Testimony of

Anthony Willardson, Executive Director
Western States Water Council

Before the Senate Committee on Energy and Natural Resources
Water and Power Subcommittee

Oversight Hearing on
Opportunities and Challenges to Address Domestic and Global Water Supply Issues

December 8, 2011

I. Introduction

Madame Chair, and members of the Subcommittee, my name is Tony Willardson, and I am the Executive Director of the Western States Water Council (WSWC). We appreciate the opportunity to testify on the water resources challenges facing the West and the Nation. Thank you all for your leadership in addressing the serious water-related needs of the West and the Nation.

Our members are appointed by the Governors of eighteen states. We are a non-partisan advisory body on water policy issues closely affiliated with the Western Governors' Association (WGA). My testimony is based on official reports, statements and positions taken by both organizations, as well as our recent and continuing efforts to define and refine a vision and principles for effective water management strategies to help ensure a prosperous and sustainable future. I will emphasize just a few of our interests and concerns, while attaching the most recent WGA policy resolution on Water Resources Management in the West (No. 11-7) and highlighting selected sections in my testimony.

Water in the West (and elsewhere) is an increasingly scarce and precious resource, given population growth and an expanding range of often competing economic and ecological demands, as well as changing social values. Surface and ground water supplies in many areas are stressed, resulting in a growing number of conflicts among users and uses. A secure and sustainable future is increasingly uncertain given our climate, aging and often inadequate water infrastructure, limited knowledge regarding available supplies and existing and future needs and uses, and competing and sometimes un-defined or ill-defined water rights. Effectively addressing these challenges requires a collaborative, cooperative effort among federal, state, tribal and local governments and stakeholders that transcends political and geographic boundaries. The following principles are keys to effectively managing our challenges.

- State primacy is fundamental to a sustainable water future. Water planning, policy, development, protection, and management must recognize, defer to, and support state laws, plans, and processes. The federal government should streamline regulatory burdens and support implementation of state water plans and state water management strategies.

- Given the importance of the resource to our public health, economy, food security, and environment, water must be given a high public policy priority at all levels.

- An integrated and collaborative approach to water resources management is critical to the environmentally sound and efficient use of our water resources. States, tribes, and local communities should work together to resolve water issues. A grassroots approach should be utilized in identifying problems and developing optimal solutions.

- Any approach to water resource management and development should accommodate sustainable economic growth, which is enhanced by the protection and restoration of significant aquatic ecosystems, and will promote economic and environmental security and quality of life.

- There must be cooperation among stakeholders at all levels and agencies of government that recognizes and respects national, regional, state, local and tribal differences in values related to water resources and that supports decision-making at the lowest practicable level.

In June 2006, the WGA unanimously adopted as WGA policy a report prepared by the WSWC entitled, "Water Needs and Strategies for a Sustainable Future," and similarly endorsed a follow up "Next Steps" report in 2008. A 2010 "Progress Report" was accepted by the governors, and we are now preparing a 2012 WGA Water Policy Report, refining our vision, values and recommendations regarding opportunities or strategies for further addressing present and future challenges.

The 2006 WGA report included 28 recommendations and the 2008 "Next Steps" report contained 42 recommendations for action in six different areas, focused on challenges related to growth and meeting future water-related demands, watershed planning and basic water data gathering, present and future water infrastructure needs, the resolution of Indian water rights claims, protecting aquatic endangered species, and climate adaptation. WGA policy resolution 11-7 on Water Resources Management in the West reaffirms many of the recommendations in the 2006 and 2008 reports.

I want to stress that one common aspect of our water-related challenges and opportunities for developing successful management is the uncertainty surrounding our present uses and future needs. The importance of basic information regarding our water resources for sound decision-making cannot be over emphasized.

II. Water Information and Data

"**Western Governors encourage continued investment in the Nation's *water measurement and monitoring data networks* and the development of information services that promote collaboration between the research and management communities to ensure relevant information is developed and shared with decision-makers. Basic information on the**

status, trends and projections of our water resources is essential to sound water management." (WGA Policy Resolution 11-7, p. 1)

The 2006 WGA Report called for "…a state-by-state and westwide summary of existing water uses…, current ground and surface water supplies, and anticipated water demands, …[that] should address both consumptive and non-consumptive uses and demands." The 2008 WGA Report recommended, "State and federal water resource agencies should work together to provide universal access to the water-related data collected by all state, local and federal agencies, as well as tools and models that better enable the synthesis, visualization and evaluation of water-related data.…" It also called 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."

