projects already. New Mexico; El Paso, Texas; Arizona; Oregon; and Utah have benefited from the Title XVI program really to the tune of, I think, one project each in those States. We are getting a large amount of interest from Texas, and

I had a discussion with a whole number of municipalities in Texas at the last National Water Resources Association conference.

So, actually, our Great Plains region went down and conducted a seminar with a bunch of municipalities in Texas to walk through the Title XVI process, the feasibility criteria that we use as a threshold matter, that we try and inform Congress about before authorization takes place, and then the prioritization criteria that we will look at for funding projects.

So we are trying to inform people about the program. Of course, I have got to just be candid that, typically, we are not supporting new authorizations right now, given that large backlog that exists. But we are trying to have people work through the process, let them assess the feasibility of these projects, let them inform Congress, and we recognize that the program has a lot of benefits.

Senator STABENOW. Thank you.

Then, finally for me, how will the interests of the environment be addressed in the new Basin Study program? For example, non-governmental organizations, will they be eligible to cost-share with Reclamation to do a study or to apply for WaterSMART programs?

Mr. CONNOR. I need to go back and check on the WaterSMART programs. I think that is an eligibility that we need to address. So let me address that one for the record, quite frankly.

Certainly, NGO's can be cost-share partners as part of the Basin Studies. We hope as the program—we are going to continue the program in fiscal year 2010. I think we have already sent out requests for interest from States, and I think they are due back at the end of March and which we will start a process to start making decisions by June.

Hopefully, given the success and the interest in fiscal year 2009, the first 3 Basin Studies programs, that the coalition that gets together to cost-share will grow and include the NGO community. I certainly appreciate the comments that Ms. Kassen made with respect to the Colorado River Basin Studies program. We are going to have a public involvement plan associated with that.

We hope to not just have cost-share partners comment, but actually be on some of the teams that are going to be developed to work through some of these issues. I am certainly happy to go back and look at that.

I would say, as we move forward from this point on with the SECURE Water Act authority and our West-wide risk assessments, we are going to be looking not just at water supplies and demands from a traditional water user standpoint, but also incorporating environmental needs as part of those assessments.

Senator STABENOW. Thank you.

Senator Risch.

Senator RISCH. Just in closing, Madam Chairman, is that I want to thank TU for your work in Idaho. I am quite familiar with it, and the description you had in your testimony about working from the bottom up, as opposed to the top down, is one that the U.S. Government could take an example from.

Working as you do, spending your money on projects on the ground and actually having bragging rights to accomplishments is substantially better than the litigious approach that some other organizations take to attacking these problems. You are to be com-

mended for what you do, and I am a great fan of what TU is doing, particularly in Idaho.

Thank you.

Ms. KASSEN. Thank you, Senator.

Senator STABENOW. Thank you very much, Senator Risch.

Thank you to each of you.

I should note that we have also received additional written testimony regarding the hearing today that will be put in the record. The testimony, as well as the written submissions that each of you have given, will be made a part of the record.

We will keep the record open for a period of 2 weeks to receive any additional statements or additional information you would like to have. For purposes of Senators and staff, questions for the record will be due by the close of business tomorrow.

So, again, thank you very much for all of your efforts, and this subcommittee is adjourned.

[Whereupon, at 11:03 a.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSE OF MELINDA KASSEN TO QUESTION FROM SENATOR RISCH

Question 1. Will the WaterSMART project give us better understanding of the “supply and demand” relationships with ESA and the Salmon in the Columbia Basin?

Answer. While WaterSMART includes some west-wide research and a broad ranging grant program, there is no specific Columbia River Basin Study that might consider the relationships highlighted in this question. However, there is a Yakima Basin Study underway where the goal is to develop a Comprehensive Water Resource Management Implementation Plan. See, <http://www.usbr.gov/WaterSMART/docs/Yakima%20River.pdf>. Because of the presence of ESA-listed salmon species in the Yakima River Basin, this study, and the plan that will be its product, should provide a better understanding of how to address the “water resource imbalances” that exist in that basin. (Id.) Eventually, WaterSMART could expand the lessons learned from this Yakima Basin Study more broadly through the Columbia River Basin.

RESPONSES OF PATRICIA MULROY AND JOHN ENTSMINGER TO QUESTIONS FROM SENATOR RISCH

Question 1. Please describe the different federal agencies you have to coordinate with in order to provide water within your area.

Answer. Due to the fact that approximately 90% of the land in Nevada is owned by the federal government and 90% of the water supply for southern Nevada originates in a federal reservoir (Lake Mead), the Southern Nevada Water Authority (SNWA) has ongoing interactions with multiple federal agencies. A brief description of these interactions is as follows:

a. Bureau of Reclamation (BOR). SNWA has contracts with BOR pursuant to §5 of the Boulder Canyon Project Act for the delivery of Nevada’s basic and surplus Colorado River apportionments that represent approximately 90% of southern Nevada’s municipal water supplies. SNWA also interacts with BOR as the representative of the Secretary of Interior in his role as water master of the lower Colorado River pursuant to the Consolidated Decree in *Arizona v. California*. SNWA holds rights-of-way grants for water treatment and transmission facilities on BOR property.

b. Bureau of Land Management (BLM). SNWA holds rights-of-way grants for water treatment and transmission facilities on BLM property and has active applications for additional rights-of-way. Obtaining these rights-of-way grants have resulted in numerous and ongoing compliance actions pursuant to the National Environmental Policy Act (NEPA) and multiple Environmental Impact Statements (EIS’s) and Environmental Assessments (EA’s).

c. U.S. Fish and Wildlife Service (FWS). The NEPA actions referenced above also result in corollary compliance with the Endangered Species Act (ESA). SNWA has, both historically and currently, worked with the FWS on completing appropriate consultations pursuant to §7 of the ESA, has collaborated with FWS in implementation habitat conservation plans pursuant to §10 of the ESA and has worked closely with FWS in determining the need to list additional species as threatened or endangered pursuant to §4 of the ESA.

d. National Park Service (NPS). Lake Mead is surrounded by Lake Mead National Recreation Area, which is managed by NPS. SNWA holds rights-of-way grants for water treatment and transmission facilities on NPS property and anticipates future applications for additional rights-of-way with resultant NEPA and ESA compliance. SNWA has a proposed groundwater project in the vicinity of Great Basin National Park and has entered into a number of stipulated agreements with NPS pursuant to state water rights processes regarding environmental monitoring and management activities.

e. Bureau of Indian Affairs (BIA). SNWA has entered into a number of stipulated agreements with NPS pursuant to state water rights processes regarding environmental monitoring and management activities. SNWA has also interacted with BIA in negotiated water rights agreements with the Las Vegas Band of Paiute Indians, the Moapa Band of Paiute Indians and the Navajo Nation.

f. Army Corp of Engineers (ACE). SNWA has frequent and ongoing compliance activities with the ACE related to dredge and fill permits under §404 of the Clean Water Act.

g. United States Geological Survey (USGS). SNWA has multiple contracts with the USGS, including several joint funding agreements, related to the monitoring and study of surface and groundwater resources in eastern and central Nevada, water quality issues in Lake Mead and other Colorado River issues.

h. Environmental Protection Agency (EPA). Although administered by the Nevada Department of Environmental Protection, SNWA has numerous compliance activities related to the Clean Water Act and Safe Drinking Water Act overseen by EPA.

i. International Boundary Water Commission (IBWC). SNWA is currently working with IBWC and BÖR as part an ongoing process to reach agreements with the country of Mexico on a number of Colorado River issues, including shortage sharing.

j. National Forest Service (NFS). SNWA holds grazing permits administered by the NFS related to ranching operations associated with SNWA's groundwater resources.

Question 2. Please describe the models you use in projecting current and future water use.

