

2022

ANNUAL REPORT

of the

WESTERN STATES WATER COUNCIL

57th Annual Report

TABLE OF CONTENTS

	<u>Page</u>
INTRODUCTION	iv
MEMBERS ADDRESSES AND PHONE NUMBERS	1
COMMITTEE AND SUBCOMMITTEE ASSIGNMENTS	8
WESTFAST MEMBERS	12
COUNCIL STAFF	14
COUNCIL MEMBERSHIP/STAFF CHANGES/NEWS	15
COUNCIL MEETINGS	17
Spring - Arlington, Virginia	17
Summer - Polson, Montana	18
Fall - Sulphur, Oklahoma	21
OTHER MEETINGS	24
Western Governors’ Association	24
Annual Meeting	24
Winter Meeting	25
Western States Water Council	26
Congressional Briefing on Indian Water Rights Settlement Agreements	26
Improving S2S Precipitation Forecasting to Support Water Management Workshop	27
Improving Snowmelt Runoff Forecasting Workshop	30
Joint Washington, DC Roundtable	31
WOTUS Workshop Series	34
Engagement and Collaboration Between NOAA and States	34
Water Subcabinet	35
Council of State Governments/Interstate Compacts	36
CONGRESSIONAL TESTIMONY	39
House Natural Resources Subcommittee on Water, Oceans, and Wildlife	39
Senate Energy and Natural Resources Subcommittee on Water and Power	41
Senate Agriculture Subcommittee on Conservation, Climate, Forestry and Natural Resources	45
Senate Energy and Natural Resources Committee	54
Senate Commerce, Science, and Transportation Subcommittee	65
WATER DATA EXCHANGE	68
WESTERN STATES FEDERAL AGENCY SUPPORT TEAM	72
OTHER IMPORTANT ACTIVITIES AND EVENTS	74
Western States Water	74
Western Governors’ State of the State Addresses	74
Agriculture	78

Farm Bill Conservation Programs	78
Title II Conservation Program: USDA Updates	78
Title II Conservation Programs: Stakeholder Perspectives.	78
House Agriculture Subcommittee on General Farm Commodities and Risk Management	80
Watershed Infrastructure Projects	81
Rural Partners Network	81
Army Corps of Engineers	81
Jurisdictional Determinations	81
Navigable Waters Protection Rule	81
Water Resources Development Act of 2022	82
Proposals for WRDA 2022: Administration Priorities	82
Stakeholder Priorities for WRDA 2022	83
Senate WRDA Bill	84
House WRDA Bill	85
WRDA 2022 Passed.	90
Corps Water Infrastructure Financing Program.	91
Bureau of Reclamation	93
IIJA/Bipartisan Infrastructure Law Investments	93
FY22 Spending Plan/Infrastructure Improvements	93
Dam Safety	94
Rural Water Projects	94
Infrastructure Repairs	95
Drought/Water Reuse Projects	95
WaterSMART	96
Drought Resiliency	96
Water and Energy Efficiency	97
Title Transfers	97
Hearing on Various Reclamation Bills.	97
Clean Water Act/Environmental Protection Agency.	99
Waters of the United States	99
Co-regulator Meetings With States.	99
State Comments on the Revised WOTUS Rulemaking	100
WOTUS Roundtables.	101
OMB Listening Session with WSWC.	105
Final Rule Defining WOTUS.	105
Litigation	106
<i>Sackett v. EPA</i>	106
<i>Sackett</i> Amicus Briefs.	106
<i>Sackett</i> Oral Arguments	109
PFAS	113
Federalism Consultation/Regulation.	113
PFOA and PFOS	115
State Revolving Fund.	115
Clean Water and Drinking Water.	115
Best Practices for Administration.	116
State Allocations.	116
Build America, Buy America Approved Waivers	117
Bipartisan Infrastructure Law/EPA Investments.	117
Water Infrastructure Finance and Innovation Act	117
Water/Infrastructure Upgrades	118
Funding Availability.	119
CWA §401 Certification	119
CWA §404(c) Veto/Alaska	120

Abandoned Mines and Good Samaritan	121
CWA Anniversary	122
Water Quality Standards for Tribes	123
Drought	124
Senate Committee Hearing	124
Corps/Drought Resilience Interagency Working Group	128
Drought Resiliency and Water Augmentation	128
Indian Water Rights	129
Congressionally-Authorized Indian Water Rights Settlements	129
Senate Committee on Indian Affairs	130
Arizona	131
Hualapai Tribe Water Rights Settlement Act	131
Hopi Reservation/Little Colorado River Adjudication	132
Navajo Nation	133
Navajo-Utah Federal Reserved Water Rights Settlement Agreement	133
<i>Navajo Nation v. Department of the Interior</i>	133
California	136
Tule River Water Rights Settlement Act	136
Infrastructure	137
Bipartisan Infrastructure Law Guidebook	137
Landsat	138
River Basins	140
Colorado River Basin	140
Drought Response Operations Plan/Lake Powell	140
Lake Powell's Elevation Levels	141
Lake Powell's Estimated Loss of Storage Capacity	143
Impacts of Drought and Low Runoff	143
Additional Water to Protect Critical Elevations	144
2023 Operating Conditions for Lake Powell and Lake Mead	145
Conservation and Efficiency Program	146
Notice of Intent/Supplemental Environmental Impact Statement	147
Endangered Fish Recovery Programs	148
Columbia River Basin	148
State Department/Columbia River Treaty	148
Klamath River Basin	149
House Natural Resources Subcommittee Oversight Hearing	149
Water Supply	150
Environmental Impact Statement	151
USBR/River Basin Studies	151
Saline Lake Ecosystems in the Great Basin States Program Act	151
States	152
Alaska	152
Flooding/Disaster Declaration	152
Arizona	153
Infrastructure Legislation	153
PFAS	154
California	155
Drought/Water Supply Storage	155
Drought/Executive Order	156
California Judicial Council/Water Judges	157
Water Infrastructure Projects for Tribes	157
Colorado	158
Wildfire	158

Groundwater, Drought, and Agriculture	158
Idaho	159
Water Infrastructure	159
Emergency Drought Declaration	159
Drought/Curtailments	159
Kansas	160
Legislation	160
Groundwater Levels	160
Drought Declarations	161
Infrastructure Funds	161
Nebraska	162
Perkins County Canal Project	162
Alternative Water Sources	162
Nevada	163
Groundwater Shortages	163
Drought/Conservation Efforts	164
Infrastructure/Walker River Paiute Tribe	164
New Mexico	165
Produced Water	165
Clean-Up of Abandoned Mines	165
Statewide Emergency for Drought/Wildfires	165
Wildfires/Flooding	166
Water Infrastructure Funds	167
North Dakota	167
Statewide Emergency/Flooding	167
Oklahoma	168
Emergency Drought Cost-Share Funds	168
Oregon	168
Drought Emergency	168
Wildfires	169
South Dakota	169
Drinking Water and Wastewater Projects	169
Texas	170
Water Storage Levels	170
Disaster Declarations	170
Water Infrastructure Projects	171
Utah	171
Coordinated Action Plan for Water	171
Water Shortage Contingency Plan	172
State of Emergency/Drought	172
Water Law Judges/Water Rights	172
Great Salt Lake Recovery Act	173
Washington	174
Drought/Water Supply	174
Streamflow Restoration	174
Infrastructure Financing	174
Litigation	175
<i>Texas v. New Mexico/Rio Grande</i>	175
Subseasonal and Seasonal (S2S) Forecasting	177
Appropriations/NOAA/S2S	177
Water Data	179
GOES-West Satellite	179
Appropriations/EPA/Water Data	180

House/Water Data Act	180
Senate/OpenET Data Act	181
Internet of Water Coalition	183
Wildfires	184
National Interagency Fire Center	184
Wildfire Response and Drought Resiliency Act	184
Water Supply Outlook	185
RESOLUTIONS AND POLICY POSITIONS	187
Rural Water Infrastructure Needs and Projects	188
Renewable Hydropower Development	190
Migratory Birds and the Management of State Water Rights and Resources	192
Clean Water Act Jurisdiction	194
Preservation of Radio Frequencies Necessary for Weather Forecasting and Water Management	197
Strengthening the Resiliency of Our Nation to the Impacts of Extreme Weather Events	199
Hydraulic Fracturing	202
Water Research and Development Programs at the DOE National Laboratories	203
Clean Water Act § 404(c)	206
NASA’s Applied Science Research Program	207
DOI’s WaterSMART Programs	209
Federal Government to Pay State Filing Fees in State General Stream Adjudications	211
RULES OF ORGANIZATION	213
GLOSSARY OF ACRONYMS	219

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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 WSWC is a government entity, and instrumentality of each and every participating state. 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 WSWC 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 from WSWC 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 WSWC are held on a regular basis, rotating among the member states, with state representatives hosting WSWC members and guests. In 2022, the Spring (198th) Meetings Arlington, Virginia on April 5-7; the Summer Meetings (199th) were held Polson, Montana on August 2-5; and the Fall Meetings (200th) were held in Sulphur, Oklahoma on October 19-21. Guest speakers are scheduled according to the relevant subjects to be considered at each meeting. The WSWC meetings are open to the public. Information regarding future meeting locations and agenda items can be obtained by contacting the WSWC's office, or visiting our website. Included herein are reports on each of the WSWC meetings, positions and resolutions adopted by the WSWC, and a discussion of other important activities and events related to western water resources. Other information about the WSWC and its members is also included.

The WSWC 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 provides general oversight and authorizes regular reviews and audits of WSWC finances. A review was approved for 2022.

During 2022, the WSWC staff was comprised of: Anthony G. (Tony) Willardson, Executive Director; Michelle Bushman, Associate Director and General Counsel; Adel Abdallah, WaDE Program Manager; Ryan James, Data Analyst/Hydroinformatics Specialist; Erica Gaddis, Sr. Policy Advisor, Cheryl Redding, Office Manager; Julie Groat, Administrative Assistant; and Heather Hofmann (NRCS), who was selected to serve as the next WestFAST Federal Liaison replacing Deborah Lawler (USBR), who retired.

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Emma Pokon - Alaska
Thomas Buschatzke - Arizona
Amanda Long-Rodriguez - Arizona
(Alternate)*
Jeanine Jones - California
Karla Nemeth - California
(Alternate)*
Becky Mitchell - Colorado
Jerry Rigby - Idaho
Earl Lewis - Kansas
Anna Pakenham Stevenson - Montana
Tom Riley - Nebraska
Micheline Fairbank - Nevada
Roland Westergard - Nevada
(Alternate)*
Vacant - New Mexico
Andrea Travnicek - North Dakota
Jennifer Verleger - North Dakota
(Chair) (Alternate)*
Julie Cunningham - Oklahoma
Vacant - Oregon
Hunter Roberts - South Dakota
Nakaila Steen- South Dakota
(Alternate)*
Jon Niermann - Texas
(Vice-Chair)
Candice Hasenyager - Utah
Mary Verner - Washington
Jeff Cowley - Wyoming

Management Subcommittee

Jennifer Verleger
(Chair)
Jon Niermann
(Vice-Chair)
Julie Cunningham
(Secretary/Treasurer)
Tony Willardson
(Executive Director)
Jeanine Jones
(Former Chair)

Ex-Officio Representatives

*For purposes of Committee rosters, the designation as an "alternate" only reflect the person's function on the Committee.

LEGAL COMMITTEE

Julie Pack - Alaska
Ayesha Vohra - Arizona
Kelly Brown - Arizona
(Alternate)*
Jeanine Jones - California
Kevin Rein - Colorado
Jerry Rigby - Idaho
John Simpson - Idaho
(Alternate)*
Kenneth Titus - Kansas
Jay Weiner - Montana
Jim Macy - Nebraska
Micheline Fairbank - Nevada
James Bolotin - Nevada
(Alternate)*
Vacant - New Mexico
Jennifer Verleger - North Dakota
Sara Gibson - Oklahoma
Vacant - Oregon
Nakaila Steen - South Dakota
Hunter Roberts - South Dakota
(Alternate)*
Jon Niermann - Texas
Teresa Wilhelmsen - Utah
Renee Spoonor - Utah
(Alternate)*
Alan Reichman - Washington
Chris Brown - Wyoming
(Chair)

Clean Water Act Jurisdiction

Micheline Fairbank - Nevada
Jennifer Verleger - North Dakota

Non-Tribal Federal Water Needs Subcommittee

Tom Barrett - Alaska
Jay Weiner - Montana
Micheline Fairbank - Nevada
Adam Sullivan - Nevada
Jennifer Verleger - North Dakota
Kathy Alexander - Texas
Buck Smith - Washington
Chris Brown - Wyoming

Ex-Officio Representatives

BLM - Ronald McCormick
David Hu
Paula Cutillo
BOR - Arthur Coykendall
DOD - Lauren Dempsey
DOJ - Stephen Bartell
USFS - Michael Eberle
Chris Carlson
Ed Harvey
USFWS - Michael Higgins
USGS - Timothy McHale
NPS - Peter Fahmy

Tribal Reserved Water Rights Subcommittee

Jay Weiner - Montana
Micheline Fairbank - Nevada
Mary Verner - Washington

WRDA/Corps Policies

Tom Stiles - Kansas
Jennifer Verleger - North Dakota
Kathy Alexander - Texas

WATER QUALITY COMMITTEE

Randy Bates - Alaska
Trevor Baggione - Arizona
E. Joaquin Esquivel - California
Betty Olson - California
(Alternate)*
Trisha Oeth - Colorado
Jeremy Neustifter - Colorado
(Alternate)*
Jess Byrne - Idaho
Tom Stiles - Kansas
(**Vice-Chair**)
Lindsey Krywaruchka - Montana
Jim Macy - Nebraska
Jennifer Carr - Nevada
Greg Lovato - Nevada
(Alternate)*
Rebecca Roose - New Mexico
David Glatt - North Dakota
Julie Cunningham - Oklahoma
Shellie Chard - Oklahoma
(Alternate)*
Jennifer Wigal - Oregon
Nakaila Steen - South Dakota
Jeanne Goodman - South Dakota
(Alternate)*
Kelli Buscher - South Dakota
(Alternate)*
Jon Niermann - Texas
Earl Lott - Texas
(Alternate)*
John Mackey - Utah
Tim Davis - Utah
(Alternate)*
Mary Verner - Washington
Todd Parfitt - Wyoming
Jennifer Zygmunt - Wyoming
(**Chair**) (Alternate)*

Abandoned Mines Subcommittee

Trevor Baggione - Arizona
Jennifer Carr - Nevada
Rebecca Roose - New Mexico
Jeremy Neustifter - Colorado

Clean Water Act Subcommittee

Tom Stiles - Kansas
Jennifer Carr - Nevada
Greg Lovato - Nevada
Rebecca Roose - New Mexico
Jennifer Verleger - North Dakota
Allison Woodall - Texas
Lauren Driscoll - Washington
Mary Verner - Washington

PFAS Subcommittee

Julie Pack - Alaska
Jojo La - Colorado
Brittany Duarte - Washington
Jennifer Zygmunt - Wyoming

Water Quality/Quantity Nexus Workgroup

Tom Stiles - Kansas

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Candice Hasenyager - Utah
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(Chair)
Jeff Cowley - Wyoming

Climate Adaptation and Drought Subcommittee

Jeanine Jones - California (Chair)

Ex-Officio Representatives

Corps - Rolf Olsen
NRCS - Mike Strobel

Pumped Storage Subcommittee

Micheline Fairbank - Nevada
Sara Gibson - Oklahoma
Mary Verner - Washington
Jennifer Zygmunt - Wyoming

Water Information and Data Subcommittee (WIDS)

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Mathew Weaver - Idaho
Lane Letourneau - Kansas
Ginger Pugh - Kansas
Julie Cunningham - Oklahoma
Kent Wilkins - Oklahoma
Ken Stahr - Oregon
Kathy Alexander - Texas
Candice Hasenyager - Utah

Ex-Officio Representatives

USACE - Steve Ashby
USBOR - Allison Danner
USEPA - Dwane Young
USGS - Nancy Barber
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Cheryl Redding
Office Manger



Julie Groat
Administrative Assistant



Heather Hofmann
WestFAST Federal Liaison

COUNCIL MEMBERSHIP/STAFF CHANGES/NEWS

IN MEMORIAM

Roland D. Westergard passed away peacefully on Sunday, October 23, at the age of 88. A WSWC member since 1967, Roland served as the Nevada State Engineer from 1967-1978, and then as Director of the Department of Conservation and Natural Resources until 1990. Roland was a life-long advocate for the WSWC and state water resources management. He chaired the WSWC from July 1988 to July 1990. His passing marks the end of an era, as the last of many that participated in the formative years of the WSWC. We are grateful for our long association and will miss him

Alaska

Alaska Governor Mike Dunleavy appointed the following to be the designated official delegates/representatives to the WSWC and the pertinent WSWC Committees: **Emma Pokon**, Deputy Commissioner, Alaska Department of Environmental Conservation (AK DEC), Executive Committee; **Julie Pack**, Assistant Attorney General, Alaska Department of Law, Legal Committee; **Randy Bates**, Director, Division of Water, AK DEC, Water Quality Committee; and **Tom Barrett**, Chief, Water Resources Section, Alaska Department of Natural Resources (AK DNR), Water Resources Committee.

Colorado

Colorado Governor Jared Polis has appointed **Jojo La**, Interim Administrator, Water Quality Control Commission as an alternate member to the WSWC replacing Jeremy Neustifter, who resigned.

Kansas

Kansas Governor Laura Kelly appointed **Matt Unruh**, Assistant Director, Kansas Water Office (KWO) as an alternate member to the WSWC.

Kenneth Titus, Chief Counsel, Kansas Department of Agriculture (KDA), and a WSWC member will work his final day with KDA on October 14. Earlier this year he filed to run for a state representative seat and has been unopposed, so he will take office in January. Kenneth was appointed to the WSWC in July 2017 and has served on the Legal Committee.

New Mexico

Rebecca Roose, Deputy Cabinet Secretary of Administration, New Mexico Environment Department (NMED), and WSWC member resigned from her position at NMED effective December 16. Rebecca previously served as the Department's Water Protection Division Director from 2019

through May 2021, where she led surface and groundwater quality, drinking water protection, and wastewater infrastructure finance programs for the State. Rebecca was appointed to the WSWC in March 2020 and served on the Water Quality Committee.

Oregon

Tom Byler retired from state service effective September 13, after more than 27 years working for the State of Oregon, most recently as the Oregon Water Resources Department (OWRD) Director. Tom was appointed to the WSWC in December 2014, and served on the Executive, Legal, and Water Resources Committees, chairing the latter.

Washington

Mary Verner, Water Resources Program Manager, Washington Department of Ecology (WA DOE) and WSWC member announced her retirement effective December 1. Mary was appointed to the WSWC in July 2018 and served as a member of the Executive and Water Quality Committees, and as Chair of the Water Resources Committee.

WSWC/WestFAST

After almost 35 years of service to the WSWC, **Cheryl Redding** retired at the end of June. Cheryl joined the WSWC in March 1987 as a report secretary and was later promoted to office manager in July 1991. Her long-standing dedication and contributions to the WSWC will leave a lasting mark on the organization.

Erica Gaddis, former Director of the Utah Division of Water Quality, accepted a part-time contract position as Senior Policy Advisor with the WSWC. She was appointed to the WSWC in August 2017 and served as Chair of the Water Quality Committee from 2021-2022.

Madline Franklin, Program Analyst, U.S. Bureau of Reclamation (USBR), was selected as the new WSWC and WestFAST Liaison. She will serve a two-year detail, beginning in January. She will replace **Heather Hofman** (USDA-NRCS), as Liaison.

COUNCIL MEETINGS

198th Council Meetings Arlington, Virginia April 5-7, 2022

The WSWC held its Spring 2022 meetings in Arlington, Virginia on April 5-7, in conjunction with meetings of the Interstate Council on Water Policy (ICWP) and National Water Supply Alliance (NWSA), and a joint roundtable that brought together over 120 federal, state, interstate and local water managers and scientists both in person and virtually. A panel with federal Water Subcabinet and WestFAST members also addressed those attending.

The WSWC's working committees met briefly and recommended for WSWC action four position statements and changes to the WSWC's rules of organization. Sunsetting Position No. 478 in support of Rural Water Infrastructure Needs and Projects was revised and readopted. Position No. 479 renewed the WSWC's support for hydropower projects while appropriately protecting environmental resources and respecting States' CWA 401 certification authority, and their authority over water allocation within their borders. Position No. 481 regarding CWA Jurisdiction was considered at last September's WSWC meetings but was reconsidered and revised at this meeting.

The WSWC approved a new position (No. 480) related to the Migratory Bird Treaty Act (MBTA) and regulations to be developed by the U.S. Fish and Wildlife Service (USFWS) related to "takings." USFWS is seeking for the first time to promulgate a regulation that would prohibit "incidental" takes while allowing for government agency activities through general and specific permits. The position calls on federal agencies to engage in substantive discussions and to work together with state agencies to create flexible regulating to resolve species protection issues without interfering with state management of water resources.

The changes to the rules of organization relate to the treatment of sunsetting positions and clarify policy coordination procedures between the WSWC and WGA.

On April 5, the WSWC Water Resources and Water Quality Committees met and addressed policy positions and water challenges. The drought and water supply outlook was a focus of the former with Elizabeth Ossowski, National Integrated Drought Information System (NIDIS), Cara McCarthy, National Water and Climate Center, and Roger Gorke, EPA – National Drought Resiliency Partnership (NDRP). The outlook continues to be bleak as severe, extreme and exceptional drought ravage much of the West.

Much of the discussion in the Water Quality Committee revolved around the evolving CWA Waters of the United States (WOTUS) rule, with some speculation regarding the pending Supreme Court decision in *Sackett v. EPA*. Mary Lou Soscia, EPA, spoke about promulgation of federal baseline Water Quality Standards (WQS) for Tribes. Chris Carlson, USFS, discussed recent and future webinars on Wildfire and Water Resources hosted by WestFAST.

The WSWC Legal Committee and Full Council met on April 6. Stephen Czapka, Division of Bird Conservation, Permits, and Regulations, USFWS, provided an update on the proposed MBTA regulations on takings. Mike Eberle, National Water Uses and Rights Program Lead, USFS, described and expressed appreciation for WSWC input on a white paper relate to Wild and Scenic Rivers protections. Michelle Bushman WSWC Assistant Director provided updates on legislation and litigation, WSWC legal surveys, and WaDE water rights terminology.

On April 7, members of the Water Subcabinet and WestFAST principals joined WSWC, NWSA and ICWP members. The panel consisted of: Tanya Trujillo, Assistant Secretary for Water and Science, DOI; Gloria Montaña Greene, Under Secretary for Farm Production and Conservation, USDA; Zach Schafer, Senior Advisor, Office of Water, EPA; Robyn Colosimo, Director of Policy and Legislation, Office of the Assistant Secretary of the Army (Civil Works); Brad Doorn, Water Resources Program Manager, National Aeronautics and Space Administration (NASA); and Roger Pulwarty, Senior Scientist, National Oceanic and Atmospheric Administration (NOAA). Together they addressed several questions related to interagency cooperation, collaboration with States as stakeholders, drought resilience and climate issues, financial and technical assistance, improving seasonal precipitation forecasts, infrastructure initiatives, moving from research to application of the science, and serving rural and indigenous communities.

**199th Council Meetings
Polson, Montana
August 2-5, 2022**

The WSWC Summer Meetings (199th) were hosted by the State of Montana on August 2-5, in Polson. Participants joined both virtually and in person. Julie Cunningham, Executive Director, Oklahoma Water Resources Board (OWRB), was nominated and elected as the new Secretary-Treasurer, replacing Erica Gaddis, former Director of the Utah Division of Water Quality. Jen Verleger, North Dakota Assistant Attorney General, Chair, and Jon Niermann, Commissioner, Texas Commission on Environmental Quality (TCEQ), Vice Chair, continue to serve in their respective positions.

The WSWC revised and re-adopted four sunseting positions that: (1) support efforts to preserve radio and broadband spectrum frequencies needed for weather forecasting, streamgaging, and related water and emergency management information needs; (2) support appropriate federal appropriations and actions to plan, prepare for and avoid, minimize or mitigate the impacts of extreme weather events; (3) regarding hydraulic fracturing; and (4) support water research by U.S. Department of Energy (DOE) National Laboratories.

Rob McDonald, Tribal Communications Director, Confederated Salish and Kootenai Tribes (CSKT) Compact Implementation Office, gave an overview of the history of the water rights compact and progress on implementation, including the establishment of the Flathead Reservation Water Management Board to administer and manage all aspects of water use and water rights within the Flathead Reservation. Two members of the Board are appointed by the Governor of the State of

Montana, and two by the Tribes, with a fifth chosen by the other four. The Secretary of the DOI appoints a sixth, non-voting ex-officio, member. They are developing trust and functioning as a group. The CSKT Natural Resources Department's Water Resources Program includes several ongoing projects, and similar to other water projects, they have encountered obstacles related to increasing material costs, getting equipment, and finding qualified workers

Anna Pakenham Stevenson, Administrator of the Water Resources Division of the Montana Department of Natural Resources and Conservation (MT DNRC), talked about several water challenges, involving post-decree administration of water rights, refining the role of water courts, and recent efforts of working groups to update the State's drought management plan to be more interactive, user friendly, and offer real-time information for management. MT DNRC is also working on increasing its transparency and access to water rights data by developing a new query system.

During the Water Resources Committee, Heather Bartlett, Deputy Director, WA DOE, provided an overview of the 140-page Lower Snake River Dams Benefit Replacement Report, noting the impact of the dams on migrating salmon, habitat, and tribal cultural values. She talked about the current hydropower benefits of the dams, the need to diversify the energy portfolio, and what it would take to mitigate those losses if the dams were removed, in particular, to ensure that the burden is not placed on vulnerable populations. Jerry Rigby, Rigby, Andrus and Rigby Law, PLLC, offered another perspective, noting the substantial costs of hydropower energy replacement, particularly taking into consideration the need to build new energy facilities.

Peter Fiske, Executive Director, Erica Siirila-Woodburn, and Craig Ulrich, Lawrence Berkeley National Laboratory presented on USDOE National Labs and Water Resources Research. Erica noted that water in the West is managed based on an assumption of a reliable snowpack, but the snowpack has been declining (23%) since the mid-1950s. Craig spoke about basin-wide groundwater recharge and developing a roadmap to greater water resiliency. Peter talked about the desalination of seawater, brackish water, wastewater, and other sources of impaired quality, and encouraged States to engage in USDOE research efforts and pilot programs.

Jeanine Jones, Interstate Resources Manager, California Department of Water Resources (CA DWR), gave an overview of the WSWC's Subseasonal to Seasonal (S2S) and Runoff Forecasting workshops. She noted that CA DWR and NASA have funded much of the S2S research to date, and a primary purpose of the S2S workshops in recent years has been to build momentum for NOAA to enhance their longer-term forecasting research under the 2017 Weather Research Act. She noted that the shift toward commercially available airborne snow observatory data for forecasting runoff has significantly increased costs for California, from historically \$1 million/year to \$11 million/year, which covers only 11 of their 18 watersheds. They are looking to expand such data collection, increasing their annual costs to \$25 million.

The members engaged in a roundtable discussion on various responses to drought, including: reductions in water use; funding for data, monitoring, and forecasting programs; limiting new domestic well construction; and maximizing water reuse.

The new chair of the Water Quality Committee is Jennifer Zygmunt, Interim Administrator of the Water Quality Division, Wyoming Department of Environmental Quality (WY DEQ). The committee discussed a draft comment letter to the EPA on the new proposed CWA State §401 Certification rulemaking. Erica Gaddis, Senior Policy Advisor, WSWC, provided updates on funding and pending legislation to address the cleanup of abandoned hardrock mines. Roger Gorke, EPA, provided an update on WestFAST and Nevada coordination on federal programs to meet state needs.

During the Legal Committee, Jen Verleger, provided an update on the proposed Western Water Cooperative Committee (WWCC) for the Corps Projects included in the Senate version of the Water Resources Development Act (WRDA). She noted that the WSWC Executive Committee members would be the default membership of this new cooperative federalism committee, unless and until their respective governors appointed someone else.

Jay Weiner, Administrative Law Judge, MT DNRC, and Anna Pakenham Stevenson provided an overview of Montana legal water issues. They noted the current differences between the thorough administrative water claim process at MT DNRC and the relatively simpler experience for those filing with the water court. Further, they added that the Montana State Legislature is grappling with questions of continuing jurisdiction as Montana completes their statewide adjudication process.

Micheline Fairbank, Water Rights Deputy Administrator, Nevada Division of Water Resources (NV DWR), and Jon Niermann, TCEQ Chairman, discussed the outcome of their respective recent state supreme court cases with water rights implications: *Diamond Natural Resources Protection & Conservation Assn., et al. v. Diamond Valley Ranch, et al.*; and *Pape Partners, Ltd. et al. v. DRR Family Properties, LP, et al.*

Nathan Bracken, Partner, Smith Hartvigsen, PLLC, provided an overview of the 28 water bills passed during 2022 Utah's state legislative session, as well as the considerable work of many people in the water community over several years that led up to so many bills making it through the legislature on topics such as water banking.

In conjunction with the meetings, on August 2, the WSWC hosted a full-day WOTUS regional concept policy workshop, which was built on two virtual technical pre-workshops that were held on June 21 and July 11, 2022. This final workshop integrated technical recommendations with policy considerations regarding approaches to using a regional approach for WOTUS definitions. WSWC Staff presented a draft white paper summarizing the earlier workshops. Applicability of Regional Classification Schemes and Analytical Tools for Regional Definitions of WOTUS summarizing the earlier workshops was presented.

On the morning of August 3, WaDE staff invited WSWC members, particularly state engineers and other state water rights administrators, to participate in a demonstration and feedback workshop on WestDAAT. The intent of the workshop was to familiarize members and others with the tool and encourage hands-on practice with possible applications and get members' feedback.

**200th Council Meetings
Sulphur, Oklahoma
October 19-21, 2022**

On October 19-21, the State of Oklahoma hosted meetings of the WSWC in Sulphur. Oklahoma's Speaker of the House Charles McCall welcomed WSWC members and guests via video. Sara Gibson, General Counsel, and Christopher Neel, Water Rights Division Chief, with the OWRB, described the challenges of managing the areas surface and groundwater resources, while Shellie Chard, Director of the Oklahoma Department of Environmental Quality's (OK DEQ) Division of Water Quality addressed efforts to protect water quality.

The WSWC revised and re-adopted three sunseting positions that: (1) urge NASA to enhance its focus on moving research towards water resources management applications, and promoting long-term engagement with western states; (2) support reauthorization, appropriations for and implementation of the SECURE Water Act and related federal programs; and (3) reiterates support for legislation requiring the federal government to pay state filing fees in state general stream adjudications. One new position was approved calling for limiting the EPA's preemptive exercise of its CWA §404(c) veto power to the time period between the Corps indication of its intent to issue a permit, and final issuance of that permit. In Alaska, EPA has in effect preemptively designated large area in the Bristol Bay watershed as off limits to mining despite the absence of any §404 permit applications, and even vetoing a permit the Corps had already denied, preempting any possible appeal and mitigation proposals.

The WSWC's committee meetings involved a number of guests addressing several important topics. Indrani Graczyk, Director of NASA's Western Water Application Office (WWAO) described efforts to provide water managers with better information to make better decisions. Robyn Colosimo, Office of the Assistant Secretary of the Army (Civil Works), updated members on the Corps Water Infrastructure Financing (CWIF) Program, which for the first time authorizes Corps to leverage federal and state funds to address non-federal infrastructure needs, initially non-federal dam safety work. Colosimo and Brian Frazer, Acting Director, EPA Office of Wetlands, Oceans and Watersheds, also reported on a series of regional roundtables designed to discuss implications of any new definition of WOTUS.

WSWC staff presented two related documents prepared following its own series of WOTUS workshops addressing the "Applicability of Regional Classification Schemes and Analytical Tools to Regional Definitions of WOTUS." One is a technical document and the second an internal policy memo. Both present options, without recommendations.

Roger Gorke, Senior Water Policy Advisor, Office of Water, EPA and Anna Hoag, Civil Engineer, USBR, talked about federal efforts under the NDRP to help implement the Southwest Oklahoma Water Plan with strong local leadership, diverse stakeholders, and many contributions of data and tools to enable early detection of drought, with hydrologic indicators triggering adaptation strategies. A related study addressed state water rights and the impact of diversions, particularly

groundwater pumping, on inflows to Tom Steed Reservoir, the main feature of USBR's Mountain Park Project which provides water for municipal and industrial use and a wildlife management area. Meaningful curtailment scenarios to protect reservoir levels were considered that may guide water management during drought.

A robust panel on permitting pumped storage projects involved Sage Park, WA DOE, discussing a proposed Goldendale facility near the Columbia River. PacifiCorp alone has proposed eleven projects in the West. Several states provided insights into the challenges they are facing. Wyoming has five open-loop and closed-loop system proposals. Closed systems may be preferable from a water quality and fish and wildlife perspective, while open systems using existing reservoirs are easier to manage from a water rights perspective. Idaho has a proposed project in the Boise Basin in the state permitting process that also requires a license from the Federal Energy Regulatory Commission (FERC). Senior water right holders are asserting injury and filing objections. The Committee also discussed: the impacts on water from a proposed hydrogen production hub for Arkansas, Louisiana and Oklahoma.

Julie Pack, Assistant Attorney General, Alaska Department of Law, and Emma Pokon, Deputy Commissioner, AK DEQ Conservation, briefed members on CWA §404 permit uncertainties due to vague definitions and EPA's inconsistent application of guidance. Shellie Chard, Director, OK DEQ described various state water quality issues, including efforts to monitor per- and polyfluoroalkyl substances (PFAS) and concerns with handling contaminated biosolids from wastewater treatment plants. Shellie also participated on an infrastructure panel along with Deirdre Finn, Executive Director, Council of Infrastructure Financing Authorities (CIFA), and Jennifer Carr, Nevada Department of Environmental Protection (NDEP), regarding the complexities of ensuring states are positioned to receive and distribute federal Infrastructure Investment and Jobs Act (IIJA) funds, particularly with understaffed agencies, short timelines, and the need to stand up new programs and engage in outreach. Oklahoma is pooling resources with the tribes. Nevada is considering partnering with a contractor to handle Davis-Bacon wages requirements and otherwise assist project sponsors. Changes to the State Revolving Fund (SRF) program allocations and a new prohibition on cross-collateralization may be particularly challenging for some states.

Sara Gibson, OWRB, talked about recent developments in case law and administrative rulemaking. A new intent-to-drill rule will help with compliance issues. OWRB is working on instream flow agreements between water use sectors and water users. They have had several interesting water-related cases arise and legislative changes to enable more conjunctive management of water resources. Groundwater is private property in Oklahoma, but its use may be limited to protect the natural flow of water from springs.

Scott Steinbrecher, Assistant Deputy Attorney General, Colorado Department of Law, and Kevin Rein, State Engineer and Director, Colorado Division of Water Resources, addressed water rights speculation in Colorado. The legislature created a task force to explore whether current laws could be strengthened to prevent speculative appropriations of water, given the potential to profit from demand management tools in the Colorado River Basin. The task force found a misalignment

between the concepts and the law, and clarified differences between speculative hoarding of water rights without putting water to beneficial use and the speculative investment in water as a primarily profit-driven activity. Subjective intent can be a difficult thing to objectively prove. The task force came to no consensus.

Earl Lewis, Chief Engineer, KDA, and Connie Owen, Director, KWO (virtually), described the Kansas legislature's recent efforts to consider reorganization of the various water-related agencies. It also expanded the focus to include the structure, funding, and meaningful activities of Groundwater Management Districts (GMDs), which are now the subject of a legislative audit.

