2016

ANNUAL REPORT

of the

WESTERN STATES WATER COUNCIL

51st Annual Report

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2016 ANNUAL REPORT
OF THE
WESTERN STATES WATER COUNCIL
INTRODUCTION

The first official meeting of the Western States Water Council (WSWC) was held on the south shore of Lake Tahoe, at Stateline, Nevada on August 3, 1965. The Western Governors' Conference approved the creation of the WSWC during meetings in Portland, Oregon on June 10-13, 1965. The Governors' resolution explicitly stated: "The future growth and prosperity of the western states depend upon the availability of adequate quantities of water of suitable quality." Further, the governors felt that a fair appraisal of future water needs, and the most equitable means of meeting such needs, demanded a regional effort. Water availability and interbasin transfers of water were important issues. Western states found themselves in an era of rapid federal water resources development, and regional or basinwide planning, without a sufficient voice in the use of their water resources. The WSWC has since provided a unified voice on behalf of western governors on water policy issues.

The emphasis and focus of the WSWC has changed over the years as different water policy problems have evolved. However, the commitment toward reaching a regional consensus on issues of mutual concern has continued. The WSWC has proven to be a dynamic, flexible institution providing a forum for the free discussion and consideration of many water policies that are vital to the future welfare of the West. As envisioned by the Western Governors' Conference, it has succeeded as a continuing body, serving the governors in an expert advisory capacity. Over the years, the WSWC has sought to develop a regional consensus on westwide water policy and planning issues, particularly federal initiatives. The WSWC strives to protect western states' interests in water, while at the same time serving to coordinate and facilitate efforts to improve western water management.

WSWC membership and associate membership status is determined based on a request from the governor. Originally, WSWC membership consisted of eleven western states: **ARIZONA, CALIFORNIA, COLORADO, IDAHO, MONTANA, NEVADA, NEW MEXICO, OREGON, UTAH, WASHINGTON and WYOMING**. In 1978, **TEXAS** was admitted to membership, after many years of participation in WSWC activities in an "observer" status. **ALASKA** requested and received membership in 1984. **NORTH DAKOTA** and **SOUTH DAKOTA** both received membership in 1988 after a long association with the WSWC. **HAWAII** was a member from 1991-1999. In 1999, **OKLAHOMA** requested and received membership. In 2000, both **KANSAS** and **NEBRASKA** joined the WSWC at the request of their respective governors. WSWC membership is automatically open to all member states of the Western Governors' Association (WGA). Other states may be admitted by a unanimous vote of the member states.

Associate membership has also been granted states exploring the benefits of membership, experiencing financial hardship, or otherwise temporarily unable to maintain full membership.

Each member state's governor is an ex-officio WSWC member. The governor may appoint up to three Council members or representatives, and as many alternate members as deemed necessary. They serve at the governor's pleasure. (Associate member states are limited to two representatives and two alternates.)

WSWC officers, including the Chair, Vice-Chair, and Secretary-Treasurer, are elected annually from the membership. State representatives are appointed to working committees, with one representative per state also appointed to an Executive Committee. The Executive Committee attends to internal WSWC matters with the assistance of a Management Subcommittee, which includes the WSWC officers, immediate past Chair, and Executive Director. The WSWC's working committees are the Legal Committee, the Water Quality Committee, and the Water Resources Committee. Each working committee is directed by a committee chair and vice-chair. Committee chairs, in turn, name special subcommittees and designate subcommittee chairs to study issues of particular concern.

Meetings of the Council are held on a regular basis, rotating among the member states, with state representatives hosting Council members and guests. In 2016, meetings were held in: Washington, DC on March 22-23; Bismarck, North Dakota on July 13-15; and St. George, Utah on September 28-30. Guest speakers are scheduled according to the relevant subjects to be considered at each meeting. The Council meetings are open to the public. Information regarding future meeting locations and agenda items can be obtained by contacting the Council's office, or visiting our website. Included herein are reports on each of the Council meetings, positions and resolutions adopted by the Council, and a discussion of other important activities and events related to western water resources. Other information about the Council and Council members is also included.

The Council relies almost exclusively on state dues for funding the organization. Dues are set by the Executive Committee and each state pays the same amount. The Executive Committee authorized WSWC staff to move to a bi-annual audit as opposed to annual audits. Therefore no audit was preformed in 2016.

During 2016, the Council staff was comprised of: Anthony G. (Tony) Willardson, Executive Director; Michelle Bushman, Legal Counsel; Sara Larsen, Water Data Exchange Program Manager; and a secretarial staff consisting of Cheryl Redding and Julie Groat. Roger Pierce (NOAA) was selected to serve as the next WestFAST Federal Liaison replacing Pat Lambert, who returned to the U.S. Geological Survey.

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James Eklund - Colorado
Hal Simpson - Colorado
(Alternate)*
Jerry Rigby - Idaho
(**Chair**)
David Barfield - Kansas
Tim Davis - Montana
Jeff Fassett - Nebraska
Roland Westergard - Nevada
Tom Blaine - New Mexico
Garland Erbele - North Dakota
Julie Cunnigham - Oklahoma
Thomas Byler - Oregon
Steve Pirner - South Dakota
Kent Woodmansey - South Dakota
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Jon Niermann - Texas
Walt Baker - Utah
Maia Bellon - Washington
Patrick T. Tyrrell - Wyoming

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Jerry Rigby
(**Chair**)
Jeanine Jones
(**Vice-Chair**)
Tim Davis
(**Secretary/Treasurer**)
Tony Willardson
(**Executive Director**)
Pat Tyrrell
(**Former Chair**)

Nominating Subcommittee

Roland Westergard (**Chair**) - Nevada
Hal Simpson - Colorado
Pat Tyrrell - Wyoming

LEGAL COMMITTEE

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Jay Weiner - Montana
Jim Macy - Nebraska
Jason King - Nevada
Roland Westergard - Nevada
(Alternate)*
Maria O'Brien - New Mexico
Greg Ridgley - New Mexico
(Alternate)*
Jennifer Verleger - North Dakota
(**Chair**
Rob Singletary - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
Jon Niermann - Texas
Norman Johnson - Utah
Alan Reichman - Washington
Chris Brown - Wyoming
(**Vice-Chair**)

Clean Water Act Jurisdiction

Michelle Hale - Alaska
Trisha Oeth - Colorado
Barry Burnell - Idaho
Tom Stiles - Kansas
Jennifer Verleger - North Dakota
Todd Chenoweth - Texas
Walt Baker - Utah
Lauren Driscoll - Washington
Bill DiRienzo - Wyoming

Non-Tribal Federal Water Needs Subcommittee

David Schade - Alaska
Jay Weiner - Montana
Kristen Geddy - Nevada
Susan Joseph-Taylor - Nevada
Greg Ridgley - New Mexico
Jennifer Verleger - North Dakota
Jonathan Allen - Oklahoma
Dwight French - Oregon
Jesse Ratcliff - Oregon
Todd Chenoweth - Texas
Norm Johnson - Utah
Buck Smith - Washington
Abigail Boudewyns - Wyoming
Chris Brown - Wyoming
Pat Tyrrell - Wyoming

Ex-Officio Representatives

BLM - Jana Wilcox
FWS - Andrew Hautzinger
DOD - Marc Kodack
BOR - Becky Fulkerson
Donald Anderson

Tribal Reserved Water Rights Subcommittee

William Staudenmaier - Arizona
Cynthia Chandley - Arizona
Jay Weiner - Montana
Greg Ridgley - New Mexico
Arianne Singer - New Mexico
Norman Johnson - Utah

WRDA/Corps Policies

Tom Stiles - Kansas
Tim Davis - Montana
Jennifer Verleger - North Dakota

WATER QUALITY COMMITTEE

Alice Edwards - Alaska
Trevor Baggiore - Arizona
Thomas Howard - California
Betty Olson - California (Alternate)*
Trisha Oeth - Colorado
Patrick Pfaltzgraff - Colorado (Alternate)*
John Tippets - Idaho
Tom Stiles - Kansas
George Mathieus - Montana
Jim Macy - Nebraska
David Emme - Nevada
Butch Tongate - New Mexico
David Glatt - North Dakota
Julie Cunningham - Oklahoma
Shellie Chard-McClary - Oklahoma (Alternate)*
Jennifer Wigal - Oregon
Kent Woodmansey - South Dakota (**Chair**)
Steve Pirner - South Dakota (Alternate)*
Jon Niermann - Texas
Todd Chenoweth - Texas (Alternate)*
Walter Baker - Utah
Maia Bellon - Washington
Pat Tyrrell - Wyoming
Kevin Frederick - Wyoming (**Vice-Chair**) (Alternate)*
Todd Parfitt - Wyoming (Alternate)*

Clean Water Act Subcommittee

Michelle Hale - Alaska
Trisha Oeth - Colorado
Barry Burnell - Idaho
Tom Stiles - Kansas
Jennifer Verleger - North Dakota
Todd Chenoweth - Texas
Walt Baker - Utah
Lauren Driscoll - Washington
Bill DiRienzo - Wyoming

Water Quality/Quantity Nexus Workgroup

Walt Baker - Utah

WATER RESOURCES COMMITTEE

David Schade - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Eklund - Colorado
John Stulp - Colorado
(Alternate)*
Dick Wolfe - Colorado
(Alternate)*
John Simpson - Idaho
Jerry Rigby - Idaho
(Alternate)*
David Barfield - Kansas
John Tubbs - Montana
Tim Davis - Montana
(**Chair**) (Alternate)*
Jeff Fassett - Nebraska
Jason King - Nevada
Tom Blaine - New Mexico
Garland Erbele - North Dakota
Julie Cunningham - Oklahoma
Thomas Byler - Oregon
(**Vice-Chair**)
Kent Woodmansey - South Dakota
Bech Bruun - Texas
Eric Millis - Utah
Tom Loranger - Washington
Patrick Tyrrell - Wyoming
Steve Wolff - Wyoming
(Alternate)*

Climate Adaptation and Drought Subcommittee

Jeanine Jones - California (**Chair**)

Ex-Officio Representatives

Corps - Rolf Olsen
NRCS - Mike Strobel

Water Information and Data Subcommittee (WaDE)

Lane Letourneau - Kansas
David Rodriquez - New Mexico
Julie Cunningham - Oklahoma
Barry Norris - Oregon
Robert Mace - Texas
Pat Tyrrell - Wyoming

Ex-Officio Representatives

USBR - Becky Fulkerson
Corps - Steve Ashby
Boni Bigornia
USGS - Pixie Hamilton and Eric Evenson
NASA - Brad Doorn
NOAA - DeWayne Cecil
NRCS - Mike Strobel

Committee Assignments

EXECUTIVE COMMITTEE

Vacant - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(**Vice-Chair**) (Alternate)*
James Eklund - Colorado
Hal Simpson - Colorado
(Alternate)*
Jerry Rigby - Idaho
(**Chair**)
David Barfield - Kansas
Tim Davis - Montana
Jeff Fassett - Nebraska
Roland Westergard - Nevada
Tom Blaine - New Mexico
Garland Erbele - North Dakota
Julie Cunningham - Oklahoma
Thomas Byler - Oregon
Steve Pirner - South Dakota
Kent Woodmansey - South Dakota
Jon Niermann - Texas
Walt Baker - Utah
Maia Bellon - Washington
Patrick T. Tyrrell - Wyoming

WATER QUALITY COMMITTEE

Alice Edwards - Alaska
Trevor Baggiore - Arizona
Thomas Howard - California
Betty Olson - California
(Alternate)*
Trisha Oeth - Colorado
Patrick Pfaltzgraff - Colorado
(Alternate)*
John Tippets - Idaho
Tom Stiles - Kansas
George Mathieus - Montana
Jim Macy - Nebraska
David Emme - Nevada
Butch Tongate - New Mexico
David Glatt - North Dakota
Julie Cunningham - Oklahoma
Shellie Chard-McClary - Oklahoma
(Alternate)*
Jennifer Wigal - Oregon
Kent Woodmansey - South Dakota
(**Chair**)
Steve Pirner - South Dakota
(Alternate)*
Jon Niermann - Texas
Todd Chenoweth - Texas
(Alternate)*
Walter Baker - Utah
Maia Bellon - Washington
Pat Tyrrell - Wyoming
Kevin Frederick - Wyoming
(**Vice-Chair**) (Alternate)*
Todd Parfitt - Wyoming
(Alternate)*

WATER RESOURCES COMMITTEE

David Schade - Alaska
Thomas Buschatzke - Arizona
Mark Cowin - California
Jeanine Jones - California
(Alternate)*
James Eklund - Colorado
John Stulp - Colorado
(Alternate)*
Dick Wolfe - Colorado
(Alternate)*
John Simpson - Idaho
Jerry Rigby - Idaho
(Alternate)*
David Barfield - Kansas
John Tubbs - Montana
Tim Davis - Montana
(**Chair**) (Alternate)*
Jeff Fassett - Nebraska
Jason King - Nevada
Tom Blaine - New Mexico
Garland Erbele - North Dakota
JD Strong - Oklahoma
Thomas Byler - Oregon
(**Vice-Chair**)
Kent Woodmansey - South Dakota
Bech Bruun - Texas
Eric Millis - Utah
Tom Loranger - Washington
Patrick Tyrrell - Wyoming
Harry LaBonde - Wyoming
(Alternate)*

LEGAL COMMITTEE

David Schade - Alaska
William Staudenmaier - Arizona
Cynthia Chandley - Arizona
(Alternate)*
Jeanine Jones - California
James Eklund - Colorado
Jerry Rigby - Idaho
John Simpson - Idaho
(Alternate)*
vacant - Kansas
Jay Weiner - Montana
Jim Macy - Nebraska
Jason King - Nevada
Roland Westergard - Nevada
(Alternate)*
Maria O'Brien - New Mexico
Greg Ridgley - New Mexico
(Alternate)*
Jennifer Verleger - North Dakota
(**Chair**)
Rob Singletary - Oklahoma
Thomas Byler - Oregon
Kent Woodmansey - South Dakota
Jon Niermann - Texas
Norman Johnson - Utah
Alan Reichman - Washington
Chris Brown - Wyoming
(**Vice-Chair**)

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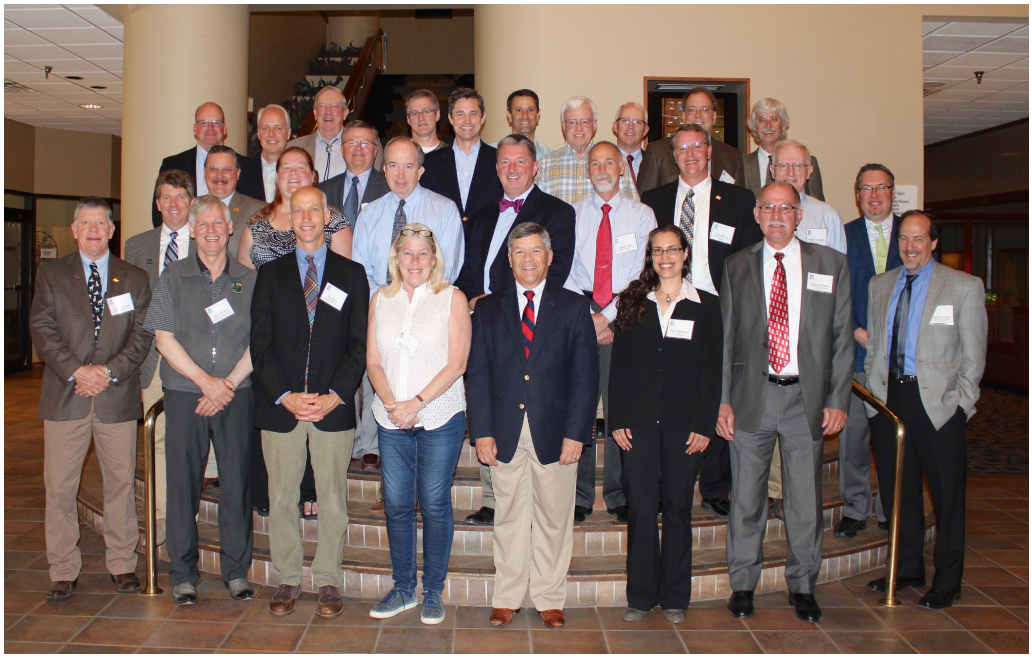
Council Members
Bismarck, North Dakota
July 15, 2016



Front row (left to right):

Pat Tyrrell, David Schade, Tim Davis, Betty Olson, Jeff Fassett, Einav Henenson, Garland Erbele, John D'Antonio

Row 2: Greg Ridgley, John Longworth, Jennifer Verleger, Jerry Rigby, Norm Johnson, Jim Macy, Steve Wolff, Chris Brown, Michael Gallagher, Robert Mace

Row 3: John Simpson, Tom Byler, John Stulp, Jim Fredericks, John Niermann, Jim Rizk, Rick Deuell, Walt Baker, Kent Woodmansey, and Kevin Frederick

COUNCIL STAFF

From Left to Right: Julie Groat, Pat Lambert, Sara Larsen, Tony Willardson, Michelle Bushman and Cheryl Redding

Anthony G. Willardson (Tony) . . . . . Executive Director
Michelle Bushman . . . . . Legal Counsel
Sara Larsen . . . . . Water Data Exchange Program Manager
Patrick Lambert . . . . . Federal Liaison
Cheryl Redding . . . . . Office Manager
Julie Groat . . . . . Administrative Assistant

COUNCIL MEMBERSHIP/STAFF CHANGES/NEWS

Kansas

In March, Governor Sam Brownback named **Susan Metzger**, Assistant Secretary for the Kansas Department of Agriculture (KDA), to the WSWC. Susan replaced former WSWC member **Greg Foley**, formerly with the KDA Division of Conservation.

Montana

Christian Schmidt, Administrator for the Water Quality Division at the Montana Department of Environmental Quality (DEQ) and a WSWC member accepted the position of Deputy Director of the Idaho Water Science Center with the USGS in Boise, Idaho. He left Montana DEQ in November.

Nevada

On July 21, Nevada Governor Brian Sandoval announced the retirement of Department of Conservation and Natural Resources (DCNR) Director **Leo Drozdoff** effective September 6, 2016. Leo worked for the State of Nevada for more than 25 years and served as Director of DCNR since 2009.

North Dakota

In March, WSWC member **Todd Sando** announced he would be retiring as the North Dakota State Engineer at the end of June. Todd was appointed to the WSWC in September 2010, and has served on the Executive Committee. In April, the North Dakota State Water Commission unanimously voted to appoint former WSWC Chair **Garland G. Erbele** North Dakota's State Engineer. In June, Governor Jack Dalrymple named **Garland** and **Andrea Travnicek**, Senior Policy Advisor, to the WSWC.

Michelle Klose, Assistant State Engineer, North Dakota State Water Commission accepted a new position as the Public Works Director for Utilities with the City of Bismarck. Her last day in the office at the State Water Commission was January 11. Michelle was appointed as an alternate member to the WSWC in April 2014.

Oklahoma

J.D. Strong, Executive Director of the Oklahoma Water Resources Board and WSWC Member, was selected by an eight-member Oklahoma Wildlife Conservation Commission to serve as the new Director of the Oklahoma Department of Wildlife Conservation effective October 17. J.D. was appointed to the WSWC in October of 1999 and served as Chair of the Water Quality Committee and as Secretary/Treasurer.

Wyoming

In June, WSWC member **Sue Lowry** announced her retirement as the Interstate Streams Administrator, Wyoming State Engineer's Office. Sue was appointed to the WSWC in March 2001 and served as Chair of the Water Resources Committee from 2002-2004.

Western Governors' Association

Laura Chartrand, Western Governors' Association (WGA) Policy Advisor for Water and Agriculture, was named the new Colorado Deputy Attorney General for the Natural Resources and Environment Section. Laura's last day at WGA was June 15. In the Fall, WGA hired **Ward Scott** as their new Policy Advisor for Water, replacing Laura Chartrand. Ward will manage a portfolio of regulatory, legislative and in-region water management and quality issues, as well as the ongoing work of the Western Governors' Drought Forum.

WSWC/WestFAST

WestFAST selected **Roger Pierce** with the National Oceanic and Atmospheric Administration (NOAA) to serve a two-year detail as the next Federal Liaison to the WSWC. Roger will be stationed in the WSWC's offices and will work to coordinate WSWC and WestFAST activities and to further federal-state collaboration. Roger succeeded Pat Lambert with the U.S. Geological Survey, who concluded his tenure as Liaison on September 3.

COUNCIL MEETINGS

180th Council Meetings
Washington, D.C.
March 21-25, 2016

The WSWC met in Washington, D.C. on March 22, with an abbreviated schedule that included all the committees meeting consecutively. The WSWC revised and renewed three sunsetting position statements supporting: (1) a high priority for federal programs that help translate science into action, such as the National Oceanic and Atmospheric Administration's (NOAA) Regional Integrated Science and Assessment (RISA) program; (2) authorization and implementation of rural water supply projects and programs that enhance water supplies and promote economic development through streamlined permitting processes and appropriate financing instruments, while appropriately protecting environmental resources and taxpayers; and (3) similarly authorization and implementation of reasonable hydropower projects and programs, taking advantage of this clean, efficient and renewable resource, but developed in compliance with substantive and procedural state water law and interstate compacts, and consistent with the States' authority under the Clean Water Act (CWA) Section 401.

The Water Resources Committee, chaired by Tim Davis, included several Western States Federal Agency Support Team (WestFAST) agency member presentations. Rob Harper, U.S. Forest Service (USFS), discussed the USFS water resources stewardship, while assuring members the USFS had no plans for the foreseeable future to republish its groundwater directive and any future action will be preceded by full stakeholder involvement. Rob Sampson previewed various water-related programs and assistance available from the Natural Resources Conservation Service (NRCS). Sonya Jones reported on progress towards a National Water Availability and Use Assessment, including funding for state agencies under a Water Use Data and Research (WUDR) Program. Diana Bauer described the water and energy nexus, drought and related Department of Energy activities. Dave DeWitt addressed NOAA's efforts to better forecast sub-seasonal precipitation, given the state of the science and technology. Becky Patton addressed the Department of Defense water needs assessments for existing installations, and their natural resources program. Tina Laidlaw, U.S. Environmental Protection Agency (EPA) Region 8, described the Upper Missouri River Demonstration Project, under the National Drought Resiliency Partnership (NDRP). Lastly, Brad Doorn presented on the status of Landsat and other missions under the direction of the National Atmospheric and Space Administration (NASA) related to water and soil moisture. Separately, Laura Chartrand reported on the Western Governors' Association (WGA) water, fish and wildlife, and endangered species activities and workshops.

Legal Committee Chair Jennifer Verleger updated members on the status of a number of Clean Water Act (CWA) lawsuits, including challenges to the Waters of the United States (WOTUS) or Clean Water rule, U.S. Army Corps of Engineers (Corps) jurisdictional determinations (*Corps v. Hawkes, Duarte Nursery v. Corps*), and preemptive and retroactive EPA vetoes of CWA Section 404 permits (*Pebble Ltd. v. EPA, Mingo Logan Coal v. EPA*). Michelle Bushman, WSWC Legal

Counsel, addressed the status of litigation over EPA's authority to permit water transfers between basins under the National Pollutant Discharge Elimination System (NPDES) when there is no addition of a pollutant (*Catskills* case). She also reported on litigation in the 9th Circuit recognizing groundwater as a source that may be used to satisfy tribal reserved water rights (Agua Caliente), as well as Pechanga and Blackfeet tribal settlement legislation.

The Water Quality Committee, Chaired by J.D. Strong, discussed EPA actions related to the treatment of tribes as states (TAS) in setting CWA water quality standards and related Total Maximum Daily Load (TMDL) limits for wastes carried by streams. He also covered forest road related issues and a court's mandate for EPA to look at other regulatory authorities (*Environmental Defense Center v. EPA*) after the Congress excluded them from regulation under the NPDES program in the 2014 Farm Bill. Council members Trisha Oeth and Walt Baker discussed the aftermath of the Gold King Mine spill and subsequent litigation and proposed Good Samaritan legislation for remediation of abandoned hard rock mines.

On Wednesday, March 23, the WSWC and Interstate Council on Water Policy (ICWP) held their biennial Washington, D.C. Roundtable. Senior Administration officials addressed members, including: Steve Stockton, U.S. Army Corps of Engineers, Director of Civil Works; Jennifer Gimbel, Principal Deputy Assistant Secretary for Water & Science, U.S. Department of Interior; Ellen Gilinsky, Senior Policy Advisor, EPA Office of Water; Peter Colohan, Senior Advisor, NOAA; Tom Graziano, Acting Director, National Water Center; Ann Mills, USDA Deputy Under Secretary for Natural Resources and Environment; Kelly Kryc, Senior Policy Analyst, White House Office of Science and Technology Policy; and Josh Barnes, National Security Council staff. These and other agency officials also joined the WSWC on Thursday morning for our WestFAST Principals' discussion covering a wide range of issues and anticipated future actions to implement Presidential Memorandum. All in all, the WSWC D.C. meetings involved unprecedented access to key federal Administration leaders.

The Roundtable discussions Wednesday also included a panel of congressional committee staff: Senate Energy and Natural Resources – Melanie Stansbury (D); Environment and Public Works – Susan Bodine (R); House Natural Resources – Matthew Muirragui (D); and Transportation and Infrastructure – Elizabeth Fox (R). Each briefly noted issues before their respective committees. Melanie spent some time addressing a National Policy Framework to Address Drought and Water Security released by Ranking Minority Member Maria Cantwell (WA-D) on World Water Day. The Council also prepared and shared its portfolio of positions on numerous issues before these and other committees.

181st Council Meetings
Bismarck, North Dakota
July 13-15, 2016

On July 13-15, the WSWC held its 181st meetings in Bismarck, North Dakota. The meetings included the election of new officers with the WSWC selecting Jerry Rigby of Idaho as Chair,

Jeanine Jones of California as Vice-Chair, and J.D. Strong of Oklahoma as Secretary-Treasurer. The WSWC revised and re-adopted four sunsetting positions that: (1) support federal efforts to prepare for and respond to extreme weather events, including an expanded and enhanced west-wide extreme precipitation monitoring system; (2) state that the WSWC "…opposes any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing;" (3) oppose the removal of "fish and wildlife" as an authorized purpose for which the Corps can manage the Missouri River Mainstem Reservoir System; and (4) urge support for water research at the Department of Energy National Laboratories.

State Attorney General Wayne Stenehjem addressed the Council. North Dakota faces two basic problems, either too much water or not enough. The Northwest Area Water Supply Project is designed to bring water to Minot and other communities from the Missouri River and Lake Sakakawea, but Canada and the State of Missouri have raised water quality and water quantity concerns in litigation. North Dakota is also involved in a dispute with Canada over treaty interpretation regarding flow obstruction and agricultural flooding. North Dakota has filed a number of lawsuits against federal agencies overreaching their authority, including EPA's WOTUS rule and the Bureau of Land Management's (BLM) fracking rule. He added that the people who live and work in North Dakota do care about their environment, and they want to protect it for their children and grandchildren, but the state is in the best position to take care of itself.

During the Water Resources Committee Meeting, Troy Timmons, WGA Director of Operations and Strategic Planning briefed members on the WGA's June Annual Meeting and the resolutions adopted. He also noted WGA's various water-related activities. Lastly, Troy mentioned that Montana Governor Steve Bullock's initiative as Chair will focus on forest health and wildfire issues.

Kevin Werner, Director, Office of Organizational Excellence, National Weather Service, provided an update on drought, precipitation anomalies, snowpack and melt, and improvements in short-term weather forecasting, climate modeling, and sub-seasonal to seasonal precipitation forecasting. He noted that El Niño was forecast very well, but the expected precipitation patterns were backwards. Computational capacity is still a significant limiting factor in modeling.

Pat Lambert, WestFAST Liaison, gave a presentation on current and future uses of Federal Communications Commission (FCC) bandwidth to provide water and meteorological data through the Geospatial Orbiting Environmental Satellite (GOES) radio spectrum. The U.S. Geological Survey (USGS) has concerns about FCC auctioning off adjacent frequencies of bandwidth to the private sector due to the potential for interference with routine and emergency transmissions of data. Some state uses may also be affected. Stakeholder comments and requests to FCC may ensure protection of the radio spectrum and encourage studies to determine whether co-occupancy of the spectrum will interrupt downlinks.

Sara Larsen, WSWC Water Data Exchange (WaDE) Program Manager, provided updates on Department of Energy National Labs programs and studies, as well as increased FY2017 funding

requests relating to the water-energy nexus. She reported on the recent progress of Washington, South Dakota, Texas and Nevada toward flowing data in the WaDE. She noted upcoming grant deadlines and opportunities for funding through the USGS Water Use Data Research program.

Joel Galloway, Acting Director, USGS North Dakota Water Science Center, addressed the importance of flood science in North Dakota, with a 50-year trend of increasing peak flows to the East and decreasing to the West. The State has over 100 years of data on stream flow, and has a state-wide network to monitor water quality. The science, funded by ten federal, state and local agencies, supports flood management strategies and identifies the effects of dam management on channel morphology in the Missouri River. USGS is also engaging in a study to quantify water use by unconventional oil and gas development.

During the Water Quality Committee Meeting, David Glatt, Chief, North Dakota Environmental Health Section, gave a presentation on water quality issues in North Dakota. He talked about the ongoing problems of Devil's Lake, a closed basin with flooding that impacts local farms and sulfate and selenium concentrations that impair water quality. He described the extent of prairie potholes across the State and concerns with increased regulation under the WOTUS rule. North Dakota has been developing a nutrient reduction strategy, prioritizing watersheds, setting load reduction goals and numeric nutrient criteria, and identifying ways to ensure effectiveness, and transparency.

Jeff Frithsen, EPA's Office of Research and Development, provided an update on the EPA Fracking Study regarding impacts on drinking water and recent Science Advisory Board Meetings. Marylou Soscia, EPA Region 10, talked about recent changes to Tribal Treatment as States rules and guidance, and provided advanced notice of proposed rulemaking regarding Tribal Water Quality Standards. Prasad Chumble, EPA Office of Water, talked about the decision not to regulate stormwater on forest roads and to provide support for recently updated state regulations. Sharmin Syed and Erin Flannery-Keith, EPA Office of Wastewater Management, provided NPDES application and program updates, including a proposed rule. Diana Eignor and Betsy Behl, EPA Office of Science and Technology, and Jonathan Kennen and Sonya Jones, USGS Water Availability and Use Science Program, discussed the recent EPA-USGS Report on Protecting Aquatic Life and Hydrologic Flow Alteration and comments received from WSWC and various states. WSWC Executive Director, Tony Willardson read part of the WGA's recently adopted resolution on Cleaning Up Abandoned Mines in the West.

Walt Baker, Director of the Utah Division of Water Quality, gave a presentation on state water quality protection authorities and the Clean Water Act (CWA). Patrick Pfaltzgraf, Director of the Colorado Water Quality Control Division, provided an update on Gold King Mine monitoring.

In the Legal Committee Meeting, Aaron Snyder, Corps, described the Fargo-Moorhead project, which recently received new start construction funding as part of a state and local partnerships to address flood risk management. The project involved construction of a diversion channel to be constructed by the project sponsors, with the Corps constructing a Southern dry dam

embarkment. The Corps will also provide technical assistance with regulatory requirements. As an innovative public/private partnership, the project is expected to shave six years and $400 million off the schedule/costs, with private responsibility for the design, build, operation and maintenance.

Jay Weiner, Montana Assistant Attorney General, provided an overview of recent WSWC-NARF visits to members of Congress and federal agencies with a role in Indian water rights settlements. He provided an update on the Blackfeet settlement and addressed a recent letter from the Office of Management and Budget regarding its new requirements for approval.

182nd Council Meetings
St. George, Utah
September 28-30, 2016

On September 28-30, the WSWC held its 182nd meetings in St. George, Utah. With the departure of J.D. Strong (OK), Tim Davis (MT) was elected as the new Secretary-Treasurer. The WSWC revised and re-adopted three sunsetting positions that: (1) urge the Administration and NASA to enhance focus on research for water resources applications; (2) express continuing support for implementation of the SECURE Water Act; and (3) support legislation and administrative solutions to allow the federal government to pay state filing fees in state general stream adjudications. A position urging Congress to enact legislation to clarify that pesticide applications performed in compliance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) are not subject to NPDES permitting was allowed to sunset.

Alan Matheson, Director of the Utah Department of Environmental Quality and Chief Environmental Advisor to Governor Gary Herbert, addressed the Council. He provided an eloquent introduction to Utah's water challenges recalling lessons learned on a Colorado River trip with WSWC Member Bill Staudenmaier. Floating down the river you encounter huge boulders that form obstacles around which the water flows, but over time the persistent rush of the water continues to work and eventually the boulder yields. When it comes to thoughtful water policy, we encounter challenges and obstacles all the time, but we persist and hopefully make decisions that benefit future generations. Alan praised the good work of the WSWC, which he had the opportunity to see first-hand as the Chair of the Staff Advisory Council (SAC) to the WGA when Governor Herbert was the Chairman. Alan described a number of Utah's water challenges and its ongoing water planning process, noting that water is the lubricant of Utah's economy.

Tom Iseman, Deputy Assistant Secretary for Water and Science, Department of the Interior (DOI), addressed how the federal agencies are coordinating and leveraging their programs under the NDRP. They are evaluating their performance and focusing on small-scale programs that save water. He welcomed input on the Landsat 10 launch, discussed an upcoming reorganization of the USGS, and provided an update of recent work in the Colorado, Columbia, and Republican River Basins. He also noted the importance of WSWC's involvement in the Administration transition, emphasizing both western issues, as well as continuing the strong state-federal relationships.

During the Water Resources Committee Meeting, Troy Timmons, WGA Director of Operations and Strategic Planning, updated the members on WGA Chairman and Governor Steve Bullock's (D-MT) initiative on National Forest and Rangeland Management. Wildfires devastate communities, causing water quality problems that impact drinking water, fish and wildlife habitat. They are seeking to coordinate efforts between state and federal land managers, as well as private property owners. Zach Bodhane, WGA Policy Advisor, addressed voluntary species conservation efforts, looking at landscape scale conservation instead of focusing on one species at a time. They are looking at the role litigation has played in shaping the Endangered Species Act over time, and are building a matrix of suggestions for pre-species designation actions. Suggestions on potential case studies to addressing water quality or aquatic habitat as part of forest or rangeland restoration are welcome.

Jeanine Jones, WSWC Vice-Chair, reported on the Irrigation Management Information System (IMIS) Workshop held in San Diego, California in August. She noted the current patch work of data collection systems is very resource limited, and funding is needed to build up the capacity of the current systems before the data can be used across interstate basins.

John Moreno, Chief, Corps Business Technical South Pacific Division, briefed members on how dam and levee safety programs are handled. Using the Whittier Narrows Dam as an example, he described the year-to-year deviations from releases prescribed in the Water Control Manual, and adapting longer-term solutions to accommodate Los Angeles County's desire to hold more water during drought, while assessing flood control risks. He also noted that the Corps built levee structures next to vegetation, and is seeking feedback from stakeholders on more appropriate guidelines for vegetation variances while informing those located downstream of the associated risks.

Katherine Dahm, U.S. Bureau of Reclamation (USBR), Water Resource and Planning Division, summarized the March 2016 Climate Change and Water Report to Congress. Since the 2011 report, USBR initiated 26 WaterSMART basin studies to look at the impacts of climate change on water supply, evaluate adaptation strategies, and identify current actions to improve data and information, ecosystem resiliency, systems operations, and water supply augmentation. USBR also released a web-based visualization tool that reproduces a narrative of the key highlights from the report and offers downloadable data sets.

David Susong, Director, USGS Utah Water Science Center, reported on a recent WasterSMART study to identify the significance of groundwater discharge to the Colorado River Basin streamflow. The study looked at stream geomorphology, historic water flow records, snow pack hydrodynamics, water use, and the spatial distribution of groundwater discharge to streams. Most groundwater discharge to streams occurs in the upper elevation basins, but the more arid, lower elevation catchment basins are more dependent on groundwater discharge. The relatively young age of the groundwater samples tested suggests a potential rapid response to changes in environmental conditions. USBR is developing a tool to assess climate impacts on joint groundwater-surface water resources, to improve our understanding of salinity sources, and to apply the information to other watersheds.

Brad Doorn, NASA Water Resources Program Manager, discussed the applied science program and NASA's new Western Water Applications Office (WWAO). NASA's research topics are based on feedback from WSWC and others with an interest in using the data from satellite observations and cost-effective ground systems to manage water resources. Randy Friedl from the Jet Propulsion Lab, provided more detail on the WWAO, intended to harness decades of investments in science and technology and apply NASA capabilities to western water issues to meet stakeholder needs. They are developing innovative approaches to identify and quickly fund projects with a potential for high impact, and look forward to continuing the dialogue with WSWC.

David Gochis, National Center for Atmospheric Research (NCAR), explained the information gathered and lessons learned from their snowfall measurement and streamflow forecasting improvement project in the Upper Rio Grande Basin. Deploying portable research radars to improve models with measurements on the ground, they found a strong correlation between the radar information and the data collected at SNOTEL sites, and were able to improve the models. The experimental bias-corrected forecasts were equal to or better than current operational forecasts, taking into account a much wider range of variables than the older NRCS forecasting technique. Working with partners, they hope to expand the domain to other regions to evaluate the robustness and to quantify the improved forecasting.

Veva Deheza, National Integrated Drought Information System (NIDIS) Executive Director, NOAA, talked about recent updates to the NIDIS early warning systems and efforts to look at extreme precipitation events. NIDIS also made changes to its Executive Council, asking WSWC to play a greater role, and adding a robust private sector to the council. They are revamping their drought portal website with key resources to assist water management decision makers, and they are working with the NDRP on drought resilience activities.

During the Water Quality Committee Meeting, Erica Gaddis, Assistant Director, Utah Division of Water Quality, presented several water quality concerns Utah is currently tackling, including legacy mine drainage, harmful algal blooms (HABs), and statewide water infrastructure. They are currently utilizing NPDES monitoring permits for point source discharges. They are implementing an adaptive nutrient reduction strategy, reaching out to wastewater treatment plants contributing to HABs. Utah has focused on securing water supplies for a growing population, but initial plans failed to include wastewater treatment plants to cope with the additional water supply.