Answer. SNWA projects water use by using estimated future SNWA service area population along with projected water use in gallons per capita per day (GPCD) based on SNWA's current water use patterns and current water conservation goals.

The projected future population utilized in SNWA's water use forecast is based on Clark County population forecasts prepared by the University of Las Vegas Nevada's Center for Business and Economic Research (CBER). The CBER population forecasts are currently funded under an interlocal agreement among the Southern Nevada Water Authority, the Regional Transportation Commission of Southern Nevada, and the Southern Nevada Regional Planning Coalition. CBER prepares the Clark County population forecasts using the Regional Economic Models, Incorporated model PI+ (REMI), a regional economic model commonly applied in economic forecasting and impact analysis. CBER's forecasting process also involves a workgroup consisting of southern Nevada planners, demographers and analysts resulting in a consensus on the population forecast for Clark County. The resulting forecasts are utilized by many southern Nevada agencies in various planning processes.

SNWA's water use forecasting process applies the CBER forecast of Clark County population by adjusting the forecast to reflect the SNWA's service area. The resulting SNWA service area population forecast is then combined with current normalized water use in GPCD and a long-term trend on GPCD reflecting achievement of SNWA's long-term conservation goal. SNWA's current long-term water conservation goal is to reduce GPCD by approximately 50 additional gallons per person by the year 2035.

RESPONSES OF MICHAEL L. CONNOR TO QUESTIONS FROM SENATOR STABENOW

Question 1. Your testimony indicates that Reclamation has expended approximately \$74 million for the challenge grant program since 2004 and that you expect that investment to eventually yield a savings of approximately 580,000 acre-feet of water per year—you also indicate that Reclamation has spent approximately \$524 million for the Title XVI program which saved 245,000 acre-feet of water in 2009—

- Can you give us an “apples to apples” comparison of dollars spent per acre-foot of water saved for each program?

Answer. Because Title XVI water recycling projects are fundamentally different from the typical water conservation focus of a WaterSMART [formerly Challenge] Grant project, a strict “apples to apples” comparison of the dollars spent per acre-foot is not a representative measure of each program’s performance. Many external variables including regional economics, water availability, specific concerns being addressed by each project, water use type, and other factors influence the two programs’ performance and cost.

For example, in agricultural areas, water delivery improvements such as canal lining or measurement improvement projects funded with WaterSMART grants may yield significant water savings. In urban areas, residential and industrial efficiency improvements can be supplemented by attempts to create new water supplies. Water recycling and reuse is a critical tool to address urban water needs, reduce imported water and associated pumping costs, and thereby increase the sustainability of water supplies.

Using figures up to 2009, as stated in our testimony, Title XVI projects had been appropriated \$524 million in Federal funds since 1992 and were producing 245,000 acre-feet of water per year. Counting only the Federal appropriations (not counting the typical 75% local project share within Title XVI), these existing Title XVI projects could be said to have a \$2,138 per acre-foot cost. It is important to note, however, that the \$524 million listed in our testimony includes \$135 million in American Recovery and Reinvestment Act funding. Projects funded under ARRA are currently beginning construction and will add to the 245,000 acre-feet per year of water savings recorded in 2009. A cost per acre-foot excluding ARRA funding to compare water savings more closely to constructed projects is approximately \$1,588 per acre-foot.

For WaterSMART Grants, these projects had been appropriated \$74 million since 2004, and were conserving 580,000 acre feet per year. Counting only the Federal appropriations, these existing projects could be said to have yielded a \$127 per acre-foot cost.

- Are there reasons to continue to fund both programs even if one is more efficient on a dollar per acre-foot of water basis?

Answer. Yes. Throughout Reclamation, many different projects and programs produce water at a differing cost per acre-foot basis. As stated above, this is attributable to the wide variety of external variables in place where water projects are constructed. The Department of the Interior (Department) believes that cost is not the only variable relevant for policy decisions about the funding of water programs.

Question 2. How will the WaterSMART program incorporate the goals of the Department’s New Energy Frontier initiative?

Answer. Both the New Energy Frontier initiative and the WaterSMART initiative are part of the Department’s Fiscal Year (FY) 2011 budget request. While their implementation will proceed separately, each initiative advances the goal of renewable energy in the water, energy and land management areas. Under the WaterSMART Program, Title XVI Program funding and the WaterSMART Grant funding opportunity both award points to projects incorporating renewable energy sources and addressing the water-energy nexus. Projects competing under these Programs are more likely to receive Federal funds if they incorporate renewable energy technology or resources. Also under the WaterSMART Program, the Basin Studies being conducted by Reclamation specifically focus on increased demand for hydropower or other energy development that may result from anticipated changes in water use or decreased reservoir levels. The New Energy Frontier initiative will be implemented primarily through the Bureau of Land Management, Minerals Management Service, U.S. Geological Survey, Fish and Wildlife Service, and the Bureau of Indian Affairs. Under the terms of a March 24, 2010 Memorandum of Understanding between the Department of the Interior, the Department of Energy and the Department of the Army through the Corps of Engineers, Reclamation will also play a key role in increasing generation from Federal hydropower facilities. The MOU is described online at http://www.doi.gov/news/pressreleases/2010_03_24_release.cfm

Question 3. You indicate that Reclamation has initiated West-wide Climate Change Risk Assessments to provide consistent projections for all of the major river basins in the West of how climate change will affect water supplies—

- How are you coordinating with the other federal agencies on this effort to ensure that you are not duplicating efforts?

Answer. Reclamation coordinates with other Federal agencies regarding our climate change activities in several different ways. In 2008, Reclamation, the U.S. Army Corps of Engineers, NOAA and the U.S. Geological Survey formed the Climate Change and Water Working Group to coordinate and focus on identifying climate research needs and tools. In addition, we work closely with WestFAST, a group of Federal agencies that work with the Western States Water Council. Additionally, Reclamation coordinates with other Federal agencies on individual climate change activities, including on each of the Basin Studies funded in FY 2009. Similarly, Reclamation, which will be initiating West-Wide Climate Risk Assessments in the next few months, will reach out to other Federal agencies in conducting the Assessments, both through the working groups identified above and through agency contacts. For example, Reclamation co-hosted a workshop with NOAA in March 2010 in Boulder, Colorado, to bring together Federal agencies involved in climate activities on the Colorado River. The purpose of the meeting was for agencies to share information about their activities and to identify opportunities to collaborate. The West-Wide Risk Assessments were one of the topics presented by Reclamation. Finally, Reclamation is also actively involved in Landscape Conservation Cooperatives, which are focused on increasing coordination among Federal agencies, States, Tribes, local governments and non-governmental entities on climate change and resource management.

RESPONSES OF MICHAEL L. CONNOR TO QUESTIONS FROM SENATOR RISCH

Question 1. What specific efforts are underway with participation with US Corp of Engineers?

Answer. Because of our shared missions of water resources management, the efforts of Reclamation and the U.S. Army Corps of Engineers (USACE) are intimately intertwined across the West. Reclamation has many efforts underway at the operational and planning levels with participation from USACE. In Idaho, for example, Reclamation operates facilities like Palisades Dam on the Snake River to be consistent with flood control criteria developed by USACE and adopted by Reclamation. In the event that flows on the River reach a pre-determined level, criteria in place at Palisades and elsewhere call for specific actions to manage the facility to maximize flood control and protect life and property. This arrangement is very common at Reclamation facilities given USACE's longstanding mission focus on flood control. At the planning level, Reclamation and USACE coordinated very closely to plan and commence construction—underway now—of the Joint Federal Project (JFP) at Folsom Dam on the American River in California. The JFP is a construction project to improve both flood control capability and dam safety at Reclamation's Folsom Dam. The USACE is conducting the flood control improvements at Folsom, and Reclamation is conducting the dam safety work. At the long-term planning level, Reclamation and USACE in February 2005 signed a partnership agreement designed to increase the coordination, collaboration and cooperation between the two agencies. This partnership agreement will enable Reclamation and USACE to collaborate in areas of mutual interest, such as river management and water supply initiatives; hydropower management; technical assistance for research; dam safety and security; emergency management procedures; water-related recreation management; and improvement of communications between field offices. Finally, as referenced above, under the terms of a March 24, 2010 Memorandum of Understanding between the Department of the Interior, the Department of Energy and the Department of the Army through the Corps of Engineers, Reclamation and the Army Corps will play a key role in increasing generation from Federal hydropower facilities.