Caroline Nash, Principal, CK Blueshift LLC, and Paula Cutillo, Senior Water Resources Specialist, BLM, discussed the significant increase in IIJA funding for watershed restoration projects, which has the potential to make watersheds more drought resilient and wildfire resistant. These projects have an important water rights component, and they proposed a webinar series to facilitate better understanding of how to address those issues in a thoughtful way. Nebraska and Idaho expressed support and noted concerns that past project lacked required storage rights and/or failed to protect downstream senior water rights during the growing season.

Sara Gibson, together with Stephen Greetham, Senior Counsel, Chickasaw Nation, and Peter Fahmy, Water Rights Branch, NPS, talked about Chickasaw Nation Recreation Area water rights. Fahmy described the history of the Arbuckle-Simpson aquifer, noting the tribe deeded lands back to the federal government to better protect what became the CNRA. The geologically complicated aquifer is important to the tribes and the surrounding towns. Stephen talked about the relationships that have developed between the tribal, state, and federal governments to manage the water, the unique water rights settlement, and a controversial proposal to pump 80,000 acre-feet for transfer to Central Oklahoma. In 2003, SB288 imposed a moratorium on the issuance of any temporary groundwater permit for municipal or public water supply use outside of any county that overlays, in whole or in part, a "sensitive sole source groundwater basin." Gibson explained private groundwater rights, and the buffer zones and pumping limitations that have been imposed to protect the aquifer.¹

In conjunction with the meetings, on October 19, the WSWC hosted a panel on current federal efforts to remediate abandoned hardrock mine sites, including new programming and funding authorized through the IIJA with: Shahid Mahmud, Director, EPA Office of Mountains, Deserts, and Plains (OMDP); Holly Fliniau, USDA Environmental Management Division, also representing the Federal Mining Dialogue across federal programs on clean-ups; Sarah Martinez, USFS; and Bill Lodder, DOI, Office of Environmental Policy and Compliance.

¹PowerPoint presentations given at the meetings are posted on the WSWC's website. See: <https://westernstateswater.org/past-events/>.

OTHER MEETINGS

Western Governors' Association

Annual Meeting

The Annual Meeting of the WGA was held in Coeur d'Alene, Idaho on July 26-28. "Effective partnerships and collaboration... are indicative of how we work to resolve problems in the West," Idaho Gov. Brad Little said in his opening statements. "Today, we're seeing the evidence of the incredible progress we're making of getting more work done on the ground level."

On day one, U.S. Secretary of Agriculture Tom Vilsack announced the launch of a new \$1 billion competitive Community Wildfire Defense Grant program funded by the BIL to assist at-risk communities, including tribal communities, non-profit organizations, state forestry agencies, and Alaska Native corporations with planning for and mitigating wildfire risks.

Secretary of Health and Human Services Xavier Becerra, Secretary of Veterans Affairs Denis McDonough, and Secretary of Transportation Pete Buttigieg also engaged in a dialogue with the Governors.

Sessions with the Governors and experts covered drought, wildfire, cybersecurity and supply chain issues. North Dakota Governor Doug Burgum said: "The cybersecurity threat is not just a theoretical concept. There is a moral and financial responsibility to protect data at the state level... States are stakeholders in protecting every aspect of a person's life from a data standpoint." Jason Hoyt, Operational Technologies Manager, Central Utah Water Conservancy District, observed: "Some of these water utilities only have two people (staffers), and most of them don't have any knowledge of computers. There are a lot of resources out there, but these smaller utilities need help."

A roundtable on Restoring Burned Landscapes, led by Utah Governor Spencer Cox, featured three special guests. Laura McCarthy, State Forester, State of New Mexico observed: "The ratio of burned lands to green lands is increasing, and that's a problem for all of us. I appreciate that the Working Lands, Working Communities Initiative has given us a roadmap.... We are united across the west in the commitment to scaling up the restoration work. If we don't, we are going to lose our forests."

Randy Moore, Chief, USFS, said: "Million-acre fires are becoming more common, fire seasons are turning into fire years, and our tools and teams just aren't designed for this scale of work. We need to scale up...." In response to a question, he added, "There is nothing that would please me more than seeing longer-term agreements for restoration." Homer Wilkes, USDA Under Secretary for Natural Resources and Environment, remarked: "Fire doesn't know boundaries, so we have to make sure we address the resource concern after a fire.... The tool that's most utilized for that is the Good Neighbor Authority."

A panel on Drought in Western States featured Michael Connor, Assistant Secretary of the Army (Civil Works), U.S. Department of the Army. He said: “The overall objective of our effort is to educate ourselves as well as other agencies, states, and local communities as to how we can work with them.” He announced a new directive for the Corps to use its authority to maximize flexibility to combat drought, including the use of forecast informed reservoir operations (FIRO).

Morgan Gratz-Weiser, Deputy Natural Resources Policy Advisor and Legislative Coordinator for Oregon Governor Kate Brown stated: “Regional water planning is a very hot topic, we know that each of our basins are unique, to make communities resilient we need to be bringing people together to make new plans for each basin.”

Gloria Montaña Greene, USDA Deputy Under Secretary for Farm Production and Conservation, declared: “There is a demand and need to provide resources to farmers and ranchers in the riskiest business as they adapt and modify [operations to mitigate drought conditions].”

Tanya Trujillo, Assistant Secretary of Interior for Water and Science, highlighted the fact that with regard to low water levels and reservoir operations: “We are literally operating under circumstances that our engineers have never seen before, that is the precise challenge we are facing in western states.”

Newly elected WGA Chair Colorado Governor Jared Polis announced his The Heat Beneath Our Feet initiative, which is designed to jump-start geothermal energy generation in the West. “Geothermal energy is an opportunity to save people money, boost local economies, and help us achieve 100% renewable energy in Colorado by 2040,” Gov Polis said. “I look forward to making progress towards clean, lower-cost power through the Heat Beneath Our Feet initiative and the strong bipartisan partnership of the WGA that will lead geothermal energy innovation.”

The Governors also approved a new policy resolution, Working Lands, Working Communities, which outlines the Governors’ collective policy on land planning and management processes.

Winter Meeting

On December 6-7, the WGA met in Phoenix, Arizona. The governors approved three policy resolutions: (1) #2023-02, calling on the federal government to honor its statutory obligations to share royalty and leasing revenue payments from federal lands and minerals with states and counties; (2) #2023-03, calling on the federal government to honor its historic Payment In Lieu of Taxes agreement with states and counties to compensate for the presence of tax-exempt federal lands within their borders that still require vital public goods and services, such as roads, emergency response, and wildlife and natural resources protection; and (3) #2023-04, recommending actions to improve federal housing programs and resources to function more effectively in western states and territories.

Deb Haaland, Secretary of the Interior, was the first keynote speaker, and she noted that wildfires, floods, and droughts are our new reality. She talked about the need to prioritize collaboration and partnerships across federal agencies and with states and tribes. She pointed to the unprecedented investments in water projects across the west, water rights settlements with tribes, and improving wildfire mitigation and resilience, referring to these efforts as “actions with outsized impacts.” She noted that there are tight water years ahead.

John Leshy, the second keynote speaker, discussed the history behind the federal reservations of public lands, noting that these reservations have strong bipartisan support and tend to bring Americans together more than they divide them. He showed the consistent increase in protected federal lands since the late 1800s across political parties. “Regardless of political party, large majorities of Americans across the West want more and better protected public lands.”

Mitch Landrieu, White House Senior Advisor and Infrastructure Coordinator, the third keynote speaker, talked about efforts to work with states and tribes to put the funds from the IIJA to work. He talked about potholes, safe bridges, internet access, clean air and clean water. He talked about the Departments of Agriculture and the Interior leading the effort in addressing aging irrigation infrastructure with those funds. He said the federal agencies are standing “shoulder to shoulder” with the Western governors in addressing drought and wildfires in the West. He talked about DOE grants and competition for the development of hydrogen fuel hubs and efforts to incentivize states into regional cooperation.

Roundtable topics included: (1) progress on zero-emission heavy-duty vehicles; (2) making existing desalination technologies accessible to western communities; (3) forest health and wildfire impacts on air quality and public health; (4) domestic supply of critical rare earth minerals and supply chains for electric vehicles; and (5) addressing the spike in housing costs and challenges of adequate supply and equity for underserved populations.

The governors announced the retirement of Executive Director Jim Ogsbury, noting that he will continue to work with WGA on their charitable and youth programs.

Western States Water Council

Congressional Briefing on Indian Water Rights Settlement Agreements

On January 21, the WSWC hosted a virtual Congressional briefing for House staffers on the importance of authorizing and adequately funding Indian water rights settlement agreements. John Echohawk, Executive Director of the Native American Rights Fund (NARF), explained the historical background of federal treaties with tribes and the resulting federal trust obligations. He described the impact of the *Winters v. United States* (1908) decision, holding that when Congress created Indian reservations, it implicitly reserved water sufficient to fulfill the purpose of the reservation. He described the subsequent efforts of the tribes to quantify those rights, the important work of settlement negotiations with States beginning in the 1980s, and the creation of the Secretary of the

Interior's Indian Water Rights Office in the 1990s to provide federal teams to work on those settlements.

Tony Willardson, Executive Director, WSWC, described the prior appropriation water rights system in the Western States, and explained the importance of quantifying the tribes' reserved water rights – which cannot be forfeited through non-use – for States managing water rights that are often junior to the priority of tribal water rights. He also spoke of the benefits settlements provide in terms of enabling the tribes and the non-tribal communities to be better neighbors, and to better manage water resources through persistent droughts.

Anne Castle, Senior Fellow, Getches-Wilkinson Center, University of Colorado Law School, spoke about the ongoing need for drinking water infrastructure for tribes. She expressed appreciation for the recent funding in the IJA, and offered a Congressional roadmap for next steps: (1) promoting a whole of government approach by directing the utilization of existing interagency working groups, such as the Tribal Infrastructure Task Force, to deploy funds in a coordinated and impactful way; (2) remove barriers to program administration, including restrictive regulations and policies developed when programs were underfunded; (3) exercise appropriate oversight and ensure agency accountability for the new funds, not simply allocating the funds but making identifiable progress; and (4) provide funding to support the operation and maintenance of existing and new infrastructure, so the substantial investment is not lost.

Improving S2S Precipitation Forecasting to Support Water Management Workshop

On May 17-19, the WSWC and the CA DWR cosponsored a workshop on Improving S2S Precipitation Forecasting to Support Water Management in San Diego, California. The meeting drew state and federal agency officials, climatologists, hydrologists and meteorologists, scientists, and water managers. Jeanine Jones, CA DWR, provided a summary of past efforts, future challenges and desired outcomes. WSWC Executive Director Tony Willardson provided context for S2S forecasting within the broader view of current water policy, law, water rights administration, and water resources development and management.

David DeWitt, Director, Climate Prediction Center (CPC), NOAA, spoke about current legislative and programmatic drivers relevant to improving S2S precipitation forecast skill, including implementation of the Weather Research Act, the priorities and strategies of the current Administration, establishing an end-to-end research to operations enterprise to enable progress on S2S forecasting skill, S2S pilot projects, and the need for close coordination with stakeholders and collaborators.

Matt Switanek, Research Scientist, NOAA Earth System Research Laboratory (ESRL), talked about NOAA's ESRL Statistical S2S Model, the need to make better forecasts of cool-season (Nov-Mar) precipitation, a forecasting method that relies on the use of subsurface ocean temperatures and historical statistical relationships over the period of record, and provided an update on the status of dynamical models.

Chuck Collum, Executive Director, Upper Colorado River Compact Commission, provided an overview on the Law of the Colorado River, and talked about the agreements under the Drought Contingency Plan, the large scale water management uncertainties in the Upper Colorado River Basin, and ways that improved forecasting reliability would also improve water management decisions.

Mike Anderson, State Climatologist, CA DWR, talked about the climate change implications for S2S forecasting, noting the increasing variability of seasonal predictions and the geophysical processes that influence seasonal predictions, and the growing challenges of determining when water will flow and demand will peak during the water year. He emphasized the need to connect climate and weather for effective seasonal to multi-year forecasting, and the importance of specific decision-support products that may be downstream from NOAA predictions.

Jeanine Jones provided an overview of CA DWR efforts on S2S forecasting, including the motivations of managing water through drought and climate change. She showed the impact of recurring droughts in California and described a “seasonal water management funnel,” where the forecast certainty was lowest when the agencies and water managers have the greatest discretion for decisionmaking with months to prepare, and greatest when they have the least discretion and only days to make decisions. She talked about why longer lead times are important, for budgeting, managing risks, project financing, environmental permitting, regulatory approvals, contract negotiations, construction activities, resource allocation, and supporting the decisionmaking of individual water users that make long-term commitments based on the availability of water.

Joe Barsugli, Research Scientist III, Cooperative Institute for Research in Environmental Sciences (CIRES), talked about drought in the Colorado River Basin, past, present and future. He noted that past droughts in the 1930s and 1950s seemed to be driven more by precipitation deficits during the spring, summer, and fall, but present droughts appear to be driven more by temperature anomalies that favor La Nina-like patterns.

Angel Muñoz, Associate Research Scientist, International Research Institute for Climate and Society, gave a presentation on bridging the gap from sub-seasonal to seasonal forecasts and using a flow-dependent approach to identifying the shape, location, and magnitude of spatial patterns in weather types to improve prediction skill. He talked about cross-timescale interference between climate rhythms (such as ENSO and MJO) that results in extreme wet or dry events, and may precondition certain climate variables to appear more frequently.

Phil Mote, Professor, College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, talked about the changing climate in the Klamath Basin, with increasing temperatures, low soil moisture, record low winter snowpack, and increased wildfires.

Duane Waliser, Chief Scientist, Earth Science and Technology Directorate, NASA Jet Propulsion Laboratory (JPL), provided an overview of the forecasting work that has been done for California and the Upper Colorado River Basin. Atmospheric rivers can be blocked and re-routed

by large regions of high atmospheric pressure called ridges, and the large spatial scale and persistent nature of ridges suggests a source of S2S predictability. They identified three main ridge types and developed an experimental ridge forecasting product.

Mike DeFlorio, Research Analyst, Scripps Institution of Oceanography, University of California, San Diego, spoke on understanding the relative skill of experimental S2S forecasts and the value of historical data, large sample sizes, and machine learning. He noted that the West experiences the highest interannual variability of wintertime precipitation in the country, and water managers in the West need more skillful predictions with longer lead times. This combination has led to increased international investment in S2S research with a focus on understanding the physical mechanisms related to predictability.

Xianan Jiang, Researcher, University of California, Los Angeles, talked about challenges in predicting California winter precipitation due to the limited skill of an anomalous Pacific Ocean circulation, independent from ENSO, near the west coast.

Gudrun Magnusdottir, Professor and Chair, Department of Earth System Science, University of California, Irvine, presented on atmospheric drivers in precipitation transitions, highlighting the influence of tropical and high-latitude variability on atmospheric circulation from S2S to decadal time scales. He noted that a particular type of variability may provide greater predictability at one time scale and become a source of noise at a different time scale.

Xubin Zeng, Professor, Department of Hydrology and Atmospheric Sciences, University of Arizona, talked about two-stage seasonal forecasts, including snowpack.

Agniv Sengupta, Research Scientist, Scripps Institution of Oceanography, University of California, San Diego, offered two presentations on: (1) an evolution-centric statistical technique that leverages observational variables with large thermal inertia for improving S2S forecasting, noting that the observational record is characterized by prominent low-frequency variability; and (2) exploring novel statistical and machine learning methods to consider multiple predictors (sea surface temperature, outgoing longwave radiation, stratospheric state, soil moisture, etc.) for S2S prediction of winter precipitation.

Seth Shanahan, Colorado River Program Manager, Southern Nevada Water Authority (SNWA), offered a Lower Colorado River Basin perspective of forecasting needs.

Sarah Baker, Hydrologic Engineer, USBR, talked about the potential for incorporating S2S forecasting in the Reclamation's Colorado River Basin modeling. She described where the different models fit within the operational decision-making hierarchy. She talked about current research projects to: (1) quantify the value of SNOTEL data to water supply forecasting; (2) explore the utility of a new SWE product for runoff forecasts; (3) develop a new methodology to use dynamic ET for streamflow forecasts and reservoir projections; (4) integrate NASA Land Information System (LIS) remotely sensed data sets for hydropower optimization; and (5) exploit decadal temperature-

informed streamflow projections to improve understanding of the sensitivity of Colorado River Basin flows to changes in climate.

John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center, talked about the challenges of applying S2S forecasting to hydrology and the need for more skillful forecasts.

Cary Talbot, Chief, Flood & Storm Protection Division, Corps, talked about the benefits of improved lead times for S2S forecasting and the ability to store water supply through droughts using FIRO. He noted the four current FIRO Pilot Projects are located at Howard Hanson Dam, new Bullards Bar and Oroville Dams, Lake Mendocino/Coyote Valley Dam, and Prado Dam, all in California.

Andrew Robertson, Senior Research Scientist, International Research Institute for Climate and Society, talked about a weather regime diagnostic tool applied to S2S forecasting and verification, as well as predictions of cross-timescale interactions between climate drivers.

Nelun Fernando, Hydrologist, Texas Water Development Board (TWDB) talked about TWDB's experience with summer precipitation forecasts using existing NOAA forecast products, with recalibrations and quantitative assessments needed, and the recent development of a potential FIRO project for a system of reservoirs along the Brazos River of Central Texas.

Emerson LaJoie, Meteorologist, CPC, NOAA, presented information on CPC's experimental Water Year Outlook (WYO) Tool, with three outlooks beginning in October, November, and December, each WYO running through March. She provided an overview of the hindcast precipitation skill assessment using the North American Multi-Modal Ensemble (NMME).

Jay Jasperse, Director/Chief Engineer, Groundwater Management, Sonoma County Water Agency, talked about the benefits of better forecasting in the context of FIRO at Lake Mendocino. With existing skill, the FIRO enabled a 19% increase in storage over projected levels during a period of low precipitation that was 38.4% of average.

Dave Rizzardo, Manager, Hydrology Section, CA DWR, talked about California's monthly reports forecasting Spring runoff for water managers in 24 river basins and how they are generated. He noted that a more climate resilient water management strategy depends on better observations and better forecasts.

Improving Snowmelt Runoff Forecasting Workshop

On June 1, the WSWC and the CA DWR cosponsored a workshop on Improving Snowmelt Runoff Forecasting. Improving operational runoff forecasting to meet the needs of water managers and users is a challenge, particularly given limited agency budgets for observations, monitoring, research, development, and modeling. Climate change and variability seem to be driven faster than

our science and technological advances. Moreover, it takes a relatively long period of time to put improvements in place and build confidence in accurate and durable projections. The purpose of this one-day workshop was to explore present capacity and opportunities to take the next steps to improve runoff forecasting.

Joint Washington Roundtable

On April 5-7, the WSWC, ICWP and NWSA, held a joint roundtable in conjunction to the WSWC Spring meetings that brought together over 120 federal, state, interstate and local water managers and scientists both in person and virtually. A panel with federal Water Subcabinet and WestFAST members also addressed those attending.

The joint meeting began with a welcome from the chairs of each organization: ICWP - Drew Dehoff, Executive Director, Susquehanna River Basin Commission; NWSA - Dan Buhman, General Manager, Tarrant Regional Water District (TX); and WSWC - Jennifer Verleger, Assistant Attorney General, North Dakota.

The first panel provided updates on federal water resources data programs and included USGS program managers and coordinators, including: Robert Joseph, Director, Office of Planning/Programming; Mindi Dalton and Brian Clark, Water Availability and Use Science; Lori Sprague, Integrated Water Availability Assessments; Steve Aichele, Topographic Data Services; and Brian Ebel, a research hydrologist. They were joined by Dwane Young, Chief, Water Data Integration Branch, EPA. Joseph talked about critical data provided by streamgages and groundwater monitoring networks, progress on the NextGen Water Observing System, and opportunities to modernize our national water information system. Dalton addressed research and assessment programs and funding under the SECURE Water Act. Sprague discussed integrated water availability assessments, progress on the national water census, and efforts to improve forecasting and modeling for enhanced decision making. Clark provided an overview of the development of the National and Regional Drought Projects, and an update on the hydrologic drought observations and drought forecast modeling. Ebel's remarks focused on USGS investments in assessing and predicting the effects of wildfires on watersheds, and post-wildfire water availability. Aichele spoke on the development of the 3D Hydrography Program, and integrating topographic efforts with Landsat and many other tools to provide meaningful data and context for observations. Young talked about types of federal, state, and local water data that need to be shared, and the principles and standards to successfully integrate those data to make them searchable.

A non-federal water data panel included Peter Colohan, Director, Internet of Water (IoW), and Adel Abdallah, WSWC WaDE Program Manager. Peter described the concept and growing development of IoW "hubs," including WaDE. Adel demonstrated the WestDAAT prototype.

Next, Micheline Fairbank, and Jennifer Carr, respectively Deputy Administrators for the NV DWR and Division of Environmental Protection, together with Roger Gorke, Sr. Policy Advisor, EPA Office of Water, discussed efforts to integrate state and federal emergency response and other

resources to advance water planning objectives. The discussed ways to craft requests for funds available through the Federal Emergency Management Agency (FEMA), USFS and other agencies, including COVID relief funds under the American Rescue Plan Act (ARPA).

A panel on groundwater management included WSWC members: Earl Lewis, Chief Engineer and Kenneth Titus, Chief Counsel, Division of Water Resources, KDA, together with Tom Buschatzke, Director, and Amanda Long-Rodriguez, Active Management Area (AMA) Planning Manager, Arizona Department of Water Resources (AZ DWR). They described the challenges and efforts to address dwindling ground and surface water resources in an integrated comprehensive manner. Lewis and Titus shared groundwater management tools in Kansas, and lessons learned about the importance of local leadership and how water conservation can also impact economics for the better. Buschatzke and Long discussed Arizona's groundwater regulations and active management plans, the water banking authority, and efforts to store and shift water in order to meet Arizona's diverse needs.

Water supply forecasting and studies were the topic of a panel that included: Glenn Page, retired, Cobb County Marietta Water Authority; Brad Hudgens, Water Supply Business Line Manager, Institute for Water Resources, and Cary Talbot, Chief, Flood and Storm Protection Division, Corps. Page discussed the Cobb County-Marietta Water Authority's long-term efforts to address Corps accounting for made-inflows in the Allatoona system, and to extend water supplies through reuse. Hudgens talked about risk-informed decision making and approaches to risk assessments for reservoir operations and addressing water supply during water shortages. Talbot provided an update on FIRO and efforts to take FIRO beyond the pilot project stage, including federal funding and screening processes to identify suitable FIRO candidates.

Basinwide water planning and climate resilience was addressed by: Cherie Schultz, Director, CO-OP Operations, Interstate Commission on the Potomac River Basin; Brandt Thorington, Director, Government Relations, Mississippi River Cities and Towns Initiative (MRCTI); Kenny Blumenfeld, Minnesota Department of Natural Resources State Climatology Office; and David Wunsch, Association of American State Geologists. Schultz gave a presentation on recent efforts to improve climate resiliency, update regional agreements to account for new water supply concerns, and meet infrastructure needs in the Potomac River Basin. Thorington talked about the MRCTI and efforts to effectively utilize available funding for infrastructure to address flooding and other natural disasters, and to improve awareness of how those resources are being used. Blumenfeld talked about the extreme climate variability Minnesota is experiencing now and projected into the future, with megastorms coinciding with emerging drought conditions, and the complexities of water planning with increasing temperatures and precipitation in that region of the nation. Wunsch presented on the challenges of managing water among competing uses across multiple states in the Delaware River Basin, and efforts to improve climate change resilience.

The last panel of the day addressed state water infrastructure projects and financing with WSWC member states represented by: Brooke Paup, Chairwoman and Jeff Walker, Executive Administrator, TWDB; Candice Hasenyager, Director, Utah Division of Water Resources; and

Andrea Travnicek, Director, North Dakota Department of Water Resources. Each described the once in a generation opportunity to leverage available state resources and programs with ARPA Covid-relief funds and the IIJA, or BIL, authority to address the back-log of water resources projects and needs.

On April 6, presentations included key federal agency officials. The first panel included: Tanya Trujillo, Assistant Secretary for Water and Science, DOI; Michael Brain, Deputy Commissioner, USBR; and Don Cline, USGS Associate Director for Water. They provided information about funding and authorizations under the IIJA, efforts to respond to drought, water supply needs, and aging infrastructure, and discussed efforts to better leverage partnerships with other federal agencies and states, and improving collaboration on data sharing and support for water data gathering networks.

They were followed by Raffael Stein, Director, Water Infrastructure Division, and John Goodin, Director, Office of Wetlands Oceans and Watersheds, EPA. Stein talked about the historic investment in water infrastructure under the IIJA, primarily distributed through the SRF program, and technical assistance and other resources for disadvantaged communities. Goodin provided updates on the CWA rulemaking status for defining WOTUS and §401 State Certifications, and expressed gratitude to the states for their hard work on gathering monitoring and assessment information through the pandemic.

The Corps was represented by Amy Frantz, Senior Policy Advisor to Lieutenant General Scott Spellmon, Chief of Engineers. Her remarks focused on recent significant increases in federal funding for Corps of Engineers projects and efforts to complete the backlog of civil works projects that address water infrastructure and water resources.

Next, Mary Erickson, Acting Director, NOAA spoke, with Tom Graziano, Director, Office of Water Prediction and Ed Clark, Director of the National Water Center participating virtually. Erickson spoke on building weather, water, and climate ready nation, and on how the National Weather Service (NWS) is prioritizing goals to meet the challenges and needs of water managers across the nation.

After lunch, Astor Boozer, Western Region Chief, USDA's NRCS, spoke about the devastating impacts of wildfires on water resources, from domestic chemical pollutants to sedimentation in reservoir storage, and joint strategies for post-fire recovery across the landscape. Bernie Gyant, Deputy Associate Chief, USFS addressed the many programs and projects the NRCS has been implementing to assist with water resources and conservation, particularly in times of drought, and protection of water quality.

The last federal agency panel remarks came from Lawrence Friedl, Director, Applied Sciences Program, Earth Science Division, and Bradley Doorn, Water Resources Program Manager, NASA. They discussed Landsat, OpenET, and other satellite observations that can meet various water management need, as well as the interagency process for identifying new satellite needs, and how states might get involved and offer input or feedback.

Finally, a congressional staff panel described current and future legislative priorities with: John Busovsky and Paul Babbitt from the House Agriculture Committee; Matt Muirragui, with the House Natural Resources Committee Subcommittee on Water, Oceans and Wildlife; Ryan Hambleton from the House Transportation and Infrastructure (T&I) Subcommittee on Water Resources and Environment; and Melanie Thornton and Brian Clifford serving on with the Senate Energy and Natural Resources Committee. Busovsky and Babbitt discussed the water conservation programs of the upcoming Farm Bill and the forestry provisions in the IJA to improve watershed health. Muirragui talked about House Natural Resources actions on advancing water supply projects, ecosystem restoration projects, water technology and data to improve water management, drought relief and long-term resilience, tribal water rights, and overseeing implementation of the IJA. Hambleton talked about bipartisan efforts on WRDA 2022, and the focus on projects over policy to give the Corps time to implement policies from past WRDA legislation. Thornton and Clifford addressed tracking IJA funds and moving other legislation in a bipartisan way, particularly to meet the needs of aging infrastructure, water storage projects, and watershed health.

WOTUS Workshop Series

On June 21, the WSWC hosted the first of the summer workshop series exploring regional approaches to WOTUS implementation that take into consideration variations in hydrologic conditions across the Nation. There were 32 attendees from 16 States. Participants explored five existing regional classification schemes presented by four federal agencies: (1) Watershed Boundaries and National Hydrography Dataset (Kim Jones, USGS); (2) Ecoregions (Brian Topping, EPA); (3) Stream Flow Assessment Duration Method Regions (Brian Topping, EPA); (4) Regionalization of Wetland Delineation Guidance (Kyle Gordon, USACE); and (5) Major Land Resource Areas (Drew Kinney, NRCS). Participant insights were reflected in a technical whitepaper.

A post-workshop survey indicated that most participants believe the number of regions should be limited to 10-25 across the country and that the Stream Flow Duration Assessment Method best balances the various regional factors of concern to States, although there was support for further exploring several of the other classification schemes.

A second workshop was held on July 11, and focused on existing tools that could be used to implement WOTUS determinations in a regional context. A full-day workshop was scheduled at the WSWC summer meeting on August 2, in Polson, Montana where participants reflected on the technical outputs of the two pre-meeting workshops and discussed policy elements of a regional WOTUS approach.

Engagement and Collaboration Between NOAA and States

On September 16, Executive Directors Tony Willardson, WSWC, Beth Callaway, ICWP, and Dave Mitamura, NWSA met virtually with Rick Spinrad, Administrator, NOAA. All three emphasized the need for continuous engagement and collaboration between NOAA and the States, interstate organizations, and others, as well as the role of the “Water Subcabinet” in working with non-federal agencies toward addressing common challenges.

The West and the Nation face ongoing extreme weather volatility that has brought record or near-record events with drought, followed by floods, wildfires, and landslides, as well as coastal storm surges. These events threaten public safety and loss of life, as well as economic, social, and environmental damages, while taxing the capacity of our aging water infrastructure. This highlights the need for early warning systems – timely and accurate forecasts.

WSWC recently readopted Position No. 483 on Strengthening the Resiliency of our Nation to the Impacts of Extreme Weather Events highlighting: (1) maintaining and enhancing data gathering and monitoring; (2) advancing physical sciences research, and dynamical and statistical modeling; (3) addressing federal agency responsibilities; (4) increasing consultation with state, local and tribal governments; (5) improving collaboration and coordination among agencies at all levels; (6) improving communication capabilities; and (7) identifying and addressing gaps/overlap.

Administrator Spinrad noted the unprecedented federal commitment of resources with some \$3.3 billion for NOAA to address climate challenges, including an emphasis on resilience and adaption, in addition to decarbonization. The discussion encompassed collaboration under NOAA's Precipitation Prediction Grand Challenge (PPGC) and specifically the need for improving S2S prediction skill. Another topic of discussion was support for reauthorization of the NIDIS, with Veva Dehaza and Elizabeth Ossowski NOAA/NIDIS staff joining. The WSWC co-chairs the NIDIS Executive Council with NOAA and the USDA. Spinrad specifically noted interest in better forecasts from the insurance and reinsurance industry, as well as the "catastrophic" bond market.

The value of FIRO was also discussed along with the advances in observations and forecasting atmospheric river (AR) events. Better skill in longer-term forecasts offers tremendous potential benefits, including optimal reservoir operations and management. Similarly, maintaining existing and developing new monitoring and remote-sensing technologies to provide more timely data and better spatial coverage is critical for addressing flooding and drought impacts.

NOAA leadership has seen a number of recent changes and Dr. Spinrad committed to further engagement on issues important to the WSWC and other interstate organizations particularly towards planning, preparing for and avoiding, minimizing, and mitigating the impacts of extreme weather events. The WestFAST is one way NOAA collaborates with our States.

Water Subcabinet

On October 12, members and staff of the Water Subcabinet, ICWP, NWSA and WSWC, met virtually via Zoom. Following an in-person meeting in April in Washington, D.C., ICWP, NWSA and WSWC asked for more opportunities for informal state-federal dialogue on various water resources issues. Participating were: Tanya Trujillo, Assistant Secretary of the Interior for Water and Science; Gloria Montano Green, Deputy Undersecretary for Farm Production, USDA; Robin Colosimo, Director for Policy and Legislation, Office of the Assistant Secretary of the Army (Civil Works); Zach Shafer, Senior Advisor, Office of Water, EPA; Brad Doorn, Water Resources Program Manager, NASA; Ed Clark, Director, National Water Center, and Elizabeth Ossowski, NIDIS Affiliate, NOAA; Dave Raff, Chief Engineer, USBR; and others.

Communication, coordination and engagement were discussed, including how to keep states informed and involved. State called for consultation and collaboration up-front, before federal policy and program discussions are made. Federal agencies sometimes lead, and at other times should support states' efforts. There should be a focus on both short and longer-term "wins," as well as achieving sustained solutions and research with the end-user in mind. It was suggested that the subcabinet be expanded to include other agencies with water-related capabilities, programs and responsibilities, including the FEMA, NASA and the USFS. Water subcabinet members "wear many hats," and there is a substantial amount of coordination that goes on outside the subcabinet meetings. Another state request was regarding the subcabinet's ability and authority to act as a catalyst to bring federal water programs and activities. WestFAST is one forum for coordination, and a WestFAST paper on collaboration with states was referenced and shared.

Drought response was raised as an example. Several federal and state agencies are involved in enhanced water conservation and data observations and monitoring activities, in the Colorado River Basin, along with other public and private foundation initiatives. The IoW Coalition and open data initiatives were mentioned and the WSWC's WaDE. Green suggested river basins may be an appropriate model for scaling efforts. Trujillo noted the \$4 billion recently allotted for drought relief, and related opportunities. She also shared a brief paper with links documenting the Biden-Harris Administration's drought resources identified by the Drought Resilience Interagency Working Group.

WestFAST was involved in a collaborative effort under the NDRP in a pilot program near Altus, Oklahoma to support development and implementation of the Southwest Oklahoma Water Supply Action Plan, coordinating federal, state and local resources and authorities. The NDRP and related efforts continue. Resilience in the face of extreme events, both droughts, storms and floods was emphasized.

The WSWC was represented by: Chair Jen Verleger, North Dakota; Ayesha Vohra, Arizona; Matt Unruh, Kansas; Jay Weiner, Montana; Mike Hamman, New Mexico; Renee Spooner, Utah; and Chris Brown, Bradon Gebhart, and Jennifer Zygmunt, Wyoming.

Council of State Governments/Interstate Compacts

On December 7, at the invitation of the Council of State Governments (CSG), WSWC Executive Director Tony Willardson addressed a packed room of some 100 state legislators on Allocating Natural Resources: Lessons from the Colorado River Compact at their annual meeting in Honolulu, Hawaii. He introduced legislators from as far away as Connecticut and Canada to the WSWC and our mission, vision and principles.

Tony noted, former California Governor Ronald Reagan, referring to the WSWC, who said, "I am impressed with the need for the states of the West to look beyond sectional interests and to approach water resource development on a regional basis. Few endeavors offer more challenge...and greater potential for lasting benefit. Unless we are successful, lack of water will

soon limit development throughout much of the West....” Reagan added, “I am convinced that the best approach to westwide regional planning is through cooperative state action. I see no need, certainly at this time, for the states to look to Washington to act as a broker in this endeavor.”

The present drought in the Colorado River Basin highlights challenges related to water allocation including: (1) growth and related economic and environmental water needs; (2) limited data regarding water supplies and demands; (3) competing or poorly defined water rights; (4) aging and often inadequate infrastructure; (5) unpredictable climate and extreme events; and (6) a constantly evolving regulatory landscape.

Tony shared the WSWC Vision Statement, which reads: “Effectively addressing these challenges will require stronger collaboration and cooperation that transcends political and geographic boundaries between states, federal agencies, tribes, and local communities.” Our principles add: “States have the pivotal role in water planning, as well as allocating and protecting the resource. Success will depend in large part on state initiative and innovation. Federal agencies should use state water plans to help determine national water policy and priorities that best align federal agency support to states; and to inform decision making regarding regional water issues.”

Tony mentioned the value of WestFAST, along with the fact that States are not stakeholders, but sovereign partners.

Tony presented a brief background on western water law and different approaches and doctrines for allocating both surface and groundwater resources, as well as recognizing federal reserved rights, including tribal rights. He noted WSWC efforts to help better define water rights, water use and demand were noted, including our WaDE and WestDAAT.

