

Water Needs and Strategies for a Sustainable Future: *2010 Progress Report*



**The Western Governors' Association
wishes to recognize the vision and leadership
of the late D. Craig Bell, former Executive Director of the
Western States Water Council, who passed away on June 13, 2009.**

**The WGA 2006 Water Report
Water Needs and Strategies for a Sustainable Future
the WGA 2008 *Next Steps* Report and many of the events and activities
implementing their recommendations as described in this 2010 *Progress Report*
would not have been realized without his hard work and dedication.**



Executive Summary

This report is a review of the events and activities that have taken place over the past two years in implementing various recommendations in the Western Governors' Association's (WGA) 2006 and 2008 Water Reports, entitled *Water Needs and Strategies for a Sustainable Future*. It is a comprehensive, but not exhaustive compilation, presented chronologically with some added historical information for context.

The 2006 WGA Water Report contained broad ranging recommendations in six areas to address the ever-increasing water resources challenges facing States in the West. The 2008 *Next Steps* Report presented the results of activities to implement the 2006 Report and identified 42 specific recommendations, plus an additional top three priorities. This 2010 *Progress* Report also highlights various implementation efforts, and summarizes the proceedings of different workshops and symposia, but does not include further recommendations at this time.

The one overarching recommendation in the WGA 2008 Water Report was creation of a Western Federal Agency Support Team (WestFAST) to help States and others implement the Governors' recommendations. WestFAST has been established and is expanding its membership and interagency efforts consistent with the Water Reports. WestFAST agency leadership participated in the WSWC's March 2010 meetings. A separate document prepared by WestFAST highlights not only its efforts, but agency programs and activities that may provide further assistance in implementing the Reports' recommendations.

Many major areas involve overlapping events and activities related to recommendations in the Water Reports, and the following groupings highlight areas of particular emphasis (which are presented chronologically in this report).

Water Policy and Growth

The WGA and WSWC have been actively involved with the Army Corps of Engineers in an effort to describe State water planning processes and integrate related federal planning and assistance through improved collaboration. This is an ongoing effort initiated in October 2008. In September 2009, a Water and Land Use Planning Symposium was held in Denver, Colorado to bring together different public and private interests to share opportunities to integrate and address water and growth policies. This was followed by an effort organized in November 2009 in consultation with WGA and WSWC to develop innovative ways to share and transfer agricultural water, while avoiding or mitigating damage to agricultural economies and environmental values. In March 2010, the Lewis and Clark Law School published in its Environmental Law journal a WSWC report on *Exempt Well Issues in the West*. These wells are exempt from regulation in most states and are the cause of a growing number of conflicts with other ground water and surface water users.

Water to Meet Future Demands

A consistent theme throughout the Water Reports and numerous events and activities related to their implementation has been the importance of basic data for decision-making in defining and addressing present and future water supplies and demands. Climate change is a complicating factor that is addressed separately herein. In November 2008, a symposium was held in Salt Lake City, Utah entitled *The West's Water Future: Water Information Needs and Strategies*. In March 2009, omnibus federal legislation addressing numerous water and land projects and programs was passed into law as the Omnibus Public Land Management

Act. It included the Aging Water Infrastructure Act, Cooperative Watershed Management Act, SECURE Water Act, and authorized many provisions of different water settlements with WGA and WSWC support.

The WSWC and WGA have been particularly active in supporting an increase in federal funding for streamgaging under the U.S. Geological Survey's National Streamflow Information and Cooperative Water Programs. The latter is a federal/state partnership, but States bear an increasing share of the costs with static federal funding levels while federal costs increase. The WSWC joined 56 agencies in a December 2009 letter calling for more money for these vital programs to stop the loss of gages.

A particularly noteworthy accomplishment, due to the untiring efforts of the WGA and WSWC, was the National Aeronautics and Space Administration's (NASA) February 2010 decision to request money to include a thermal infrared sensor (TIRS) on its Landsat Data Continuity Mission (LDCM) scheduled for launch in 2012. TIRS data is used to accurately calculate and monitor evapotranspiration (ET) and water use, particularly consumptive agricultural use, which accounts for some 80% of withdrawals westwide. The creative use of this technology in Idaho for mapping ET and administering water rights led to a 2009 Innovations in American Government Award from the Kennedy School at Harvard University.

The WaterSMART Initiative in the President's February 2010 FY2011 Budget Request has \$9

million for a national water availability and use assessment. The WSWC testified in support of the request for WaterSMART programs before the House Resources Committee's Water and Power Subcommittee on March 11, 2010. The testimony and response to follow up questions reiterated the primary role of the States in water management, climate change adaptation, the need for more federal money for streamgaging programs, and addressed a wide range of other topics.

WGA and WSWC efforts also extend to water quality protections, notably support for legislation introduced in November 2009 to protect Good Samaritans willing to clean up abandoned hardrock mine wastewater.

Water Infrastructure Needs

In addition to supporting the Aging Water Infrastructure Act and Cooperative Watershed Management Act mentioned above, the WSWC has worked continually to encourage States to better define their water-related infrastructure needs and strategies for meeting those needs. Pursuant to the WGA 2006 Water Report, WGA and the WSWC will hold a symposium in San Antonio, Texas on November 8-10, 2010 to highlight innovative ideas and new ways to identify, prioritize and finance infrastructure needs with the support of the WestFAST team. The Council also testified before the Congress in the House in October 2009 and March 2010 on water management and infrastructure spending.



Indian Water Rights

As noted herein, as part of the Omnibus Land Management Act passed in March 2009, the Congress for the first time provided a dedicated source of funding for Indian water rights settlements by authorizing transfers from the Reclamation Fund, which was suggested in the WGA 2006 Water Report. While providing limited authority, this is nonetheless a significant step forward. This and other important topics were addressed at the biennial WSWC/Native American Rights Fund (NARF) Indian Water Rights Settlement Symposium held in August 2009 on the Lummi Reservation near Bellingham, Washington. The WGA and WSWC were also active in promoting settlements and needed funding through testimony in Congress and visits with Congressmen and staff, senior officials in the Department of Interior, and White House staff.

Climate Change Impacts (and Drought)

The WGA and WSWC have been especially engaged in efforts to address drought and climate change and adaptation. With support from the

National Oceanic and Atmospheric Administration, workshops on the National Integrated Drought Information System (NIDIS) were held in October 2009 and March/April 2010, with a September 2010 workshop planned. Climate change and adaptation workshops were held in September 2008 and November 2009, and WSWC staff testified at an October 2009 House hearing on water management and on climate variability. Moreover, the WSWC has been implementing the June 2009 WGA resolution through the WGA Climate Adaptation Work Group (CAWG) and other efforts.

Endangered Species Act

While Endangered Species Act (ESA) reauthorization legislation has been dormant, the WGA and WSWC are discussing ways to promote a more collaborative approach to species recovery without compromising current or future water uses.