Other collaborative activities with USACE include:

- Working together as participants on the Columbia River Reservoir Management Joint Operating Committee to develop climate and hydrology datasets for use in longer-term planning studies; and
- Reclamation and USACE, as part of the Climate Change and Water Working Group, have drafted a joint agency perspective on the improved tools and information our agencies need to better incorporate global climate change information into our management of water and water-related resources. The draft document is titled: Addressing Climate Change in Long-Term Water Resources Planning and Management: User Needs for Improving Tools and Information. The document is currently being broadly reviewed by both agencies. We have also invited representatives from the non-Federal and other Federal water resources management communities to contribute their perspectives for inclusion in the document. We hope its publication will help science organizations and agencies focus their climate-related research and development toward the data and tools most needed by water managers.

- Our work with the Army Corps regarding biological opinions governing the Federal Columbia River Power System (FCRPS) is discussed below.

Question 2. What specific efforts are underway with participation with Bonneville Power Administration?

Answer. The Bonneville Power Administration (BPA) markets electric power and energy from Federal hydroelectric projects in the Pacific Northwest constructed and operated by both Reclamation and the USACE. BPA's service area includes Oregon, Washington, Idaho, western Montana, and small parts of Wyoming, Nevada, Utah, California, and eastern Montana. Compliance with biological opinions governing operation of the Federal Columbia River Power System (FCRPS) is one action among many underway today that requires close coordination between Reclamation and BPA. The current FCRPS biological opinion reflects over two years of collaboration by Reclamation, BPA, USACE, and the National Marine Fisheries Service, together with the four Pacific Northwest States and several Tribes. As a result of this extensive collaboration and the parallel, but independent efforts of the action agencies (BPA, USACE, and Reclamation) to negotiate 10 year agreements to support implementation of the FCRPS biological opinion, and benefit salmon recovery efforts, the States of Montana, Washington, and Idaho, the Shoshone-Bannock Tribe of Idaho, and the Yakama, Warm Springs, Umatilla, and Colville Tribes, signed 10 year memoranda of agreement with the action Agencies and have agreed to support the 2008 FCRPS biological opinion in litigation pending in Federal Court. This development will lend consistency and predictability to the Federal operational efforts in the entire Pacific Northwest.

Question 3. Will the WaterSMART project give us better understanding of the "supply and demand" relationships with ESA and the Salmon in the Columbia Basin?

Answer. As described in Reclamation's testimony, as part of the WaterSMART Program's basin studies, Reclamation's West-Wide Climate Risk Assessments will provide projections of how climate change will affect several factors in eight major river basins, including the Columbia. Those factors include water demand, temperature and precipitation. As of now, no WaterSMART Basin Study has been announced specific to the Columbia River, however, the Basin Study being conducted on the Yakima River will yield supply and demand information useful to users and stakeholders on the Columbia River because the Yakima is a tributary to the Columbia.

Question 4. Within your testimony you describe the goal of conserving up to 350,000 acre-feet of water by 2012. Is this new water to be created over the next 2 years, or does it entail water already accounted for and conserved in the past?

Answer. The 350,000 acre-foot target identified in my testimony does not include water already conserved in the past. In order to capture the benefits of program funding appropriated during the applicable time-frame for the goal (2010 and 2011), the 350,000 acre-foot target is based on estimated water savings for projects to be funded with 2010 and 2011 appropriations. Contributions towards the goal will be calculated by recording the anticipated water savings for projects funded in 2010 and by the end of 2011. Fundamental to the WaterSMART Program, the Fiscal Year 2011 President's budget requests increases in Title XVI (\$15,405 million) and WaterSMART (formerly challenge) Grants (\$9 million) above the FY 2010 enacted levels to make this possible.

Question 5. Within your testimony, you indicate that the WaterSMART Program intends to achieve a sustainable water strategy to meet our Nation's water needs. Please describe what you mean by a "sustainable water strategy." What types of projects could be developed under this strategy? Who is the lead agency at the Department of Interior, as it pertains to climate change?

Answer. Through the WaterSMART Program, Reclamation will identify imbalances in water supply and demand both now and in the future, taking into consideration the impacts of climate change, and will implement on-the-ground water conservation projects, water reuse and recycling projects and other types of adaptation strategies to help meet future demands. The Department believes that sustainable water strategies are those that secure and stretch water supplies for use by existing and future generations; and that are insulated from long-term uncertainties in hydrology, funding, stakeholder participation, or other essentials, to the maximum extent possible. The Department's Climate Change Response Council (re-named the Energy and Climate Change Council on January 26, 2010) was created by Executive Order 3289 to coordinate the Department's response to the impacts of climate change among the Bureaus. Each of the Bureaus are closely coordinating their specific research and mitigation efforts to ensure that there is no duplication of effort and to leverage the finance and technical resources of each.

Question 6. What agency will oversee the WaterSMART Program? If it is divided amongst two agencies, will there be a lead agency?

Answer. Reclamation and the U.S. Geological Survey will each function as leads for their respective activities under the WaterSMART program and are coordinating on implementation efforts. The WaterSMART Task Force is composed of representatives from all Department Bureaus and offices. The Task Force is developing a strategy for the implementation of the WaterSMART Program in the Department. The strategy will be provided to the public for comment prior to finalization.

Question 7. How developed are your current models in projecting current and future water use?

Answer. Reclamation utilizes state of the science models for system evaluations, which incorporate water usage. These models have been fully developed for the purposes of filling information requirements at each basin where they are utilized. Projections of future water usage for municipal and industrial purposes are most often provided by Reclamation's stakeholders. Future agricultural usage is evaluated using fully developed models that are capable of evaluating current evapotranspiration. Future projections of water use are anticipated to be further informed through Research and Development activities as well as the USGS WaterSMART implementation including the National Water Census.

Question 8. Please describe the financial role that each of the federal agencies, described in your testimony as collaborators, will play within funding the myriad of programs in the Secure Water Act. Who will be the lead federal agency? Will that agency be able to solicit and obtain funds from the other federal agencies to fund this initiative?

Answer. Within the Department of the Interior, Reclamation will serve as the lead in implementing Sections 9503 through our Basin Study Program and West-Wide Risk Assessments. Reclamation will also lead implementation of Section 9504 of the Act through WaterSMART (formerly challenge) Grants. Reclamation will provide all Federal funding for these programs and requires a 50 percent non-Federal cost-share for most activities. The U.S. Geological Survey (USGS), through the Council on Environmental Quality and the Subcommittee on Water Availability and Quality [a subcommittee under the National Science and Technical Council Committee on Environment and Natural Resources], is working to fulfill the requirements of Section 9506 for an intragovernmental panel on climate change. The USGS serves as the lead in implementing Sections 9507, which authorizes measures to enhance water data collection and to produce an assessment of brackish groundwater systems, and 9508, which establishes a National Water Availability and Use Assessment Program. The USGS and its more than 800 Federal, State, local, and Tribal partners collect ground-and surface-water data and information as called for in Section 9507. USGS base funding in 2010 has allowed the USGS to begin the assessment of brackish groundwater systems called for in Section 9507. The USGS will lead implementation of Section 9508 of the Act through the WaterSMART Availability and Use Assessment Initiative proposed in the President's 2011 budget. Should the Congress choose to fund the 2011 USGS WaterSMART effort, the USGS will provide Federal funding to begin implementing Section 9508.