The unprecedented nature of the challenges now facing the Colorado River Basin were discussed together with the historic and modern efforts to come together to find solutions. Basin States have and continue to play a vital role in the allocation, conservation, development and management of the region’s water resources, together with the DOI, beginning with the Colorado River Compact and more recently evident with the 2019 signing, congressional authorization, and implementation of individual state drought contingency plans. Discussions continue on new 2026 Colorado River Basin federal project operating criteria and guidelines.

Some of the many agreements, congressional acts and project authorizations, court decrees, federal guidelines, international treaty minutes and other documents developed over the past 100 years that make up the “Law of the River” were mentioned. A number of legislators were surprised by the number and complexity of these “side” agreements that followed the Colorado River Compact. Further, both collective and individual State and water district efforts to address and share shortages were noted.

Among some of the lessons were that the Colorado River Compact and Law of the River defined rights to the use of water in the basin and provide a legal foundation for cooperative work.

Colorado River water allocation and management is very complex. Current conditions were not foreseen as the Compact was adopted during a wet hydrologic period (but also negotiators were conservative given then-projected flows). States play a pivotal and innovative role in adjusting to the new reality, and collaborative state action has been a key to addressing the continuing drought. Up until now, the federal government has generally allowed the Colorado River Basin States to find consensus on operational and other changes. The Colorado River Basin is unique (as are other basins), and the allocation of water resources requires both certainty and flexibility.

CONGRESSIONAL TESTIMONY

House Natural Resources Subcommittee on Water, Oceans, and Wildlife

On May 12, the House Natural Resources Subcommittee on Water, Oceans, and Wildlife held a remote hearing on the following bills: (1) H.R. 3081 to make certain irrigation districts eligible for Pick-Sloan Missouri Basin Program pumping power; (2) H.R. 5880 to amend the White Mountain Apache Tribe Water Rights Quantification Act of 2010 to modify the enforceability date for certain provisions; (3) H.R. 6238 to amend the Omnibus Public Land Management Act of 2009 to increase Tribal access to water conservation and efficiency grants; (4) H.R. 6369 to authorize the Secretary of the Interior to construct, operate, and maintain facilities in the Sun River Project, Montana, for the purpose of hydroelectric power generation; (5) H.R. 7612 To advance desalination research and technological innovation; (6) H.R. 7632 to provide access to reliable, clean, and drinkable water on Tribal lands; and (7) H.R. 7633 to approve the settlement of water rights claims of the Hualapai Tribe and certain allottees in the State of Arizona, to authorize construction of a water project relating to those water rights claims.

The WSWC submitted the following testimony supporting various provisions of the bills.

On behalf of the WSWC, we wish to express our support for H.R. 5880, H.R. 6238, H.R. 7632, and H.R. 7633. The WSWC is a bi-partisan government entity created by Western Governors in 1965 that represents eighteen states. Our members are appointed by and serve at the pleasure of their respective Governors, advising them on water policy issues. Our mission is to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future. The WSWC has long supported the negotiated settlements of Indian water rights claims.²

Water in the West is a limited resource, and the unquantified water rights claims of federally-recognized tribes negatively impact tribes, states, and communities across the West. Negotiated settlements of Indian water rights are a means of ensuring the reliability of water supplies for both tribal and non-tribal communities, through well-defined water rights, and provide the certainty needed to help conserve water, address environmental needs, promote economic development, and create jobs on and off tribal lands.³

The WSWC supports tribal water rights settlements and universal access to reliable, clean drinking water for federally recognized Indian Tribes and Alaska Native communities. We appreciate and support the introduction and passage of H.R. 5880, to amend the White Mountain Apache Tribe Water Rights Quantification Act of 2010 to modify the enforceability date for certain provisions;

²<https://westernstateswater.org/event/2021-symposium-on-the-settlement-of-indian-reserved-water-rights-claims/>

³WSWC written testimony dated November 4, 2021 submitted to the House Committee on Natural Resources Subcommittee on Water, Oceans, and Wildlife regarding H. Res. 320 - Universal Access to Clean Drinking Water.

H.R. 6238, the WaterSMART Access for Tribes Act, to amend the Omnibus Public Land Management Act of 2009 to remove barriers to tribal access to water conservation and efficiency grant; H.R. 7632, the Tribal Access to CWA, to provide access to reliable drinkable water on tribal lands; and H.R. 7633, the Hualapai Tribe Water Rights Settlement Act of 2022, to approve the claims of the Hualapai Tribe and certain allottees in the State of Arizona, to authorize construction of a water project relating to those claims, and for other purposes.

The WSWC supports the provision of clean water to tribes to meet their domestic needs and recognizes that providing basic drinking water service is an essential component of the federal trust responsibility. Additionally, developing the technical, managerial, and financial capacity of tribes to operate and maintain that infrastructure is critical to the longevity of such an investment. Federal programs already exist to fulfill many of these needs, but are underfunded and cumbersome to navigate.

The WSWC supports a coordinated approach across federal agencies and departments to leverage those programs in a meaningful way, and adequate funding from Congress to meet those needs. The WSWC further supports federal agency collaboration with tribes, states, and local jurisdictions to establish expedited planning, design, development, and operation of water infrastructure to meet the clean drinking water needs of tribes. In addition, the WSWC urges Congress to support, encourage, and fund negotiated settlements and adjudications relating to Indian water rights claims.

Specifically, regarding H.R. 6238, the WaterSMART Access for Tribes Act, the WSWC 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. In a letter to Representative Melanie Stansbury, dated December 1, 2021, we expressed support for legislation that would allow the Secretary of the Interior as needed to reduce or waive non-federal cost sharing requirements for grants or cooperative agreements under the WaterSMART program between the Secretary and eligible Indian tribes for planning, designing, or constructing any improvement to: (1) conserve water; (2) increase water use efficiency; (3) enhance water management; or (4) accelerate the adoption and use of advanced water treatment technologies to increase water supply.

H.R. 7632 also reauthorizes the Rural Water Supply Act of 2006⁴ and the USBR's Rural Water Supply Program to work with rural communities, states and tribes, to assess potable water supply needs and identify options to address those needs through appraisal investigations and feasibility studies. The WSWC strongly supports Congressional action to expedite construction of authorized rural water supply projects in a timely manner, including projects that meet tribal trust and other federal responsibilities - recognizing and continuing to defer to the primacy of western water laws and tribal settlements in allocating water among users. Federal expenditures for rural water projects actually generate significant returns on the investment through increased national and

⁴P. L. 109-451

local economic benefits, as well as improvements in quality of life. Western States are committed to continuing to work cooperatively with the DOI and USBR to meet rural water needs in the West for present and future generations.

The WSWC has not specifically considered H.R. 3081, to make certain irrigation districts eligible for Pick-Sloan Missouri Basin Program pumping power, and H.R. 6369, the Sun River Hydropower Authorization Act, to authorize the Secretary of the Interior to construct, operate, and maintain hydroelectric facilities as part of the Sun River Project in Montana. However, the WSWC recognizes that the water and hydropower resources of the West have been developed through partnerships between energy and water users, and continue to be inextricably connected. Further, clean, efficient, inexpensive hydropower is a vital part of the energy resources needed to meet our present and future energy demands. Hydropower is a prominent component of electricity generation in a number of western states, and important part of state renewable portfolio standards.

The WSWC 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 efficient permitting processes, while appropriately protecting environmental resources and respecting States' 401 certification authority under the CWA and States' authority over water allocation within their borders

While the WSWC has not taken a position of H.R. 7612, the Desalination Research Advancement Act. We have in the past supported water recycling, reuse, and desalination projects in the context of an all of the above approach to infrastructure investments and technological innovation. We have also emphasized the federal role in authorizing and appropriating funds to share in the cost of water infrastructure, and the importance of interagency coordination.

Senate Energy and Natural Resources Subcommittee on Water and Power

On May 25, the Senate Committee on Energy and Natural Resources Subcommittee on Water and Power held a hearing on the following bills: (1) S. 953 to provide for drought preparedness and improved water supply reliability; (2) S. 2334 to direct the Secretary of the Interior to establish a grant program to provide grants on a competitive basis to eligible entities for large-scale water recycling and reuse projects, to amend the Omnibus Public Land Management Act of 2009 to make certain modifications to the Cooperative Watershed Management Program, and to provide emergency drought funding, and for other purposes; (3) S. 3539 to authorize the Secretary of the Interior to carry out watershed pilots, and for other purposes; (4) S. 3693 to authorize the Secretary of the Interior to continue to implement endangered fish recovery programs for the Upper Colorado and San Juan River Basins, and for other purposes; (5) S. 4231 to support water infrastructure in Reclamation states, and for other purposes; and (6) S. 4231 to support water infrastructure in Reclamation states, and for other purposes.

The WSWC submitted the following testimony supporting various provisions of the bills.

On behalf of the WSWC, we wish to express our appreciation for the opportunity to provide written testimony on S. 953, S. 2334, S. 3539, S. 3693, S. 4231, S. 4236 and H.R. 5001. The WSWC is a bi-partisan government entity created by Western Governors in 1965, representing eighteen states. Our members are appointed by and serve at the pleasure of their respective Governors, advising them on water policy issues. Our mission is to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future. The WSWC has long supported legislation that addresses the impacts of aging infrastructure, drought mitigation, and a reliable water supply.

Water in the West is a limited resource. Water must be recognized as a critical public policy priority given the importance of the resource to our public health, economy, food security, environment, and the western way of life. We must cultivate a western water conservation ethic through a greater understanding of and appreciation for water's value. A secure and sustainable water future will be determined by our ability to maintain, replace, expand, and make the most efficient use of critical water infrastructure. Sustainable water resource management should enhance the protection and restoration of significant aquatic ecosystems and improve economic and environmental security.

The West and the Nation depend on an intricate and aging system of weirs, diversions, dams, reservoirs, pipelines, aqueducts, pumps, canals, laterals, drains, levees, wells, stormwater channels, and water and wastewater treatment and hydroelectric power plants. Substantial and sustained investments in water project construction, maintenance, rehabilitation, and replacement are necessary and pays long-term dividends to the economy, public health and safety, and the environment. The federal government has a significant role in financing and cost-sharing for water-related infrastructure, given federal economic and environmental objectives, federal tribal trust and treaty obligations, past commitments, and federal regulatory mandates.

S. 953: Water for Conservation and Farming Act

We welcome the proposed creation of the USBR Infrastructure Fund. The WSWC has repeatedly encouraged the Congress to fully appropriate the receipts and collections accruing to the Reclamation Fund subsequent to the Reclamation Act and other acts for their intended purpose in the continuing conservation, development and wise use of western resources to meet western water-related needs. Specifically, we have supported expenditures to cover Reclamation project dam safety costs, financing extraordinary maintenance and rehabilitation of aging infrastructure (including transferred works), authorized rural water supply projects, and the construction of USBR facilities incorporated as part of congressionally-approved Indian water right settlements.

A secure and sustainable water future will be determined by our ability to maintain, replace, expand and make the most efficient use of critical water infrastructure. We must preserve and improve existing infrastructure, as well as encourage and support innovative water supply strategies and new storage options to better balance supplies with demands. Moreover, sustainable water resource management and development should yield long-term economic growth, enhanced

protection and restoration of significant aquatic ecosystems, and improved economic and environmental security and quality of life.

The WSWC similarly supports WaterSMART grant programs. As recognized in the Science and Engineering to Comprehensively Understand and Responsibly Enhance (SECURE) Water Act, “...States bear the primary responsibility and authority for managing the water resources of the United States.” Western water law and policy are based on the reality of scarcity and the need to use water wisely. 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 and to protect our environment.

The SECURE Water 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. The WSWC supports technical and financial assistance to states, local watershed groups and water districts as an appropriate federal role, consistent with authorized federal programs. Section 9504 of the SECURE Water 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.

USBR has raised serious concerns related to Section 202 of S. 953, which would amend the SECURE Water Act with restrictive new language to prohibit any grant that would “increase the consumptive use of water for agricultural operations above the pre-project levels,” even for downstream users who are not the recipient of the grant. This language may also lead to results contrary to the Congress’ traditional deference to state water law and policy. We would encourage the Subcommittee to work with States to avoid potential misunderstandings.

S. 2334 - Large Scale Water Recycling Project and Drought Resiliency Investment Act

Amending the Omnibus Public Land Management Act of 2009 to modify the Cooperative Watershed Management Program to provide emergency drought-related funding is a welcome change. As the subcommittee members are aware, much of the West is experiencing severe, extreme, and exceptional drought conditions. The grant program, which provides funding for planning, design, and construction of large-scale water recycling and reclamation projects will help communities mitigate and respond to drought, increasing the reliability of water supplies.

An integrated, collaborative, and grassroots approach to water resources management is critical to the environmentally sound and efficient use of our water resources. States, federal agencies, tribes, and local communities should work together to identify water problems and develop optimal solutions at the lowest appropriate level. Striving for cooperation rather than litigation, we must recognize and respect national, state, regional, local and tribal differences in values related to water resources.

S. 3539 Watershed Results Act

WSWC supports the goals of development of the watershed restoration pilot program that identifies two to five high-impact projects in a collaborative effort with state, local and tribal representatives, non-government organizations, and other entities. This bill focuses on quantified environmental outcomes that support improved surface and groundwater quality. The WSWC encourages federal agencies to provide resources to States and local water watershed groups.

H.R. 5001 and S. 3693 Upper Colorado and San Juan Basins Recovery Act

The WSWC supports H.R. 5001 and S. 3693 to extend the Secretary of Interior's authority to implement endangered fish recovery programs for the upper Colorado and San Juan River Basins from 2023 to 2024. In 1992 the WSWC had a hand in the addition of section 2(c)(2) of The Endangered Species Act (16 U.S.C 1531) which reads, "it is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species." This addition recognizes the West's complex past and present relationships between the management and development of water resources and the conservation and protection of threatened and endangered species.

The Upper Basin Recovery program's conservation and management actions have improved habitat and river flow conditions for endangered species and should continue uninterrupted. WSWC looks forward to the continued success of these programs.

S. 4231 Support to Rehydrate the Environment, Agriculture, and Municipalities Act

The WSWC supports the purposes of S. 4231 (STREAM Act) in general, including a competitive grant program for funding of water recycling projects to the extent that it benefits regional and rural communities with increased water management flexibility and water supply reliability. Additionally, water conveyance and storage are critical for our Western States. Implementing non-federal storage projects will help communities prepare and mitigate drought shortages. The establishment of a loan pilot program under the Reclamation Infrastructure Finance and Innovation (RIFIA) will promote water conservation and efficiency for domestic, agricultural, environmental, municipal, and industrial users. Federal expenditures generate significant returns on investment and improvements in quality of life.

WSWC supports an integrative approach that improves drinking water supply reliability for disadvantaged communities. There is a federal responsibility to assist these communities in achieving water and wastewater public health goals. Many of Reclamation's facilities are nearing or have already exceeded their design lives. Projects that authorize funding for repair and provide additional public health benefits through modifications should be prioritized.

S. 4236 Title III to Provide for a National Water Data Framework

All levels of government must prioritize the collection, analysis and open sharing of reliable data regarding water availability, quality, and usage given its importance to research for sound science and data driven decision making. The WSWC supports the goal of Title III to accelerate modernization of federal and non-federal water data infrastructure, as well as leveraging state and federal resources to build a national water data framework for sharing, integrating, and utilizing water data and supporting the development of innovative water data technologies and tools.

The WSWC supports efforts to enhance and expand the availability of and access to consistent and comprehensive water supply, demand and water use data and information. The WSWC looks forward to collaborating with federal agencies to promote Findable, Accessible, Interoperable and Reuseable (FAIR) water data.

Senate Agriculture Subcommittee on Conservation, Climate, Forestry and Natural Resources

On June 7, the Senate Agriculture Committee Subcommittee on Conservation, Climate, Forestry and Natural Resources held a hearing the Western Water Crisis: Confronting Persistent Drought and Building Resilience on our Forests and Farmland.

Earl Lewis, Chief Engineer, KDA, Division of Water Resources submitted the following written testimony on behalf of the WSWC.

Chairman Bennet and Ranking Member Marshall, thank you for the opportunity to appear today to discuss The Western Water Crisis: Confronting Persistent Drought and Building Resilience on our Forests and Farmland. My name is Earl Lewis. I serve as the Chief Engineer of the KDA's Division of Water Resources and as a member of the WSWC.

The WSWC appreciates the opportunity to submit testimony. The WSWC is a government entity, an instrumentality of each and every one of the 18 participating States. Member state representatives are appointed by and serve at the pleasure of their respective governors, advising them on a wide range of water policy issues and initiatives. The WSWC charge is to ensure that the West has an adequate, secure and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future. These are difficult times for water in the West and an unprecedented time for agriculture.

All levels of government must prioritize the collection, analysis and open sharing of reliable data regarding water availability, quality, and usage given its importance to research for sound science and data driven decision making. We encourage the Subcommittee to consider the USDA's role and the resources needed for USDA to participate in and benefit from building a national water data network, as well as partnerships to advance the use of water information to serve the needs of agriculture.

Water is the lifeblood of the West. This is most apparent in the agricultural sector, which consumes the predominant share of the freshwater resources throughout western states. Agriculture sustains many rural economies, provides important employment opportunities, and is a vital national industry. Federal funding is critically important for many agricultural communities, and USDA plays a crucial role in implementing programs that deliver assistance. USDA programs help to provide water and wastewater infrastructure, technical assistance, financial assistance, and conservation measures that ensure water is available to allow the agricultural industry to survive, if not thrive.

Periodic drought and competing demands for scarce water resources threaten the sustainability of the agricultural economy, highlighting the need to promote efficient water use that achieves net water savings while still maximizing production. In some cases, there is a need for assistance to transition from irrigated to dryland farming. The USDA's Conservation Title Programs provide solutions for water supply reliability through efforts such as conservation practices and groundwater recharge to preserve long-term ground and surface water resources. The WSWC supports collaborative, targeted, and voluntary conservation actions to address water resource concerns on private and public lands, and urges Congress and the Administration to provide sufficient funding for these programs.

Much of the West is arid and water availability is an ever-present constraint defining our economic and environmental wellbeing and quality of life. The WSWC recognizes the increasing demands on often scarce water resources. The current historic drought threatens the West and its agricultural base, as well as the communities built on that base.

"Since 2000, historically dry conditions have added stress to the Colorado River's already over-allocated water resources. The Colorado River provides water to almost 40 million people in two countries, seven states, 29 federally recognized Indian tribes, and 4 million acres of farmland. According to a University of Arizona study, the Colorado River supports \$1.4 trillion in annual economic activity - equivalent to 1/12th of total U.S. gross domestic product -and 16 million jobs in Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. The drought has impacted regional water supplies and other resources, such as hydropower, recreation, and ecological goods and services."⁵

In the Great Plains, the Ogallala Aquifer underlies about 112 million acres, or 175,000 square miles, in parts of eight states, including: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming. It is the principal water source for agriculture, public water supply, industry, and the environment. USDA indicates that 30 percent of all groundwater pumped in the United States is pumped from the Ogallala Aquifer. The Aquifer serves as an extensive underground reservoir providing water to grow cash crops making up the difference between crop needs and precipitation.

⁵www.drought.gov/watersheds/colorado

Drought by its very nature reduces precipitation requiring producers to pump more water for irrigation to ensure a reliable food and fiber supply. The correlation is clear that as we have more and longer droughts, the amount of water pumped from the Ogallala Aquifer increases as do the related water level declines. The Ogallala is not an inexhaustible supply as many of the early users believed that it would be. The USGS map on this page shows the levels of decline across the aquifer from predevelopment (roughly the 1940s) through 2015. There are many localized areas where the aquifer is effectively dewatered to the point that it is no longer useful for agriculture. Without additional action at all levels of government and by individuals, we will see this critical resource eliminated.

National Integrated Drought Information System

NIDIS is a multi-agency partnership that coordinates drought monitoring, forecasting, planning, and information at national, state, and local levels across the country. The U.S. Drought Monitor is a multi-agency product updated each Thursday to show the location and intensity of drought across the country. Drought categories show experts' assessments of conditions related to dryness and drought including observations of how much water is available in streams, lakes, and soils compared to usual for the same time of year.

Over half the country is abnormally dry, with nearly a third suffering from severe, to extreme, to exceptional drought - according to the U.S. Drought Monitor. Given its coarse resolution, the Drought Monitor is an important but imperfect tool, particularly for assessing eligibility for USDA farm and livestock assistance programs.

Improvements to the U.S. Drought Monitor to make it a more accurate and effective tool for both members of the agriculture community and policy makers, was part of the NIDIS reauthorization, championed by Senator John Thune (R-SD) in 2018. The legislation also included development of a strategy for a national coordinated soil moisture monitoring network. Drought and its impacts vary from region to region, and NIDIS also involves the development and implementation of regional drought early warning systems that allow for responsiveness to particular geographic and hydrologic circumstances. NIDIS will again need to be reauthorized in Fiscal Year 2023.

The WSWC supports NIDIS and other federal programs and actions designed to improve our drought forecasting and response capabilities. NIDIS is directed by an Executive Council that is co-chaired by USDA, NOAA and the WSWC.

Senator Thune said, in 2018, "Congress must do everything it can to update and modernize drought tools like NIDIS, which our farmers and ranchers depend on to stay up-to-date and fully informed on drought conditions in their area."⁶

⁶<https://www.thune.senate.gov/public/index.cfm/press-releases?ID=DE2EA7DC-37F8-4B0A-81D4-9545AA82A84A>

Sub-Seasonal to Seasonal Precipitation Forecasting

The 2018 NIDIS reauthorization legislation also amended the Weather Research and Forecasting Innovation Act of 2017 to among other things authorize NOAA to create one or more pilot programs for assessing new or innovative information and technology capabilities and services.⁷ Subsequently, a 2020 NOAA report to the Congress recommended four pilot projects focused on improving S2S precipitation forecasting, that is, beyond present 5-15 day weather forecasts to extend out several weeks or months, even one or two years.⁸

The purpose of the pilot projects is to improve S2S precipitation forecasting. As the report noted, NOAA pilot projects were necessary “...based on the existence of major climate phenomena that have huge economic impacts and for which current S2S predictive skill is too low to be effectively used by many stakeholders.” Persistent drought conditions across the West highlight the need for better forecasting tools to allow federal, state and local water agencies, soil and water conservation districts, irrigation districts, farmers and ranchers to better prepare for and respond to drought. Forecasts at S2S time scales are needed to support farming decisions, such as seed and fertilizer purchases, field preparation and planting, and equipment investments, as well as water shortage contingency planning, reservoir management, water project operations, etc.

NOAA’s CPC has been issuing S2S precipitation outlooks since the mid-1990s. Their skill for the western U.S. has been minimal, just slightly better than predicting average weather conditions, and has shown little improvement over time. Forecasting precipitation at S2S timescales is scientifically challenging and has historically received little federal research support. The WSWC has actively supported a \$15 million programmatic increase in the U.S. Weather Research Program line item within NOAA’s Office of Oceanic and Atmospheric Research appropriations account for S2S pilot projects toward improving our understanding of the science and opportunities to improve the skill of S2S outlooks.⁹

Snow Survey and Water Supply Forecasting

In the West, water is a critical, vital resource and sound decision-making demands accurate and timely data on evapotranspiration (ET), soil moisture, groundwater, precipitation, rain, snow, snow depth, snow water content, streamflow, water quality and similar information.

USDA’s Snow Survey and Water Supply Forecasting Program is administered by the National Water and Climate Center (NWCC) in Portland, Oregon, and funded through USDA’s NRCS. Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the fall, winter and early spring seasons. As snowpack

⁷132 STAT. 54578

⁸<https://repository.library.noaa.gov/view/noaa/27408>

⁹On June 21, 2021, the WSWC submitted to the Senate Appropriations Committee’s Subcommittee on Commerce, Justice, Science, and Related Agencies written testimony regarding the NOAA’s NWS U.S. Weather Research Program appropriations in support of improving S2S precipitation forecasting.

accumulates each year, NRCS hydrologists measure the snow and estimate the runoff that will occur when it melts. To predict this annual runoff, the NWCC manages and maintains a comprehensive network of manually-measured snow courses and automated Snow Telemetry (SNOTEL) monitoring sites throughout the West that collects and distributes timely, quality-controlled snowpack, water supply, and soil climate data to users westwide.

Funding for the program is critical, but has been flat at around \$9 million annually for about 20 years, while equipment, travel and staffing costs have increased leading to challenges due to understaffing and delayed or inadequate system maintenance. An anticipated 50% increase in the President's draft FY2023 budget and related appropriations did not materialize.

Such an increase would allow for expansion of the SNOTEL network, including implementation of an Objective Network Design approach for optimizing placement of new stations and sensor suites within the existing network configuration. This would include improving the accuracy and precision of core observations (air temperature, precipitation, snow water equivalent, and snow depth).

More funding would allow for expanded measurement of new and secondary elements (net radiation, relative humidity, soil moisture, soil temperature, and wind speed). Other possible actions dependent on funding include deployment of gap filling and nested monitoring schemes in both horizontal and vertical space to capture core hydrologic gradients at multiple scales.

Increased funding would also help address monitoring solutions in high rugged alpine areas, as well as permitting challenges for stations in Designated Wilderness Study Areas.

Increased funding would accelerate data reliability efforts such as telemetry reliability upgrades (moving away from the use of Mmteorburst technology, which only NWCC uses). Other improvements that would be accelerated include data storage and data quality processes (in early stages of development), as well as mitigation of climate and watershed non-stationarities in forecasting processes (also in early stages).

Western Governors and the WSWC have historically supported the program and continue to be deeply interested in the long-term health and capability of the program's data, products, and services and its role in generating vital snowpack and water-related information. Data on present and future water supplies are critical, as are data on present and future uses, if we are to balance supplies and demands during drought.

Open Evapotranspiration Information

Water resources managers and agricultural interests across the western U.S. are reliant on ET information for irrigation scheduling, managing water deliveries, water supply planning, water rights administration, and hydrologic modeling and prediction. Some state agencies and agricultural enterprises use simplified methods to estimate ET that rely on crop coefficients and outdated

irrigated area maps to estimate consumptive use volumes, while others rely on manual processing of satellite data over limited areas, making processing and coverage for all irrigated lands difficult and costly, and based on available staff, expertise, and agency funding.

Satellite-based ET data may already exist for some regions, but it is often not readily usable for modeling or decision making at the watershed scale. Consistency is also important in ET approaches and products, including irrigated lands identification that spans across political boundaries and covers the entire western U.S. Rapid accessibility and usability of field- and watershed-scale ET summary data is lacking for efficient integration into water management processes.

Additionally, there is a need for ET data from a trusted source that can easily be integrated with water rights information to assess and compare consumptive use for irrigated lands. For example, many state water agencies want to assess if hydrographic basins are truly over appropriated with respect to actual consumptive water use based on ET, rather than simply comparing total water right appropriations to system yield estimates.

The WSWC has expressed our support for an OpenET proposal to leverage the work of a broad network of collaborators to develop and provide credible, transparent, automated, and easily accessible data on ET and consumptive use (CU) using satellite-based sensors and cloud computing.¹⁰ For many years, the WSWC has supported the use of satellite imagery to estimate ET and CU under actual field conditions over large areas, particularly the use of thermal infrared imaging data available from Landsat 7 and Landsat 8.

OpenET addresses an urgent need for an operational system that can produce accurate consumptive use estimates that are available for automated data transfer to federal, state, and local water agencies that can also be used with irrigation management information systems.

Senator Cortez Masto has introduced S. 2568, the Open Access Evapotranspiration Data Act.

Agrimet

WSWC also supports the USBR's Agrimet network of weather stations that provide data for irrigation scheduling. Agrimet also serves as an important and efficient means for ground-truthing, calibration, and model validation tool for analysis of information products derived from satellite platforms such as OpenET. Agrimet provides basic data on precipitation, temperature, solar radiance, wind speed and humidity required to calculate reference ET and inform remote-sensing platforms. The Agrimet weather observing network suffers from the challenges of aging instrumentation

¹⁰Ibid.

infrastructure, deferred maintenance, need for technology upgrades, and funding that fails to keep up with these needs, making it difficult to maintain data continuity and coverage for users.¹¹

Western States Water Data Exchange

A fundamental principle of the WSWC mission and vision is that all levels of government must prioritize the collection, analysis and open sharing of reliable data regarding water availability, quality, and usage given its importance to research for sound science and data-driven decision making. One of the West's and the nation's most pressing challenges is addressing gaps in data and information to enable us to more sustainably manage our water resource. To address this challenge, the WSWC aimed to formulate a strategy and to develop a framework for its member states to begin to share important water supply, water use, and water administration datasets with each other, with federal partners and with the public. For over a decade the WSWC has been working to create a Water Data Exchange (WaDE).

Taking a principles-based approach, the WSWC has sought to articulate and put into action its vision for sharing water data. These principles include making transparency, openness, discoverability, and accessibility the default for public water data, while also ensuring the highest levels of security and privacy for stakeholders. Whenever possible, data is shared using developed standards and machine-readable formats – including thoroughly documented metadata – to promote interoperability, regional analyses, and user flexibility.

Since 2012, the WSWC has been laying the foundation for an effective program. This includes the mundane tasks of surveying and offering outreach to data providers, procuring additional resources for states who needed assistance, forming partnership to oversee the funds and other governance, development of the WaDE code and application, extensive assistance for implementation with state partners, and ongoing maintenance and updates. It's not glamorous work, but cumulatively it represents a tremendous step forward in not only the data-sharing and publishing practices within the states, but in the way we value the information we have concerning our resources. We are starting to think of water data beyond its limited and specific mission, and beginning to see the limitless value of high-quality data shared in a way that is easily discoverable and accessible.¹²

Western States Water and Data Assessment and Analysis Tool

The WSWC is developing WestDAAT, a dashboard that will be an online operational decision support and planning tool supporting user-friendly design choices. While a prototype has been built, its final operational functions will be driven by outreach that will involve the

¹¹Written testimony submitted to the Senate Committee on Appropriations, Subcommittee on Energy and Water Development, and Related Agencies, regarding USBR FY2022 Appropriations, June 24, 2021.

¹²<https://westernstateswater.org/wade-updates>

development of use cases that represent a range of stakeholders and water managers or decision-makers that include governors, state water right administrators [state engineers], state water planners, river basin managers, farmers and ranchers, and local irrigation district and groundwater managers. States and stakeholders are helping identify applications or deriving insights for water management and planning scenarios (e.g., simulating water calls during shortages, promoting water marketing, shepherding conserved water downstream, tracking water use for planning purposes, and administering water rights under state law, interstate compacts, and international treaties). WestDAAT will help make western states' water data more FAIR (Findable, Accessible, Interoperable, and Reusable). At present, data for over 2.5 million water rights is accessible through WestDAAT.

Internet of Water Coalition

The IoW Coalition is a group of organizations working together with federal, state, and local government partners to build foundational water data infrastructure across the U.S. and create a community of people and organizations using water data to make better decisions. The Coalition is a multi-sector collaboration co-led by five non-profit organizations: Duke University's Nicholas Institute for Environmental Policy Solutions, the Lincoln Institute of Land Policy's Center for Geospatial Solutions, the WSWC's WaDE, the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI), and the Water Data Collaborative.

Successfully modernizing our nation's water data infrastructure requires all of us: public agencies, utilities, NGOs, and private industry, working together toward this common goal. "Addressing that challenge, however, requires not just innovative new data discovery and access tools, but also a coordinated effort across the whole water data community to use common standards and share and exchange water data in common formats. We also need to stay close to the needs of water decision-makers and the wider community of water stakeholders to realize the vision of the Internet of Water: equitable and resilient water management outcomes," says Peter Colohan, the IoW Coalition Chair. The WSWC Executive Director is the vice-chair.

At present, IoW includes a network of organized water data hubs across the U.S. that increases the amount of data being shared by public agencies within and across jurisdictions in accessible and interoperable ways. The EPA and USGS are IoW hubs. IoW public agency water data inventories include more than 500 water data platforms across nine states and the federal government. Public agencies hold large amounts of data. A data inventory is the first step in understanding data fragmentation and identifying areas for improvement.

IoW also hosts a Peer-to-Peer (P2P) Network of nearly 1000 individuals in 40 states. From membership in our P2P Network to collaborative project partners to membership on our listservs, the IoW seeks to grow our connections. Members of this community of practice share their successes, challenges, and lessons learned. It is a network of people committed to improved water data management.

A significant challenge in sharing water data is the myriad use of different terms and definitions used to describe the data. Coming to Terms is the IoW's Water Terminology Collection that tracks definitions, synonyms, and homonyms of water-related terms used by public agencies. There are 7,400 terms in the collection, which continues to grow.

Geoconnex is a framework for data providers to allow their data to be easily found alongside relevant data from other organizations. Five organizations are now participating, providing geospatial information for four million data points, such as water diversions, USGS streamgages, EPA water quality monitoring sites, etc. Geoconnex provides persistent identifiers for real-world locations, allowing multiple data providers to publish their data tied to a specific location identified in the same manner across agencies.

Agricultural interests and organizations are welcome to join these efforts to expand and magnify the sharing and use of water data to improve decision making.

Federal Water Data Legislation

New Mexico Senators Martin Heinrich and Ben Ray Lujan, together with Representative Melanie Stansbury, have introduced legislation to establish a national water data framework. The WSWC welcomes the introduction of the Water Data Act and supports coordination and leveraging state and federal resources within a national framework consistent with IoW principles.

The Water Data Act will:

- Establish a national water data framework for sharing, integrating, and utilizing water data and supporting the development of innovative water data technologies and tools.
- Develop common standards for water data to unlock the power of existing and future data for use in countless tools and technologies to empower water users and managers.
- Organize and direct federal agencies that generate and use water data to work together.
- Support consultation, coordination, and partnerships with stakeholders by permanently authorizing the Advisory Committee on Water Information.
- Establish a new grant program under the Department of the Interior to invest in improving water data in partnership with state, local, and other organizations.
- Invest in next-generation water data technologies and tools to transform water management.

The Water Data Act would be a catalyst to organize and direct federal agencies that generate and use water data to work together, as well as support non-federal consultation and coordination. It would establish a new grant program under the DOI to invest in improving water data in partnership with state, local, and other organizations, which is an important step. Permanently authorizing the Advisory Committee on Water Information, of which the WSWC was a member, will also encourage the development of next-generation water data observations, technologies and tools to transform water management.

Critical and vital information is gathered and disseminated through a number of important federal programs under various agencies, including USDA agencies. Such information is used by federal, state, tribal, and local government agencies, private entities and individuals to forecast rainfall, snow, streamflow, flooding, drought and other climate-related events, as well as estimate future water supplies for agricultural, municipal, industrial uses, hydropower production, recreation, and environmental purposes. The WSWC has a long history of support for federal data-related observation, analysis, assessment and dissemination efforts. More needs to be done.

Again, we encourage the Subcommittee to consider USDA's role and the resources needed for USDA to participate in and benefit from building a national water data network, as well as partnerships to advance the use of water information to serve the needs of agriculture. Also, we want to emphasize the importance of maintaining and expanding the NRCS snow survey and water supply forecasting program.

Senate Energy and Natural Resources Committee

On June 14, 2022, the WSWC provided written testimony to the Senate Energy and Natural Resources Committee on the drought afflicting the West, highlighting some of the tools and programs that are increasingly important as we address the short and long-term impacts of drought and seek innovative solutions to water supply and demand management challenges in the West.

Chairman Machin, Ranking Member Barrasso, and members of the Committee, the WSWC appreciates the opportunity to submit testimony on the drought afflicting the West, and some of the tools to address this and future extreme events. The WSWC is a government entity, an instrumentality of each and every one of the 18 participating States, created by Western Governors in 1965. Member state representatives are appointed by and serve at the pleasure of their respective governors, advising them on a wide range of water policy issues and initiatives. The WSWC charge is to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future. These are difficult times for water in the West and an unprecedented time for agriculture.