In September 2007, the National Science and Technology Council's Committee on Environment and Natural Resources, Subcommittee on Water Availability and Quality (SWAQ), released a report entitled: "A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States." In part the report reads: "In 2006, the Nation supported 300 million citizens and the population was growing at a rate of almost 1 percent per year. Several regions and major metropolitan areas are growing at double-digit rates. Attempts to address the science and technology needs of the water community will require special consideration of areas with extreme growth in population or water consumption. In addition, trends in water use in the agricultural and energy sectors are major drivers of water resource needs. Other primary factors that influence the future availability of water include climate change and variability, pollution, and increased conflicts over water allocation among different users. Abundant supplies of clean, fresh water can no longer be taken for granted." (p. 7)

The SWAQ report continues, "Many effective programs are underway to measure aspects of our water resources. However, simply stated, quantitative knowledge of U.S. water supply is currently inadequate (U.S. Government Accountability Office, 2005; National Research Council, 2004). The United States should measure water resources more strategically and efficiently. A robust process for measuring the quantity and quality of the Nation's water resources requires a systems approach. Surface water, ground water, rainfall, and snowpack all represent quantities of water to be assessed and managed – from the perspectives of quantity, quality, timing, and location. A comprehensive assessment of U.S. water resources should build upon significant monitoring programs by water management authorities, States, and Federal government agencies to ensure that regional and national water resources are measured accurately. Data and information about the Nation's water supply should be widely available, should integrate physical and social sciences, and should be relevant to decisionmakers, from the individual homeowner to regional water managers. Without an adequate assessment of water supplies on a watershed or aquifer basis, optimal water management cannot be achieved. Improved knowledge of the size and distribution of the water supply and how it changes over time will allow more efficient and equitable allocation of this precious resource and will minimize over-allocation of limited supplies…. To manage water effectively, we should know our present and future demands for water in individual homes, businesses, farms, industries, and power plants, as well as water needed for sustainable ecosystems." (pp. 7-8)

"Western Governors support several federal programs that are particularly critical…. Western Governors are concerned about declines in federal spending for…programs that provide important water supply information and believe that such programs should be fully funded by Congress." (WGA Policy Resolution 11-7, p. 2)

We urge Congress to continue to support the U.S. Geological Survey (USGS) and its National Water Availability and Use Assessment, authorized by the SECURE Water Act, as well the National Streamflow Information Program and Cooperative Water Program, all of which are critical to providing a sound basis for improving water management and decision-making. We continue to join with scores of other government entities and stakeholders in calling on Congress to fully fund NSIP and re-balance the federal CWP cost-share to a 50-50 match, in order to reverse the loss of long-term streamgages and restore data that is critical to assessing our needs related to water supplies, drought and floods, emergency warning and management systems, infrastructure design, climate, interstate water compacts, international treaties and tribal trust responsibilities, as well myriad other federal, state and local government water planning, management and decision-making purposes.

We also strongly support NASA's Landsat Data Continuity Mission (LDCM), with its thermal infrared sensor (TIRS) and imaging capability (that many western states are using to monitor and manage consumptive water uses, particularly agricultural uses). Further, we recognize the need for and importance of providing sufficient appropriations for USGS to complete and operate the necessary ground operations systems without having to take funds from other USGS programs. This is a priority for WGA and the WSWC, and hopefully for this Congress, given the impending failure of Landsat 5 and the need to launch Landsat 8 as planned and keep LDCM on schedule, so we do not lose this important thermal data which more and more states rely on to measure and monitor consumptive uses.

We are also very concerned about potential cuts to USDA's Snow Survey and Water Supply Forecasting Program, which is presently operating on a "shoe string." Western water managers depend on this vital information for water supply planning and decision-making. Any funding cuts will likely lead to the suspension of snow course readings, stop conversions of snow courses to automated SNOTEL (Snow Telemetry) sites, and ultimately result in the loss of data due to the failure of equipment that has to be actively maintained. Many snow courses and SNOTEL sites have been operating for decades, and the potential loss of such long continuous records is particularly troubling and problematic due to the impact on modeling and forecasting.