APPENDIX II

Additional Material Submitted for the Record

STATEMENT OF DAVID REYNOLDS, DIRECTOR OF FEDERAL RELATIONS, ASSOCIATION
OF CALIFORNIA WATER AGENCIES, SACRAMENTO, CA

The Association of California Water Agencies (ACWA) appreciates the opportunity to provide additional comments on your March 16 hearing on the Bureau of Reclamation's implementation of the SECURE Water Act, WaterSMART program, Basin Study Program, and Title XVI Program. ACWA's 447 public water agency members supply over 90 percent of the water delivered in California for residential, agricultural and industrial uses.

In the Western U.S., drought, ESA restrictions, population growth, climate change, and ecosystem needs make managing water supplies especially challenging. Improving the reliability of water supplies requires innovative approaches such as Reclamation's Title XVI, water recycling program and new WaterSMART program.

ACWA recommends increasing Title XVI funding to at least \$75 million per year and encourages Reclamation to promote water recycling as part of its core mission, including new project authorizations. This highly leveraged program provides one federal dollar for every three local dollars invested in water recycling projects. The proposed federal investment of \$75 million would be matched by at least \$300 million in local investment.

In California, recycled water projects can be more energy efficient than obtaining water from other sources. Anthony Peck, the General Manager for Eastern Municipal Water District, testified that after an evaluation and quantification of the energy usage and emission for each of their five sources of water, "Recycled water is lower in both areas by a significant amount." This calculation is true for many water districts in California because transporting and pumping water is very energy intensive.

ACWA supported the SECURE Water Act (P.L. 111-11) and believes it will help Reclamation plan for future water challenges caused by climate change. The WaterSMART grant program's focus meshes well with the Water Management Improvement grants described in the SECURE water act. However, it remains unclear how the Administration plans to implement other provisions in the Act. As discussed in the Family Farm Alliance testimony, water users are having difficulty determining which studies in the bill are receiving priority and how to become involved in the process.

ACWA appreciates the opportunity to provide feedback on these programs and looks forward to working with you in the future. If you have any questions please feel free to contact me in our Washington DC office at 202-434-4760.

STATEMENT OF GARY W. DARLING, GENERAL MANAGER, DELTA DIABLO SANITATION
DISTRICT, ANTIOCH, CA AND BAY AREA RECYCLED WATER COALITION REPRESENTATIVE

Thank you for this opportunity to provide comments on the Title XVI Water Reclamation and Reuse Program, and to communicate our experiences and suggestions.

WHO WE ARE

The Bay Area Recycled Water Coalition (BARWC) is a partnership of public agencies committed to developing recycled water as a resource for the San Francisco Bay Area. BARWC is committed to pursuing highly leveraged, locally managed projects that will help ensure the security of water supplies in the western United States for years to come.

Our current membership includes fourteen public agencies across the Bay Area who are pursuing Title XVI funding for seventeen projects. These agencies are part

of the Bay Area Regional Water Recycling Program (BARWRP). In 1999, the original BARWRP agencies completed a Recycled Water Master Plan, which identified 240,000 acre-feet per year of recycled water opportunities that could be developed by 2025 with Federal and State funding partnerships. The seventeen projects currently in BARWC will yield over 50,000 acre-feet per year of water in the near-term and have the potential to yield over 100,000 acre-feet per year in the future. Fifty-thousand acrefeet of water is over 16 billion gallons per year or 45 million gallons per day, which is enough water to meet the needs of 150,000 households. Implementing these projects will result in reduced demand from Bay Area communities on scarce freshwater from the Delta.

TITLE XVI PROGRAM STRENGTHS

Title XVI is a very important and beneficial program because of the Federal partnership and costshared funding for planning, design and construction of water recycling projects. At 25% Federal share, the intent is to provide seed money to local agencies to help defray the cost of expensive alternative water supply projects. Recycled water projects provide long-term sustainable water supply options, which are crucial now as California struggles with drought conditions and water restrictions, and will continue to be crucial as agencies prepare for and address the effects of climate change.

These projects are mutually beneficial for the Federal government and the local project sponsor. The Bay Area Recycled Water Coalition projects benefit California and the Federal Government through the preservation of State and Federal reservoir supplies for higher uses, particularly in drought years, and provide a cost effective, environmentally friendly water supply for increased dry year yield in the sensitive Bay-Delta region. Recycled water supplies can help the government meet legal requirements limiting use of water from the Sacramento/San Joaquin Delta.

Recycled water is sustainable water, and the only new water available to help California and other western states deal with the combined pressures of drought and population growth that threaten to exhaust our existing supplies. Recycled water is a resource available now in substantial quantities, and these projects can take the pressure off a system that's oversubscribed, not just in drought years but every year. With a small Federal contribution, these projects have demonstrated that they can deliver water and reduce demand on limited water supplies.

With a 75% minimum non-federal share, the Title XVI program is highly leveraged so each Federal dollar invested in the program will yield three times the outlay. The 25% Federal cost share provides valuable financial support in these difficult economic times to public agencies being challenged with decreasing revenue and increasing expenditures. This Federal funding, when combined with State funding and low interest loans, makes recycled water a more affordable option for local agencies such that it is cost competitive with existing water supplies. For example, the Antioch Recycled Water Project is expected to receive 25% Federal Funding, 25% State funding, and a low interest loan. Without this assistance, it would take 44 years for the recycled water costs to breakeven with current potable water costs; with this assistance, the breakeven point is within one year. Without this type of financial assistance, many of these projects would not move forward because the payback period is too long. By continuing to fund Reclamation's Title XVI program, Congress can ensure incentive for local communities to invest local resources to build a truly sustainable water future for the United States.

The BARWC has received \$11.58 million in FY09 appropriations, \$4.215 million in FY10 Appropriations, and was allocated \$22 million in Recovery Act funds. This funding will fulfill the authorized Federal cost share for seven projects. To date, six of these BARWC projects have not received any money because the Bureau of Reclamation has not executed any Cooperative Agreements for these projects, some of which have now completed construction.

TITLE XVI PROGRAM WEAKNESSES

The Title XVI program has been inherently underfunded, which has created a funding backlog and until recently a reluctance by the agency to support new projects. Now, as more funding has been made available through congressional appropriations and the American Recovery and Reinvestment Act of 2009 (ARRA), it appears that the Bureau of Reclamation (Reclamation) does not have the resources or an adequate system to administer the program and execute the agreements in a timely manner.

It is no small feat for a project to become eligible for Title XVI funding. It is a minimum three to four year process requiring not only that the project meet Title XVI requirements for feasibility and environmental compliance, but that the project

receive congressional authorization and appropriations. This earmark-driven process requires bills to pass through the House and Senate and be signed into law by the President for the authorizations, and pass through the House and Senate and be signed into law by the President for the appropriations. This has been a minimum two-year process, and in most cases much longer. Meanwhile, these projects most often will sit on the shelf, which delays the development of these much needed water supplies. The process is too long and the level of effort is overly burdensome for the low risk involved with a 25% Federal cost share.

The BARWC currently has six projects that could move forward, but are stymied waiting for the authorization process. The authorization bill (HR2442) was passed in the House last October, but is still pending in the Senate. Meanwhile, these projects are not eligible for funding that may be available through ARRA, FY11 appropriations, or USBR budgets because they have not received authorization. This leaves 8,000 acre-feet of water per year (the equivalent of providing water for 24,000 homes) untapped.