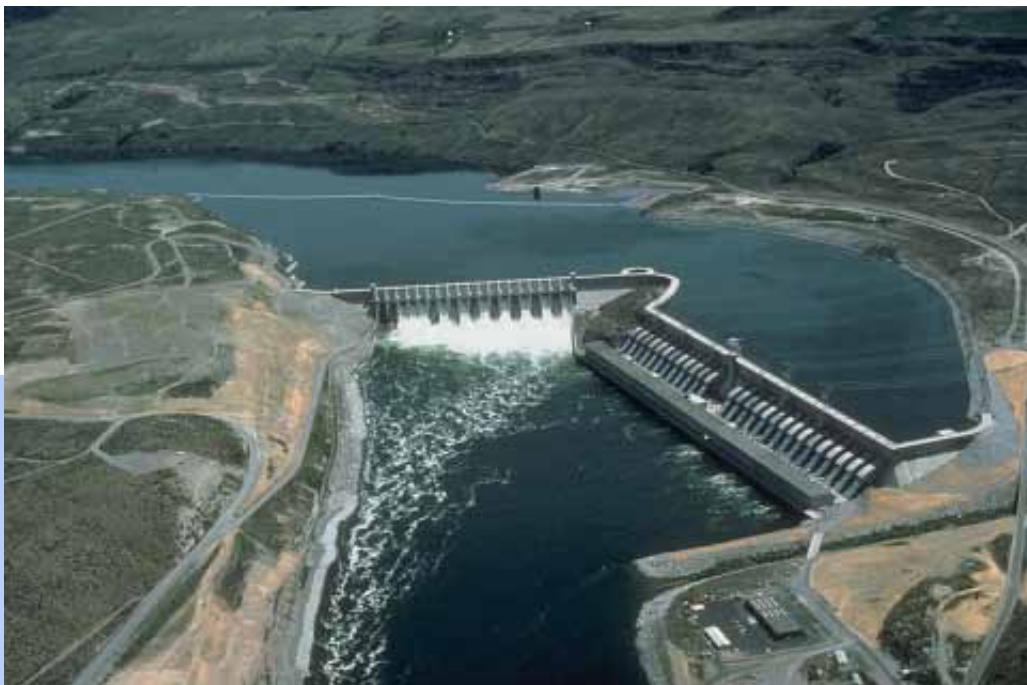


Table of Contents

	<u>Page</u>
Background.....	1
Western States Federal Agency Support Team - July 2008.....	1
Climate Change Adaptation Policy Workshop - September 2008.....	4
Collaborative Water Resources Planning Initiatives - October 2008.....	5
The West’s Water Future: Water Information Needs and Strategies Symposium - Nov 2008.....	5
Omnibus Public Land Management Act - March 2009.....	7
Aging Water Infrastructure Act.....	7
Cooperative Watershed Management Act.....	8
SECURE Water Act.....	8
Water Settlements.....	8
Climate Adaptation Work Group Efforts - June 2009.....	9
WSWC/NARF Indian Water Rights Settlement Symposium - August 2009.....	10
Water and Land Use Planning Symposium - September 2009.....	10
National Integrated Drought Information System Workshop - October 2009.....	12
Water Management and Climate Variability Hearing - October 2009.....	13
Ag to Urban Water Transfers - November 2009.....	14
Good Samaritan Legislation - November 2009.....	15
Water Information Management and Climate Change Adaptation Workshop - Nov 2009.....	15
National Streamflow Information Program/Cooperative Water Program - December 2009.....	16
Landsat Data Continuity Mission and Thermal Infrared Sensor - February 2010.....	17

	<u>Page</u>
National Water Census and WaterSMART - February 2010.....	18
WSWC Testimony on FY2011 Budget Request for Interior - March 2010.....	18
WSWC/ICWP DC Roundtable - March 2010.....	20
Exempt Wells Report - March 2010.....	21
National Integrated Drought Information System Workshop - March/April 2010.....	22



Water Needs and Strategies for a Sustainable Future: 2010 Progress Report

Background

The 2006 Western Governors' Association's Report, entitled "Water Needs and Strategies for a Sustainable Future," contained broad ranging recommendations to address the ever-increasing challenges associated with water management in the West. The 2008 *Next Steps* Report presented the results of activities to implement the 2006 Report and identified 42 specific recommendations, plus an additional top three on which to focus collaborative efforts. This 2010 *Progress* report is part of an ongoing process of refining, redefining and addressing the many recommendations for action suggested to meet the challenges related to our *Water Needs and Strategies for a Sustainable Future*.

States must take the lead role in water resources planning, conservation, development, management, and protection, as well as allocating rights to the use of their waters. However, cooperation among the states and with the federal government is vital to achieving regional and national goals and objectives, and fulfilling federal trust obligations, and statutory and regulatory mandates.

Developing solutions to the challenges laid out in the 2006 and 2008 WGA water reports will require an integrated approach, building strong collaborative partnerships among state, local, tribal and federal agencies, as well as private parties and non-governmental organizations. This approach must recognize and consider the needs of all stakeholders together, develop effective solutions which are complementary rather than conflicting,

and provide direction for selecting the most appropriate governmental entities or other organizations for implementing mutually acceptable solutions.

Although much progress has been made towards implementing many of the recommendations identified in both the 2006 and 2008 WGA Water Reports more needs to be done. The accomplishments described herein are the result of the efforts of many and future steps will require continuing cooperation and collaboration. Working together with persistence and patience, we can make progress.

Working with and under the direction of the Western Governors for 45 years, the Western States Water Council (WSWC) has been a leader in efforts to ensure that adequate quantities of water of suitable quality are available for the future growth and prosperity of the western states. The WGA and WSWC also work together with other public and private organizations and individual stakeholders.

Western States Federal Agency Support Team - July 2008

The Western States Federal Agency Support Team (WestFAST), comprised of representatives of federal agencies having water resource responsibilities and interests, and the hiring of a WSWC Federal Liaison to facilitate cooperation and collaboration was the #1 recommendation in the 2008 *Next Steps* Report.



Western States Federal Agency Support Team

A Declaration of Cooperation

Working Together for the Sustainable and Efficient Use of Western Water Resources

We, as representatives of our respective Federal agencies, do hereby declare our intent to cooperate as members of a Western States Federal Agency Support Team (WESTFAST) partnership. We will work together whenever and wherever possible throughout the 17 Western States to promote and educate the public on the benefits of sustainable and efficient use of water resources.

We declare that WESTFAST supports a continued commitment on the part of Federal, and State organizations; working with local, Tribal, and other stakeholders; to improve the effectiveness of collaboration to seek watershed solutions to water issues in the Western States. This effort emphasizes proactive, voluntary, participatory and incentive-based approaches to water resource management and conservation assistance programs throughout the Western States.

We hereby declare that we as WESTFAST partners will collaborate with the Western States Water Council to guide the development of an appropriate action plan for this partnership.

We hereby declare to support, in concept, the establishment of a Federal liaison position to work with the WESTFAST members and the Western States Water Council in developing a collaborative work plan to carry forward joint water resource initiatives. Contributory cost-sharing such a position will be based on authorized and available funds.

Nine federal agencies entered into a formal *Declaration of Cooperation* expressing their intent to work together to promote the benefits of sustainable and efficient use of water resources. They also made a commitment to work with other Federal, State, Tribal, local agencies and private stakeholders to seek effective watershed-based solutions to water issues in the Western States. WestFAST emphasizes proactive, voluntary, participatory and incentive-based approaches to water resource management and conservation. Working with the WSWC, WestFAST partners also agreed to collaborate in developing an appropriate plan of action to carry forward joint water resources initiatives.

The nine agencies represented include: in the U.S. Department of Agriculture, the U.S. Forest Service (USFS) and Natural Resources Conservation Service (NRCS); the U.S. Army Corps of Engineers; the Department of Commerce's National Oceanic and Atmospheric Administration (NOAA); the Environmental Protection Agency; and in the Department of the Interior, the Bureau of Land Management, Bureau of Reclamation, U.S. Fish and Wildlife Service, and U.S. Geological Survey.

Five of the nine WestFAST agencies signed the Declaration of Cooperation on July 10, 2008 and the last of the nine agencies signed in December 2008. The Federal Liaison Position was filled in October 2008. In 2009, WestFAST initiated work on twelve of the 42 *Next Steps* Report recommendations and engaged the Council in other

federal initiatives.¹ For 2010, WestFAST has adopted a work plan that parallels that of the Council. It focuses on efforts to advance federal interagency collaboration with the Council on a number of priorities, including climate change and drought, water information and data collection and management, western water projects and program funding, water resources research, water conservation and reuse, water quality in arid areas, and the transfer of water from agricultural to urban uses.

The Department of Energy (DOE) and National Aeronautics and Space Administration (NASA) have announced their interest in participating in WestFAST, and they have been invited to join.

In March 2010, in Washington, D.C., WSWC members, officers and staff, together with WGA staff, met with WestFAST member agencies' principal leadership and renewed their commitment to cooperation and collaboration.

A March 25 letter signed by WGA Executive Director Pam O. Inmann and WSWC Executive Director Tony Willardson notes, "...improved collaboration and coordination between the federal agencies and the states, as well as among the various federal agencies, has been a key goal of Western Governors, and we believe that the establishment of the Western States Federal Agency Support Team (WestFAST)...[has] been [a] crucial step...in achieving that goal. Since its creation nearly 18 months ago, WestFAST has developed a close working partnership with the WGA

1. "1. The Western States Water Council (WSWC) should enter into a formal agreement to create a 'Western States Federal Agency Support Team' made up of representatives of federal agencies having water resource responsibilities and create a WSWC 'liaison position' to facilitate collaboration." 2008 WGA *Next Steps* Report, p. I.



and WSWC...and its Federal Liaison Officer... has met and exceeded our expectations.... We also believe it has provided reciprocal benefits for federal agencies. The engagement and responsiveness of the WestFAST agency representatives and federal liaison have resulted in a new and better way to coordinate water management in the West.”