Water is the lifeblood of the West. This is most apparent in the agricultural sector. Irrigated agriculture accounts for most of the diversion and consumption of freshwater resources in western States. Agriculture is a vital national industry that sustains many rural economies, provides important employment opportunities, and significant environmental benefits. The present drought, the worst in some 1200 years in the Southwest, together with growing and competing demands for already scarce water resources threatens economic and environmental sustainability, and inflicts serious social and emotional costs. Much of the West is arid and water availability is an ever-present constraint defining our economic and environmental wellbeing and quality of life. The WSWC recognizes the increasing demands on often scarce water resources. The current historic drought threatens the West and its agricultural base, as well as communities built on that base, and the important link to hydropower.

Much of the news surrounding the drought in the West has focused on dropping reservoir levels, particularly in the Colorado River Basin, due to declining precipitation, snowpack, and streamflows. “Since 2000, historically dry conditions have added stress to the Colorado River’s already over-allocated water resources. The Colorado River provides water to almost 40 million people in two countries, seven states, 29 federally recognized Indian tribes, and 4 million acres of farmland.” According to a University of Arizona study, the Colorado River supports \$1.4 trillion in annual economic activity – equivalent to 1/12th of total U.S. gross domestic product – and 16 million jobs in Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming. The drought has impacted regional water supplies and other resources, such as hydropower, recreation, and ecological goods and services.¹³

Colorado River Basin

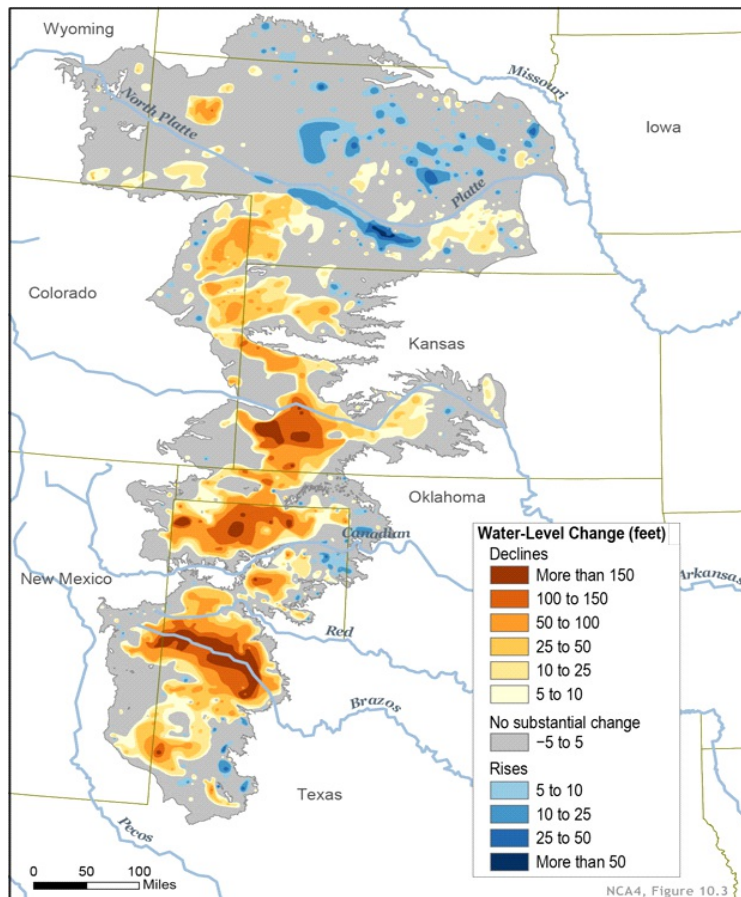


Ogallala Aquifer

While largely invisible, long-term drought has also led to groundwater over-drafting and declining aquifer levels. In the Great Plains, the Ogallala Aquifer underlies about 112 million acres, or 175,000 square miles, in parts of eight states, including: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. It is the principal water source for agriculture, public water supply, industry, and the environment. The USDA indicates that 30 percent

¹³www.drought.gov/watersheds/colorado

of all groundwater pumped in the U.S. is pumped from the Ogallala Aquifer. The Aquifer serves as an extensive underground reservoir providing water to grow cash crops making up the difference between crop needs and precipitation.



Drought by its very nature reduces precipitation requiring producers to pump more water for irrigation to ensure a reliable food and fiber supply. The correlation is clear that as we have more and longer droughts, the amount of water pumped from the Ogallala Aquifer increases as do the related water level declines.

The Ogallala is not an inexhaustible supply as many early users believed it would be. The USGS map on this page shows the levels of decline across the aquifer from predevelopment (roughly the 1940s) through 2015.

There are many localized areas where the aquifer is effectively dewatered to the point that it is no longer useful for agriculture. Without additional action at all levels of government and by individuals, we will see this critical resource eliminated.

At this point, we can't do much in the short-term to enhance our physical water supply situation significantly. We have turned to address water demand to find solutions.

In the West, water rights define both public and private uses, as well as opportunities for flexible management of existing supplies and demands. Water rights are limited by state law to beneficial consumptive use, and waste is prohibited. While water is considered a public good under state law, once "perfected," water rights are viewed as private property that may be bought, sold, leased and bequeathed. Well defined rights are a necessary component of efficient water markets that offer opportunities to help balance supplies and demands. Federal and tribal reserved water rights settlements, as well as state recognized rights to the use of water (including ground water) in Indian Country and on federal lands also serve to eliminate uncertainty and facilitate flexible arrangements to address shortages. The Arizona Drought Contingency Plan, developed within state law and facilitated by the Gila Indian Community, is an example of what may be possible.

For over 30 years, the WSWC has worked with the Secretary's Indian Water Rights Office in collaboration with NARF and others to promote the settlement of tribal water rights claims. This benefits both tribal and non-tribal communities by reducing the uncertainty related to unquantified tribal rights. The USBR has an important role related to construction of projects approved by the Congress as part of such settlements that provide "wet" water, as opposed to the recognition of "paper" water rights. Similarly, the WSWC continues to work with federal agencies to better define and quantify rights related to the use of water on federal lands under the reserved water rights doctrine. At present, there is no "one-stop-shop" for federal water rights data.

With federal and philanthropic financial support, over the past decade the WSWC has worked to identify and provide access to state water rights data and metadata, as well as aggregate water use data held by western states. The recent award of a WaterSMART grant from the USBR will help identify and quantify state-recognized rights to store and distribute water in the West, as well as rights related to USBR projects held by the DOI, USBR, or entities contracting for water delivered from federal projects.

Western States Water Data Exchange

A fundamental principle of the WSWC mission and vision is that all levels of government must prioritize the collection, analysis and open sharing of reliable data regarding water availability, quality, and usage given its importance to research for sound science and data-driven decision making. One of the West's and the Nation's most pressing challenges is addressing gaps in data and information to enable us to more sustainably manage our water resource. To address this challenge, the WSWC aimed to formulate a strategy and to develop a framework for its member states to begin to share important water supply, water use, and water rights administration datasets with each other, with federal partners and with the public. For over a decade, the WSWC has been working to create Water Data Exchange (WaDE).

Taking a principles-based approach, the WSWC has sought to articulate and put into action its vision for sharing water data. These principles include making transparency, openness, discoverability, and accessibility the default for public water data, while also ensuring the highest levels of security and privacy for stakeholders. Whenever possible, data is shared using developed standards and machine-readable formats – including thoroughly documented metadata – to promote interoperability, regional analyses, and user flexibility.

Since 2012, the WSWC has been laying the foundation for an effective program. This includes the mundane tasks of surveying and offering outreach to data providers, procuring additional resources for States who needed assistance, forming partnership to oversee the funds and other governance, development of the WaDE code and application, extensive assistance for implementation with state partners, and ongoing maintenance and updates. It's not glamorous work, but cumulatively it represents a tremendous step forward in not only the data-sharing and publishing practices within the States, but in the way we value the information we have concerning our water resources. We are starting to think of water data beyond its limited and specific mission, and

beginning to see the limitless value of high-quality data shared in a way that is easily discoverable and accessible.¹⁴

Western States Water and Data Assessment and Analysis Tool

The WSWC is developing and will soon publicly release WestDAAT, a dashboard that will be an online operational decision support and planning tool providing user-friendly design choices. While a prototype has been built, its final operational functions will be driven by outreach that will involve envisioning use cases. Use case will represent a range of stakeholders and water managers or decision-makers that include governors, state water right administrators [state engineers], state water planners, river basin managers, farmers and ranchers, and local irrigation district and groundwater managers. States and stakeholders are helping identify applications or deriving insights for water management and planning scenarios (e.g., simulating water calls during shortages, promoting water markets, shepherding conserved water downstream, tracking water use for planning purposes, and administering water rights under state law, interstate compacts, and international treaties). WestDAAT will help make western states' water data more FAIR. At present, data from over 2.5 million water rights, with their points of diversion and place of use are accessible through WestDAAT.

Internet of Water Coalition

The Internet of Water (IoW) Coalition is a group of organizations working together with federal, state, and local government partners to build foundational water data infrastructure across the U.S. and create a community of people and organizations using water data to make better decisions. The Coalition is a multi-sector collaboration co-led by five non-profit organizations: Duke University's Nicholas Institute for Environmental Policy Solutions, the Lincoln Institute of Land Policy's Center for Geospatial Solutions, the WSWC's WaDE, CUAHSI, and the Water Data Collaborative.

Successfully modernizing our nation's water data infrastructure requires all of us: public agencies, utilities, NGOs, private industry and individual water users, working together toward this common goal. "Addressing that challenge, however, requires not just innovative new data discovery and access tools, but also a coordinated effort across the whole water data community to use common standards and share and exchange water data in common formats. We also need to stay close to the needs of water decision-makers and the wider community of water stakeholders to realize the vision of the Internet of Water: equitable and resilient water management outcomes," says Peter Colohan, the IoW Coalition Chair. The WSWC Executive Director, Tony Willardson, is the vice-chair.

At present, IoW includes a network of organized water data hubs across the U.S. that increases the amount of data being shared by public agencies within and across jurisdictions in

¹⁴<https://westernstateswater.org/wade-updates>

accessible and interoperable ways. The EPA and USGS are IoW hubs. Other than WaDE, IoW public agency water data inventories include more than 500 water data platforms across nine states and the federal government. Public agencies hold large amounts of data. A data inventory is the first step in understanding data fragmentation and identifying areas for improvement.

Geoconnex is a framework for data providers to allow their data to be easily found alongside relevant data from other organizations. Five organizations are now participating, providing geospatial information for four million data points, such as water diversions, USGS streamgages, EPA water quality monitoring sites, etc. Geoconnex provides persistent identifiers for real-world locations, allowing multiple data providers to publish their data tied to a specific location identified in the same manner across agencies. USBR and agricultural interests and organizations are welcome to join these efforts to expand and magnify the sharing and use of water data to improve decision making.

Federal Water Data Legislation

New Mexico Senators Martin Heinrich and Ben Ray Lujan, together with New Mexico Representative Melanie Stansbury, have introduced identical legislation to establish a national water data framework. The WSWC welcomes the introduction of the Water Data Act, as a separate title of S. 4236. The WSWC supports coordination and leveraging state and federal resources within a national framework consistent with IoW principles, and has separately submitted written testimony on the bill.

The Water Data Act will: (1) support and invest in the development of innovative next-generation water data technologies and tools; (2) develop common standards for water data to unlock the power of existing and future data for use in countless tools and technologies to empower water users and managers; (3) organize and direct federal agencies that generate and use water data to work together; (4) support consultation, coordination, and partnerships with stakeholders by permanently authorizing the Advisory Committee on Water Information; and (5) establish a new grant program under the DOI to invest in improving water data in partnership with state, local, and other organizations. These steps will help transform water management.

Open Evapotranspiration Information

Water resources managers and agricultural interests across the western United States are reliant on ET information for irrigation scheduling, managing water deliveries, water supply planning, water rights administration, and hydrologic modeling and prediction. Some state agencies and agricultural enterprises use simplified methods to estimate ET that rely on crop coefficients and outdated irrigated area maps to estimate consumptive use volumes, while others rely on manual processing of satellite data over limited areas, making processing and coverage for all irrigated lands difficult and costly, and based on available staff, expertise, and agency funding.

The WSWC has actively supported the use of ET data for measuring and monitoring consumptive beneficial water use, which is the basis and limit for most western state water rights. While ET data may already exist for some regions, it is often not readily usable for modeling or decision making at the watershed scale. Consistency is also important in ET approaches and products, including irrigated lands identification that spans across political boundaries and covers the entire western U.S. Rapid accessibility and usability of field- and watershed-scale ET summary data is lacking for efficient integration into water management processes.

Additionally, there is a need for ET data from a trusted source that can easily be integrated with water rights information to assess and compare consumptive use for irrigated lands. For example, many state water agencies want to assess if hydrographic basins are truly over appropriated with respect to actual consumptive water use based on ET, rather than simply comparing total water right appropriations to system yield estimates.

The WSWC has expressed our support for OpenET proposals to leverage the work of a broad network of collaborators to develop and provide credible, transparent, automated, and easily accessible data on ET and consumptive use (CU) using satellite-based sensors and cloud computing.¹⁵ For many years, the WSWC has supported the use of satellite imagery to estimate ET and CU under actual field conditions over large areas, particularly the use of thermal infrared imaging data available from Landsat 7 and Landsat 8 and collected and archived by USGS.

Senator Cortez Masto has introduced S. 2568, the Open Access Evapotranspiration Data Act. OpenET addresses an urgent need for an operational system that can produce accurate consumptive use estimates that are available for automated data transfer to federal, state, and local water agencies that can also be used with irrigation management information systems.

Agrimet

WSWC also strongly supports the USBR's Agrimet network of weather stations that provide data for irrigation scheduling. Agrimet also serves as an important and efficient means for ground-truthing, calibration, and model validation tool for analysis of information products derived from satellite platforms such as OpenET. Agrimet provides basic data on precipitation, temperature, solar radiance, wind speed and humidity required to calculate reference ET and inform remote-sensing platforms. The Agrimet weather observing network suffers from the challenges of aging instrumentation infrastructure, deferred maintenance, need for technology upgrades, and funding that fails to keep up with these needs, making it difficult to maintain data continuity and coverage for users.¹⁶

¹⁵Ibid.

¹⁶Written testimony submitted to the Senate Committee on Appropriations, Subcommittee on Energy and Water Development, and Related Agencies, regarding USBR FY2022 Appropriations, June 24, 2021.

Reclamation's Drought Response Program

The Reclamation States Emergency Drought Relief Act of 1991¹⁷ and subsequent reauthorizations, under Title I, provide only temporary authority for some critical Reclamation actions. Reclamation's current Drought Response Program supports a proactive approach to drought and provides financial assistance to water managers and users via its WaterSMART program to: (1) develop drought contingency plans; (2) implement drought resiliency projects to build the capacity of communities to mitigate and respond to drought – increasing the reliability of water supplies, improving water management and operational flexibility, facilitating voluntary sales, transfers or exchanges of water, and providing benefits for fish and wildlife and the environment; and (3) undertake emergency actions to minimize losses due to drought through temporary construction activities and other activities, including water purchases and the use of Reclamation facilities to convey and store water.

There is a continuing need for making permanent the temporary authority allowing Reclamation the flexibility to continue delivering water to meet authorized project purposes, meet environmental requirements, respect state water rights, work with all stakeholders, and provide leadership, innovation, and assistance. The WSWC strongly supports legislation to permanently authorize Title I activities under the Reclamation States Emergency Drought Relief Act, and provide for adequate appropriations to meet priority needs and continue the Reclamation Drought Response Program. (WSWC Position #475)

SECURE Water Act/WaterSMART

The WSWC expresses our continuing strong support for implementation of the SECURE Water Act and WaterSMART program (WSWC Position #439). The SECURE Water Act¹⁸ noted, "...States bear the primary responsibility and authority for managing the water resources of the United States," while also recognizing that "the Federal Government should support the States, as well as regional, local and tribal governments...." The Act authorized a number of important programs to provide this much needed support. The WSWC supports technical and financial assistance to states and local watershed groups and water districts as an appropriate federal role, consistent with authorized federal programs. The WSWC has long supported watershed and basin-wide coordination that involves governmental entities and stakeholders interested in finding solutions to present and future water management challenges.

Section 9504 of the Act authorized 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. The Act also authorized a variety of activities to enhance the DOI's

¹⁷43 U.S.C. 2214(c)

¹⁸See Section 9501, SECURE Water Act, which Congress passed as Subtitle F of the Omnibus Public Lands Management Act of 2009 (Public Law 111-11).

water data efforts with significant progress made on the development of a national groundwater monitoring program, a brackish water assessment, and the establishment of a national water availability and use assessment.

U.S. Geological Survey

Section 9507 of the Act authorizes funding for enhancements to the USGS's National Streamflow Information Program (NSIP) in order to provide an improved national backbone focused on national needs and interests. Further, the Groundwater and Streamflow Information Program (GWSIP), 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 water resources planning and management decisions.

Section 9508 (c) of the Act authorized 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. USGS' GWSIP, WAUSP, and WUDR together provide support for vital water data that States and other public and private entities and individuals rely on.

Bureau of Reclamation

Through WaterSMART, USBR continues to work cooperatively with States, tribes, and local entities to plan for and implement actions to increase water supply through investments to modernize existing infrastructure and reduce demands to mitigate potential water conflicts. These programs include Water and Energy Efficiency Grants, Water Marketing Strategy Grants Small-Scale Water Efficiency Projects, Environmental Water Resources Projects, Title XVI Water Reuse Projects, Desalination, Basin Studies, Baseline Assessments, Reservoir Operation Pilots, Applied Science Grants, the Cooperative Watershed Management Program, Drought Program and Water Conservation Field Services Program.

May 16, USBR announced the selection of 22 projects to receive \$17.3 million to improve water efficiency that will support \$89.1 million in projects in California, Idaho, Kansas, Montana, Nebraska, Nevada, Oklahoma, Texas, Utah, Washington and Wyoming. Assistant Secretary for Water and Science Tanya Trujillo noted, "The funding for these projects is an example of how the Bipartisan Infrastructure Law is supporting the Department of the Interior's work to address the impacts of climate change by helping water districts become more efficient in water delivery." The grants will leverage non-federal funds for lining and piping canals, installing and upgrading water meters and timers, installing solar to reduce power demand, and adding automated gate controls.

The WSWC reiterates our continuing strong support for these WaterSMART programs.

While not under the jurisdiction of the Committee, we would also like to highlight other federal programs that are critical to western water management. (WSWC Position #473)

National Integrated Drought Information System

NIDIS is a multi-agency partnership that coordinates drought monitoring, forecasting, planning, and information at national, state, and local levels across the country. The U.S. Drought Monitor is a multi-agency product updated each Thursday to show the location and intensity of drought across the country. Drought categories show experts' assessments of conditions related to dryness and drought including observations of how much water is available in streams, lakes, and soils compared to usual for the same time of year.

The WSWC supports NIDIS and other federal programs and actions designed to improve our drought forecasting and response capabilities. NIDIS is directed by an Executive Council that is co-chaired by USDA, NOAA and the WSWC, and USBR is also represented.

Senator John Thune (R-SD) championed NIDIS reauthorization in 2018, declaring: "Congress must do everything it can to update and modernize drought tools like NIDIS, which our farmers and ranchers depend on to stay up-to-date and fully informed on drought conditions in their area." NIDIS will again be up for reauthorization in 2023.

Sub-Seasonal to Seasonal Precipitation Forecasting

The 2018 NIDIS reauthorization legislation also amended the Weather Research and Forecasting Innovation Act of 2017 to among other things authorize NOAA to create one or more pilot programs for assessing new or innovative information and technology capabilities and services.¹⁹ Subsequently, a 2020 NOAA report to the Congress recommended four pilot projects focused on improving S2S precipitation forecasting, that is, beyond present 5-15 day weather forecasts to extend out several weeks or months, even one or two years.²⁰

The purpose of the pilot projects is to improve S2S precipitation forecasting. As the report noted, NOAA pilot projects were necessary "...based on the existence of major climate phenomena that have huge economic impacts and for which current S2S predictive skill is too low to be effectively used by many stakeholders." Persistent drought conditions across the West highlight the need for better forecasting tools to allow federal, state and local water agencies, soil and water conservation districts, irrigation districts, farmers and ranchers to better prepare for and respond to drought. Forecasts at S2S time scales are needed to support farming decisions, such as seed and fertilizer purchases, field preparation and planting, and equipment investments, as well as water management decision, including shortage contingency planning, reservoir management, water project operations, etc.

¹⁹132 STAT. 54578

²⁰<https://repository.library.noaa.gov/view/noaa/27408>

NOAA's CPC has been issuing S2S precipitation outlooks since the mid-1990s. Their skill for the western U.S. has been minimal, just slightly better than predicting average weather conditions, and has shown little improvement over time. Forecasting precipitation at S2S timescales is scientifically challenging and has historically received little federal research support. The WSWC has actively supported a \$15 million programmatic increase in the U.S. Weather Research Program line item within NOAA's Office of Oceanic and Atmospheric Research appropriations account for S2S pilot projects toward improving our understanding of the science and opportunities to improve the skill of S2S outlooks.

Snow Survey and Water Supply Forecasting

USDA's Snow Survey and Water Supply Forecasting Program is administered by the National Water and Climate Center (NWCC) in Portland, Oregon, and funded through USDA's NRCS is critical for western water managers. Most of the annual streamflow in the western United States originates as snowfall that has accumulated in the mountains during the fall, winter and early spring seasons. As snowpack accumulates each year, NRCS hydrologists measure the snow and estimate the runoff that will occur when it melts. To predict this annual runoff, the NWCC manages and maintains a comprehensive network of manually-measured snow courses and automated Snow Telemetry (SNOTEL) monitoring sites throughout the West that collects and distributes timely, quality-controlled snowpack, water supply, and soil climate data to users westwide.

Funding for the program is critical, but has been flat at around \$9 million annually for about 20 years, while equipment, travel and staffing costs have increased leading to challenges due to understaffing and delayed or inadequate system maintenance. An anticipated 50% increase in the President's draft FY2023 budget and related appropriations did not materialize.

Such an increase would allow for expansion of the SNOTEL network, including implementation of an Objective Network Design approach for optimizing placement of new stations and sensor suites within the existing network configuration. This would include improving the accuracy and precision of core observations (air temperature, precipitation, snow water equivalent, and snow depth).

Western Governors and the WSWC have historically supported the program and continue to be deeply interested in the long-term health and capability of the program's data, products, and services and its role in generating vital snowpack and water-related information. Data on present and future water supplies are critical, as are data on present and future uses, if we are to balance supplies and demands during drought.

Again, we appreciate the opportunity to highlight some of the tools and programs that are increasingly important as we address the short and long-term impacts of drought and seek innovative solutions to water supply and demand management challenges in the West.

Senate Commerce, Science, and Transportation Subcommittee

On December 1, the WSWC provided written testimony to the Senate Committee on Commerce, Science, and Transportation Subcommittee on Space and Science regarding Landsat at 50 and the Future of U.S. Satellite-based Earth Observation.

The WSWC is a bi-partisan government entity created by Western Governors in 1965 that represents eighteen states. Our members are appointed by and serve at the pleasure of their respective Governors, advising them on water policy issues. Our mission is to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future.

Landsat

The WSWC has long supported the use of remote sensing technologies and data from Landsat missions to improve the measurement and monitoring of consumptive water use through a partnership between the NASA and USGS. We wish to express our longstanding and continued support for the past, present, and future Landsat missions, particularly maintaining data continuity and integrity with Landsat thermal-infrared (TIR) and reflected-light imagery.

Recently, the WSWC again reiterated its support for NASA's applied science program, which has led to the use of TIR data available from Landsat 8 and Landsat 9 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 (WSWC Position #487).

The WSWC has been an active advocate for TIR as an increasingly essential tool for water resource monitoring and management applications in the western United States. Landsat is the only operational satellite having both thermal data and a spatial resolution fine enough to map water-resources use at the level of agricultural fields, which is critical for water management and water rights administration. Landsat data pixel size is well matched to support land and water management applications.

The full suite of Landsat spectral measurements – both thermal and reflected – and with measurement accuracy and quality consistent with previous Landsat missions are important to western water managers and administrators. Typical applications include mapping irrigated lands (by far the predominant use of water in the West) as well as crop type, measuring and monitoring consumptive irrigation uses, mapping and determining the extent of surface and groundwater use, as well as allocating and administering rights to the use of water, including approval of water rights transfers and consideration of water right “calls.”

Water managers are increasingly using Landsat-derived maps to monitor and manage water rights, both spatial and temporal data (seasonal and inter-annual), to evaluate beneficial consumptive use, administer negotiated interstate agreements and monitor interstate compacts, determine

allocations for agriculture and urban use, estimate water-use by invasive species, monitor water and food sustainability and security, and to provide information to help forecast and moderate commodity market fluctuations.

State agencies using Landsat data as an element of their water planning and water rights management programs include the CA DWR, IDWR, Nevada DWR, Colorado Division of Water Resources; New Mexico Office of the State Engineer (OSE), Wyoming OSE, MT DNRC, Nebraska Department of Natural Resources, as well as the North Platte Decree Committee and a growing number of water conservation and irrigation districts. This data is also used extensively by federal agencies, including USDA's Agricultural Research Service, the USBR, and the U.S. Department of Justice.

None of these applications would be possible without Landsat providing both thermal and reflected imagery from the same platform, which ensures the accuracy of ET evaluations when wetting events occur, during periods of rapid vegetation growth, senescence and stress onset, and when crops are harvested or killed by frost, disease or pests. These are all precisely the types of localized conditions that Landsat is uniquely well-suited to monitor.

The WSWC strongly supports spatial resolution at land and water management scales to build on the 30-year global archive of Landsat data. Image procurement each 8 days, initially, and 4 days, eventually would be ideal. This means that multiple future Landsat missions need to be considered and planned simultaneously. There is a need to accelerate, not delay, policy and funding decisions in order to ensure there are no future data gaps and evaluate the need to build multiple satellites simultaneously. Uncertainty regarding future funding and TIR data availability has been an obstacle to building operational water resources planning, monitoring and management programs that are beginning to flourish.

The western water community worked hard to secure a place for the TIR imager onto both Landsat 8 and Landsat 9, and we will continue to work to ensure that quality TIR imagery remains available as part of future Landsat missions. We also expect to see further innovations in the use of TIR data under a continuation of the existing policy of no-cost data access for all archived and future scenes.

OpenET

Landsat data is also a key component of OpenET, which uses best available science to provide easily accessible satellite-based estimates of ET for improved water management across the western United States. Using the Data Explorer, users can explore ET data at the field scale for millions of individual fields or at the original quarter-acre resolution of the satellite data.

The OpenET consortium is a broad network of collaborators to refine, develop applications, and operationalize the use of OpenET, providing credible, transparent, automated, and easily accessible consumptive water use data across the West. There is a need for monitoring technologies

such as OpenET that provide more timely data availability and more refined spatial coverage. Previously, access to satellite and ET data was generally limited and expensive, keeping it out of the hands of many water users and decision-makers. OpenET allows water managers to assess how much water is being used via a cost-effective and easy-to-use web-based platform, filling a critical water data management gap. Landsat 9 and ongoing efforts to define the next Landsat mission help ensure that the data necessary for an operational OpenET program are available.

Agrimet

Similarly, the WSWC has supported the USBR's Agrimet network of weather stations that provide data that serves as an important and efficient ground-truthing, calibration, and model validation tool for analysis of information products derived from satellite platforms such as OpenET. Agrimet provides basic data on precipitation, temperature, solar radiance, wind speed and humidity required to calculate reference ET and inform remote-sensing platforms. The Agrimet weather observing network suffers from the challenges of aging instrumentation infrastructure, deferred maintenance, need for technology upgrades, and funding that fails to keep up with these needs, making it difficult to maintain data continuity and coverage for users.

NOAA

Recently, the WSWC readopted a resolution on Strengthening the Resiliency of Our Nation to the Impacts of Extreme Weather Events (WSWC Position #483). The resolution recognizes present water resources planning and sound decisionmaking depending on our ability to understand, monitor, predict, and adapt to droughts, floods, extreme storms, and other weather events. In the West, that requires accurate and timely data on precipitation, and the WSWC has specifically called for "...advancing research within the physical sciences, and dynamical and statistical modeling to improve our subseasonal-to-seasonal (S2S) forecasting capabilities."

The resolution adds, "Investments in observations, research, forecasting, and monitoring the development of extreme weather events provide an opportunity to significantly improve real-time water rights administration, planning and project design, and forecast informed reservoir operations (FIRO) to maximize storage, avoid or minimize the loss of life and property, as well as mitigate economic and environmental damages."

The WSWC has and continues to urge NOAA to place a high priority on investments to improve S2S precipitation forecasting, specifically at an operational time scales, as well as demonstrating the potential for improving extreme event forecasting at all time scales. Moreover, the WSWC supports climate trend analysis associated with extreme storms and has specifically called for advancing research within the physical sciences, and dynamical and statistical modeling to improve our S2S forecasting capabilities.

Lastly, the WSWC supports reauthorization of the NIDIS, and co-chairs the NIDIS Executive Council together with NOAA and USDA.

WATER DATA EXCHANGE

In 2022, progress with the Water Data Exchange (WaDE) Program focused on three areas: (1) WaDE Financial Updates; (2) Technical Activities; (3) Key Outreach and Coordination Activities.

Financial Updates

The agreement and necessary paperwork with the USBR for our WaterSmart Grant was finalized. This \$200,000 grant is effective from April 1, 2022, through March 2024. Additionally, we finalized a \$255,000 one-year agreement with the Water Foundation, effective January 1, 2022, and renewable for another year through December 2023. The Water Foundation funds are being used as a non-federal match for the WaterSmart Grant.

The WaDE Program secured a total of \$1.310 million to fund development through 2023. This total includes the two grants mentioned above, as well as funding from the Moore and BHP Foundations via Duke University and the Internet of Water. Approximately \$250,000 of this funding is dedicated to contracting expenses for the Western States Water Data Access and Analysis Tool (WestDAAT). WestDAAT serves as a frontend dashboard for WaDE, providing standardized access to water rights and use data across eighteen western states.

On September 15, 2022, the WSWC concluded the Moore Grant contract. This \$633,000 subcontract with Duke University funded the second phase of modernizing the WaDE architecture into a cloud-based system from January 2019 through mid-September 2021. An additional \$150,000 extended the grant through September 2022 to support the National Water Use Data Workshop, an updated state capabilities report, and a water use data pilot project with the USGS.

The WaDE Program remains supported by three active grants from the BHP Foundation, the Water Foundation, and the USBR, which will continue funding through December 2024. Furthermore, we are collaborating with the IoW Coalition on a potential cooperative agreement with the USBR to expand WestDAAT's search tools to be interoperable with RISE, AgriMet, and SNOTEL data.

Technical Activities

1. Development of the Western States Water Data Access and Analysis Tool

In February 2022, we contracted Don't Panic Labs to complete building out WestDAAT for the water rights data based on their earlier prototype. As of September 2022, the state-of-the-art dashboard is complete, providing fifteen filters and tools to support data query, analysis, and download across 17 WSWC Member States. We are currently importing Alaska's data.

2. Water Rights Legal Status Terminology

The WSWC General Counsel is leading an initiative to categorize 123 unique legal status terms across the 17 Western States into a simplified set of terms. This will allow WestDAAT users to query regional water rights with similar legal statuses more effectively. The General Counsel is currently compiling definitions for each state's legal status terms to identify similarities and differences. We anticipate completing this project by Spring 2023.

3. States Capabilities Report Update

In 2014, the WSWC published a foundational report, "Western State Water Program Capabilities Assessment Survey & Report." This document was the result of extensive collaboration and surveys conducted between November 2011 and June 2014, and it has guided the WaDE Program's efforts for the past decade.

WSWC staff has now completed an updated report focusing on the improvements in state capabilities for sharing water use data over the last ten years. To ensure accuracy, we revised the state-by-state data capabilities summary by reviewing state websites, drawing on our experience working with Western States, and incorporating information from the August 2022 National Water Use Data Workshop. Additionally, each state's point of contact reviewed and edited their respective summaries.

The report highlights progress in four key categories: (1) information technology; (2) data collection; (3) legislation, funding, and initiatives; and (4) National water data integration efforts. We plan to publish the report in early November and will provide a dedicated webpage in the Spring 2023 Update Report.

4. Updates to the WaDE Data System and Data Imports

We have revised and re-imported water rights data for Idaho, Montana, and Oklahoma, and we are currently working on Utah's data. Our next steps include importing Alaska's water rights data, updating water rights data for North Dakota and California, and importing their corresponding withdrawal data. Additionally, we evaluated stream gage data for Oregon and Nebraska and will be importing those into the WaDE database. We determined that Washington's stream gage data is currently unavailable in a usable, machine-readable format.

Key Outreach and Coordination Activities

1. State Engineer Persona Focus Group - WestDAAT Workshop

In conjunction with the WSWC Summer Meetings in Polson, Montana, the WSWC hosted a hybrid WestDAAT demonstration workshop for state engineers, directors, and other attendees. The session aimed to familiarize participants with WestDAAT through hands-on practice with potential

applications. The workshop was attended by 10 in-person and 16 remote participants. Further details are available on the workshop webpage, and a discussion summary will be included in the WestDAAT Stakeholder Engagement Report later this fall.

2. The 2022 National Water Use Data Workshop in Salt Lake City

On August 16-18, 2022, the WSWC, in cooperation with the USGS, ICWP, and IoW Coalition, held a National Water Use Data Workshop in Salt Lake City, Utah. Accurate water use data is critical for supply planning, drought response, and water rights administration; however, states and the USGS continue to face challenges in estimating and reporting this information.

Representative Melanie Stansbury (NM) opened the workshop via video, highlighting the Water Data Act and the essential role of stakeholder partnerships in managing water resources. Drawing on her extensive career in water policy, Representative Stansbury emphasized that sustainable management requires inclusive data access and scientific collaboration.

The workshop objectives were to: (1) provide a platform for state agencies to share water data management efforts; (2) connect state IT and water management staff with the USGS Water Mission Area and the WSWC's WaDE programs; (3) exchange information on data-sharing methods and their benefits; and (4) identify challenges in data sharing and explore potential solutions.

The event drew approximately 100 participants from 32 states, representing 67 different federal, state, private, and academic organizations. Thirty speakers presented on data collection initiatives, modeling methods for surface and groundwater use (including agriculture and public supply), and software tools for visualizing and downloading water use data.

In a post-workshop survey, 42 participants provided valuable feedback about their experience and shared many insightful suggestions and comments. The overwhelming majority highly valued the workshop and indicated that they "will likely" or "very likely" participate in a future workshop in 2024. We will publish the survey results soon and share them on the workshop webpage.

3. IoW Coalition Inaugural Meeting

On September 23, WSWC Executive Director participated in the inaugural meeting of the recently formed IoW Coalition. WSWC Executive Director serves as the vice chair of the IoW Coalition, and WaDE Program Manager serves on the steering committee. The IoW Coalition is a multi-sector collaboration co-led by five nonprofit organizations: the Lincoln Institute of Land Policy's Center for Geospatial Solutions (CGS), Duke University's Nicholas Institute for Environmental Policy Solutions, the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI), the Water Data Collaborative (WDC), and the WSWC's WaDE. One representative from each of these organizations will serve on the IoW Coalition's steering committee, and two representatives from other organizations in the water sector. The Coalition

includes representatives from California, New Mexico, and Texas, which all have major water data-sharing initiatives.