Once a project has made it through the hurdles of authorization and appropriation, the money is not available until the Bureau of Reclamation has checked off all of the Title XVI requirements and they have executed a Cooperative Agreement (in several cases there are multiple cooperative agreements for the same project). As the BARWC project sponsors are still waiting for Cooperative Agreements for Title XVI compliant projects that have received FY09 and FY10 appropriations as well as ARRA funding, this process itself has taken over a year.

While the Feasibility process is somewhat defined with Reclamation, the Cooperative Agreement process is not. Some of the activities occur at the Regional offices, and some in Denver, although the project sponsor is not made aware of the steps or timelines for document submittal or review. For example, while the Title XVI Guidelines state that a project will go through financial capability determination, there is no information made available ahead of time to the project sponsor about what this will involve, who reviews it, how the determination is made, and the timeline for a decision. Additional information requests may be made of the sponsor for detailed budget breakdowns, cost/price analysis determination, and financial management system surveys, once again with no information regarding the process and timelines. There is also a disconnect or general lack of understanding from Reclamation personnel involved in this review regarding how public works construction projects are designed, estimated by engineers and bid, such that the requests for budget details and cost analysis don't line up with reality. For example, California has a Public Contract Code, which requires public works projects to be bid through a public competitive process where bids are based on defined items of work detailed in construction plans and specifications. Bids are received, opened, and the lowest responsive, responsible bidder is selected. Additionally, the requirements allow for the rejection of all bids under certain conditions. Despite all of these requirements and oversight which helps create a level playing field and a defensible process to ensure competitive costs on public works projects, Reclamation personnel request budget breakdowns as if these were research projects, identifying the principal investigator and hourly rates, equipment cost breakdown, material cost breakdown, and so on. This is not how construction projects are bid, and as these public works projects are also required to comply with the California Labor Code to provide prevailing wage rates, any additional requests for employee positions, wages, and so on create an excessive and unnecessary review.

This is not to say that all of these concepts and reviews are unneeded, but that the process is not clearly defined and communicated to the sponsor. Therefore, it appears that Reclamation does not consistently address these as locally-sponsored construction projects and does not consistently communicate to the sponsor what needs to be submitted and how decisions on adequacy or completion are determined within a predictable timeline.

Additionally, the money coming through these agreements with Reclamation is on a reimbursement basis. This results in very little risk to the Federal Government providing 25% cost share when the project has already been built and paid for by the local agency, and does not warrant the level of review being requested to determine financial capability for projects that are already constructed.

The ramification of this burdensome, time-consuming, ill-defined process is that projects which have worked in the system to complete feasibility, environmental review and have received public support, authorization and appropriations are still without funding as they wait for an agreement.

TITLE XVI OPPORTUNITIES FOR IMPROVEMENT

More than ever, the Title XVI program is needed. Considering all of the stressors of drought, population, over-allocation, endangered species and environmental concerns, the water supply situation in California is unlikely to improve anytime soon. There is no new water that can realistically be developed in this region due to the lack of water availability, fierce competition amongst water users, and heightened review and insistence from the non-governmental organizations (NGO's) that there are water management options available with less environmental impacts. Recycled water and brackish desalination developed through a Federal partnership utilizing the Title XVI program are two of the solutions to address this issue. The source waters are available now, and there are projects ready to implement that can provide much needed water if financial funding pathways become more readily accessible. In order for this to happen through Title XVI, changes are needed so that the program can be administered efficiently and funded sufficiently.

The political, earmark-driven approach for individual project authorization and appropriation should be reexamined for Title XVI. This is a minimum two to three year process for each project. A different approach that is based on projects competing for discretionary funds, having met specific phased criteria (such as the process for approving Federal funds for mass transit) would be more efficient.

Another approach is to provide federal funding directly to a state that has an established new water program. For example, California has established a statewide goal to create one million acre-feet per year of recycled water by 2020 and two million acre-feet per year by 2030¹. Those aggressive goals and established State funding programs should be investigated to determine if the Federal investment could be channeled directly to the State and result in less cost to administer and provide water supply improvements towards Federal contracts and environmental obligations.

A broader or revised program approach to authorization and appropriation will necessarily result in a new program administration approach. The danger is creating a new approach that is more burdensome than the current program, or that is a duplication of efforts already occurring at the state level. If not planned carefully, a new process could develop which creates an unnecessarily detailed, time-consuming project evaluation and ranking process with a level of effort for the agency and sponsor that outweighs the funding amounts or risks. The goal should be to create a more streamlined, defined and efficient process that will better serve the Bureau of Reclamation and the local sponsor, and will help achieve Reclamation's performance measures for increasing the acre-feet per year of reuse and reclaimed water.

Regardless of the possible approaches addressed herein, I would suggest that a working group consisting of representatives from the administration, (DOI, USBR, and OMB); members of Congress; and various stakeholders (states, local Title XVI project sponsors, etc.) be convened to review the current situation with respect to all aspects of Title XVI with a view toward meaningful reform in the program.

BARWC appreciates the support that it has received to date from the Title XVI Program. The fourteen Bay Area agencies that have joined together on an unprecedented regional basis are anxious to develop near term projects that are currently stuck in the congressional approval process. In the meantime, those projects are on hold. More significantly, three new projects have joined the coalition that have the potential to develop 12,500 acre-feet of additional water, and they have not even begun the congressional and Reclamation approval processes. Finally, BARWC is aware of several other Bay Area projects and partners who are interested in moving forward but are wary of the time and investment needed to secure the federal partnership. BARWC would like to work with Reclamation to determine a more efficient and timely process to move the current set of projects forward and attract other projects in the future that will continue to be mutually beneficial for the local sponsor and Federal government.

STATEMENT OF THE WESTERN STATES WATER COUNCIL

INTRODUCTION

The Western States Water Council (WSWC) actively supported enactment of the SECURE Water Act (the Science and Engineering to Comprehensively Understand and Responsibly Enhance Water Act or Title 9501 of P.L. 111-11). Our members are

¹ California State Water Resources Control Board, Recycled Water Policy, Approved May 14, 2009.

appointed by the Governors of eighteen states. We are an advisory body on water policy issues affiliated with the Western Governors' Association (WGA). We appreciate the Subcommittee's continuing leadership in addressing the serious water-related challenges facing the West and the Nation.

Our testimony is based on a number of our prior reports, statements and positions. More specifically, in June 2006, the Western Governors' Association unanimously adopted a report prepared by the Western States Water Council entitled, "Water Needs and Strategies for a Sustainable Future" and in 2008 a follow up "Next Steps" report. These reports included a number of recommendations related to federal programs under this Subcommittee's jurisdiction, and we would like to address specific program requests in the Administration's FY2011 Budget in the context of those recommendations.

DEPARTMENT OF INTERIOR

FY2011 Budget

The Council recognizes the difficult challenges facing the Nation related to our current economic woes and the federal budget deficit. We are all being called upon to do more with less. We appreciate the ARRA investments that have been made in our water resources infrastructure, and western states in general support similar capital investments at all levels of government. Increasing demands related to our growing population in the West and environmental protection, as well as the uncertainty related to climate change and unquantified Indian water rights, make present and future water resources planning and management particularly challenging. The SECURE Water Act notes that the Federal Government should support the States, which "bear the primary responsibility and authority for managing the water resources of the United States."

For more than 100 years the Department of Interior has worked with the States and Tribes, as well as water users and stakeholders to address our water challenges. States continue seeking infrastructure improvements and additions, particularly new water storage opportunities, while at the same time striving to increase efficiency and reduce water use. Western water law and policy are based on the reality of scarcity and the need to use water wisely.

Without the Bureau of Reclamation and federal investment in past water projects, the West would not be what it is today. Continuing investments and sacrifices will be needed to maintain our quality of life and protect our environment. Difficult choices have to be made at both the federal and state agency levels.