Climate Change Adaptation Policy Workshop - September 2008

The Council, WGA, and California Department of Water Resources jointly hosted a workshop on Climate Change Adaptation Policy in Irvine, California on September 24-26. WSWC Chairman Garland Erbele opened the workshop and described it as one aspect of implementing the recommendations in the WGA’s 2006 and 2008 Water Reports. The latter notes that the “undefined and undefinable climate and other variables mean continuing uncertainty and highlight the necessity of taking incremental steps and the need for adaptive management approaches.” The focus of the workshop was on tools for adaptation to climate change and variability, including beginning development of a set of tools that states could use as a standard of practice for climate change adaptation.²

Federal and State agency experts, consulting engineers and academic interests addressed the technical, legal, policy and management implications of climate change for water resources. Federal representatives discussed establishment of a National Climate Service³, weather and climate pre-

dition, revised hydrologic planning and design criteria, modification of reservoir flood control rule curves, risk management techniques, and remote sensing tools. The U.S. Army Corps of Engineers, U.S. Bureau of Reclamation, National Oceanic and Atmospheric Administration, National Weather Service’s Climate Services Division and Climate Prediction Center, U.S. Environmental Protection Agency, U.S. Geological Survey and National Aeronautics and Space Administration were represented.

Representatives of the University of Arizona, Arizona Water Institute, University of California (UC) – Berkeley and Irvine, University of Colorado, University of South Carolina and University of Washington discussed reconstructed hydrology, opportunities for decadal-scale climate prediction, the “death of stationarity,” urban water management planning, risk-based decision making, vulnerability analyses and impacts on water rights. State and local officials and other experts presented examples of case studies involving water supply planning in the Puget Sound area of Washington State, and reservoir reoperations in California. The formation of the Water Utility Climate Alliance was also discussed. NOAA’s Regional Integrated Science Assessment organizations were also represented, including the Western Water Assessment, as was the American Meteorological Society.

The potential need for federal legislation to support climate adaption efforts was a featured topic, along with strategies for incorporating adaption into state water planning and integrated regional

2. Powerpoint presentations are posted online: <http://www.westgov.org/wswc/08%20cc%20policy%20workshop.html>

3. 2008 WGA Water Report pp. IV, 8. (b) and VI-VII, 32, 34 and 36



water resources management and planning. States represented at the meeting, included Arizona, California, Colorado, New Mexico, Oklahoma, Oregon, South Dakota and Texas.

Collaborative Water Resources Planning Initiatives - October 2008

Beginning with a briefing at the WSWC's October 2008 meetings in Oklahoma City, Oklahoma, the Council has been actively involved in a U.S. Army Corps of Engineers effort to build collaborative relationships consistent with the WGA Water Reports.

The Council sponsored a regional workshop in conjunction with its regular 2009 Spring meetings in Kansas City, Kansas and participated in a national meeting in August 2009 in Washington, D.C. Council member states have collaborated with the Corps in the preparation of a summary of state water planning processes. The report will be published soon. Council members and staff have also reviewed a draft report from the Corps on the regional and national meetings, and a final report is expected to be released soon. Further work with federal agencies is anticipated in the development of a federal "toolbox" that will identify ways agencies can support water planning activities in the states.⁴

The Council has also reviewed draft federal legislation, yet to be introduced, known as the Sustainable Watershed Planning Act. The WSWC's aim is to make suggestions to maintain and enhance states' water-related rights, responsibilities and prerogatives.

The Council is working closely with WGA staff on both these initiatives.

The West's Water Future: Water Information Needs and Strategies Symposium - November 2008

The State of Utah hosted the WSWC's 2008 Water Management Symposium in Salt Lake City, on November 17-19. Nearly 100 experts from federal, state and local governments, as well as academia and private industry, attended. WSWC member states represented included California, Idaho, Montana, Oklahoma, Oregon, South Dakota, Texas, Utah and Wyoming. Participants listened to senior federal officials discuss our water information needs. Other experts gave panel presentations focused on both water quantity and water quality data and information.

The symposium was designed as a next step toward implementing a number of the 2006 and 2008 Water Report recommendations with a broad focus on data and information (both water quantity and quality) and more specifically, on identifying, quantifying and evaluating current water supplies, water needs and water uses. Participants were also asked to evaluate data gaps. Presentations highlighted the need for and importance of good water data and sound science for decision-making, and mechanisms for projecting future supplies and demands for informed water management and planning.

WSWC Chairman Garland Erbele outlined the purpose of the meeting. He stated, "Given the West's phenomenal population growth, ever increasing water demands for economic and environmental purposes, and the uncertainty surrounding the impacts of climate change on our future water supplies, providing timely and accurate water information for decision-makers and planners has never been more important. Im-

4. "2. The WGA should urge Congress to require federal water resource agencies to include 'Integrated Water Resources Planning and Assistance' as one of their primary missions...." 2008 WGA *Next Steps* Report, p. I.



proving our ability and skill in analyzing, predicting and managing changes related to water will be critical, and this symposium will explore data gathering, decision support and water planning tools.... We intend to use your expertise and these discussions to help produce a plan and set priorities for future research, data gathering and analytical activities, as well as recommend steps to better define appropriate governmental roles and responsibilities.”⁵

WSWC Vice Chair, Weir Labatt, of Texas, summarized the water information needs identified in the 2006 and 2008 Water Reports and observed that decisions about where and how to grow are rarely influenced by water policy or by the availability of water. He promoted increased support and funding from federal and state agencies for basic water data gathering and creation of a broad integrated water resources information system, “which would serve as a basis for water-related planning, preparedness and response activities.”⁶

Labatt describe data collection activities in Texas, including water use surveys, ground water monitoring, funding for streamgaging, and lake sediment surveys (including related changes in reservoir storage capacity). Texas has developed Ground Water Availability Models (GAMs) for every major aquifer, and Water Availability Models (WAMs) for its river basins. This information, along with population projections, was incorporated into its Water for Texas 2007 plan.

While unable to attend in person, Utah Governor Jon Huntsman, Chairman of the Western Governors’ Association (WGA), provided a video presentation (and the text of his message follows).

You meet in a place like others in the arid West where history has been defined and shaped by water. Our future will likewise be determined in large part by the availability and quality of this precious and vital resource. Utah’s population along with the entire region is growing rapidly. Meeting the needs for water for our growing cities, rural communities and agricultural areas is critical to our economic well being.

In the context of these growing and competing demands for water, the Western Governors directed WGA and its affiliate organization, the Western States Water Council, to develop strategies for providing sustainable water supplies in the West. As a result, we have developed a road map to fundamentally improve the way states and the federal government carry out their respective responsibilities regarding water management in the West.

We are committed to crafting a comprehensive plan to significantly enhance our ability to gather, coordinate and effectively disseminate information to decision-makers regarding water supply, water quality, water uses and projected demands. This will require a coordinated effort by all levels of government, as well as participation by the private sector, in other words an effort by individuals in this group.

I wish you the best of success and look forward to reviewing the results of your work. Thank you so very much for being here.

5. *Western States Water*, Issue #1801, November 28, 2008.
6. *Ibid.*



Other special guests were: Brigadier General John R. McMahon, Commander, South Pacific Division, U.S. Army Corps of Engineers (USACE); Robert S. Webb, Chief, Climate Analysis Branch, National Oceanic and Atmospheric Administration (NOAA); Robert W. Johnson, Commissioner, Bureau of Reclamation; Arlen Lancaster, Chief, USDA's Natural Resources Conservation Service (NRCS), Benjamin H. Grumbles, Assistant Administrator for Water, Environmental Protection Agency (EPA); and Robert M. Hirsch, Senior Scientist (and former Associate Director for Water), U.S. Geological Survey (USGS). They provided a broad overview of many water-related issues. Their presentations are extensively summarized in the WSWC's 2008 Annual Report. There were also dozens of presentations⁷ as part of six panels addressing various aspects of data/information on water availability, water use and water quality.

Small groups also addressed 20 questions designed to help better define the scope of the problem and possible solutions.

Omnibus Public Land Management Act - March 2009

On March 30, President Barack Obama signed into law as a package the Omnibus Public Land Management Act of 2009 (P.L. 111-11), which incorporated scores of bills including the following legislation. Several of the provisions in the bill's various subtitles as drafted were consistent with the WGA Water Reports' recommendations and closely mirrored some sections.