Don Barnett, Executive Director, Colorado River Basin Salinity Control Forum, provided an overview of the salinity control program, which started 40 years ago amid rising concerns about the increased salinity as well as the implications of the newly passed Federal Water Pollution Control Act. The program includes seven states as well as hundreds of local agencies, organizations and companies. Over time they established numeric criteria and point source activities, and with more than half a billion dollars in funding and the joint efforts of partners, they have significantly reduced the annual salt load.

During the Legal Committee Meeting, Norman Johnson, Assistant Attorney General, Utah Attorney General's Office, provided an overview of recent cases and water settlements in the state. The Utah Court of Appeals issued a decision in *HEAL Utah v. Kane Co. Water Conservancy District*, affirming the approval of change applications to divert water upstream for a proposed nuclear power plant, rejecting arguments that the Green River is over apportioned and that the change would harm the natural stream environment contrary to the public welfare. A change application cannot be rejected without a showing that vested rights would be substantially impaired. The legislature recently agreed to allocate funds to address a backlog of objections in some long-pending general adjudication cases. Utah is close to reaching a water rights settlement with the National Park Service on Bryce Canyon National Park, and has a settlement in principle with the Navajo Nation waiting to be presented to Congress.[1]

[1]PowerPoint presentations given at the meetings are posted on the WSWC's website. See: http://www.westernstateswater.org/upcoming-meetings/past-meetings/.

OTHER MEETINGS

Western Governors' Association

Species Conservation and Endangered Species Act Initiative

On January 19, Governor Butch Otter (R-ID) hosted the second in a series of workshops sponsored by the Western Governors' Association (WGA) in Boise, Idaho. He praised Chairman Matt Mead's (WY) Species Conservation and Endangered Species Act (ESA) Initiative, and noted both states are home to iconic species such as the grizzly bear, wolf and sage grouse. He called for collaborative solutions with the best available science. "In my opinion, part of the problem is a lack of clarity and transparency." He went on to suggest that there is no federal "road map" to species recovery and the directions and destination keep changing. Less than 2% of listed species have been recovered. That's "terrible by any standard," and "continuing in the same way is irresponsible." He stated that taking over federal lands is not the answer. "I identify with the rule of law, but being seriously considered in deliberations is important..." to states and local communities.

Governor Otter questioned court decisions that have blocked some delistings, and initial recovery goals that were based on the "best available science" have now been changed judicially. He observed, "The goal posts keep moving. In some cases, they have moved the whole field, and we don't know where to play!" He also addressed the slow pace of development of recovery plans. He noted that the bull trout was listed in 1998, but a federal recovery plan was only recently adopted (17 years later). Meanwhile, at least in Idaho, he said, "Biologically, the fish has been recovered for years. Why don't they take our plan?"

The Governor noted that despite a lot of frustration, there have been some successes, pointing to the Upper Salmon River Basin, and an inclusive process in the Kootenai Valley on the Canadian boundary that covers multiple, diverse species.

He pointed out that in Idaho, fish and wildlife are state resources protected and conserved under a constitutional mandate. Moreover, he referenced his own Idaho upbringing and noted that people born and raised on the land love the land and its wildlife. "They have lived and raised families on that land, and in some cases are buried on that land.... In many ways Idaho has the best answers to ESA questions."

With respect to sage grouse, he noted that the biggest threat is not grazing, but wildfire and invasive species like cheat grass that fuel them. The U.S. Fish & Wildlife Service (FWS) has determined that the listing of the sage grouse is not warranted, and recognized widespread state, local and private conservation efforts. However, the Department of the Interior (DOI) also amended federal land-use plans to protect the birds, with new requirements which Idaho considers to be "unprecedented and unnecessary restrictions on Idaho farmers and ranchers, sportsmen, recreationists, employers and others." The Governor and Idaho legislature have sued over the lack of a transparent, collaborative process in setting the new restrictions. In a press release last

September, the Governor declared, "We didn't want an ESA listing, but in many ways these administrative rules are worse. This [lawsuit] is an unfortunate but necessary step to protect the rights of Idaho citizens to participate in public land decisions that will impact their communities, their economy and their lives." He concluded, "The federal government needs to engage the states and local folks in a full partnership."

James Ogsbury, WGA Executive Director, and Gary Frazer, Assistant Director, Ecological Services, FWS provided remarks. Several panelists addressed the role of state and local governments in species conservation, use of the best available science, critical habitat designation, voluntary conservation efforts, private land owner incentives, and landscape scale conservation efforts.

The WGA held its third in a series of Chairman's Initiative workshops on March 9-10, in Denver, Colorado. Colorado Governor John Hickenlooper (D) kicked off the meeting referring to the success of the collective sage grouse conservation effort, which allowed the FWS to find that the species did not need listing under the Act. He praised DOI Secretary Sally Jewel for her unprecedented leadership, adding: "It shows what can happen when we come together to protect wildlife and the environment, as well as our economies." He noted many of the challenges are not due exclusively to the current law, but to the lack of a sufficient framework for effective collaboration. He called for good science, improving habitat on working lands, clarity in economic analyses and projections, and adequate implementation funding.

WGA Chairman Matt Mead (R), Governor of Wyoming, noted Governor Hickenlooper's leadership was critical to achieving bipartisan support for sage grouse efforts. He said people are passionate about working to improve ESA implementation. The WGA's workshops and webinars have already involved some 3,400 people. "We in the West appreciate wildlife," he said. He noted the low percentage of listed species that have been delisted, saying: "If you care about species and habitat, you recognize we can do better…. Species protection is a western landscape issue."[2]

Annual Meeting

The WGA's annual meeting was held in Jackson, Wyoming on June 5-7, with Governors Doug Ducey (AZ), John Hickenlooper (CO), Butch Otter (ID), Steve Bullock (MT), Brian Sandoval (NV), Jack Dalrymple (ND), Dennis Daugaard (SD), Gary Herbert (UT) and Matt Mead (WY), WGA Chairman, participating. Governor Mead hosted the meeting, and opened with remarks noting that WGA's common theme is bipartisan efforts to address policies that affect the West.

Governor Jay Nixon of Missouri was invited as the keynote speaker, focusing on promoting outdoor recreation. However, he briefly remarked on the long-standing disputes over the Missouri River, stating that Missouri was just "holding our own with some of you here on the stand" with respect to water rights.

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[2]http://www.westgov.org/initiatives/esa-initiative/workshops.

Another guest speaker, Dayton Duncan (author and filmmaker), celebrated the National Parks System calling it America's Best Idea. President Abraham Lincoln signed the Yosemite Protection Act in 1864, and President Ulysses S. Grant signed legislation in 1872 creating Yellowstone, the first national park in the world. He mentioned the construction of the [Hetch Hetchy] Dam in Yosemite as an example of threats to our national treasures, which now include "over visitation."

U.S. Department of Energy Secretary Ernest Moniz declared, "We are on the pathway to significant change." Low natural gas prices are displacing coal for thermal electric generation, and some ask if prices will "drive out renewables." He added that all energy resources have a place, stating that fossil fuels, nuclear, renewables and conservation are all part of the solution. Without getting into the climate science, he said the big news was the Paris agreement, noting the challenges, but also the opportunities.

Department of the Interior Secretary Sally Jewel, flatly stated regarding the Paris accords: "We are not going back. We have to go forward." She referred to drought, wildfire, early snowmelt runoff and other indicators of change. She addressed sustainable water management goals, WaterSMART grants to help local communities, and water recycling. She also highlighted DOI's new Natural Resources Investment Center and work with private sector partners. Other topics she covered included the economic value of the National Parks, investments in public lands, energy reforms and charting a federal path forward for coal, as well as fixing the broken wildfire budget, noting 10 million acres burned in 2015.

A panel on Innovations in the West included Matt McKinney, General Manager of the Bently Ranch in Nevada. He noted, "Soil and water are our most important resources." While drought is pervasive, they have been able to manage both their water supplies and uses. They have diversified cropping to include not only alfalfa, but barley, corn, hops, oats, rye and wheat, as well as lavender and other aromatics. They feed their own beef, which is marketed directly locally and they are starting their own brewery. They compost waste for use as fertilizer, and can also precisely apply herbicides and pesticides directly through 37 center-pivot systems. Using an automated SCADA system, workers can dial in daily crop water needs and turn water on and off on their phone, saving water and time. In response to a question from Governor Sandoval, he replied that they are using 30-35% less water on alfalfa, and 25% less on their grain crops. Last year, with limited water they got four cuttings of hay.

The Western Governors formally approved seven new policy resolutions on federal-state land exchanges, invasive species, wildland fire management, cleaning up abandoned mines, species conservation, energy transmission, and the National Parks. Federal-State Land Exchanges and Purchases (#2016-04) calls on Congress to simplify and expedite the federal-state land exchange, sale and conveyance processes to simplify the checkerboard land ownership issue and resource management. Combating Invasive Species (#2016-05) supports coordinate management to ensure that actions result in more on-the-ground prevention, management and eradication, and the creation of a west-wide species inventory. Wildland Fire Management and Resilient Landscapes (#2015-06) calls on Congress and the Administration to address mitigation of wildfire danger, promote healthy

forests and rangelands, address "fire borrowing," and take advantage of current authorities to expedite projects to improve western ecosystems and reduce extreme wildfire danger.

Cleaning Up Abandoned Mines in the West (#2016-07) calls on Congress to protect parties that volunteer to remediate and clean up mines, including local and state governments, from legal liability under §301(a) and §402 of the CWA for any continuing discharges. They also call on Congress and Federal agencies to consider legislative and administrative remedies to address potential Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) liabilities.

Species Conservation and the ESA (#2016-08) recognizes the value of partnerships with federal, state and local governments and stakeholders, and articulates seven broad goals the Governors believe should drive improvements. Energy and Transmission (#2016-09) adopts the WGA "10-Year Energy Vision for the West," recognizing there is no one-size-fits-all solution, but with a commitment to states developing policies that use their energy endowments to the maximum benefit of their citizens, the region, and the nation. National Parks and the West (#2016-10) recognizes the importance of National Parks in preserving unique natural treasures, providing recreational opportunities, and contributing to local and state economies throughout the United States.[3]

National Forest and Rangeland Management Initiative

On October 20-21, WGA and Governor C.L. "Butch" Otter (ID) hosted the second of five workshops on the National Forest and Rangeland Management Initiative, held in Boise, Idaho. Governor Otter delivered the keynote address, emphasizing state, federal and local collaboration and identifying projects of greatest value on which to collaborate. Jim Lyons, Interior Deputy Assistant Secretary of Land and Minerals Management, said: "Research has shown that healthy landscapes are more resilient to the impacts of climate, drought and fire." Collaboration is important to blunt the impacts of resource issues that know no political or administrative boundaries, he added.

Their speeches were followed by roundtable discussions led by state, local, and federal representatives on: (1) forest management challenges in Idaho; (2) rangeland challenges in the western states, including wildfire and habitat conservation; (3) lessons learned in assembling successful Good Neighbor Authority projects; (4) Idaho utilization of the 2014 Farm Bill authorities; and (5) impacts of forests and rangelands on local governments. There were also two case studies presented on the power of partnerships, one highlighting the Bureau of Land Management (BLM) Rangeland Fire Protection Associations and the other the U.S. Forest Service (USFS) Good Neighbor Authority, and a third case study on facilitating forest restoration through collaborative processes.

[3]http://www.westgov.org/policies.

On December 1-2, the WGA and Governor Dennis Daugaard (SD) hosted the third of five workshops in Deadwood, South Dakota. The Governor noted that Deadwood got its name from a 1800s pine beetle infestation, and that a modern outbreak has been successfully managed through the joint efforts of South Dakota and the USFS. That land management relationship has helped control fire danger as well as support economic growth and tourism. He added: "I'm so glad to see so much expertise here. But we don't want to use this workshop to just clap each other on the back. We want to use this to think about how to do things better." The workshop included roundtable discussions on: (1) the South Dakota's experience; (2) prescribed fire as a management tool; (3) co-mingled lands; (4) agency culture challenges; and (5) strengthening collaboration and collaborative processes. There was also a case study on active management and innovative markets.[4]

Winter Meeting

The WGA held its 2016 Winter Meeting in San Diego, California at the Hotel Del Coronado on December 13-14. Governor Edmund G. (Jerry) Brown welcomed the governors and attendees and in extemporaneous remarks addressed the water management challenges facing the State due to its historic and continuing drought. Among related efforts, he mentioned water conservation, water reuse, groundwater management, and San Francisco Bay-Sacramento/San Joaquin Delta issues and infrastructure. He said, "Hopefully, we can find a way to allocate our water resources in a wise and efficient manner...." His father, Governor Pat Brown, oversaw development of the State Water Project, which has been essential to supplying California's past and present water needs. In 1965, Pat Brown was also instrumental in the creation of the WSWC, together with then Oregon Governor Mark Hatfield (later U.S. Senator Hatfield). Governor Jerry Brown called for development of the California Water Action Plan, to improve water supply reliability and resilience, as well as protect and restore important ecosystems. He has championed WaterFix, a controversial $15 billion plus twin tunnel project to carry Northern California waters under the Delta to Southern California water users, as the best, scientifically sound solution to Delta challenges.

During the WGA meetings, the governors adopted and re-adopted a number of policy resolutions. They adopted a bold resolution outlining a framework for Building a Stronger State-Federal Relationship based on principles of federalism (2017-01). The preamble notes: "It was, after all, the states that confederated to form a more perfect union by creating a national government of limited and defined powers.... This principle is memorialized in the Tenth Amendment, which states in into entirety, 'The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.' This reservation of power to the states respects the differences between regions and peoples. It recognizes a right to self-determination at a local level. It rejects the notion that one size fits all, and it provides for a rich tapestry of local cultures, economies and environments.... Despite the foregoing, the balance of power has, over the years, shifted toward the federal government and away from the states.... Increasingly prescriptive regulations infringe on state authority, tie the hands of states and local governments, dampen innovation and impair on-the-ground problem-solving."

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[4]http://westgov.org/initiatives/forest-and-rangeland-initiative/workshops.

Of particular note, WGA revised and re-adopted a statement (2017-04) on Water Quality in the West, addressing issues related to the CWA and Safe Drinking Water Act (SDWA), as well as highlighting the role of the states as co-regulators. Among other topics, it covers permitting, water transfers, pesticides, non-point source pollution, nutrients, and Good Samaritan legislation. It also mentions drinking water standards, risk assessments, hydraulic fracturing, and pharmaceuticals and emerging contaminants. Water data needs are also specifically referenced.

It declares: "Clean water is essential to strong economies and quality of life.... States have federally-recognized authority to manage and allocate water within their boundaries.... States and the Environmental Protection Agency (EPA) work together as co-regulators under the CWA and the [SDWA].... The West includes a variety of waters.... States need more flexibility to determine how to best manage these varying resources."

Referring to the CWA, the governors affirm: "States have jurisdiction over water resource allocation decisions and are responsible for how to balance state water resource needs within CWA objectives. New regulations, rulemaking, and guidance should recognize this state authority.... States have exclusive authority over the allocation and administration of rights to use groundwater located within their borders and are primarily responsible for allocating, protecting, managing, and otherwise controlling the resource...." The resolution continues, "Water transfers that do not involve the addition of a pollutant have not been subject to the permitting requirements of the CWA's National Pollutant Discharge Elimination System (NPDES). States already have authority to address the water quality issues associated with transfers.... Non-point source pollution requires state watershed-oriented water quality management plans, and federal agencies should collaborate with states to carry out the objectives of these plans.... Congress should enact a program to protect volunteering remediation parties who conduct authorized remediation of abandoned hard rock mines from becoming legally responsible...for any continuing discharges...."

Regarding SDWA standards, the governors state: "It is essential that the federal government, through EPA, provide adequate support to the states and water systems to meet federal requirements.... Contaminants such as arsenic, chromium, perchlorate and fluoride often occur naturally in the West. Western Governors support EPA technical assistance and research to improve both the efficiency and affordability of treatment technologies for these contaminants.... Analysis of the costs of treatment for drinking water contaminants...should be balance against the anticipated human health benefits.... The possible health and environmental impacts of emerging contaminants and pharmaceuticals are of concern to Western Governors.... [T]here is a need for more reliable science showing impacts on human health.... Further, the resolution reads, "States currently employ a range of effective programmatic elements and regulations to ensure that hydraulic fracturing does not impair water quality.... Federal efforts to study the potential impacts of hydraulic fracturing...should also be limited in scope, based upon sound science, and driven by the states. Western Governors oppose efforts that would diminish the primary and exclusive authority of states over the allocation of water resources necessary for hydraulic fracturing...."

The governors further remarked, "Western water management is highly dependent upon the availability of data regarding both the quality and quantity of surface and ground waters. EPA should provide support to the states in developing innovative monitoring and assessment methods...."[5]

White House Water Summit on Building a Sustainable Water Future

On March 22, the White House hosted a summit on Building a Sustainable Water Future attended by a number of WSWC members, by invitation, including Chairman Pat Tyrrell (WY), JD Strong (OK), John Tubbs (MT) and James Eklund (CO). Both James and John participated on two of several panels addressing water topics, with lightning talks and announcements of commitments interspersed. Topics addressed included water science, building resiliency to extreme weather events, agriculture and forestry, urban infrastructure, innovative infrastructure finance, and integrated watershed management.

John Holdren, Director of the Office of Science and Technology Policy (OSTP), opened the meeting with remarks, together with Kathryn Sullivan, NOAA Administrator. Other Administration officials participating included: Jo-Ellen Darcy, Assistant Secretary of the Army for Civil Works; Robert Bonnie, Under Secretary for Natural Resources and Environment, U.S. Department of Agriculture; Stan Meiburg, Acting Deputy Administrator of the Environmental Protection Agency, and Jennifer Gimbel, Principal Deputy Assistant Secretary of Interior for Water and Science (and a former WSWC member). Alice Hill, Special Assistant to the President and Senior Director for Resilience Policy, National Security Council, provided closing remarks along with Ali Zaidi, Associate Director for Natural Resources, Office of Management and Budget.

The White House also released a 37-page document with commitments to action by federal, state and local agencies, academic institutions, non-governmental organizations, corporations and others.[6] Commitments are categorized into: (1) managing water for the long-term; (2) investing in water solutions; (3) accelerating development of innovative technologies; (4) supporting critical research; (5) enhancing data collection, access and usability; (6) conserving water and watersheds; (7) helping communities in need; (8) raising public awareness; and (9) delivering tools and resources.

James Eklund described Colorado's commitment to work with private, public and philanthropic partners to create two new institutions to help drive future water innovation and infrastructure. A water data and innovation hub to be created in Denver will serve as a laboratory focused on water innovation and data analytics. It is a product of a February 2016 summit convened by Governor John Hickenlooper. Separately, a Center for Excellence and an Intermountain Infrastructure Exchange in Colorado will be designed to: (1) help leverage federal and state funds for public-infrastructure projects with private capital; (2) assist project proponents in considering

[5]http://www.westgov.org/policies.
[6]www.whitehouse.gov.

how up-front capital can be supplied from private-sector partners; and (3) assess how project risk can be transferred to private-sector capital partners and away from the public.

John Tubbs described the Upper Missouri National Drought Resilience Partnership (NDRP) demonstration project, which covers eight watersheds in southwest Montana. The goals of the project are to: (1) provide tools for monitoring, assessing and forecasting; (2) develop local and regional capacity to plan for drought; and (3) implement local projects to build regional resilience. Working towards these goals, the project will address data gaps and ensure drought-related information is integrated and accessible to landowners, watershed groups and resource managers. Further, it will encourage investment in the financial and organizational capacity of local watershed groups to build trust and empower community leaders to work together on drought planning and drought resilience. Lastly, a suite of on-the-ground projects will work to store water more effectively in wetlands and floodplains, improve soil health, and optimize upland and forest management.

Sub-Seasonal to Seasonal Precipitation Forecasting Workshops

On April 29, the WSWC sponsored a workshop on Sub-Seasonal to Seasonal Precipitation Forecasting for Western Water Management together with the California Department of Water Resources (CDWR), National Oceanic and Atmospheric Administration (NOAA), National Weather Service (NWS) and Climate Prediction Center (CPC) at NOAA's Center for Weather and Climate Prediction in College Park, Maryland. A diverse group of scientists, decisionmakers and stakeholders gathered to address the challenges we face to improve forecasting skills out to the subseasonal to seasonal level.

Dr. Louis Uccellini, NWS Director, opened the meeting emphasizing that NOAA Administrator Kathryn Sullivan views building NOAA's capability with respect to water resources observations and modeling as a legacy goal. He addressed major worldwide losses due to floods and droughts. With signs of sea level rise, growing populations and more infrastructure at risk, we are increasingly vulnerable to extreme events. NOAA/NWS are working to improve 4-8 day extreme event forecasts, and connecting forecasts to decisionmakers as a foundation for building a "Weather and Water Ready Nation." In tight budget times, this is a NWS priority. In addition to better forecasts and warnings, the goal includes more consistent products and services, as well as actionable intelligence for decisionmaking.

NWS is addressing the challenges of western drought, Southeast flooding and harmful algal blooms. The agency is working to develop relationships and better understand partners' needs, incorporating social sciences, and even embedding NWS personnel in partners' emergency operations. For example, the Corps wants 30-day forecasts for Mississippi and Missouri River navigation management and flood operations. NOAA is also working with the Consortium for the Advancement of Hydrologic Science, Inc. (CUHASI) on a national flash flood interoperability study. CUHASI's 125 universities study terrestrial components and processes of the global water cycle.

NOAA/NWS are leading efforts at the National Water Center in Tuscaloosa, Alabama to develop a National Water Model forecasting flows with water levels for 2.7 million river reaches and

incorporating snow pack and soil moisture data. Scientific excellence and innovation are driving accelerated research towards better predictions for floods and drought to support decisions for a water resilient nation. NOAA is also supporting enhanced ocean and terrestrial observations, including ocean buoys, as well as satellite remote sensing. NOAA/NWS are upgrading data assimilation systems, and striving to reduce model errors through improved understanding of physics and dynamical earth processes. NWS is poised to extend its "Weather Ready" to a "Water Ready" Nation, and transforming the NWS hydrology program from observations to forecasts and warnings for decision support. NWS is also looking at health vectors, such as hypoxia/beach quality.

Lastly, Dr. Uccellini summarized the NWS focus to improve weather and water forecasts, better quantify and communicate forecasts, map forecasts with infrastructure, and convey risk assessments among all decision makers. In response to questions, he added that NWS is working with international agencies and "bulking up" to gather and disseminate "big data." One challenge is to improve and incorporate quantitative precipitation forecasts (QPF) into River Forecast Center (RFC) operations. Further, NWS is focused on pushing forecasts first out to 30-days and then to seasonal forecasts with multi-model ensembles.

Others presenting at the workshop included: Michael Farrar, Acting NOAA Deputy Assistant Administrator, Oceans and Atmospheric Research (OAR); Dave DeWitt, Director, Climate Prediction Center; WSWC Officer Jeanine Jones, CDWR, Interstate Resources Manager; Kevin Werner, NWS, Director, Office of Organizational Excellence; Marty Ralph, Scripps Institute of Oceanography; Ed Clark, National Water Center, Director, Geo-Intelligence Division; Dan Barrie, NOAA, Climate Program Office, Modeling, Analysis, Predictions, and Projections (MAPP), Program Manager; Ed Dunlea, National Academies of Sciences (NAS); and Will Stelle, NOAA West Coast Regional Administrator.

On June 7-9, the WSWC, in cooperation with the CDWR, and NOAA, brought together leading scientists and state water officials in a workshop in San Diego, California to discuss the state of the art with respect to Improving Sub-Seasonal and Seasonal (S2S) Precipitation Forecasting. This is the fourth in a series of workshops this past year.

Jeanine Jones, reviewed recent NOAA-WSWC collaborative activities and emphasized the importance and value of better precipitation predictions, and greater "lead times," in order to improve water resources management decisionmaking. Stakeholders continue to ask, "Will next year be wet or dry?" NOAA and other federal and state agencies are working to find ways to answer this question, but improving our capacity to predict precipitation several weeks or months in advance with any skill will require a sustained commitment of resources to help us better understand complex processes. What limited skill we have depends on our understanding of oceanic and related meteorological events such as El Niño, the warming of equatorial waters that influence the movement of the jet stream and western weather patterns. However, this past year an unusually strong El Niño led to expectations of extreme wet weather across the Southwest, which did not happen.

Mike Anderson, California State Climatologist, reviewed what was predicted and what happened, while Alex Tardy and Roger Pierce, with the San Diego Weather Forecast Office addressed communicating probabilistic outlooks.

Duane Waliser, Chief Scientist, Earth Science and Technology Directorate, NASA, outlined recommendations from a National Academy of Sciences S2S report[7] that outlined a research agenda towards realizing a future in which we will use S2S forecasts in decisionmaking to the same extent that we now use 5-10 day weather forecasts with similar skill.

Dave Dewitt, NOAA Climate Prediction Center (CPC) Director, described an initiative to improve forecasts 3-4 weeks out and the use of dynamic models of earth systems, coupled with statistical models. A discussion of the pros and cons of the two different types of models followed, leading to a comment that together these modeling techniques have brought us to where we are today with accurate short-term weather forecasting. To improve our understanding of dynamic earth systems, including our oceans, atmosphere, land and ice cover, we need to invest more resources in advances in understanding the physics. Present S2S predictions are based on coarse models with limited understanding of interactions between physical systems. We need better tools to have better forecasts. NOAA's goal is to improve S2S forecast skill by 20% over 5 years, and 40% over 10 years.

Sarah Kapnick, NOAA Physical Research Scientist, and Marty Ralph, Director of the Center for Western Weather and Water Extremes (CW3E) at the Scripps Institution of Oceanography, described examples of research activities. Sarah is working on a model at a high resolution (25 kilometer grid) to account for mountain orographics and precipitation impacts. However, the computing power, time and related costs increase exponentially, compared to low resolution models. Moreover, observations and data that match the model resolution may not always be available. Sarah noted at the 25km resolution, the seasonality and the timing of extreme precipitation begin to appear from the model runs and that improvement in the results also appear when adding information on the state of the stratosphere to the model initialization. Some significant skill may be possible in predicting snow accumulation perhaps nine months out. The importance of data and observation systems was stressed throughout the workshop.

Marty addressed atmospheric rivers (ARs) and the need for a westwide observing network. ARs move water vapor around the hemispheres equivalent to 26 Mississippi Rivers, at lower altitudes. ARs moving north of Hawaii towards the West Coast, coupled with the Sierra Jet up and over the mountains produce copious amounts of precipitation, and are associated with California's wettest days, and accounting for perhaps 85% of the variability in precipitation. Therefore, the number of AR related storms is directly related to wet and dry California water years. He noted that warming temperatures will lead to greater water vapor transport, an estimated 20% at mid-latitudes and up to 100% more across Arctic regions, which would be expected to lead to warmer and wetter poles (which are now essentially deserts) and a loss of sea ice.

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[7] *Western States Water*, #2185, April 1, 2016.

Duane noted that ARs appear globally, not just off the U.S. West Coast, and impact weather and climate in Chile, Argentina, South Africa, Australia, the Western United Kingdom, Northern Europe, and other areas. He added to Marty's observations that over 90% of the water vapor moving towards the poles is carried by ARs. He also opined that we don't really know how good the global climate models are, leaving a lot of uncertainty.

Heather Achambault, Modeling, Analysis, Predictions and Projections (MAPP) Program Manager, NOAA Climate Program Office (CPO), described the work of CPO's MAPP Program, initiatives and opportunities in high-resolution modeling. Global coupled models, together with adequate process physics, has the potential to significantly improve S2S predictions. However, systematic experimentation and assessment is limited due to a lack of funding. She noted the House NOAA appropriations included a 40% reduction for climate research.

Ken Nowak, U.S. Bureau of Reclamation (USBR), presented on the Bureau's S2S forecasting activities, specifically on research and prize competitions that they hoped would advance the science. Selected projects provide a forum for collaboration, partnering and participation with USBR as well as other competitors. They are planning a challenge for investigations of both the drought and flood aspects of S2S prediction, and hope to be able to incorporate work done on West Coast ARs.

Kwabena Asante, GEI Consultants, described work for CDWR in cataloging the location, duration and intensity of over 700 storms and their relationship to different climate phases, both positive and negative. They also analyzed storms by drainage area, finding most storms in the North Coast of California, which was expected, but surprisingly the fewest storms are in the Sacramento area. Most storms occur in October, but the mean number varied by basin. They created a new database for use by the California Flood Emergency Response Information Exchange and reservoir storage management. It remains to be seen whether data on storm characteristics can be used to improve precipitation and water supply forecasts.

Nelun Fernando, hydrologist, Texas Water Development Board (TWDB), presented examples of statistical modeling and observations. A Texas drought of record occurred in 2011, with a double dip La Niña. Nelun noted that May and June are usually the highest precipitation months in Texas, but once a high pressure system sets up it tends to persist and can block storms. Texas is looking at precursors to and the persistence and predictability of drought – including April processes that drive summer rainfall deficits – as well as convective processes, antecedent soil moisture, and other factors. The TWDB also provides a Texas flood viewer using the TexMesonet.

Nolan Doesken, Colorado State Climatologist, addressed climate information for agriculture and natural resources management, as well as extension and outreach to engage stakeholders and assess user needs. He illustrated the CoAgMet system of weather observing sites, and promoted the Community Collaborative Rain, Hail and Snow Network (CoCoRaHS) – an extended group of volunteers taking daily, timely precipitation measurements that provide valuable information that is mapped nationwide. For Colorado, he noted that measurements of seasonal precipitation since 1890 show great variability from place to place, but no significant trend is apparent statewide.

During a facilitated discussion and wrap up, a number of needs and potential next steps forward were addressed and some assignments were made for future action.[8]

Groundwater and Federal Water Needs Workshop

On July 13, the WSWC/WestFAST Non-Tribal Federal Water Rights Workgroup hosted a workshop on groundwater and meeting federal water needs. Participants discussed: (1) ways to preserve unique water features on federal lands; (2) primary and secondary purposes of federal reservations and related water needs; (3) building successful relationships; (4) finding solutions that work; and (5) state-federal workshops or symposia that can improve understanding and communication. Tony Willardson, WSWC Executive Director provided a state-tribal background to highlight the value of negotiated settlements over protracted litigation. He noted the importance of understanding not only the state and federal laws, but also the need for scientific and technical information for well-informed decisions.

Barbara Cosens, Professor and Associate Dean of Faculty, University of Idaho College of Law and Interim Director, Institute for Waters of the West, provided an overview of the Montana-National Park Service efforts to create the Yellowstone Controlled Groundwater Area. Norm Johnson, WSWC member and Utah Assistant Attorney General, discussed the negotiation of federal reserved water rights claims and the groundwater protection zone at Arches National Park. Peter Fahmy, Policy Analyst, Water Resources Division, National Park Service, presented the unique features at the Great Sand Dunes National Park and the local concerns that made protection of the monument possible.

Fred Price, Water Rights Specialist, BLM Idaho State Office, described the challenge of proving beneficial use of groundwater and constructing range improvements for stock watering purposes. Meg Estep, FWS, talked about the Quivira National Wildlife Refuge and agricultural groundwater pumping that is impacting instream flows. Jody Miller, Senior Counsel, USDA, addressed the instream flow rights covered by the Montana-USFS Compact, and how the parties overcame various challenges.

Council of State Governments West

On September 6-9, the Council of State Governments-West (CSG-West), held its annual meeting in Coeur d'Alene, Idaho. Governor Butch Otter addressed those attending. He called for cooperation between WGA and CSG-West on issues of mutual interest, mentioning water, energy, electric transmission lines, wildfires and other natural resources issues. He said legislators set public policy, the governors implement that policy.

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[8]The workshops highlighted the need for the federal government to place a higher priority on the science, research, infrastructure, coordination, and financial resources that will be required to improve forecasts to a level where they can be useful for optimally managing water for the benefit of cities, towns, farms, and the environment. A synthesis of the workshop series can be found: http://www.westernstateswater.org/publications under "Improving Sub-Seasonal to Seasonal Precipitation Forecasting for Water Management."

Management of federal lands is an issue for each and every western state, and Governor Otter called for a greater state role in the management of federal lands. "We can't cut a tree or dig a hole" without opposition. He declared that wildfires have charred over a million acres in Idaho, about 80% on federal lands. Hydropower provides some 60% of Idaho's energy, with about 40% from out-of-state coal-fired powerplants. All of those powerplants combined emitted less carbon than the 700,000 tons of carbon released by those wildfires. "We have got to readjust our priorities."

Idaho also lost over a million acres of watersheds. "Watersheds where people were born, worked all their lives, and where they are buried. Those watersheds are the life blood of most small towns, any town in Idaho…. I mention water a lot. You know we put a rocket under people and we send them half way to God. And [we ask] by the way, if you get up there and you find a celestial planet and there is land on it, what's the first thing we ask? Is there water?" That's because water is what makes the land valuable. Land without water has little or no potential. Water is the foundation for the rest of our economy. "Our ability to plan our own destiny with water is terribly important…. Once again it gets back to the watershed," and how we use water.

CSG-West's Agriculture and Water Committee, Chaired by Washington State Senator Jim Honeyford, with Colorado State Representative JoAnn Ginal, Vice Chair, included discussions on federal legislation and rules, international trade, aquatic invasive species, and western water planning. WSWC Executive Director Tony Willardson provided a brief overview of the Council, its organization and vision, as well as work on drought, improving sub-seasonal to seasonal forecasting, water transfers, infrastructure and our Western Federal Agency Support Team (WestFAST). He also described the many challenges and uncertainty facing state water planners, such as growth, limited data, water use conflicts, unpredictable climate, aging and inadequate infrastructure, poorly defined water rights, federal regulatory changes, and limited financial resources.

Tom Loranger, WSWC Member and Water Resources Program Manger, Washington Department of Ecology, described the State's decentralized watershed planning processes. He noted roughly 85% of Washington's water is used first for irrigation, but the State has extensive instream flow protections. He described the top three challenges facing the State, which are management of small domestic wells, aging and inadequate infrastructure, and application of the Appropriation Doctrine by the courts to all water uses no matter how small. He specifically referred to the Columbia River Basin and the Odessa Aquifer. Regarding climate change, he said they expect more rain and less snow, with perhaps 25% more water in the winter and 10% less in the summer, emphasizing the need for conservation, as well as alternative storage options, including aquifer storage and recovery, given no new large dams and reservoirs are likely. Washington is also pursuing water banking initiatives, advancing lease and other agreements, as well as the State's trust water rights program. He observed that drought happens fast, with little or no time to react, underscoring the need for advance planning.[9]

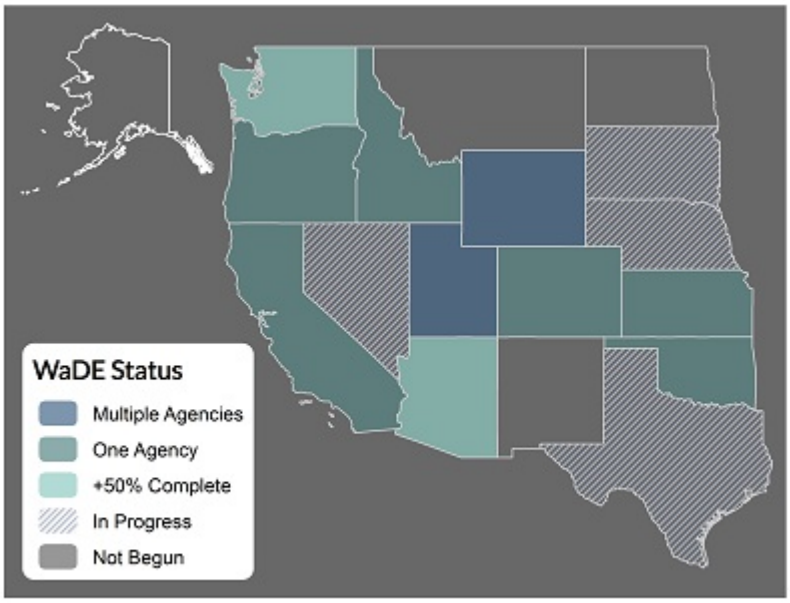
[9]www.ecy.wa.gov.

John Stulp, WSWC Member and Water Policy Advisor to Colorado Governor John Hickenlooper, provided some background to the development of water planning in the State, describing the failure of the Two Forks dam and reservoir proposal. In the years afterward, a proposed $2 billion referendum on water projects to meet future needs failed in large part because there was no defined plan for spending the money. He also noted some of the disasterous consequence on rural counties of the sale and transfer of water rights. As a result, the Legislature passed a Colorado Water for the 21st Century Act and established nine local basin round tables to identify water needs and the best means of meeting those needs. The State has estimated the need for new water projects over the next 25-30 years to be around $20 billion, to serve a population expected to double from 5 million to 10 million by 2050. The roundtables have been critical in building relationships and "buy in" leading to collaborative solutions to be implemented in the individual basins.[10]

[10]www.coloradowaterplan.com.

WATER DATA EXCHANGE

The Water Data Exchange (WaDE) program continued to expand during 2016. At the onset of 2016, the WaDE Central Portal was in beta release, with eight state agencies participating in the program, and five more in the deployment process. By year's end, four additional agencies were participating in the portal, for a total of twelve agencies, spanning ten states (see Figure 1).



In April, WSWC staff visited with the WGA Staff Advisory Council to demonstrate the WaDE Central Portal and discuss the timing for its wider release. WGA had effectively transferred rights to all intellectual property, component software, and related materials developed by the WaDE program to WSWC the prior year.

Component Development and Implementation

WaDE databases and code for version 0.2 were finished in 2016, as the baseline schema for the Central Portal beta release. WSWC adopted an "agile development" approach, incorporating user feedback, but with longer version update cycles due to limited development time. Throughout 2016, state partners and other users provided feedback on the beta implementation of the Central Portal, WaDE data elements, and the performance of the components under operating conditions. Requested changes included small adjustments to the database and webpages. Some larger issues were addressed. One substantial request included migrating the existing WaDE Central Portal and all project related materials to their own website domain to allow WSWC to more easily explain the project's origins, goals and governance. It also provided added documentation for application/development materials (e.g., data dictionaries, sample applications, database guidance, etc.), and allowed WSWC to set up a forum for a community of WaDE users.