As we plan for the future, states are well aware of the importance of maintaining our existing assets and prioritizing future infrastructure investments. States are in the best position to identify, evaluate and prioritize their needs. State water plans should help form the basis for federal decisions. We must work together as partners. The federal government should support States by providing a rational federal regulatory framework, together with technical and appropriate financial assistance.

Overall, Interior's budget request for Reclamation is down by \$23M, slightly less than last year, while requests for some programs, such as the WaterSMART program, have increased. There is a continuing need to highlight the importance of water to our Nation's economic vitality and environmental health. The Reclamation Act of 1902, recognizing the vital need to invest in Western water resources, created the Reclamation Fund as a means to finance such investments. The unobligated balance at the end of FY2011 is projected to be about \$9.35 billion (but spending from this special Treasury account is still subject to appropriations and pay go rules). Receipts are more than sufficient to fund all current Reclamation expenditures and more. In essence, the unobligated balance grows as fund receipts are used to finance other government purposes. We continue to urge the Congress to increase spending from the Reclamation Fund for authorized purposes.

Of special note, Congress has authorized future transfers from the Reclamation Fund for construction of projects related to Indian water rights settlements, the resolution of which has been a longstanding goal of the Council.

Reclamation Climate Change Adaptation Program and Climate Science Centers

The Council has consistently recognized the importance of water, weather and climate science. Climate variability and change introduce significant uncertainty into water resources planning, management and decisionmaking. The Council supported a Reclamation Climate Change Adaptation Program. Interior's FY2011 budget request includes \$11.5M for Climate Science Centers. The Council looks forward to working with Interior as it develops these centers and Reclamation's program. The Council has also been an advocate for climate programs and services provided by the National Oceanic and Atmospheric Administration (NOAA), including the Na-

tional Integrated Drought Information System (NIDIS) and Regional Integrated Sciences and Assessments (RISA) Program. We understand the Council on Environmental Quality will take a lead role in ensuring these various federal climate science efforts are coordinated.

BUREAU OF RECLAMATION

WaterSMART Program

The Council has often supported technical and financial assistance to states and local watershed groups and water districts as an appropriate federal role. We are encouraged by Secretary Salazar's \$62M request for Interior's WaterSMART Program, and recognize the importance of the proposal in an increasingly tight federal budget.

WaterSMART Grants

The FY2011 request for Reclamation includes \$27M for WaterSMART water conservation grants to better optimize system operations and encourage water use efficiency, marketing and banking programs, and the use of brackish waters. The Council supported legislation specifically authorizing such grants. In the past, such cost-shared grants have leveraged federal spending with state and local contributions, leading to an investment of nearly \$3 for every federal dollar spent. Grant applications continue to come in well in excess of the amount of federal grants available. For example, Reclamation received 141 applications for grants funded with ARRA money, but with the nearly \$40M appropriated was able to provide money for only thirteen projects in five states. Roughly ten times the federal appropriation could have been matched.

The WaterSMART program is in part designed to make water available through conservation for other uses. It is important to note that the allocation of water is primarily a state prerogative, and water transfers are subject to state water law and policy. The use of any WaterSMART program water savings will be subject to state law. Of note, the SECURE Water Act explicitly requires grant applicants to agree not to (1) "use any associated water savings to increase the total irrigated acreage of the eligible applicant;" or (2) "otherwise increase the consumptive use of water in the operation of the eligible applicant, as determined pursuant to the law of the State in which the operation. . . is located."

Basin Studies

The Council has been a proponent of watershed and basin-wide coordination and a commitment to involving all governmental entities and stakeholders with an interest in finding solutions to present and future water management challenges. Interior requests \$6M for basin studies to assess water supply and demand, climate impacts and identify adaptation strategies, in partnership with States, Tribes and water districts. This request will fund three 50%-50% cost shared studies in the Colorado River Basin (covering seven states), the Yakima River Basin in Washington and the Milk-St Mary's River Basins in Montana (and Canada). Obviously, there are other basins worthy of future study. These studies are intended to identify basin-wide water supply issues and in partnership with basin States, Tribes and stakeholders define options for meeting future water demands and related challenges.

The Western States Water Council has been approached by Reclamation about involvement in the Colorado River Basin study, and we appreciate the opportunity to collaborate.

Cooperative Watershed Planning Act

There is a need to focus on grassroots, small watershed approaches to identifying water problems and potential solutions from the ground up, integrating these efforts into individual state water plans and federal water resources planning. Separately, The Council supported enactment of the Cooperative Watershed Planning Act as part of P.L. 111-11. We understand Interior is moving forward and Reclamation hopes to implement a pilot project with existing budget resources. Such assistance will provide important help for grassroots, watershed groups which have often proven effective in addressing complicated water management and water quality protection challenges. Hopefully, future funding will be available to further promote the development of watershed groups and implementation of watershed management programs and projects.

Rural Water Supply Needs

The Council has consistently supported assessing and addressing rural water supply needs, with appropriate federal technical and financial assistance. Reclamation's \$62M request for ongoing projects is significant. However, rural water supply needs

are expanding, in part due to federal safe drinking water mandates. Current and future federal spending will not likely be able to meet these growing needs.

Title I of the Rural Water Supply Act of 2005 authorized Reclamation to complete an assessment of rural water supply needs. The Council supported enactment and has worked with Reclamation to help compile a listing of identified needs. The act also authorized cost shared project assessments. Reclamation has published interim final rules to govern the program, and requested \$2.6M for FY2011 to move forward with soliciting and screening project assessment proposals. Any projects recommended for construction would need authorizing legislation.

Of note, Title II of the act also authorized loan guarantees to help local districts with project operation and maintenance responsibilities (but without title to these federal projects) obtain private financing for major project repairs and rehabilitation work. Unfortunately, the Office of Management and Budget has determined such federal guarantees would have to be backed 100% by appropriated funds. Given the extremely low expected rate of default on such loans, this appears unnecessary. Moreover, it defeats the purpose of the guarantees, which is to leverage federal and non-federal resources.

Title XVI Projects

The Council has supported various emerging and expanding technological opportunities to augment existing water supplies, including water reuse and recycling opportunities. The \$29M WaterSMART requests for water reuse/recycling projects is another step forward. We recognize that Reclamation already has a lengthy backlog of authorized Title XVI projects, and much more could be spent to encourage and take advantage of water reuse and recycling opportunities. A total of 53 projects have been authorized at a total federal cost of \$624M, which represents up to a 25% federal cost share.

U.S. GEOLOGICAL SURVEY

Without timely and accurate water resources information, human life, health, welfare, property, and environmental and natural resources are at considerably greater risk of loss. The USGS has been a leader in developing and realizing the potential of state-of-the-art technology to provide real or near real-time data with the promise of vastly improving the quantity and quality of water-related information available to decisionmakers in natural resources and emergency management, with the States as essential partners.

WATERSMART

National Water Assessment/Census

The WaterSMART program includes \$9M for USGS to work on a national water use and availability assessment (or national water census). Western governors have specifically noted the need for an “...accurate assessment of the Nation’s water availability and water demands, with the goal of integrating the information into state water resources planning, recognizing that a truly national assessment must begin at the state and local level with appropriate technical and financial support from the federal government.” (Water Needs and Strategies for a Sustainable Future: Next Steps, p. IV, June 2008)

Of the requested amount, \$1M is to be made available for grants to help states develop programs to measure water use. Current state programs and abilities vary widely and such assistance—though limited—will be welcome. We look forward to working with the USGS implementation team. The Western States Water Council is currently represented on the Advisory Committee on Water Information and has participated with the Sustainable Water Resources Roundtable, and USGS intends to work through both to refine the concepts and products to meet stakeholder goals.