Aging Water Infrastructure Act Title IX - Subtitle G

This Act provides for the inspection of facilities constructed under federal Reclamation Law that could pose a risk to public safety or property damage, in response to the failure of a canal near Fallon, Nevada that flooded hundreds of homes. Often, such "transferred works," non-dam facilities operated by non-federal entities, pose increasing risks of loss due to urbanization of what were once agricultural lands. The Act directs the Secretary of the Interior, after inspection, to provide recommendations for improved operation and maintenance processes, and authorizes technical assistance and extraordinary work on facilities to preserve structural safety. Senate Majority Leader Harry Reid (D-NV) introduced the bill and testified in its support at an April 17, 2008 hearing, before the Senate Energy and Natural Resources Committee's Water and Power Subcommittee.

The WSWC also testified at that hearing on behalf of WGA, on the general topic of the Bureau of Reclamation's aging water resources infrastructure. The testimony specifically referenced the 2006 WGA Water Report's recommendations related to rural water supply needs and urged Congress to increase appropriations from annual receipts, "...accruing to the Reclamation Fund for authorized Bureau of Reclamation projects and purposes, to help meet western water supply needs, especially for rural communities, to maintain and replace past projects, and to build new capacity necessary to meet demands related to growth and environmental protection."⁸

7. PowerPoint presentations are available at www.westgov.org/wswc/meetings.html

8. 2006 WGA Water Report, 3.B. and 3.C., p. 15.



Cooperative Watershed Management Act Title VI - Subtitle A

In response to a specific request from Senator Jon Tester (D-MT), the bill's original sponsor, to review his draft legislation, the WSWC provided comments and upon introduction of the bill (S. 3085), supported its enactment. In a July 11, 2008 letter to the leadership of the Senate Energy and Natural Resources Committee⁹, the Council pointed out that the legislation could be an "important tool for watershed groups and managers, consistent with our ongoing efforts and those of the governors..." as expressed in the 2006 WGA Water Report, which states that the "focus should be on a grassroots, watershed approach to identifying water problems and potential solutions from the ground up, integrating these efforts into individual state plans."¹⁰

SECURE Water Act Title IX - Subtitle F

At the request of its sponsor, Senator Jeff Bingaman, the WSWC testified in support of the SECURE Water Act legislation in 2007. The Council specifically supported the enhanced spending authority for USGS streamgaging activities, a ground water monitoring system, brackish water study, new methods to estimate and measure water use, a national water use and availability assessment, establishment of an intra-governmental panel on climate change and water resources, a Reclamation Climate Change Adaptation Program, hydroelectric power assessment and effects of climate change, and financial assistance to non-federal entities for water-use efficiency improvements.¹¹

9. Letter to Senators Jeff Bingaman (NM), Chairman, Pete Domenici (NM), Ron Wyden (OR) and John Barrasso (WY).

10. Specifically, the report says, "States should facilitate collaborative watershed-focused planning that balances desirable growth and protection of the natural environment that depends on surface and ground water quantity and quality." 1.B. p.5. Further, "The WSWC should encourage states to develop and implement strong state water plans.... The

Water Settlements - Title X

The omnibus legislative package also included two significant water settlements: the San Joaquin River Restoration Settlement Act in California and the Northwestern New Mexico Rural Water Projects Act.

It also established in the U.S. Treasury a Reclamation Water Settlements Fund providing for the deposit of specified amounts from the Reclamation Fund for FY2020-FY2034. Moreover, it authorized the Secretary of the Interior to spend this money without the need to return to the Congress for further appropriation legislation. The settlement agreements eligible for funding must be approved by the Congress, resolve litigation and require the Bureau of Reclamation to provide assistance for water supply infrastructure and other purposes.

This fund would, for the first time, provide a dedicated source of revenue to implement Indian water rights settlements. A list of priority expenditures covers project features related to Indian water rights settlements in New Mexico and Montana. Despite the fact that budget rules will delay implementation and it is only a temporary authorization, it represents a very significant step forward in resolving outstanding water right claims that cloud western water rights and planning.

The WGA, WSWC, NARF and Western Business Roundtable have worked together for many years together as an Ad Hoc Group on Indian Water Rights Settlements. On April 2, 2009 the group sent a letter to the Secretary of the Interior, Ken Salazar, urging him to request funding sufficient to establish and maintain negotiation teams. The

focus should be on a grassroots, watershed approach to identifying water problems and potential solutions from the ground up, integrating these efforts into individual state plans. Similarly, regional or multi-state and multiple river basin strategic plans should be comprised of these building blocks." 2.D. p. 10.

11. Testimony before the Senate Energy and Natural Resources Committee by John D'Antonio, New Mexico State Engineer on behalf of the WSWC on December 11, 2007.

letter noted the Federal government's trust responsibility and obligation towards tribes, and encouraged the Secretary to provide the necessary funding to increase tribal participation, facilitate completion of negotiated settlements, and then implement agreements.

On March 17, 2010 the WGA addressed a letter to House and Senate Appropriations Committee leaders urging them to act to fund already authorized spending for settlement of Native American water right claims in accordance with the federal government's trust obligations. The letter was signed by Idaho Governor "Butch" Otter, WGA vice chairman, and WGA's other Lead Governors for Water, Bill Richardson, New Mexico, Michael Rounds, South Dakota, and Bill Ritter, Colorado. A similar WSWC letter to the President and key Administration officials was sent on November 6, 2009 expressing similar support and referencing another letter of support for funding sent to the President with the signatures of 20 U.S. Senators on October 13, 2009.

Climate Adaptation Work Group Efforts - June 2009

Since WGA's adoption of its 2009 Policy Resolution on Supporting the Integration of Climate Change Adaption Science in the West, the WSWC has been represented on the WGA's Climate Adaptation Work Group (CAWG). This group is charged with identifying and addressing gaps in climate adaptation efforts, and water resources management is a vital concern. CAWG is working on broad issues and will prepare a report outlining how to more effectively use climate modeling in policy decision-making.

WGA and WSWC are also working with NOAA on the structure of a National Climate Service. WestFAST is conducting an inventory of federal climate change programs, and identifying opportunities to advance climate-related research and develop adaptive management strategies.

WGA and WSWC have had discussions with NOAA and the Department of the Interior regarding coordination of various climate-related basin studies. The Council and WestFAST are also working with a Climate Change and Western Water Group (CCAWWG) formed by NOAA, the U.S. Geological Survey (USGS), Bureau of Reclamation, and U.S. Army Corps of Engineers.

WestFAST is also working with WSWC members on opportunities to increase water storage through non-traditional or innovative means in response to the greater variability expected with climate change. WestFAST is working to provide States with technical, policy and planning assistance.

The Western States Water Council has in the past urged the Administration and the Congress to give a high priority to funding for federal programs, such as the Regional Integrated Sciences and Assessments Program (RISAs) and national climate service activities that provide the translation function between basic scientific research on climate variability and change and the application of that research to real-world water management situations at the regional, state, and local levels.



WSWC/NARF Indian Water Rights Settlement Symposium - August 2009

The WSWC and the Native American Rights Fund (NARF) held the 11th biennial Symposium on the Settlement of Reserved Indian Water Rights Claims in August 2009 on the Lummi Nation's reservation near Bellingham, Washington.

The Symposium included a number of expert panels consisting of Administration officials and key Congressional staff, as well as state, tribal, and local representatives. These panels discussed a variety of topics, including: gathering background information and the role of technicians; identifying parties and issues and how negotiations bind larger groups; settlements and ground water; the Lummi Nation's settlement; and the Congressional outlook for settlement funding.

Letty Belin, Counselor to Deputy Secretary of the Interior David Hayes, conducted a listening session regarding the Administration's settlement policy and responded to questions and comments submitted by attendees. Washington's Department of Ecology Director Jay Manning also provided a keynote address, while Northwest Indian Fisheries Commission Chairman Billy Frank provided a wrap-up summary. The symposium included a tour of water-related sites on the Lummi Nation's reservation, as well as a dinner and presentation on the Tribe's culture.

The symposium is part of a larger, almost 30-year collaborative effort in which the WSWC and NARF have worked with each Administration and Congress to support Indian water rights set-

tlements. These efforts have been successful and Congress has authorized 23 settlements, including the Navajo Nation and Duck Valley settlements in 2009.