4. Other State and Federal Outreach Activities

- August 24: USBR/WaDE/IoW Coalition Call
- September 15: Open Environmental Data Project (OEDP) Brain Trust: Collaboratively managed data stewardship webinar
- September 21: EPA - Introducing the REUSExplorer
- September 28: WUDR Open Forum: Developing the Texas Water Data Hub Using a Human-Centered Design Approach
- October 4: WaDE Program Discussion with Utah Division of Water Rights
- October 4-7: 2022 NASA Applied Sciences Program, WWA0 & Water Resources Team Meetings. Salt Lake City, Utah
- October 6: WestDAAT Demo to the NIDIS meeting
- October 7, 2022 - WestDAAT Demo and Visit to Office of Rep. Susie Lee (NV)

Other Outreach Activities with Organizations, Academics, and Groups:

- August 30: WaDE: Release Readiness/Intro to Foundation Team. Don't Panic Labs
- August 31: ICWP Water Data and Science Committee Meeting
- September 15: OEDP Brain Trust: Collaboratively managed data stewardship webinar
- September 20: Rethinking Water 2022 Forum, Columbia Water Center, Virtual
- September 27: Focus Group call with Utah Water Research Lab Director -WestDAAT
- September 30: WSWC Grant check-in call: Water Foundation
- October 6: IoW Coalition and WSWC Call: USBR Cooperative Agreement Scoping
- October 7: WestDAAT Demo to National Water Resources Association staff

WESTERN STATES FEDERAL AGENCY SUPPORT TEAM

The Western States Federal Agency Support Team (WestFAST) promotes collaboration between the WSWC and fourteen federal agencies responsible for water resource management in the West. Formally organized in 2008 following WGA recommendation, WestFAST facilitates the coordination of federal activities and enhances partnerships between state and federal agencies on priority water-resource issues.

WestFAST works closely with the WSWC to achieve effective cooperation among member states and partners in the conservation, development, and management of water resources. Water policy experts and managers from the fourteen member agencies form a flexible team that enables interaction initiated by the WSWC, individual states, or the federal government. High-level Principals (political, senior career, or SES) are designated by each agency to engage with the WestFAST Team and collaborate directly with the WSWC. Additionally, the agencies support a federal liaison to coordinate efforts between the agencies and the WSWC, providing opportunities for cross-agency discussion and knowledge sharing.

WestFAST member agencies include: USDA: 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); U.S. Department of the Interior (DOI): Bureau of Land Management (BLM), Bureau of Reclamation (USBR), National Park Service (NPS), U.S. Fish and Wildlife Service (USFWS), and U.S. Geological Survey (USGS); NASA; National Oceanic and Atmospheric Administration (NOAA); and the Department of Justice (DOJ): Affiliate Member. The current WestFAST/WSWC Federal Liaison Officer is Heather Hofman.

Following a 2022 Strategy Session, WestFAST identified key focal areas for collaboration with the WGA and WSWC, including data, drought, wildfire, and infrastructure. To facilitate information sharing, WestFAST continued to:

- Hold monthly team calls and participate in WSWC committee workgroups.
- Support WestFAST Principals meetings to review accomplishments and federal water policies.
- Produce a monthly newsletter covering programs, funding, and meetings.
- Host webinars and informational sessions on western water resource challenges.

Specific priority initiatives include:

- Water Data and Infrastructure: Supporting the WaDE 2.0 and WestDAAT platforms, as well as federal monitoring programs led by the USGS, NRCS, NASA, and EPA.
- Forecasting and Research to Operations (R2O): Partnering with CA DWR to improve sub-seasonal to seasonal (S2S) forecasting and collaborating with NASA's WWA0 to transition remote sensing technologies into operational programs.

- Resilience and Extreme Events: Supporting WSWC efforts to improve responses to drought and floods, including ongoing support for NIDIS.
- Regulatory and Legislative Coordination: Working with states to implement the BIL and coordinating on issues such as CWA jurisdiction, WOTUS, the Water Reuse Action Plan, and tribal water status.
- Legal and Technical Engagement: Co-hosting workshops on the water quality/quantity nexus and working with the Federal Non-Tribal Water Claims Subcommittee to resolve water rights claims.

WestFAST remains committed to regular engagement with agency staff, WestFAST Principals, and the WSWC Executive Committee to advance these policy initiatives.

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.

The following is a summary of significant activities and events in 2022 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

Governor Mike Dunleavy (R-AK) said: "The state of our fiscal situation has vastly improved from the budget deficit of \$1.6 billion I inherited upon taking office. Thanks in part to our fiscal restraint over the past three years, we're on track for a budget surplus in the current fiscal year for the first time in a decade. Based on current trends, we could see revenue in the current year increase by more than \$281 million over the fall forecast and by \$466 million in the upcoming fiscal year. This can generate a surplus this year, and next, even without one-time federal funds."

Governor Doug Ducey (R-AZ) highlighted several issues in his address, including the need for thoughtful water planning and infrastructure. "One area where our work clearly isn't done is on water. We passed a monumental policy that we were told would never happen – the Drought Contingency Plan. After that one, I determined – in Arizona, if we can do this, we can do just about anything. Then last year, with Speaker Bowers' leadership, we put our money where our mouth is: \$200 million to invest in the water technology of the future. Now, with resources available in our budget, a relationship with Mexico that we've built and strengthened over the last seven years, and the need clear - what better place to invest more? Instead of just talking about desalination – the technology that made Israel the world's water superpower – how about we pave the way to make it actually happen? So Speaker Bowers, President Fann and I have been working, and we propose that we make a historic investment: \$1 billion. Our goal: Secure Arizona's water future for the next 100 years." He continued, "Our state has grown and thrived because of the foresight of past leaders on this issue - Carl Hayden, Barry Goldwater, Bruce Babbitt and Jon Kyl. The result: the Central Arizona Project, the Salt River Project, the Hoover Dam, the Roosevelt Dam. Now it's our turn, our moment, to leave this state better than we found it. Let's rise to the occasion."

Governor Jared Polis (R-CO) highlighted the importance of water. "Because water is the lifeblood of our state and our critical agriculture industry, we must work together across industries,

divides, and state boundaries to secure a sustainable water future for all Coloradans. We will continue to protect and aggressively assert Colorado's water rights under all existing water compacts. And I am also committed to updating Colorado's Water Plan to make it more climate resilient, and ensure that our cities, farms, and streams can thrive for generations to come."

During Governor Brad Little's (R-ID) address, he reflected on the strength of Idaho's economy and state budget before detailing his plan to put more money back in the pockets of Idahoans and make strategic investments in education and other areas to propel Idaho even further ahead. His LEADING IDAHO plan included strengthening the commitment to agriculture and natural resources with historic investments in projects to aid the economic vitality of rural Idaho. Combined, the Governor's budget provides more than \$850 million to improve the quantity and quality of water throughout the state. He said: "Idaho has a strong track record of giving back through tax relief and by making significant investments in the areas that impact Idahoans' daily lives the most. Things like...clean and plentiful water for a strong agricultural sector; improved broadband access; increased medical capacity to support a healthy Idaho and our healthcare heroes; better access to outdoor recreation and improved land and fire management; opportunities through investments in career technical education, colleges, workforce development and housing, and childcare."

Governor Laura Kelly (R-KS) said: "I'm excited to share with you that my budget this year also restores full funding to the State Water Plan for the first time in 15 years. The water plan is a five-year blueprint for action that will ensure that we have a reliable, quality water supply to support not only the needs of Kansas communities, but a thriving farming economy. Because everyone in this room knows, as I do, that agriculture built the Kansas economy, and it will always be the backbone of our state. And, despite all of the obstacles that our farmers and ranchers have faced, and thanks to their unrivaled persistence, Kansas is on its way to another record year of agricultural exports."

Governor Pete Ricketts (R-NE) said: "After our people, water is Nebraska's greatest natural resource. To secure Nebraska's water supply, I am recommending \$500 million to construct a canal and reservoir system from the South Platte River. Access to this water enables our farmers and ranchers to produce. It protects quality drinking water. It keeps electric generating costs manageable, and it ensures Nebraska remains the best place in the world to live, work, and raise a family. If we fail to secure our supply from the South Platte River, we could expect to lose 90 percent of the water that currently comes to us from Colorado. We must act to preserve, protect, manage, and steward our water supply for our future Nebraskans. I am also requesting \$200 million be allocated to the water projects presented by the STAR WARS Special Committee. These projects will also secure our access to water - and they provide the additional promise to grow the good life in tourism and recreation. In addition, I am recommending: \$5 million to support repairs on the Peru Levee; \$60 million to restore and protect drinking water systems in rural areas, such as Cedar and Knox Counties; and \$23 million in repairs to the Fort Laramie Gering canal tunnel."

Governor Doug Burgum (R-ND) delivered his 2022 State of the State Address, highlighting the state's efforts to address North Dakota's workforce challenges and to grow and diversify the economy. He noted the worst drought conditions recorded in the state's 133-year history. "Using our whole-of-government approach we provided over \$6 million in water supply and transportation aid to keep livestock herds watered and fed, leaving no stone unturned to help our farmers and ranchers. For the first time in recent memory, our state's firefighters fought intense wildfires in every single month of the year 2021."

Burgum talked about efforts to secure water supplies. "This legislature has committed an additional \$50 million for the Red River Water Supply Project. It's going to provide emergency water supply to central and eastern North Dakota. And we're talking about providing water to 40% to 45% of the people in the state. We're talking about the entire Red River Valley and everything that's outside of the Missouri River Basin. It's a huge piece of our economic engine. But we're going to have this backup water supply. It's only been promised, it's been pursued, it's been planned, for six decades."

He also talked about the Garrison Diversion and finally developing the infrastructure to transport Missouri River water across the continental divide to the eastern part of the state. "This is why we went through the pain of flooding the land, the tribal lands, the state lands, flooded all of this great bottom land in the Missouri River, which everybody loves now for fishing, but all that flooding of all that acreage was meant to provide a million acres of irrigation and water supply for the rest of the state. That was the vision of Garrison Diversion. It wasn't all about fishing. We love the fishing, but it's not a million acres, we're irrigating about 11,000 acres. There's not been a drop of water come to the east. We finally have a chance to get this thing done, that along with NAWS [Northwest Area Water Supply Project] to get Missouri River water up to the north central part of the state, Minot and the Souris River Basin. These are huge things. The legislature understands this. They're investing in this infrastructure. And this will provide more certainty and resiliency for our farmers and ranchers in the rest of our state. They know they can rely on the abundant clean water supply provided by the Missouri and like flood protection for Fargo, these water supply projects, super critical. It's about time. Give yourselves a hand for helping to make this happen. Way to go, team."

On February 7, Governor Kevin Stitt (R-OK) delivered the 2022 State of the State Address to the 58th Legislature. Governor Stitt outlined his legislative agenda for 2022, focusing on education, law enforcement, business, taxes, and investments in infrastructure. He said: "I want to praise my colleagues in the Legislature for being fiscally conservative and responsible with taxpayer dollars. In the face of criticism, we stayed the course.... Our fiscal house is in order. We're coming off a year where we made record investments in education while still cutting taxes. We're fourth in the nation in budget reserves. Our state's credit rating has gone up. We've held state agencies accountable by putting the right leaders in place and aligning them with a common vision."

Governor Kristi Noem (R-SD) said: "In order for us to defend liberty, government must remain limited. And part of how we do that is through our budget process – through our commitment to fiscal responsibility. I want to assure every South Dakotan of this: we will not use one-time money

– whether federal or state dollars – for ongoing expenses or new programs. It would be irresponsible to create or expand any ongoing programs with one-time dollars. A month ago, I reported to you the exceptional revenue growth that South Dakota has enjoyed because of the steps that we took in South Dakota. Since that time, we've received even more great news, which I'm prepared to share with you today. In addition to the estimates I gave you back in December, our economy is even stronger than expected. Ongoing general fund revenues were \$20.8 million higher than the revised estimates from December. So far this fiscal year, we're \$116 million above ongoing legislative adopted estimates. That's fantastic news, and we should return a portion of these strong revenues to the people of South Dakota."

Governor Spencer Cox (R-UT) said: "This past year was one of the driest on record, with 98% of the state experiencing extreme drought conditions. Utahns stepped up in a big way, conserving billions of gallons of water to help us through this crisis. Tonight, I encourage you to vote for bills carried by Reps. Robert Spendlove and Ray Ward to prioritize water storage and dramatically improve water conservation in our state. While water is the greatest limiting factor to our growth, there are several other pressing issues we must address including air quality, transportation, housing affordability and other infrastructure needs. Our goal should never be to grow for growth's sake. We must prioritize a quality of life that all Utahns can enjoy."

Governor Jay Inslee (D-WA) talked about the importance of salmon recovery and proposed \$187 million in his budget toward that goal. "We must restore the green corridors along rivers and streams known as riparian habitat, which keeps the water clean and cool. Our legislation sets a unique ecological blueprint for each river and stream habitat to conserve and restore these critical lands." As he spoke of Washington's legacy, he said that during his time as Governor, "We came back from disasters such as the Skagit Bridge collapse, the Oso landslide, historic wildfires, heat waves, drought and now unprecedented flooding. You as legislators have a lot to be proud of. But now we are going to be called upon to do more."

Governor Mark Gordon (R-WY) began his State of the State Address by remembering U.S. Senator Mike Enzi and Wyoming State Senator Leland Christensen. "They both have a history in this body and continued to serve Wyoming long after they made their impressions here. They will both be sorely missed." Governor Gordon also touched on water. "As ranchers, Jennie and I know how critical water is to our lives. Water in Wyoming is sacred, and we need the ability to stand our ground when it comes to protecting it. The ongoing drought in the West has raised the stakes over water rights in the Colorado, Snake, Platte, and Yellowstone drainages. When drought or the federal government threatens Wyoming water users, our agricultural producers, our industry, our communities; we cannot afford to be shorthanded or unprepared. That is why you will see that I have asked for additional resources for both our State Engineer and our Attorney General."

Agriculture

Farm Bill Conservation Programs

Title II Conservation Program: USDA Updates

On February 2, the House Agriculture Committee’s Subcommittee on Conservation and Forestry held a virtual hearing to review the Farm Bill conservation programs. Witnesses included: Terry Cosby, Chief, NRCS; and Zach Ducheneaux, Administrator, Farm Service Agency (FSA). Cosby noted improved timing for FY22 advisory allocations of Farm Bill funds to the states, to ensure that states “have the time they need to set sign-up dates and work with their customers on accessing the financial or technical assistance that is right for them.”

Cosby provided updates on FY21 programs, including: (1) the Environmental Quality Incentives Program (EQIP) enrollment and the EQIP Conservation Incentives Contracts option pilot program across four states; (2) the Conservation Stewardship Program (CSP) enrollment and renewals, as well as the CSP Grassland Conservation Initiative; (3) new partnership projects under the Regional Conservation Partnership Program (RCPP), including projects with Alternative Funding Arrangement components; (4) Agriculture Conservation Easement Program (ACEP) enrollments, including Wetlands Reserve Easements and five Wetland Reserve Enhancement Partnership projects to acquire and restore private wetlands; (5) planning and technical assistance provided under the Conservation Reserve Program (CRP); and (6) NRCS and FSA efforts with selected partners to support CRP Monitoring Assessment and Evaluation Projects.

Cosby said the USDA “is engaged in a whole-of-government effort to combat the climate crisis, and over the past year NRCS has announced several targeted initiatives through EQIP to advance this priority. These opportunities include targeted EQIP funds for climate-smart practices in FY21, an 11-state EQIP cover crop pilot in FY22, and deployment of a nationwide EQIP Conservation Incentives Contracts program in FY22.” He noted that the cover crop pilot project is still accepting enrollment and will provide \$40 million in addition to funding available through other conservation programs, “enabling states to offer a streamlined enrollment process....” He said that the NRCS and the Forest Service recently announced a \$48 million investment in 41 projects to mitigate wildfire risk, improve water quality, and restore healthy forest ecosystems on public and private lands through the Joint Chief’s Landscape Restoration Partnership (LRP). Cosby noted that the USDA continues to use existing programs and funding, but the programs remain oversubscribed, with demand “well exceeding available funding.”

Title II Conservation Programs: Stakeholder Perspectives

On September 20, the House Agriculture Subcommittee on Conservation and Forestry held a hearing on stakeholder perspectives of Title II Conservation programs in the Farm Bill. Witnesses included Michael Crowder, National Association of Conservation Districts (NACD); Nicole Berg,

National Association of Wheat Growers; Lori Feath, Land Trust Alliance; and Shayne Wiese, Iowa Cattlemen's Association and National Cattlemen's Beef Association.

Crowder noted that NACD established a Farm Bill Task Force to develop policy and to comprehensively review the USDA's conservation programs. He emphasized the need for greater flexibility to adapt to local needs, as "America's vast private lands differ greatly in respect to the natural resources, production systems, and environmental conditions." He called the EQIP the most locally adaptable working lands program, and cautioned Congress about considering any changes that would make the program less flexible. He encouraged Congress to evaluate the CRP to ensure that this critical conservation tool properly fits into a modern-day conservation title, particularly when it comes to including prime farmland in the program.

Crowder said: "While NACD does not support removing existing CRP acres, we must ensure that the focus of the program continues to be enrolling only the most environmentally sensitive land and buffers that facilitate continued agriculture production on adjacent farmland." He noted that the CSP has been found to be complicated and cumbersome from both a producer and administrator perspective, and recommended simplifying the application process. Similarly, while the RCPP has increased conservation opportunities and enabled leveraging of non-federal resources, the program needs to be simplified and streamlined so that projects don't take as long to "break ground."

Berg said: "Reviewing wheat growers' use of the Natural Resources Conservation Service (NRCS) delivered programs over the last few years, we found that wheat growers predominantly use the EQIP and CSP, with a few growers working through RCPP projects. Between 2018 and 2021, wheat farmers entered over 7500 contracts with NRCS through these conservation programs. Looking at the use of these programs across all states several of the top conservation practices wheat growers are adopting through the programs include cover crops, pest management, nutrient management, tillage management, terraces and grassed waterways. The flexibility and local decision making included in the Farm Bill conservation programs is vital to their success."

Berg noted that the programs are also becoming increasingly complex, and additional outreach and education on program changes and opportunities are needed. She noted the significant environmental and natural resource benefits of the programs, including improving water quality and quantity.

Feath made several recommendations regarding the Agricultural Conservation Easement Program, including better coordination with the RCPP and the creation of a similar Forest Conservation Easement Program.

Wiese said: "Recently, I applied to receive EQIP cost-sharing funding for a water infrastructure project on my operation. After months of waiting with no approval, I finally gave up and completed the project without assistance from USDA. I see many other opportunities on our ranch to improve the land and environment with EQIP funding but simply do not have the confidence in the process to apply again. We could improve upon soil-health-building grazing

practices, provide more erosion control, and promote cleaner water resources. I would rather budget responsibly and pay for it ourselves to help the ranch be environmentally progressive than wait for assistance and lose valuable time. I am not alone in this. Ranchers care about the environment and their livestock, and any improvement on the land is something we are enormously proud of. By creating additional hurdles for producers that want to utilize these programs, the committee and USDA limit access to these programs while simultaneously limiting the government's ability to record our environmental progress." He also noted the importance of flexibility and technical assistance to accomplish projects.

House Agriculture Subcommittee on General Farm Commodities and Risk Management

On February 8, the House Agriculture Subcommittee on General Farm Commodities and Risk Management held a virtual hearing to review farm policies with Robert Bonnie, USDA Undersecretary, Farm Production and Conservation. Regarding severe drought in the West, he noted that FSA lowered the drought intensity threshold to trigger assistance for water hauling expenses, and invested \$15 million in a block grant for "producers in the Klamath Basin to reduce irrigation demand in parts of California and Oregon."

Bonnie said that USDA's discretionary financial resources and agency expertise have been historically underappreciated in efforts to deal with climate change, and that the agency is seeking to harness those resources and focus on partnerships to develop an ambitious plan for climate action. "Our efforts are based on voluntary, incentive-based approaches. Our plan centers on leveraging our existing programs, on creating new opportunities and markets for climate smart agriculture and forestry, on ensuring rural America plays a key role in our transition to cleaner sources of energy, and helping producers and communities adapt to the impacts of climate change – adverse weather, increasingly severe drought, storms, and flooding. We've developed an Action Plan for Climate Adaptation and Resilience that identifies the most significant risks that climate change poses to the agriculture and forestry sectors and lays out Department-scale actions to best prepare our stakeholders to address these current and future climate change threats. We're also investing in research and development to make sure that we have the innovative technologies, data and quantification tools required to best position producers in this effort." USDA is working on Partnerships for Climate Smart Commodities to finance climate-smart farming and forestry through partner-led, large scale pilot projects.

NRCS funding in FY20 and FY21 included: (1) \$330 million for RCPP, plus \$75 million in RCPP Alternative Funding Arrangements; (2) \$41.8 million through EQIP to help agricultural producers mitigate the impacts of drought; (3) \$21 million in collaboration with DOI's WaterSMART Initiative to improve water conservation and drought resilience; and (4) \$46 million through the Joint Chief's LRP.

Watershed Infrastructure Projects

On April 21, USDA Secretary Tom Vilsak and White House Infrastructure Coordinator Mitch Landrieu announced a second round of funding providing \$420 million for 132 infrastructure projects in 31 states, including rehabilitating dams, and flood prevention and watershed restoration projects. Watershed and flood prevention operations (WFPO) funds provide technical and financial assistance for new watershed infrastructure in western states including projects in Arizona, California, Colorado, Montana, Nebraska, Oklahoma, Oregon and Utah. Watershed rehabilitation program (REHAB) funds to upgrade dams constructed with the assistance of the NRCS in western states include projects in Kansas, Oklahoma, and Texas. Vilsak noted that the programs help communities rebuild after natural disasters and prepare for future events.²¹

Rural Partners Network

On April 20, Vilsak and White House Domestic Policy Advisor Susan Rice announced the formation of the USDA-led Rural Partners Network to assist rural communities to navigate federal funding opportunities Vilsack said: “Rural America is incredibly diverse – economically, racially, culturally and geographically. What makes sense for one community may not for another. The Rural Partners Network will help communities get funding for investments that create long-lasting benefits for their communities, especially those that have been overlooked in the past. By providing one-on-one support to these communities, we can lay the foundation for people to build healthy, successful futures on their own terms.”

Rice said: “President Biden has delivered unprecedented resources for rural communities through the American Rescue Plan and the Bipartisan Infrastructure Law. However, just making resources available is not enough – the federal government must work better for rural communities so that they can fully take advantage of these opportunities. The Rural Partners Network will empower rural communities to get their fair share of federal funds, an important goal for not only economic development but equity as well.”²²

Army Corps of Engineers

Jurisdictional Determinations

Navigable Waters Protection Rule

On January 5, the Corps published an article regarding the effect of the 2020 Navigable Waters Protection Rule (NWPR) vacatur on jurisdictional determinations that were requested or

²¹<https://www.usda.gov/media/press-releases/2022/04/21/president-biden-usda-announce-420-million-investment-watershed>

²²<https://www.usda.gov/media/press-releases/2022/04/20/biden-harris-administration-launches-nationwide-network-partners>

approved prior to the U.S. District Court of Arizona decision on August 30, 2021. The article said: “An approved jurisdictional determination [AJD] is a document provided by the Corps stating the presence or absence of ‘waters of the United States’ [WOTUS] on a parcel or a written statement and map identifying the limits of [WOTUS] on a parcel. See 33 C.F.R. § 331.2. Under existing Corps’ policy, AJDs are generally valid for five years unless new information warrants revision prior to the expiration date. See [Corps] Regulatory Guidance Letter [RGL] No. 05–02....”

The article continued: “As a general matter, the agencies’ actions are governed by the definition of [WOTUS] that is in effect at the time the Corps completes an AJD, not by the date of the request for an AJD. AJDs completed prior to the court’s decision and not associated with a permit action (also known as ‘stand-alone’ AJDs under RGL 16-01) will not be reopened until their expiration date, unless one of the criteria for revision is met under RGL 05-02. A NWPR AJD could also be reopened if the recipient of such an AJD requests a new AJD be provided pursuant to the pre-2015 regulatory regime. In that case, the Corps will honor such request recognizing that if the recipient of a NWPR AJD intends to discharge into waters identified as non-jurisdictional under the NWPR but which may be jurisdictional under the pre-2015 regulatory regime, such recipient may want to discuss their options with the Corps. AJD requests pending on, or received after, the Arizona court’s vacatur decision will be completed consistent with the pre-2015 regulatory regime.” The article concluded: “As the agencies’ actions are governed by the regulatory definition at the time of the action, permit decisions made prior to the court’s decision that relied on a NWPR AJD will not be reconsidered in response to the NWPR vacatur. Permit decisions may be modified, suspended, or revoked per 33 C.F.R. § 325.7 where the regulatory criteria are met. The Corps will not rely on an AJD issued under the NWPR...in making a new permit decision. The Corps will make new permit decisions pursuant to the currently applicable regulatory regime (i.e., the pre-2015 regulatory regime). Therefore, for any currently pending permit action that relies on a NWPR AJD, or for any future permit application received that intends to rely on a NWPR AJD for purposes of permit processing, the Corps will discuss with the applicant, as detailed in RGL 16-01, whether the applicant would like to receive a new AJD completed under the pre-2015 regulatory regime to continue their permit processing or whether the applicant would like to proceed in reliance on a preliminary JD or no JD whatsoever.”²³

Water Resources Development Act of 2022

Proposals for WRDA 2022: Administration Priorities

On January 12, the House T&I Committee’s Subcommittee on Water Resources and Environment hosted a hearing on Proposals for WRDA 2022: Administration Priorities. Witnesses will include Michael L. Connor, Assistant Secretary of the Army (Civil Works) and Lieutenant General Scott A. Spellmon, Corps Chief of Engineers. Committee staff have proactively reached out through bipartisan discussions on project priorities and policy proposals, while recognizing

²³<https://www.usace.army.mil/Media/Announcements/Article/2888988/5-january-2022-navigable-waters-protection-rule-vacatur/>

ongoing implementation WRDA 2020 policy changes. On January 4, WSWC staff and other state and local government representatives indicated that they would leave specific project recommendations to their respective members. Among the policy considerations raised by the participants were: (1) expanding CWIFP beyond dam safety - as already authorized; (2) directing the Corps to work more closely with the western states on water supply and prior appropriation considerations; and (3) continuing work on data needs and forecast informed reservoir operations with more flexible rule curves.

Stakeholder Priorities for WRDA 2022

On February 8, the House T&I Subcommittee on Water Resources and Environment held a hearing on stakeholder priorities for WRDA 2022. Witnesses included: Wade Crowfoot, Secretary, California Natural Resources Agency; Peter Yucupicio, Pascua Yaqui Tribe; Darrell Seki, Red Lake Band of Chippewa Indians; Michel Bechtel, Gulf Coast Protection District; Mario Cordero, Port of Long Beach; Jim Middaugh, Multnomah County Drainage District; and Julie Hill-Gabriel, National Audubon Society.

Secretary Crowfoot noted the need for state and federal investments in drought resilience, coastal resilience, flood protection, and dredging projects. He provided numbers for recent investments that have been made by California and the Corps, but acknowledged that those “billions of dollars are still just a down payment. The need is vast.”

He also offered testimony regarding the Corps’ crucial work to update water control manuals and on forecast informed reservoir operations. “Many Corps water control manuals have not been updated in more than a generation. Meanwhile climate change and new forecasting technology create a need and opportunity for more flexibility in reservoir operations. In California, we especially appreciate the way the Corps is aligning its updates of water control manuals with use of forecast-informed reservoir operations (FIRO). FIRO is a strategy that integrates flexibility in reservoir rules of operations and enhanced forecast skill, to potentially improve operations for flood control and water supply. DWR and the Corps continue to seek state and federal funding to support FIRO; the 2021-22 state budget included \$10 million for FIRO. The research arm of the Corps has continued funding to engage in FIRO projects (about \$5 million this year) which includes the Yuba, Feather, Russian, and Santa Ana rivers in California and the Howard Hansen dam in Washington state. Together, updated water control manuals and FIRO can give California reservoir operators the information and flexibility they need to adjust to warmer, flashier storms and reduced snowpack. This will help save lives in wet years and conserve water for dry years. It is, in other words, a great tool for climate adaptation.”

On March 16, the House T&I Subcommittee on Water Resources and Environment held a hearing for representatives to testify on their priorities for the Corps to help inform the new WRDA for 2022. Representatives from western states included: Nanette Barragán (D-CA); Luis Correa (D-CA); Jim Costa (D-CA); Darrell Issa (R-CA); Katie Porter (D-CA); David Valadao (R-CA); Tracey Mann (R-KS); Susie Lee (D-NV); Melanie Stansbury (D-NM); Earl Blumenauer (D-OR);

Kurt Schrader (D-OR); Lizzie Fletcher (D-TX); Sylvia Garcia (D-TX); Pete Sessions (R-TX); and Dan Newhouse (R-WA).²⁴

Senate WRDA Bill

On May 4, the Senate Environment and Public Works Committee introduced the 2022 WRDA and voted unanimously to advance the bill to the full Senate for consideration. The bill authorizes 36 new feasibility studies, 17 new projects, and 4 modified projects. The bill contains four titles and various sections of particular interest to Western States. Section 106 authorizes the Corps to inform and educate states about opportunities to partner and address water development needs. Section 117 directs the Corps to establish a WWCC, which may include WSWC governor-appointed members, and to work together on the committee to ensure that water resource development projects in western states are operated in a manner consistent with congressional directives by identifying opportunities to avoid or minimize conflicts between the operation of those projects and state water rights or water laws.

Section 118 authorizes the Corps to update water control manuals at the request of the governor, in states that declared statewide drought in 2021, with priority given to those waters that accommodate a water supply project. Section 127 directs the Corps to develop and update an inventory of low-head dams in collaboration with state and federal agencies. Section 134 makes permanent the Corps' authority to evaluate and approve water supply conservation measures for projects in states that experience repeated droughts. Section 141 encourages the Corps to utilize all existing authorities to facilitate the renegotiation of the Columbia River Basin Treaty with Canada and the United States, and requires the Corps to periodically update Congress on the status of such activities. Sections 206-209 authorize the Government Accounting Office (GAO) to study and audit various projects for cost overruns, backlog, project distribution, operation and maintenance costs, and mitigation practices.

Section 321 amends 33 USC 2336 and authorizes the Corps to assist tribes with abandoned or inactive non-coal mine restoration. Section 327 authorizes the Corps to consider incidental flood risk management benefits on the Missouri River when acquiring land to meet fish and wildlife mitigation requirements. Section 337 makes permanent the prohibition on charging fees for surplus water contracts in the Upper Missouri Mainstem Reservoirs. Section 341 increases the authorization amount for the New Mexico Acequia protection and restoration program to \$80 million and adjusts the non-federal cost share to 10% for economically disadvantaged communities. Section 343 expands state and local payment options to reimburse the Corps for repair and replacement for municipal and industrial water supply storage. Section 352 authorizes a pilot program in Idaho for the Corps to enter good neighbor agreements for forest, rangeland, and watershed restoration services on federal lands. Section 407 authorizes a forecast informed reservoir pilot program at one or more dams within the Corps' North Atlantic Division.

²⁴<https://transportation.house.gov/committee-activity>

House WRDA Bill

On May 16, Representative Peter DeFazio (D-OR) introduced the House 2022 WRDA bill (H.R. 7776), and on May 18, the House T&I Committee marked up and ordered the bill reported out of committee. In his opening remarks, Chairman DeFazio said: “H.R. 7776 was developed in a bipartisan manner, with input and ideas from both sides of the aisle. The projects and policy provisions included reflect input not only from members of the committee, but from the entire House of Representatives. WRDA 2022 authorizes construction of 16 projects studied and approved by the Chief of Engineers since WRDA 2020 was signed into law. It also authorizes 72 new Corps of Engineers feasibility studies and directs the Corps to expedite the completion of 15 ongoing studies – all of which were submitted to the Corps by local sponsors willing to share the costs.... WRDA 2022 meets the challenge of climate change by rebuilding and maintaining critical navigation jetties and breakwaters...to address sea-level rise and extreme weather. From studying the impacts of coastal storms on inland flooding to addressing the future water supply needs of the arid West, this bill works to make communities more resilient.”

Water Resources and Environment Subcommittee Chair Grace Napolitano (D-CA) said: “WRDA also continues the effort that we started 10 years ago to improve water supply at Corps dams by addressing managed aquifer replenishment so that dams can hold water for recharge to local ground water basins. The bill addresses the buildup and removal of sediment in reservoirs to improve the operations and capacity of dams. The bill requires the Corps to take a particular focus on infrastructure in the west to evaluate opportunities to improve water management, water supply, and address the impacts of climate change.” Section 116 addresses dam safety by directing an assessment of the status of all dams maintained by the Corps and determining the needs for “rehabilitation, retrofit, or removal.”

On July 28, the Senate by a 93-1 vote returned to the House an amended version of H.R. 7776. It authorizes the Corps to carry out activities concerning water resources development projects, water supply and wastewater infrastructure, flood control, navigation, or ecosystem restoration, such as shoreline restoration. In addition, it modifies the process used to deauthorize certain inactive water resources development projects. The bill also includes a number of policy and process changes, and creates a number of advisory committees.

Under Title I, General Provisions, Section 101 expands the Scope of Feasibility Studies related to Flood and Coastal Storm Risk Management, directing that the Secretary of the Army, “at the request of the non-Federal interest for the study, shall formulate alternatives to maximize net benefits from the reduction of the comprehensive flood risk that is identified through a holistic evaluation of the isolated and compound effects of – (1) a riverine discharge of any magnitude or frequency; (2) inundation, wave attack, and erosion coinciding with a hurricane or coastal storm; (3) a tide of any magnitude or frequency; (4) a rainfall event of any magnitude or frequency; (5) seasonal variation in water levels; (6) groundwater emergence; (7) sea level rise; (8) subsidence; or (9) any other driver of flood risk affecting the study area.”

Further under Section 101(b), if requested, the Secretary “shall formulate alternatives – (1) to maximize combined net benefits for the primary purpose of the study and for water supply, water supply conservation, and drought risk reduction; or (2) to include one or more measures for the purpose of water supply, water supply conservation, or drought risk reduction.” Section 101(c) provides that all costs shall be shared in accordance with the cost share requirements otherwise applicable to the study.

Section 106, Planning Assistance to States, is amended to prioritize both inland and coastal life safety risks, as well as to the maximum extent practicable assistance to economically disadvantaged communities. Further, the Secretary is authorized to carry out activities, at full Federal expense – “to inform and educate States and other non-Federal interests about the missions, programs, policies, and procedures of the Corps of Engineers; and to engage with States and other non-Federal interests to identify specific opportunities to partner with the Corps of Engineers to address water resources development needs.” The Secretary is directed to designate staff in each district office to provide such assistance.

Section 107, Floodplain Management Services, specifically directs the Secretary to identify and specific opportunities to partner with the Corps to address flood hazards.

Section 113 authorizes the Secretary to engage in basic research, applied research, advanced research, and development projects, including such projects that are – (1) authorized by Congress; or (2) included in an Act making appropriations for the Corps.

Section 114 creates a committee to develop and make recommendations to the Secretary and the Chief of Engineers on activities and actions that should be undertaken “to ensure more effective delivery of water resources development projects, programs, and other assistance to economically disadvantaged communities and Indian Tribes.” It would be comprised of ten individuals appointed by the Secretary with “experiential or technical knowledge” needed to address related issues.

Section 115 similarly creates a Non-Federal Interest Advisory Committee comprised of members representing interests related to harbors, including inland harbors, flood and coastal storm risk management, aquatic ecosystem restoration, as well as inland waterborne transportation, water supply, recreation, hydropower and emergency preparedness stakeholders. In addition, it would include representatives with expertise in conservation, environmental policy, and rural water resources.