As it relates to measuring and monitoring agricultural and other water uses, the Council has worked hard to secure funding to ensure that a thermal infrared sensor (TIRS) was included as part of the Landsat Data Continuity Mission, which NASA has scheduled for launch in December 2012 (none too soon given operational problems with the existing Landsat 5 mission). USGS will gather, archive and distribute this thermal data. An increasing number of states and others are using this state-of-the-art technology to accurately measure consumptive agricultural water use remotely. We recognize and appreciate the fact that USGS has had to make a multi-million dollar budgetary commitment to accelerate development of its related ground operations to accommodate the continued availability of this thermal data (due to NASA’s late commitment to include TIRS).

Streamgaging Programs

While recognizing USGS has made a very substantial and significant increase in its request for water-related information gathering, we are nonetheless disappointed that requested funding was reduced for the National Streamflow Information Program (NSIP), which is fully federally funded (cut about \$578,000 to \$27M), and the Cooperative Water Program (cut some \$1.9M to \$63.6M). Cooperative Water Program (CWP) partners now fund about two-thirds of program costs.

The proposed cuts, if not restored by the Congress, will undoubtedly lead to the loss of important streamgages—many with over 30-years of record. The Council and many other stateholders have repeatedly called for full NSIP funding (\$110M) and sufficient appropriations to support a 50%-50% CWP match (\$95M). Together, these two programs support much of our national streamgaging system, which is critical for water resources and emergency management, planning and decision making; water supply project and transportation infrastructure design; long-term planning related to climate change and variability; and other essential uses.

Hard funding choices have to be made, but as we struggle to find support for federal streamgaging programs, state and local confidence in the federal commitment to these programs is eroding and may eventually seriously undermine this critical federal-state partnership. Already some states are building and operating their own streamgaging systems, and more may follow. We need to consider what national benefits might be lost along with the current national streamgaging system should it be replaced with a fragmented lot of streamgages operated for limited purposes.

Thank you for the opportunity to testify.

STATEMENT OF SHAUNA LORANCE, GENERAL MANAGER, SAN JUAN WATER DISTRICT,
ON BEHALF OF THE R3 PARTNERS SAN JUAN WATER DISTRICT AND THE CITIES OF
FOLSOM AND ROSEVILLE, CA

Thank you for the opportunity to submit this statement on the Bureau of Reclamation's implementation of the SECURE Water Act (SECURE) and proposed WaterSMART Program on behalf of the R3 Partners (R3). My name is Shauna Lorange and I am the General Manager of the San Juan Water District, a partner in R3. The R3 is a partnership of the San Juan Water District, the City of Folsom, and the City of Roseville, California, which represents over three hundred thousand people who rely on the American River Basin for their water supplies. As a result of recent Endangered Species Act Section 7 consultations and Federal court actions, R3 believes that the current operation of the American River Basin for multiple purposes will be significantly and negatively impacted in the future. Furthermore, R3 believes that, through proper implementation of the SECURE Water Act, the Bureau of Reclamation can assist R3 in meeting current and future water demands, as well as help meet the significant future challenges that ESA demands in the Delta will have on the operation of our American River water supply infrastructure.

Recently, the Central Valley Project (CVP) Operating Criteria and Plan (OCAP) Biological Opinions (BOs) for the endangered Delta Smelt and Salmon species in California include recommended reasonable and prudent alternatives that will negatively impact the reliability of the American River water resources for both the environment and people. Existing water supplies have already been stretched farther than ever imagined and cannot continue to meet future needs without additional water management and conservation projects in the Basin.

The R3 partners believe the Congress should encourage Reclamation to be proactive with the SECURE Water Act implementation and allocate adequate funding for grants to implement local water management solutions that could help mitigate the possible negative impacts of the BOs on American River communities.

LOCAL INPUT INVALUABLE TO INTEGRATED REGIONAL WATER MANAGEMENT

The Sacramento Region, including the R3 Partners, is committed to continuing its collaborative efforts to assist the Bureau of Reclamation in the development of an operating plan for the American River Division that meets the objectives of the BOs while avoiding or minimizing impacts to water supply and environmental resources on the American River.

Implementation of the reasonable and prudent alternatives (RPAs) recommended in the Delta Smelt and Salmon BOs will require significant changes in the operation of the CVP. A comprehensive statement describing Reclamation's proposed changes in operations under the BOs would provide us with valuable information regarding how those changes would affect American River water supply reliability and environmental resource protection goals in our region upstream of the Delta.

The Sacramento region has developed an Integrated Regional Water Management Plan (IRWMP) for improved management of the area's limited water resources. The program builds on previous efforts, such as the 2003 Regional Water Master Plan developed by the American River Basin Cooperating Agencies, to support a regional conjunctive use program and promote water recycling, water use efficiency, and other strategies that improve local water supply reliability. The American River IRWMP investigates a broad spectrum of management strategies, recognizes the benefits of integrating water management strategies, and identifies priorities for implementing projects and programs. Expanded investments from Reclamation through additional, longer-term SECURE grants could provide much needed cost-shared funding for water management tools that lessen the impacts from the previously mentioned stressors. R3 believes SECURE could be improved by adding a grant program specifically for larger, regional water management plans such as our IRWMP. Such regionally coordinated plans take several years to design and implement, yet Reclamation's current grant program (WaterSMART) seems to focus on a project-by-project mentality. A grant program that allows for a larger total grant to be cost-shared over several years would allow entire regions to plan for implementation of these coordinated plans. For example, we would be able to more effectively and efficiently implement elements of our IRWMP including water conservation programs, automated water delivery and management systems, and intertie pipelines between systems to better protect residents against water shortages during certain times of the year.

Water management and delivery entities in the Sacramento Valley must be able to budget their share of the cost of such implementation projects and a project-by-project approach does not lend itself to such budgetary planning. In fact, the current approach has actually discouraged participation by districts and municipalities involved in regional water management. Writing and applying for grants encumbers valuable local cost-share resources that must be initially devoted to such projects. Dedicating local staff time and resources to multiple grant applications can become costly, especially when turned down in the process. Communities and districts with the foresight to develop integrated regional approaches to water management in their jurisdictions should be able to apply once for the entire implementation plan and, once awarded, match and receive such funding over a multi-year timeframe. This would allow a more orderly budgeting process and make applying for grants much more worthwhile.

FAILURE TO ACT QUICKLY HAS SIGNIFICANT CONSEQUENCES

In order for the Sacramento region to recover from the recent economic downturn, we must have a reliable water supply. As a region, we have linked our water supply to the sustainability of our aquatic environment. Without speedy determination of the effects of recent BOs, this region does not have enough information to move forward with appropriate investments in environmental restoration, water supply infrastructure, and groundwater management. Water resource issues focusing on groundwater and surface water reliability and quality; flood control and stormwater management; water supply and management infrastructure development; and environmental protection and restoration have long been at the forefront of the agenda in "quality-of-life" planning throughout the greater Sacramento metropolitan area. To that end, over the past decade the agencies and municipalities charged with managing these resources have engaged with environmental groups and the business community in a variety of grass-roots, stakeholder-driven processes. These processes, though wide-ranging in the breadth of issues considered, have been underlain by a common objective: To ensure that all relevant constituencies have a voice in the management and protection of water resources. Uncertainty in these issues is counter to sound planning and implementation.