Quantifying and settling Indian reserved water rights claims continues to be a priority. Representatives of the Ad Hoc Group on Indian Water Rights, including WGA and WSWC staff, met this past March with Administration officials and Congressional committee staff to stress the importance of negotiated settlement of Indian water right claims -- and the need to appropriate sufficient funding for authorized settlements. WGA and the Council successfully supported the enactment of legislation creating a water rights settlement fund, but the current "pay-go" rules won't allow appropriations from the fund for several years. Eventually, the legislation will provide an important future source of funding for settlement agreements. Working with the Native American Rights Fund, the Council continues to promote settlements as the best means of resolving outstanding claims, reducing uncertainty and litigation for both Indian and non-Indian water users. Further steps in addressing the difficult issue of funding for settlements have been identified and will be pursued.

Water and Land Use Planning Symposium - September 2009

The WGA, WSWC, and the Colorado Department of Natural Resources sponsored the "Symposium on Water and Land Use Planning for a Sustainable Future: Scaling and Integrating" in Denver, Colorado on September 28-30. The



symposium was a first step toward implementing a number of the 2006 and 2008 WGA Water Reports' recommendations with respect to fostering sustainable growth policies and encouraging development of integrated growth and water supply impact scenarios, as well as balancing desirable growth and protecting the environment. Another purpose was to encourage the development and implementation of strong state water plans from the ground up.

The Symposium encompassed a variety of topics on land and water use planning, and participants included developers, nongovernmental organizations, and state, local, and federal government agencies. Over 150 people were registered.

John Tubbs, a former WSWC member and Deputy Assistant Secretary of Interior for Water and Science, was the keynote speaker. "I can attest to the fact that our institutions are built to divide the resource rather than to recognize the intrinsic and undeniable fact that water is a unified resource and the lands that drain it, the watershed, are the units of understanding and management," he said. "Comprehensive watershed plans that integrate water quantity, water quality and land use make sense."¹² Tubbs also discussed the impacts of climate change on western water resources, and highlighted a number of Interior initiatives, including Assistant Secretary Anne Castle's initiative on water conservation.

Tubbs said, "Her vision is to bring together the resources of the U.S. Geological Survey and the Bureau of Reclamation working with states, tribes, local governments and water users to identify best management practices and to establish a leadership role at the Department of the Interior

in water conservation. Our goals are to focus on securing water supplies for existing uses, to provide strategies to stretch limited supplies to ensure the long-term survival of aquatic ecosystems and surrounding environments, and to seek ways to conserve water so that future growth can be sustainable."

He added that Castle and Bureau of Reclamation Commissioner Mike Connor are "...focused on implementing the SECURE Water Act..." Of note, Mr. Connor, as a former Senate staff member, helped draft and work toward passage of the Act. It included several provisions related to increasing support for federal water-related data gathering activities. Mr. Connor has publicly acknowledged and expressed his thanks for the WSWC's support.

Colorado Governor Bill Ritter was the featured speaker and observed, "You have to engage towns, cities and communities to consider how they grow. Water use planning and land use planning have to go together." He further said, "Any growth plan we have must acknowledge the scarcity of water and opined that water planning should be more like transportation planning, which looks at where growth is likely to occur."

As for ag-to-urban transfers, Ritter said Colorado should not sacrifice other values solely for urban growth, noting, "Agriculture is part of our heritage. It is important to have a locally produced food supply."

Ritter also addressed the energy/water nexus, saying the oil shale industry has "...no idea of the amount of water needed..." to extract oil from rocks on a commercial scale, and that "...there are

12. *Western States Water*, Issue #1846, October 2, 2009.



a host of ways to produce energy with less consumptive use of water.” He recommended a combination of energy conservation, natural gas, wind, solar, geothermal and possibly nuclear power to reduce emissions.

National Integrated Drought Information System Workshop - October 2009

The National Integrated Drought Information System Act of 2006 (NIDIS Act; P.L. 109-430) prescribes an interagency approach, led by the National Oceanic and Atmospheric Administration (NOAA), for the development and coordination of drought risk information to support proactive decision-making. The NIDIS goal as stated in the Act is to: “Enable the Nation to move from a reactive to a more proactive approach to managing drought risks and impacts.”

NIDIS was developed in partnership with the Western Governors’ Association, but is national in scope. NIDIS has three general tasks: (I) provide an effective drought early warning system that (a) collects and integrates information on the key indicators of drought and drought severity, and (b) provides timely information that reflect state and regional differences in drought conditions; (II) coordinate Federal research in support of a drought early warning system; and (III) build upon existing forecasting and assessment programs and partnerships.

Now that NIDIS is authorized, attention has turned to funding for NIDIS and other issues associated with its implementation. The WSWC and WestFAST have assisted the WGA, pursuant to a grant from NOAA, in a series of activities, including regional workshops in the Midwest (Lincoln, Nebraska) and the West (San Francisco,

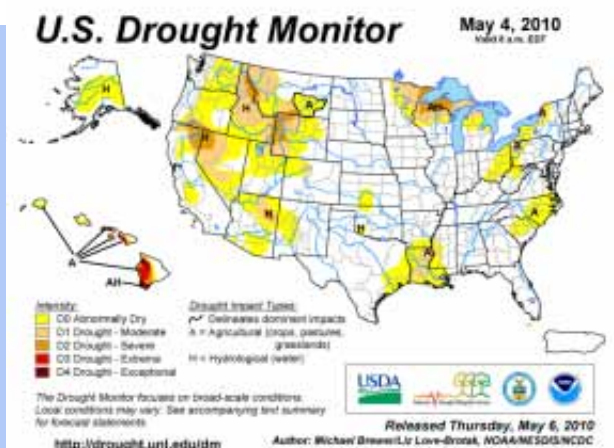
California). A national workshop to be held in September 2010 in Washington, D.C. is being planned. These workshops and other NIDIS implementation activities serve as a model for the establishment of a National Climate Service, as called for by the WGA, and initiated by NOAA.

The Lincoln workshop was held on October 13-14, 2009 just prior to the WSWC’s regular Fall meetings. Participants offered a range of suggestions to strengthen NIDIS in response to the question, “What next?” The responses are clustered below under four main themes:

Basic Data and Forecasts: Increase resources to collect fundamental drought and climate data and to improve the accuracy and utility of “risk-based” drought monitoring. This includes streamgages and SNOTEL sites, but also higher-resolution climate forecasts, a better understanding of population trends, and more information on the growing economic impacts of drought. Basic data is essential to a true “early warning system” for drought.

Drought Decision-Making: Improve the way we make decisions on drought, including through broad-based collaborative processes and a regular process for reviewing and updating drought plans. Drought planning should be embedded and integrated into water supply management, not an ad hoc response to the latest drought event.

Education: Educate the public and decision-makers on the impacts of drought and the benefits of sound and proactive drought planning.



Advocacy: Build a network of political supporters, including WGA and many others, to raise awareness and secure resources for drought services and response.

Water Management and Climate Variability Hearing - October 2009

On October 27, at the request of Subcommittee Chair Rep. Grace Napolitano (D-CA), the WSWC Executive Director testified on behalf of the Council at a House Resources Committee, Water and Power Subcommittee, oversight hearing on the topic, *Water Management and Climate Variability: Information Support at the USGS and Bureau of Reclamation*. The testimony referenced the 2006 and 2008 WGA Water Reports saying:

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. The 2006 report included 28 recommendations in six different areas, all of which are dependent on water resources information. The 2006 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."¹⁶

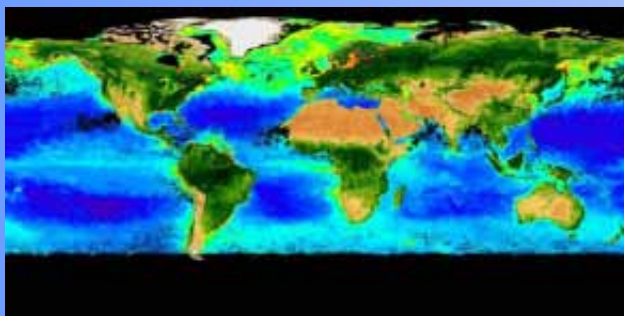
The 2008 "Next Steps" Report's Executive Summary included 42 recommendations for action. It recommended, "State and federal water resource agencies should work together to provide universal access to the water-related data collected by all state, local and federal agencies, as well as tools

and models that better enable the synthesis, visualization and evaluation of water-related data..."¹⁷ 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."¹⁸

In 2007, the Council undertook a survey of its member states regarding their existing water supplies, projected future water uses, and strategies for closing any gaps in water supply and demands. The effort highlighted the general lack of good information. Much of the future projected water use data could best be characterized as "unsubstantiated estimates."