Section 117 creates a WWCC to ensure that Corps flood control projects in Western States are operated consistent with congressional directives by identifying opportunities to avoid or minimize conflicts between operation of Corps projects and State water rights and water laws. It may make recommendations for legislation or the promulgation of policy or regulations.

The WWCC would be comprised of – the Assistant Secretary of the Army for Civil Works (or a designee); the Chief of Engineers (or a designee); one representative from each of eighteen

States, “who may serve on the Western States Water Council, to be appointed by the Governor of each State;” similarly one representative with legal experience from each of the States to be appointed by the Attorney General of each State; and one employee from each of the impacted regional offices of the Bureau of Indian Affairs.

Section 117 includes Congressional Findings stating that – (1) a bipartisan coalition of 19 Western Senators wrote to the Office of Management and Budget (OMB) on September 17, 2019, in opposition to the proposed rulemaking entitled “Use of U.S. Army Corps of Engineers Reservoir Projects for Domestic, Municipal & Industrial Water Supply” (81 Fed. Reg. 91556 (December 16, 2016)), describing the rule as counter to existing law and court precedent; (2) on January 21, 2020, the proposed rulemaking described in paragraph (1) was withdrawn; and (3) the Corps should consult with Western States to ensure, to the maximum extent practicable, that operation of flood control projects in prior appropriation States is consistent with the principles of the first section of the Act of December 22, 1944 (commonly known as the “Flood Control Act of 1944”) (58 Stat. 887, chapter 665; 33 U.S.C. 701–1) and section 301 of the Water Supply Act of 1958 (43 U.S.C. 390b).

Section 118 provides that on request of “the Governor of State in which the Governor declared a statewide drought disaster in 2021, the Secretary is authorized to update water control manuals for waters in the State, with priority given to those waters that accommodate a water supply project.”

Section 127 under the National Dam Safety Program Act (33 U.S.C. 467 et seq.) directs the Secretary to inventory low-head dams, meaning “a river-wide dam that generally spans a stream channel, blocking the waterway and creating a backup of water behind the dam, with a drop off over the wall of not less than 6 inches and not more than 25 feet.” The Secretary, in consultation with the heads of appropriate Federal and State agencies, shall include in the inventory: “(i) the location, ownership, description, current use, condition, height, and length of each low-head dam;” (ii) any information on public safety conditions at each low-head dam; “(iii) public safety information on the dangers of low-head dams;” (iv) a directory of financial and technical assistance resources available to reduce safety hazards and fish passage barriers at low-head dams; and “(v) any other relevant information concerning low-head dams.” Within 18 months, the Secretary is to submit the inventory to the relevant House and Senate Committees. The bill authorizes \$30 million for the inventory.

Section 129 authorizes \$25 million for national levee restoration assistance to mitigate flood risk and increase resiliency to extreme weather events and improve or remove levees prioritizing help for economically disadvantaged communities.

Section 131 allows the Secretary to expedite evaluation of permits, taking into account multi-user mitigation bank instruments sponsored by applicants. Credits generated by the mitigation bank: “(i) shall be limited to current and future projects and activities of the entity, company, or carrier... for a public purpose, except that in the case of a non-Federal public entity, not more than 25 percent of the credits may be sold to other public and private entities.”

Section 132 amends Section 1043(b) of the Water Resources Reform and Development Act of 2014 (33 U.S.C. 2201 note; Public Law 113–121) to provide for a non-federal project implementation pilot program by adding “or discrete segment” after “separable element” each place it appears. “The term ‘discrete segment’ means a physical portion of a project or separable element that the non-Federal interest can operate and maintain, independently and without creating a hazard, in advance of final completion of the water resources development project, or separable element thereof.”

Section 134 amends Section 1116 of the WIIN Act (130 Stat. 1639) so that in a “State in which a drought emergency has been declared or was in effect for at least 2 years during the 10-year period preceding a request from a non-Federal interest for assistance..., the Secretary is authorized – (1) to conduct an evaluation for purposes of approving water supply conservation measures that are consistent with the authorized purposes of water resources development projects under the jurisdiction of the Secretary; and (2) to enter into written agreements pursuant to section 221 of the Flood Control Act of 1970 (42 U.S.C. 1962d-5b) with non-Federal interests to carry out the conservation measures approved....”

Eligible water supply conservation measures may include: (1) stormwater capture; (2) ground water replenishment or aquifer storage and recovery; (3) “releases to augment water supply at another Federal or non-Federal storage facility;” and (4) other conservation measures that “enhance usage of a Corps of Engineers project for water supply including measures utilizing a natural feature or nature-based feature” to reduce drought risk. A non-Federal interest is required to “pay only the separable costs associated with the evaluation, implementation, operation, and maintenance of an approved water supply conservation measure....”

Section 137 expedites hydropower at Corps facilities by directing the Secretary to: (1) ensure that the policy is implemented nationwide in an efficient, consistent, and coordinated manner; and (2) assess opportunities – “(A) to increase the development of hydroelectric power at existing hydroelectric water resources development projects of the Corps of Engineers; and (B) to develop new hydroelectric power at nonpowered water resources development projects of the Corps of Engineers.”

Section 141, Columbia River Basin, authorizes the Secretary, in coordination with other Federal and State agencies and Indian Tribes, “...at Federal expense, to carry out a study to determine the feasibility of a project for flood risk management and related purposes in the Columbia River basin and to report to the [Committees with jurisdiction]..., including recommendations for a project to potentially reduce the reliance on Canada for flood risk management in the basin.”

It also authorizes the Secretary to “expend funds appropriated for the purpose of satisfying United States obligations under the Columbia River Treaty to compensate Canada for operating Canadian storage on behalf of the United States under such Treaty.... If the U.S. entity calls upon Canada to operate Canadian reservoir storage for flood risk management on behalf of the United States, which operation may incur an obligation to compensate Canada under the Columbia River

Treaty – (A) the Secretary shall submit to the Committees [with jurisdiction] ...a written notice of the action and a justification, including a description of the circumstances necessitating the call; (B) upon a determination by the United States of the amount of compensation that shall be paid to Canada...a written notice specifying such amount and an explanation of how such amount was derived, which notification shall not delay or impede the flood risk management mission of the U.S. entity; and (C) the Secretary shall make no payment to Canada for the call under the Columbia River Treaty until such time as funds appropriated for the purpose of compensating Canada under such Treaty are available.”

Under Title II, Studies and Reports, Section 214, Western Infrastructure Study, directs the Secretary to “conduct a comprehensive study to evaluate the effectiveness of carrying out additional measures, including measures that utilize natural features or nature-based features at or upstream of reservoirs for the purposes of – (1) sustaining operations in response to changing hydrological and climatic conditions; (2) mitigating the risk of drought or floods, including the loss of storage capacity due to sediment accumulation; (3) increasing water supply; or (4) aquatic ecosystem restoration.... [T]he Secretary shall include all reservoirs owned and operated by the Secretary and reservoirs for which the Secretary has flood control responsibilities under section 7 of the Act of December 22, 1944 (commonly known as the Flood Control Act of 1944) (58 Stat. 890, chapter 665; 33 U.S.C. 709)” Further, the Secretary is directed to “consult with applicable – (A) Federal, State, and local agencies; (B) Indian Tribes; (C) non-Federal interests; and (D) other stakeholders, as determined appropriate....” Nothing in this section provides authority to the Secretary to “change the authorized purposes at any of the reservoirs....”

Title III, Section 343, Water Supply Storage Repair, Rehabilitation, and Replacement Costs amends Section 301(b) of the Water Supply Act of 1958 (43 U.S.C. 390b(b)) by inserting the following: “For Corps of Engineers projects, all annual operation and maintenance costs for municipal and industrial water supply storage under this section shall be reimbursed from State or local interests on an annual basis, and all repair, rehabilitation, and replacement costs shall be reimbursed from State or local interests (1) without interest, during construction of the repair, rehabilitation, or replacement, (2) with interest, in lump sum on the completion of the repair, rehabilitation, or replacement, or (3) at the request of the State or local interest, with interest, over a period of not more than 25 years beginning on the date of completion of the repair, rehabilitation, or replacement, with repayment contracts providing for recalculation of the interest rate at 5-year intervals.”

Section 344 is amended by adding: “At the request of any non-Federal interest, the Secretary may waive the accrual of interest on any non-Federal cash contribution under this section or section 101 for a project for a period of not more than 1 year if the Secretary determines that – (i) the waiver will contribute to the ability of the non-Federal interest to make future contributions; and (ii) the non-Federal interest is in good standing under terms agreed to.... The Secretary may grant not more than 1 waiver...for the same project.”

WRDA 2022 Passed

On December 15, the Senate voted to pass the \$858 billion James M. Inhofe National Defense Authorization Act (H.R. 7776), by a vote of 83-11. The bill next heads to President Biden's desk for his signature. In addition to the military funding and authorizations, Division H, Title 81 includes the WRDA.

Most notably, Section 8158 established an Corps WWCC. The purpose is to ensure that Corps "flood control projects in Western States [AK, AZ, CA, CO, ID, KS, MT, NE, NV, NM, ND, OK, OR, SD, TX, UT, WA, and WY] are operated consistent with congressional directives by identifying opportunities to avoid or minimize conflicts between the operation of the Corps of Engineers projects and water rights and water laws in such States." The membership of the Cooperative Committee includes the Assistant Secretary of the Army for Civil Works, the Chief of Engineers, 2 representatives from each Western State appointed by the governor and the attorney general, and 1 employee from each of the impacted regional offices of the Bureau of Indian Affairs. The governor-appointed representative may serve on the WSWC. The Cooperative Committee is required to meet at least once a year in one of the Western States at meetings accessible to the public. The recommendations of the Cooperative Committee may only apply to Western States and may not adversely affect water resources within the State of Missouri.

Section 8108 authorized a national assessment of managed aquifer recharge projects at Corps facilities to address drought, water resiliency, and aquifer depletion. It authorized 10 feasibility studies, and coordination with other federal agencies, states, regional governmental agencies, local governments, tribes, and experts in managed aquifer recharge.

Section 8109 authorized updates to Corps water control manuals at the request of any governor that declared a statewide drought disaster in 2021, "with priority given to those projects that include water supply or water conservation as an authorized purpose."

Section 8119 amended 42 U.S. Code § 1962d-16 regarding technical assistance to states and regional coalitions in developing comprehensive plans to address water resource challenges. The bill expanded eligibility to include local governments, waived fees for disadvantaged communities, and increased the authorized appropriations from \$15 million to \$30 million annually.

Section 8121 authorized assessments of federal and non-federal levees, but the non-federal levee assessments may only be carried out at the request of the non-federal interest and with an agreement to provide half the cost of the assessment. Section 8122 authorized a national low-head dam inventory within 18 months, in coordination with federal and state agencies, and authorized \$30M in appropriations.

Section 8130 authorized the development of a strategic plan – in consultation with federal agencies, states, tribes, and local governments – to maximize the beneficial use of dredged material from the operation and maintenance of Corps projects.

Section 8150 established the Non-Federal Interest Advisory Committee to develop and make recommendations to the Secretary of the Army and the Chief of Engineers for more effective and efficient delivery of water resources development programs.

Section 8204 directed the Corps to conduct an assessment of the volume of sediment in Corps reservoirs, including a quantification of lost reservoir storage capacity and an evaluation of how that affects the allocated storage space for authorized purposes. The bill authorized \$10M in appropriations.

Section 8237 directed the Corps to assess whether good neighbor agreements to provide non-federal services on Corps lands – such as forest, rangeland, and watershed restoration services as defined in 16 U.S.C. 2113a – would be in the best interest of the United States as well as the neighboring states, tribes, and local communities.

Section 8303 expanded the previous directive to the Corps in WRDA 2020 (Section 157) to report on additional opportunities for utilizing forecast informed reservoir operations (FIRO). The original directive included the Upper Missouri River Basin and the North Platte River Basin; this bill added the Apalachicola Chattahoochee Flint River Basin.

Section 8309 authorized the Corps to study the feasibility of a project in the Columbia River Basin to reduce reliance on Canada for flood risk management.

Section 8388 amended WRDA 2014 regarding surplus water contracts and water storage agreements for the Upper Missouri Mainstem Reservoirs by removing the 10-year sunset provision. Section 8389 amended the Water Supply Act (43 U.S.C. 390b(b)) regarding annual state or local reimbursement of operation and maintenance costs for municipal and industrial water supply storage in Corps facilities.

Section 8390 amended the provisions of 33 U.S.C. 2336 regarding technical assistance from the Corps to address water quality problems caused by abandoned and inactive non-coal mines. The bill expanded the lands eligible for the 50% cost share waiver to include lands held in trust for tribes. It updated the name and location of the Restoration of Abandoned Mine Sites Program managed by the Corps' Albuquerque District Office. It also increased the authorized appropriations from \$30 million to \$50 million.

Corps Water Infrastructure Financing Program

On June 10, the Corps published its proposed rule to establish the CWIFP.²⁵ CWIFP is a long-term, low-cost federal credit program that was authorized by the Water Infrastructure Finance and Innovation Act (WIFIA). CWIFP has received over \$80 million in credit subsidy funding to date which will allow the Corps to issue approximately \$7.5 billion in loans once the program is fully

²⁵87 FR 35473

established. While the congressional authority to issue eligible project loans is broader, the initial appropriations were limited in scope to investments in dam safety infrastructure projects for creditworthy non-federal borrowers. The proposed rule is similarly limited in scope, implementing a credit assistance program for safety projects to maintain, upgrade, and repair dams identified in the National Inventory of Dams with a primary owner type of State, local government, public utility, or private.

The proposed rule said: “Non-Federal dams account for roughly 87,000 of the 90,580 dams as reported in the National Inventory of Dams. Over 14,000 non-Federal dams are now classified as ‘high hazard potential,’ meaning that they would likely result in loss of life if they were to fail.” The Association of State Dam Safety Officials (ASDSO) has estimated the cost to rehabilitate all non-federal dams at \$66 billion, with high hazard potential dams accounting for \$20 billion of that amount. ASDSO also indicated that about half of the states have created funding programs to assist with dam repairs, but the available state funding varies.

The proposed rule allows for a combination of eligible projects under a single application, secured by a common security pledge. The CWIFP credit assistance would not be applicable to operations and maintenance activities. Recipients would be required to comply with the American Iron and Steel requirements in 33 U.S.C. 3914(a) and the labor standards under the Davis-Bacon Act.²⁶

The Corps will coordinate with EPA on overlapping project eligibility, and solicited public comment on how to assist applicants to utilize the program best suited for their project’s scope, purpose, and benefits. The Corps also solicited public comment on its description of application fees, and “whether additional clarification is needed on project cost eligibility, such as whether a list of what costs are expressly ineligible would be helpful or whether that may result in additional confusion as opposed to limiting the list to only include those which are eligible, as proposed.”

Priority will be given to projects serving small, rural, tribal, and economically disadvantaged communities, with the goal of enhancing resilience to flooding. “For the purposes of this program, the Corps is proposing to preliminarily define economically disadvantaged communities as those that experience low-income, persistent poverty, or high unemployment. The implementation of this definition may be modified as appropriate in response to updated tools and resources as they become available. The Corps is soliciting comment on whether this is the most appropriate criteria to use to identify economically disadvantaged communities.”

The Corps is proposing 12 selection criteria: (1) nationally or regionally significant projects with public benefits such as flood risk reduction, improvement of water quality and quantity, protection of drinking water, support for commerce, and ecosystem restoration; (2) the extent of public or private financing in addition to WIFIA credit assistance; (3) the extent to which WIFIA assistance would expedite the project; (4) any new or innovative approaches for the project; (5) the

²⁶33 U.S. C. 9909(h)

amount of WIFIA budget authority available for that year; (6) the extent to which the project protects against extreme weather or protects the environment; (7) projects that serve regions with clean energy exploration, development, or production; (8) projects that serve regions with water resource challenges, such as water quality and quantity concerns, flood risks, challenges identified in existing regional, state, or multistate agreements, and exceptional recreational or ecological value; (9) the extent to which the project addresses identified municipal, state, or regional priorities; (10) the shovel-readiness of a project to begin within 90 days of a WIFIA loan; (11) the extent to which WIFIA assistance reduces overall federal contributions to the project; and (12) the extent to which the project serves economically disadvantaged communities and spurs economic opportunity for, and minimally adversely impacts, disadvantaged communities and their populations.

Comments were due by August 9.²⁷ Following public review, a final rule is expected to be published as soon as Spring of 2023, allowing for the program to accept loan applications shortly thereafter.

Bureau of Reclamation

IIJA/Bipartisan Infrastructure Law Investments

FY22 Spending Plan/Infrastructure Improvements

On January 14, the USBR submitted its initial spending plan for FY22 funding authorized under the bipartisan IIJA. It represents a blueprint for USBR investments to address drought across the West, and broader water infrastructure needs, with \$1.66 billion to be spent annually to support a range of infrastructure improvements for FY22-FY26.

“The Bipartisan Infrastructure Law is the largest investment in the resilience of physical and natural systems in American history,” said Assistant Secretary for Water and Science Tanya Trujillo. “Reclamation’s funding allocation for 2022 is focused on developing lasting solutions to help communities tackle the climate crisis while advancing environmental justice.”

“The Bureau of Reclamation serves as the water and power infrastructure backbone for the American West. The law represents a once-in-a-generation opportunity to improve our infrastructure while promoting job creation,” said USBR Commissioner Camille Calimlim Touton. “The funding identified in this spend plan is the first-step in implementing the Bipartisan Infrastructure Law and will bolster climate resilience and protect communities through a robust investment in infrastructure.”

The FY22 spending plan allocations include: (1) \$420 million for rural water projects that benefit various tribal and non-tribal underserved communities by increasing access to potable water; (2) \$245 million for WaterSMART Title XVI supporting the planning, design, and construction of

²⁷www.regulations.gov, docket #COE-2022-0004.

water recycling and reuse projects; (3) \$210 million for construction of water storage, groundwater storage and conveyance project infrastructure; (4) \$160 million for WaterSMART Grants to support Reclamation efforts to work cooperatively with states, tribes, and local entities to implement infrastructure investments to increase water supply; (5) \$100 million for aging infrastructure for major repairs and rehabilitation work; (6) \$100 million for critical dam safety modifications; (7) \$50 million to help implement Colorado River Basin drought contingency plans and support the goal of reducing the risk of Lake Mead and Lake Powell reaching critically low water levels; (8) \$18 million for WaterSMART's Cooperative Watershed Management Program for watershed groups' planning and restoration projects; (9) \$15 million for Reclamation's Desalination and Water Purification Program for brackish and ocean water; and (10) \$8.5 million for Colorado River Basin Endangered Species Recovery and Conservation Programs.

Dam Safety

On March 22, the DOI announced \$100 million will be spent on modification of B.F. Sisk Dam by the USBR from funding allocated by the BIL. Completed in 1967, the dam impounds San Luis Reservoir, the nation's largest off stream reservoir, which provides storage for supplemental irrigation water and municipal and industrial use for the federal Central Valley Project (CVP) and California's State Water Project (SWP). In December 2019, USBR and the CA DWR announced a partnership to begin a \$1.1 billion seismic upgrade. USBR's largest project under the 1978 Safety of Dams Act, it will add stability berms and other dam safety features to the existing 3.5-mile-long earthen dam. Increasing the dam height will reduce downstream public safety concerns by reducing the likelihood of overtopping if slumping were to occur during a seismic event. The multi-year project will begin in summer 2022.

The BIL provided \$500 million over the next five years to support critical dam safety projects, streamline construction management, maintain the operational capacity of USBR's dams and minimize risk to the downstream public. Secretary Deb Haaland said: "Investing in and enhancing dam safety is central to the Biden-Harris administration's all-of-government approach to addressing drought and confronting climate change impacts on communities and habitats. This is the first of many projects that will benefit from these historic infrastructure investments." Assistant Secretary for Water and Science Tanya Trujillo said: "This investment in B.F. Sisk Dam, located south of the Sacramento-San Joaquin Delta, will build water supply security for California communities, farmers and ranchers and wildlife refuges, and help the system better adapt to a changing climate."²⁸

Rural Water Projects

On March 31, the DOI announced the USBR will invest \$420 million in rural water projects in FY22. Construction activities include water treatment plants and intakes, pump systems, reservoirs, and pipeline connections to supply potable water to rural and tribal communities across

²⁸USBR News Release #4142; and <https://www.usbr.gov/bil/>.

six states: Iowa, Minnesota, Montana, New Mexico, North Dakota, and South Dakota. “Rural water projects get to the heart of President Biden’s Bipartisan Infrastructure Law by building resiliency and supporting local economies,” said Secretary Deb Haaland. Assistant Secretary for Water and Science Tanya Trujillo, added, “The significant amount of funding for rural water construction...will help us expedite project completion.” Speaking while in Albuquerque with New Mexico State Engineer Mike Hamman she highlighted \$160 million for the Eastern New Mexico Rural Water System that will supply some 70,000 people.

Other allocations include: \$75.5 million for the Lewis and Clark Rural Water System in South Dakota; \$57.5 million for the Rocky Boys/North Central Montana Rural Water System; \$51 million for the Garrison-Diversion Unit of the Pick-Sloan Missouri Basin Program in North Dakota; \$37 million for the recently authorized Musselshell-Judith Rural Water System in Montana; \$7 million for the Fort Peck Reservation – Dry Prairie Rural Water System in Montana and its tribal components; with another \$32 million in reserve for the potential acceleration of construction activities.

Infrastructure Repairs

On May 9, the DOI announced an investment of \$240.4 million for infrastructure repairs on canal linings, dam spillways, and water pipeline replacements. The press release said: “The projects selected for funding today are found in all the major river basins and regions where Reclamation operates. Among the 46 projects selected for funding are large projects to conduct canal repairs in Arizona, California, Idaho, Nevada and Wyoming, dam spillway repairs in Kansas, pipeline repairs in Utah and investments in a pumping plant in Montana. Projects in Colorado, Oregon and Washington are also being funded.... Reclamation concluded the initial application period for these funds on January 31, 2022. The second application period for extraordinary maintenance funding is planned for October 2022.”

Acting USBR Commissioner David Palumbo said: “The Bureau of Reclamation, in partnership with states and local water districts receiving municipal water and irrigation water from federally-owned projects, is responsible for much of the water infrastructure in the West. These water systems work because of this federal to non-federal partnership, and this funding will help to complete necessary extraordinary maintenance keeping projects viable and partnerships strong.”

Drought/Water Reuse Projects

On August 18, Secretary of the Interior Deb Haaland and USBR Commissioner Camille Calimlim Touton announced the allocation of \$309.8 million in funding from IIJA, plus \$1 million in appropriated funding, for the planning, design and construction of water reuse projects across the country. The announcement followed a tour of the Syphon Reservoir Improvement Project, at the Irvine Ranch Water District, that will receive \$12.25 million. In total, California is allocated \$267 million for twenty projects, with \$3 million for Idaho, \$20 million for Texas, \$14.3 million for Utah, \$5,445,750 for Washington (and over \$1 million for Hawaii) for various projects. The selected

projects will increase annual capacity by about 213,000 acre-feet of water, enough water to support more than 850,000 people a year, and are expected to advance drought resilience.

Secretary Haaland and Commissioner Touton were on a two-day swing through central and southern California to highlight IJA investments to address the worsening drought crisis and expand access to clean drinking water for families, farmers and wildlife.

“Water is essential to everything we do and it will take all of us, working together, to address the significant drought impacts we are seeing across the West. As the climate crisis drives severe drought conditions and historically low water allocations, President Biden’s Bipartisan Infrastructure Law is making historic investments to address water and drought challenges and invest in our nation’s western water and power infrastructure,” declared Secretary Haaland.

“Water reuse helps communities diversify their water supply as they are facing an unprecedented drought and a changing climate,” said Commissioner Touton. “This has tangible impacts and can help feed families, grow crops, sustain wildlife and the environment and help more families access safe, clean, reliable water. These projects will provide flexibility for communities and help them stretch their current drinking supplies as they will be treating wastewater that continues to be available.”

The funding will help local water management agencies stretch existing drinking water supplies through the advanced treatment of wastewater and naturally impaired surface and groundwater. Along with non-federal contributions, this investment will support over \$1.2B in infrastructure projects. The money is part of the \$1 billion in WaterSMART Water Recycling and Reuse grants provided by IJA.

WaterSMART

Drought Resiliency

On February 2, the USBR announced \$20.5 million for 13 projects in five western states for WaterSMART grants to build long-term drought resiliency. USBR’s Drought Response Program helps water managers to modernize existing infrastructure. Projects in California include: the Bella Vista Water District (\$2 million); Casitas Municipal Water District (\$2 million); City of Fresno (\$293,450); Delano-Earlimart Irrigation District (\$2 million); North Kern Water Storage District (\$500,000); Rancho California Water District (\$2 million); San Bernardino Valley Municipal Water District (\$2 million); South Coast Water District (\$2 million); and South San Joaquin Municipal Utility District (\$2 million). Others include: the City of Gallup, New Mexico (\$2 million); City of Grand Junction, Colorado (\$300,000); Deschutes Irrigation District, Oregon (\$1.4 million); and Bear River Water Conservancy District, Utah (\$2 million).²⁹

²⁹<https://www.usbr.gov/newsroom/#!/news-release/4089>

Water and Energy Efficiency

On May 16, the USBR announced California, Idaho, Kansas, Montana, Nebraska, Nevada, Oklahoma, Texas, Utah, Washington and Wyoming would receive a total of \$17.3 million under the WaterSMART Water and Energy Efficiency grant program for 22 projects. The selected projects improve water use efficiency, increase water supply reliability, modernize infrastructure, and reduce the risk of water conflicts. Leveraging the federal awards supports a combined \$89.1 million in projects that include: (1) lining and piping canals; (2) installing and upgrading water meters and timers; (3) installing solar to reduce power demand; and (4) adding automated gate controls. The grant activities must be completed over the next two or three years.³⁰

Title Transfers

On February 2, the USBR announced the transfer of federal water facilities to two irrigation districts in the State of Washington, under the 2019 Dingell Conservation, Management and Recreation Act (P.L. 116-9). USBR Commissioner Camille Calimlim Touton said: “The 2019 title transfer process has given Reclamation a new tool that benefits both water users and the federal government.”

The Greater Wanatchee Irrigation District transfer includes 82 acres of buildings, pumps, diversions, control structures, fixtures, improvements, drains, laterals, pipelines, waste ways, wells, ponds, and roads. The Kennewick Irrigation District (KID) includes approximately 100 miles of canals, a 46-acre parcel, and 971 acres of easements. Gene Huffman, KID Board President, said: “The benefits of title transfer to Kennewick Irrigation District and our local community will be substantial because it gives KID the flexibility needed to engage our community on the best use of our infrastructure, including the potential for linear parks and walking paths. KID thanks Rep. Dan Newhouse, the Confederated Tribes of the Umatilla Indian Reservation, the Yakama Nation, and Reclamation for their commitment to this project.”³¹

Hearing on Various Reclamation Bills

On May 25, the Senate Energy and Natural Resources Committee’s Subcommittee on Water and Power, chaired by Senator Ron Wyden (D-OR), held a hearing to receive testimony on sixteen bills introduced by various Senators including: S. 737, to set a federal cost share percentage for the Milk River Project in the State of Montana (Tester/Daines); S. 953, to provide drought preparedness and improved water supply reliability (Wyden); S. 1179, to provide financial assistance for projects to address certain subsidence impacts in the State of California, and for other purposes (Feinstein); and S. 1554, to make certain irrigation districts eligible for Pick-Sloan Missouri Basin Program pumping power, and for other purposes (Cramer).³²

³⁰<https://www.usbr.gov/newsroom/#!/news-release/4213>

³¹<https://www.usbr.gov/newsroom/#!/news-release/4090>

³²www.energy.senate.gov/hearings/2022/5/water-power-subcommittee-legislative-hearing

Testimony was also heard on: S. 2334, directing the Secretary of the Interior to establish a program to provide grants on a competitive basis to eligible entities for large-scale water recycling and reuse projects, to amend the Omnibus Public Land Management Act of 2009 to make certain modifications to the Cooperative Watershed Management Program, and to provide emergency drought funding (Cortez Masto); S. 2693, to amend the Reclamation Projects Authorization and Adjustment Act of 1992 to authorize additional projects related to the Salton Sea (Padilla); S. 3450, to authorize the Secretary of the Interior to construct, operate, and maintain hydroelectric power generation facilities as part of the Sun River project in Montana (Daines/Tester); S. 3539, to authorize watershed pilots (Wyden); H.R. 5001 and S. 3693, to reauthorize and continue to implement endangered fish recovery programs for the Upper Colorado and San Juan River Basins (Hickenlooper/Romney); and S. 3971, to amend the America's Water Infrastructure Act of 2018 to modify a provision relating to cost-sharing requirements applicable to certain USBR dams and dikes (Inhofe).

Also considered were: S. 4175, to amend the Omnibus Public Land Management Act to authorize certain extraordinary operation and maintenance work for urban canals (Risch); S. 4176, to amend the IIJA to modify eligibility requirements for certain small water storage and groundwater storage projects and to authorize the use of funds for certain additional Carey Act projects (Risch); S. 4231, to support water infrastructure in Reclamation States (Feinstein); S. 4232, to address the recovery of certain costs with respect to certain Reclamation facilities in the Colorado River Basin (Kelly); S. 4233, to amend IIJA to provide for critical maintenance and repair of certain USBR reserved or transferred works (Barrasso); and S. 4236, to provide for a national water data framework, to provide for the water security of the Rio Grande Basin, and to reauthorize Pueblo irrigation infrastructure grants (Heinrich/Lujan).

Chairman Wyden spoke in support of S. 953 and S. 3539 stating: "In Oregon, communities in the Klamath and Deschutes Basin are looking at another devastating drought year – only made worse with the threats of wildfires and extreme heat. As these pressures continue to mount, it's essential to get a lot more high-impact water projects on the ground and fast. That's what my Watershed Results Act is all about.... My Water for Conservation and Farming Act aims to help communities better plan and prepare for the increased demand for clean water by funding projects that improve dam safety, create more resilient watersheds, and benefit agricultural and urban water users.... I have been all over my state talking with farmers and rural communities about what resources they need to respond to these extreme weather events and my two bills aim to tackle the drought concerns head-on."

S. 953 reauthorizes and expands existing water resources development programs, as well as establishes new programs. It establishes the USBR Infrastructure Fund to pay for the WaterSMART program and expands allowable uses of the grants (assisting eligible government entities increase water supply), as well as water reclamation, reuse, and dam safety projects. Each year from FY2031-FY2061, the Department of the Treasury must deposit \$300 million into this fund from revenues that would otherwise be deposited into the Reclamation Fund. The WSWC has strongly supported spending the unobligated balance in the Reclamation Fund.

Next, the bill revises the Reclamation Climate Change and Water program by requiring Reclamation to develop a strategy to sustain native biodiversity during drought. It reauthorizes through FY2028 the Fisheries Restoration and Irrigation Mitigation program (which funds fish passage in certain Pacific Ocean drainages).

Finally, the bill establishes new programs directed at western states to: (1) provide assistance to agricultural producers to create and maintain waterbird and shorebird habitats; (2) award grants to eligible government entities and nonprofit conservation organizations for habitat restoration projects that improve watershed health; and prepare plans to sustain the survival of critically important fisheries during drought.

Others that provided statements included: Senators John Barrasso (R-WY), the Committee's Ranking Minority Member; Steve Daines (R-MT); John Hickenlooper (D-CO); Martin Heinrich (D-NM); Mark Kelly (D-AZ); Catherine Cortez Masto (D-NV); James Risch (R-ID); and the Subcommittee's Ranking Minority Member Cindy Hyde-Smith (R-MS).

Senators Diane Feinstein (D-CA), Alex Padilla (D-CA), and Jon Tester (D-MT) testified on their bills. USBR Commissioner Camille Touton was the only other witness.³³

Wyden pressed Commissioner Touton on plans to ensure efficient delivery of the \$8.3 billion in the IJA for western water infrastructure and climate. He also asked why the Bureau requested only 10% of the annual authorization for the Cooperative Watershed program that would help communities develop long-term strategies and successfully implement multi-benefit water projects.

“As you know from our work together in the Klamath basin, Western water issues are extremely complex and require engagement from all members of the community in order to be successful in benefitting the local economy and the environment,” Wyden said. “There are serious concerns across my state about resources from...Reclamation making it onto the ground. Without these tools communities throughout the West, including the Klamath and Deschutes Basins, will bear the brunt of extreme drought.”

Clean Water Act/Environmental Protection Agency

Waters of the United States

Co-regulator Meetings With States

On January 4, the WSWC and Association of State Wetland Managers (ASWM) sent a joint letter to EPA Administrator Michael Regan, Assistant Administrator Radhika Fox, and Assistant

³³Their testimony is available at: www.energy.senate.gov/hearings/2022/5/water-power-subcommittee-legislative-hearing.

Secretary of the Army (Civil Works) Michael Connor requesting co-regulator meetings in the development of the second rulemaking to define WOTUS (WOTUS Rule 2). The letter notes that WOTUS “is a significant water policy issue that affects our member states and members in diverse ways, raising unique concerns in arid states where water is scarce.” The letter acknowledged that the agencies previously expressed interest in such co-regulator meetings with the states. “We would like to propose that EPA and the Corps reach out to the governors to invite them or their designees to participate in a future workshop or workshops focused on regional challenges given the differences in climate, geography, hydrology, and legal doctrines that are constraints to water, wetlands, and water quality administration, in advance of initiating the second rulemaking process.” The letter noted that, at a similar meeting held with the agencies in 2018, “...those designated to participate by the governors included not only state water quality and wetlands managers but also representatives from state departments of agriculture, and agencies responsible for allocating and administering water rights, which in the West are often vested property rights.” The WSWC and ASWM expressed their willingness to assist in organizing co-regulator meetings. “We appreciate your consideration and outreach to the States as co-regulators and sovereigns, and not simply as stakeholders or members of the general public.”

On January 11, the EPA and Corps announced two webinars specifically for state and local officials and association staff, on January 24 and 27. The agencies will provide an overview of the proposed rule to codify the pre-2015 definition of WOTUS, updated to reflect their interpretation of Supreme Court decisions, also known as Rule 1. This will be followed by their findings from the federalism consultation in 2021. The agencies will then host regional breakout rooms to discuss details of the proposed rule and areas of interest. Specific topics for discussion include: (1) implementation of the relatively permanent standard; (2) implementation of the significant nexus standard; (3) how to delineate the extent of interstate waters; (4) whether interstate waters should include waters that cross or form tribal boundaries; (5) implementation of jurisdiction over “other waters,” and what “other waters” are commonly found in each state/region; (6) exclusions; and (7) whether any NPDES permits, TMDLs, 303(d) listings, or water quality standard revisions occurred as a result of the 2020 Navigable Waters Protection Rule, for purposes of the economic assessment.³⁴

State Comments on the Revised WOTUS Rulemaking

On February 7, WSWC and several member states submitted comments on the, “Revised Definition of the Waters of the United States.”³⁵ The intent of the rule is to restore the pre-2015 regulations and guidance. It includes references to both the “significant nexus” and “relatively permanent” standards for determining whether tributaries, wetlands, or other waters are jurisdictional under the Clean Water Act. EPA received over 88,000 comments.

WSWC said: “A one-size-fits-all national approach does not recognize specific conditions and needs in the West, where water can be scarce and a variety of unique waterbodies exist. A rule

³⁴<https://www.epa.gov/wotus/federalism-consultation-pre-proposal-revised-definition-waters-us>

³⁵86 FR 69372

that is more regional in nature, or that allows flexibility in implementation, appears more appropriate. As co-regulators, the states would like to work together with the agencies to develop and implement a rule that seeks to strike a balance between the critical importance of protecting the quality of the nation's waters and preserving the sovereignty of states over their land and water resources." Our states have not reached a consensus on how to implement a regional approach, but have discussed ideas for delineating regions.