Another significant improvement for collaboration on the project involved uploading a subset of the WaDE software onto a community code repository called GitHub. The WSWC's GitHub repository allows for easier code version tracking, bug fixes, and allows interested users to make specific change requests. Interested parties may download and modify the WaDE code and then propose feature integration back into the master WaDE application. Engaging interested developers to assist with the next release of WaDE is critical to ensuring both the utility and the longevity of the WaDE program. WSWC also took initial steps toward its reinvigoration of the membership of the Water Information and Data Subcommittee (WIDS), for additional program guidance.

Exchange Network (EN) Grant Partnerships

Texas (the FY2013 grant lead state), Oklahoma, Idaho, Oregon, and Washington - the five FY2013 state partners - made significant progress on their WaDE deployments. During 2016, Idaho, Oregon, and Oklahoma either finished their initial set up of the WaDE application or updated their existing data with new and improved datasets, while Washington and Texas began the installation process.

The FY2013 EN-WaDE Grant partner's steering committee continued to hold bi-monthly conference calls/webinars to update the state partners, evaluate progress toward finishing the WaDE deployment steps, and oversee grant budgets.[11]

Registration of each states' web service endpoints and components in the Exchange Network Discovery Service (ENDS) and Reusable Component Service (RCS) is a requirement for completion of WSWC's grant obligations. Accounts for both registries were granted to the WaDE Program Manager and the steps to complete grant obligations for all states flowing data in 2016 were completed. The RCS is a repository of databases, web service components, and other resources that other EN grant recipients have shared publicly. WSWC referenced its new Github repository in the RCS to ensure that any interested party searching for components in RCS would have access to the most recent working version of the WaDE application.

WSWC's second EN-WaDE grant partnership (FY2015) is led by California, with South Dakota and Nevada as state partners. During 2016, these partners worked through a laborious contract development process that would allow the main grant recipient - California Department of Water Resources (CDWR) - to transfer funds to WSWC. WSWC agreed to administer those funds and distribute funds to the other partners - South Dakota Department of Environmental and Natural Resources (SD-DENR) and the Nevada Division of Water Resources (NDWR). Contract development involved setting guidelines for the work to be accomplished on the grant, reporting requirements, and the procedures that would enable the transfer of money from one agency to another. Almost a year after the EN made the grant award, the final contract between CDWR and the WSWC was executed in June, and the contracts between WSWC and the other partners were completed shortly thereafter.

[11] http://wade.westernstateswater.org/fy2013-wade-en-grant-partners/.

The FY2015 EN-WaDE Grant partner's steering committee held bi-monthly conference calls/webinars to update the group and evaluate partner progress.[12]

Outreach and Collaboration

Throughout the year, WSWC staff conducted dozens of webinars and presentations for state agencies, to engage with their staff, launch the work, or ensure smooth deployments. WSWC staff also reported on the progress and status of WaDE at WSWC meetings to the Water Resources Committee. WaDE Program Manager, Sara Larsen, made personal visits to the Washington Department of Ecology and the Texas Commission of Environmental Quality to assist with their deployment efforts. Such visits were helpful in expediting the initial application set up and data-mapping of the states' data to the WaDE database.

Other related outreach efforts included participation in regional and national efforts to support "open data." WSWC staff continued to participate in Open Water Data Initiative (OWDI) meetings that seek to make federal water-related datasets more widely available, and also support more heterogeneous data-partner sharing.[13]

Sara led the OWDI Water Use Workgroup effort to investigate the "open data" status of mature water use datasets throughout the Nation. The Workgroup developed an online visualization of the water use dataset resource status[14], and also drafted a report to the OWDI leadership team with recommendations for further incorporation of water use datasets into the OWDI framework.[15]

The Workgroup deliverables (the visualization and the report) were well-received, and the Workgroup was decommissioned in May. The approach used for prioritizing and documenting the "open data" status of data resources is now being planned for the Water Supply/Drought Use Case, another active workgroup within OWDI.

At the invitation of the OWDI leadership, Sara attended the National Water Quality Monitoring Conference in Tampa, Florida to discuss WaDE and "open water data" concepts related to metadata and data quality management within the context of the Open Water Data Initiative (OWDI). As part of its National Water Assessment, the U.S. Geological Survey (USGS) initiated a financial assistance program under the Water Use Data and Research (WUDR) program that seeks to increase the quality and the temporal frequency of water use data transferred from state agencies to their local USGS Water Science Centers. The Program Announcement was released in early 2016, and WSWC engaged with its state water agency contacts to ensure that they knew of the grant assistance program, and aided with applications, where needed.

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[12]http://wade.westernstateswater.org/fy2015-wade-en-grant-partners/.
[13]http://acwi.gov/spatial/owdi/.
[14]https://viewer.nationalmap.gov/apps/owdi/.
[15]http://www.westernstateswater.org/wp-content/uploads/2017/11/SSWD-Water-Use-Workgroup-Summary-Report-Mar2016.pdf.

After submitting and receiving preliminary non-competitive funding for workplans related to water use program development, many western states submitted applications to implement their proposed tasks. Of the WSWC member states that applied to the WUDR program, eight received grants to improve their collection, quality control, maintenance, and publication of water use datasets.

Related to OWDI and WUDR, the Sara was invited to present at the USGS Water Availability and Use Science Program (WAUSP) Leadership Meeting in Augusta, Maine, in August. Use of the WaDE web services to access state water data, and specifically data related to the WAUSP and WUDR programs, was discussed and demonstrated. A highlight of the meeting was demonstrating how a portion of historical USGS water use data for counties and Hydrologic Unit Codes (HUCs) could be inserted into the WaDE database and made immediately available for visualization and download via web services. Importation of USGS aggregated water use into the WaDE database will be a priority task for USGS Office of Water Information (OWI) staff.

Sara also attended a dialogue series hosted by the Aspen Institute on Sharing and Integrating Water Data for Sustainability in San Francisco, California in August and Wye Valley, Maryland in December. These meetings brought together select groups of water managers, policy makers, regulators, and leaders from private and social sectors, to develop principles and recommendations that could articulate the value of investing in, sharing, and integrating data systems for more sustainable water management. The Institute's aim is to develop a set of recommendations and a principles-based governance structure to help guide the efforts of agencies and entities that curate water datasets and have a desire to share them. The Institute plans to continue their dialogue series through the beginning of 2017.[16]

Summer Internships

To address slow IT component development cycles, WSWC approached TCEQ with a request that grant funds be used to hire an engineering/hydroinformatics student for a part-time, summer internship. WSWC hired a recent graduate from the University of Utah, Zubayed Rakib. Zubayed began his internship at the start of the summer and then continued contributing to the WaDE program through the end of October, before leaving for another recruited position.

Over the summer, WSWC also hired University of Utah PhD candidate Carly Hansen to assist with an evaluation of the potential for greater interoperability between weather station networks and irrigation management information systems (IMIS). Carly assisted with all phases of the IMIS-related work. After it was concluded, she expressed an interest in continuing to work on WaDE-related topics. She made significant improvements to the visualization of WaDE data by creating applications that ingest WaDE data and portray it in a specific decision-support context (e.g., transfer of state agency water use data to a local USGS water science center to increase the speed and fidelity of data transfer for the 5-year water use compilation). Sara guided the interns'

[16]https://www.aspeninstitute.org/programs/energy-and-environment-program/series-on-water-data/.

efforts to develop beneficial WaDE code and products that would increase and enrich their learning experience while interning with the Council.

Other Water Data Related Activities

The WSWC and CDWR co-hosted a survey and workshop to learn more about the capabilities and operation of selected, larger weather station networks that also operate as Irrigation Management Information Systems (IMIS). The meeting, held in September helped the attendees gain a greater understanding of data collection capabilities, quality control techniques, dissemination, adoption rates, and usage of IMIS data in general, and evapotranspiration (ET) data products specifically. It also served as a forum for exploring the networks' potential compatibility with the California Irrigation Management Information System (CIMIS), a robust network operated by CDWR that could serve as a model platform for others. The survey and workshop presentations and discussions identified data gaps and assisted in determining what resources may be available or needed by the networks for more regional collaboration.[17]

[17]The workshop findings can be found at http://www.westernstateswater.org/publications under "Irrigation Management Information Systems in the West: Capabilities and Challenges."

WESTERN STATES FEDERAL AGENCY SUPPORT TEAM

The Western States Federal Agency Support Team (WestFAST) promotes collaboration between the WSWC and twelve federal agencies with water resource management responsibilities in the West. WestFAST was established pursuant to a request from the WGA and a recommendation in the WGA's 2008 report titled: *Water Needs and Strategies for a Sustainable Future: Next Steps (Next Steps Report)*. Specifically, WestFAST was formed to promote cooperation and coordination between federal agencies, and between states and federal agencies. WestFAST was intended to help the WSWC implement recommendations and collaborative efforts outlined in the *Next Steps Report*.

WestFAST federal agencies include: U.S. Department of Agriculture Forest Service (USFS) and Natural Resources Conservation Service (NRCS); U.S. Army Corps of Engineers (Corps); U.S. Department of Defense (DOD); U.S. Environmental Protection Agency (EPA); the U.S. Department of the Interior - Bureau of Land Management (BLM); Bureau of Reclamation (BOR); National Parks Service (NPS); U.S. Fish and Wildlife Service (FWS); and U.S. Geological Survey (USGS); National Aeronautics and Space Administration (NASA); and National Oceanic and Atmospheric Administration (NOAA). The WestFAST/WSWC Liaison is Roger Pierce, NOAA.

In 2016, WestFAST focused on many federal initiatives and promoted communication between federal agencies relevant to priority issues identified in the above-referenced WGA and WSWC reports and resolutions. WestFAST representatives reviewed WSWC committees' work plans and the WestFAST Work Plan to ensure consistent activities could be promoted for 2016. The Federal Liaison held conference calls with WSWC leadership and WestFAST leadership to correlate WestFAST actions to WSWC priority objectives.

- WestFAST members held monthly conference calls to discuss ongoing programs and coordinate interagency and federal-state collaboration and outreach opportunities.

- WestFAST "Water Data" and "Drought and Water Availability" Workgroups met periodically to work on specific planned actions in these areas.

- WestFAST published a monthly newsletter distributed to more than 145 federal agency staff, state and local partners.

- WestFAST continued to maintain a WestFAST web site containing information about WestFAST's origins, goals and objectives, and documentation of activities, reports, newsletters, and webinars.

- WestFAST continued its series of "Special Topics" information meetings, held mainly via webinar, on issues of interest to WestFAST member agencies and WSWC water-resource managers, scientists, and stakeholders. The series included the following in 2016:

    - 2/25/2016 - U.S. Fish and Wildlife Service Agency Overview and the Relevance of Water to the Agency's Mission

- 4/7/2016 - The Western State Water Council Water Data Exchange (WaDE)
- 5/13/2016 - The Importance of base flow in sustaining surface water flow in the Upper Colorado River Basin
- 6/28/2016 - Improving Sub-Seasonal and Seasonal Precipitation Forecasting

- WestFAST sponsored and/or participated in six jointly-sponsored WSWC seminars and workshops. WestFAST agencies gave a combined 33 presentations during these events. These efforts were very beneficial to both the WSWC and the federal agencies, in that they provided a forum for discussion of a number of priority issues.

- WestFAST held a Principals Meetings hosted by the Department of the Interior (DOI) on March 24, 2016, in Washington, D.C. WestFAST agency leaders reviewed the previous year's activities and discussed priority tasks to enhance interagency coordination and to develop positive working relationships with western state partners and the WSWC. WestFAST Principals and representatives then met with WSWC leadership to discuss federal-state collaboration on western water issues.

- The WestFAST Federal Liaison continued working with the Western Regional Partnership (WRP), a Department of Defense-led collaboration between federal, state, and tribal interests in Arizona, California, Colorado, Nevada, New Mexico, and Utah. The WestFAST Liaison is working with the WRP Natural Resources Committee to develop a coordinated water-resource action plan.

- WestFAST has continued working on Open Water Data Initiative (OWDI) activities and to provide links between western state initiatives and working groups coordinate the use of spatial water data across all levels of government. The OWDI was proposed in 2014 by a working group comprised of leadership from the Secretary of the Interior's office, USGS, NOAA, and universities to integrate disparate water information into a connected, national water data framework, an objective of great interest to the WSWC. The OWDI is collaborative, building on the work of the Integrated Water Resources Science and Service (IWRSS) consortium, and engaging the Subcommittee on Spatial Water Data (SSWD), which is a shared subcommittee of the Federal Geographic Data Committee (FGDC) and the Advisory Committee on Water Information (ACWI).

  WestFAST has directly engaged in this initiative through participation in associated workgroups and subcommittees. The WestFAST Federal Liaison has work directly on the SSWD, and WestFAST has brought in other WestFAST representatives and agency personnel to help with OWDI tasks and subcommittees. The Bureau of Reclamation (BOR) has taken the lead in an OWDI Water Availability and Water Supply Use Case Project that includes assessing the interoperability of BOR data toward understanding the occurrence and impacts of drought in the Colorado River Basin. The WestFAST Liaison and several WestFAST representatives participated on this work team, which released Reclamation's "Interactive Web Tool to Show Effects of 16-Year Drought in the Colorado River Basin." This visualization tool is a key product of the case study.

- The WestFAST Federal Liaison continued to work to coordinate federal agency science programs within the Colorado River Basin Salinity Control Program (SCP) toward informed development and operation of projects to reduce total dissolved solids in Colorado River Basin surface water supplies. The USDA, NRCS, BLM, and BOR collaborate with basin states in this program. The WestFAST Federal Liaison is a member of the SCP Science Team. Bob Doyle, WestFAST BLM alternate representative, also participated in SCP planning and coordination, including spearheading the development of a BLM 5-year salinity strategy for the Colorado River Basin.

- WestFAST assisted in the coordination of the water-use component of the USGS National Water Census and with the development and implementation of WaDE. The National Water Census and the USGS Water Use Data and Research Program (WUDR) are implemented through the DOI's WaterSMART initiative. The programs develop new water accounting tools and assess water availability at regional and national scales. WestFAST has continued facilitation and coordination between WUDR and WSWC WaDE developers and briefed the WSWC on the program. The WUDR program is providing financial assistance through cooperative agreements with State water resource agencies to improve the availability, quality, compatibility, and delivery of water-use data that is collected or estimated by States. WestFAST has assisted informing states, through the WSWC, of the scope of these funding opportunities.

- WestFAST provided support to states and federal agencies engaging in the National Groundwater Monitoring Network (NGWMN). The NGWMN Data Portal provides access to groundwater data from multiple, dispersed databases in a web-based mapping application. The NGWMN is a product of the Subcommittee on Ground Water (SOGW) of the Federal Advisory Committee on Water Information (ACWI). The WestFAST Federal Liaison worked with the SOGW to support state and local participation in implementation of the NGWMN.

- WSWC and WestFAST continued to discuss non-tribal federal water needs and reserved water rights, supporting follow up actions to a 2014 workshop in Helena, Montana. The workshop generated a recommendation to convene a state-federal workgroup to help guide the development of a clearinghouse of documents and other information on water-right issues and settlements. The workgroup fosters ongoing communication and collaboration between the states and federal agencies. Quarterly calls were initiated beginning in March of 2015, and another workshop was held on July 13-15, 2016 in Bismarck, North Dakota. The workgroup has also planned for periodic webinars to review certain aspects of non-tribal water rights, the first of which will review the McCarran Amendment from state and federal agency perspectives and review case studies of its application and relevance in the west.

- WestFAST provided a link with the WGA and WSWC in relation to the WGA Drought Forum and related actions. All WestFAST member agencies contributed, mainly on the open data needs identified in the Forum meetings and case studies.

OTHER IMPORTANT ACTIVITIES AND EVENTS

Western States Water

Since the first issue in 1974, the WSWC's weekly newsletter, ***Western States Water***, has been one of its most visible and well received products. Its primary purpose is to provide governors, members and others with accurate and timely information with respect to important events and trends. It is intended as an aid to help achieve better federal, state, and local decisionmaking and problem solving, improve intergovernmental relations, promote western states' rights and interests, and highlight issues. Further, it covers WSWC meetings, changes in WSWC membership, and other WSWC business.

The newsletter is provided as a free service to members, governors and their staff, member state water resource agencies, state water users associations, selected multi-state organizations, key congressional staffs, and top federal water officials. Other public and private agencies or individuals may subscribe for a fee.

The following is a summary of significant activities and events in 2016 primarily taken from the newsletter. However, this does not represent an exclusive listing of all WSWC activities, or other important events. Rather, it seeks to highlight specific topics.

Western Governors' State of the State Addresses

Several governors of the Western states mentioned water resources as a priority in their State of the State addresses before their legislatures.

Idaho Governor C.L. "Butch" Otter said: "I'm sure you will agree that sustainability is a significant goal and a key metric of success for much of our public policy, including our management of Idaho's precious water resources. Mr. Speaker, Senator Bair and Chairman Chase of the Idaho Water Resource Board, I want to personally thank you for your efforts in bringing two water-user groups together to finally settle delivery calls from the Eastern Snake Plain Aquifer. This historic settlement between the Surface Water Coalition and groundwater users will help ensure that the aquifer is a healthy and reliable resource now and well into the future. In fact, I would encourage others who are at odds over apportioning scarce resources to use this agreement as a template for addressing their own conflicts. Sustainability is a central value throughout Idaho, from the Treasure Valley to the Rathdrum Prairie and from Bear Lake to Hells Canyon. That's why I'm proud to announce that the Water Resource Board has drafted a statewide sustainability policy. The Board will conduct public meetings throughout Idaho in the coming year to gather suggestions on incorporating its findings into our Comprehensive State Water Plan. Preserving and protecting Idaho's water is crucial to our continued economic growth and increased prosperity. Our renewable and "green" hydroelectric resources alone make Idaho the envy of other states in the West and a magnet for businesses that put a premium on environmental sustainability."

Kansas Governor Sam Brownback said: "One of the biggest challenges we face in much of Kansas is the future of our water. One of my passions as Governor is to prepare the state to be in a better position for the future. To do that we've got to prepare today and in some cases we have to sacrifice some now so our kids and grandkids have better options. The work we have accomplished to preserve and extend water resources in Kansas in the last three years has been significant. The first Local Enhanced Management Area has been in operation for three years in 99 square miles of Northwest Kansas. They have reduced their water use by roughly 20 percent, and maintained their net income. That should extend the useful life of the Ogallala in that area by 25 years. That is solid progress but more needs to happen. We are, right now, dredging John Redmond Reservoir, the first federal reservoir to be dredged in the nation. Whether it's dredging projects or reducing our demands on the Ogallala, it's going to take time and some sacrifice. We are going to continue implementing action items in the Long Term Vision for Kansas Water. With most natural resources, we aren't just taking them to use for today. We are borrowing them from the future."

Colorado Governor John Hickenlooper said: "We now have a comprehensive, statewide Water Plan – the result of unprecedented engagement with over 30,000 people around the state. It's anchored in conservation and powered by innovative solutions to make our water go further, protect our natural environment, and ensure our agriculture and recreation industries keep flourishing. Now it's time to implement these solutions. We will work with you to craft legislation that gives the Colorado Water Conservation Board greater flexibility in funding our most important water projects." He added: "When we recognize a threat to our natural environment, we need to take action. Last summer's Gold King Mine spill showed us what can happen when abandoned mines with environmental or safety issues are not properly remediated. To reduce the risk of another release like Gold King, we are developing a statewide inventory of draining mines to prioritize for clean-up. Tackling watershed contamination presents a challenge because of federal laws that prevent clean-up efforts that fail to meet anything less than their standards. We ask that you support our Congressional Delegation's efforts to allow 'Good Samaritans' like state agencies, local governments, watershed groups and non-profits to improve water quality without incurring liability for meeting all federal standards."

Washington Governor Jay Inslee addressed the costs of fighting last year's record-setting wildfires, from financial costs to loss of land, homes, and lives. He said: "We also need to continue to take action on protecting our clean air and clean water, particularly from the threat of carbon pollution. In my mind's eye, the older I get, the more beautiful Washington state becomes. So I'm glad the needle is moving on this because this problem is not going away. Everyone knows I'm a technology optimist about this. We need more of our homegrown leaders and innovators devising solutions.… We know we're not alone. The world is moving on this, and so are we."

Alaska Governor Bill Walker addressed the importance of protecting transboundary waters: "My administration has taken steps to address concerns about the potential for Canadian mines to pollute Alaska's downstream waters. British Columbia Premier Christy Clark and I agreed to establish a bilateral working group focused on protecting trans-boundary rivers. Lieutenant Governor Mallott will continue working with Alaska tribes and stakeholders, as well as leaders in British Columbia, to ensure that activities in Canada do not harm Alaska waters."

California Governor Jerry Brown addressed concerns about climate change, drought, and using water wisely in his speech. "There is no magic bullet but a series of actions must be taken. We have to recharge our aquifers, manage the groundwater, recycle, capture stormwater, build storage and reliable conveyance, improve efficiency everywhere, invest in new technologies - including desalination - and all the while recognize that there are some limits. Achieving balance between all the conflicting interests is not easy but I pledge to you that I will listen and work patiently to achieve results that will stand the test of time. Water goes to the heart of what California is and what it has been over centuries. Pitting fish against farmer misses the point and grossly distorts reality. Every one of us and every creature that dwells here form a complex system which must be understood and respected."

Utah Governor Gary Herbert said: "We are currently enjoying a wet winter, but we know from history it may not always be that way. That's why my budget also calls for funds to help find long-term solutions to our water supply to accommodate future needs. We must make an individual and collective commitment to be good stewards of our land, our air and our water. There's no state in America with as much natural beauty as our state and our combined efforts will ensure that Utah's natural wonders can be enjoyed for generations to come."

Wyoming Governor Matt Mead acknowledged the challenges of the tribes, expressing appreciation for opportunities to meet and discuss water, health care and energy prices, and said that he looks forward to continuing the good relationship the legislature and his office have with the tribes. He also thanked the Wyoming Congressional delegation for work to restore Abandoned Land Mine funds to the state. To keep Wyoming strong, Governor Mead expressed opposition to federal actions that harm the state, its industries and economy. He praised the Wyoming Attorney General's office in taking EPA to task in court for several recent overreaching actions, including its Waters of the United States Rule. He said Wyoming is a proactive leader in stewardship of its natural resources and wildlife.

White House

FY2017 Budget Request/Water Innovation Initiative

On February 9, the White House released a summary of items in its FY2017 budget request, related to protecting and increasing the Nation's water supply through investment in water technology. It recognizes the extensive pressures and costs placed on communities and ecosystems by the increasing frequency and duration of drought. It also states, "Climate change, along with population growth, land use, energy use, and socioeconomic changes, increases water demand and exacerbates competition among uses and users of water. To increase the resilience of our nation's water supplies to these stresses, the Administration has developed an aggressive two-part water innovation strategy with the goals of: first, boosting water sustainability through the greater utilization of water-efficient and water-reuse technologies; and, second, promoting and investing in breakthrough R&D that reduces the price and energy costs of new water supply technology."

According to the release, the budget addresses these challenges by investing in water conservation and research and development (R&D) of new water supply technology. It provides a 33% increase, or $94 million more than in FY2016, through the following investments: $94.4 million for the Bureau of Reclamation and U.S. Geological Survey (USGS) under DOI's WaterSMART program ($6.1 million more than FY2016); $4 million in new money for USGS for a near real-time assessment of water use and how it changes during drought; $28.6 million for Reclamation R&D with an ambitious technology challenge prize focused on next-generation advanced water-treatment technologies, $5.8 million for desalination and water purification, and $2 million more to improve accessibility through the Open Water Data Initiative (up $8.6 million from FY2016); $25 million for a new Energy-Water Desalination Hub at the Department of Energy, and $20 million for complementary R&D; $15 million for U.S. Department of Agriculture intramural research in support of healthy soils and agricultural practices that conserve water; $12 million in new money for Integrated Water Prediction (IWP) under the National Oceanic and Atmospheric Administration (NOAA) to develop and operate key atmospheric, terrestrial and coastal prediction capabilities in support of state and local emergency managers and other stakeholders; and finally $88 million for the National Science Foundation to support basic water research and engineering advances for potable, process and cooling water.

Bureau of Reclamation

2016 Consolidated Appropriations Act

On February 8, the Bureau of Reclamation (USBR) released its spending plan for the $166.3 million provided through the 2016 Consolidated Appropriations Act. The funding will be divided among six areas: $100 million for western drought response; $47 million for rural water projects; $10 million for water conservation and delivery; $5 million for fish passage and fish screens; $2.3 million for facility operation, maintenance and rehabilitation; and $2 million for environmental restoration or compliance.

The $100 million for western drought response will address several projects affected by drought: $37.9 million for the Central Valley Project in California; $22.6 million for WaterSMART grants; $11.5 million for the Lower Colorado River Basin Drought Response Action Plan in California, Nevada and Arizona; $6 million for the Native American Technical Assistance Program; $9 million for the Yakima River Basin Water Enhancement Project in Washington; $1 million for the Lewiston Orchards Project in Idaho; $2 million for the R&D Program; $2 million for the Rogue River Basin Project in Oregon; $3 million for the Salton Sea Research Project in California; and $5 million for the Colorado River Basin System Conservation Pilot Program for Arizona, California, Colorado, New Mexico, Nevada, Utah and Wyoming.

USBR will spend $47 million to advance the completion of five authorized rural water projects, with the goal of delivering potable water to tribal and non-tribal residents in the water project areas: $47 million for the Pick-Sloan Missouri Basin Program in North Dakota; $12.3 million for the Fort Peck Reservation/Dry Prairie Rural Water System in Montana; $8.5 million for the

Rocky Boy's/North Central Montana Rural Water System in Montana; $6.8 million for the Lewis and Clark Rural Water System in South Dakota, Iowa, and Minnesota; and $2 million for the Eastern New Mexico Water Supply.

The $5 million for fish screen and restoration projects will be divided between $900,000 for the Central Valley Project in California and $4.1 million for the Yakima River Basin Water Enhancement Project in Washington.

Other projects from the remaining three areas include: $2 million for the Arkansas Valley Conduit in Colorado; $2 million for the Klamath Project in Oregon and California; $1 million for water modeling on the Rio Grande Project in New Mexico and Texas; $2 million for completion of the Environmental Impact Statement for the Glen Canyon Unit of the Colorado River Storage project in Arizona, California, Nevada and Utah; $5 million for Water Conservation Grants collaboration between USBR and Natural Resources Conservation Service in California; $5 million for repairs on the Colorado River Basin Salinity Control Project in Arizona; and $1.2 million for repairs and renovations on five other projects in Idaho, California, Oregon and Washington.

USBR Commissioner Estevan Lopez said: "Reclamation and its partners have created a spending plan that will help ensure sustainable water supplies across the Western United States. The funding will go toward conservation and improving long-term infrastructure and environmental work on key water projects."[18]

Cooperative Watershed Management Program

On March 1, USBR released a funding opportunity for states, tribes, irrigation and water districts, local government entities, interstate organizations and non-profit organizations seeking to establish or further develop watershed management groups through the Cooperative Watershed Management Program (CWMP). Up to $750,000 was available under this funding opportunity, with up to $100,000 awarded per applicant. The funding could also be used by existing watershed groups to expand or further develop their watershed restoration plan, or develop project concepts. No cost-share required.

On June 27, USBR announced $876,565 in funding through the CWMP for eleven projects that will establish or further develop watershed management groups. The program promotes sustainable use of water resources and improves the condition of rivers and streams through water conservation, improved water quality and ecological resilience, and supports collaborative conservation efforts to reduce conflicts over water management. The financial assistance is intended to encourage diverse stakeholders to form local solutions to water management needs. The locally-led watershed groups are located in Arizona, California, Colorado, Montana, New Mexico, Oklahoma and Oregon.

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[18]http://www.usbr.gov/budget/.

Four entities received $303,921 to establish a cooperative watershed management group: Colorado - $100,000 for the Upper Colorado River Watershed Group; New Mexico - $50,000 for the Upper Rio Grande Watershed District; Oklahoma - $53,921 for the Chickasaw Nation to establish the Lake of the Arbuckles Watershed Group; and Oregon - $100,000 for the Walla Walla Basin Watershed Management Group.

Another seven entities received $572,644 to further develop existing cooperative watershed management groups: Arizona - $80,700 for the Watershed Expansion and Management Project and $100,000 to the Tse Si Ani Chapter; California - $99,933 for the Bear River Watershed Group and $100,000 for the Trinity River Watershed Council; Montana - $100,000 for the Beaverhead Watershed Committee; $61,011 for the Musselshell River Watershed Group; and $31,000 for Sun River Watershed Group.[19]

SECURE Water Reports

On March 22, pursuant to Section 9503 of the SECURE Water Act of 2009, the USBR released the second in a series of SECURE Water Reports that identifies climate change as a growing risk to western water managers and cites. Warmer temperatures, changes to the timing, quantity and quality of precipitation, snowpack and streamflow runoff across major river basins threaten water sustainability. According to the report, changes will impact: water supply, quality and operations; hydropower; groundwater resources; flood control; recreation; fish and wildlife and other ecological resources.

The report shows several increased risks to western water resources during the 21st century. Specific projections include: (1) a temperature increase of 5-7 degrees Fahrenheit by the end of the century; (2) a precipitation increase over the northwestern and north-central portions of the West and a decrease over the Southwest and southcentral areas; (3) a decrease for almost all of the West for April 1 snowpack, a standard benchmark measurement used to project river basin runoff; and (4) a 7-27% decrease in April to July streamflow in several river basins, including the Colorado, Rio Grande, and San Joaquin. The report covers other western river basins, including the Columbia, Klamath, Missouri, Sacramento and Truckee.[20]

New Water Available to Every Reclamation State Act

On September 14, Rep. Jeff Denham (R-CA) introduced the New Water Available to Every Reclamation State (New WATER) Act (H.R. 6022). It was referred to the Committee on Natural Resources. For Reclamation states, plus Alaska and Hawaii, the bill would promote increased development of critical water resources infrastructure by establishing additional opportunities for financing water resources projects; attract new investment capital to infrastructure projects that are capable of generating revenue streams through user fees or other dedicated funding sources; and leverage private investment in water infrastructure.

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[19]http://www.usbr.gov/ newsroom/newsrelease/detail.cfm?RecordID=55331.
[20]http://www.usbr.gov/climate/secure/.

Project applications to the Secretary of the Interior for non-federal infrastructure projects under $20 million (which can be combined) would be eligible for financial assistance up to 49% of the cost in the form of secured loans or loan guarantees if they: (1) enhance energy efficiency of water system operations; (2) accelerate repair and replacement of aging water distribution facilities; or (3) acquire real property for water storage, reclaimed water, or desalination. The bill would authorize appropriations of $20 million for FY2017, $25 million for FY2018; $35 million for FY2019; $45 million for FY2020; and $50 million for FY2021.

Drought Response Program

On November 15, the USBR released two Funding Opportunity Announcements (FOAs) for the WaterSMART Drought Response Program: (1) the Drought Contingency Planning FOA; and (2) the Drought Resiliency Projects FOA.

The Drought Contingency Planning FOA invited eligible applicants to leverage resources by cost sharing to build drought resilience in advance of a crisis, to develop a new drought plan or to update an existing drought plan. Applicants could request technical assistance for the development of elements of the Drought Contingency Plan. Applicants may request up to $200,000 in Federal funds for projects that can be completed in two years. There is a cost-share waiver available under exceptional/limited circumstances. States, Indian tribes, irrigation districts, water districts, and other organizations with water or power delivery authority located in the seventeen Western United States and Hawaii are eligible for this funding opportunity.[21]

The Drought Resiliency Projects FOA increases flexibility for water managers through: system modifications and improvements; development of alternative water supplies; increased reliability of water supply; by facilitating the voluntary sale, transfer, or exchange of water; and by providing benefits for fish, wildlife, and the environment to mitigate impacts caused by drought. There are two Funding Groups for this FOA: Funding Group I for up to $300K for projects that can be completed within two years; and Funding Group II for up to $750K for projects that can be completed within three years. The cost share is 50% or more of the total project costs.[22]

Glen Canyon Dam/WaterSMART

On December 15, in Las Vegas, Nevada concurrent with the meetings of the Colorado River Water Users Association, Secretary of the Interior Sally Jewell and Deputy Secretary Mike Connor took two important actions.[23] First, Secretary Jewell signed a Record of Decision on a framework for adaptively managing Glen Canyon Dam over the next 20 years, with the goal of creating certainty and predictability for water and power users, while protecting environmental and cultural resources in Grand Canyon National Park and the Colorado River ecosystem. "The Colorado River is

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[21] www.grants.gov, funding opportunity number BOR-DO-17-F009.
[22] www.grants.gov, funding opportunity BOR-DO-17-F010. https://www.usbr.gov/newsroom/.
[23] Interior 12/15 Press Release.

foundational to the Western economy, and the issues facing it are complex," said Secretary Jewell. "I applaud the diverse set of partners that came together to develop a plan that will deliver water and power from Glen Canyon Dam, while also protecting the incredible natural and cultural resources that call the Colorado River Basin home."

The Long-term Experimental and Management Plan (LTEMP) will enable successful dam operations in compliance with the Grand Canyon Protection Act and other federal statutes and regulations. It provides more even monthly volume releases and continues protocols for the High Flow Experiments, with releases designed to restore sand features and associated backwaters to provide key fish and wildlife habitat, potentially reduce erosion of archaeological sites, restore and enhance riparian vegetation, increase beaches and enhance wilderness values along the Colorado River in Glen Canyon National Recreation Area and Grand Canyon National Park. The LTEMP will not affect the amount of water available annually for communities and agriculture based on the annual water flow between Lake Powell and Lake Mead. Colorado River Basin water allocations are unchanged, consistent with the Colorado River Compact and other existing statutes, treaties, regulations and agreements governing water allocation, appropriation, development and exportation.

Second, Interior released a WaterSMART progress report showing that projects initiated from 2010-2016 under the WaterSMART program are expected to result in savings of 1.14 million acre-feet of water per year upon completion, the annual household usage of 4.6 million people. Deputy Secretary Connor said, "The WaterSMART program is about collaboration on new ideas and creative solutions to stretch finite water supplies, increase drought resilience, improve environmental conditions, and address the effects of climate change. Through the water conservation and reuse projects funded by WaterSMART across the West, we expect to save enough water to meet the needs of Phoenix annually." The Colorado River Basin is just one area where the Department is working with its partners to address water conservation and other water-saving strategies. The WaterSMART report and a data visualization tool detail progress made since 2010 to help managers narrow the gap between water supply and demand. The WaterSMART report illustrates how managers can develop and adopt innovative solutions that provide a more reliable water supply in a changing climate.

"Reclamation has more than 100 years of experience addressing the water supply and demand needs of the Western United States," Reclamation Commissioner Estevan López said. "Through collaboration with our partners under WaterSMART, we hope to help ensure water sustainability for another 100 years and beyond." As part of WaterSMART, Reclamation provides funding for projects and studies that increase water and energy efficiency, plan for and mitigate drought, develop scientific information and tools to plan for future water needs, and facilitate the creation and advancement of watershed groups.[24]

[24]www.usbr.gov/WaterSMART/.

Clean Water Act/Environmental Protection Agency

Waters of the United States

Senate Joint Resolution

On January 13, the House passed Senate Joint Resolution 22 (S.J. Res. 22) to block the U.S. Environmental Protection Agency (EPA) and the U.S. Army Corps of Engineers (Corps) Waters of the United States (WOTUS) Rule, by a vote of 253-166, which included 12 Democratic votes in support of the resolution.

House Speaker Paul Ryan made the following statement: "Today, the House passed a joint resolution rejecting the President's unconstitutional Waters of the United States (WOTUS) rule. Disguised as a water cleanup measure, WOTUS is really an EPA power grab that threatens the livelihood of Americans who work the land to make a living. It would be an economic disaster. Thirty-two states are suing the federal government over the rule's legality. Congress' resolution aims to void WOTUS, restoring states as primary regulators of water. Having already passed the Senate, this WOTUS repeal bill will go right to the president's desk, where he will have to choose between protecting either his job-killing regulation or the economy."

House Majority Whip Steve Scalise added: "The WOTUS rule would regulate virtually every body of water, including streams, ditches, and puddles – even on private land. The American people cannot afford these unworkable and unrealistic rules, and we will continue fighting to stop unelected bureaucrats in Washington from seizing private property and taking away the rights of hard-working taxpayers in pursuit of their agenda.[25]

On January 19, President Obama vetoed S.J. Res. 22 to block the EPA and Corps' WOTUS Rule. In a veto message, President Obama said: "The rule, which is a product of extensive public involvement and years of work, is critical to our efforts to protect the Nation's waters and keep them clean; is responsive to calls for rulemaking from the Congress, industry, and community stakeholders; and is consistent with decisions of the U.S. Supreme Court. We must protect the waters that are vital for the health of our communities and the success of our businesses, agriculture, and energy development. As I have noted before, too many of our waters have been left vulnerable. Pollution from upstream sources ends up in the rivers, lakes, reservoirs, and coastal waters near which most Americans live and on which they depend for their drinking water, recreation, and economic development. Clarifying the scope of the CWA helps to protect these resources and safeguard public health."

On January 21, the Senate failed to override the President's veto of S.J. Res. 22 , expressing congressional disapproval of the rule submitted by the Corps and EPA relating to the definition of "Waters of the United States" under the Federal Water Pollution Control Act (Clean Water Act).

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[25]http://www.speaker.gov and www.majoritywhip.gov.

The closure vote failed 52-40, mostly along party lines, with eight Senators not voting, including Senators Barbara Boxer (D-CA) and Ted Cruz (R-TX). Senators Joe Donnelly (D-IN) and Joe Manchin (D-WV) joined Republicans in voting to overturn the President's veto, while Senator Susan Collins (R-ME) voted with Democrats to uphold the veto. Western Democrats voting with the President were Senators Michael Bennet (CO), Maria Cantwell (WA), Dianne Feinstein (CA), Martin Heinrich (NM), Jeff Merkley (OR), Patty Murray (WA), Harry Reid (NV), Jon Tester (MT), Tom Udall (NM) and Ron Wyden (OR).