The National Science and Technology Council's Committee on Environment and Natural Resources, Subcommittee on Water Availability and Quality (SWAQ), released a 2007 report entitled, "A Strategy for Federal Science and Technology to Support Water Availability and Quality in the United States." The report said, "Simply stated, quantitative knowledge of U.S. water supply is currently inadequate."

The report continued: "Our present situation regarding water supplies, water uses and the impact of climate change and variability might be compared to trying to balance your bank account without knowing what your income and expenses are, or how much you have or can expect to have in savings. Snowpack, reservoir storage and ground water are our savings accounts. Precipitation, streamflow and ground water recharge rep-



16. 2006 WGA Water Report, p. 10, 2D.

17. 2008 Next Steps Report, p. III, 7.

18. 2008 Next Steps Report, p. IV, 8(c).

resent our deposits, against which we write water use checks for our growing population and demands related to agriculture, our cities and towns, municipal, commercial and industrial uses, rural areas domestic uses, energy production, the environment, fish and wildlife, endangered species, recreation and the list goes on. Balancing our Nation's water books is a challenge that will require a collaborative state and federal effort and must involve myriad stakeholders.”

The testimony specifically noted the WSWC and WestFAST are working together to improve water resources information for decision-making, and have made incremental progress toward implementing recommendations in the WGA Water Reports. Moreover, the Council expressed its support for implementation of the SECURE Water Act.

The Council's testimony reiterated its support for federal water and climate data collection and analysis programs. Critical and vital information is gathered and disseminated through a number of important federal programs including, but not limited to: (1) the Snow Survey and Water Supply Forecasting Program, administered by the National Water and Climate Center (NWCC) in Portland, Oregon, and funded through USDA's Natural Resources Conservation Service (NRCS); (2) NWCC's Soil and Climate Analysis Network (SCAN); (3) the U.S. Geological Survey's (USGS) Cooperative Streamgaging Program and National Streamflow Information Program, which are funded through the Department of Interior; (4) Landsat thermal data acquired through the National Aeronautics and Space Administration and USGS; (5) USGS ground water measurement and monitoring; and (6) the National Oceanic and Atmospheric Administration's National Weather

Service and Climate Programs Office. It is important to note that interdependent and interrelated public and private decisions are made using this data.

Ag to Urban Water Transfers - November 2009

The WGA and the WSWC are participating in an Agriculture/Urban/Environmental Water Sharing Group that is working to identify innovative ways to transfer and share agricultural water with urban uses, while avoiding or mitigating damages to agricultural economies and environmental values.¹⁹

The group was formed in November 2009, building on other efforts by interested groups and individuals in response to concerns and recommendations set forth in the 2006 and 2008 WGA Water Reports. WSWC staff, in coordination with WGA staff, have participated with the group since its inception under the direction of the Council's Legal Committee.

The efforts of this group are consistent with standing WGA/WSWC policy.²⁰

To date, the group has acquired a facilitator and received a grant from the Walton Family Foundation to investigate ag-to-urban transfers, focusing first on the Colorado River Basin in the Southwest. As part of this effort, the group is planning to hold a Water Sharing Forum in August 2010 to bring together selected experts from across the Basin to work with group members to identify strategies and obstacles to sharing water, and to develop policy recommendations to maximize the water available for the benefit of agriculture, urban uses, and the environment. Once the respec-

19. In addition to the WGA and the WSWC, the group includes representatives from the Colorado Water Institute, the Environmental Defense Fund, the Metropolitan Water District of Southern California, Tumbling T Ranches, the Western Urban Water Coalition, WestFAST, the Colorado Water Conservation Board, the Family Farm Alliance, and the Nature Conservancy.

20. “States and local governments should consider the impacts of continued

growth that relies on transfers from agriculture and rural areas, and identify feasible alternatives to those transfers.” 2006 Water Report, p. 6,1.D. The 2008 Water Report said: “States..., working with interested stakeholders, should identify innovative ways to allow water transfers from agriculture to urban uses while avoiding or mitigating damages to agricultural economies and environmental values.” p.II, III Water Policy and Growth, 1.

tive organizations have reviewed and approved the forum's final work product, the group will present its findings and recommendations to the western governors, the Bureau of Reclamation, and others for their consideration. WGA and WSWC staff will participate in the forum and are working with other group members to develop the agenda, identify possible experts, and extend invitations.

Good Samaritan Legislation - November 2009

On November 13, 2009 Governors "Butch" Otter of Idaho and Michael Rounds of South Dakota, wrote expressing WGA's support for bipartisan legislation introduced by Senator Mark Udall of Colorado, along with Senators Michael Bennet of Colorado and James Risch of Idaho to encourage the clean up of abandoned hardrock mines by individuals or entities who had no role in the creation of the resulting environmental pollution and are not legally responsible for remediation. The bill would authorize the Environmental Protection Agency to approve Good Samaritan program permits under the Clean Water Act for any remaining discharges following such clean ups, and release such parties from any liability under the Act as long as they comply with such permits.

Udall's bill was introduced on October 13, 2009 and a companion bill was introduced in the House on July 14, 2009 by Rep. Doug Lamborn of Colorado. The WGA and WSWC have a long history of support for Good Samaritan legislation and worked with Senator Udall when he was in the House of Representatives. WSWC and WGA staff continue to work with the different authorizing committees and other western congressmen toward enactment of a bill.

Water Information Management and Climate Change Adaptation Workshop - November 2009

On November 17-19, the Council and the California Department of Water Resources (CDWR) co-hosted the 14th annual Water Information Management Systems (WIMS) Workshop in San Diego. The workshop focused on climate change adaptation and information needs, bringing together over 50 water and technology specialists from five states, ten federal agencies, three universities, and numerous consulting and non-governmental organizations.

Three important themes emerged from the workshop. First, science can identify possible climate change outcomes, but cannot predict probabilities. Second, no climate models are perfect, and states must develop flexible adaptation measures and strategies that best handle all possible outcomes. Third, the downscaling of some climate models may not produce information that is useful for water managers given the limitations of current computer technology and run times.

Tom Iseman of the Western Governors' Association (WGA) described the efforts of the WGA's Climate Adaptation Work Group (CAWG), which is working to determine the appropriate uses of climate adaptation modeling in informing natural resource and economic infrastructure planning and policies, while also identifying and filling in existing gaps in climate adaptation efforts within WGA states. Iseman noted that there are no "perfect" climate models and resource managers should consider the uncertainty regarding future climate conditions in their climate change planning efforts.



The workshop included a federal panel that discussed the coordinated efforts of the Bureau of Reclamation, the U.S. Army Corps of Engineers, the National Oceanic and Atmospheric Administration (NOAA), and the U.S. Geological Survey (USGS) with respect to USGS Circular 1331, a report that the four agencies prepared to describe the science needed to address the impacts of climate change on water resources management. Specifically: (1) Reclamation indicated they would complete a literature synthesis on climate change to support planning processes; (2) the Corps will initiate a study on how climate change may impact 132 Corps reservoirs; and (3) a National Integrated Drought Information Systems (NIDIS) early warning system pilot project in the Upper Colorado River Basin will continue. The four agencies are part of a Climate Change and Water Working Group (C-CAWWG) that is preparing an additional report that will better define priorities for tools and information to help the water user and management community. The group intends to issue an update in 7-9 months and is coordinating with the WSWC through members and staff.

Other workshop participants made a number of key points regarding monitoring and data needs regarding: (1) the relationship between carbon and temperature levels; (2) the monitoring of actual evapotranspiration; (3) the implications of climate change on ecological and fishery resources; (4) the updating of data regarding flood frequency and probable precipitation; and (5) water uses, particularly in agriculture. Several participants also said there is a need to downscale global climate models into regional models, while others expressed concern that downscaling some

models would require significant advancements in technology and could be time consuming and costly.