Utah's letter encouraged: (1) paring back the scope of the WOTUS definition to more closely match the common meaning of "navigable" for clarity and predictability; (2) an application of "significant nexus" that does not apply to waters with a speculative, insubstantial, or *de minimis* connection to jurisdictional waters; (3) accurate online, interactive tools for the purpose of mapping jurisdictional waters; (4) a delayed rulemaking for the phase 2 rule until after the U.S. Supreme Court has made a decision in *Sackett v. EPA*; and (5) a regional approach that could be based on EPA's Level II or Level III Ecoregions, or EPA's Streamflow Duration Assessment Method.

Utah said: "An early investment of EPA and USACE resources to create region-specific rules, though surely complicated and time consuming, could pay tremendous benefits in the future. The very concept of waters that are 'relatively permanent' differs greatly in different parts of the United States, and indeed within different states. Even within Utah, the standard for a 'relatively permanent' stream in Utah's arid Great Basin region looks very different than a relatively permanent stream in the high-elevation Uintah Mountains. Average flow duration in streams varies widely due to differences in snowpack, precipitation, evaporation, and geology. The creation of region-specific rules, using the best available scientific data, will allow the EPA and USACE to minimize much of the subjectivity that has plagued previous iterations of WOTUS and establish objective measures that offer much greater certainty to States, Tribes, local governments, and other parties impacted by the proposed rulemaking." Utah encouraged EPA to work with states to find a regional approach that offers "the needed flexibility and specificity without creating an unduly complicated process."³⁶

WOTUS Geographic Roundtables

On February 23, the EPA and Corps announced the selection of ten geographic roundtables to facilitate discussion on regional variations in the implementation of the proposed rule defining the jurisdictional boundaries of WOTUS. The regions are broken into the West, Southwest, Midwest, Northeast and Southeast, and the hosts selected include: (1) Amigos Bravos (Southwest); (2) Arizona Farm Bureau (Southwest); (3) Cahaba Brewing (Southeast); (4) California Farm Bureau (West); (5) Kansas Livestock Association (Midwest); (6) Natural Resources Defense Council (Northeast); (7) National Parks Conservation Association (Midwest); (8) North Carolina Farm Bureau (Southeast); (9) Regenerative Agriculture Foundation (Midwest); and (10) Wyoming County Commissioners Association/Montana Association of Counties/Idaho Association of Counties (West). Each roundtable will highlight a range of perspectives – including agriculture, conservation groups,

³⁶Other state comments are available at <https://westernstateswater.org/policy-letters/2022/wotus-2022-rule-1/>.

developers, drinking water and wastewater managers, environmental organizations, communities with environmental justice concerns, industry, Tribal nations, and state and local governments. The agencies anticipate holding these regional roundtables virtually over the spring and summer, but have not scheduled any dates yet.

EPA Assistant Administrator for Water Radhika Fox said: “EPA and Army are committed to listening to all sides and working to foster a common-ground approach to WOTUS that protects our environment and is informed by the experience of those who steward our waters day-in and day-out. Through these regional roundtables, we will work toward a shared understanding of the challenges and opportunities to enhance WOTUS implementation to support public health, environmental protection, agricultural activity, and economic growth.”

Assistant Secretary of the Army for Civil Works Michael Connor said: “The Department of the Army...is committed to gaining a better understanding of the various regional perspectives...to develop an implementation approach that accounts for these diverse voices and regional variations. In addition, the Army hopes to identify...tools that could assist in effective, consistent, and efficient implementation across the nation.”

In June, the EPA held WOTUS regional roundtables hosted by a variety of organizations across the country including five that focus on issues in western states. On behalf of Assistant Secretary of the Army (Civil Works) Michael Connor, Stacey Jensen stated these roundtables help “strengthen communication and relationships to solve water resources challenges and enhance community resilience.” Sylvia Quest, EPA, emphasized the importance of hearing regional specific water challenges as they evaluate the new WOTUS rule.³⁷

On June 2, a roundtable organized by the Arizona Farm Bureau featured comments from the AZ DEQ as well as industry, agricultural, local government and tribal stakeholders in Arizona, Colorado, New Mexico, Oklahoma, and Utah. On June 6, the Kansas Livestock Association hosted a roundtable focused on midwestern issues with participation from stakeholders in Kansas, Nebraska, and Iowa. On June 13, another roundtable focusing on southwest issues was hosted by Amigos Bravos, a non-profit based in New Mexico, that included comments from the Colorado Department of Public Health and Environment as well as participants from Arizona, Colorado, New Mexico, Oklahoma, and Texas. On June 16, the California Farm Bureau organized a round table with participation from multiple western state agencies including NV DEP, the MT DNRC, the Hawaii Department of Agriculture, and stakeholders from Oregon, Idaho, Montana, California, and Nevada. On June 24, the Wyoming County Commissioners Association, Montana Association of Counties, and Idaho Association of Counties hosted a roundtable that included representatives from agricultural interests in all three states in addition to several other stakeholders. A full list of participating organizations in all of the roundtables is available on EPA’s website. The following summary highlights various themes that were discussed at the western-focused roundtables.

³⁷<https://www.epa.gov/wotus/public-outreach-and-stakeholder-engagement-activities>

Many participants talked about the uniqueness of western landscapes and hydrology. Jennifer Carr, NV DEP and WSWC member, said that “the vastness of western topography” needs to be considered carefully when considering WOTUS noting that the characteristics of ephemeral waters can differ significantly across the West with some ephemeral features only experiencing flow every few decades. There was extensive discussion about the nature of ephemeral waters in the west. Hawaii only has one inland navigable water, and in many areas localized rains between valleys create numerous ephemeral and intermittent features. Others discussed the diversity and uniqueness of the intermountain west including high deserts and forested areas in the north and at high elevation. Many ephemeral features in southern California percolate before reaching perennial waters or only flow when they receive Title 22 recycled water. Several participants spoke about the importance of ephemeral and intermittent wet meadows and their importance to moderate temperature, sediment, and nutrient impacts in downstream waters. Some of these features provide critical hydrologic and geomorphic functions that are especially important in the context of climate change to provide water storage and flood protection.

Participants reminded the agencies that they need to stay true to the legislative intent of the CWA which was to strike a balance between state and federal regulation with clear exemptions. Several participants noted areas of overlap and duplication between state and federal programs and several said that some state laws are more stringent than federal regulations with respect to water quality protections and that it is important not to duplicate or complicate regulations. Further, some felt that congress assumed that states would address land management issues and that these should not be subject to federal permitting requirements. Some questioned what the natural resource protection value would be of regulating, as waters, large areas of arid land in the West, considering other state and federal environmental protections. There was discussion about how state agencies and local partnerships were best placed to manage water quality in coordination with water resource and land managers. Many participants felt that state agencies can communicate clearly with one another and local staff have the best handle on the hydrology and communities in a watershed. Most states have CWA primacy and can therefore provide clean water through a blend of federal and state programming. There is also a concern that there is insufficient capacity for federal regulators to monitor, inspect and enforce on a broader suite of waters.

Many participants talked about the importance of agriculture to western economies and emphasized the need not to hamper production agriculture. Most participants emphasized the importance of maintaining current agricultural exemptions. More specifically, several participants argued that irrigation canals, ditches, stock ponds, as well as other western irrigation infrastructure must be excluded from WOTUS to allow for regular maintenance critical to maintaining agricultural production.

The lack of clarity and the need for case-by-case determinations was identified as a source of significant uncertainty for landowners. In some areas of the west, farms can be very small and are owned by traditionally underserved and socially disadvantaged people that often don’t have the means to comply with the proposed rules. There is a concern that an uncertain regulatory process interferes with environmental justice and food security goals for some states.

Others reminded participants that most agricultural activities and features are already exempted from CWA jurisdiction and that there was some confusion about whether an expanded definition of WOTUS would affect the existing exemptions.

Several participants requested that EPA maintain the prior converted cropland (PCC) exclusion as outlined in the 2020 rule. In many western states PCC could convert to a wetland if fallowed because an agricultural producer does not have a senior water right to keep it in active production. Participants emphasized that the exemption for PCC from WOTUS must recognize western water rights and water law to ensure there are no unintended consequences of PCC reverting to wetlands.

Several participants also discussed the importance of clearly exempting water treatment infrastructure, and some upland waters that may only be connected to a traditional navigable water via groundwater. Most participants reiterated the importance of state oversight of groundwater and the need for clear guidelines associated with WOTUS in light of the Supreme Court decision in *County of Maui v. Hawaii Wildlife Fund*, 140 S. Ct. 1462 (2020).

Participants offered several recommendations with respect to the 404 permitting process. One suggestion was modifying the 404 reporting process and relaxing the aquatic resource delineation requirements for restoration projects to accelerate restoration projects across the west. There was also a recommendation that jurisdictional determinations made by either the Corps or EPA should apply to both the CWA 402 and 404 permitting programs and eliminating the automatic 5-year expiration. Finally, there is a concern with Corps processing applications without making determinations in order to expedite projects. Approval of 404 permits for non-jurisdictional waters misrepresents the number of waters that are considered WOTUS. Finally, several participants identified the lack of consistency and timeliness in permit issuance as a significant problem that should be improved.

Some participants noted that there is a very strong regulatory presence associated with federal water projects and there are significant problems when federal agencies (BOR, USACE, USFWS) do not work together. Participants recommended that the administration revive the water subcabinet that was established during the Trump administration. Others discussed the importance of federal agencies adapting to changing water features due to climate change.

Participants emphasized the importance of clarity and predictability in the final rule noting that subjective terms with case-by-case determinations are very difficult for land owners to navigate. Clarity and certainty are also necessary to ensure that the permit process is more timely. One participant highlighted the work that has been done recently in Oregon under the private forest accords which looks at how to alter protections for different types of systems and evaluate the probability that a stream is perennial.

Several participants indicated that the roundtable discussions are not well timed given the pending *Sackett v. EPA* Supreme Court case.

OMB Listening Session with WSWC

On November 7, the WSWC organized a listening session for member states with the OMB on the revised definition of WOTUS in rulemaking. Under Executive Order 12866, Regulatory Planning and Review, issued by President Clinton in 1993, significant regulatory actions are submitted for OMB review. The states' views expressed in the meeting will be part of the final deliberative rulemaking process. There were at least seven federal representatives in attendance from OMB, the EPA, Department of the Army, and the White House Office of General Counsel. Twelve Council Member States were represented. Erica Gaddis, Senior Policy Advisor, WSWC, provided opening remarks referencing the WSWC's position on Clean Water Act Jurisdiction (#481), with a focus on the importance of federalism, consultation with States as co-regulators, addressing regional differences, and the timeline of the rulemaking.

Four states provided additional comments from state-specific perspectives. Emma Pokon, Deputy Commissioner, AK DEC, outlined OMB's rulemaking standards and reminded the agencies of the importance of meaningful consultation with States. Trevor Baggione, Director, Arizona Water Quality Division, discussed an alternative technical approach to WOTUS determinations and reminded the agencies of the cost of regulatory uncertainty to States and the regulated community. Tom Stiles, Chief, Office of Watershed Planning, Kansas Department of Health and Environment reiterated the importance of a durable rule, the risk of additional litigation in finalizing the current rulemaking without clear plans for implementation, and the possibility of seeking a congressional resolution of this issue. Jim Macy, Director, Nebraska Department of Environment and Energy, raised concerns about the timing of the rulemaking in light of the pending decision in *Sackett v. EPA*.

Final Rule Defining WOTUS

On December 29, EPA Administrator Michael Regan and Assistant Secretary of the Army (Civil Works) Michael Connor, signed the final rule defining WOTUS. The 514-page pre-publication draft of the final rule provides a legal background and discussion of Congressional authority for the new rule; the objectives and scope of the rule; alternatives in the form of past rules; and explanations of this rule's jurisdictional waters, exclusions, and definitions of other terms, and how the agencies intent to implement them. The regulatory language in Title 33 Part 328 and Title 40 Part 120 of the Code of Federal Regulations is presented on the last ten pages of the rule.

The agencies simultaneously released: (1) a five-page summary of the ten regional community roundtables that focused on geographic similarities and differences across the nation; (2) a six-page joint memo to coordinate jurisdictional determinations under the final rule; and (3) an eleven-page joint memo with the U.S. Department of Agriculture to provide clarity on the programs under the Clean Water Act and Food Security Act. On December 30, the Department of Justice sent a letter to the U.S. Supreme Court with the pre-publication version of the rule, in response to Justice Kagan's question during oral argument in *Sackett v. EPA* (#21-454) on whether the forthcoming rule would provide additional guidance on which adjacent wetlands qualify as WOTUS.

The *Summary: Regional Roundtables on Implementation of “Waters of the United States”* provided some background for the roundtables, common themes identified in the meetings, and feedback on improving implementation. Five common themes included: (1) the need for consistency and clarity in the interpretation and application of the WOTUS rule, including the exemptions and exclusions, particularly with different Army Corps of Engineers districts taking different approaches; (2) the need to consider regional differences in implementation, including concerns about ephemeral waters, closed basins, acequias, karst topography, algal blooms, vernal pools, intermittent streams, and the challenges of small communities; (3) the role of state, federal, and tribal governments in protecting water; (4) the impact of a changing climate on water resources; and (5) the need for increased public education and outreach, and incentives for voluntary efforts to protect water quality and wetlands. Two of the suggested actions included (a) better coordination between agencies for implementation, including a guidebook on jurisdictional determinations; and (b) enhancing consideration of regional differences by (i) providing training on the national manual for determining the ordinary high water mark, and (ii) developing regional Streamflow Duration Assessment Methods (SDAMs) for the Arid West, the Great Plains and Western Mountains, and the Northeast and Southeast.

Litigation

Sackett v. EPA

On January 24, the U.S. Supreme Court granted the petition for certiorari in *Sackett v. EPA* (21-454). The Sackett’s filed the lawsuit over the EPA’s administrative compliance order “determining that their home construction violated the Clean Water Act [CWA] because their lot contains wetlands that qualify as regulated ‘navigable waters.’” The Sacketts argued that the lot has no surface water connection to any body of water. The limited issue on appeal is whether the 9th Circuit should have applied Justice Kennedy’s “significant nexus” test set forth in *Rapanos v. United States*, 547 U.S. 715 (2006).

EPA recently held virtual outreach meetings with state and local government officials on its Rule 1 proposal to return to the definition of WOTUS pre-2015, pending promulgation of a new WOTUS Rule 2. The public comment period will close on February 7.

Sackett Amicus Briefs

On April 14, House Representatives Dan Newhouse (WA), Mariannette Miller-Meeks (IA), and Rodney Davis (IL) filed an amicus brief in *Sackett v. EPA*. They urged the Supreme Court to reject the 9th Circuit’s decision, which they said would “allow a federal agency to make every puddle, ditch, and creek in the United States subject to overbearing regulation,” inconsistent with the text of the Clean Water Act. They argued that affirming the 9th Circuit would eviscerate any limit on the meaning of “navigable waters” and would render the term “navigable” a nullity.

On April 18, eleven WSWC member-state Attorneys General joined fourteen others in signing an amicus brief led by West Virginia Attorney General Patrick Morrisey (R). The attorneys general warned that the 9th Circuit decision would undermine congressional intent and urged the Supreme Court to reverse. Joining West Virginia on the brief are Alabama, Arizona, Arkansas, Florida, Georgia, Idaho, Indiana, Kansas, Kentucky, Louisiana, Mississippi, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia and Wyoming.

The brief reads: “By construing the Clean Water Act to reach places with only tenuous connections to navigable, interstate waters, the Ninth Circuit’s approach would saddle States with implementing a vast scheme of federal water regulation. States’ own efforts at conservation, tailored to local needs, would fall by the wayside. Federalism would become an afterthought, too, even though Congress wrote the CWA to ‘recognize, preserve, and protect the primary responsibilities and rights of States’ to mitigate pollution and ‘develop and use’ water resources. If the CWA applies to any damp piece of land with an indeterminate ‘nexus’ to interstate waters, then the Constitution’s and the statute’s balance among the sovereigns will come askew. The Court should restore the CWA to its proper position - complementing States’ water-conservation efforts instead of displacing them.”

The brief’s introduction notes: “When Michael and Chantell Sackett set out to build a house on a piece of land in Idaho’s panhandle, they probably could not have imagined that they were igniting a decade-plus power struggle with the federal government. Back in 2004, the Sacketts had secured necessary local permits and were ready to start construction when federal regulators descended on their property. The land, officials told the Sacketts, might contain ‘wetlands’ regulated under the CWA. These wetlands could be ‘waters’ - not ‘of Bonner County’ or ‘of Idaho - but ‘of the United States.’ So even though the property didn’t contain or connect with any interstate, navigable waters, the Sacketts needed to go through the long and expensive process of obtaining a federal permit. Otherwise, they would risk the ‘criminal penalties and steep civil fines’ for which the CWA’s ‘regime of strict liability’ is known.”

On October 25, the States of Alabama, Alaska, Arizona, Arkansas, Georgia, Indiana, Kansas, Kentucky, Louisiana, Missouri, Montana, Nebraska, New Hampshire, North Dakota, Oklahoma, South Carolina, South Dakota, Texas, Utah, West Virginia and Wyoming filed an amicus brief in support of the petition. The States emphasized their residual and inviolable sovereignty, the division of powers between state and federal governments, and the states’ interest in protecting their authority over local water management matters. “The CWA has an important role to play in ensuring clean water for our country’s interstate waters. But it should not be allowed to engulf every other water law.”

The States noted the inconsistent interpretations of Rapanos and the onerous process of identifying a WOTUS, particularly under the indefinite “significant nexus” standard. In the argument summary, the States said: “Given these problems, the Court should grant the petition and embrace the Rapanos plurality’s test: ‘the waters of the United States’ include only relatively permanent, standing or flowing bodies of water.” That construction is most consistent with the text that Congress

chose. And it gives an understandable, appropriately constrained scope to the Act. The federal government retains its role as the guardian of truly national, navigable waters; the States retake their place as guardians of state waters; and citizens can move forward knowing what, when, and how the various rules apply. The CWA promises an opportunity for genuinely cooperative federalism while advancing the important objective of clean water for all.”

On June 14, the U.S. Supreme Court scheduled oral argument in *Sackett v. EPA* (No. 21-454) for October 3, 2022. Four amicus briefs were filed by 45 states, including AK, AZ, CA, CO, ID, KS, MT, NE, ND, NM, OK, OR, SD, TX, UT, WA, and WY. A joint amicus brief from 26 states that included AZ, ID, KS, MT, NE, ND, OK, SD, TX, UT, and WY, argued that the Supreme Court should reject the significant nexus test to define WOTUS because: (1) it usurps state authority, encompassing intrastate waters with little meaningful connection to navigable waters; (2) it is not found in the text of the CWA; (3) it presses the limits of the Constitutional Commerce Clause powers; and (4) the real-world consequences of the test have demonstrated that it is a confusing, unworkable standard that “imposes serious costs, encourages litigation, and leaves relevant stakeholders in the dark....”

Alaska filed an individual amicus brief, arguing for an interpretation of “waters of the United States” (WOTUS) that is limited to relatively permanent bodies of water, and wetlands that are indistinguishable because they share a physical surface connection. “Alaska also bears the cost of the [federal] agencies’ fluctuating interpretations of [WOTUS]. The regulatory climate is unpredictable, with an agency determining one year that a project is in a jurisdictional wetland and then, after a change of administration, that it is not.... As the [CWA’s] reach expands, Alaska’s Department of Environmental Conservation must do more mandatory inspections and reporting under its delegated [CWA] section 402 program and more section 401 certification analyses. It faces more litigation as parties challenge its work. The department is actively redesigning its permitting system to increase predictability, but keeping pace with changing definitions squanders state resources.”

Colorado filed a separate amicus brief, emphasizing the importance of a “robust floor of federal water quality protection” with minimum WQS and the careful balance of state and federal interests. The brief supported the significant nexus approach and the exercise of federal jurisdiction over tributaries and adjacent wetlands. “The Court need not articulate a wide-ranging new test applicable to all surface waters to resolve this case, which involves a limited question of appropriate federal jurisdiction over wetlands. EPA and the Corps are currently engaged in an effort to revise the regulatory definition of [WOTUS] that will consider a broad range of stakeholder input and address important legal and scientific nuances among different categories of water resources.”

A joint amicus brief from 17 states plus the District of Columbia, including CA, NM, OR, and WA, supported the respondent EPA’s position. They argued that wetlands “with a subsurface-water or other hydrological connection to navigable waters” have a significant nexus to and directly affect navigable waters, and are therefore WOTUS. They noted that the CWA’s federal minimum standards to protect waters from pollutants discharged into wetlands are necessary to protect

downstream states against the risks of weaker or non-existent standards or enforcement actions in upstream states. “Before the CWA, a patchwork of inconsistent state laws proliferated in the absence of uniform federal regulation. Because States could reap the economic benefits of local development while shifting the environmental, regulatory, and economic costs of such development downstream, individual States failed to protect the Nation’s interconnected, shared water system. Congress enacted the CWA in large part to remedy this interstate problem, by setting a federal ‘floor’ of national minimum pollutant controls applicable in every State.... Moreover, Amici States have structured their regulatory programs in reliance on the CWA’s protection of wetlands with a significant nexus to navigable waters and their tributaries. Thus, in addition to the limitations on their ability to alter regulatory shortcomings in upstream States, Amici States would incur significant costs to fill the regulatory gaps within their own States that would follow an interpretation of the CWA that withdrew federal protection from such wetlands.”

Sackett Oral Arguments

On October 3, the U.S. Supreme Court heard oral arguments in *Sackett v. EPA*, case number 21-454. The question presented was whether the Ninth Circuit set forth the proper test for determining whether wetlands are WOTUS under the CWA, 33 U. S. C. §1362(7). The Ninth Circuit held that the Sackett’s property contains wetlands that are adjacent to a tributary of Priest Lake, and that those wetlands together with other wetlands in the area have a significant nexus to Priest Lake. The parties did not dispute that Priest Lake is a navigable water.

Damien Schiff represented the petitioners, the Sacketts, and Brian Fletcher represented the respondents, the EPA and the Corps.

Fletcher noted that the agencies’ new proposed rule was submitted to the OMB for interagency review in September, and that the agencies expect it to be published for public comment by the end of 2022. He said: “Those regulations incorporate the significant nexus test, which is a limiting construction that ensures that the Act reaches only those wetlands that must be covered to reach the traditional navigable waters in which the federal interest is indisputable.”

The parties agreed that some wetlands fall within federal jurisdiction under CWA §1344(g)(1), but disagreed on the scope of such jurisdiction and which wetlands should be included. Schiff argued in favor of a two-step test for wetlands that involved identifying a hydrographic feature that is navigable-in-fact, and abutting wetlands that blend into and become indistinguishable from those waters. He argued that the test fulfilled all of Congress’s purposes, and was easier to administer than the significant nexus test because ordinary citizens “can use their own eyes to reliably determine whether or not their land is regulated.”

Many of the Justices raised questions about interpretations of “adjacent,” from an obvious physical connection on the surface, to a subsurface connection at increasing distances from a navigable water or a tributary to a navigable water, as well as seasonal continuity of water. They asked about natural and man-made barriers, such as berms and roads, and whether those should

disrupt the jurisdictional connection. Fletcher argued, “Overwhelming...and essentially undisputed scientific evidence shows that those sorts of barriers do not diminish wetlands’ essential role in protecting the integrity of other waters.”

Justice Kavanaugh acknowledged that “...this case is going to be important for wetlands throughout the country and we have to get it right.” Justice Alito noted that CWA §1344(g) may shed light on whether the wetlands at issue in this case are jurisdictional, but the Court really needed to interpret what “waters of the United States” means. Fletcher acknowledged that while there are features that easily fit that description – and he included wetlands – there are also difficult cases such as washes and intermittent or seasonal streams. He said that “...it’s a difficult problem of how to interpret it and apply it to all of the different water features in the country.”

The Justices also questioned the timeline for agency interpretation and regulations, the 1977 Congressional amendment to the CWA, Court interpretations of jurisdiction over wetlands, and how those actions or interpretations have impacted the scope of jurisdiction over time.

Justice Sotomayor inquired about the difference between subsurface flow and groundwater flow, noting that it shouldn’t be that hard to know there is subsurface water “when you put your foot in the sand and you can feel it underneath the top of the sand. You can feel it in how watery the soil is.... You could put a stake...into it and feel it immediately or have it spring up immediately.” Schiff noted that there was no legal distinction, or that EPA had never made such a distinction. He also argued that relying on any sort of subsurface connection would essentially render the test of jurisdiction to be limitless in a unified hydrologic cycle.

Justices Thomas and Barrett noted that they grew up, respectively, in the low country of Georgia where there was standing water not bordering on navigable waters, and in New Orleans where they couldn’t dig basements because the water table was too near the surface but all the water flowed into navigable waters. In response to their questions regarding whether landowners in those places would need to seek a jurisdictional determination or permit, Fletcher noted that groundwater and certain other waters are excluded from CWA jurisdiction. “If you’re not in one of those categories, the question that you’d have to ask is...is this adjacent to or is there a significant nexus with the navigable waters? And I think, for an isolated body of water, the answer to that would be no.”

Several other questions touched on the origin and relevance of the significant nexus test. Justice Kagan asked where the significant nexus test comes from, and Justice Barrett asked at what point the significant nexus test applied to wetlands. Fletcher noted that the test arises out of the Supreme Court’s cases interpreting “waters of the United States” to mean something more than navigable waters, but there must still be a connection with navigable waters. For wetlands that are directly adjacent to navigable waters, he said those are covered by CWA §1344(g). For wetlands that are adjacent to upstream tributaries, they must satisfy the significant nexus test.

Justice Jackson asked Schiff: “You say the question is which wetlands are covered, which I agree with, but I guess my question is, why would Congress draw the [jurisdictional] coverage line between abutting wetlands and neighboring wetlands when the objective of the statute is to ensure the chemical, physical, and biological integrity of the nation’s waters?” Justice Sotomayor agreed, noting that Congress was concerned about ensuring the sanctity of our waters and that things directly discharged into it would be safe.

Schiff argued that Congress did not intend for the CWA to cover all waters in order to meet the objective of the statute. “I think Congress recognized that...there would be a significant swath of land use and water regulation that would remain to the states. And I think one good example...is...non-point source pollution. Everyone recognizes that non-point source pollution is a serious water quality issue, but it’s never been disputed that the [CWA] doesn’t reach that, which I think emphasizes that the purpose of Congress in enacting the [CWA] not at all costs.... It was a balancing to recognize that some water quality measures, like wetlands regulation...inevitably converts EPA and the Corps into land use administrators.” He pointed to Riverside Bayview and noted that “...one will have to pick a point at which land ends and water begins, and in that intermediate zone, there will be things like wetlands.” He added that Congress was also concerned with private property rights and ensuring that people had fair notice as to whether their property would be regulated.

Chief Justice Roberts asked how much of an ecological or biological connection there needed to be between wetlands and navigable waters to bring the wetlands under CWA jurisdiction. Fletcher said: “We’re not talking about the possibility that some molecules of water eventually make their way from the wetlands into the lake....” Rather, he said, there must be some significant effect, and listed some of the factors the agencies have considered with more than a decade experience under the post-Rapanos guidance, including “...distance to the tributary, distance to the downstream traditional navigable water, the volume of the flow, the hydrology of the area, the presence of other wetlands.”

Justice Kagan asked whether there was a different alternative to identifying which waters are jurisdictional, some compromise to the tests that have been put forward so far. There did not appear to be one.

Justice Thomas inquired how a purely intrastate body of water could be regulated under the Clean Water Act, and both attorneys explained the reach of the Commerce Clause to waters that have been used to transport commerce that becomes interstate commerce when combined with land transportation. Each referenced a case involving the Great Salt Lake in Utah. It was unclear from the oral arguments whether this was the same case referenced in the amicus brief of the National Association of Home Builders regarding navigable waters, *Utah v. United States*, 403 U.S. 9 (1971), which only addressed the question of navigability as it applied to whether the state held title to the bed of the lake. Justice Thomas asked: “Is there a lot of transportation over the Great Salt Lake?” Fletcher responded: “Apparently not. That’s why it was in litigation. But the Court held that a little bit from the 1880s was enough.”

Justice Jackson disagreed with Schiff's characterization of Congressional preservation of traditional state authority over land and water resources as a "purpose of the Act." She said: "I didn't read that as a purpose, I mean, that Congress said our objective is to address or make sure that we maintain the integrity of the waters. It was one of the policies in achieving that objective that we care about states' rights...or federalism concerns, but I didn't see that as Congress's primary objective or even...a main objective with respect to the Clean Water Act."

Justice Alito noted the vagueness of CWA §1344(g) and its implications for federalism. Fletcher pointed to the Court's prior decisions that have considered those issues. He said: "And we take the significant nexus test to be consistent with those decisions and to be a limiting construction, a narrowing construction on the covered waters include all the waters that are necessary to achieve the goal...and that leave waters that aren't essential to that goal to the states to regulate." Justice Alito pressed him saying that interpretation would extend the federal government's jurisdiction "very, very far," Fletcher said, "It's true that the Act's coverage is broad. It's been understood as broad from the beginning. And that was Congress's intent...to comprehensively regulate the waters of the United States because the prior system that relied primarily on states had proved insufficient, in part because that isn't a problem that the states can solve by themselves because pollution that happens in one state or the destruction of wetlands in one state have consequences that may be felt in many states downstream that can't themselves regulate to address it." Fletcher also noted that while Congress's purpose was broad, the agencies' jurisdiction isn't unlimited, saying "...something like 25 percent of jurisdictional determinations made under the post-Rapanos guidance conclude that there is no jurisdiction under the Act."

While Fletcher asserted that a homeowner could request a jurisdictional determination at no charge from the Corps of Engineers, Schiff argued that the application process was complex and required costly professional assistance to complete. Schiff said: "It's hard to imagine any other statutory system in the federal code that requires a potentially regulated party to initiate a rather expensive and time-consuming process just to find out whether, in fact, one is regulated." He added that "...in the age of the significant nexus [test, it's] very difficult to know whether, in fact, one is regulated."

Chief Justice Roberts and Justice Gorsuch inquired about the level of complexity for a reasonable landowner, whether there was a bright-line rule, a specific distance that provided notice of potentially jurisdictional waters. Fletcher noted that the agencies tried that approach in the 2015 rule, but it was rejected as arbitrary, and that the agencies have not tried to reduce that to a bright-line rule in the new rulemaking. Chief Justice Roberts asked: "Have they tried to reduce it to a vague rule?" Fletcher responded that the agencies have said there must be a reasonable proximity that depends on the hydrology of the area.

Justice Gorsuch inquired about the penalties associated with not recognizing that a property is a water of the United States. Schiff noted the significant civil and administrative penalties that come with the lack of certainty for the regulated community, as well as the potential criminal penalties that fall under the same statutory text and regulatory interpretation of what waters are

covered. “I think that should give the Court particular concern in indulging any sort of malleable or somewhat unclear or flexible test exemplified by the significant nexus test.”

Justice Kavanaugh said: “I just want to follow up on Justice Gorsuch’s earlier questions because I think he identified something that this Court’s overwhelmingly been concerned about for decades, *mens rea* and not punishing innocent people who make a mistake, an innocent mistake.” Fletcher noted that it is very unusual to bring criminal prosecutions absent willful conduct, and if someone was criminally prosecuted, they could bring a claim that the statute was vague as it applied to them.

PFAS

Federalism Consultation/Regulation

On February 24, the EPA hosted a federalism consultation webinar to discuss plans to develop a regulation under the Safe Drinking Water Act (SDWA) to monitor and treat PFAS. The regulation would primarily impact public water systems (PWSs). EPA would propose a non-enforceable Maximum Contaminant Level Goal (MCLG) that would protect health regardless of the technological limits of detection or treatment. They would set an enforceable Maximum Contaminant Level (MCL) as close as feasible to the MCLG, taking costs and benefits into consideration. If it is not technologically or economically feasible, EPA may propose a Treatment Technique in lieu of an MCL, or may set the MCL at a level that maximizes the health risk reduction benefits at a cost justified by those benefits. EPA solicited input from State and local government associations on practical monitoring options, treatment technology, public notification requirements, and other implementation challenges.

EPA acknowledged that some states already have data collection programs to monitor PFAS, and recent PFAS drinking water data was collected under the Unregulated Contaminant Monitoring Rule (UCMR). EPA is considering provisions for initial monitoring of PFAS concentrations, with sample frequency based on the size of the PWS, and composite sample analysis for systems with multiple entry points to reduce analytical costs. For ongoing monitoring, EPA is considering provisions similar to current regulations for Synthetic Organic Contaminants under the Standardized Monitoring Framework. Under that Framework, trigger levels relative to the MCL establish the monitoring frequency, and primacy agencies may grant monitoring waivers to PWS located in areas that don’t use PFAS, or that are not vulnerable to PFAS contamination, with updated vulnerability assessments every three years. EPA was interested in input on: (1) how previous data collected under the UCMR or state programs should be considered in the initial monitoring requirements; (2) whether the PFAS regulation should incorporate the Standardized Monitoring Framework provisions for Synthetic Organic Contaminants; and (3) whether other drinking water monitoring data should be considered.

EPA noted that traditional treatment technologies are largely ineffective at removing perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), and that some PWSs with

PFAS contamination would be required to install new treatment technologies, such as activated carbon, ion exchange, nanofiltration and reverse osmosis. EPA was interested in: (1) the selection and operation of treatment technologies that remove PFAS from drinking water; (2) the effectiveness of identified technologies in reducing PFAS levels; (3) alternative treatment technologies that have been effective; (4) non-treatment options for reducing PFAS levels, such as developing a new water source without PFAS contaminants; and (5) other methods to reduce public health risks from PFAS in drinking water.

Under the Public Notification Rule, PWSs would be subject to one of three tiers of notification if PFAS levels exceeded regulatory standards, and PFAS information would also be included in the Consumer Confidence Report. EPA was interested in input on: (1) how quickly PWSs should be required to notify the public following a violation of the PFAS standard; and (2) what information should be included in the Consumer Confidence Reports.

EPA noted that costs for PWSs would vary significantly depending on the monitoring results and the need to install new treatment technologies. EPA is considering multiple monitoring-related flexibilities to help reduce the burden. Treatment technology costs in the range of five to seven figures (depending on the system size) may be defrayed by specific federal funds set aside in the IIJA to address drinking water PFAS contaminants. The \$11.7 billion for the Drinking Water SRF may be used for eligible projects and activities, which include upgrading treatment technologies. Another \$4 billion specifically addresses emerging contaminants, which can be used to remediate PFAS in drinking water. And \$5 billion was set aside for the Small, Underserved, and Disadvantaged Communities Grants to address emerging contaminants, including PFAS, and could be used to upgrade treatment technologies and provide assistance to increase technical, managerial, and financial capacity.

During the discussion, several organization representatives suggested that EPA grandfather in the monitoring from existing state programs, particularly their waivers for systems with low or no detections. EPA noted that detection technology has been improving in recent years, and this will likely impact what can be regulated. Participants discussed the high costs relative to minimal expected benefits in some situations, and concerns about costs for secondary water quality impacts, such as corrosion control treatments for membrane filtration. Participants also noted that the IIJA funding, as substantial and unprecedented as it is, would barely make a dent in the magnitude of PWS retrofitting that might have to be undertaken to comply with the new regulation. EPA is consulting with the Science Advisory Board on approaches to the PFAS MCLG and health risks from PFAS. EPA anticipates that it will publish a proposed rule for public comment in Fall 2022, aiming to publish the final rule in Fall 2023.