Appellate Court Jurisdiction

On February 22, a divided 6th Circuit panel ruled 2-1 that it has jurisdiction over the consolidated appellate court cases challenging the EPA and Corps' WOTUS rule[26], rather than the district courts, and denied the petitioners' motions to dismiss. Although all three judges agreed that the plain text of applicable judicial review provisions, by itself, could have precluded 6th Circuit jurisdiction, two of the judges were persuaded by precedents of case law interpreting those provisions more expansively than a plain text reading.

Judge David McKeague, writing the lead opinion, found that the WOTUS Rule "undeniably has the indirect effect of altering permit issuers' authority to restrict point-source operators' discharges into covered waters," creating an alteration that "invariably results in expansion of regulatory authority in some instances and imposition of additional restrictions on the activities of some property owners." Citing *E.I. du Pont de Nemours Co. v. Train*[27], McKeague held that this indirect impact makes the WOTUS Rule a "basic regulation governing other individual actions issuing or denying permits" and therefore subject to direct review under appellate court jurisdiction.

Judge Richard Griffin concurred in the decision, but not the reasoning. Although he cited the precedentially-binding decision of *National Cotton Council of America v. U.S. EPA*[28], Griffin disagreed with the holding in *National Cotton* that extended jurisdiction when a rule regulates the permitting procedures, calling it an interpretation that gives "broad authorization to the courts of appeals to review anything relating to permitting notwithstanding the statutory language to the contrary." Noting that the panel did not have authority to overrule *National Cotton*, Griffin stated: "Were it not for *National Cotton*, I would grant the motions to dismiss."

In his dissent, Judge Damon Keith did not find *National Cotton* either controlling nor as broadly applicable. Keith noted a significant distinction between the expanded scope to cover rules that "regulate" or "govern" permitting procedures as in *National Cotton*, from a rule that merely "relates" to permitting procedures, which he said would give the court jurisdiction "over all things related to the Clean Water Act." Keith said it could not be "the intent of the legislators who drafted seven carefully defined bases for original jurisdiction in the appellate courts," nor the intent of the

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[26](80 FR 37054) and 33 U.S.C. §1369(b)(1)(E) and (F).
[27]430 U.S. 112, 136 (1977).
[28]553 F.3d 927 (6th Cir. 2009).

National Cotton court, to expand the jurisdictional reach of the judicial review statute "in an all-encompassing, limitless fashion."

On February 29, several industrial and agricultural petitioners filed a request for a 6th Circuit *en banc* review, noting that "the panel's splintered 1-1-1 jurisdictional decision raises more questions than it answers." Given the importance of the decision on numerous Administrative Procedures Act (APA) cases and the fact that two of the three panel judges doubt the validity of the court's own precedent, the petitioners argued that guidance from the full court is necessary to address the uncertainty of the panel's decision. On March 4, North Dakota with a coalition of states also filed a motion for *en banc* review in the 6th Circuit.

The 11th Circuit previously ordered its WOTUS case, *State of Georgia v. McCarthy*, held in abeyance pending a decision by the 6th Circuit. On February 23, counsel for the appellant states (including Kansas and Utah) requested that the 11th Circuit renew its review. Although the "fractured decision" of the 6th Circuit found jurisdiction based on the precedent of *National Cotton*, the appellants noted that the 11th Circuit is bound by the precedent of *Friends of the Everglades*, "which specifically rejected the rationale offered by *National Cotton*."

On March 3, the federal agencies filed a motion to dismiss the WOTUS challenge in the U.S. District Court of North Dakota, and to dissolve its preliminary injunction staying the rule in thirteen states, arguing that the 6th Circuit has exclusive jurisdiction over all the states' challenges to the WOTUS Rule. The 6th Circuit's nationwide stay on implementation remained in effect.

On April 21, the 6th Circuit denied six petitions requesting an *en banc* hearing before the full court regarding jurisdiction over legal challenges to the EPA and Corps' controversial Clean Water Rule. The decision notes that: "The original panel has reviewed the petitions for rehearing and concludes that the issues raised in the petitions were fully considered upon the original submission and decision of the cases. The petitions then were circulated to the full court. No judge has requested a vote on the suggestion for rehearing en banc." The panel's earlier decision that the 6th Circuit has jurisdiction over the WOTUS cases stands.

On April 22, EPA and the Corps filed another motion to dismiss the U.S. District Court case in North Dakota, given the 6th Circuit's jurisdiction. On April 26, representatives from fourteen states filed a response, asserting that the 6th Circuit's decision denying an *en banc* rehearing does not apply outside the Circuit's four states of Kentucky, Michigan, Ohio, and Tennessee. Further, it did not significantly alter the issues. They argued that the federal appeals court cannot remedy the concerns over the rule's attempts to redefine which wetlands and water bodies receive federal protection under the CWA.

On May 5, the EPA and Corps filed a motion to dismiss the WOTUS challenge for lack of subject matter jurisdiction in *State of Texas v. EPA*, which includes the states of Texas, Louisiana, and Mississippi as well as consolidated lawsuits from agricultural groups and transportation interests. The agencies argue that the U.S. District Court for the Southern District of Texas must

dismiss the case given the 6th Circuit's decision that it has exclusive jurisdiction under 33 USC §1396(b)(1).

On May 9, the 6th Circuit issued an order designating *Murray Energy Corporation v. EPA* (No. 15-3751) as the lead case for the twenty-two consolidated petitions for review. The order directs state petitioners, business petitioners and associational/environmental petitioners to each designate a liaison counsel to facilitate efficient communication with the Court. The order also directs the petitioners, through their respective liaison counsel, to submit a proposed briefing plan for a timely resolution of the consolidated cases. The order notes: "The court is not oblivious to the possibility that one or more petitions for certiorari may be filed challenging the jurisdictional ruling. Nonetheless, it is important to establish a schedule for moving forward toward adjudication on the merits, and we do not anticipate staying proceedings unless and until certiorari were granted."

On May 15, the petitioners-appellants in *State of Georgia v. McCarthy* (11th Circuit, Civ. No. 2:15-cv-79) filed a supplemental brief on jurisdiction. The case is on appeal from the Southern District of Georgia, which denied the petitioners' motion for preliminary injunction, for lack of subject matter jurisdiction, last August. The appeal was stayed in February pending the 6th Circuit's decision. Following the 6th Circuit's rejection of requests for *en banc* review in late April, the 11th Circuit issued a supplemental briefing schedule. Petitioners include Georgia, Alabama, Florida, Indiana, Kansas, Kentucky, North Carolina, South Carolina, Utah, West Virginia and Wisconsin. They argue in their supplemental brief that the 6th Circuit's decision to retain jurisdiction of the consolidated cases: (1) does not bind the 11th Circuit, particularly in light of the 11th Circuit's rejection of *National Cotton Council of America v. EPA* precedent that the 6th Circuit felt bound to follow; and (2) that any subsequent decision on the merits in the 6th Circuit will be vulnerable given that two of the three panel judges believed their interpretation of the court's jurisdictional statute, 33 USC §1396(b)(1), was incorrect.

On May 24, the U.S. District Court for North Dakota denied an EPA and Corps motion to dismiss *North Dakota et al. v. EPA et al.*, but issued a stay. The court acknowledged the 6th Circuit's recent ruling that it had exclusive jurisdiction to hear challenges to theWOTUS Rule pursuant to 33 USC §1369(b)(1), but indicated that it was unclear whether the District Court for North Dakota retained jurisdiction over any of the claims, in particular the federal question issues, such as the states' Tenth Amendment challenges to the WOTUS Rule. "What is clear, however, is that anything going forward in this court may be duplicative of the proceedings in the Sixth Circuit. In such situations, the court may stay proceedings pending the outcome of the other court." The case is stayed pending any further decision by the Courts of Appeals or the United States Supreme Court.

On July 1, Oklahoma's Attorney General appealed the U.S. District Court for Northern Oklahoma decision that it lacked jurisdiction to hear *Oklahoma et al. v. EPA* following the 6th Circuit's "splintered" decision ruling that it had jurisdiction to hear the WOTUS Rule challenges.[29] Oklahoma argued that the 6th Circuit's decision does not control the outcome of the case, noting that

[29] *Western States Water*, #2182, March 11, 2016.

"...courts are obligated to independently assess jurisdiction in each case that comes before them." It also added that oral arguments regarding jurisdiction in the 10th Circuit would help the court make the determination whether the state's challenge to the WOTUS Rule falls within the narrow category of EPA Administrator actions subject to direct appellate court review.

On August 16, the 11th Circuit stayed the WOTUS Rule appeal proceedings in *Georgia et al. v. McCarthy*, ruling that: "It would be a colossal waste of judicial resources for both this Court and the Sixth Circuit to undertake to decide the same issues about the same rule presented by the same parties." In the months since the 6th Circuit issued its order holding that it has original jurisdiction under CWA §1369(b)(1), the parties "have devoted considerable time and effort to the task of paring down the contents of the administrative record (which is more than a million pages long) and to developing a workable briefing schedule for briefing the merits of the challenges to the rule." The 11th Circuit exercised its discretion to hold the appeal in abeyance, considering that a decision by the 6th Circuit would likely "narrow and refine, if not render moot, at least some of the issues we asked the parties to brief."

On August 19, the EPA and Corps filed their response brief to dismiss *Oklahoma et al. v. EPA*, (10th Circuit), arguing that the 6th Circuit has exclusive jurisdiction over the challenges to the WOTUS Rule. "Plaintiffs are entitled to their day in court, and they shall have it–in the Sixth Circuit. They are not entitled to two separate days, in two separate courts, on the same claims." They assert that even if the 6th Circuit's decision were not controlling, under 33 U.S.C. §1369(b)(1), "...the Clean Water Act precludes district-court review of the limitations established by the Clean Water Rule." Citing the August 16 decision in *Georgia et al. v. EPA*, they added, "Parallel court-of-appeals and district-court proceedings would also create protracted and duplicative litigation over preliminary matters in cases, such as this one, that are based on a large and complex administrative record."

On September 2, the National Association of Manufacturers (NAM) petitioned the U.S. Supreme Court for a writ of certiorari, appealing the 6th Circuit's decision that the challenge to the WOTUS Rule, filed by states, municipalities, environmental groups, and industries, falls under the CWA's judicial review provision, 33 U.S.C. § 1369(b)(1). NAM noted, "Although two [of the three 6th Circuit] panel members concluded that §1369(b)(1) [should preclude 6th Circuit jurisdiction], one of them reasoned that he was bound by 'incorrect' circuit precedent to take jurisdiction under §1369(b)(1)(F), which requires that agency actions 'in issuing or denying any permit under' §1342 be reviewed by the court of appeals." Arguing against this interpretation of the statute, NAM said: "What should be a straightforward gatekeeping provision has in this and other cases generated widespread judicial disagreement, caused needless delay, and wasted valuable resources for no substantive purpose." NAM also argued that allowing the 6th Circuit's decision to stand denies the parties and the courts of the benefits of multilateral review of agency rulemaking.

On October 4, the 6th Circuit excluded most of the agency materials that state and industry petitioners argued should be included in the administrative record for judicial review, including the Corps memoranda that show internal disagreement with the EPA. The court deferred to EPA's

interpretation of its Administrative Records Guidance, and held that the materials are deliberative and exempt from inclusion in the record to protect the quality of agency decisions by ensuring open and candid communications. The court allowed portions of an April 24, 2015, Corps memo with a factual and technical analysis of the WOTUS Rule. That document says that as much as 10% of wetlands previously covered by the CWA) would be out of reach under the WOTUS Rule, a contrast to EPA's estimates of a 4.65% increase in federal jurisdiction.

On October 7, 31 states filed a brief with the Supreme Court in support of the NAM petition for writ of certiorari. The states note that EPA and the Corps have attempted to both expand their power under the WOTUS Rule as well as narrowly restrict judicial review of the rule for those who would challenge it, limiting the broad definitional rule to a narrow class of specific EPA actions listed in 33 USC §1369(b)(1), reviewable only by Circuit courts. The states argue for: (1) a plain text reading of the statute that avoids rendering words or phrases superfluous; and (2) keeping the interpretation of the jurisdictional statute simple and straightforward to avoid the hazards of having to sue in multiple courts to protect their rights.

On November 8, members of Congress, including 21 Senators and 67 Representatives, filed an amicus brief in support of state, business, and municipal petitioners in the 6th Circuit WOTUS case, *Murray Energy Corp. v. EPA*. The brief provided insights regarding congressional statutory intent and legislative history of the CWA, noting that the members "have strong institutional interests in preserving Congress's role in making law for the nation." The brief emphasizes that Congress expanded jurisdiction beyond traditionally navigable interstate waters to include tributaries for water quality purposes, but considered and declined to regulate land with ephemeral flows, non-point source precipitation runoff, wetlands, or groundwater, leaving these waters to state rather than federal control. The brief argues that the WOTUS Rule "unlawfully expands federal jurisdiction to regulate land and water that is traditionally within the sole purview of the states, including wholly intrastate non-navigable ponds and wetlands as well as land over which water flows when it rains." Congress intended to regulate water pollution with the CWA, not the quantity of flow nor wildlife habitat. EPA's studies supporting the WOTUS Rule, the brief continues, have no relevance to water quality in navigable waters, but to habitat studies and the role of ephemeral flows in recharging groundwater. Although "from a scientific standpoint, all water is connected…. Congress did not grant the Agencies with limitless authority to regulate all water."

On December 7, the Administration filed a brief in opposition to the Supreme Court petition for certiorari in *National Association of Manufacturers v. Department of Defense, et al.* (#16-299). The Administration argued that jurisdiction over the challenges to the EPA and Corps' WOTUS Rule belong in the 6th Circuit, noting that five U.S. District Courts have concluded that they lack jurisdiction to review the rule. Additionally, the Administration argued that the 6th Circuit is "significantly far along the decisional path in resolving the challenges to the Clean Water Rule on the merits" and that any challenges to the 6th Circuit's decision, including over jurisdiction, may be brought to the Supreme Court at the same time.

On December 20, NAM filed its reply, emphasizing that the CWA §1369 jurisdiction question "is a swamp that routinely mires challenges to CWA rules in inefficient, multi-court litigation over where the challenge belongs," and is therefore an important question for Supreme Court review. NAM also pointed out the potential waste of taxpayer resources in continuing the 6th Circuit case, when President-Elect Donald Trump has promised to eliminate the WOTUS Rule under his Administration.

Congressional Activities on WOTUS

On April 20, the Senate Committee on Homeland Security and Governmental Affairs held a hearing entitled "The Administrative State: An Examination of Federal Rulemaking." Among other regulations, the Committee heard testimony on and discussed the WOTUS Rule. Chairman Ron Johnson (R-WI) stated the rule would have a significant economic impact. William Kovacs, U.S. Chamber of Commerce, testified that the EPA and Corps' rulemaking went beyond congressional intent and legislative authorization, essentially turning themselves into a national zoning board. Senator Heidi Heitkamp (D-ND) pointed out that the agencies' regulations are filling a vacuum left by Congress, where legislation calls for federal rules with little or no guidance on how to craft those regulations. Senator Rob Portman (R-OH) said that his Regulatory Accountability Act (S.2006) would amend the Administrative Procedures Act to revise agency requirements before publishing and finalizing any regulations.

On April 21, the Senate voted 56-42, 4 votes short of that required to cut off debate and vote on Senator John Hoeven's (R-ND) amendment (S. Amdt. 3811) to the Energy and Water Development Appropriations Bill (H.R. 2028). The amendment would have blocked the WOTUS Rule and funding for the Corps to develop, adopt, implement, administer, or enforce any change to the 2012 guidance and regulations relating to jurisdiction over waters of the United States. Senator Jim Inhofe (R-OK) co-sponsored the amendment and said: "It is disappointing to see a partisan roadblock stand in the way of commonsense legislation that would protect America's private land owners, ranchers, and farmers. I applaud Senator Hoeven in introducing this amendment, and I'm proud to stand with a number of my colleagues who voted to block this egregious EPA regulation. The WOTUS ule is sadly no longer about clean water as many would believe, but is about federal land control. This amendment would have prevented taxpayer dollars being used to carry out a rule that the courts have said is likely illegal.... I look forward to continuing the fight against EPA overreach and seeing Congress or the courts scrap the WOTUS rule."

On October 27, the House Committee on Oversight and Governmental Reform released a majority staff report on the Politicization of the Waters of the United States (WOTUS) Rulemaking. Committee Chairman Jason Chaffetz (R-UT) said: "WOTUS was a doomed rule out of the gate. The Obama administration prioritized politics over policy by rushing through a legally and scientifically deficient rule. This report illustrates the many ways in which the White House and EPA abused their authority to advance one of their top regulatory priorities."

The report concludes that the process that led to the final rule, signed May 27, 2015, was "rife with legal shortcuts, predetermined conclusions, and politically-driven timelines." The 182-page report discusses: (1) the political considerations that drove the WOTUS rulemaking and the accelerated timeline that prevented a meaningful interagency review; (2) EPA's exclusion of the Corps from the joint rulemaking process, sidelining the concerns of the Corps' experts; (3) how EPA disregarded science while developing the rule, including finalizing a flawed connectivity report as the scientific basis for the WOTUS Rule after the rule was drafted; (4) the agencies' failure to consider alternatives or to comply with the Regulatory Flexibility Act; (5) the flawed NEPA and economic analyses; (6) the flawed review of public comments; and (7) the failure to comply with state, local, and tribal consultation requirements and principles of federalism.[30]

On November 21, the Iowa Congressional delegation sent a letter to President-Elect Donald Trump expressing concern over the WOTUS Rule, urging him to use all the tools at his disposal to stop "this harmful rule" in the first days of his presidency. "This misguided WOTUS rule is an economic assault on small businesses, manufacturing and agriculture, and threatens the very livelihood of our fellow Iowans." The delegation supports the goals of the CWA to address pollution problems "through a local-state-federal partnership," but the scope of the WOTUS Rule expands the definition of jurisdictional waters in a way that "far exceeds what was originally intended by Congress when it enacted the CWA." The delegation notes that in Iowa, the WOTUS Rule "could give EPA extensive power to regulate activities on 97% of the land" and may leave businesses that create jobs in a position with legal uncertainty, compliance burdens, and increased costs." In conclusion, the delegation urges Trump to direct his EPA "to craft a common-sense rule that clarifies the scope of the CWA and does so by taking into consideration the input of all stakeholders."

Nationwide Permits

On June 1, the Corps published notice of its Proposal to Reissue and Modify Nationwide Permits (NWP).[31] The Corps solicited views of NWP users on how the 2015 revisions to the definitions of WOTUS might affect the applicability and efficiency of the 2017 NWPs. Following the publication of the WOTUS Rule in 2015, the Corps received letters from several entities requesting that the Corps consider increasing the acreages limits and pre-construction notification (PCN) thresholds for several NWPs, citing the President's Climate Action Plan and EPA's proposed Clean Power Plan as additional reasons for the change. Finally, the Corps is proposing changes to several NWP definitions: "temporary," "discharge," "loss of Waters of the United States," "ordinary high water mark," "riparian areas," and "tidal wetland." The latter three changes are to be consistent with the 2015 WOTUS Rule.[32]

On August 1, Attorneys General (AGs) from the States of Alabama, Florida, Georgia, Kansas, Michigan, Ohio, Oklahoma, South Carolina, Tennessee, West Virginia, and Wisconsin sent

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[30]https://oversight.house.gov/release/new-oversight-committee-report-finds-politicizing-wotus-rulemaking/.
[31](81 FR 35186).
[32]www.regulations.gov under Docket # COE-2015-0017.

a letter to the Corps regarding its June 1 Proposal to Reissue and Modify NWPs.[33] The letter addresses the Corp's request for comments "on how the 2015 revisions to the definition of 'waters of the United States' might affect the applicability and efficiency of the proposed NWPs." The AGs note the Corps' request for comment is inappropriate, and the Corps should not consider the effect of the stayed WOTUS Rule on any modifications to the NWPs. Further, as the Corps lacks authority to implement any component of the WOTUS Rule, all cross-references to the rule in the substantive portions of the NWPs should be removed; if adopted, the AGs point out, the NWPs would violate the 6th Circuit's nationwide stay of the rule.

The AGs request that the proposal be withdrawn and/or reissued with the WOTUS Rule portions removed. Additionally, the AGs note: "In the unlikely event the WOTUS Rule survives legal challenge, the Corps must reopen the NWP rulemaking to fully analyze the relationship between expanded federal jurisdiction under the WOTUS Rule and the NWPs. Part of that analysis requires consultation with the States under Executive Order 13.132…and full consideration of the effects of the proposed rulemaking on the States pursuant to the National Environmental Policy Act, 42 USC §4332." The letter adds, "A full dialogue with the states is required-asking for comments during the standard comment period is not the type of consultation envisioned by the Executive Order." Finally, NEPA review includes a full assessment of the environmental and socioeconomic implications for state governments and their regulated communities.

Gold King Mine

National Priorities List

On February 29, 2016, Colorado Governor John Hickenlooper sent a letter to EPA expressing support for the addition of the Gold King site to the National Priorities List (NPL) of contaminated properties eligible for Superfund cleanup funding. In his letter, Governor Hickenlooper noted that the Town of Silverton, San Juan County, Durango, La Plata County, local tribes and other interested stakeholders requested that the site be added to the NPL. Governor Hickenlooper said: "After working closely with local communities, we've identified a Superfund designation as the most comprehensive and sensible means at our disposal to treat mine discharge in the Bonita Peak Mining District. We'll continue to push for meaningful state and local involvement, utilization of the best available technologies and expertise, and ways to mitigate any negative impacts to the local economy. The resiliency that affected communities have demonstrated in response to the Gold King mine spill has been a key ingredient to ensuring we'll have clean water in the upper Animas Watershed. As we go forward, we will continue to work with our local partners, Congressional delegation and the EPA to expedite funding sources so cleanup proceeds in a timely, effective and collaborative manner."

On April 7, EPA published notice of proposed rulemaking (81 FR 20277) that would add the Bonita Peak Mining District, which includes Gold King and 47 other abandoned mine sites, to the

[33](81 FR 35186).

NPL. This would allow the EPA to assess the nature and extent of public health and environmental risks associated with the site and to determine what CERCLA-financed remedial actions may be appropriate.

On September 7, EPA added the Bonita Peak Mining District in Colorado, including the Gold King Mine and 47 other sites, to the Superfund priority list of those eligible to receive funding for cleanup. Other sites added to the priority list include California's Argonaut Mine; Montana's Anaconda Aluminum Co.'s Columbia Falls Reduction Plant; and Texas' Eldorado Chemical Co. Inc. EPA proposed an additional eight sights for the National Priorities List, including Nebraska's Old Highway 275 and North 288th Street; Nevada's Anaconda Copper Mine; and Texas' Highway 18 Ground Water.

New Mexico/Navajo Nation

On May 23, New Mexico filed a lawsuit in the U.S. District Court in New Mexico (1:16-cv-465) against the EPA and mining companies for injuries relating to releases of heavy metals and waste from the Gold King Mine and Sunnyside Mine. Claims for relief include: (1) recovery under CERCLA, 42 USC §9607(a) for costs incurred in the state's response to the contamination; (2) a declaratory judgment of liability for future response costs under CERCLA, 42 USC §9613(g)(2); (3) injunctive relief under RCRA, 42 USC §9672(a)(1)(B) to require the defendants to eliminate the danger of further contamination and require a full investigation and remediation of downstream sites; (4) injunctive relief to compel EPA to abate pollution from hundreds of inactive and abandoned mines discharging pollutants into the river under CWA, 33 USC §1365(h), due to Colorado's failure to issue NPDES permits for the mines; and (5) tort claims against the mining companies for public nuisance, trespass, negligence and gross negligence.

On June 20, New Mexico filed a lawsuit in the U.S. Supreme Court against Colorado over responsibility for downstream contamination of New Mexico watersheds from the 2015 Gold King Mine spill. Attorney General Hector Balderas said: "The Gold King Mine release is the result of two decades of disastrous environmental decision-making by Colorado, for which New Mexico and its citizens are now paying the price. New Mexicans rely on the Animas and San Juan Rivers for drinking water, ranching, farming, tourism and much more, so our communities must be compensated and protected from future health and safety risks." New Mexico claims mirror several of the claims filed against EPA and mining companies in the U.S. District Court of New Mexico.

The CERCLA and RCRA statutes grant exclusive jurisdiction to U.S. District Courts, but the U.S. Supreme Court has exclusive jurisdiction over controversies between states under 28 USC §1251(a). New Mexico notes that this conflict of jurisdiction appears to be a matter of first impression for the Court. However, since its claims are intertwined with its EPA lawsuit, New Mexico suggested the Court consider referring the case to a Special Master for all discovery and pre-trial proceedings to conserve judicial resources and to ensure consistent pre-trial determinations in both lawsuits.

On August 16, the Navajo Nation Department of Justice filed suit against EPA and mining companies in the U.S. District Court of New Mexico (No. 16-931). Although EPA has said that it is taking full responsibility for the Gold King Mine spill in August 2015, the tribe says that "efforts to be made whole over the past year have been met with resistance, delays, and second-guessing." Recent payments reimbursing initial cleanup costs don't address the full costs of the spill, according to the tribe. The lawsuit seeks declaratory and injunctive relief, with past and future cost recovery from all parties under CERCLA 42 USC §§9601, 9607, 9613, and tort claims of negligence, trespass, and nuisance against the mining companies.

On July 29, the EPA Office of Inspector General (OIG) sent letters to members of Congress who have repeatedly questioned EPA about the Gold King Mine spill in August 2015. The letters note an ongoing program evaluation began on August 17, 2015, with additional issues identified for review in a notification memorandum on November 4, 2015. The letter also confirms a criminal investigation is underway by EPA OIG's Office of Investigations. EPA OIG is working with the U.S. Attorney's Office on the investigation, initiated by requests from several members of Congress. The letters state, "[T]here is investigative material that we cannot reveal in any report about our program evaluation until the investigation reaches a point where the U.S. Department of Justice and the EPA OIG's Office of Investigations inform us that we may do so."

The letters conclude by stating that a meaningful final report on the program evaluation is not possible until the investigative results can be incorporated, and that EPA OIG will keep the members of Congress informed of the status and progress, and finalize the report as promptly as possible. The letters were sent to House Oversight and Government Reform Chairman Jason Chaffetz (R-UT), Representatives Ken Buck (R-CO) and Cynthia Lummis (R-WY); and Senators Cory Gardner (R-CO), Michael Bennett (D-CO), Martin Heinrich (D-NM), Tom Udall (D-NM), Mike Lee (R-UT), and Orrin Hatch (R-UT).

Senators John McCain (R-AZ) and John Barrasso (R-WY) issued a statement on August 4, "It has been one year since the EPA caused this devastating spill... The EPA has done a poor job of taking responsibility for the spill, cleaning up the toxins, helping the farmers and families affected, and remaining transparent throughout this process. Farmers and ranchers on the Navajo Nation have lost a year's worth of income to provide for their families and still don't know the long-term effects of the spill. We are glad that a criminal investigation is taking place, as this is an important step in providing accountability for the EPA's negligence. We must make sure that this kind of catastrophe is never repeated." Senator Gardner expressed appreciation for the criminal review, urged an expedited release of the full report, and said: "I expect accountability and transparency from the Inspector General, and I look forward to a response to my questions surrounding EPA's insufficient and untimely recovery efforts immediately following the spill."

On August 1, EPA released a 23-page retrospective report on Gold King and its efforts since the incident to restore and protect impacted communities, including dedicating $29 million in response efforts and continued water quality monitoring.[34]

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[34]https://www.epa.gov/goldkingmine/one-year-after-gold-king-mine-incident-retrospective-epas-efforts-restore-and-protect.

On March 1, EPA and USGS published a draft technical report, *Protecting Aquatic Life from Effects of Hydrologic Alteration*, for a 60-day public comment period. The report incorporates EPA Guidelines for Ecological Risk Assessment (ERA) and concepts from contemporary environmental flow. The report describes what some states, including Oregon, Texas, and Washington, have done to address flow concerns using current CWA authorities and programs to "support the natural flow regime and maintain aquatic life." Alterations of the natural flow regime that can degrade a stream's physical and chemical properties include impoundments, channelization, diversions, groundwater pumping, wastewater discharges, urban development, thermoelectric power generation, and agricultural practices. The report acknowledges that water resource managers must balance the needs of a growing human population with the protection of aquatic life, ecosystem health and services crucial to society, while recognizing that climate change increases the stress on aquatic systems.

EPA notes in the report that "it has been argued that the CWA is only concerned with water quality and does not allow regulation of water quantity." Citing *Public Utility District No. 1 of Jefferson Countyv. Washington Department of Ecology*, 511 US 700, 719-720 (1994) (PUD No. 1), EPA emphasizes that "the distinction between water quality and water quantity is artificial," and that "reduced stream flow…can constitute water pollution" as a "man-made or man-induced alteration of the chemical, physical, biological and radiological integrity of the water." EPA notes further that, while CWA §101(g) excludes "water quantity issues from direct regulation" by preserving the authority of the states to allocate water quantity, it does not "limit the scope of water pollution controls that may be imposed on users who have obtained, pursuant to state law, a water allocation."[35]

CWA programs that can incorporate strategies to protect water quality and aquatic life from the potentially harmful effects of flow alteration include: (1) water quality standards (WQS); (2) monitoring and assessment of water bodies; (3) total maximum daily load (TMDL) development; (4) CWA §401 certifications; (5) CWA §404 permits; and (6) CWA §402 National Pollutant Elimination Discharge System (NPDES) permits.

The report provides information and a flexible framework that states, tribes, territories, and others who are responsible for the maintenance of hydrologic flow regime may use to quantify flow targets for the preservation of aquatic life and habitat. It also presents information "for a broad stakeholder audience involved in water resource management and aquatic life protection. It does not establish any new authorities or impose any additional requirements on states, tribes, or territories."[36]

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[35]PUD No. 1 at 720.

[36]http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OW-2015-0335-0002.

EPA Veto Authority

On July 19, the D.C. Circuit Court affirmed a district court's decision in *Mingo Logan Coal Company v. EPA* (#14-5305), holding that EPA did not violate the Administrative Procedures Act (APA) by withdrawing certain disposal areas specified in the CWA §404 permit issued by the Corps. Mingo Logan argued that EPA's post-permit revocation is the epitome of arbitrary-and-capricious agency action, noting that: (1) EPA failed to consider Mingo Logan's permit reliance costs; (2) that EPA relied on factors which Congress did not intend for EPA to consider – namely, downstream water quality delegated to West Virginia; and (3) that the post-permit environmental impact evidence cited does not support EPA's delayed decision. The court rejected these arguments for various reasons, determining that "EPA's *ex post* withdrawal is a product of its broad veto authority under the CWA, not a procedural defect," and that EPA's Final Determination complied with the APA.

The Corps retains discretion to modify, suspend, or revoke the permit under 33 C.F.R. §325.7(a). In 2009, the Corps rejected EPA's request to reconsider the Mingo Logan permit, noting that EPA's concerns were based on information already considered at the time the permit was issued. In 2010, four years after the permit issued, EPA intervened directly, invoking its §404(c) veto authority, which allows EPA to deny, restrict, or withdraw site specifications, regardless of whether this occurs before or after a permit is issued (Mingo Logan II). Further, although West Virginia has delegated authority to grant §402 NPDES permits, the court determined that EPA has overriding §404(c) authority to evaluate water quality and its adverse effects on wildlife.

However, the court was careful to point out that it was not issuing decisions on whether EPA: (1) is generally exempt from considering costs or other balancing factors when exercising its §404(c) authority; or (2) must always satisfy the detailed justification standard articulated in *FCC v. Fox Television*, 556 U.S. 502, 515-16 (2009). The court concluded: "Finally, we note that post-permit withdrawal under Section 404(c) is a mighty power and its exercise will perhaps inevitably leave a permittee feeling as if the rug has been pulled out from under it. Nonetheless, this power is one the Congress has authorized the EPA to exercise and where, as here, the EPA has adequately explained why mine spoil disposal at two sites would cause unacceptable adverse effects on wildlife, we must uphold its decision."

Cooperative Federalism

On November 16, the environmental departments of five states, Alabama, Nebraska, North Carolina, North Dakota, and West Virginia, sent a letter to President-Elect Donald Trump, urging a return of environmental leadership to the states. The state agencies note, "Our country still needs the EPA," but not the EPA of recent years that has systematically taken discretion away from the states. They wrote that EPA has become a symbol of federal overreach, citing the examples of state lawsuits filed to fight the federal power plan and the WOTUS Rule. "It is time to return to the cooperative federalism that Congress intended when writing fundamental environmental laws." The state agencies recommended research targeted at the specific environmental challenges the states are facing, coordinating industry-level initiatives that cross state lines, rather than EPA ineffectively

duplicating state enforcement efforts for environmental matters originally intended to be administered by the states in partnership with EPA. "In too many recent instances, the EPA has shown a preference for bringing special interest groups into the rulemaking process in lieu of a broader stakeholder process that includes state governments."

NPDES Stormwater Rule

On November 17, EPA Administrator Gina McCarthy signed the final rule revising the regulations that govern small municipal separate storm sewer system (MS4) permits, establishing two alternative approaches a permitting authority can use to issue National Pollutant Discharge Elimination (NPDES) general permits for small MS4s. The first option is to establish all necessary permit terms and conditions to require the MS4 operator to reduce the discharge of pollutants from its MS4 to the maximum extent practicable, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act (CWA) and the "MS4 permit standard" up-front in one comprehensive permit. The second option allows the permitting authority to establish the necessary permit terms and conditions in two steps: a first step to issue a base general permit that contains terms and conditions applicable to all small MS4s covered by the permit, and a second step to establish necessary permit terms and conditions for individual MS4s that are not in the base general permit. Public notice and comment and opportunity to request a hearing would be necessary for both steps of this two-step general permit.

The rule responds to a remand in *Environmental Defense Center, et al. v. EPA*, 344 F.3d 832 (9th Cir. 2003), where the Court determined that the permit regulations did not provide adequate public notice and opportunity to request a hearing, and did not require the permitting authority to review best management practices to ensure the MS4 permittee reduces pollutants to the maximum extent practicable.[37]

Tribal Water Quality Standards

On September 19, EPA Administrator McCarthy signed an advance notice of proposed rulemaking (ANPRM) requesting public comment on the establishment of federal baseline Water Quality Standards (WQS) under the CWA for Indian reservation waters that currently do not have EPA-approved WQS. The notice provides detail on EPA's current thinking and a vehicle to receive specific and clear guidance from tribal governments, state governments, and stakeholders. EPA requested comments which approach EPA should take, and how such federal baseline WQS should be implemented. Federal baseline WQS – which could include designated uses, narrative and numeric criteria, antidegradation requirements, and other WQS policies such as a mixing zone policy, a compliance schedule authorizing provision, and a WQS variance procedure – would define water quality goals for reservation waters and serve as the foundation for CWA actions to protect

[37]https://www.epa.gov/npdes/npdes-stormwater-final-ms4-general-permit-remand-rule.

human health and the environment. During the 90-day public comment period, EPA held two public webinars. Session details and registration information were announced on the ANPRM website.[38]

On December 28, the WSWC submitted comments to the EPA on the agency's ANPRM regarding federal baseline WQS for Indian reservations. WSWC raised several questions, including mechanisms for dispute resolution, using state standards as a baseline, and jurisdictional concerns, particularly in places of checkerboard ownership within reservation boundaries.

Separately, Colorado noted that the Southern Ute Tribe submitted an application for treatment as a state (TAS) authority, limited to the navigable surface waters on its reservation lands. The Tribe's application excluded checkerboard lands owned in fee by Colorado citizens within the boundaries of the reservation, where Colorado has already adopted WQS. The State and Tribe are working collaboratively to share information and develop compatible water quality standards wherever possible. Colorado's standards "reflect criteria developed to be protective in light of site-specific characteristics of waters in this area" and EPA's proposal for generalized baseline standards would create inconsistency, particularly where jurisdiction over waters may change numerous times. Colorado supports the use of narrative temperature criterion as proposed in the ANPRM, which would allow greater flexibility, and requested EPA's support for states to do the same. Colorado also recommended that EPA have specific criteria in place for determining which waters warrant protection as an Outstanding National Resource Water before developing a nomination process for Indian reservation waters.

South Dakota's comments point out that states "have spent more than 40 years establishing science-based WQS that recognize each state's unique topography, hydrology, geology, climate [and surface waters, which]…have been reviewed and approved by EPA on a periodic basis…. Clearly, EPA-approved state WQS would provide a much stronger baseline for developing tribal WQS and be better tailored to fit tribes within the state, rather than using EPA's proposed broad-brush approach using federal water quality criteria…." South Dakota notes EPA does not have the time or information necessary to tailor its standards on a regional scale. "EPA should use existing state standards as the starting point, as those standards have a valid historical, scientific and EPA-reviewed and approved basis and will bring the tribes in that state much closer to a realistic starting point. EPA's proposed, one-size-fits-all approach using federal water quality criteria will be an unrealistic starting point and will place the tribes in a position of having water quality standards that will curb economic development for tribes with absolutely no environmental benefit. Considering the high employment and poverty conditions that many tribes face today, that would truly be a tragedy."

Wyoming commented that WQS should be tailored to site-specific circumstances, and should be considered carefully in the context of individual reservations, individual waters, and the resources available for implementation. Wyoming in particular has many geologic formations that contribute

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[38]https://www.epa.gov/wqs-tech/advance-notice-proposed-rulemaking-federal-baseline-water-quality-standards-indian.

to naturally elevated sources of pollutants in surface waters, making some criteria and designated uses unattainable. The hydrology, anthropogenic influences and aquatic communities also vary substantially among surface waters. "When states develop and adopt surface WQS, they carefully consider each of the questions EPA has outlined [in the ANPRM], conduct research, weigh alternatives, and include the public in discussions. The process [and any subsequent modification] is often extremely rigorous, thorough, and time-consuming. States, unlike many tribes, however, have staff solely devoted to development and adoption of surface WQS. EPA simply cannot be as thorough in promulgating federal baseline WQS and this will inevitably lead to unintended consequences…," particularly where a lack of resources at the tribal or EPA level may impede necessary site-specific modifications to the WQS. Wyoming noted that EPA's Region 8 WQS staff are already limited, needing three years to take action on Wyoming's most recent triennial review. Such delays would hinder the process of tailoring federal WQS to site-specific needs or obtaining variances, and may lead to overly stringent effluent limits, unnecessary 303(d) listings, and unattainable TMDL endpoints. Rather than promulgate problematic federal baseline WQS across tribes with unique circumstances, Wyoming recommended EPA work with tribes on a case-by-case basis to facilitate TAS status, and in the meantime, encourage tribes to develop cooperative agreements with states to jointly plan and consistently administer the CWA, as contemplated by §518(d).