National Streamflow Information & Cooperative Water Programs - December 2009

WSWC and WGA efforts continued, in concert with numerous other governmental and non-governmental organizations, urging the Congress to fully fund the U.S. Geological Survey's (USGS) National Streamflow Information Program (NSIP) and sufficient funding for the Cooperative Water Program (CWP) to match non-USGS contributions. Full NSIP funding is estimated to require \$110 million, compared to the \$27.7 million appropriated for FY2010. Another approximately \$95 million would be needed to fully match state, tribal and other non-federal CWP expenditures, compared to the \$65.5 million provided in FY2010.

The slow erosion in federal spending has led to the loss of hundreds of streamgages and data that are vital for the management of western water resources, particularly given the uncertainty of future hydrologic regimes due to climate variability. Real-time streamflow information is a key to monitoring and adapting to a changing climate. The continuing decline in real federal CWP spending due to unfunded or only partially funded federal salary and other cost increases continues to shift the burden to the non-USGS cooperators, including states, which are not able to absorb all these costs. Hundreds of gages have been dropped – many with over 30-years of record – due to the lack of funding.



The WSWC participated in a series of letters, including a December 9, 2009 letter to Congressional leaders signed by 56 organizations, calling for increased funding.

The Council has provided Congressional testimony based on official reports, statements and positions taken by both WSWC and WGA. On October 27, 2009 the Council testified before the House Water and Power Subcommittee stating: “Over the years, federal appropriations have not kept up with increasing needs, program costs and/or capital replacement requirements, as well as matching non-federal contributions, and this erosion in funding has led to the discontinuance, disrepair, or obsolescence of vital equipment needed to maintain existing water resources related data gathering activities. For example, the USGS lists some 287 streamgages that have been or are being considered for discontinuation or for conversion from continuous record discharge to stage-only stations. The Council has consistently supported the fully-federally funded USGS National Streamflow Information Program (NSIP) and Cooperative Water Program (CWP), a federal/state streamgaging program. The Council has urged the Congress to appropriate sufficient money to restore the latter to a 50-50% funding match. Together, these programs form a national streamgaging network.”²¹

Landsat Data Continuity Mission and Thermal Infrared Sensor - February 2010

The WSWC and WGA were successful after years of effort working tirelessly with the Administration and the Congress, in securing a FY2011 budget request from the National Aeronautics and Space Administration (NASA) to include a thermal infrared sensor (TIRS) as part of its

Landsat Data Continuity Mission (LDCM) scheduled for launch in 2012. Thermal data is used by more and more states to accurately measure various consumptive water uses, particularly agricultural uses.

Following WSWC testimony presented in October 2009, before the House Resources Committee’s Water and Power Subcommittee, and in response to questions presented regarding the use of remote sensing, the Council responded in a letter dated November 4, 2009 with information on the use of TIRS data by western water managers for a variety of purposes.

The Council worked extensively with western Senators and members of the House to secure bipartisan support for federal funding for TIRS. In letter dated June 11, 2009, Senators Jeff Bingaman (D-NM), Chairman of the Senate Energy and Natural Resources Committee, together with Senator Michael Crapo (R-ID), wrote Senate Appropriations Committee leaders encouraging them to direct NASA to include a TIRS instrument as part of LDCM, noting that the data provided is “...critical for the western water management community and essential for other national applications.”

They added, “For over 25 years, Landsat 5 has gathered thermal infrared imagery. TIRS data has opened the door for greater water use efficiency, better defined rights to the use of water, and subsequently markets and transfer mechanisms that can be employed to facilitate changes in uses to maximize both our economic and environmental well being.” A similar letter of bipartisan support was signed by twelve western Senators on May 5, 2008.



21. The 2008 WGA Water Report also suggested that the Congress should: (a) fully fund the USGS National Streamflow Information Program to establish and add an additional 881 streamgages in the western states; (b) increase funding for the USGS Cooperative Water Program to preserve long-term streamgages; and (c) equally match state CWP contributions.

WGA wrote a letter of support on September 22, 2009 also encouraging Appropriations Committee leaders to fund the program.²²

Of special note, the Kennedy School of Government at Harvard University selected Idaho's Mapping Evapotranspiration (ET) program (which relies on TIRS data) as a 2009 Innovations in American Government Award winner. In collaboration with the University of Idaho, Idaho's Department of Water Resources has developed and used satellite-based ET imagery to enhance the understanding of agricultural water usage, settle water conflicts, prepare accurate ET maps, and compare past and present water use data. The State of Idaho has enjoyed multiple uses for TIRS data beyond what was originally conceived.

National Water Census and WaterSMART - February 2010

On February 22, Secretary of the Interior Ken Salazar signed a secretarial order establishing an initiative known as WaterSMART (Sustain and Manage America's Resources for Tomorrow). "The federal government's existing water policies and initiatives simply aren't built for 21st century pressures on water supplies," Salazar said. "I believe it is time for the federal government to join the movement toward a more sustainable water future." Salazar's order will help implement portions of the SECURE Water Act, which President Obama signed into law last year, as part of the Omnibus Public Land Management Act.

The initiative calls for a national framework to integrate and coordinate the water sustainability efforts of the Department and its state, federal, and private partners. To do this, the Initiative will: (1) coordinate with the Task Force on En-

ergy and Climate Change to identify the water footprint of energy technologies; (2) work with the Energy and Climate Change Council, the Department of the Interior Climate Science Centers and the Landscape Conservation Cooperatives to obtain the best available climate change science on water impacts and integrate sustainable water strategies within the field offices of the Department's bureaus and agencies; and (3) establish a water footprint reduction program to reduce the Department's potable water consumption by 26% by 2020 and its industrial, landscaping, and agricultural consumption by 20% by 2020.

Further, the Initiative "...will evaluate the information needed for sound decision-making on sustainable water and will determine whether there is adequate information about the availability, quality, and use of water across the Nation for this purpose. The Initiative will make recommendations for enhancements to information collection analysis and delivery where needed." The Administration's FY2011 budget request included \$9 million to fund WaterSMART's availability and use assessment and the U.S. Geological Survey has organized an ad hoc committee of which the WSWC is a member in order to draft a conceptual framework for such an undertaking.²³

WSWC Testimony on FY2011 Budget Request for Interior - March 2010

The WSWC was invited to testify before the House Resources Committee's Water and Power Subcommittee on March 11, 2010 with regard to the President's budget request for the U.S. Bureau of Reclamation and U.S. Geological Survey. The testimony presented was based on the WGA Water Reports and previous positions and statements. It touched on a number of topics, includ-

22. 2008 WGA Water Report, p. III. "4. Congress should provide funding sufficient to include the emissive thermal infrared (TIR) instrument on Landsat 8 as part of the Landsat Data Continuity Mission (LDCM) as a unique and cost-effective means to measure agricultural and other consumptive water uses. 5. The National Aeronautics and Space Administration (NASA) should immediately begin preparing a request for pro-

posals (RFP) and take other steps needed to ensure TIR is included on Landsat 8, and request supplemental and future funding sufficient to minimize any necessary delay in the scheduled launch." 23. 2008 WGA Water Report, p.IV."8. Federal agencies with long range water supply planning responsibilities should...(c) Ensure there is an accurate assessment of the Nation's water availability and water demands, with the goal of →

ing the need for more and better information for decision-making, climate change and the need to quantify Indian water rights by means of settlements, and use of the federal Reclamation Fund for authorized purposes.

Selected statements from the testimony follow: “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 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 will be over \$10B (but spending from this special Treasury fund 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.... Congress has authorized future transfers from the Reclamation Fund for con-

struction of projects related to Indian water rights settlements, the resolution of which has been a longstanding goal of the Council.”

“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 \$62 million request for Interior’s WaterSMART Program, and recognize the importance of the proposal in an increasingly tight federal budget. 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.”

“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 decision-makers in natural resources and emergency management, with the States as essential partners.”

“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 \$27 million), and the Cooperative Water Program (cut some \$1.9 million

(cont.) 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.



to \$63.6 million). 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 stakeholders have repeatedly called for full NSIP funding (\$110 million) and sufficient appropriations to support a 50%-50% CWP match (\$95 million). 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.”

WSWC/ICWP DC Roundtable - March 2010

On March 24, the WSWC and Interstate Council on Water Policy co-sponsored a roundtable discussion in Washington, D.C. that focused on the role of the federal government in support of state water planning for a sustainable future. A number of key Administration officials and senior Congressional staff participated.