Each of the IRWMP projects and programs address Statewide Priorities (either directly or indirectly). For example, groundwater wells, conjunctive use surface water pipelines, and treatment plant expansion projects work together to establish the required conjunctive use infrastructure that will secure the necessary flows in the Sacramento and American rivers in dry weather years without jeopardizing water supply or permanently impacting ground water aquifers. Recycled water expansion projects diversify water supply sources in order to reduce dependence on surface water and groundwater while minimizing discharge of treated wastewater into the rivers and also contributing to TMDL compliance. Stormwater and flood water management projects contribute to reductions in CSO's, SSO's, and non-point source pollution. In addition, ecosystem restoration projects and meter replacement programs directly address environmental concerns shared by the CALFED and Bay-Delta water objectives. All of these projects work towards ensuring adequate, high quality

water supplies to a growing population, while preserving and improving the ecosystems both in the immediate vicinity of Sacramento and in the Bay Delta. Our ability to plan long-term for the implementation of these projects is vital to the sustainability of the region.

SACRAMENTO REGION STAKEHOLDERS SEEK EXPEDITED ANALYSIS AND FUNDING

With the predicted impacts from the BOs, as well as the expected significant impacts from climate change to our water sources in the Sierra Nevada Mountain Range, integrated regional planning and water supply and management infrastructure construction in the Sacramento Region will be critical to mitigating the impacts from both of these stressors.

For the reasons stated above, the R3 partners and the entire Sacramento Region urge of the Congress to expeditiously direct the federal agencies involved in California water issues to immediately prepare a comprehensive analysis of all possible impacts to the American River Basin and other watersheds in California flowing to the Delta, resulting from the many requirements being placed on water supply in California, including recent Biological Opinions and current knowledge about the impacts to water supplies from climate change, and delineate the effects on north-of-Delta water supplies and tributary biological resources. This analysis should be developed in an open process that honors the value of local knowledge and experience.

We also request additional federal funding opportunities, either through SECURE grant programs such as Water SMART or other funding sources, to assist in the implementation of the IRWMPs in our basin. As we discussed in this testimony, such efforts will be critical to our collective economic and environmental futures.

Thank you again for considering our views, now and in the past. We look forward to working with the Committee in the future.

STATEMENT OF DARVIN FALES, P.E., SECRETARY-MANAGER, QUINCY-COLUMBIA BASIN IRRIGATION DISTRICT, ON BEHALF OF THE COLUMBIA BASIN PROJECT IRRIGATION DISTRICTS WASHINGTON

Thank you for the opportunity to submit this statement on the Bureau of Reclamation's implementation of the SECURE Water Act (SECURE) and proposed WaterSMART Program on behalf of the Columbia Basin Project Irrigation Districts. My name is Darvin Fales and I am the Secretary-Manager of Quincy-Columbia Basin Irrigation District.

ABOUT THE COLUMBIA BASIN PROJECT

The Columbia Basin Project (CBP) is authorized by U. S. Congress to serve 1,029,000 acres when fully developed. The Columbia Basin Irrigation Districts (Districts) currently provide water to 621,000 acres of irrigable land serving approximately 6000 landowners and farm operators located in central Washington.

Grand Coulee Dam is the source of the water and energy needed to sustain the CBP. Water is the lifeblood of farms and families in this semi-arid region. Water has transformed much of the basin into productive farm ground as well as prime recreation and habitat for fish and wildlife. Between 2.3 and 2.7 million acre feet of water are diverted from the Columbia River into Banks Lake annually. The water must be pumped from the Columbia River by 12 pumps located in the John W. Keys III pumping plant. The CBP uses nearly one billion kilowatt hours of energy per year. Water conserved on Project equates to energy saved in the power system.

Irrigation water is delivered to the farm through 300 miles of main canals, 2000 miles of laterals, and hundreds of relift pumps. Excess water is collected by 3500 miles of drains and wasteways. Much of this excess water is returned to Potholes Reservoir and used as the water supply for South Columbia Basin Irrigation District. This feature makes the CBP one of the most efficient irrigation delivery systems in the West, but by continuing to take conservation measures, the Project's efficiency can be further improved.

ECONOMICS OF THE COLUMBIA BASIN PROJECT

The Districts commissioned an "Economic Contribution of Agriculture Irrigated by the Columbia Basin Project" study in 2009. Said study only considers the farm-gate contribution to local, state and national economies and did not consider additional water-based recreation and wildlife benefits. The scope of the economic impact analysis includes the generation of jobs and the "ripple" effect on other economic sectors.

The economic model measures describe total economy: output, income and employment.

Results from the economic and fiscal impact analysis show the total value of CBP production to be estimated at \$1.44 billion annually.

The \$1.44 billion in crop production in the CBP supports economic activity throughout the United States of \$5.81 billion annually, generates \$2.42 billion income annually and nearly 39,000 jobs. The total output from the CBP exceeds the federal investment in the irrigation facilities annually.

WATER CONSERVATION ON THE COLUMBIA BASIN PROJECT

The Districts also commissioned a “Columbia Basin Project Coordinated Water Conservation Plan” with help and financial assistance from Washington State Department of Ecology (DOE). Since the CBP is a recapture-reuse project, a coordinated effort of all three Districts is needed to assure that documented water savings through conservation measures are “true” water savings. All three of the Districts have completed Comprehensive Water Conservation Plans within the past seven years but this 2010 plan is the first coordinated effort on Project. The DOE partnered in our efforts to use water savings on Project as a water source for a depleting ground water aquifer known as the Odessa Aquifer.

The coordinated plan identifies long-term projects to be implemented by the Districts beyond 2010. A total of 690 projects have been identified and listed which include pipelines, canal concrete linings, buried linings and re-regulating reservoirs. The estimated costs of these conservation projects exceed \$75 million. The estimated volume of water conserved when these projects are complete is nearly 65,000 acre feet per year.

Ancillary benefits of a long-term conservation plan are the much needed facility improvements of an aging infrastructure, improvements to water quality and decreased O&M costs.

IMPROVEMENTS TO THE SECURE WATER ACT AND WATERSMART PROGRAM

Water delivered and power produced with Reclamation facilities are crucial contributors to our western economy, and our nation’s agricultural and electrical stability. The challenge of completing major repair and rehabilitation of federally-owned aging infrastructure has been a priority of the non-federal operators in recent years. The Columbia Basin Project Irrigation Districts believe that the SECURE Water Act could be improved by adding a grant program specifically for larger, regional water management plans such as the CBP Coordinated Water Conservation Plan. Such regionally coordinated plans take several years to design and implement, yet Reclamation’s current WaterSMART grant program only focuses on a “project-by-project” approach. A grant program that allows for a larger total grant to be cost-shared over several years would allow entire regions to plan for implementation of these coordinated plans unlocking the potential for large scale conservation of both water and electrical energy. Water managers of delivery entities such as the CBP Districts must be able to budget their share of the cost of such conservation projects and the current “project-byproject” approach does not lend itself to such budgetary planning. In fact, the current approach actually discourages participation by districts. Writing and applying for grants consumes valuable staff resources that must be initially devoted to such projects. Dedicating staff time and resources to multiple grant applications is costly and the possibility of being turned down in the process is a risk that must be carefully weighed in committing these resources. Districts with the foresight to develop integrated regional approaches to water management and conservation in their jurisdictions should be able to apply once for the entire implementation plan and receive such funding over a multi-year timeframe. This would allow a more predictable budgeting process and make applying for grants much more worthwhile. Long term planning also provides a programmatic approach that is attractive to other partners for funding the projects. It will allow them to budget appropriately thus magnifying the potential for increased involvement and success.

As shown in this testimony, agriculture is an important component of this nation’s economic base and vital to a safe and secure food supply. As the irrigation structures needed to supply water to the farm continue to age and the demand for a clean and reliable water supply for farms, cities, and the environment continues to increase, it is critical that federally owned facilities be rehabilitated and updated with the help of federal funds. Modification of the SECURE Water Act is one way to accomplish this objective by leveraging limited federal dollars with non-federal funding through cooperative partnerships with entities such as the Columbia Basin Project.

Thank you for considering our views. If the Committee has any questions regarding this matter, we are willing to work with committee staff to answer those questions.

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