The National Congress of American Indians supported the federal baseline WQS, but noted the importance of having flexible standards that can be tailored to fit the specific needs of each region and Tribe, avoiding negative unintended consequences. Tribal departments are already overburdened, and implementation of WQS will require EPA's financial and training support for data collection and analysis and development of Tribal regulatory systems.

The Agua Caliente Band of Cahuilla Indians commented in support of the anticipated positive impact of the proposed rulemaking, particularly the process of designating Outstanding National Resource Waters and flexible narrative water quality criteria. The WQS should allow refinement to account for specific cultural or traditional practices, and also "be consistent with and not any less protective than regional standards in order to protect specific designated uses and to minimize any potential confusion between jurisdictions and regulated entities."[39]

Corps of Engineers[40]

CWA Jurisdictional Determinations

On January 7, the Heritage Foundation hosted a merits-stage amicus call for parties interested in filing or joining amicus briefs in *U.S. Army Corps of Engineers v. Hawkes*. In 2010, the respondents applied to the Corps for a CWA §404 permit to mine peat from a wetland on their property for stable golf greens. In 2012, the Corps issued a JD that the property contained "waters

[39]http://www.westernstateswater.org/letters/.
[40]For Information on Waters of the United States (WOTUS), please see Page 55.

of the United States" because the wetlands had a "significant nexus" to the Red River of the North, located 120 miles away. The respondents appealed. The question presented is: Whether the Corps' determination that the property at issue contains "Waters of the United States" (WOTUS) protected by the CWA constitutes, "final agency action for which there is no other adequate remedy in a court," and is therefore subject to judicial review under the Administrative Procedures Act (APA). Key legal issues, the background of the case, and potential amicus topics were discussed, including how the broad, new WOTUS rule underscores the need for immediate judicial review. Participants on the call included Alaska, Colorado, Kansas, Montana, New Mexico, North Dakota, and Wyoming. Amicus briefs were due March 2. North Dakota was preparing an amicus brief, and any states interested in joining were asked to contact North Dakota Assistant Attorney General and WSWC member, Jennifer Verleger. Another coalition led by West Virginia and Ohio reached out to interested parties to join their amicus brief.[41]

On January 22, the Corps filed its opening brief with the Supreme Court claiming that CWA jurisdictional determinations (JDs) are just one way it responds to inquiries from regulated parties concerning the CWA's legal framework to particular factual circumstances. Specifically, the Corps claims: "A landowner that wishes to discharge pollutants may seek a permit from the Corps if it wishes to ensure that its conduct complies with the CWA, or it may discharge without a permit if it is sufficiently confident that the relevant site does not contain waters of the United States."

According to Verleger, in addition to bearing on general issues of federal agency accountability and access to justice, the Supreme Court's ultimate decision in *Hawkes* has important implications for several States' WOTUS cases, which allege that the rule would greatly expand the federal government's control over state waters and private lands. Being able to immediately bring judicial challenges to JDs would provide a check on the federal government, and may help uphold the States' sovereign right to regulate State waters and lands. An interpretation of "final agency action" that would permit intrusions into States' authority to go unchecked is a significant departure from the traditional federal/state balance of powers.

More specifically, upholding the *Hawkes* decision protects the States' ability to regulate land and water resources. If, on the other hand, the Corps is able to make a determination that a water is subject to federal regulation, the State loses its ability to regulate. In the pre-Hawkes status quo, the Corps makes judicial determinations with the belief that the decision is immune from review, which lends itself to abuses. Moreover, the Corps' JDs require a landowner to restrict the activity they conduct on their own land, under the threat of fines or criminal sanctions. If judicial review is not available, the only alternative option is to go through the expensive and time-consuming permitting process, or proceed without a permit and risk prosecution.

On May 31, the U.S. Supreme Court issued its decision in *Corps of Engineers v. Hawkes*, with six Justices joining Chief Justice Robert's opinion, and Justice Ginsburg concurring in the judgment and part of the reasoning, 136 S.Ct. 1807 (2016).

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[41] *Western States Water*, #2171, December 24, 2015.

The Court held that when the Corps issues an "approved" JD that a property contains "waters of the United States" subject to permitting under the CWA, the agency's decision is final and subject to court review under the APA. While a "preliminary" JD simply advises a property owner that such waters "may" be present, an "approved" JD is issued after extensive hydrologic fact finding by the Corps, and gives rise to legal consequences. Under an Memorandum of Agreement (MOA) between the Corps and EPA, a "negative" JD that a property does not contain jurisdictional waters is binding on the federal government for five years, providing a safe harbor from civil enforcement proceedings. On the other hand, an "affirmative" JD deprives property owners of that safe harbor.

The Court rejected the Corps' argument that property owners with affirmative JDs may either proceed without a permit, or complete the permit process and then seek judicial review. The permitting process is costly and lengthy, the risks of criminal and civil penalties (up to $37,500/day) for proceeding without a permit are serious, and continuing through the permitting process typically does not change the outcome of an affirmative JD. The fact that the Corps may revise an approved JD "does not make an otherwise definitive decision nonfinal." Additionally, while a §404 permit is explicitly reviewable under the CWA, that does not preclude a standalone, approved JD issued earlier in the permitting process from court review. The Court also rejected the Corps' argument that, had it never adopted the practice of issuing JDs upon request, the only avenues available for review would be at the end of the permitting process or during enforcement proceedings.

Roberts' opinion noted: "It is often difficult to determine whether a particular piece of property contains waters of the United States, but there are important consequences if it does." He then cited the time and costs involved in obtaining a general permit or specialized individual permit as provided in *Rapanos v. U.S.*, 547 U.S. 715, 721 (2006). Justice Kennedy wrote a concurring opinion, joined by Justices Thomas and Alito, adding that "the reach and systemic consequences of the Clean Water Act remain a cause for concern.... [T]he Act's reach is 'notoriously unclear' and the consequences to landowners even for inadvertent violations can be crushing." If one accepts the Corps' arguments that the MOA with EPA has no legally binding effect and can be revoked or amended at any time, Kennedy said, the Act's ominous reach would again be unchecked by the limited relief of the Court's decision. "The Act, especially without the JD procedure were the Government permitted to foreclose it, continues to raise troubling questions regarding the Government's power to cast doubt on the full use and enjoyment of private property throughout the Nation."

Justice Kagan added a concurring opinion that for her, the MOA is central to the disposition of the case, as it gives rise to the legal rights and obligations that make a JD reviewable. Justice Ginsburg concurred in the decision, except for its reliance on the MOA, due to the "scant briefing" the Court received and the fact that the Corps interprets the MOA differently from the Court. However, she noted that the JD at issue is definitive and has an immediate and practical impact, and therefore agreed that it was a final agency decision.

On October 24, Senator James Inhofe (R-OK), Chair of the Committee on Environment and Public Works, sent a letter to Lieutenant General Todd Semonite, Commanding General and Chief

of Engineers, expressing concern that the Corps "may be attempting to undermine the right to judicial review of approved jurisdictional determinations under the APA as established by the U.S. Supreme Court's *Hawkes* decision." Inhofe noted that unintentional violations of the CWA can have devastating legal consequences for landowners, and the jurisdictional determinations are an invaluable tool. Inhofe asked that Semonite schedule a briefing with the Committee to discuss the new Corps guidance.

On October 31, the Corps issued a new Regulatory Guidance Letter (RGL) 16-01 on JDs, superseding both the 2007 and 2008 letters, RGL 07-01 and 08-02. The new RGL omits numerous procedural instructions contained in the previous RGLs, initially put in place to provide clarification for processing and documenting JDs, and to ensure greater consistency between Corps districts. It also omits the explanation of which bodies of water are subject to the CWA and the Rivers and Harbors Act (RHA), and generally refers to them as "jurisdictional aquatic resources" rather than waters of the U.S. The Corps states that it recognizes the value of JDs to the public "and reaffirms the Corps commitment to continue issuing JDs when requested to do so.... This clarification RGL does not change or modify the definitions of AJDs and PJDs included in the Corps regulations [33 CFR 331.2], the documentation practices for each type of JD, or when an AJD is required by the terms of its definition (e.g., only an AJD can be used to determine presence/absence of waters of the U.S.)." Similar to previous RGLs, this guidance reaffirms the discretion of the district engineers to determine how to respond to a request for a JD and to set reasonable priorities based on the district's workload and available regulatory resources. It also encourages communication to ensure that the most appropriate mechanism for addressing a requested JD is used.

Water Resources Development Act

House

On February 2, the House Transportation and Infrastructure Subcommittee on Water Resources and Environment held an informal roundtable discussion led by Chairman Bob Gibbs (R-OH) to discuss policy and examine stakeholder priorities for the next Water Resources Development Act (WRDA), legislation that authorizes the Corps to carry out navigation, flood control, shoreline protection, hydropower, dam safety, water supply, recreation, and environmental restoration and protection activities throughout the Nation. The subcommittee invited local communities and businesses affected by WRDA projects to express their concerns and discuss projects important to them. Concerns included the Corps' tendency to view State and local agencies as stakeholders that are part of the general public rather than as partners who can work together to accomplish what needs to be done; the lack of funding that hamstrings Corps permitting and staffing; ESA listings that encumber the permitting process; and the need for local input while the Corps is initially studying a project prior to entering into cost-sharing agreements.

On May 23, Rep. Bill Shuster (R-PA) introduced a bipartisan House version of the 2016 WRDA (H.R. 5303), which was referred to the Committees on Natural Resources and Transportation and Infrastructure. The Transportation and Infrastructure Committee marked up the bill on May 25.

Shuster expressed his intent to return to a routine passage of WRDA bills every other year to better exercise oversight, prevent project backlog, and maintain the nation's infrastructure.

H.R. 5303 authorizes: (1) critical flood control and coastal hurricane protection projects across the country, including rebuilding levees in Kansas, Missouri, and Texas; (2) the Federal Emergency Management Agency to provide assistance to rehabilitate high hazard dams; (3) the Corps to rebuild flood control projects stronger than originally designed if it will reduce risk of loss of life and property and minimize life cycle rehabilitation costs; and (4) the Corps to implement nonstructural alternatives, including wetland, stream, and coastal restoration.

Title IV would authorize 28 water resource infrastructure improvements recommended in the latest Corps Chief's Reports, including: Alaska – Little Diomede and Craig Harbors; California – American River Common Features, West Sacramento, San Diego County, Los Angeles River, and South San Francisco Bay Shoreline; Kansas – City of Manhattan and Upper Turkey Creek Basin; Kansas and Missouri – Amourdale and Central Industrial District Levee Units; Oregon – Willamette River; Texas – Brazos Island Harbor, Upper Trinity River, and Leon Creek Watershed; and Washington – Skokomish River. These improvements and others were proposed at the local level in cooperation with the Corps, recommended to Congress as priorities, and vetted by Congress at hearings held earlier this year.

Title III would require the Corps to develop a list identifying inactive projects to deauthorize (§137), offsetting the approximately $5 billion in new authorizations. The bill also modifies and/or deauthorizes portions of several projects, including: Valdez, Alaska; Los Angeles County Drainage Area and Sutter Basin, California; Port of Cascade Locks, Oregon; and Joe Pool Lake, Salt Creek and Texas City Ship Channel, Texas. It also sunsets new authorizations after seven years to prevent future project backlogs.

Title II would authorize 29 Corps feasibility studies, including: California – Cache Creek Settling Basin, Coyote Valley Dam, Del Rosa Channel, and Merced County Streams; Oklahoma – Tulsa and West Tulsa Levees; Texas – Brazos River, Chacon Creek, Corpus Christie Ship Channel, City of El Paso, Gulf Intercoastal Waterway, and Port of Bay City; and Washington – Burley Creek Watershed.

Title I provides support to drought-stricken communities, streamlining the project modification approval process and allowing non-Federal interests to provide funding to update or modify the operation of Corps reservoirs to better meet project purposes, including water supply needs.

Section 109 would establish a pilot program with ten diverse cost-sharing projects for the economically and environmentally beneficial use of dredged material. The Corps would create regional beneficial use teams to carry out the projects that would include representatives of relevant state and local agencies in an effort to foster state-local-federal collaboration.

Section 110 would establish a pilot program for up to ten projects to accept non-federal services to remove reservoir sediment, restoring the authorized storage capacity of the project.

Section 111 would amend 33 USC §701h to allow contributions of state and other non-federal funds to review or revise operational documents for reservoir storage water.

Section 112 authorizes the Corps to evaluate and enter into water supply conservation agreements with non-federal partners for stormwater capture, releases for groundwater replenishment or aquifer storage and recovery, and to augment water supply releases at another federal or non-federal storage facility, or other conservation measures that enhance usage of a Corps project for water supply.

Section 113 amends 43 USC §390b by striking subsection (f), which currently defers to interstate water agreements for the resolution of problems relating to the Apalachicola-Chattahoochee-Flint and Alabama-Coosa-Tallapoosa River System Projects.

Section 125 makes it easier for non-Federal partners to build portions of a project in advance and receive financial credit for work completed, and allows local partners to contribute goods and services.

Section 126 amends 42 U.S.C. 1962d – 16 to include multi-state activities in cooperative state-federal plans for the development, utilization, and conservation of water, and would allow two or more states to combine funds from the Corps to create comprehensive plans.

Section 135 establishes a system for the electronic preparation, submittal, and tracking of §10 (Rivers and Harbors Act) or §404 (Clean Water Act) permit applications, and requests for jurisdictional determinations from the Corps. It would require written documentation supporting the Corps' decision or determination to be made publicly available for review and reproduction.

Section 136 amends data transparency requirements in 33 USC §2342 by: (1) requiring the Corps to share its data "as quickly as practicable;" (2) changing the mandatory language from "shall" to "may" for partnerships with state, tribal, local governments and other Federal agencies; (3) limiting data disclosure to exclude sensitive, national security, law enforcement or other information prohibited by law; and (4) further specifying the data to be made publicly available to include planning, design, construction, operation, and maintenance of water resources development projects, as well as water quality and water management of projects owned, operated, or managed by the Corps.

On September 28, the House passed the WRDA reauthorization bill (H.R. 5303) by a vote of 399-25. The $5 billion legislation includes several amendments to the version that was introduced on May 23. The bill would authorize $170 million to repair or replace public or private infrastructure due to lead or other contaminants in an eligible system, for which communities like Flint, Michigan would qualify. Other amendments include: (1) funding loans for projects to prevent

aquifer depletion; (2) a provision to limit new Corps project starts; (3) flood mitigation projects to prevent ice jams; (4) revisions to the Corps' tribal consultation policies; (5) mitigation projects related to earthquakes and sea level rise; and (6) stronger language requiring a feasibility study on the Tulsa and West Tulsa levees.

The House WRDA does not include the Indian water rights settlements or various projects for clean drinking water, health rivers, streams and lakes, and other provisions beyond the Corps' purview that are in the Senate's $10.6 billion version of the bill. Congress is expected to conference and work on reconciling the two bills and hopefully pass a compromise version following the November election.

Transportation and Infrastructure Committee Chairman Bill Shuster (R-PA) noted that the bill addresses some of our most pressing infrastructure needs, is essential to maintaining an efficient transportation system, promotes economic growth, and is fundamental to America's competitiveness. He said: "The House and Senate now need to finish their work and send a final WRDA to the President before the end of the year. We can't afford to delay this critical bill."

Water Resources and Environment Subcommittee Chairman Bob Gibbs (R-OH) added: "Water infrastructure is a key component to our nation's transportation and logistics network. A reliable port and inland waterway system ensures goods can move quickly and affordably to facilitate trade and benefit American consumers. This bill utilizes the reforms from WRRDA 2014, using a transparent process driven by local stakeholders and promoting fiscal responsibility by fully offsetting costs with deauthorization of outdated projects."

Senate

In 2014, the reauthorization bill included a reform to allow local dam, levee, beach re-nourishment or environmental restoration projects to avoid the earmark ban by sending a letter to the Corps requesting the project to be included in their report to Congress.

On February 8, the Corps published its 2016 Report to Congress on Future Water Resources Development.

On February 10, the Senate Committee on Environment and Public Works held an oversight hearing titled, "The Importance of Enacting a New Water Resources Development Act (WRDA)." Senator James Inhofe (R-OK), Chairman, noted the seven-year gap in enacting a bill that had a history of being renewed every two years, and the importance of returning to a two-year schedule.

Senator Barbara Boxer (D-CA) added: "This is a great Nation, but a lot of our infrastructure is getting old," and water infrastructure has to be maintained, particularly where "the health and safety of children and families depend on safe drinking water." She noted that existing programs like the State Revolving Funds and Water Infrastructure Finance and Innovation Act can target investment where it is needed most.

Senator Inhofe acknowledged that while the Committee cannot appropriate and direct funds to vital water resources, it can "create policies that foster more cooperation between those that maintain the infrastructure and those that depend on the infrastructure…. We created some of these policies in WRRDA 2014, but we need to do more by fostering partnerships between Federal, State, local and private interests. We can unleash investment in public infrastructure and, in doing so, allow American businesses to remain competitive with global competitors."

Witnesses testified of the economic importance of the ports, inland waterways, locks and dams built and maintained by the Corps. Bob Portiss, Port Director, Tulsa Port of Catoosa, urged the Senators "to modify Section 1024 of WRRDA 2014 to confirm that an emergency is not limited to natural disasters but includes failures resulting from a lack of maintenance." He also recommended that "authority to implement this provision be delegated to the district commanders to ensure prompt action."

John Swearingen, Senior Vice President, Marathon Petroleum Corporation, expressed appreciation for the framework established by the 2014 WRDA bill "for authorizing full distribution of the revenues paid by the inland towing industry into the Harbor Maintenance Trust Fund." He encouraged Congress "to maintain the WRDA authorized distribution levels and to appropriate the authorized amount of 71% of Trust Fund revenues expected for fiscal year 2017," and "to appropriate the $3.1B in the operations and maintenance account…and the full use of the Inland Waterways Trust Fund, which is based on a $0.29/gallon user fee assessed on vessels operating on the inland system."

Rob Roberson, Director of Corporate Logistics, Nucor Corporation, acknowledged important changes in the 2014 WRRDA bill. Roberson stated that they would like to see the Buy America provisions "permanently applied to the EPA's Drinking Water State Revolving Fund in the upcoming reauthorization."

Norma Jean Mattei, President-Elect, American Society of Civil Engineers, an organization well known for their "report card," a comprehensive document evaluating 16 sectors of America's infrastructure, noted that the grades from 2013 "really aren't that good." She said: "The report concludes that our Nation's deteriorating ports and inland waterways infrastructure will cost the American economy more than 800,000 jobs and suppress the growth of our GDP by a little less than $7B in 2020." On the other hand, projects like flood control tend to have a return on investment anywhere from 1:4 to 1:20, making these projects (and maintaining them) an exercise of fiscal responsibility.

On March 16, the Senate Committee on Environment and Public Works (EPW) held a hearing entitled, "The 2016 Water Resources Development Act – Policies and Projects." The Committee heard testimony from Jo-Ellen Darcy, Assistant Secretary of the Army, and Lt. General Thomas Bostick, Chief of Engineers. They addressed new water resources projects to improve crumbling waterways and flood control infrastructure, and Corps' policies that help or hinder delivery of project benefits. Since the last WRDA was passed in June 2014, the Chief of Engineers

has completed and submitted 22 reports to Congress, recommending new water resources projects or changes to existing projects. EPW is considering these projects for WRDA 2016. Additionally, the states and local governments submitted 172 requests for studies that may lead to new projects or modifications. Of these, the Corps determined that 49 met the criteria set forth in WRDA and forwarded those requests to Congress for review. EPW staff has already drafted text for WRDA 2016, and is looking at language to authorize public-private partnerships that supplement the Corps' constrained budget.

Chairman Jim Inhofe (R-OK) said: "The Corps does not own water, but it currently manages about 9.8 million acre feet of water that can be used for municipal water supply or irrigation purposes." Inhofe added that the Committee wants to work with the Corps "to help optimize the use of water that is already available, while meeting existing project purposes and honoring existing water rights. Like many states, Oklahoma has suffered in previous years due to drought. Yet, we have unused water in 12 lakes in Oklahoma. I want to work with you to ensure that this unused water can be repurposed for use in Oklahoma….WRDA is one of many tools to enact policies which plan for meeting water supply demands in the future."

Darcy and Bostick provided an overview of thirteen proposed Corps projects that have completed Executive Branch review, including flood risk management projects for the Leon Creek Watershed in San Antonio, Texas and the City of Manhattan, Kansas. Ten additional proposed projects are under review, including projects at Little Diomede, Alaska; Kansas City in Missouri and Kansas; Los Angeles River in California; Skokomish River Basin in Washington; Lower Willamette River, Oregon; South San Francisco Bay Shoreline, California; and Upper Turkey Creek, Kansas.

Darcy and Bostick wrote: "Our goal is to improve the overall approach to water infrastructure investment, by engaging with state and local governments and private sector investors, and expanding the market for public private partnerships, which would better leverage Federal dollars. We...need to reassess our basic assumptions about the roles of the Federal government, the states, local government, and the private sector for some of this infrastructure. Together with State, local, and tribal communities, the Administration is working to develop and implement structural and nonstructural approaches to water resources challenges to improve their resilience to the impacts of climate change. The Federal government needs to continue to provide technical and planning assistance to help prepare, adapt, and protect communities from...climate change."

On April 25, Senators Jim Inhofe (R-OK) and Barbara Boxer (D-CA) introduced the 2016 WRDA (S.2848). The bill provides for the conservation and development of water and related resources, authorizes the Secretary of the Army to construct various projects for improvements to rivers and harbors, and to conduct 25 final feasibility studies. Several existing projects would be authorized for modifications, including the Turkey Creek Basin Project in Kansas. It includes a $220 million aid package for Flint Michigan, and creates a grant program for efforts to remove lead pipes across the country. It would also amend the Safe Drinking Water Act to better notify residents when tap water contains high levels of lead. The bill makes significant changes to clean water and drinking water infrastructure programs, and offers support for communities struggling with the cost of CWA compliance to take an integrated planning approach with EPA.

The bill reauthorizes Lake Tahoe restoration at $415 million over 10 years. It would expand definitions of "desalination" and "water recycling" under the Water Infrastructure Finance and Innovation Act (WIFIA). It would make technical and conforming changes to the 2014 WRRDA, including imposing a 60-day time limit on Corps decisions regarding requests for surplus water. The bill requires the Corps to review its water control manuals and rule curves for dam optimization, with priority given to reservoirs located in areas of prolonged drought (excluding reservoirs on the Upper Missouri River), to determine whether a change in operations, including the use of improved weather forecasts and run-off forecasting method will enhance the authorized project purposes.

S. 2848 includes a provision on leveraging federal infrastructure for increased water supply, authorizing the Corps to review non-federal proposals to: (1) increase a reservoir's storage capacity; (2) divert reservoir water for groundwater recharge, aquifer storage and recovery, or to any other storage facility; and/or (3) construct facilities to deliver or access water. A non-federal entity would bear the full costs of developing, reviewing, and implementing the proposal; however, it would only be required to pay the Corps the "separable costs associated with operation and maintenance of the dam that are necessary to implement the proposal."

On April 28, the Senate Environment and Public Works Committee reported S. 2848 by a vote of 19-1, with amendments to identify risks related to sea-level rise in their projects; to encourage regional collaboration on coastal resilience; and to address the harmful effects of navigation structures on shorelines.

Boxer said: "Nothing here happens 19 to 1. We have a great product." She noted the bill's "vital support for ongoing work in California, including revitalizing the Los Angeles River, restoring the Salton Sea, and enhancing Sacramento flood control." Inhofe also praised the work: "This bill is not only fully paid for, it prioritizes projects that protect millions of people and billions of dollars' worth of infrastructure. This commonsense legislation also includes both relief for communities with drinking water emergencies and nationwide support for clean water and safe drinking water infrastructure...[and] helps small and disadvantaged communities...struggling to meet Clean Water Act and Safe Drinking Water Act requirements." Senator Deb Fischer (R-NE) opposed the bill for its failure to help farmers with an EPA fuel-storage regulation.

On September 15, the Senate passed the WRDA (S.2848) by a vote of 95-3. During the previous week, the Senate agreed on a plan to limit amendments to those approved by both Senate Environment and Public Works Chairman Jim Inhofe (R-OK) and Ranking Member Barbara Boxer (D-CA). Senators Inhofe and Boxer drafted a manager's amendment to S.2848, proposing several changes to the bill, and collected additional proposed amendments through the end of the week. The bill included many of the same provisions as when introduced on April 25.

One notable exception, under Title I Program Reforms, is the section on Review of Reservoir Operations. As introduced, §1032 required the Corps to review its water control manuals and rule curves for dam optimization during prolonged drought. The modified version approved by the Senate, §1048, strikes the provisions relating to the Corps reservoirs, and applies it only to some Reclamation reservoirs.

Section 1012, on Leveraging Federal Infrastructure for Increased Water Supply, was also revised, to provide protections for existing water users. Non-federal proposals may not reallocate water, reduce water available for any authorized purpose, adversely impact water rights, or increase costs paid by others.

Senator Inhofe said: "With strong bipartisan support, the Republican-led Senate has once again moved an economy-boosting infrastructure bill with the passage of WRDA 2016." Among the benefits to Oklahomans, he noted that WRDA will "empower the Oklahoma Water Resources Board to work with the Corps to change water storage policies to help the state, such as southwest Oklahoma, prepare for future droughts by increasing water storage and managing access to water.... Cities and local municipalities will also be able to prioritize which unfunded federal mandates are most critical so that their resources can address the greatest needs first. I am proud of the bipartisan work that allowed for WRDA 2016 to move efficiently through the Senate and will continue working with my colleagues in the House to ensure that we are able to get another infrastructure bill signed into law to grow our economy and support water access across the country."

J.D. Strong, WSWC Member and Executive Director of the Oklahoma Water Resources Board said: "I commend Congress for recognizing in 2014 that tackling the nation's woefully inadequate water infrastructure requires a bipartisan commitment to frequent, every-other-year funding directives and policy reforms. Senator Inhofe and his Senate colleagues followed through on this pledge with passage of WRDA 2016, and I know many other water managers join me in urging the House to do the same. Nothing could be more important to our nation's economy and safety than passage of WRDA 2016 and its comprehensive package of water supply, navigation, and other water infrastructure improvements, including Oklahoma's recently negotiated Indian water rights settlement."

Nationwide Permits

On June 1, the Corps published notice of its Proposal to Reissue and Modify Nationwide Permits (NWP).[42] There are currently 50 NWPs to authorize activities under CWA §404 and Rivers and Harbors Act §10, which are set to expire on March 18, 2017. The Corps is proposing to reauthorize all 50 NPWs, as well as create two new NWPs for the removal of low-head dams and for the construction and maintenance of living shorelines. Additionally, the notice details proposed changes to the following existing NPWs: (3) Maintenance; (12) Utility Line Activities; (13) Bank Stabilization; (14) Linear Transportation Projects; (19) Minor Dredging; (21) Surface Coal Mining Activities; (32) Completed Enforcement; (33) Temporary Construction, Access, and Dewatering; (35) Maintenance Dreging of Existing Basins; (39) Commercial and Institutional Developments; (40) Agricultural Activities; (41) Reshaping Existing Drainage Ditches; (43) Stormwater Management Facilities; (44) Mining Activities; (45) Repair of Uplands Damaged by Discrete Events; (48) Commercial Shellfish Aquaculture Activities; (51) Land-Based Renewable Energy Generation Facilities; and (52) Water-Based Renewable Energy Generation Pilot Projects.

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[42](81 FR 35186).

The Corps also proposes to modify eight of the general conditions (GC): (12) Soil Erosion and Sediment Controls; (18) Endangered Species; (19) Migratory Birds and Bald/Golden Eagles; (20) Historic Properties; (23) Mitigation; (30) Compliance Certification; (31) Activities Affecting Structures or Works Built by the United States; and (32) Pre-Construction Notification.

Drought

White House Drought Symposium

On January 14, under the direction of the National Security Council (NSC), a follow up discussion was held on outcomes from the White House Drought Symposium held last July.

Mariel Murray, Deputy Associate Director for Lands, Council on Environmental Quality, welcomed participants, which included an array of state, regional, tribal and national associations, and academic, industry, and select non-governmental representatives. Among those participating were American Water Works Association, Association of Fish & Wildlife Agencies, Family Farm Alliance, Farm Bureau Federation, National Fish & Wildlife Foundation, National Water Resources Association, Trout Unlimited, Western Resources Advocates, and the Western States Water Council.

Josh Barnes, NSC Director for Preparedness and Resiliency, provided an overview of the Administration's direction with regard to drought resiliency, climate policy and national security. He noted an NSC analysis of the impacts of El Niño and related shifts in precipitation this year that identified threats to food supplies for some 35 million people worldwide, highlighting national security interests. He noted in the United States, we experience drought every year somewhere in the country. The President and the Administration are focusing on collaborative policies and programs to address "place-based" needs, recognizing "one-size doesn't fit all." In addition to last summer's, drought symposium, he noted last month's meeting on water technology and innovation,[43] as well as the upcoming World Water Day and planning for a White House Conference on Water on March 22.

With respect to future efforts, Barnes noted work will proceed under six broad categories: (1) data collection and integration; (2) communication drought risk; (3) drought planning and mitigation; (4) better coordination and integration of federal investments/resources; (5) infrastructure and innovative financing; and (6) research and technology innovation.

Other Administration officials participating included: Ann Mills, Deputy Under Secretary for Natural Resources and Environment, U.S. Department of Agriculture; Tom Iseman, Deputy Assistant Secretary, Water and Science, U.S. Department of Interior; Roger Gorke and Ellen Gilinsky, Senior Policy Advisors Office of Water, U.S. Environmental Protection Agency; Peter Colohan, Senior Advisor, Office of the Chief Scientist and Claudia Nierenberg, Deputy Division Director for the Climate and Societal Interactions Division, National Oceanic and Atmospheric

[43] *Western States Water*, #2170, December 18, 2015.

Administration; and Robyn Colosimo, Assistant for Water Resources Policy, U.S. Army Corps of Engineers.

Building National Capabilities for Long-Term Drought Resilience

On March 21, the White House released a Presidential Memorandum (PM), with legal force and effect just below that of an executive order, on Building National Capabilities for Long-Term Drought Resilience. It directs the heads of executive departments and agencies to "sustain and expand efforts to reduce the vulnerability of communities to the impacts of drought." It states: "[We] have learned that focused collaboration across all levels of government and the private sector is critical to enable productive and workable solutions to build regional resilience to drought."

Among other actions, the memo institutionalizes the National Drought Resilience Partnership (NDRP) to build upon the National Integrated Drought Information System (NIDIS), as outlined in the President's Climate Action Plan, to better coordinate federal support for drought related efforts, help communities reduce the impact of current drought events, and prepare for future droughts. It is intended as a lasting platform across administrations that will enable locally and regionally driven priorities and needs to guide coordinated federal activities. The memo lays out policy and goals related to data collection and integration, communicating drought risk to critical infrastructure, drought planning and capacity building, coordination of federal activity, market-based approaches to efficiency, and innovative water use and technology.

The NDRP will serve as an interagency task force consisting of representatives serving at the assistant secretary-level or higher from the Departments of Agriculture (which will house NDRP administrative functions), Commerce, Defense (and separately the Army), Energy, Homeland Security, and Interior – as well as representatives of the Environmental Protection Agency and the Council on Environmental Quality, National Economic Council, National Security Council, Office of Management and Budget, and Office of Science and Technology Policy – plus such other agencies or offices as deemed appropriate.[44]

Response to Drought and Water Security

On May 13, Governors Matt Mead (R-WY) and Steve Bullock (D-MT) sent a letter on behalf of the Western Governors' Association (WGA) to Senators Lisa Murkowski (R-AK) and Maria Cantwell (D-WA) of the Senate Committee on Energy and Natural Resources. "Western Governors believe a comprehensive, west-wide response to drought and water security is needed," Mead and Bullock wrote. The letter stated: "Severe drought conditions have negatively affected large areas of the West. Nineteen western states are experiencing water shortages because of extended drought. The challenge is clearly diverse in implication and region-wide in scope. Challenges such as infrastructure financing, enhancing water supplies, averting economic and environmental harm, and maintaining food security must be met."

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[44]The memo is available at www.whitehouse.gov under Briefing Room and Presidential Memoranda.

The Governors requested that the letter be included for the record of the Committee's May 17 hearing on drought and water resources bills.[45] The letter included a copy of WGA's Policy Resolution 2015-08 on Water Resource Management in the West, as well as a copy of the related letter sent to the Murkowski and Cantwell on November 24, 2015 which contained recommended solutions to drought consistent with WGA policies.[46]

National Integrated Drought Information System

On October 27, a newly reconstituted Executive Council met to review implementation of the National Integrated Drought Information System (NIDIS), reauthorized in 2014. The purpose of NIDIS is to improve the Nation's capacity to manage drought-related risks by providing the best available information and tools to assess, prepare for and mitigate the potential impacts. The Executive Council provides the NIDIS Program Office with an opportunity to engage in consultation with senior officials and fulfill the requirement in the 2006 authorization act that stated the Under Secretary [NOAA] "…shall consult with relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector in the development of [NIDIS]."

Executive Council Co-Chairs are Roger Pulwarty, NOAA Senior Science Advisor for Climate, and WSWC Executive Director Tony Willardson. John Tubbs, WSWC member and Director of the Montana Department of Natural Resources and Conservation, represents the WGA Chair, Governor Steve Bullock. Federal representatives include the U.S. Department of Agriculture, U.S. Army Corps of Engineers, Environmental Protection Agency, Department of Interior (including the USGS and USBR), Federal Emergency Management Agency, National Atmospheric and Space Administration, and White House Office of Science and Technology Policy. Non-federal members represent the American Water Works Association, Council of State Governments-West, Deloitte, IBM, Interstate Council on Water Policy, National Association of Counties, National Congress of American Indians, National Drought Mitigation Center, National Emergency Managers Association, State Climatologists, and the Universities Council on Water Resources. Others may be invited to participate.

The Executive Council will enable collaboration and information sharing in support of NIDIS, as well as encourage information sharing and the development of new partnerships across levels of government and different communities. It will also be a forum to discuss policy and implementation issues, but is not intended to develop consensus recommendations.

This initial meeting provided a NIDIS orientation, covering its history and evolution, as well as an opportunity to discuss goals, objectives, and priorities and review a draft NIDIS implementation plan to be completed later this year. Individual members also discussed the interests of their agencies and organizations, and opportunities for collaboration with the NIDIS Program Office, headed by NIDIS Executive Director Veva Dehaza.

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[45] *Western States Water*, #2192, May 20, 2016.
[46] *Western States Water*, #2167, November 27, 2015.

National Drought Resilience Partnership

On October 6, the Western States Federal Agency Support Team (WestFAST) hosted a National Drought Resilience Partnership (NDRP) webinar to discuss the individual work and collaborative efforts of the Finance Centers within the Environmental Protection Agency (EPA), U.S. Department of Agriculture (USDA), and the Department of the Interior (DOI). Representatives from various states and federal agencies participated.

The NDRP's Action Plan includes six goals and 27 associated actions to complement state efforts to prepare for drought, reflecting priorities identified by WSWC and other on-the-ground leaders and experts. The webinar focused on the objectives of Goal 5, supporting the advancement of innovative investment models and market-based approaches to increase resilience, flexibility, and efficiency of water use and supply systems. Since the White House Water Summit in March, EPA, USDA, and DOI have been working through their existing authorities to promote additional investment in water infrastructure and efficiency projects by the private sector and other non-federal sources of capital, with a focus on projects that have specific application to the arid West.

Jim Gebhardt, Director, EPA Water Finance Center, provided an overview of the State Revolving Funds (SRF), EPA's largest infrastructure investment program. EPA has been identifying how the states are administering their SRF programs, quantifying the amount of drought investment assistance provided through SRFs, and highlighting opportunities to better market SRF drought-related capabilities. Their research focused on the 13 western states most often affected by drought between 2011-2015, including Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming. Preliminary findings for Clean Water SRFs during that time indicate that $612 million has gone toward water efficiency investments, $235 million for recycled water distribution, $50 million for agricultural efficiencies and irrigation modernization. They are continuing to look at Drinking Water SRFs, with additional categories of assistance that include groundwater recharge, source water protection, forest fire resilience, and habitat restoration. They plan to release the report in December 2016.

EPA is also examining previous public-private partnerships (P3s) to evaluate the process, benefits, and performance of agreements over the useful life of the assets. They are looking at the potential of a pay-for-success program, a market-driven financing vehicle that shares the risk of infrastructure delivery and performance with private investors, particularly to pilot new infrastructure solutions where performance outcomes are untested. Performance contingencies would be built into the framework of the project, and payment to investors would be based on the quality of the project delivered, with bonus payments if the performance exceeds the objective. They are also working on regional finance forums to bring together communities with water infrastructure finance needs, offering peer-to-peer networking opportunities, tools, strategies, and case studies.

Matt McKenna, Senior Advisor, USDA Community and Foundation Investment, noted that drought is a clear threat to the USDA's mission, impacting everything from agricultural production and conservation to rural development. The USDA launched its Rural Opportunity Investment

(ROI) Initiative in 2014, to attract private sector investments in rural and agricultural economies, highlighting successful rural infrastructure projects, businesses, and community facilities. McKenna highlighted four ROI opportunities, including: (1) the USDA Water Program, which since 1957 has provided $27 billion across 40,000 small loans for drinking, waste and storm water systems for communities under 10,000 people; (2) a public-private partnership with Capital Peak and CoBank launched in 2014 to lend $3 billion in financial support across 400 water, power, and community facilities projects so far; (3) a Rural Water Fund Pilot project, that as part of the Build America Investment Initiative, targets rural communities with populations between 10,000 and 50,000, with an opportunity to bundle rural projects on an institutional scale; and (4) NRCS Conservation Innovation Grants, providing $230 million for over 600 grants since 2004 to promote the emerging market for conservation finance, with an emphasis on water-related issues.