"Western Governors support federal efforts to coordinate water data gathering and information programs across multiple agencies…. Western Governors encourage federal agencies to partner with States in the gathering, coordination and effective dissemination of water-related data…. Western Governors call on the federal government to work with Western States to develop tools and models that better enable the synthesis, visualization and evaluation of water-related data." (WGA Policy Resolution 11-7, p.2)

The WGA, WSWC and our member states are working closely with a number of federal agencies on various efforts to further our water related knowledge, including but not limited to the WaterSMART Assessment/Census and Basin Studies, Interior's Landscape Conservation

Cooperatives, the National Integrated Drought Information System (NIDIS) Upper Colorado River Basin Pilot, climate and extreme event workshops, and energy and water demand studies.

Of particular note, the WGA and WSWC are working with the Department of Energy and National Laboratories to develop water demand projection and water availability models as a basis for estimating and evaluating water needs for electric power generation and other energy uses. We are also evaluating the impact of those demands on other water use sectors. The WSWC is providing expert advice and state generated data, and will be preparing information on state institutions, statutes, policies and processes that govern water rights and control the allocation and use of water in the West.

We have also developed a project plan for a Water Use Data Exchange, collaborating with state and federal agencies, to make data available in a format that can be synthesized to support federal, state and local decision-making and improve water resources planning and management. Our initial efforts are focused on water for energy demands, but our intent is also to be able to better understand our capabilities and limitations related to estimating water use and prepare a foundation upon which to build better water budgets and demand projections through close collaboration between state and federal agencies.

III. Water Infrastructure

"Western Governors support investment in water supply and water quality infrastructure. Infrastructure investments are essential to our nation's continued economic prosperity and environmental improvements, and they assist state and local entities in meeting federally mandated standards. Infrastructure investment is particularly critical now, as much of the water infrastructure that has served the West for decades is aging and in dire need of repair." (WGA Policy Resolution 11-7, p.4)

In November 2010, the WGA, WSWC and Texas Water Development Board (TWDB) sponsored a Symposium entitled, "Western Water Resources Infrastructure Needs and Strategies" in San Antonio, Texas. Patrick Natale, Executive Director of the American Society for Civil Engineers (ASCE), spoke and said: "The estimated five-year investment need for all infrastructure repairs and rehabilitation is $2.2 trillion." The most recent ASCE Report Card gave the Nation's drinking and wastewater infrastructure a D- grade, its dams a D, and its levees and inland waterways a D-. Steve Stockton, Director of Civil Works, U.S. Army Corps of Engineers, reported, "The present value of the capital stock portfolio of the USACE has declined from a peak value of $250 billion in 1983 to $165 billion today, with $60 billion in authorized projects and an annual investment of $2 billion. Roughly $100 billion is needed to repair levee systems, while $125 billion is required to replace the current navigation lock system." Steve Allbee, EPA Gap Analysis Program Director, added, "State and local governments have spend $1.1 trillion since the 1960s on water and wastewater infrastructure, with an additional $140 billion federal investment, but EPA's 2002 analysis identifies a current need of $540 billion."

Separately, estimates of the Bureau of Reclamation's 2010 backlog total some $6.6 billion for major rehabilitation and replacement of aging infrastructure ($930 million), authorized Title XVI water recycling and reuse projects ($600 million), authorized construction and

operation of rural water projects ($1.2 billion), authorized environmental restoration programs ($2 billion), and then authorized and pending Indian water rights settlements ($1.9 billion). By comparison, Congress appropriated $951.2 million in FY 2010 for Reclamation's Water & Related Resources Account.

Construction related federal Stimulus spending totaled some $135 billion, with $22 billion for water and wastewater projects according to Ken Simonson, Associated General Contractors of America. Total construction spending is down 10% in the last five years, and private non-residential building is down 25%, said Perry Fowler, Texas Associated General Contractors.