Matt Larsen, Associate Director for Water, U.S. Geological Survey, described the work of CEQ’s Climate Change Task Force, which is developing recommendations for climate change adaptation. It includes members from over 20 agencies. A March 16, 2010 interim progress report includes recommendations regarding the following components for a national strategy on climate change adaptation: (1) integration of science into deci-

sions and policy; (2) communications and capacity building; (3) coordination and collaboration; (4) prioritization; (5) a flexible framework for agencies; and (6) evaluation.

Nancy Stoner, EPA’s Deputy Assistant Administrator for Water, discussed a number of efforts regarding sustainable communities, smart growth, water efficiency (WaterSense), green infrastructure, and climate and water. Ms. Stoner also discussed the problems associated with a lack of potable water supplies and stated, “We want people to know that they are going to have the water they need.”

Anne Castle, Assistant Secretary for Water and Science, within the Department of the Interior, described the WaterSMART program, Reclamation’s basin studies and the development of environmentally sustainable hydropower. She also said Interior hopes to move toward a 50%-50% partnership cost-share match for the Cooperative Water Program streamgaging when the economy recovers.

Terrance (Rock) Salt, Principal Deputy Assistant Secretary of the Army for Civil Works, described CEQ’s effort to revise the Principles and Guidelines for federal water projects. He addressed the “staggering” length of time needed for the Corps of Engineers to complete its project studies, which has a negative impact on project costs and quality. “Data gets stale.”

Harris Sherman, Under Secretary for Natural Resources and Environment, within the U.S. Department of Agriculture, said that forest health is a key to water quality. The Forest Service is “aggressively” trying to restore forests through a



number of efforts, including the downsizing of road systems to improve water quality and the removal of culverts to improve fish passage. He further noted that the Natural Resources Conservation Service is “increasingly becoming the conservation agency in America” and will be a “major player” in the future working with agricultural communities.

Gary Carter, Director of the National Oceanic Atmospheric Administration’s (NOAA) Office of Hydrologic Development, said his agency is expanding its hydrology program and leveraging its resources to move into water resource programs holistically. He also mentioned NOAA’s collaboration with the Western Governors’ Association in developing the National Integrated Drought Information System.

The roundtable concluded with a Congressional panel of majority and minority staff from the Senate Energy and Natural Resources Subcommittee on Water and Power; House Transportation and Infrastructure Subcommittee on Water Resources and Environment; and the House Natural Resources Subcommittee on Water and Power.

Among other things, the panel discussed the status of the next Water Resources Development Act, the SECURE Water Act implementation, the energy-water nexus, and Indian water rights settlements. In response to questions, Ted Illston, majority staff for the House Subcommittee on Water Resources and Environment, said there was no timeline to introduce a House version of the Clean Water Restoration Act, or the Committee’s proposed Sustainable Watershed Planning Act.

Exempt Wells Report - March 2010

The WSWC prepared a report that discusses the costs and benefits of monitoring exempt wells and potential approaches to mitigate their impacts. The Lewis and Clark Law School’s “Environmental Law” journal published the report in March 2010.

All but two western states exempt certain amounts of ground water used for domestic and livestock purposes from their permitting and/or adjudication procedures. These “exempt” wells have the potential to create significant regulatory and administrative challenges and could impact the sustainability of water supplies, surface flows, and water quality.

Among the key findings were the following:

There is no single approach for addressing exempt well use and each state’s individual circumstances will determine how and if it should mitigate exempt well impacts.

Permitting and monitoring exempt wells on a statewide basis may not be politically or administratively feasible for all states.

Some states may need to use narrow approaches that address specific concerns as opposed to efforts with statewide applications.

They may also need to work with stakeholders to create negotiated solutions that address concerns while allowing responsible exempt uses.



Efforts to mitigate the adverse impacts of existing exempt wells will likely be more costly and difficult than prospective measures that prevent future impacts.

Examples of possible prospective measures include limiting the number and type of exempt uses, ensuring proper well construction, and restricting new exempt wells in areas with community water systems and/or limited water supplies.

Most monitoring methods will not show how much water exempt wells consume and will not curtail exempt use because most users appear to comply with exemption limits.²⁴

National Integrated Drought Information System Workshop - March/April 2010

A second NIDIS workshop was held in San Francisco on March 31-April 1, 2010. One consistent theme in the workshop evaluations was the quality, diversity, and expertise of the panelists and meeting participants. It was clear from the workshop that drought affects a range of resources and management decisions in the West, with significant impacts and costs. Participants urged the development of more responsive and regionally-tailored information services to address future management decisions. They also recognized their obligation, as managers, to be willing to make decisions in the face of uncertainty, both for climate and ecological systems.

As the workshop proceeded, the discussion moved from drought and NIDIS toward the ongoing development of climate services. David Behar of the Water Utility Climate Alliance highlighted the priority needs for climate services of water managers in the West and identified key

goals that a climate service should promote, including “actionable science”. Robin Webb of NOAA described the goals and roll-out of the recently established NOAA climate service program and emphasized the significance of the upcoming report on climate services by the National Academy of Public Administration.

There was agreement that NIDIS could serve as a model for a National Climate Service, both in terms of how NIDIS is getting it right and places where NIDIS needs to improve. Participants urged WGA and the WSWC to work to ensure that national climate services meet the needs of western stakeholders and resource managers.

Key messages from the workshop included:

A Range of Key Decisions: Participants noted a wide-range of critical decisions that are affected by drought and should be informed by drought and climate information. These include reservoir management and water allocation, agricultural use, municipal water supply, land-use planning, forest management, flood control, hydropower and energy, fish and wildlife management and species conservation, as well as navigation. As Sebastian Degens observed, “A 900 foot ship needs at least a foot or two of draft.”

Basic Data and Forecasts: Increased resources are needed to collect fundamental drought and climate data and to improve the accuracy and utility of drought monitoring. This includes stream gages and SNOTEL sites, but also higher-resolution run-off and climate forecasts, a better understanding of population trends, and more information on the growing economic impacts of drought. We

24. WGA 2008 Next Steps Report, p. III, 3.(d).



also need more information on groundwater levels and trends. Basic data is essential to a true “early warning system” for drought, and it needs to be more available to the public, in order to facilitate “risk-based” decision making.

Socio-Economic Data: Socio-economic impacts, not just physical data, need to be incorporated in the decision-making process. Currently, we have anecdotal information in specific sectors and geographies, for example, an estimated \$4 billion loss to the agricultural sector in Texas in the 1990s due to drought. However, we need to develop comprehensive socio-economic data for a full range of the economic impacts of drought. As Kelly Redmond asked, “Is it a drought if it doesn’t affect anyone?”

Ecological Data: There is as much (if not more) uncertainty in ecological systems and responses as there is in climate forecasts. We need to do more to understand the ecological impacts of drought and climate change, and how multiple stressors (including levees, invasive species, water quality, etc.) may be interacting to influence ecosystems. As Chuck Bonham noted, “Is there a difference between drought and climate change? To trout, probably not.”

Decision-Making: Perfect information is not available. We need to understand what forecasts mean, assess how we can best use them, and make decisions under uncertainty. We need to educate decision-makers and the public on the meaning of information and forecasts. We will need to build public-private partnerships and provide relevant, user-friendly information.

Regionalization of Services: The emerging NIDIS pilots demonstrate the utility and effectiveness of providing drought services that are tailored to a specific regional issue and respond to the needs of local managers. To date, NIDIS has commenced pilots in the Colorado River Basin and U.S. Southeast. NIDIS is just undertaking a pilot in California. To the extent possible, regional pilots and services should continue to be an emphasis for NIDIS and should be a model for vertical integration of drought and climate services.

Coordination of Services: As we look towards the development of a broader set of climate services, we should build on the federal climate service enterprise that is already in place, including NIDIS but also NOAA supported Regional Integrated Science and Assessment (RISA) programs, Regional Climate Centers, and Regional Forecast Centers. In addition, federal climate services should recognize and coordinate with the efforts of state and local services and plans.

NIDIS as a model for Services: In many ways, NIDIS can serve as a model for how the federal government develops and implements climate services. Key aspects of the NIDIS model include engagement of state and local stakeholders in identifying needs and priorities; vertically integrated services that include national data but also tailored, regional and local pilots and services; development of new information and forecasts in response to user needs; coordination among federal agencies and establishment of a single drought information portal; and on-going engagement with stakeholders and users of the system to improve delivery of services.





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