Jeffrey Klein, Executive Director, DOI Natural Resource Investment Center (NRIC), provided an overview of three broad mandates to increase investments in: (1) well-structured markets that advance efficient permitting and conservation of species, habitats, and other natural resources; (2) water conservation and water supply resilience by facilitating water transfers in partnership with local, state, and tribal governments; and (3) critical infrastructure, including rehabilitation, replacement and new construction.

As an owner and operator of assets, DOI does not offer credit programs like EPA and USDA, but is in a position to interact with irrigation districts and other stakeholders with acute capital needs, as well as the investment community interested in conservation finance. They educate, advise, and collaborate with agencies and stakeholders on creative ways to find investible propositions to get clean water to drought-stricken areas, and accelerate those opportunities to the market through WaterSMART grant-making authority. They look for ways to reduce water loss and accelerate productive ways to get water from where it is sourced to where it is consumed. One example is a modernization program in Oregon, where a series of irrigation districts with common interests in access to capital, best practices, and ecological outcomes is working together on an investible scale to support growth and irrigation, creating a model that may be exportable to other regions. He also discussed system conservation initiatives, Title XVI water reuse projects, and the Yakima integrated plan.

The Finance Centers are working toward a new way of doing business to build long-term infrastructure, and are looking for opportunities to collaborate with states and other stakeholders on projects. They noted that their biggest challenges are identifying projects that can be matched to their programs and raised with P3s, as well as how to make those projects investible. They want to creatively structure projects at the early stages with the revenue stream in mind, setting up bonds or rates that make room for a market role. They want to connect the policy goal to the financial return, such as the financial boon of not having to fight wildfires due to good conservation practices. Some opportunities look good on paper but are torture to negotiate. The Finance Centers are working to simplify the interaction process, so that stakeholders with a solid project and firm commitments can contact any one of them without worrying about which Finance Center is the best fit for their project. The planning process is iterative, so contacting them at the early stages may enable each of them to apply various tools and partnerships to add value to the same project.

Earthquakes and Wastewater Injection

Oklahoma

On September 3, Oklahoma Governor Mary Fallin declared a state of emergency for Pawnee County due to a magnitude 5.6 earthquake that was felt in multiple states. Governor Fallin applauded the "Oklahoma Corporation Commission (OCC), the state agency tasked with regulating the oil and gas industry, in taking swift action by ordering all Arbuckle disposal wells [near the] earthquake to shut down and working with the U.S. Environmental Protection Agency (EPA), which has sole jurisdiction over disposal wells in nearby Osage County. Information on the earthquake is still being collected and will be reviewed by my coordinating council on seismic activity chaired by Secretary of Energy and Environment Michael Teague, as we continue to move forward to make our state safe." In addition to the 37 wells ordered closed by the OCC, the EPA shut down 17 wastewater disposal wells in the Osage Nation, where the mineral rights are under tribal control and federal jurisdiction. Oklahoma, EPA, and the Osage Nation are working to coordinate efforts and evaluate available information.

Texas

On December 1, the University of Texas at Austin published a report on Seismic Monitoring and Research in Texas. In 2015, the Texas legislature allocated funding to develop and manage a new earthquake monitoring system, TexNet, to determine the locations and magnitudes of seismic events. Additional funds were provided to research the causes of the earthquakes, both natural and potentially human-induced. This initial progress report contains information on: (1) how the money has been and is being used; (2) data collected on earthquakes; (3) the ongoing cost of operating TexNet; and (4) preliminary geologic modeling results, providing insights into whether wastewater fluid injection is triggering fault rupture in isolated circumstances and how injection strategies could be tailored to mitigate seismic activity.[47]

Forest Service

House Natural Resources Subcommittee on Water, Power and Oceans Hearing

Groundwater Directive

On April 13, the House Committee on Natural Resources Subcommittee on Water, Power and Oceans, held an oversight hearing entitled Empowering States and Western Water Users Through Regulatory and Administrative Reforms. Citing the EPA's WOTUS and the U.S. Forest Service's (USFS) Groundwater Directive and national interim directive on ski area special permits, the subcommittee majority staff noted that Obama Administration proposals made under the guise of clarifying federal regulatory roles in some water uses have only created more uncertainty and red

[47]http://www.beg.utexas.edu/files/content/texnet/docs/TexNet-Report-2016.pdf.

tape, with policies that have disincentivized some water users from constructing additional water infrastructure. Witness Lawrence Martin, National Water Resources Association, said conflicts between the implementation of the Clean Water Act (CWA) and the Endangered Species Act (ESA) are common. He highlighted a case in Los Angeles County, California, in which a water district's technological efforts to comply with CWA regarding pathogens in urban runoff led to lowered water levels that affected the habitat of the listed Santa Ana sucker fish. Martin also said that getting farmers to understand the "significant nexus" test for assessing which waters are protected is "pretty much impossible to do."

Rep. Paul Gosar (R-AZ) raised the possibility that the USFS would reintroduce its 2014 groundwater directive opposed by western governors.

Arizona attorney Robert Lynch testified that the agency could not legally regulate groundwater: "It has a legal right to protect a water right and can, like any other landowner, protect it, but it is not a regulatory agency."

Lynch also offered testimony regarding the President's November 3 Memorandum to Federal Agencies on Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment. Lynch noted that efforts to develop "one-size-fits-all" policies that share and adopt a common set of best mitigation practices, particularly within such a short time frame, will not result in greater predictability in the West. "Interstate Western waters are subject to decrees, statutes, compacts, and other requirements unique to each. Western state water laws vary widely in their use of the Appropriation Doctrine and the American Rule of Groundwater Use." Aside from the fact that the agencies lack the implied level of control over water resources necessary to accomplish the stated goal, "Uniformity in water use, the exercise of water rights and planning for future water uses is impossible."

The hearing also focused on proposals to reform the long and costly title transfer process to increase transfer of some federal water projects to local water users, and to leverage infrastructure investment and reduce costs.

Hydraulic Fracturing

Wyoming et al. v. Department of Interior et al.

On June 21, the U.S. District Court for Wyoming issued its decision in *Wyoming et al. v. Department of the Interior (DOI) et al.,* ruling that the DOI and the Bureau of Land Management (BLM) have no authority from Congress to regulate fracking on public and tribal lands. The Court explained that "regulation of an activity must be by Congressional authority, not administrative fiat." The States of Wyoming, Colorado, and North Dakota, as well as the Ute Indian Tribe, the Independent Petroleum Association of America, and the Western Energy Alliance, sued over the BLM's March 2015 Hydraulic Fracturing Rule.[48]

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[48](80 FR 16128). *Western States Water*, #2162, October 23, 2015, and #2145, June 26, 2015.

The Court reviewed agencies' sources of authority, noting that the provisions they cited merely: (1) dictated the terms of leases; (2) protected petroleum resources from the effects of water incursion and waste; and (3) required balanced management of the land to protect multiple uses and competing interests and prevent degradation of resources. The Court said none of the sources cited provided BLM with specific authority to regulate hydraulic fracturing or underground injections of any kind, nor did Congress delegate authority for environmental protection of underground water resources to BLM. The EPA, which does have such delegated authority, does not have the specific authority to regulate hydraulic fracturing following the limitations enacted in the 2005 Energy Policy Act, which "expressly and unambiguously" revised the definition of "underground injection" to exclude most hydraulic fracturing operations.

The Court called BLM's fracking rule an attempted end-run around those limitations, stating: "[I]t cannot be reasonably concluded that Congress intended regulation of the same activity...." through a more general statute administered by BLM. *Chevron* deference is not warranted in the absence of a specific statutory grant of authority to BLM, nor where Congress has further spoken through an express removal of agency authority to regulate fracking. "No matter how important, conspicuous, and controversial the issue, an administrative agency's power to regulate in the public interest must always be grounded in a valid grant of authority from Congress." The Court also noted: "BLM's present characterization of their 'regulation' of oil and gas well stimulation techniques to protect groundwater as 'longstanding' is without merit. Moreover, an agency's regulatory authority emanates from Congress, not an agency's self-proclaimed prior regulatory authority."

Governor Matt Mead (R-WY) said: "Wyoming continues to be a leader in energy development and environmental stewardship. The BLM rule overreaches its authority and creates confusion. The Court got it right. This is of particular importance not only to Wyoming, but the country. I have and I will continue to aggressively assert Wyoming's authority when threatened by federal overreach. I am pleased with the Court's decision and thank the Wyoming Attorney General for his work."

Senator John Barrasso (R-WY) praised the ruling, noting that the states are in a better position than the federal government to regulate oil and gas production. "Congress has not given BLM the power to regulate hydraulic fracturing."

Sen. Steve Daines (R-MT) called the ruling "great news for Montana made energy and Montana made jobs," and an important decision bringing an end to over regulation.

North Dakota Attorney General Wayne Stenehjem (R-ND) said: "This is the latest in a series of court decisions addressing the limits of federal environmental and regulatory authority. This ruling is a victory in our ongoing efforts to restrict federal overreach."

On August 19, bipartisan former officials from the DOI filed an amicus brief in *Wyoming et al. v. Jewel* (10th Circuit, #16-8068), arguing that the BLM has solid legal grounds for authority "to

promulgate uniform rules to protect federal lands and natural resources from the risks posed by hydraulic fracturing." The amicus group includes Lynn Scarlett, Deputy Secretary for Interior under George W. Bush; David Hayes, Deputy Secretary under Presidents Clinton and Obama; James Caswell, BLM Director under Bush; and Michael Dombeck, BLM Acting Director under Clinton and Special Assistant and Science Adviser under George H. W. Bush. The group asserts that the decision of the District Court of Wyoming threatens the ability of the DOI to fulfill Congress' mandate to protect federal lands.

They argue that Congress' decision to remove fracking from EPA's oversight under the Safe Drinking Water Act has no bearing on DOI's long-standing authority over oil and gas activities on public lands that are under the stewardship of the federal government. The group relies on authorities granted by the Constitution's Property Clause, "which grants Congress plenary authority over the land that the federal government superintends on behalf of all Americans," as well as broad organic statutes, including the Mineral Leasing Act (MLA) and the Federal Land Policy and Management Act (FLPMA), which "grant the Department of the Interior broad authority to protect federal lands from injury caused by the activities of lessees of that land, including lessees who wish to conduct hydraulic fracturing operations on federal lands."

Hydraulic Fracturing Study

On October 20, Raul Grijalva (D-AZ), Ranking Member of the House Committee on Natural Resources, sent a letter to EPA Administrator Gina McCarthy, urging EPA to accept the findings of the Science Advisory Board's (SAB) report on the agency's hydraulic fracturing study. Congress requested the study on hydraulic fracturing and its effects on drinking water in 2009, and EPA released a draft of its study, Assessment Report of Potential Impacts to Drinking Water Resources from Hydraulic Fracturing for Oil and Natural Gas (Assessment Report), in June 2015.[49]

The SAB's review of the Assessment Report, issued August 11, says that while the Assessment Report provides a comprehensive overview of the available literature, it contains data gaps, and the conclusions are ambiguous and appear inconsistent with the levels of uncertainty in the information. In particular, EPA failed to quantitatively support its finding that fracking does not cause widespread, systemic problems for drinking water, and the SAB recommends that EPA should be clear about what it does not know about oil and gas production and fracking.

Rep. Grijalva noted that EPA's unsupported findings on fracking and drinking water "had an outsized impact on the EPA's communications about the draft Assessment Report, and on the ensuing media coverage…. The final Assessment should clarify the statement to be consistent with the SAB recommendation to justify or delete it." The letter, signed by 50 House Democrats, also urges EPA to finalize the draft Assessment Report before the end of the year.

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[49] *Western States Water*, #2142, June 9, 2015.

On November 17, the American Petroleum Institute (API) released a 93-page report, Quantitative Support for EPA's Finding of No Widespread, Systemic Effects to Drinking Water Resources from Hydraulic Fracturing. It addressed comments from the Scientific Advisory Board (SAB) requesting that EPA provide quantitative support for its finding, including that EPA more clearly describe the systems of interest, the scale of the impacts, and definitions of terms. The API report included a table summarizing the literature reviewed by EPA, categorizing the source documents by each stage of the Hydraulic Fracturing Water Cycle that might result in pathways of chemical migration and the potential effects: water acquisition, chemical mixing, well injection, flowback and produced water, and wastewater treatment and disposal. The report says that "...at a scale of 25,000 - 30,000 new hydraulically fractured wells annually, the few instances of potential impairment are neither systemic or widespread." It points to effective industry practices and state regulations that focus on prevention through well design, construction and equipment safeguards. It also notes that baseline water quality records and ongoing water monitoring provide additional assurance and a growing database for further quantitative support for EPA's findings.

The report provides a summary of state regulations addressing hydraulic fracturing, including the western states of Alaska, California, Colorado, Kansas, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, Utah, and Wyoming. "All states with oil and natural gas production have regulated hydraulic fracturing for several decades through their existing oil and gas regulatory framework." These frameworks differ between states, the report continues, "...based on the physical and technical characteristics of reservoirs and environmental conditions at each unconventional play, how individual state governments seek to balance environmental risk, public perception, and economic concerns." The appendix includes case studies for the Marcellus, Fayetteville, Barnett, Niobrara, Chattanooga, and Monterey Shales, as well as Canadian operations and EPA's own multi-regional studies relating to coalbed methane production.[50]

California

On December 13, Governor Jerry Brown asked President Obama to permanently withdraw federal waters off the coast of California from new offshore oil and gas leasing to protect scenic lands and wildlife, and to reduce use of fossil fuels and combat climate change.[51]

On December 19, the California Attorney General sued the DOI over the Final Programmatic Environmental Assessment issued for hydraulic fracturing at oil and gas production platforms on the Southern California Outer Continental Shelf, in lease areas 3.7 to 10.5 miles offshore. The complaint alleges that fracturing fluids and chemicals could contaminate the marine environment, that current recordkeeping in federal waters does not meet state standards, and that the agency erroneously relied on an absence of information or unfounded assumptions – such as the dilution of

[50]http://www.api.org/~/media/Files/Oil-and-Natural-Gas/Hydraulic-Fracturing/API-Support-for-No-Widespread-Effects-Finding.pdf.

[51]https://oag.ca.gov/news/press-releases/attorney-general-kamala-d-harris-california-coastal-commission-file-lawsuit.

chemicals and waste fluids in ocean waters would render any impacts insignificant – rather than make an appropriately comprehensive evaluation. California asserts that DOI should have considered other reasonable alternatives suggested by various commenters, including limiting the use of hydraulic fracturing to certain locations or times of the year, requiring the disclosure of fluid constituents and additives, and notice to state agencies and the public prior to fracturing and waste discharges.

On December 20, the Oklahoma Corporation Commission (OCC), together with the Oklahoma Geological Survey (OGS), released seismicity guidelines for anomalous seismic activity within 1.25 miles of hydraulic fracturing operations. The guidelines apply to an area of Oklahoma where: (1) oil and gas production does not produce large amounts of wastewater; (2) the seismic events are far less frequent and much lower in magnitude than the earthquakes associated with wastewater disposal; and (3) responses to fracking-related earthquakes can be more precisely defined and rapidly implemented than those related to injection wells. The guidelines direct actions based on the strength of the earthquake with: (1) fracking operations continuing for magnitudes under 2.5; (2) a pause in fracking operations with communication procedures and mitigation efforts at magnitude 3.0; and (3) a suspension of operations with more technical procedures at magnitude 3.5 and above. According to the OCC, development of the guidelines "has met with full cooperation on the part of the Oklahoma energy industry." The OCC regulates the oil and gas industry in Oklahoma, and works closely with the OGS as part of the Coordinating Council on Seismic Activity, established by Governor Mary Fallin in 2014.[52]

Indian Water Rights

Tribal Water Rights Settlements

Blackfeet

On February 3, the Senate Committee on Indian Affairs approved the Pechanga Band of Luiseno Mission Indians Water Rights Settlement Act (S.1983) and the Blackfeet Water Rights Settlement Act (S.1125). Committee Chairman John Barrasso (R-WY) noted: "As with most water settlements, costs can be significant. I anticipate that the budgetary impacts will remain a work in progress."

North Dakota Governor Jack Dalrymple and Attorney General Wayne Stenehjem have expressed concerns about the impact of S.1125 on future water compacts between Montana and North Dakota, wanting the Blackfeet water rights allocation included in calculations of Montana's overall usage. Senator John Hoeven (R-ND) voted against the bill. If the bills pass the Senate, they will be the first to navigate House Natural Resources Chairman Rob Bishop's (R-UT) new system for tribal water rights settlements, enabling them to avoid the earmark designation, which has been an obstacle to the consideration of settlement legislation since the 2010 earmark ban.

[52]https://earthquakes.ok.gov/wp-content/uploads/2016/12/12-20-16-OCC-News-Release.pdf.

On May 16, the DOI and DOJ transmitted a joint letter supporting the Blackfeet settlement. The letter affirms that the settlement meets the Administration's Criteria and Procedures (55FR 9223). However, the letter also notes: "The Office of Management and Budget advises that it is still assessing and evaluating the information necessary for it to definitively conclude whether the proposed settlement meets all of the Criteria and Procedures." Significantly, Chairman Bishop's letter requested that the Administration ensure that the settlement benefit taxpayers, with a total cost that does not exceed existing claims. At the hearing, Bishop told Interior to press OMB for a response. He said, "We cannot move forward until this has taken place."

Congressional legislation to authorize the Blackfeet settlement was first introduced in 2010. The initial federal cost estimate was $650 million, which has since been reduced to $420 million. The Administration's letter states: "While the current Blackfeet Settlement authorizes substantial Federal funding requirements through FY2025, we have confirmed that this level of funding is necessary in order for the Tribe to develop its capacity to manage and develop its water resources."

John Bezdek, DOI, testified that their policy is to support negotiated settlements with cost sharing that is proportionate to the benefits received by all parties. In addition to removing the barriers to tribal progress and improving collaborative relationships, quantification and settlement of water rights provide certainty and beneficial management of state, tribal, and international water resources. He noted that following the Montana legislature's approval of the settlement in 2009, further negotiations reduced the federal cost by $230 million. The remaining settlement funding focuses on: dam safety repairs and deferred maintenance; increasing water storage capacity for irrigation; construction and expansion of the Blackfeet Regional Water System to provide safe, clean drinking water to the tribe's major population centers; and establishing the Blackfeet Tribal Water and Energy Office.

Chairman Harry Barnes, Blackfeet Nation, testified regarding the USBR's diversion of water from the Blackfeet Reservation for the Milk River Project, shortly after the historic *Winters v. United States* (1908) decision that specifically involved the Milk River and established the doctrine of Indian reserved water rights. "There are few historical acts, other than loss of land, that have engendered more passion and outrage than the wholesale transfer of Reservation water to serve non-Indians far downstream, without a word about, or any consideration of, the Blackfeet Tribe's water rights or…water needs."

Barnes noted that since 2012, the Tribe has agreed to reduce the amount of federal funding by over $190 million, and the State contribution has increased to $49 million, "a very major contribution on the part of the State, and the largest for an Indian water rights settlement in Montana." Additionally, he noted that the Tribe is waiving its claims against the United States in exchange for some obligations that the United States is already required to undertake in part outside the context of the water rights settlement.

If Congress fails to ratify the settlement prior to January 2017, the Montana Water Court has notified the Tribe that it is unwilling to further delay litigation of the Tribe's water rights, which was

stayed pending settlement negotiations with the Montana Compact Commission. Unless legislation is passed, the Tribe will pursue its monetary claims against the United States, "resulting in litigation and potentially a judgment against the United States that exceeds the funding authorized in the legislation."

On May 24, the House Natural Resources Committee's Subcommittee on Water, Power and Oceans held a hearing on Rep. Ryan Zinke's (R-MT) draft Blackfeet Water Settlement Act. The discussion draft is a companion bill to S. 1125 and would authorize and implement a water rights settlement negotiated between the Blackfeet Tribe, Montana, and the United States. This is the first hearing on any settlement legislation held since a February 2015 letter, from Committee Chairman Bishop, requesting specific information before he would allow particular Indian water rights settlements to be considered.

On November 16, the House Natural Resources Committee approved the Blackfeet water rights settlement bill, H.R. 5633, and reported it with an amendment by unanimous consent. Blackfeet Business Council member Roland Kemnerly said: "It's a great day for the Blackfeet. It has been a long process for many, many years; my father worked on it throughout the years and we are joyful we got it through the markup. I see it moving on, our champion Mr. Zinke has been a big pusher for us. He is doing an outstanding job and is representing us well. I believe we are going to get the water compact through so we can get it back to our members for a vote."

The Blackfeet bill has been one of Rep. Zinke's top priorities. Zinke voted for the compact in 2009 as a member of the Montana State Senate. In addition to introducing the bill in the U.S. House of Representatives, Zinke also wrote to the DOI and DOJ to expedite their role in advancing the compact. He said: "A compact is a difficult journey as there are a number of requirements on it in order to pass various legislative bodies. But overall, this is a big tax savings, over a billion dollars. It will be enormously helpful for jobs and infrastructure. This is huge for the Blackfeet Nation and I'm proud to be a part of it."

Salish and Kootenai

On May 26, Senator John Testor (D-MT) introduced the Salish and Kootenai Water Rights Settlement Act (S. 3013), referred to the Indian Affairs Committee. The bill would authorize, provide appropriations for, and implement the water rights compact between the Flathead Indian Reservation Tribes, the State of Montana, and the United States. The bill would authorize $1.5 billion deposited to a Flathead Indian Irrigation Project Account to carry out the activities defined in section 8, including: (1) $471 million for rehabilitation of aging irrigation structures, canals, and pumping facilities; (2) $378 million for modernization of the irrigation project, including planning, design, and construction of additional pumping facilities and improvements to infrastructure; and (3) $670 million for mitigation, reclamation, and restoration of streams, wetlands, banks, slopes, and wasteways affected by the irrigation project. The State of Montana's contribution to carry out the irrigation project is set at $55 million.

Section 9 would create a Selis-Qlispe Ksanka Settlement Trust Fund with three accounts: (1) $365 million for agriculture development; (2) $93 million for economic development; and (3) $233 million for community development. The agriculture development account would be used to rehabilitate agricultural lands, construct or repair livestock fencing, mitigate and control noxious weeds, and improve irrigation facilities on the reservation, whether served by the Flathead Irrigation project or not, and to install screens or ladders to prevent fish entrainment in the irrigation systems. The economic development account would be used for community water distribution and wastewater treatment facilities and to develop geothermal resources. The community development account would be used to establish community services, including centers for native language and cultural education for children and adults.

Section 10 would establish the Salish and Kootenai Compact Fund. In addition to the Flathead Indian Irrigation Project Account noted above, the Fund would create a second account, the Compact Implementation Account, with $116 million for the administration, implementation, and management of the tribal water rights within the reservation. Following Congressional authorization and tribal ratification of the compact, $7 million from the Compact Implementation Account would be made immediately available.

Section 11 provides instream flow rights for the Tribe in the Bitterroot, Flathead, Kootenai, and Lolo National Forests, as well as the National Bison Range Complex and affiliated Waterfowl Production Areas.

Section 12 contains waivers and releases of claims for water rights in the State of Montana and liability for grievances against the United States, conditioned upon the various provisions of the bill being authorized and carried out.

Crow

On June 22, the Secretary of the DOI published notice (81 FR 40720) of his Statement of Findings on the Crow Tribe Water Rights Settlement Act, causing certain waivers and releases of claims to become effective. The Settlement Act ratified the Crow Tribe - Montana Compact, and provided for a repeal of the Act if certain conditions were not fulfilled by a March 21, 2016 deadline. The deadline was extended by the Tribe and Secretary to June 30.

The Secretary's findings include: (1) The Montana Water Court issued a final judgment and decree approving the Compact; (2) all the funds made available under §§414(c)-(f) of the Settlement Act have been deposited in the Crow Settlement Fund; (3) the Secretary has executed the agreements with the tribe required by §§405(a) and 406(a) of the Settlement Act; (4) Montana appropriated and paid into an interest-bearing escrow account any payments due as of the Settlement Act enactment to the tribe under the Compact; (5) the tribe ratified the compact by submitting the Settlement Act and the compact to a vote by the tribal membership for approval or disapproval and the tribal membership voted to approve the Settlement Act and the compact by a majority of votes cast on the day of the vote, as certified by the Secretary and the Tribe; (6) the Secretary fulfilled the

requirements of §408(a) of the Settlement Act; and (7) the waivers and releases authorized and set forth in §410(a) of the Settlement Act have been executed by the Tribe and the Secretary.

Federal Review of Proposed Water Rights Settlements

On June 23, the Office of Management and Budget (OMB) sent a memorandum to the DOI and DOJ regarding the federal review process for proposed water rights settlements. The memo states that OMB's "review of recent settlements has underscored the necessity to improve the process that guides negotiation and review of Indian Water Settlements." OMB notes a lack of differentiation between programmatic and trust responsibilities in order to analyze settlements to ensure they fit within the framework of DOI's Criteria and Procedures (C&P). It sets forth several steps OMB expects DOI and DOJ to implement "to enable adequate and timely review of future proposed settlements." Among the steps are regular reports to OMB and obtaining OMB input on the Administration's position before commencing settlement negotiations.

On July 6, the National Congress of American Indians passed Resolution #EC-16-002, opposing OMB's new review process on the grounds that OMB failed to consult with the tribes or to recognize the United States' trust responsibility to work on a government-to-government basis with Indian tribes. The resolution states that "Executive Order 13175 requires all executive departments and federal agencies consult with Indian tribes and respect tribal sovereignty as they develop policy on issues that impact Indian tribes." NCAI requested that the memo be withdrawn immediately, and noted that the memo "diminishes that authority of the Secretary of the Interior, the Attorney General, and their employees in the determination of how each agency will implement and execute the President's policy for transparency and open government, to resolve long-standing legal disputes through negotiation involving Indian water rights, and to consult with tribal governments on policy directly impacting tribes."

On July 12, the Confederated Salish & Kootenai Tribes (CSKT) adopted Resolution #16-205, opposing OMB's memo and requesting that it be withdrawn for failure to consult with the tribes. The resolution notes that the memo "impinges on tribal sovereignty and disrespects the government-to-government relationship with Indian tribes" by interfering with the discretion of DOJ and DOI to negotiate and resolve Indian water rights claims. Vernon Finley, CSKT Chairman, sent a letter to DOJ, DOI, and OMB on July 21, questioning OMB's "authority to usurp the power and negotiating authority of Interior and Justice." The letter points out that the C&P set forth DOI policy and processes utilized by the Secretary to determine whether to support settlements, and the memo appears to interject OMB into a process that pertains only to DOI, purporting to give OMB a significant role in determining whether a water settlement complies with the C&P. The letter includes the CSKT Resolution for withdrawal of the memo, and requests a meeting to further discuss the issue.

On July 29, the WSWC sent a letter to OMB, DOI, and DOJ expressing concerns about the practical impact of OMB's new process, as well as OMB's failure to consult with the tribes and western states. The letter noted the WSWC's long-standing policy of supporting tribal water rights

settlements "as the best means to fulfill U.S. tribal trust responsibilities and provide the stability and certainty necessary for continuing economic and water development both on and off Indian reservations." While encouraged by OMB's interest in becoming more aware of settlements early in the negotiation process, the letter noted that it is "unclear precisely how OMB's participation will proceed in harmony with that of the Departments of Interior and Justice," and whether OMB's new process "will further enable or hinder the ability of the federal agencies, states and tribes to communicate and negotiate in a timely manner." The letter requested that the western states be included in any conversation among the agencies and tribes regarding the best path forward, "including such things as formulating the metrics the federal government uses to calculate its liability and determine the value of settlements."

Senate Indian Affairs Committee Hearings

On June 29, the Senate Indian Affairs Committee held hearings on three bills: the Salish and Kootenai Water Rights Settlement Act (S. 3013), a bill to amend the White Mountain Apache Tribe (WMAT) Water Rights Quantification Act (S. 2959), which was part of the 2010 Claims Resolution Act (P.L. 111-291), and the Repealing Existing Substandard Provisions Encouraging Conciliation with Tribes (RESPECT) Act (S.2796).

Letty Belin, DOI, testified that DOI has not completed its review of S. 3013, noting that they have significant concerns about the $2.3 billion federal cost, and cannot support the legislation as introduced. She provided historical context for and expected benefits of the settlement, and added that the Confederated Salish and Kootenai Tribes (CSKT) have long been leaders in water and natural resources management. She emphasized the Administration's support for settling Indian water rights where possible. "Litigation does not solve these kinds of problems. Litigation goes on. In fact, having to do with CSKT and their water rights, I can't even count how many lawsuits there have been over the decades, and the problems are not solved."

Vernon Finley, CSKT Tribal Council Chairman, said numerous actions have infringed on the Tribes' treaty rights over the past 100 years. The compact would settle those violations, waiving claims he said were worth more than 14 times the total cost of the proposed settlement according to engineers, hydrologists, scientists, and economists, and would allow the Tribes to remediate natural resources crippled by irrigation diversions off the reservation.[53]

Senators Jon Tester (D-MT) and Steve Daines (R-MT) acknowledged that S. 3013 has a long way to go before it can be enacted, but that introducing the bill starts to raise the issues and is the first step in getting the tribes and federal government to work toward an agreement that can be approved by Congress.

Ronnie Lupe, WMAT Chairman, testified in support of S. 2959, regarding the Tribe's current water sources, shortages and infrastructure concerns. The WMAT pulls its drinking water from a

[53] Western States Water, #2193, May 27, 2016.

depleted well contaminated with uranium, and with no other groundwater sources, must turn to surface water. S. 2959 would ensure access to necessary funds from the WMAT Settlement Fund for a reservoir with water from the White River that would provide safe, reliable drinking water for the tribe. Construction of the rural water system and reservoir were already authorized by P. L. 111-291, a budget neutral Act that resolved many tribal water rights claims. However, DOI has indicated that it is not clear whether the Settlement Fund can be used for cost overruns, and the technical amendment would clarify the intended authority. Belin testified that Reclamation has not received the necessary design and cost estimate data from the Tribe to determine whether the designs are cost effective and meet Reclamation standards, so DOI can't evaluate yet whether S. 2959 is needed to complete the infrastructure.

Belin and David Flute, Sisseton-Wahpeton Oyate Chairman, testified in support of S. 2796, which would repeal obsolete laws concerning Indians, with their historical and antiquated language that presumes Indian-U.S. hostilities and favors removal of children to compulsory boarding schools.

Chickasaw and Choctaw

On August 11, the Chickasaw and Choctaw Nations, the State of Oklahoma and the City of Oklahoma City announced that they reached a water rights settlement, to be signed by all parties and presented to Congress for final approval. The parties are working with the Oklahoma congressional delegation to secure appropriate legislation. The settlement will resolve long-standing questions and multiple court actions over water rights ownership and regulatory authority over the waters of the Choctaw and Chickasaw Nations' historic treaty territories, an area that spans approximately 22 counties in south-central and southeastern Oklahoma ("Settlement Area"). These questions over federal law and tribal rights have led to conflicts over Sardis Lake and Kiamichi Basin water use in southeastern Oklahoma.

The agreement provides a framework that fosters intergovernmental collaboration on water resources management and future allocations, protects existing water rights and current and future water needs of communities throughout the region, and affirms the role of the State and the Oklahoma Water Resources Board (OWRB) in water rights permitting and administration. The agreement will implement a system of lake level release restrictions for Oklahoma City's measured use of Sardis Lake and the Kiamichi River for municipal water supply purposes, while supporting critical recreation, fish and wildlife uses through the Oklahoma Department of Wildlife Conservation's lake level management plan. It also resolves the outstanding debt associated with Sardis Lake. The settlement calls for a commission to evaluate the impacts of future proposals for out-of-state water use or diversion, which would remain subject to state legislative authorization.

If the Oklahoma Legislature approves such a proposal, the agreement ensures that any proceeds would meet water and wastewater infrastructure needs, particularly in southeastern Oklahoma.

Oklahoma Governor Mary Fallin said: "We are proud to be part of this historic agreement among the State of Oklahoma, the Choctaw and Chickasaw Nations and the City of Oklahoma City…. By choosing cooperation and collaboration over conflict and litigation, this agreement strengthens governmental relationships based on the common interests of the State and the Choctaw and Chickasaw Nations. While the State will continue to exercise its authority to manage and protect water resources throughout Oklahoma, the Choctaw and Chickasaw Nations will rightly play a role in significant water allocation and management evaluations within the Settlement Area."

Attorney General Scott Pruitt commented: "I commend the Choctaw and Chickasaw Nations and City of Oklahoma City for working purposefully and tirelessly with the State over the past five years to reach an equitable agreement. The State retains its permitting authority over water in the Settlement Area, which is important since uniform permitting and administration provide certainty and consistency for the management and use of water resources."

Governor Bill Anoatubby of the Chickasaw Nation said: "This agreement is a win for all Oklahomans. We have forged this deal based on our common interests with an understanding that we all want the same thing – to take care of our vital water resources responsibly with respect to the needs of all Chickasaws, Choctaws and Oklahomans. The Nations now have a meaningful and active voice in significant water transfers from our area. Furthermore, this settlement preserves and protects water resources essential to economic growth and quality of life in southcentral and southeastern Oklahoma. Unity and cooperation among all stakeholders offers our best chance to help ensure a strong economy and thriving natural environment for our children and grandchildren through proper stewardship of our shared water resources."

Chief Gary Batton of the Choctaw Nation stated: "When finalized, this agreement secures existing uses of water and provides certainty with regard to the future use of Sardis Lake for the benefit of recreation, fish and wildlife, and local water use. Importantly, moving forward, both the Choctaw and Chickasaw Nations will have a seat at the table in the protection of southeastern Oklahoma water resources for municipal and recreational use. And, as we all know, a vibrant recreation and tourism industry creates jobs and strengthens economies inside and outside of the Settlement Area. Additionally, we are pleased that the agreement supports keeping water in the Settlement Area within the State by maintaining current state law prohibitions and adding significant protections."

J.D. Strong, OWRB Executive Director and WSWC member, stated: "Five years of concentrated research, analysis and modeling provide the underpinnings of this agreement. All parties were committed to basing decisions on fact and science, building upon the foundation of the Oklahoma Comprehensive Water Plan using the best information we had or could develop regarding potential impacts on lake levels and stream flows. The State, the Nations and Oklahoma City were committed to applying what we have learned through decades of study so that our water resources can be protected while supporting a strong and growing economy in the region and throughout the state."

Oklahoma City Mayor Mick Cornett noted that the city will continue to grow, dependent in part on their ability to manage their water and land use. "[W]hile this agreement ensures we have access to water through a clearly defined and orderly process for decades ahead, we must continue to promote water conservation. We are pleased to be part of this agreement and the opportunities it creates for even greater collaboration and cooperation in the future."

Judge Lee R. West, United States District Court for the Western District of Oklahoma, commented: "I have been on the bench for 51 years, but this is an especially proud moment to witness all of these diverse parties coming together to find solutions that are in the best interest of all Oklahomans and my home state. This is without doubt an historic achievement.[54]

Kickapoo Tribe of Kansas

On September 8, the State of Kansas and the Kickapoo Tribe of Kansas settled a decade-long lawsuit over water rights. The Water Rights Settlement Agreement recognizes the Tribe's senior water rights in the Delaware River Watershed, which allows a tributary, Plum Creek, to continue to flow through the Kickapoo Reservation in Brown County. These water rights were obtained through negotiations between the Tribe, the State of Kansas, the DOI, and the DOJ and recognize a priority date of October 24, 1832.

The Tribe may divert or redivert, as available, up to 4,705 acre-feet of water per year. Domestic use by members and allottees does not count against the tribal water right. Kansas' domestic water rights are exempt from administration to protect the tribal water right. The Tribe may store in one or more reservoirs, for the purpose of subsequent direct use, up to a combined volume of 18,520 acre-feet. The combined volume may be increased if seepage characteristics of the reservoir or reservoirs so requires. Direct use and storage allowances of the agreement were determined based on a municipal build-out concept, using methods consistent with Kansas' law for Kansas water users. This method was determined by both the State and Tribe to be superior to the traditional method of quantifying Tribal reserve water rights based on "practicable irrigable acreage."

The settlement includes a Memorandum of Agreement (MOA) that establishes clear and transparent procedures for communication, monitoring and protection of the tribal water right, and provides a process of annual reviews by the State and Tribe to insure the MOA remains current, especially as the Tribe develops storage. While downstream State water rights could be affected as the Tribe uses and stores water that formerly made its way downstream, very few water rights are immediately downstream of the reservation.

The agreement settles a federal lawsuit pending since 2006, when the Tribe sued the federal government and political subdivisions of the State to establish senior tribal water rights along the Upper Delaware River and its tributaries. The Tribe's lawsuit was later amended to add the State of Kansas and the Chief Engineer of the Kansas Division of Water Resources as defendants.

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[54]https://www.waterunityok.com/.

Signatories to the agreement include the State of Kansas, the Kickapoo Tribe in Kansas, and the DOI and DOJ. For the State parties, the settlement was signed by Governor Sam Brownback, Attorney General Derek Schmidt, and Chief Engineer and WSWC member David Barfield. Governor Brownback said: "The State was pleased to work with the Kickapoo Tribe on this cooperative agreement assuring a safe and secure source of water for future generations. This agreement will ensure that both state and tribal interests are reflected in ongoing water planning."

The agreement must be forwarded to Congress for ratification with a request for the appropriation of funds for the construction of a reservoir in the area.

Hualapai Tribe

On September 8, Senators Jeff Flake (R-AZ) and John McCain (R-AZ) introduced S.3300, The Hualapai Tribe Water Rights Settlement Act, to ratify the agreement negotiated between the Hualapai Tribe, the State of Arizona, and several water providers in the state. Under the agreement, the Hualapai Tribe would have Colorado River rights equal to those of other water users. In addition, the tribe would no longer have unquantified water rights to the Colorado and Verde Rivers and would instead accept 4,000 acre-feet per year of water from the Colorado River. Having this agreement in place would ensure that the tribe's previously outstanding water claims could not potentially displace water used to serve 5 million water customers that also rely on the Colorado and Verde Rivers.