Of note, a report by the Texas 2000 Commission entitled, "Texas Past and Future," concluded: "Capital financing requirements to meet demands from municipal and industrial water and wastewater treatment during the next quarter century represent an outlay more than double the existing debt of the state and all of its political subdivisions." TWDB has spent $12.4 billion on water and waste-water projects, including $1.5 billion in 2010 alone.

According to Stephen Fuller, George Mason University, every $1 billion spent on water-related infrastructure produces 28,500 jobs, growth in personal earning of $1.1 billion, and the gross domestic product (GNP) grows by $3.4 billion. Infrastructure investments are an investment in our future.

In the West, our population is growing and water demands have changed since much of our infrastructure was built. Symposium participants identified a need to redefine and re-evaluate our water infrastructure needs based on standard criteria that include risks to: (a) health and human safety; (b) economic growth; and (c) the environment. We also need to evaluate risks to our existing infrastructure, and improve asset management and system operations.

There is a great need for stable or increasing funding of infrastructure, especially in small and rural communities, that must be addressed. While states recognize that they cannot depend on the federal government in Washington, D.C. to solve all their infrastructure problems, there is a legitimate continuing federal role related to federal landownership, tribal trust responsibilities and federal regulatory mandates. Federal financial incentives and technical assistance may also be appropriate to assist state and local governments, where they can't reasonably meet their own needs. There is a need, and there are opportunities, to improve collaboration and leadership at all levels of government in addressing our water-related infrastructure needs. Moreover, it is important to make investment decisions based on long-term capital budgeting efficiencies, and move away from "annual incremental choices." Inconsistent, inadequate and untimely funding leads to project delays and ultimate higher costs.

Financing is the principal challenge to meeting our present and future infrastructure needs, particularly given important concerns over the national debt and federal spending. Infrastructure can be viewed either as a critical investment or "pork barrel" spending. We must differentiate between "good" and "bad" debt, and between projects we need and projects we would like to have. We must adequately weigh project costs and benefits, using planning and prioritization tools to set clear priorities. That being said, the project with the highest benefit-

cost ration or return on the federal investment is not necessarily the best project. State and local collaboration and appropriate cost sharing are important tools. Federal capitalization of State Revolving Funds for water and wastewater projects have been an effective and successful partnership, and have been especially critical to meeting the needs of small systems and small communities. Similar partnership mechanisms that rely on state operations and decision-making should be considered, such as federal loan guarantees, water-related private activity bond tax exemptions, and an infrastructure bank or water trust fund.

A 1964 compilation of papers on the economics of public policy in water resources development observed, "A reduction in the federal share of the costs of water resources projects should not be regarded necessarily as a desirable end in itself. Rather, requirements should be established to serve more specific objectives as achieving optimum resource development and use - and promoting desired incidence, distribution and stabilization policies." (Economics and Public Policy in Water Resource Development, Stephen Smith & Emery Castle editors, Iowa State University Press, 1964).

A 1984 WSWC report on federal water project financing and cost sharing concluded: "The present Administration seems to be proposing further withdrawal of federal financing participation in national water resource development in order to reduce federal spending. While the urgent need to balance the federal budget may appear to necessitate a decreasing federal role, reduced federal appropriations for water projects will do very little, if anything, to solve our economic problems. The size of the national debt has mainly been caused by direct income transfers and national defense spending…. While western states have previously endorsed the concept of cost sharing, they have not, and cannot support federal abdication of responsibility… where an appropriate federal interest is involved." The same might be said today. (State/Federal Financing and Western Water Resource Development, 1984, pp. 13-14)

Public Private Partnerships may help reduce overall public risk and capital investment requirements, as well as improve efficiencies and cost effectiveness. Governments can remove unnecessary obstacles to alternative infrastructure delivery methods, and provide a supportive statutory and political environment. We must also recognize that private risk capital is profit driven, and investors are intolerant of bureaucratic processes and litigation. Opportunities exist to minimize regulatory compliance costs and avoid unnecessary project delays by better defining reasonable and necessary protections, streamlining and coordinating regulations at all levels of government, and removing unnecessary regulatory obstacles. We need to promote both public and private accountability.