On September 14, the Senate Committee on Indian Affairs heard testimony on the Hualapai Tribe Water Rights Settlement Act (S. 3300). Chairman John Barasso (R-WY) noted that the bill would comprehensively settle all water rights claims for the Hualapai Tribe, and is a negotiated settlement of the tribe's federal reserved water rights claim with the state of Arizona, the Central Arizona Water Conservation District, the Salt River Project, the Freeport Minerals Corporation, and the United States. The bill authorizes $134.5 million to construct water infrastructure, adds certain trust parcels to the reservation, and reallocates 4,000 acre-feet of the Central Arizona Project water to the tribe. The bill also proposes additional federal funding of $32 million for a trust account to defray operation, maintenance and replacement costs.

Hualapai Chairman Damon Clarke testified regarding the necessity and advantages of the Colorado River water diversion project at Diamond Creek, already developed as a boat launch, with a 70-mile pipeline constructed along an existing road and relatively flat land to reduce costs. Clarke noted the tribe's tourist development along the rim of the Grand Canyon and pride in working toward full non-gaming employment of its members. He said: "…passage of this legislation is absolutely essential if our Tribe is to realize the full economic potential of our Reservation. We have done everything possible to provide jobs and income to our people in order to lift them out of poverty – but the lack of a secure and replenishable water supply on our Reservation is our major obstacle to achieving economic self-sufficiency. We recognize that the infrastructure project authorized by this legislation entails federal costs, but it is far more costly for our people to be mired in poverty and to lack reasonable and adequate access to jobs."

Landsat

The Obama Administration proposed to accelerate efforts to build the Landsat 9 satellite and launch it in 2021 instead of 2023 as currently planned. Under the 2017 budget blueprint the White House delivered to Congress on February 9, NASA and the USGS, the two agencies that share responsibility for the Landsat program, each would receive funding to speed up construction of the satellite and its ground system, a move recommended by Landsat supporters eager to ensure that two moderate-resolution Earth imaging satellites remain in orbit. The USGS is asking Congress for $73 million for its 2017 Landsat efforts, a $15.4 million increase aimed at accelerating the Landsat 9 ground station work. NASA is seeking $130 million, up from $60 million.

Currently, researchers obtain data from Landsat 8, launched in 2013 and Landsat 7, launched in 1999. Each of the satellites gathers imagery of the majority of Earth's land mass once every 16 days, but their orbits are complementary, giving researchers data every eight days. If Landsat 7 fails before Landsat 9 is operational, researchers will lose those frequent observations. That prospect looks increasingly likely since Landsat 7 is expected to run out of fuel sometime in the next two or three years. What's more, Landsat 8 was designed to last five years and its Thermal Infrared Sensor was built to operate for three years. "Continuity of observations has always been a top priority for the Landsat Program," Curtis Woodcock, USGS Landsat Science Team leader and a Boston University professor, said by email. "The irregular timing of past launches has led to concerns about the possibility of gaps in observations. A launch in 2021 will help ensure continuity and a steady supply of valuable observations."

The USGS budget also includes $2.2 million to acquire, store and distribute data from the European Space Agency's two Sentinel-2 Earth-observation satellites, the first of which launched last June. The second Sentinel-2 satellite is slated to launch later this year. Neither satellite includes thermal infrared imagery. "Providing Sentinel-2 data will enable the routine use of the dataset most like Landsat for tens of thousands of U.S. users, augmenting land observations over any one spot on the Earth's surface to just three days, as long as two Sentinel-2s and two Landsats are operating," according to USGS budget documents. "Sentinel-2 may also partially mitigate any gap in data that could occur between the de-commissioning of Landsat 7 and the launch and operations of Landsat 9." The USGS also wants to spend an additional $3 million to provide new Landsat data tools for land managers and the public. "By accelerating the development of a set of Landsat-based science products that will improve applications used by natural resource managers, Interior will provide an authoritative basis for regional to continental-scale identification of change, monitoring of current conditions, and predicting future scenarios."

The Obama Administration's final budget request offers $19 billion for NASA in FY2017, a decrease of $260 million from the agency's final 2016 budget, with sharper cuts to the agency's two major exploration programs. NASA's science programs would receive $5.6 billion, effectively unchanged from 2016. However, earth science would get an increase of $111 million, while planetary science would be cut by a nearly equal amount.[55]

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[55]http://spacenews.com.

Litigation

Texas v. New Mexico

Rio Grande Compact

On June 28, Special Master Gregory Grimsal issued the public draft of his first special report in *Texas v. New Mexico* (#220141). The draft report provides extensive historical context for the local, interstate, and international uses of and disputes over the Rio Grande, as well as attempts to resolve problems through treaty, compact and legislative efforts. The report makes recommendations to the U.S. Supreme Court on several preliminary motions, including: (1) denying New Mexico's Motion to Dismiss Texas' complaint, which alleges a claim under the text and structure of the Rio Grande Compact; (2) rejecting the United States' federal Reclamation claims as outside the interstate compact, but recommending that the Supreme Court exercise its discretion to hear the claims together since they impact the same project; and (3) denying the motions to intervene from the Elephant Butte Irrigation District and the El Paso County Water Improvement District No. 1, as both districts failed to satisfy the burden to establish compelling interests separate from the interests of New Mexico or Texas.

United States v. Washington

Tribal Treaties Fishing Rights

On June 27, the 9th Circuit ruled in *United States v. Washington* (13-35474), that Washington's barrier culverts are a violation of its obligations relating to off-reservation fishing under Tribal treaties, affirming the decision of the U.S. District Court in Washington. The 21 Tribes filed a Request for Determination in 2001 alleging that the barrier culverts prevented salmon from moving freely between the sea and upstream spawning grounds at various life stages, reducing the size of salmon runs. In 2007, the District Court entered an injunction directing the State of Washington to correct the culverts, which allow streams to flow underneath roads, within the next seventeen years; sooner for the approximately 1,000 culverts within a specific area of watersheds on former tribal lands that are still significant for fish.

The 9th Circuit rejected Washington's argument that the treaty rights impose no obligations that prevent the state from making land use decisions that could incidentally impact fish, holding that an implicit promise of the treaty rights was that the number of harvestable fish would be sufficient to provide a moderate living to the Tribes, not merely provide tribal access to usual and accustomed fishing places. The Court noted several alternatives to barrier culverts, including bridges that entirely span streams, culverts that allow unobstructed fish passage, or building roads away from streams.

The Court also rejected Washington's request for an injunction requiring the U.S. to fix its culverts first, noting that Washington didn't have standing to bring the Tribe's claims and that the

U.S. didn't waive sovereign immunity. The 9th Circuit also held that because treaty rights belong to the Tribes rather than the U.S., it is not the prerogative of the U.S. to waive those rights.

River Basins/Hydropower

Yakima River/Klamath River

On April 20, the Senate passed the Energy Policy Modernization Act (S. 2012) by a vote of 85-12. The twelve Republicans opposing the bill included Senators Mike Lee (R-UT), James Lankford (R-OK), and Ben Sasse (R-NE).

S. 2012 modifies the hydropower licensing process, allowing longer extensions of preliminary permits and facilitating more efficient license proceedings with best practices, non-duplication of studies, concurrent biological opinions, and deadlines for water quality certifications under CWA §401(a) after the certifying agency determines a request for certification is complete.

Among other provisions, the bill includes a section on basin water management, authorizing the initial portion of Phase III of the Yakima River Basin Water Enhancement Project and implementing power and water management parts of the 2010 Klamath Basin Restoration Agreement (KBRA). The bill authorizes the first ten years of a 30-year water-sharing plan in the Yakima River Basin, a project managed by the USBR. The provision was previously introduced by Senator Maria Cantwell (D-WA) as S.1694, and has since undergone several changes. The plan would install fish passages at dams to restore access to salmon runs important to the Yakama Nation, and would improve water storage for farmers in the region. The plan includes water conservation targets and water transfers, and studies on feasibility and environmental impacts. The bill does not authorize the remainder of the plan, including the construction of new dams, which Senate Energy and Natural Resources Committee minority members noted will require feasibility studies and environmental reviews before being considered for authorization.

The Klamath Basin project language, approved by the affected states, water users and environmental groups, authorizes programs for irrigators under KBRA, including groundwater development and surface water pumping, up to $100 million. The bill also instructs the Department of Interior to reduce power costs for irrigators, authorizes reimbursement for pumping costs and canal replacements, authorizes local water banking, and reduces permitting requirements for using federal facilities to transport non-federal water.

Colorado River/Lake Powell Pipeline

On May 2, the Utah Board of Water Resources filed its hydroelectric licensing application, research, field studies, and environmental analysis with the Federal Energy Regulatory Commission for the Lake Powell Pipeline Project. The application follows the 90-day public review period of its preliminary license proposal (PLP) filed in December. "We received a lot of feedback on the

PLP, and we recognize the time and effort a lot of people and organizations put into it. We feel the license application is stronger as a result," said Eric Millis, Utah Division of Water Resources Director. The pipeline would be located in southern Utah and northern Arizona, occupying 449 acres of BLM land, and would consist of: (1) 140 miles of 69 inch-diameter pipe and penstocks; (2) a combined conventional peaking and pumped storage hydro station; (3) four conventional in-pipeline hydro stations; (4) a conventional hydro station; and (4) transmission lines.

The project's water intake would convey water from the USBR's Lake Powell up to a high point within the Grand Staircase-Escalante National Monument, after which it would flow through a series of hydroelectric turbines, ending at Sand Hollow reservoir, near St. George, Utah. The application states that the project will be ready for environmental analysis by January 2017. The November cost estimate for development was between $1.1 billion and $1.8 billion depending on which route is selected as the preferred alternative in a future Environmental Impact Statement.

Columbia River Basin

On May 4, the U.S. District Court in Oregon rejected the NOAA's salmon protection plan, which guides dam operations on the Columbia and Snake Rivers. In *National Wildlife Federation v. National Marine Fisheries Service* (Case No. 3:01-cv-640) the Court held that the plan fails to address the hydropower dams' effect on the fish, and NOAA's decision to issue its 2014 biological opinion was arbitrary and capricious in concluding that the operations of the Federal Columbia River Power System do not violate the ESA, or jeopardize the protected fish.

The Court also held that the Corps and USBR violated the National Environmental Policy Act by failing to prepare an environmental impact statement in connection with their records of decision implementing the 73 reasonable and prudent alternatives described in NOAA's biological opinion. The Court ordered NOAA to prepare a new biological opinion by March 1, 2018. This will be NOAA's fifth attempt at developing an acceptable biological opinion, with previous opinions prepared under the Clinton, Bush and Obama administrations.

Klamath Hydroelectric Settlement Agreement

On April 6, the Governors of Oregon and California, the U.S. Departments of Interior and Commerce, PacifiCorp and several other state, federal, irrigation and environmental officials signed an amended Klamath Hydroelectric Settlement Agreement that would continue the largest river restoration and dam removal project in the nation. The amendment would not require Congressional approval as the expired 2010 agreement did, and eliminates the Secretary of the Interior's role in making a determination on dam removal. Several tribes have not yet signed the amended agreement. The amended agreement would transfer the four Klamath River dams owned by PacifiCorp to the Klamath River Renewal Corporation, which would work with the Federal Energy Regulatory Commission to decommission and remove the dams by 2020.

"This historic agreement will enable Oregon and California and the interested parties to get these four dams finally removed and the Klamath River restored to its pristine beauty," said Governor Jerry Brown. State and federal officials also signed a new 2016 Klamath Power and Facilities Agreement to help Klamath Basin irrigators to avoid potentially adverse financial and regulatory impacts associated with the return of fish runs.

Upper Colorado River Basin

Groundwater Study

On May 9, the USGS released its study on the importance of groundwater base flow in sustaining surface water flow in the Upper Colorado River Basin. The study was conducted under the USGS WaterSMART Initiative and the USGS National Water Quality Assessment Project of the National Water Quality Program.

Scientists used a new method to more accurately estimate the percentage of groundwater that supports streamflow. Researchers studied long-term records of water chemistry and streamflow data at 146 sites in the Upper Colorado River Basin in Colorado, Utah, New Mexico and Arizona. These data were then analyzed to create a model to predict and map where streamflow originates in the basin. On average, 56 percent of the streamflow in the basin originated from groundwater. Water data were analyzed using the USGS Spatially Referenced Regressions On Watershed (SPARROW) water-quality model. The model estimates the amount of water lost during stream transport to the Lower Colorado River Basin, which is due largely to withdrawals for irrigation and evaporation.

In the high elevation headwaters of the Colorado River Basin, there is a greater percentage of snowmelt and precipitation contributing to surface-water streamflow. As water flows downstream to lower elevations, a greater percentage of streamflow is from groundwater. These results provide a snapshot of present-day groundwater and surface water conditions at a regional scale.[56]

On August 15, the USGS and the USBR announced the publication of their report, "Changes in Groundwater Recharge Under Projected Climate in the Upper Colorado River Basin." The report, published in the Geophysical Research Letters, projects increases in both precipitation and groundwater recharge in the Upper Colorado River Basin. Simulated future groundwater recharge through the year 2099 is generally expected to be somewhat greater than the historical average in most decades due to an anticipated wetter future climate in the basin under the most advanced climate modeling projections and a groundwater recharge model. While recharge simulations from a majority of the projected climate data sets result in increased recharge in the Upper Colorado River Basin during most future decades, there were some that resulted in decreased future recharge relative to the historical climate period (1950-2015). The study was completed with support from Reclamation's Science and Technology Program to help meet objectives of the SECURE Water Act.

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[56]https://www.usgs.gov/news/more-half-streamflow-upper-colorado-river-basin-originates-groundwater.

Groundwater replenished through increased precipitation may offset expected streamflow reductions from increased temperatures. Understanding how much groundwater is available and how it's replenished is important to sustainably manage both groundwater and surface water supplies in the Colorado River basin now and in the future. Reclamation recently projected water shortages for the Lower Colorado River Basin as early as 2018. A recent USGS publication suggests that as much as half of the water flowing in rivers and streams in the Upper Colorado River Basin originates as groundwater.[57]

Colorado River

On May 23, the USBR's Lower Colorado River Water Supply Report indicated that Lake Mead is 37% full, with a surface elevation at an historic low of 1,074.37 feet, surpassing last June's historic low of 1,074.71 feet. Reclamation forecasts a drop of two feet through the end of June. Lake Mead's surface elevation is still expected to recover to 1,079 feet by January 2017. Observed unregulated inflow into Lake Powell for the month of April was 0.814 Maf or 77% of the 30-year average. The forecast for May unregulated inflow into Lake Powell is 1.64 Maf, 70% of the 30-year average. The 2016 April through July unregulated inflow forecast is 5.5 Maf.[58]

The December 2007 Colorado River Interim Guidelines (Interim Guidelines) determines reservoir operation based on the projections of hydrologic conditions in 24-month studies, updated on a monthly basis. The August 2016 projection of the January 2017 water surface elevation will set the operations tier for the coordinated releases from Lake Powell and Lake Mead for the coming year. Tiered reductions in water use are required for Arizona and Nevada if the projected elevation of Lake Mead for January is below 1,075 feet. Additional measures are taken by Reclamation if the elevation drops below 1,025 feet.

State water officials from Arizona, California, and Nevada have met regularly with Reclamation since last summer to negotiate a voluntary agreement to share in water cutbacks to prevent a more severe shortage with mandatory cuts, and to maintain Lake Mead as a long-term viable water source. California in particular is considering taking reductions before it would otherwise be legally required to with its higher priority allocation, potentially leaving a surplus it could use during future droughts. California would face 8% cuts in Colorado River deliveries if Lake Mead drops below 1,045 feet, with more cuts for every additional 5-foot drop in elevation.

Arizona, with a junior allocation, would take the bulk of the reductions under the proposed agreement. The Central Arizona Project (CAP) would lose nearly 15% of its water supply as early as next year, before being required to do so under the 2007 Interim Guidelines, with deliveries gradually cut up to 40% if Lake Mead continues to decline. CAP cuts may be spread among all sectors of the state's economy that currently rely on project water for drinking and irrigation – cities,

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[57]http://www.usbr.gov/newsroom/newsrelease/detail.cfm?RecordID=56167.
[58]http://www.usbr.gov/lc/riverops.html.

farms, industries, Indian tribes and others – rather than historic plans to limit cuts to Central Arizona farmers. Nevada has the right to only 300,000 acre-feet of Colorado River water and would take a proportionately smaller share of the cuts. Reclamation would cut another 100,000 acre-feet annually through "efficiencies" such as lining irrigation canals to limit seepage or possibly by opening the long-shuttered Yuma Desalination Plant.

On August 16, the USBR released its 24-month hydrology study, projecting January Lake Mead water levels above the 1,075-foot threshold, avoiding a shortage that would have cut deliveries to lower basin states in 2017. With a record low water level of 1,072.75 feet last month, efforts by Arizona, California and Nevada to voluntarily reduce their Colorado River water use by about 500,000 acre-feet will hopefully allow the reservoir to fill back up to 1,079 feet by the end of this year.[59]

Republican River Compact

On August 26, the Governors of Colorado, Kansas and Nebraska announced an agreement in the longstanding conflict over water from the Republican River Basin, as the Republican River Compact Commissioners signed two resolutions. Representatives from the three states have been meeting monthly for over two years, in an effort to change the approach and improve how they manage interstate water matters. This effort has created a new focus on transparency and certainty as all three states work to serve their water users. The intent of these resolutions is to replace the need for annual reviews and instead provide long-term surety to water users.

It has been a priority of the states to collaborate on interstate water matters to ensure each state's water users are protected, while also maintaining a positive working relationship between the compacting states. The resolutions signed this week will provide flexibility and greater certainty to all water users in the region, while remaining consistent with the terms of the Republican River Compact and the Final Settlement Stipulation of 2002. The three states have been involved in various lawsuits and arbitration for the past 15 years over administration of water in the Republican River basin, and this agreement is a significant and positive step forward, with the next steps focusing on working with the basin's water users to implement these agreements.

Colorado Governor John Hickenlooper said: "We are proud to be part of this historic agreement. For the first time since signing the Compact, the three states have worked together to resolve their issues without litigation and have brought certainty to the water users in the basin. This is how we do our best work in Colorado and defines our approach to addressing our water challenges – cooperation and collaboration."

Kansas Governor Sam Brownback said: "Signing these resolutions shows the commitment from all three states to engage in open and transparent dialogue for the past two years. This

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[59]http://www.usbr.gov/lc/riverops.html.

long-term agreement will ultimately improve water management for water users in Kansas as well as Nebraska and Colorado."

Nebraska Governor Pete Ricketts said: "These resolutions represent a long-term strategy for representing each state and ultimately improving water management for water users in all three states."

WSWC members and Republican River Compact Commissioners who signed the long-term resolutions include: David Barfield, Chief Engineer, Kansas Department of Agriculture; Dick Wolfe, State Engineer, Colorado Division of Water Resources; and Jeff Fassett, Director of Nebraska's Department of Natural Resources.

States

California

Drought/Water Conservation

On May 9, California Governor Jerry Brown issued Executive Order B-37-16, "Making Water Conservation a California Way of Life." It recognizes the persistent nature of drought and acknowledges the conservation efforts of residents, reducing water use by 23.9% between June 2015 and March 2016. Several previous executive orders and temporary water restrictions will be updated and continued to encourage residents to use water wisely, eliminate water waste, strengthen local drought resilience, and improve agricultural water use efficiency and drought planning. Governor Brown stated: "Californians stepped up during this drought and saved more water than ever before. But now we know that drought is becoming a regular occurrence, and water conservation must be a part of our everyday life."

The California Department of Water Resources (CDWR) and the State Water Resources Control Board (Board) will require monthly reporting by urban water suppliers on a permanent basis. CDWR and the Board will develop new water use efficiency targets as part of a long-term conservation framework for urban water agencies. The Board will adjust emergency water conservation regulations through the end of January 2017, in recognition of the differing water supply conditions across the state, and develop proposed emergency water restrictions for 2017 if the drought persists. The Board will permanently prohibit wasteful practices, such as hosing off sidewalks, driveways and other hardscapes, washing automobiles with hoses not equipped with a shut-off nozzle, and watering lawns in a manner that causes runoff.

The Board and CDWR will take actions to minimize water system leaks across the state. CDWR estimates that leaks in water district distribution systems waste more than 700,000 acre-feet of water a year. Audits of water utilities have found an average loss through leaks of 10% of their total supply. CDWR will strengthen standards for local Water Shortage Contingency Plans, which are part of the Urban Water Management Plans that water districts must submit every five years. For

areas not covered by other plans, CDWR will work with counties to improve drought preparedness for small water suppliers and rural communities. CDWR will also update existing requirements for Agricultural Water Management Plans so that irrigation districts quantify their customers' water use efficiency and plan for water supply shortages.

WaterFIX

On December 22, the CDWR and USBR's Mid-Pacific Region released the final, refined environmental documents for WaterFix, to modernize the State's water infrastructure. The documents analyzed 18 alternatives (after screening more than 100), ultimately concluding that WaterFix, known as Alternative 4A, was the best option for increasing water supply reliability and minimizing environmental impacts, addressing current Sacramento-San Joaquin Delta ecosystem concerns. WaterFix is the State's plan to build three new intakes in the northern Delta and two 35-mile-long tunnels to transport water underground to the existing pumping plants in the south Delta. The project would stabilized water supplies and reduce harmful reverse flows, when the pumps are operating, also helping guard against saltwater intrusion in the event of an earthquake or storm powerful enough to destroy levees in the low-lying Delta, or as sea levels rise. "WaterFix will secure water supplies for 25 million Californians and prepare for a future marked by rising seas, seismic threats and more extreme weather," said Mark Cowin, CDWR Director. "After years of scientific study and analysis, we have found the best solution for protecting both the Delta's ecosystem and a vital water supply for California."[60]

Federal Regulations Impact

Senate Environment and Public Works Hearing

On August 30, Senator Mike Rounds (R-SD), Chairman of the Senate Environment and Public Works (EPW) Subcommittee on Superfund, Waste Management and Regulatory Oversight, convened a field hearing in Rapid City, South Dakota, entitled "Oversight of the Impact of U.S. Environmental Protection Agency (EPA) and Fish and Wildlife Service Regulations on Citizens' Private Property Rights." In his opening remarks, Senator Rounds stated: "According to the American Action Forum, since taking office the Obama administration has finalized 2,856 regulations. These regulations have cost the American people nearly $810 billion dollars since 2009. Of these finalized regulations, 167 of them have come from the Environmental Protection Agency, and have cost American taxpayers $312 billion dollars – nearly half of the total cost of all regulations finalized by this administration. Not only are the costs of these regulations passed on to all citizens, but landowners who bear the burden of complying with many of these regulations have limited resources to comply with these burdensome, costly and complicated regulations."

[60]http://baydeltaconservationplan.com/FinalEIREIS.aspx.

Rounds pointed to the EPA's recent WOTUS rule, noting that, "…the U.S. Court system should not be the primary backstop against overly burdensome rules. If the EPA worked more closely with landowners, states, and agriculture groups throughout the rulemaking process, the end result would be better rules that minimize the impact and costs on private landowners and American business while still achieving the goal of environmental protection." He praised the Fish and Wildlife Service for working with landowners to encourage voluntary species management and conservation, but added that the Endangered Species Act, "…continues to impede landowner's ability to utilize and develop their land by imposing significant restrictions on what landowners can do on their own land," and lawsuits add to the confusion by changing the way regulations are implemented. "It is landowners, and not the federal government, who are the best stewards of their land….Rather than creating an adversarial relationship, agencies should strive to work in cooperation with landowners towards the shared goal of environmental conservation."

Shaun McGrath, EPA Region 8 Administrator, stated that while it's hard to please everyone, EPA "is willing to engage and provide those opportunities for input and we take to heart the feedback we get." The hearing also included testimony from Noreen Walsh, FWS Mountain-Prairie Region Director; Chuck Clayton, past president of the Izaak Walton League of America; Larry Rhoden, a rancher and former South Dakota state senator; Jeff Lage, President of the South Dakota Home Builders Association; Myron Williams, a rancher representing the South Dakota Cattlemen's Association; and Denise Parker, Humane Society of the United States.

Idaho

Groundwater Curtailment Order

On June 3, a groundwater curtailment order issued by the Idaho Department of Water Resources (IDWR) became effective in the Eastern Snake Plain Aquifer (ESPA). The curtailment order responded to a Surface Water Coalition's (SWC) 2005 water delivery call and affects junior post-1989 groundwater rights on the ESPA that are not protected by one of four approved mitigation plans.

The curtailment order was issued almost one month after WSWC Member and IDWR Director Gary Spackman issued an order predicting a 44,200 acre-foot shortfall to senior priority surface water rights in the ESPA with a May 3 deadline for junior water users to establish their ability to mitigate for the shortfall or face curtailment. Curtailed groundwater rights can resume diversion by either joining a ground water district and seeking protection under the Idaho Ground Water Appropriator's (IGWA) existing mitigation plan, or by submitting and receiving approval of their own mitigation plan.

Conflicts between Snake River surface water users who have senior water rights under the basic principal of Idaho water law – first in time, first in right – and ground water users with junior water rights in the ESPA have resulted in litigation. As a consequence of that litigation, the Director of IDWR is required to issue an order at the beginning of the irrigation season, determining any

shortfall in water supply to the senior surface water right holders, and determining the obligations of junior ground water pumpers to curtail water use or mitigate for depletions to the holders of senior priority water rights.

Overall, the water conflicts have arisen because water levels in the ESPA have been declining, affecting spring flows and surface water flows in the Snake River, particularly in the Blackfoot to Milner reach and the Thousand Springs region near Hagerman. This decades-long decline in aquifer levels results in predicted shortfalls to the senior surface water right holders even in years such as this one, when federal storage reservoir operators forecasted at the start of the irrigation season a 3.2 million acre-feet runoff from April to July at the Heise Gage of the Snake River, which is approximately 99% of normal.

Under the recent historic water settlement agreement between the Surface Water Coalition (SWC) and Idaho Ground Water Appropriators (IGWA), the participating ground water users have agreed to voluntarily reduce pumping by 240,000 acre-feet annually to mitigate their impacts on the Snake River and senior water right holders. The settlement agreement, which was recently adopted and approved by IDWR as IGWA's mitigation plan, is the key to providing junior ground water pumpers safe harbor from curtailment under this and future year determinations of an injury obligation. It also prevents future large scale litigation on this issue, allowing the junior ground water pumpers to instead focus their efforts and resources on enhancing the aquifer, with the ultimate goal of recovering aquifer levels to a point at which large scale curtailment is no longer necessary.[61]

Wildfires

On August 25, Idaho Governor Butch Otter signed a disaster declaration due to the Henry's Creek Fire, which started August 21 and consumed over 57,000 acres in four days. FEMA also approved Idaho's request for a Fire Management Assistance Grant declaration for the fire, which makes funding available to pay 75% of eligible firefighting costs and lifesaving efforts. Governor Otter said: "A fire of this scope and severity has not happened in Eastern Idaho in most peoples' memory. There are vast scenic and recreational areas in jeopardy because of this fire and we are committed to doing whatever it takes to preserve and protect the region's valuable resources."

Texas

Groundwater

On May 27, the Texas Supreme Court issued a decision in *Coyote Lake Ranch v. City of Lubbock* (No. 14-0572), applying its oil and gas "accommodation doctrine" to groundwater rights severed from the surface estate. The City purchased the Ranch's Ogallala Aquifer groundwater in 1953, and contractually has the broad right to access the surface property to drill wells and deliver

[61] https://www.idwr.idaho.gov/.

water. In 2012, the City announced plans to increase water-extraction efforts by drilling another 80 wells on the Ranch. The Ranch objected to the plans due to the increased erosion and injury to the surface estate, which is used for agriculture, raising cattle, and recreational hunting.

The Ranch owner argued that the City had a duty to conduct its operations with due regard for the rights of the surface owner. The Court rejected the City's argument that the law imposes no duty of accommodation on groundwater owners, in part because minerals and renewable groundwater are not comparable, nor has a groundwater estate ever been held to be dominant as a mineral estate is. The Court noted that, like minerals, groundwater exists in subterranean reservoirs, is subject to the rule of capture, can be severed from the surface estate, is protected from waste, and has the same right to the use of the surface that a severed mineral estate does. The Court concluded that the similarities merited extending the accommodation doctrine to groundwater estates, requiring an implied right to the surface be exercised with due regard for the surface estate's rights. The doctrine adjusts correlative rights where reasonable, and balances the rights of the surface and groundwater owners to use their respective estates, preserving a viable surface estate while recognizing the dominant nature of the groundwater estate.

Flooding

On June 8, Texas Governor Greg Abbot expanded his declaration of disaster to include 46 counties due to severe weather and flooding. On June 9, he sent a letter to the President requesting federal assistance, particularly for 12 of those counties. He wrote: "I have determined that this incident is of such severity and magnitude that effective response is beyond the capabilities of the state and affected local governments, and that supplementary federal assistance is necessary to save lives; to protect property, public health and safety; or to lessen or avert the threat of a disaster." Three Texas reservoirs have experienced uncontrolled releases due to exceptionally high water levels, and four U.S. Geological Survey streamgages have recorded historic peaks. Parts of Oklahoma, Nebraska, North Dakota and Wyoming have also experienced heavy rainfall and flooding in recent weeks.

Utah

Tibble Fork Reservoir

On August 26, the Utah Department of Environmental Quality (UDEQ) issued a public warning to stay out of the American Fork River downstream of the Tibble Fork Reservoir after water samples analyzed by UDEQ led to a discovery of elevated levels of lead in the river sediment. Lead concentrations in the water were lower, and the river is not used for culinary purposes. The Utah Department of Agriculture and Food issued a statement explaining that it does not believe the water poses a risk for livestock or crop irrigation, but the Utah Division of Wildlife Resources is monitoring the potential impacts to aquatic wildlife, and is urging anglers to practice "catch and release" as a precaution until they determine that the fish are safe to consume.

The U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS) and the North Utah County Water Conservation District started major construction operations on the Tibble Fork Dam in June. A 2004 assessment found that the 1966 dam needed rehabilitation for stability and engineering upgrades that will increase water storage capacity and extend the life of the dam by another 50 years. The U.S. Forest Service closed the reservoir to recreational uses, and the reservoir began draining in mid-August after the NRCS notified local water users to expect elevated levels of river sediment. Continuing inflows into the basin resulted in larger amounts of sediment than anticipated, and a two-mile section of river just below the dam lost its fish population due to suffocation.

Upstream, several hundred legacy mining operations dot the Wasatch Mountains, and some discharge acid mine drainage that may be contributing to the elevated lead levels in the sediment. Steve Fulke, Utah Abandoned Mine Lands Program Manager, said that in light of the Gold King mine disaster last year, they are trying to figure out how many mines are discharging and to what extent. Walt Baker, Utah Division of Water Quality Director and WSWC member, said Gold King underscores the need to get a handle on potential problems sooner rather than later. EPA is coordinating with Utah and other federal agencies to evaluate data, information and potential next steps related to the sediment release, and has worked with state and local partners on previous assessment and cleanup projects in the basin impacted by historic mining and metals contamination.[62]

Washington

Wildfires

On August 23, Washington Governor Jay Inslee proclaimed a state of emergency for 20 counties in response to multiple wildfires in Eastern Washington threatening homes, businesses, public infrastructure and natural resources. "These fires threaten people, property and the natural resources of Eastern Washington," Inslee said. "This proclamation frees up state resources so we can provide the assistance that these communities might need. This is a time for all Washingtonians to come together." In the proclamation, Inslee noted the forecast for hot and windy weather conditions, directed state agencies to do everything reasonably possible to assist affected local governments in responding to and recovering from the fires, called for staff at the State Emergency Operations Center to coordinate state firefighting efforts and allowed the use of the Washington National Guard if local jurisdictions need more resources.

Water Supply Outlook

On January 1, snowpack at SNOTEL sites was near to well above normal in much of the Western U.S., with the notable exceptions of northcentral Wyoming, the northern Rockies of

[62]http://www.deq.utah.gov/ and
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/ut/programs/planning/wr/?cid=nrcs141p2_034072.

Montana and Idaho, and areas in northeast Utah and Arizona. Streamflow forecasts were near to above normal over much of the West, particularly in the Pacific Northwest and in the Southwest. Streamflow expectations were below normal in parts of Wyoming, Montana and Utah. Reservoir levels were above average in Colorado, Montana, and Wyoming and below average elsewhere.

Snowpack in Alaska was above normal in the central and northern regions and below normal in southcentral areas. In Arizona, the winter started with a series of storms, and wet conditions were expected to continue. In California, several storms in November and December improved soil moisture and started to develop snowpack in the Sierra. Colorado snowpack was 119% of normal, with the largest accumulations in the San Juan Mountains. Idaho's highest snowpacks were across the southern border at 160-190%, with snow accumulation reversing the pattern of the past two years, which saw higher snowfall in the basins along the Continental Divide. Montana's storms favored the southern basins, and while precipitation was generally above normal, the effects of El Niño were not yet known. Montana had accumulated only 35 to 40% of its seasonal snowpack at this point.

Nevada snowpack percentages ranged from 113%-203% of median, but it would take multiple wet years to recover completely from four years of drought. New Mexico snowpack doubled last winter's depths, and the streamflow forecast for each point in the Rio Grande exceeded 100% of average. Oregon snowpack was 139% of normal, much improved over last winter's 51%, and streamflow forecasts predicted near normal to well above normal flows for summer if snow continued to accumulate. Snowpacks in southern Utah were 150%-200% of median and near normal in northern Utah, and a strong El Niño influence was expected to produce an above average runoff season. Washington snowpack readings were 128% of normal, with streamflow forecasts ranging from 90% of normal in the Upper Columbia to 152% in the Lower Yakima. Wyoming precipitation was at 81%, with a runoff forecast of 86%, and reservoir levels were at a statewide average of 119% of normal.

On March 10, the Natural Resources Conservation Service's (NRCS) weekly report forecasted above-median precipitation over three months for parts of Alaska and from California to the central and southern Great Plains. Below-median precipitation was expected for the Pacific Northwest, portions of the northern Rockies, and the interior of Alaska. NOAA reported that a strong El Niño helped fuel a warm and wet winter for the United States. The average temperature for the contiguous U.S. during winter (December – February) was 4.6°F above the 20th century average, a new record, according to scientists from NOAA's National Centers for Environmental Information. Alaska had its second warmest winter on record. The winter precipitation total for the contiguous U.S. was 1.26 inches above the 20th century average, ranking as the 12th wettest winter on record for the Lower 48 states and the wettest since 1997/1998. Stations in the NRCS SNOTEL Network reported average to above average precipitation for the Cascades, Sierra Nevada, Great Basin, and southern Rockies so far in 2016. Many stations reported near average conditions. Areas of below average precipitation included the central and northern Rocky Mountains and Big Horn Mountains of Wyoming. Drought conditions continued to improve over much of the country. Streamgages in Washington, North Dakota, Texas, and along the West Coast reported above normal

stream flow. Over the past 6-12 months, conditions had improved in the southcentral U.S. and the Pacific Northwest. The remainder of the West showed improvement, but long-term drought persisted in California and Nevada.

On April 21, the 2016 year-to-date precipitation was average to above average at most SNOTEL stations in the West. Parts of Wyoming, Montana, Alaska and areas of the Southwest continued to experience below average precipitation. Recent moderate precipitation improved parts of the northern Rockies and parts of California, and conditions over the past 6 months have improved over much of the Pacific Northwest. Nevada's 2013 drought intensity designation as exceptional drought was downgraded by the U.S. Department of Agriculture to extreme drought conditions.

On May 3, the NRCS reported a wet week for some areas under residual El Niño impacts, with snow in the Rocky Mountains, and parts of Utah and Wyoming, and rain over east Texas, eastern Oklahoma, and southern California, with the remainder of the West remaining dry. Streamgages in the lower Missouri River Basin and East Texas were above flood stage. Colorado's snowpack was currently 113% of median. Heavy rainfall was expected in the Sierra Nevada and northern Intermountain West regions, including Wyoming, over the coming week. SNOTEL sites reported increased snowmelt in the northwest and northern Rocky Mountains, with much of New Mexico and Arizona already melted out, and stations in central and southern Alaska reporting little or no snow.

RESOLUTIONS AND POLICY POSITIONS

From time to time, the WSWC adopts policy positions and resolutions, many of which address proposed federal laws, rules and regulations or other matters affecting the planning, conservation, development, management, and protection of western water resources. Policy positions sunset after three years, and are then reconsidered, reaffirmed, revised and readopted, or allowed to expire. All WSWC positions are also vetted through the Western Governors' Association.

In 2016, the WSWC adopted the following positions:

Position No. 389 urges the Administration and the Congress to prioritize federal programs that translate science on climate and weather extremes to water resources management actions.

Position No. 390 supports rural water infrastructure needs and projects.

Position No. 391 supports renewable hydropower development.

Position No. 392 supports federal efforts to prepare for and respond to extreme weather events, including an expanded and enhanced west-wide extreme precipitation monitoring system.

Position No. 393 states that the WSWC "…opposes any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing."

Position No. 394 opposes the removal of "fish and wildlife" as an authorized purpose for which the Corps can manage the Missouri River Mainstem Reservoir System.

Position No. 395 urges the Administration and the Congress to support water research and development programs at the Department of Energy National Laboratories.

Position No. 396 urges the Administration and NASA to enhance focus on research for water resources applications and promote long term engagement with the WSWC.

Position No. 397 expresses support for implementation of the SECURE Water Act.

Position No. 398 supports legislation requiring the federal government to pay state filing fees in state general stream adjudications.

Position No. 389
(*See also Position No. 349 of 4/5/2013, which Amended Position No. 321*)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
urging the
CONGRESS AND ADMINISTRATION
TO PRIORITIZE FEDERAL PROGRAMS
THAT TRANSLATE SCIENCE ON CLIMATE AND WEATHER EXTREMES
TO WATER RESOURCES MANAGEMENT ACTIONS

Washington, D.C.
March 22, 2016

WHEREAS, climate and weather extremes have serious potential consequences for water resources planning and management, water rights administration, operation of state and local water projects, and future water use; and

WHEREAS, there is growing concern, particularly in the Arid West, over our ability to continue to supply water of adequate quality in quantities needed to sustain current and future uses, including environmental uses; and

WHEREAS, the failure to provide for such needs would have significant regional and national consequences; and

WHEREAS, present water resources planning and sound future decision-making depends on our ability to understand, monitor, anticipate and adapt to droughts, floods, extreme storms, and other weather events; and

WHEREAS, climate and weather extremes, such as drought, cause billions of dollars in damages and present substantial obstacles and uncertainties to present and future water resources planning and management; and

WHEREAS, most state, local and tribal water managers and water providers have a limited ability to undertake the necessary research to understand and develop adaptation strategies for extreme climate and weather events; and

WHEREAS, the federal agencies participating in climate and weather research programs have historically concentrated heavily on basic scientific research, research that needs to be translated into decision support applications for water resources management and that needs to be communicated to water managers through technology transfer through institutions such as the National Oceanic and Atmospheric Administration's Regional Integrated Sciences and Assessments (RISA) program; and

WHEREAS, important programs, such as NOAA's RISAs support research that addresses complex science issues of concern to water managers and administrators at the regional level;

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council urge the Administration and the Congress to give a high priority to federal programs, such as NOAA's RISAs, that provide the translation function between basic scientific research on climate and weather extremes and the application of that research to real-world water management situations at the regional, state, and local levels.

Position No. 390
(*See also Position No. 350, 4/5/2013*)

POSITION STATEMENT
of the
WESTERN STATES WATER COUNCIL
in support of
RURAL WATER INFRASTRUCTURE NEEDS & PROJECTS

Washington, D.C.
March 22, 2016

WHEREAS, much of the West is characterized by its aridity and drought which highlights the fact that water availability is an ever present constraint defining our economic and environmental well-being and quality of life; and

WHEREAS, this is particularly true for many small rural communities struggling to meet future water supply needs and comply with present federal mandates; and

WHEREAS, the Bureau of Reclamation's rural water program, USDA's Rural Utilities Service water and wastewater programs and other continuing efforts seek to identify rural water needs and evaluate rural water supply projects and the demand for new projects; and

WHEREAS, there is an important role for the States in the conduct of appraisal investigations and feasibility studies, preparation of feasibility reports, and identifying funding sources; and

WHEREAS, with respect to funding sources, we continue to strongly support the expenditure of Reclamation Fund revenues for their intended purposes, including rural water projects, as authorized by the Congress; and

WHEREAS, existing federal and state rural water and wastewater programs must be coordinated to facilitate the most efficient and effective solution to meeting the water needs of non-Federal project sponsors; and

WHEREAS, upgrading and replacing inadequate rural water systems may require finding new water supplies, which will entail acquiring necessary state water rights; and

WHEREAS, continuing compliance with state water laws and interstate compacts is vital; and

WHEREAS, opportunities exist to leverage non-federal funding through federal loan guarantees and other financial instruments to ensure that water districts can access private sources of financing; and

WHEREAS, water districts and individual water users depend on federal and non-federal infrastructure for their livelihood and the risk of default is minimal.

NOW THEREFORE BE IT RESOLVED that the Western States Water Council supports federal and state legislative and administrative actions to authorize and implement rural water supply projects and

programs that enhance water supplies and promote economic development, through streamlined permitting processes and appropriate financing instruments, while appropriately protecting environmental resources and taxpayers.

BE IT FURTHER RESOLVED that the Western States Water Council also supports the development and implementation of appropriate water conservation programs at all levels to minimize demands placed on our natural resources and ecosystems.

BE IT FURTHER RESOLVED that rural water project development should recognize and ensure consistency with state water law and regulatory authority.

Position No. 391
(*Formerly Position No. 351, 4/5/2013*)

POSITION STATEMENT
of the
WESTERN STATES WATER COUNCIL
in support of
RENEWABLE HYDROPOWER DEVELOPMENT

Washington, D.C.
March 22, 2016

WHEREAS, the water and hydropower resources of the West have been developed through partnerships between energy and water users, and continue to be inextricably connected; and

WHEREAS, clean, efficient, inexpensive hydropower is a vital part of the energy resources needed to meet our present and future energy demands; and

WHEREAS, hydropower is the largest source of renewable electricity in the United States, producing some 259,367 million KWh or about 6.3%[1] of the Nation's electricity needs; and

WHEREAS, the potential exists for further public and private development of this valuable resource, including upgrading existing generators, developing small hydro and the power potential from existing man-made conduits and canals, as well as hydroelectric pumped storage projects; and

WHEREAS, such development can often be undertaken with little impact on the environmental and important ecological resources, requiring minimal further environmental review; and

WHEREAS, permitting requirements may be appropriately minimized and streamlined so as to promote reasonable development while avoiding unnecessary costs; and

WHEREAS, the future development of potential hydropower resources should be appropriately undertaken in compliance with substantive and procedural state water law and interstate compacts, and consistent with the States' authority under Clean Water Act Section 401; and

WHEREAS, the rights and preference privileges of existing water and power users should be respected; and

WHEREAS, federal legislation has from time to time been introduced to further authorize and promote the wise and sustainable development of our renewable hydropower resources, also creating jobs and reducing carbon emissions.

NOW THEREFORE BE IT RESOLVED that the Western States Water Council supports federal legislative and administrative actions to authorize and implement reasonable hydropower projects and programs that enhance our electric generation capacity and promote economic development, through streamlined permitting processes, while appropriately protecting environmental resources.

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[1]2014, U.S. Energy Information Administration, www.eia.gov.

BE IT FURTHER RESOLVED that the Western States Water Council also supports the development and implementation of appropriate energy and water conservation programs at all levels to minimize demands placed on our natural resources and ecosystems.

BE IT FURTHER RESOLVED that past, present and future hydropower development and operational changes should recognize and ensure consistency with state law and regulatory authority and delegated authority under federal law.

Position No. 392
(*See also Position No. 352*)

POSITION STATEMENT
of the
WESTERN STATES WATER COUNCIL
in support of
STRENGTHENING THE RESILIENCY OF OUR NATION
TO THE IMPACTS OF EXTREME WEATHER EVENTS

Bismarck, North Dakota
July 15, 2016

WHEREAS, the West and the Nation continue to suffer the effects of increasingly extreme weather events, including tornadoes, hurricanes, extreme precipitation, flooding and drought, including loss of life and economic, social, and environmental damages; and

WHEREAS, Western States have recently experienced extreme seasonal and year-to-year weather volatility that has brought record or near-record events with floods, followed by drought and wildfires, as well as devastating tornadoes, all threatening public safety and property, and often taxing the capacity of our aging water infrastructure; and

WHEREAS, prolonged drought increasingly afflicts the West and the Nation, and affects the performance of interstate compacts and international treaties; and

WHEREAS, droughts have been magnified in regions of the country due to the failure of Mexico to deliver the water required to the United States under the treaties executed by the two countries, and

WHEREAS, present water resources planning and sound decision-making depends on our ability to understand, monitor, predict, and adapt to droughts, floods, extreme storms, and other weather events; and

WHEREAS, investments in observations, research, forecasting, and monitoring the development of extreme weather events provide an opportunity to significantly improve planning and project design and operation to maximize storage, avoid or minimize the loss of life and property, as well as mitigate economic and environmental damages; and

WHEREAS, advances in weather forecasting and research, such as that of NOAA's Hydrometeorological Testbed program on West Coast atmospheric rivers, demonstrate the potential for improving extreme event forecasting at the operational time scale; and

WHEREAS, in the West, sound decisionmaking demands accurate and timely data on precipitation, temperature, soil moisture, snow depth, snow water content, streamflow, and similar information; and

WHEREAS, western states' precipitation originates as storms moving over the Pacific Ocean and Gulf of Mexico, and the absence of key ocean observations constrains the ability to improve skill of subseasonal to seasonal (S2S) precipitation forecasting; and

WHEREAS, there is a need for maintaining and improving existing monitoring networks that help provide early warning as well as tracking impacts of extreme events; and

WHEREAS, the Council has supported development of an improved observing system for Western extreme precipitation events, to aid in monitoring, prediction, and climate trend analysis associated with extreme storms; and

WHEREAS, there is a need for developing new monitoring technologies such as remote sensing that provide more timely data availability and better spatial coverage for assessing drought impacts; and

WHEREAS, the Council is actively working with the National Oceanic and Atmospheric Administration (NOAA) on improving S2S precipitation forecasting capabilities; and

WHEREAS, the Council continues to support NOAA's National Integrated Drought Information System, and emergency drought response authorities for the Bureau of Reclamation and other federal agencies; and

WHEREAS, there is a continuing need for greater collaboration between and among federal agencies, state agencies, local governments, non-governmental organizations and public/private organizations and businesses; and

WHEREAS, a National Academy of Sciences' report suggests a pathway and 10-year research agenda for advancing our capabilities with a vision of a decade from now of using S2S forecasts as widely as we now use 5-10 day weather forecasts.

NOW THEREFORE BE IT RESOLVED that the Western States Water Council supports as a high priority appropriate federal actions to plan, prepare for and avoid, minimize or mitigate the impacts of extreme weather events, including developing an expanded and enhanced research program and westwide extreme precipitation monitoring system, including expanded ocean observations.

BE IT FURTHER RESOLVED that the Western States Water Council also supports legislation advancing the goals of: (1) minimizing the loss of life and property and economic, environmental and social cost from extreme weather events; (2) improving collaboration and coordination among agencies and organizations at all levels; (3) increasing consultation with state, local and tribal governments; (4) maintaining and enhancing data gathering and monitoring, as well as communication capabilities, identifying and addressing gaps and overlap; (5) identifying and addressing federal agency responsibilities, as well as regulatory and other preparedness and response barriers, (6) recognizing and addressing regional differences; and (7) advancing research within the physical sciences, and dynamical and statistical modeling to improve our S2S forecasting capabilities.

BE IT FURTHER RESOLVED that the Western States Water Council pledges to work with the Congress to appropriately address current and future needs to improve S2S forecasting and extreme events response and resiliency.

Position No. 393
(*See also Position No. 353*)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
HYDRAULIC FRACTURING

Bismarck, North Dakota
July 15, 2016

WHEREAS, hydraulic fracturing is a process that injects sand, water, and other fluids, including various chemical compounds, underground to aid in the extraction of oil and natural gas; and

WHEREAS, hydraulic fracturing has been used for over 60 years in oil and gas production, with over one million wells having been fractured in the United States alone; and

WHEREAS, although concerns about hydraulic fracturing have been voiced by some, western states have experienced few, if any, adverse impacts involving water quality and water allocation attributable to hydraulic fracturing; and

WHEREAS, states have primary and exclusive authority over the allocation and administration of rights to the use of water used in hydraulic fracturing operations; and

WHEREAS, hydraulic fracturing is responsible for significantly increasing the nation's ability to recover oil and gas, lessening its dependence on foreign energy supplies and providing billions of dollars in direct and indirect economic benefits each year, including hundreds of thousands of jobs; and

WHEREAS, states have decades of experience, knowledge, and information regulating hydraulic fracturing and other oil and gas activities; and

WHEREAS, states are best positioned to regulate hydraulic fracturing because of their understanding of regional and local conditions and their ability to tailor regulations to fit the needs of the local environment; and

WHEREAS, states currently employ a range of programmatic elements and regulations to ensure that hydraulic fracturing does not impair water resources and environmental values, including but not limited to requirements pertaining to well permitting, well construction, the handling of exploration and production waste fluids, the closure of wells, and the abandonment of well sites.

NOW, THEREFORE, BE IT RESOLVED, that federal efforts involving hydraulic fracturing, including efforts to study potential adverse impacts on water quantity and quality, should leverage state knowledge, experience, policies, and regulations.

BE IT FURTHER RESOLVED, that federal efforts to study the potential impacts of hydraulic fracturing on water resources should be limited in scope, based upon sound science, and driven by states given the lack of significant widespread impacts associated with hydraulic fracturing in the experience of our member states and increasingly limited federal funds.

BE IT FURTHER RESOLVED, that the Western States Water Council opposes any and all efforts that would diminish the primary and exclusive authority of states over the allocation of water resources used in hydraulic fracturing.

Position No. 394
(*See also Position No. 354*)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding the
AUTHORIZED PURPOSE OF THE
MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM

Bismarck, North Dakota
July 15, 2016

WHEREAS, in the past, legislation has been introduced that would remove "fish and wildlife" as an authorized purpose for which the Corps can manage the Missouri River Mainstem Reservoir System (the "System"); and

WHEREAS, the System is the largest collectively managed group of reservoirs in the United States, consisting of six dams in four states that control runoff from approximately half of the Missouri River Basin; and

WHEREAS, pursuant to the 1944 Flood Control Act, the Corps operates the System for eight authorized purposes: flood control, navigation, irrigation, power, water supply, water quality control, recreation, and fish and wildlife; and

WHEREAS, flood control, hydropower, and water supply have provided significant System benefits as originally expected, while navigation has fallen far short of its anticipated benefits; and

WHEREAS, the Act has not been reviewed since its passage in 1944, and there is now a question as to whether the System's current operations best satisfy the Basin's contemporary needs; and

WHEREAS, the System may be better served by a comprehensive, simultaneous, and transparent review of all eight authorized purposes to develop a plan for the sustainable future management of the System; and

WHEREAS, maintaining fish and wildlife as an authorized purpose is necessary for management actions that benefit recreationally important species, which prior studies have also shown support substantial economic activity; and

WHEREAS, the amount of commercial goods shipped on the Missouri River has decreased significantly since peak commercial tonnage in 1977; and

WHEREAS, the Corps is required to coordinate with the U.S. Fish and Wildlife Service on recovery efforts for threatened and endangered species listed under the Endangered Species Act, including the pallid sturgeon, interior least tern, and piping plover; and

WHEREAS, the U.S. Fish and Wildlife Coordination Act requires the Corps to continue mitigating fish and wildlife habitat losses caused by the Bank Stabilization and Navigation Project.

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council urges the Congress to authorize and the Administration to complete a comprehensive study of the System's authorized purposes an related benefits before addressing an appropriate balance and mix of uses.

Position No. 395
(*See also Positions No. 324 and No. 355*)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
urging the
ADMINISTRATION AND CONGRESS
TO SUPPORT WATER RESEARCH AND DEVELOPMENT PROGRAMS
at the
DEPARTMENT OF ENERGY NATIONAL LABORATORIES

Bismarck, North Dakota
July 15, 2016

WHEREAS, the Western States Water Council (the Council) has long recognized the importance of protecting and wisely managing our national water resources for the benefit of our present and future generations, including our environment; and

WHEREAS, one purpose of the Council is to accomplish effective cooperation among western states in the conservation, development and management of water resources; and

WHEREAS, a second purpose of the Council is to maintain vital state prerogatives, while identifying ways to accommodate legitimate federal interests; and

WHEREAS, many watersheds are already over-appropriated, and new stresses are emerging from climate, population growth, land use changes and water needs for energy development and in-stream uses; and

WHEREAS, there is growing concern, particularly in the Arid West, over our ability to continue to supply water of adequate quality in quantities needed to sustain current and future uses, including energy and environmental uses; and

WHEREAS, the failure to provide for such needs would have significant regional and national consequences; and

WHEREAS, present water resources planning and sound future decision-making depends on our ability to understand, monitor, anticipate and adapt to changing conditions; and

WHEREAS, electricity generation and other energy development is a significant driver of present and future water demands and the expertise and research of the national labs can supplement and enhance the ability of state, local and tribal water managers to understand and develop adaptation strategies; and

WHEREAS, water-related research at the Department of Energy and National Laboratories should be guided by State needs as expressed in state planning documents and through planning processes; and

WHEREAS, in the West, States in compliance with State law have exclusive authority over the appropriation and adjudication of water rights for all uses, and the allocation of water for energy development, including the determination of whether or not there is any unappropriated water available for use.

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council urges the Administration and the Congress to recognize the primary role of the States in allocating water for energy and the value of Department of Energy hosted energy-water programs and research conducted at National Laboratories undertaken in collaboration with state water resources agencies, including but not limited to work at: the Idaho National Laboratory (INL); Lawrence Berkeley and Lawrence Livermore National Laboratories in California; Los Alamos and Sandia National Laboratories in New Mexico; the National Renewable Energy Laboratory (NREL) in Colorado; and Pacific Northwest National Laboratory (PNNL) in Washington, that collaboratively links federal energy research programs and water issues of concern to the western states.

Position No. 396
Revised and Readopted
(*Originally adopted Oct. 29, 2010 and revised and readopted on Oct. 3, 2013*)

POSITION
of the
WESTERN STATES WATER COUNCIL
regarding
NASA'S APPLIED SCIENCE RESEARCH PROGRAM

St. George, Utah
September 30, 2016

WHEREAS, the Western States Water Council is a policy advisory body representing eighteen states, and has long been involved in western water conservation, development, protection, and management issues, and the member states and political subdivisions have long been partners in cooperative federal water and climate data collection and analysis programs; and

WHEREAS, in the West, water is a critical, vital resource (much of which originates from mountain snows) and sound decision making demands accurate and timely mapping of, and data on, altimetry, topography, precipitation, temperature, snow water content, groundwater, land use and land cover, water use, water quality parameters, and similar information; and

WHEREAS, the demands for water and related climate data continue to increase along with the West's population, and this information is used by federal, state, tribal, and local government agencies, as well as private entities and individuals to: (1) forecast flood and drought occurrence; (2) project future water supplies for agricultural, municipal, and industrial uses; (3) estimate streamflows for hydropower production, recreation, and environmental purposes; (4) facilitate water management and administration of water rights, decrees, interstate compacts, and international water treaties; (5) assist in disaster response; (6) assess impacts of climate variability and change; and

WHEREAS, thermal infrared imaging data available from Landsat 7 and Landsat 8 is used to measure and monitor agricultural and other outdoor water uses and needs, and is increasingly important for present and future management of our scarce water resources, and is an example of the application of basic science pioneered by the National Aeronautics and Space Administration (NASA); and

WHEREAS, the ability to use interferometric synthetic aperture radar (InSAR) to measure land subsidence due to groundwater extraction has already been demonstrated, and there are promising research approaches for using remote sensing for estimating snowpack conditions; and

WHEREAS, additional airborne and spaceborne remote sensing research and observations have a potential to provide other information on varied temporal and spatial scales that could with sustained engagement focus on transition of research to operations and ultimately be useful for water resources planning, management and decision-making; and

WHEREAS, NASA has identified the "water and energy cycle" and "water resources" as topics to support in the agency's research and applications programs respectively; and.

WHEREAS, NASA's ARRA demonstration project on California applications for use of remote sensing information has illustrated that the potential exists for repurposing data collected from certain present NASA missions for water management applications, and that additional potential exists for research applications with sensors planned in future Decadal Survey missions such as the Deformation, Ecosystem Structure and Dynamics of Ice mission (DESDynl), which would combine radar and LiDAR technologies to get three-dimensional views; and

WHEREAS, the successful transfer of technology from the research domain to the applications domain is dependent, in part, on on-going communication between researchers and those responsible for resource management and policy decisions and a long term commitment to maintain such communication;

NOW THEREFORE BE IT RESOLVED, that the Western States Water Council urges the Administration and NASA to enhance the agency's focus areas on research for water resources applications, and to promote long term engagement with the Council and the state and regional agencies in the western United States responsible for water management and water policy to maximize benefits to the public from NASA's existing and future investments in Earth observations, Earth system models and systems engineering; and

BE IT FURTHER RESOLVED, that the Council supports efforts to advance linkages between NASA's capabilities and water managers' needs, such as NASA/JPL's Western Water Applications Office (WWAO); and

BE IT FURTHER RESOLVED, that the Council urges the Administration and NASA to plan and provide for long-term continuity of observations from key sensors such as the thermal infrared sensor and InSAR used in water management; and

BE IT FURTHER RESOLVED, that the Council strongly supports a continuing National Land Imaging Program, including existing thermal imaging capabilities, and expresses its strong support for the expedited construction and launch of Landsat 9 - while exploring the potential for medium and longer-term advances in technology, design and future capabilities to meet existing and future uses.

Position No. 397
Revised and Readopted
(*Originally adopted October 3, 2013*)

POSITION
of the
WESTERN STATES WATER COUNCIL
regarding
THE DEPARTMENT OF THE INTERIOR's WATER SMART PROGRAM

St. George, Utah
September 30, 2016

WHEREAS, the Western States Water Council is a policy advisory body representing eighteen states, and has long been involved in western water conservation, development, protection, and management issues, and the member states and political subdivisions have long been partners in cooperative federal water programs; and

WHEREAS, in the West, water is a critical, vital resource and "…States bear the primary responsibility and authority for managing the water resources of the United States," as recognized in the SECURE Water Act[1]; and

WHEREAS, Western water law and policy are based on the reality of scarcity and the need to use water wisely, and Western states have made great strides in increasing efficiency and reducing water use, but continued investments and sacrifices are needed to maintain our quality of life in the West and to protect our environment; and

WHEREAS, the Act also recognizes that "the Federal Government should support the States, as well as regional, local and tribal governments…" and authorizes a number of important programs to provide this much needed support; and

WHEREAS, the Council supports technical and financial assistance to states and local watershed groups and water districts as an appropriate federal role, consistent with authorized federal programs; and

WHEREAS, the Council has long supported watershed and basin-wide coordination that involves all governmental entities and stakeholders interested in finding solutions to present and future water management challenges; and

WHEREAS, Section 9504 of the Act authorizes the Secretary of the Interior to provide grants or enter into cooperative agreements to assist states and other non-federal entities in carrying out a range of water use efficiency improvements to address crucial water supply issues, stretch limited water supplies, and improve water management; and

[1]See Section 9501, SECURE Water Act, which Congress passed as Subtitle F of the Omnibus Public Lands Management Act of 2009 (Public Law 111-11).

WHEREAS, the Act authorizes a variety of activities to enhance the Department of the Interior's water data efforts, including the development of a national groundwater monitoring program, a brackish water assessment, and the establishment of a national water availability and use assessment; and

WHEREAS, real-time water resources data are critical for timely actions in response to droughts, flooding, and other extreme weather events, and the lack of federal capital investments in water data programs has led to the discontinuance, disrepair, or obsolescence of vital equipment needed to maintain existing water data gathering activities; and

WHEREAS, the lack of timely and actuate streamflow information threatens to put human life, health, welfare, property, and environmental and natural resources at a considerably greater risk of loss; and

WHEREAS, Section 9507 of the Act authorizes an additional $10 million for each of fiscal years 2009 through 2019 for enhancements to the U.S. Geological Survey's (USGS) National Streamflow Information Program (NSIP) in order to provide an improved national backbone focused on national needs and interests; and

WHEREAS, the National Groundwater and Streamflow Information Program (NGWSIP), as well as USGS' cooperative matching funds within the Water Availability and Use Science Program (WAUSP), together provide vital water data that States and other public and private entities and individuals rely on in making day-to-day planning and management decisions; and

WHEREAS, Section 9508 (c) of the Act authorizes the USGS to "provide grants to State water resource agencies to assist in developing water use and availability datasets" and has led to initiation of the Water-Use Data and Research (WUDR) program, in support of the Water Use Data for the Nation publication and the National Water Census; and

WHEREAS, USGS' NGWSIP, WAUSP, and WUDR together will provide vital water data that States and other public and private entities and individuals rely on to make day-to-day planning and management decisions; and

WHEREAS, these and many WaterSMART programs have largely gone unfunded or underfunded or remain dependent on year-to-year appropriations, as opposed to a dedicated line item.

NOW THEREFORE BE IT RESOLVED, that the Western States Water Council expresses our continuing strong support for implementation of the SECURE Water Act; and

BE IT FURTHER RESOLVED, that the Council encourages the Administration to request and the Congress to ensure that the Act's authorized activities receive support and appropriations that are adequate to fulfill their stated purposes as a dedicated line item.

Position No. 398
Revised and Readopted
(*Originally adopted Nov. 17, 1995, readopted Nov. 20, 1998 and revised and readopted Nov. 16, 2001, Oct. 29, 2004, Nov. 16, 2007, Oct. 29, 2010, and Oct. 3, 2013*)

RESOLUTION
of the
WESTERN STATES WATER COUNCIL
URGING CONGRESS TO REAFFIRM ITS DEFERENCE TO STATE WATER LAW, PROVIDE FOR THE WAIVER OF THE UNITED STATES' IMMUNITY TO PARTICIPATION IN STATE ADMINISTRATIVE AND JUDICIAL PROCEEDINGS, AND PROVIDE FOR PAYMENT OF FEES REQUIRED BY STATE LAW

St. George, Utah
September 30, 2016

WHEREAS, water is the lifeblood of each of the arid Western States, the allocation of which determines the future of each Western State's economic, environmental, social and cultural fortunes; and

WHEREAS, each Western State has developed comprehensive systems for the appropriation, use and distribution of water tailored to its unique physiographic, hydrologic and climatic conditions found within that state; and

WHEREAS, the United States does not have a water management system that is equivalent to those of the Western States for the appropriation, use or distribution of water; and

WHEREAS, Congress has consistently recognized the primacy of state water law because of the need for comprehensive water management systems tailored to the unique needs and characteristics of the individual states; and

WHEREAS, the adjudication of water rights claims is absolutely essential for the orderly allocation of water in all the Western States where state law is based on the prior appropriation doctrine; and

WHEREAS, Congress enacted the McCarran Amendment, 43 U.S.C. § 666, to allow the joinder of the United States in state general stream adjudications, and Congress intended the United States to be subject to the same procedures as all other water right claimants joined in state general stream adjudications; and

WHEREAS, many of the Western States are conducting general stream adjudications for the purpose of quantifying all water right claims in accordance with the McCarran Amendment; and

WHEREAS, the United States is often the largest claimant of water rights in these general stream adjudications, and the adjudication of federal water right claims requires a large commitment of time, effort and resources by the state courts and by state agencies; and

WHEREAS, many of the Western States' general stream adjudication procedures require claimants to pay a fee to offset the states' expenses arising from state general stream adjudications; and

WHEREAS, citing the U.S. Supreme Court's decision in *United States v. Idaho*,508 U.S. 1 (1993), the United States claims immunity from the payment of adjudication filing fees required of all other claimants to offset the judicial and administrative expenses Western States incur in conducting general stream adjudications; and

WHEREAS, for the United States to be immune from sharing in the expenses of these proceedings constitutes an unfunded federal mandate to the states; and

WHEREAS, many Western States are facing budget shortfalls and limited resources, and the federal non-payment of state filing-fees is a significant impediment to their ability to begin or carry out general stream adjudications in a timely manner; and

WHEREAS, drawn out adjudications are having a detrimental impact on the willingness of stakeholders in watersheds to collaborate on joint management and planning for water supply and water quality; and

WHEREAS, the United States contends that it cannot be joined in state administrative or judicial proceedings with respect to water rights it has acquired under state law other than pursuant to the McCarran Amendment, 43 U.S.C. § 666; and

WHEREAS, it is inefficient and wasteful to require that a separate lawsuit be commenced for the sole purpose of regulating water rights acquired by the United States under state law; and

WHEREAS, the United States claims it is also immune from paying fees to states that are required of all other water users for the appropriation, use or distribution of water; and

WHEREAS, equity and fairness dictate that federal agencies who voluntarily seek to appropriate water pursuant to state law, or who acquire water rights based on state law, should be required to comply with state law, including the payment of fees, to the same extent as all other persons.

NOW, THEREFORE, BE IT RESOLVED that the Western States Water Council supports passage of legislation that at a minimum provides for the following:

1. Requires the federal government to participate in all state administrative and judicial proceedings with respect to water rights it acquires to the same extent as all other persons.

2. Requires the federal government (not Native American tribes) to pay filing fees as well as comply with all other state substantive and procedural water right adjudication laws to the same extent as all other persons.

3. Requires the federal government to pay applicable fees as well as comply with all other state substantive and procedural laws for the appropriation, use and distribution of water rights to the same extent as all other persons.

4. Provides for state administration of all water rights.

BE IT FURTHER RESOLVED, that the Western States Water Council also urges Congress to appropriate moneys for retroactive payment of unpaid fees to states that have incurred expenses as a result of processing federal claims or federal objections to private claims in state general stream adjudications.

BE IT FURTHER RESOLVED, that absent legislation the Council encourages federal agencies to work with states and enter into memoranda of agreement or other administrative mechanisms to minimize and otherwise mitigate the expense of federal claims incurred by states in general adjudications to the maximum extent allowed by law.

RULES OF ORGANIZATION

Preamble

The Western States Water Council is a government entity, an instrumentality of each and every participating state, established to fulfill a number of governmental purposes on behalf of those states, including advising the governors on planning, conservation, development, management and protection of their water resources. As outlined herein, Council membership is comprised of States with member representatives appointed by the Governors of each participating State. The activities of the Council are subject to the control and supervision of the Governors of member States through their appointed representatives. The Council is funded by dues from member States, set by an Executive Committee, which also controls expenditures.

Article I - Name

The name of this organization shall be "THE WESTERN STATES WATER COUNCIL."

Article II - Purpose

The purpose of the Western States Water Council shall be to accomplish effective cooperation among western states in matters relating to the planning, conservation, development, management, and protection of their water resources, in order to ensure that the West has an adequate, sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future.

Article III - Interstate Water Transfer Principles

Except as otherwise provided by existing compacts, the planning of western water resources development on a regional basis will be predicated upon the following principles for protection of states of origin:

(1) All water-related needs of the states of origin, including but not limited to irrigation, municipal and industrial water, flood control, power, navigation, recreation, water quality control, and fish and wildlife preservation and enhancement shall be considered in formulating the plan.

(2) The rights of states to water derived from the interbasin transfers shall be subordinate to needs within the states of origin.

(3) The cost of water development to the states of origin shall not be greater, but may be less, than would have been the case had there never been an export from those states under any such plan.

Article IV - Functions

The functions of the Western States Water Council shall be to:

(1) Undertake continuing review of all large-scale interstate and interbasin plans and projects for development, control or utilization of water resources in the Western States, and submit recommendations to the Governors regarding the compatibility of such projects and plans with an orderly and optimum development of water resources in the Western States.

(2) Investigate and review water related matters of interest to the Western States, and advise Council member states and governors as appropriate.

(3) Express policy positions regarding proposed federal laws, rules and regulations and other matters affecting the planning, conservation, development, management, and protection of water resources in Western States.

(4) Sponsor and encourage activities to enhance exchange of ideas and information and to promote dialogue regarding optimum management of western water resources.

(5) Authorize preparation of amicus briefs to assist western states in presenting positions on issues of common interest in cases before federal and state courts.

(6) Encourage collaboration among federal, state, tribal and local governments, public and private water resources associations and water-related non-governmental organizations.

Article V - State Membership and Member State Representatives

(1) The Council shall consist of the states of Alaska, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. Member states of the Western Governors' Association, which are not members of the Council, shall be added to membership if their respective Governors so request. The Executive Committee may, upon unanimous vote, confer membership upon other western states, which are not members of the Western Governors' Association, if their respective Governor so requests. The Executive Committee may also confer Associate Member status on states as described in section (4) below. Any state may withdraw from membership upon written notice by its Governor.

(2) Member state Governors may appoint not more than three member state representatives to the Council, but may name any number of standing alternate representatives.

(3) Member state representatives (members) and alternate representatives (alternates) so appointed may designate other individuals to represent them and participate in Council meetings and other activities provided that such designations are made in writing prior to the event by letter or email.

(4) Associate Membership may be granted for a period of up to three years, during which time a state's appointed representatives may participate as observers in Council activities and receive all information disbursed by the Council. However, Associate Member states shall have no vote in Council matters.

(5) If any state fails to pay the appropriate level of dues established by the Executive Committee of the Council, the privileges afforded by virtue of its membership to participate in Council activities and to receive all information dispersed by the Council may be withheld pending the payment of dues, beginning at the start of the fiscal year following the delinquency.

Article VI - Ex-Officio Members

The Governors of the member states shall be ex-officio members and shall be in addition to the regularly appointed members from each state.

Article VII - Officers

The officers of the Council shall be the Chair, Vice-Chair and Secretary-Treasurer. They shall be selected in the manner provided in Article VIII.

Article VIII - Selection of Officers

The Chair, Vice-Chair and Secretary-Treasurer, who shall be from different states, shall be elected from the Council by a majority vote at the annual regular summer meeting to be held each year. These officers shall serve one-year terms. However, the Chair and Vice-Chair may not be elected to serve more than two terms consecutively in any one office. In the event that a vacancy occurs in any of these offices, it shall be filled by an election to be held at the next scheduled regular Council meeting.

Article IX - Executive Committee

(1) Each Governor may designate one representative to serve on an Executive Committee which shall have such authority as may be conferred on it by these Rules of Organization, or by action of the Council. In the absence of such a designation by the Governor, representatives of each state shall designate one of their members to serve on the Executive Committee. Any Executive Committee member may designate in writing by letter or email an alternate to temporarily act on his/her behalf in his/her absence.

(2) The Executive Committee shall determine whether or not States are eligible for participation as members or associate members of the Council.

(3) The Executive Committee of the Council shall set annual dues for Council participation and may, by unanimous vote, confer the status of Associate Member of the Council upon states it deems

eligible. The Executive Committee shall, through regular Council voting procedures, establish the appropriate level of dues for Associate Member states. In addition to determinations concerning Associate Member states, the Executive Committee may, when appropriate, authorize and establish fees for participation in Council activities by non-member states and non-member state representatives (non-members).

(4) The Executive Committee shall annually adopt a budget and oversee all Council expenditures and activities.

(5) The Executive Committee may establish other committees, subcommittees and work groups which shall have such authority as may be conferred upon them by action of the Council.

Article X - Voting and Policy Development

(1) Each state shall have one vote. Since state delegations consist of more than one person, but each state has only one vote, the Executive Committee member for each state shall be responsible as an internal state matter for coordinating and communicating the official position of the state relative to voting on proposed policy positions. An email message is sufficient to meet this requirement. Whenever a person who is not a Council representative is attending on behalf of a Council representative at a regular or special meeting, either in person or via conference call, a written notification to this effect must be provided to the Council offices to assure that the person is serving in the appropriate capacity.

(2) A quorum shall consist of a majority of the member states (excluding associate member states).

(3) No recommendation may be issued or position taken by the Council except by an affirmative vote of at least two-thirds of all member states, with the exception of the following:

(a) Recommendations and external policy positions concerning out-of-basin interstate transfers require a unanimous vote of all member states; and

(b) Action may be taken by a majority vote of all member states on all internal administrative matters.

(4) In any matter put before the Council for a vote, other than election of officers, any member state may upon request obtain one automatic delay in the voting until the next regular meeting of the Council. Further delays in voting on such matters may be obtained only by majority vote.

(5) The Council shall consider external policy positions for adoption at its three regular meetings held each year. No external policy matter may be brought before the Council for a vote unless advance notice of such matter has been mailed or emailed to each member of the Council at least 30 days prior to one of the Council's regular meetings.

(6) At the discretion of the Chair, in those instances where circumstances warrant consideration of an external policy position outside of the regular meetings, the Executive Committee may adopt positions at special meetings (including by conference call) provided that proposed positions are mailed or emailed to each member of the Executive Committee at least 10 days prior to the special meeting or conference call.

(7) Any proposed external policy positions can be added to the agenda of a regular or special meeting by unanimous consent of those states represented at the meeting provided that a quorum exists.

Article XI - Policy Coordination and Deactivation

With regard to external positions adopted at special meetings or added to the agenda of a meeting by unanimous consent, such external policy positions shall be communicated to the member governors of the Western Governors' Association (WGA) and the WGA Executive Director for review. If after 10 days no objection is raised by the governors, then the policy position may be distributed to appropriate parties. In extraordinary cases, these procedures may be suspended by the WGA Executive Director, who will consult with the appropriate WGA lead governors before doing so.

Policy positions will be deactivated three years after their adoption. The Executive Committee will review prior to each regular meeting those policy statements or positions due for sunsetting. If a majority of the Executive Committee members recommend that the position be readopted by the Council, then such position shall be subject to the same rules and procedures with regard to new positions that are proposed for Council adoption.

Article XII - Conduct of Meetings

Except as otherwise provided herein, meetings shall be conducted under Robert's Rules of Order, Revised. A ruling by the Chair to the effect that the matter under consideration does not concern an out-of-basin transfer is an appealable ruling, and in the event an appeal is made, such ruling to be effective must be sustained by an affirmative vote of at least 2/3 of the member states.

Article XIII - Meetings

The Council shall hold regular meetings three times each year at times and places to be decided by the Chair, upon 30 days written notice. Special meetings may be called by the Chair, upon 10 days written notice.

Article XIV - Limitations

The work of the Council shall in no way defer or delay authorization or construction of any projects now before Congress for either authorization or appropriation.

Article XV - Dissolution

In the event of the dissolution of the Council, to the extent practical the assets of the Council shall be liquidated in a timely manner and evenly divided among those member states in good standing, at the time of the dissolution.

Article XVI - Amendment

These articles may be amended at any meeting of the Council by unanimous vote of the member states represented at the meeting. The substance of the proposed amendment shall be included in the call of such meetings.

Glossary of Acronyms

ANPRUM	Advance Notice of Proposed Rulemaking
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
Corps	U.S. Army Corps of Engineers
CPC	Climate Prediction Center
CWA	Clean Water Act
CWMP	Cooperative Watershed Management Program
DOI	Department of the Interior (also known as "Interior")
EPA	Environmental Protection Agency
EPW	Senate Environment and Public Works Committee
ESA	Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FWS	Fish and Wildlife Service
NARF	Native American Rights Fund
NASA	National Aeronautics and Space Administration
NDRP	National Drought Resilience Partnership
NIDIS	National Integrated Drought Information System
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service

NWS	National Weather Service
OMB	Office of Management and Budget
SDWA	Safe Drinking Water Act
TAS	Treatment as States
TMDL	Total Maximum Daily Load
USBR	Bureau of Reclamation (also known as “Reclamation”)
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WaDE	Water Data Exchange
WestFAST	Western States Federal Agency Support Team
WGA	Western Governors’ Association
WOTUS	Waters of the United States
WQS	Water Quality Standards
WSWC	Western States Water Council

Spring Council Meetings
Washington, D.C.
March 21-25, 2016

Summer Council Meetings
Bismarck, North Dakota
July 13-15, 2016

Fall Council Meetings
St. George, Utah
September 28-30, 2016