In the West, Congress provided the means to finance federal water resources investments through the Reclamation Act of 1902. Western Governors continue to urge the Congress to increase appropriation from the Reclamation Fund for authorized purposes to match average annual fund receipts.

In the end, there is no "silver bullet." Resolving our infrastructure challenges will require real cash to service real debt. There has to be a revenue stream. However, despite budget pressures, now is a good time to invest in order to take advantage of opportunities related to both low material and capital costs.

IV. Indian Water Rights Settlements

"**Western Governors support negotiated settlements of Indian land and water rights disputes in order to meet the nation's obligations to tribes while providing increased certainty for all Western water users."** (WGA Policy Resolution 11-7, p. 5)

The WGA and WSWC are long-standing advocates of Indian water rights settlements, and we applaud Congress for passing the Aamodt, Crow, Taos, and White Mountain Apache settlement agreements last December as part of the Claims Resolution Act of 2010. "Western Governors urge the Administration to support a strong federal commitment to meaningful federal contributions that recognize the trust obligations of the United States government. Congress should also ensure that any land or water settlement, once authorized and approved by the President, will be funded and implemented in a timely manner without a corresponding offset to some other tribe or essential Interior program." Settlements and related infrastructure investments are bringing economic development, environmental protection and peace to many valleys in the West – yet more needs to be done. "Negotiated settlements are flexible, promote sound management practices, provide a basis for partnerships between Indian and non-Indian communities, and save millions of dollars by avoiding prolonged and costly litigation." (WGA Policy Resolution 11-7, p. 5)

V. Water Transfers

"Western Governors recognize the potential benefits of market-based water transfers, and that the predominant water use in the West is agriculture, but they are concerned about maintaining the important cultural, economic, and environmental benefits of agricultural lands and food production." (WGA Policy Resolution 11-7, p. 5)

With support from the Walton Family Foundation, the WGA and WSWC are carrying out a year-long project to identify and promote innovative water sharing strategies to allow temporary or permanent water transfers between different uses (including agriculture, urban, energy and environmental uses), while avoiding or mitigating damages to environmental values, agricultural economies and rural communities. Specifically, the WGA and WSWC are focusing on state-level programs, institutional arrangements, and administrative practices that can facilitate smart water sharing. The project is engaging state water managers and a broad stakeholder community of agricultural water users, municipal providers, energy/industrial developers, and the environmental community. Products will include a toolbox of innovative strategies, options for new programs or administrative practices, and potential policy recommendations for the Western Governors – with a focus on activities that can be implemented at the state level to address our growing and changing water needs.

Further, Western Governors encourage adoption of strategies to make existing water supplies go further, including water conservation and reductions in per capita water use. They also support investment in research into promising water-saving strategies. Moreover, Western Governors encourage the use of alternative water supplies (of appropriate quality for designated uses) through water reuse and recycling, desalination and reclamation of brackish waters.

VI. State-Federal Collaboration: WestFAST

"Western Governors recognize the important role of federal agencies in supporting sound water resource management in the Western states. Governors appreciate the efforts of federal agencies to coordinate water-related activities with the Western states through the 'Western States Federal Agency Support Team' (WestFAST) and recommend the continuation of this key state-federal partnership." (WGA Policy Resolution 11-7, p. 4)

Lastly, on behalf of the WGA and WSWC, we would like to recognize and applaud the collaborative efforts of eleven federal agencies, including the U.S. Army Corps of Engineers, U.S. Bureau of Reclamation and U.S. Geological Survey, in joining us in signing a Letter of Cooperation to work together for the sustainable and efficient use of western water resources. The WestFAST partnership is a continuing commitment on the part of federal and state agencies – working with local, tribal and other public and private stakeholders – to improve the effectiveness of collaboration in seeking grassroots, watershed solutions to water issues in the West. It emphasizes proactive, voluntary, participatory and incentive-based approaches to water resource management and conservation assistance programs. Each agency has designated a WestFAST member to represent them, and together support a federal liaison officer detailed to our office. We believe WestFAST represents a model for other collaborative federal-state partnerships.

VII. Conclusion

We appreciate the invitation to testify on these important matters and look forward to continuing to work with the Subcommittee, Committee and Congress on opportunities to address our present and future water supply challenges.