PFOA and PFOS

On May 31, EPA published notice of an extension³⁸ to the public comment period for the draft CWA §304(a) aquatic life criteria for PFOA and PFOS.³⁹ The CWA §304(a) recommended criteria provide guidance to States and authorized tribes for adopting WQS that ultimately provide a basis for controlling discharges of pollutants. EPA's draft criteria provide a review of toxicity data, quantify toxicity to aquatic life, and provide separate PFOA and PFOS criteria to protect aquatic life. Comments were due on July 2.⁴⁰

On August 25, EPA Administrator Michael Regan submitted a proposed rule to the *Federal Register* titled "Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances." The pre-publication draft of the proposed rule would: (1) require facilities to report any discharge of PFOA and PFOS of one pound or more within a 24-hour period; (2) require federal agencies to meet property transfer requirements in CERCLA §120(h); (3) enable EPA and delegated agencies to respond more quickly to releases or threatened releases of PFOA and PFOS; and (4) enable EPA and delegated agencies to require potentially responsible parties to address releases and recover cleanup costs. In particular, EPA is seeking comments on whether costs and benefits, including indirect costs, should be considered in making CERCLA designations, and the number of small entities that would be affected by costs and reporting requirements. Comments were due within 60 days of publication.⁴¹

EPA plans to seek further comments and data in an advanced notice of proposed rulemaking to assist in the development of potential future regulations pertaining to other PFAS designations under CERCLA.

State Revolving Fund

Clean Water and Drinking Water

On March 8, the EPA released an implementation memorandum on the Clean Water and Drinking Water State Revolving Fund (SRF) provisions of the IIJA. It outlines nine key priorities; provides detailed technical information about program requirements for the five SRF funds in IIJA; suggestions for states, including revisions to the definitions of disadvantaged communities; and reviews IIJA amendments to the CWA and SDWA applicable to the SRF programs. EPA anticipates that the implementation memorandum will apply to all five years of IIJA appropriations, with updates for allotment tables, questions and answers, and any other necessary program updates.⁴²

³⁸87 FR 32410

³⁹87 FR 26199

⁴⁰www.regulations.gov, dockets: EPA-HQ-OW-2022-0365 (PFOA); and EPA-HQ-OW-2022-0365 (PFOS).

⁴¹www.regulations.gov, docket: EPA-HQ-OLEM-2019-0341.

⁴²<https://www.epa.gov/dwsrf/bipartisan-infrastructure-law-srf-implementation-memorandum>

Best Practices for Administration

The EPA released a report, Best Practices for Administration of Drinking Water State Revolving Funds (DWSRF) highlighting practices in Alaska, Arizona, Colorado, North Dakota and Utah, as well as Hawaii, Illinois, New Jersey, North Carolina, and Pennsylvania. The report was prepared pursuant to requirements under Section 2015(g) of the 2018 America's Water Infrastructure Act (AWIA). It highlights case studies in seven key areas: (1) streamlining the DWSRF application process; (2) programs that help borrowers complete assistance applications; (3) incentives for larger public water systems to help smaller public water systems with applications; (4) practices to ensure that loan funds are used to provide loans, loan guarantees, or other authorized assistance in a timely fashion; (5) practices that support effective management of loan funds; (6) practices and tools to enhance financial management of loan funds; and (7) key financial measures for evaluating DWSRF operations.⁴³

State Allocations

On March 16, the Senate Environment and Public Works Committee held an oversight hearing on the Clean Water State Revolving Loan Fund (CWSRF) Formula. Witnesses testifying at the hearing included: Jonathan Ramseur, Congressional Research Service; Tom Sigmund, National Association of Clean Water Agencies; Kyle Dreyfuss-Wells, Northeast Ohio Regional Sewer District; and Laura Watson, Washington State Department of Ecology.

Ramseur's testimony provided historical background of the program, including ways the program has expanded over time (in terms of eligible projects and financing options) and how the allotment formula for distributing funds to the states was modified between 1973 and 1987. He said that EPA's 2016 report to Congress, Review of the Allotment of the CWSRF, noted that "most states do not currently receive appropriated funds in proportion to their reported water quality needs or population, which demonstrates the inadequacy of the current allotment." Ramseur provided a chart comparing the results of EPA's three proposed options for adjusting the allotment formula, with the expected percentage change from the current allotment for each state. The proposed allocation changes would increase Clean Water SRF funding for: Arizona (143-216%); California (15-31%); Colorado (81-101%); Idaho (0-43%); Kansas (18-30%); Nebraska (22-55%); Nevada 74-94%; Oklahoma (5-35%); Oregon (4-13%); and Texas (4-10%). The changes would decrease funding for Alaska (-18%) and Washington (+2% to -12%). The changes would not increase or decrease funding (under any option) for: Montana; New Mexico; North Dakota; South Dakota; or Wyoming.

Sigmund proposed that no state see a reduction in funds given the high demand for clean water investments. He recommended that EPA and the states undertake a comprehensive Clean Watershed Needs Survey that accounts for the scope of needs around the country. He thanked Congress for the \$5 million in the IIJA authorized for this purpose, and the \$1.5 million in the FY22

⁴³https://www.epa.gov/system/files/documents/2022-04/awia-best-practices-for-administration-of-drinking-water-state-revolving-funds_2.pdf

Appropriations. “An updated survey is a critical step to inform any formula update and we urge Congress to appropriate the full authorization to help EPA and provide resources to the states to encourage full participation.”

Watson noted that, after a 10-year hiatus, the Clean Watersheds Needs Survey data collection launched in March and will continue through 2022. “Each state carries out this data collection effort and documents needs in an EPA database.” She said this process is time intensive and often results in an underestimate of needs because not all clean water projects have the appropriate documentation required by EPA. The survey is used to provide information to states and EPA, but has not been used to inform allotment of funds, unlike a similar survey used for the DWSRFs.⁴⁴

Build America, Buy America Approved Waivers

On September 2, the EPA released final waivers for domestic procurement requirements in the Build America, Buy America Act (BABA) for projects receiving federal funds through the SRFs for drinking water and clean water. New American sourcing requirements for federally funded water infrastructure projects were put into place by Congress through BABA in 2021, concurrently with the passing of the IIJA. While the importance of creating American supply chains is understood, it is also well known that these requirements can result in significant cost escalations for large infrastructure projects. EPA's announcement grants an adjustment period waiver for IIJA funded projects that had initiated project design planning prior to May 14, 2022. The Council of Infrastructure Financing Authorities (CIFA) is developing an in-depth analysis of the new waivers for states.⁴⁵

Bipartisan Infrastructure Law/EPA Investments

On November 15, EPA released a report summarizing investments made over the past year through the BIL in addressing environmental goals. EPA has awarded \$4 billion in capitalization grants to SRF programs around the country, and 20 state capitalization grants for lead service line identification and replacement that is expected to fund approximately 300 projects. EPA also created a \$5 billion non-competitive grant program for small or disadvantaged communities to address emerging contaminants, including PFAS, in drinking water systems.⁴⁶

Water Infrastructure Finance and Innovation Act

On March 24, EPA released its 2021 Water Infrastructure Finance and Innovation Act (WIFIA) Annual Report. The press release said: “In 2021, the WIFIA program closed 31 loans totaling over \$5 billion to support nearly \$12 billion in water infrastructure projects. At the same time, borrowers saved \$1.5 billion and created nearly 40,000 jobs. The WIFIA program continues

⁴⁴<https://www.epw.senate.gov/public/index.cfm/hearings>

⁴⁵<https://www.epa.gov/cwsrf/build-america-buy-america-baba-approved-waivers>

⁴⁶https://www.epa.gov/system/files/documents/2022-11/BIL_Anniversary_Report_11142022.pdf

to broaden its reach by increasing the number of loans to borrowers with lower-rated credit, small communities, and underserved communities. Looking forward, the program has nearly 90 projects requesting over \$14 billion in funding. Additionally, to provide real time information about the WIFIA program, EPA is launching the WIFIA Fund Facts dashboard. This interactive web-based tool includes graphics and facts about closed and pending loans. Users can filter the data to get information by loan size, project type, geographic location, and loan status.”

Water/Infrastructure Upgrades

On May 3, the EPA announced a \$281 million WIFIA loan to Johnson County, Kansas, for the Nelson Wastewater Treatment Plant improvements. The facility dates back to the 1940s, and the existing treatment technology is not capable of meeting future WQS. The press release said: “The improvements project will modernize the wastewater treatment plant by implementing biological nutrient removal upgrades and adding auxiliary treatment facilities to treat peak wet weather flows and biosolids processing. This project will help Johnson County comply with a consent decree from the Kansas Department of Health and Environment to reduce nitrogen and phosphorus discharges. Upon completion of the project, the wastewater treatment facility will be able to treat 15 million gallons per day [mgd] during average daily flows and 52 [mgd] during peak flows. Additionally, the system will provide an additional 87 [mgd] of wet weather auxiliary capacity, which will allow Johnson County to meet future demand.”

On May 6, EPA announced a \$22 million WIFIA loan to the City of Englewood, Colorado, to support the One Water Modernization Program, to upgrade aging wastewater infrastructure at the South Platte Renew plant. The press release said: “With this loan, Englewood will upgrade its wastewater treatment and conveyance systems by replacing outdated electrical and control systems and making treatment and process improvements to address aging infrastructure. Included in these upgrades are chemical and ultraviolet treatment improvements, which will help to assure that discharges comply with state limits for nitrates. Englewood will also establish a wastewater pilot and research center to test new technologies and treatment equipment. In addition to environmental improvements, these projects will help protect and bolster the system’s resilience to climate change and extreme weather events.”

On May 9, EPA announced two loans totaling \$65 million in Oregon to support a regional Cascade Groundwater Development Program. The press release said: “The WIFIA loans will provide approximately \$30M for Rockwood Water People’s Utility District and \$34M for the City of Gresham, respectively, to finance the expansion of their existing groundwater infrastructure and develop an independent regional groundwater system. By increasing groundwater treatment capacity, Rockwood and Gresham will mitigate rapid water quality changes caused by extreme weather while providing significant long-term cost benefits to residents by reducing reliance on imported surface water. The project will also increase resiliency against earthquakes by implementing alerts and seismically hardened construction techniques.”

With these new loans, EPA noted that it has issued a total of 80 WIFIA loans across the nation, providing \$14 billion in credit assistance to help finance \$30 billion in water infrastructure upgrades, saving ratepayers over \$5 billion, and creating 90,000 jobs.

Funding Availability

On June 14, EPA published the notice for funding availability for the 2022 round of WIFIA loans. Total funding available for the 2022 cycle is \$6.5 billion, including \$1 billion for the SWIFIA program available directly to states. EPA has identified four priority funding areas: increasing investment in economically stressed communities; making rapid progress on lead service line replacement; addressing PFAS and emerging contaminants; and supporting One Water innovation and resilience.

EPA is introducing a rolling selection process, enabling letters of interest (LOIs) to be submitted and reviewed year round. The LOIs will be evaluated on a first come, first served basis, encouraging submissions at the beginning of the availability period. The new process enables EPA to provide technical assistance to prospective borrowers in need of feedback to complete their LOI package.⁴⁷

CWA §401 Certification

On June 1, the EPA released a pre-publication version of a revised rule for CWA §401 certification. The 239-page proposed rule retains some elements of the 2020 CWA §401 rule, but also includes substantive changes. The proposed rule provides States and other certifying authorities with more flexibility and involvement in the §401 certification process by: (1) allowing States to determine the necessary elements of a “request for certification” (aka, an application); (2) requiring that federal permitting agencies collaborate with States to determine a “reasonable period of time” for each certification; (3) limiting federal agency review of certification decisions to issues of process; and (4) ensuring that the certification review process “clock” does not begin until a complete application, as defined by the State, has been received. The proposed rule also includes a requirement that applicants request a pre-filing meeting 30-days before submitting a request for certification and that the request include a draft of the federal license or permit. The proposed rule expands the scope of review to the whole activity associated with a federally licensed or permitted project, provides clarification on issues of neighboring jurisdictions and modifications to certification decisions, and removes enforcement and inspection text from the rule.⁴⁸

On August 8, 2022, the Council of State Governments-West (CSG-West) and the WSWC submitted comments in the form of a letter to EPA Administrator Regan regarding EPA’s proposed rule to improve the CWA Section 401 state certification process. The letter commended EPA for

⁴⁷<https://www.epa.gov/wifia/fy-2022-notice-funding-availability>

⁴⁸<https://www.epa.gov/cwa-401/proposed-clean-water-act-section-401-water-quality-certification-improvement-rule>.

prioritizing the rulemaking, and noted improvements that recognize the role of States regarding the content, processing and conditioning of certifications.

The letter expressed appreciation for the revisions to improve cooperative federalism, but noted further room for improvement in coordination and consultation. “We strongly support early state engagement in federal permitting and licensing actions and the coordination of state and federal environmental requirements and review processes. Unfortunately, the Draft 2022 §401 Rule falls short in this regard by requiring that applicants request a pre-filing meeting 30-days before submitting a request for certification and that the request include a draft of the federal license or permit. Although States appreciate the intent to improve early coordination through a 30-day pre-filing meeting, requiring that such a meeting cannot occur until the federal agency has drafted the federal license or permit has the potential to reduce coordination between state and federal agencies. This approach puts States at the end of the federal permitting process rather than as a partner at the beginning and throughout the process. We strongly support meaningful, substantive and early consultation with States as they work in tandem with EPA to achieve national water quality goals. We thank you for considering these comments and we look forward to working together to protect and restore water quality across our Western States.”⁴⁹

CWA §404(c) Veto/Alaska

On September 6, thirteen state attorneys general (AGs) and one environmental quality director sent a letter to the EPA opposing the proposed determination to pre-emptively veto the federal permitting of the Pebble Deposit Area project in Alaska. The letter was directed to EPA’s Region 10 Administrator, Casey Sixkiller, and was signed by the AGs in Alaska, Arkansas, Indiana, Kansas, Kentucky, Louisiana, Montana, Nebraska, South Carolina, Texas, Utah, West Virginia, and Wyoming, together with the ID DEQ.

Of particular note, the letter points out the uncertainties EPA introduces by using its CWA §404(c) veto authority in inconsistent ways, without clear criteria, and without communicating with the states with regulatory authority of their own. Alaska objected in part to the failure to allow adequate time for the state “to issue, waive, or deny a §401 certification before acting.” The letter also notes that the Region 10 veto “considers factors that Congress, in enacting §404(c), clearly did not intend EPA to consider (including a hypothetical expanded mine scenario, secondary and indirect effects not resulting from point-source discharges, unlikely scenarios of spills and accidents, and previous commentor disapproval).”

The letter concluded: “We have abundant mineral resources in the United States. What we need is a federal government united in its preference for responsibly developing our resources, under our own environmentally protective laws, pursuant to a predictable permitting process.... EPA must act cooperatively with States, and consistent with national policy [e.g., the Inflation Reduction Act of 2022 and the March 2022 Memorandum on Presidential Determination Pursuant to Section 303

⁴⁹<https://westernstateswater.org/policy-letters/2022/csg-west-wswc-cwa-401-comment-letter/>

of the Defense Production Act of 1950], so that we can, as a Nation, build the secure and reliable mineral supply chains that we need....”

Abandoned Mines and Good Samaritan

On February 3, Senator Martin Heinrich (D-NM) introduced the Good Samaritan Remediation of Abandoned Hardrock Mines Act (S.3571). According to the press release, the bill would “make it easier for ‘Good Samaritans’ such as state agencies, local governments, nonprofits, and other groups, to clean up and improve water quality in and around abandoned hardrock mines.... The U.S. has over 140,000 abandoned hardrock mine features, of which 22,500 pose environmental hazards according to the GAO. Organizations that have no legal or financial responsibility to an abandoned mine – true Good Samaritans – want to volunteer to remediate some of these sites. Unfortunately, liability rules would leave these Good Samaritans legally responsible for all the pre-existing pollution from a mine, even though they had no involvement with the mine prior to cleaning it up. [S. 3571] creates a pilot permitting program to enable not-for-profit cleanup efforts to move forward, while ensuring Good Samaritans have the skills and resources to comply with federal oversight. This pilot program is designed for lower risk projects which will improve water and soil quality or otherwise protect human health.” The bill has bipartisan support and is co-sponsored by Senators: Michael Bennet (D-CO); Mike Crapo (R-ID) Steve Daines (R-MT), Jon Tester (D-MT), Ben Ray Lujan (D-NM); and John Barrasso (R-WY).

On September 29, the Senate Environment and Public Works Committee held a legislative hearing on the Good Samaritan Remediation of Abandoned Hardrock Mines Act (S. 3571). Witnesses included Misael Cabrera, Director of the AZ DEQ and James Ogsbury, Executive Director, WGA.

Cabrera said: “CERCLA and the Clean Water Act contain joint and several liability as well as other provisions that are helpful to holding responsible parties liable in the today; these same provisions only serve as obstacles and barriers to addressing pre-regulation AMLs where the responsible party no longer exists.” He pointed to the estimated 22,500 abandoned mine features that need “solutions not barriers.” He noted that the pilot program proposed by S. 3571 is a critical first step, particularly if coupled with funding of Section 40704 of the Infrastructure Investment and Jobs Act (IIJA).

Ogsbury noted that abandoned mines are having substantial, negative effects on water supplies, the environment, and economies of western communities. He said Western Governors have supported efforts to provide protections for Good Samaritans for nearly 30 years, and WGA Policy Resolution 2021-09, Cleaning Up Abandoned Hardrock Mines in the West, specifically supports the kind of pilot projects that S. 3571 authorizes. Ogsbury added: “There is one significant difference between the Governors’ policy and the proposed legislation. S. 3571 would make EPA responsible for determining Good Samaritan eligibility. Western Governors submit that states are more than qualified to make this determination. Many states have agencies that administer the Clean Water Act, regulate and require financial assurance for reclamation of hardrock mines, remediate affected

waters, and implement abandoned mine programs. These states are best suited to determine which entities should be eligible for Good Samaritan status and to review and determine the adequacy of Good Samaritan reclamation plans. Good Samaritan legislation should recognize state authority and expertise in these areas.”

CWA Anniversary

The 50th anniversary of the CWA was marked with events and reflections from the White House, and EPA.

An October 17 White House proclamation read: “Fifty years ago, the Congress passed the Clean Water Act of 1972, revolutionizing America’s responsibility to protect and restore the vital waterways that sustain our communities, our economy, and our ecosystems.

Before this landmark legislation, America’s waters were in crisis, often flooded and even on fire with toxic pollution and cancer-causing contaminants. Industrial waste and sewage threatened our drinking water, and wetlands disappeared at an alarming rate. The Clean Water Act met these challenges head-on, setting and enforcing national WQS, restricting pollution, and investing in wastewater treatment and better wetlands management.

Five decades later, our Nation’s waters are dramatically cleaner. Once dead rivers and lakes are now flourishing with wildlife. People have returned to boat, fish, and swim. Sacred waters that Tribal Nations have relied on for generations are clean again. This is a testament to the tireless partnerships that the Environmental Protection Agency has forged with State, local, and Tribal governments. It is a powerful tribute not only to the activists who first sounded the alarm, built a movement, and fought to pass this powerful law but also to the Americans everywhere who have since done so much to help enforce it, safeguarding our waterways and taking on polluters in court.”⁵⁰

On October 18, EPA Administrator Michael Regan, Assistant Administrator for Water Radhika Fox, and White House Council on Environmental Quality Chair Brenda Mallory along with national and local environmental leaders, gathered in Cleveland, Ohio to recognize the 50th Anniversary on the banks of the Cuyahoga River. “The Clean Water Act has played a transformational role in protecting people’s health and safeguarding our natural resources for the enjoyment of future generations,” said Regan. “From establishing legal policy to driving technological innovation, the Clean Water Act has led to landmark standards, regulations, and protections for waterways across this country. Combined with other key initiatives and historic resources flowing to EPA, the Clean Water Act will continue to reduce pollution, restore and protect precious waters throughout the United States.”

⁵⁰<https://www.whitehouse.gov/briefing-room/presidential-actions/2022/10/17/a-proclamation-on-the-50th-anniversary-of-the-clean-water-act>

“Water shapes our lives. 50 years ago, our nation came together and passed the Clean Water Act—a monumental piece of legislation,” said Fox. “While we’ve made incredible progress, we need to continue to move forward, focusing the ‘North Star’ for the Clean Water Act towards ensuring every community has access to fishable, swimmable bodies of water.” EPA’s Office of Water released a story map on the history and successes of the Act.⁵¹

“President Biden believes every person deserves access to clean water. When the Cuyahoga River burned fifty years ago, people from all backgrounds came together with one voice to demand action,” said Mallory. “Today the Clean Water Act ensures healthier rivers and waters, opening up new possibilities for communities nationwide. Building on the progress of the last 50 years, the Bipartisan Infrastructure Law and the Inflation Reduction Act make unprecedented investments in our nation’s water infrastructure so that we can protect clean water for generations to come.”

Water Quality Standards for Tribes

On November 28, EPA Administrator Michael Regan submitted a proposed rule to the *Federal Register*, WQS Regulatory Revisions to Protect Tribal Reserved Rights. The proposed rule would revise provisions of the WQS regulations (40 CFR part 131) under the authority of Clean Water Act (CWA) §303c, “to establish a transparent and consistent process by which states and EPA can set WQS that protect applicable reserved rights.”

The proposed rule offered the following definition of reserved rights: “For the purposes of this proposed rulemaking, ‘tribal reserved rights’ means any rights to aquatic and/or aquatic-dependent resources reserved or held by tribes, either expressly or implicitly, through treaties, statutes, executive orders, or other sources of Federal law. Tribal reserved rights as defined in this proposed rulemaking generally do not address the quantification of Winters rights.” The proposed rule also notes that this definition would not apply to unratified treaties, reserved rights that have been abrogated or superseded, or legal agreements and compacts between tribes and states that are not federal law and not within the scope of this rulemaking. “Examples of tribal reserved rights as defined in this proposed rulemaking include but are not limited to the rights to fish; gather aquatic plants; and to hunt for aquatic-dependent animals. EPA requests comment on whether there are additional types of tribal reserved rights that it should consider.”

The Fact Sheet on EPA’s website offered the following summary: “EPA’s proposed regulation clarifies that where tribal reserved rights exist, states must account for those rights in revising their designated uses, criteria, and/or antidegradation provisions. The proposal further specifies that WQS must protect unsuppressed use of any reserved resources. Determining the unsuppressed level requires considering past, present, and future use of the resource, along with what is currently reasonably to achieve for the waterbody. The proposal would also require that WQS protect the health of the tribal members exercising reserved rights to at least the same risk level at

⁵¹<https://www.epa.gov/history>

which the general population of the state would otherwise be protected. EPA anticipates the primary application of this provision to be in determining the appropriate cancer risk level when deriving criteria to protect human health. EPA is proposing that state WQS submissions must include documentation of the state's efforts to obtain information about the existence of any applicable tribal reserved rights, their current and past use, scope, and nature, as well as the level of water quality that protects those rights. Additionally, the rule would require states to re-evaluate whether WQS need to be revised to protect any applicable tribal reserved rights at each triennial WQS review. Finally, the proposed rule would require EPA to initiate tribal consultation with the right holders when reviewing WQS submissions to determine whether state WQS protect applicable reserved rights."

Notably, the proposed rule said: "EPA is not proposing to require WQS to be established for every waterbody subject to a reserved right to protect the waterbody condition that existed at the time a reserved right was established.... [T]he regulation is intended to result in WQS that protect reasonably anticipated future uses, taking into account factors that may have substantially altered a waterbody."

The 90-day comment period will begin when the Federal Register publishes the proposed rule.⁵² EPA will host two public hearings on January 24 and 31.

Drought

Senate Committee Hearing

On June 14, the Senate Energy and Natural Resources Committee held a hearing to examine short- and long-term solutions to extreme drought in the western United States. Witnesses included: Camille Touton, Commissioner, USBR; John Entsminger, SNWA; Maurice Hall, Environmental Defense Fund; Patrick O'Toole, Family Farm Alliance; and Charlie Stern, Congressional Research Service.

In his opening remarks, Chairman Joe Manchin (D-WV) said: "The West is currently facing a historic mega-drought and 92% of the area at large is facing some degree of drought. For some states, like Arizona, California, Nevada, New Mexico and Utah – that figure is at 100%. In the southwestern U.S., scientists have called this the worst the area has seen in 1,200 years.... One thing we can all agree on is that an all-of-the-above, collective approach is needed to adapt to these tough conditions, because there are only so many ways to split such a critical and limited resource. I look forward to learning from our expert witnesses on where opportunities exist to further invest in both water supply and water demand. Finally, a long-term, coordinated drought effort is going to require flexible water management strategies and meaningful investment at the state and Federal level. The bottom line is this: water is the most essential resource to the health of our people, our economy, and our environment. But prolonged drought is becoming a frightening new norm. It's going to take

⁵²www.regulations.gov, docket: EPA-HQ-OW-2021-0791.

effort and collaboration from all parties involved to commit to implementing sustainable drought solutions.”

Ranking Member John Barrasso (R-WY) said: “The problems and impacts of drought are clear. What westerners need are solutions. This means we need solutions to help Upper Basin states like Wyoming be in compliance with their obligations to the other Colorado River Basin states. These solutions include providing flexibility in the operation of Bureau of Reclamation facilities to better manage available water resources. We also need to develop better data to understand how much water our state, and other states, are using and account for that use.... Better forecasting data will also identify drought-related problems before they arise. We also need to invest in additional water storage opportunities to more effectively use the water we have.”

Touton provided an overview of regional reservoir conditions in the Colorado River Basin, California Great Basin, Columbia-Pacific Northwest, Missouri River Basin, Arkansas, Gulf, and North Platte River Basins, and the Rio Grande. “Reclamation is working with Tribal Nations, States, agriculture, power customers, municipalities, conservation organizations, and other stakeholders on addressing drought conditions and impacts. Reclamation is working alongside Department of the Interior (DOI) agencies and other federal agencies to ensure drought actions complement the work of these partners.” Touton referenced the efforts of the Drought Resiliency Interagency Working Group, the White House’s Action Plan on Global Water, and the investments through the Bipartisan Infrastructure Law and appropriations reprogrammed for a suite of drought relief projects, including “(1) salinity control, (2) water conservation, (3) temporary pumps and pipes to access water below intakes, (4) wildfire suppression and fuel reduction (5) Tribal assistance activities, (6) reservoir re-operations, (7) forecasting tools, (8) fishery projects, (9) groundwater recharge, (10) water storage, [and (11)] water transfers.”

Touton said: “The severe drought seen in the West highlights the need for immediate actions as well as for thoughtful planning and work to make both our infrastructure and operational decisions more resilient to withstand water resource scarcity and variability. Across the West, Reclamation has continued working on using the best available science to improve water supply forecasting and operations planning and modeling to help inform decision-making and meet competing demands. Reclamation and its partners continue to make investments, both short term and long term, to address drought conditions in the West. But no amount of funding can completely offset the severe shortfalls in precipitation being experienced this year across the American West. We will experience unavoidable reductions in farm water supplies and hydropower generation, ecosystem degradation, and urban areas. We all need to do more together to conserve more water. The Department, and state, Tribal, and local partners have planned for this by being proactive and fully using the tools we have.”

Entsminger said: “I am not a person prone to hyperbole, but I can assure you from on the ground that the ominous tenor of recent media reports is warranted.” He talked about the need to increase the degree of demand management to avoid catastrophic conditions, ramping up conservation efforts, recycling indoor water, reducing evaporative losses, reconsidering crop selection and irrigation efficiency, improving water data including OpenET, and federal support of

large-scale water recycling projects for communities without access to a large reservoir. He provided examples of specific steps Nevada has taken in recent years and plans for the near future to continue to reduce demand. “If Lake Mead reaches deadpool, Nevada’s allocation will undoubtedly be further reduced, but we can still meet critical needs because we invested \$1.4 billion to secure our access to water. However, at that same elevation, California, Arizona, and Mexico will be cut off entirely because water can’t escape Lake Mead. We are at 150 feet from 25 million Americans losing access to the Colorado River, and the rate of decline is accelerating.”

Hall said: “The symptoms may look a bit different in different places, but the short-term and long-term drought conditions that we see vividly in the bathtub rings of Lake Mead and Lake Powell are prevalent all across the West - in the remote farming basins of Nevada, the small communities of northeastern New Mexico, the Tribal lands of the Colorado Plateau, and across the Central Valley of California. While the drought is especially evident where surface water reservoirs have plummeted to record low levels, I want to emphasize that the drought conditions are similarly severe in our less visible groundwater aquifers, which underpin our rivers and streams and supply water to many of our rural communities that have no other options for water supply. The urgency of the situation is clear. And, while we can’t ‘fix’ the drought, we do thankfully have options for responding to drought and reducing the water supply risks, community impacts, economic disruptions and ecosystem damage. The basic problem is that of matching supply and demand.... We can no longer depend on the steady income of rain and snow in the West to refill our water account.”

Hall talked about the importance of education, collaboration, and data for good decision-making. “This need has led EDF to engage with partners in development and improvement of information tools like OpenET and an open source groundwater accounting platform. Maintaining and improving the long-standing programs of USGS’ stream-gaging network and the NRCS’ SNOTEL system are similarly important sources of water data, even as public-private partnerships can improve the data analysis and forecasting from these key data sets.” He provided several examples of resilience strategies, including infrastructure investments, protecting and restoring watersheds and soil health, and incentives to improve agriculture infrastructure and practices. “The conditions we are seeing today should be a blazing wakeup call for bold, innovative action. How we respond now will shape the future of agriculture and rural communities across the West and the health of our major cities and overall economy.”

O’Toole said: “Today’s hearing could not come at a better time. Americans are facing rising food costs and the potential for global famine looms on the horizon.... Meanwhile, our own government has regulatorily withheld water from producers in places like the Central Valley of California, Central Oregon and the Klamath Basin. Many of our members are bracing for yet another year of severe drought and unprecedented water shortages. The Western drought continues with no real federal policy action other than to limit irrigation supplies to farmers and residents. We need to prepare for future droughts, not simply react to current hydrologic shortages.” He provided several examples across the West of agricultural challenges through ongoing drought, including irrigation and water supply reliability, hydropower, inflexible management of federal water projects, conservation measures, wildfire disasters, evaporation and salinity problems, and the need for

collaboration to develop public policies and resource management strategies that maintain a viable and sustainable rural West.

O'Toole talked about investments in Western water infrastructure, as well as improvements to the regulatory processes to expedite permitting of new water projects, and investments in technology to improve modeling, forecasting, and management of water resources. He recommended a fast-track response capability from the U.S. Department of Agriculture and Department of the Interior enabling localized and immediate responses to drought. "Farmers and ranchers need programs through their local NRCS offices to assist with the purchase of infrastructure including solar panels, pipeline materials, well-drilling, tanks, gated pipe and projects to develop water. Such projects can benefit wildlife and wetlands as well as food production." He acknowledged recent Congressional investments in infrastructure and discussed several West-wide bills considered by the Water and Power Subcommittee on May 25. He addressed the health of Western forests, the challenges of good forest management, and the impact of wildfires and poor forest management on water supplies. He referenced several tools and collaborative efforts, and provided examples of success stories.

Stern provided background information on drought and the status of the current drought in the western United States, then described various federal drought policies, programs, and authorities, along with current proposals for new and modified approaches to address drought. "The federal government generally defers to state primacy in surface and groundwater allocation, and therefore states and local entities typically lead efforts to address drought. Most states have drought plans in place, and some of these plans incorporate efforts to reduce drought vulnerabilities. The approach to drought planning and preparedness varies significantly by state. Although many water allocation and other water management responsibilities lie at the state or local level, stakeholders note that localities and individuals often look to the federal government for relief when disasters occur. As a result, Congress has enacted numerous authorities related to drought."

Stern discussed the history of the 1996 Western Drought Coordination Council and the National Drought Policy Commission, the 2006 NIDIS, and the 2013 NDRP. He outlined various federal agency authorities and major drought programs and activities to predict, plan for, and respond to drought, including the NOAA, USBR, USGS, Corps, USDA, NASA, EPA, and FEMA. He described recent funding for programs to address the current drought, directly and indirectly, noting that it will take several years for the funds and programs to have any effect. He talked about public policy options for addressing drought, enhancing state capabilities, expanding data and monitoring, forecast informed reservoir operations, augmenting water supplies with new or expanded water projects, alternative water supplies such as water reuse and desalination, WIFIA loans and other financing programs, WaterSMART grants and other agency grants for efficiency improvements and new water technologies, and managing demand for scarce water resources.⁵³

⁵³<https://www.energy.senate.gov/hearings/2022/6/full-committee-hearing-to-examine-short-and-long-term-solutions-to-extreme-drought-in-the-western-u-s>

Corps/Drought Resilience Interagency Working Group

On July 28, Assistant Secretary of the Army for Civil Works Michael Connor directed the Corps to effectively use its authorities and existing infrastructure capabilities to address extreme drought as part of the Drought Resilience Interagency Working Group.

The press release said: “The Corps’ Civil Works Program has responsibilities throughout the nation’s watersheds from peak to shore. It supports drought resilience through a range of actions, including its operations of existing water infrastructure; management of water resources for navigation, hydropower, and recreation along with municipal and agricultural uses; and development of climate data and tools. The broad scope of the Corps’ mission and assets – including major water infrastructure, wide-ranging water management responsibilities, and deep data and expertise – enables the agency to work with federal and non-federal partners across the nation to help build resilience in the face of unprecedented challenges posed by extreme drought and heat. For example, while meeting the primary purpose of flood-risk reduction at many of its reservoirs, the Corps also operates its existing facilities to support local water needs. The Corps has partnered with academia and federal, state and local agencies, to apply advanced weather and streamflow forecasts to modify reservoir operations in a manner that does not increase flood risk while also improving water availability and ecosystem benefits.”

The memo highlighted forecast informed reservoir operations and other operation deviations and projects to ensure water supply. “In some cases, water availability may be significantly increased on an annual basis for less than 5% of the cost of new infrastructure investments on a dollar per af basis.”⁵⁴

Drought Resiliency and Water Augmentation

On December 22, the Administration announced a \$84.7 million investment to help 36 communities in western states prepare and respond to drought. The spending by state includes: Arizona (\$5.84 million); California (\$36.2 million); Colorado (\$5.85 million); Idaho (\$5.42 million); Nevada (\$1.75 million); New Mexico (\$6.47 million); Utah (\$22.5 million); and Washington (\$1.69 million). Recipients include cities and towns, acequias, irrigation and municipal water districts and agencies, environmental, land and wildlife conservation entities.

Plans, projects and programs to be funded cover drought resiliency and water augmentation including: (1) aquifer storage and recovery, as well as a conjunctive use modeling tool; (2) groundwater wells and treatment; (3) canal, conduit, lateral, pipeline, storage and ion exchange treatment improvements; (4) produced and water reuse opportunities; (5) rainwater harvesting; (6) septic system conversion; (7) water banking; (8) water use efficiency improvements; (9) water management and decision support; and (10) water rate and demand studies.⁵⁵

⁵⁴https://www.army.mil/article/258848/army_corps_of_engineers_support_of_drought_resilient_communities

⁵⁵www.usbr.gov/drought

“As climate change exacerbates drought impacts throughout the Western United States, the Bipartisan Infrastructure Law is advancing our work to invest in innovative, locally-led water infrastructure projects and provide clean, reliable water to families and communities across the country,” said Assistant Secretary of the Interior, Tanya Trujillo.

“Drought resilience is more important now than ever as the West is experiencing more severe and longer droughts,” added USBR Commissioner Camille Touton. “This investment from the Bipartisan Infrastructure Law in locally-led projects will help solidify community’s water supplies and allow families and farmers to respond to the challenges posed by drought.” The funding is part of the WaterSMART grant program.⁵⁶

Indian Water Rights

Funding for Congressionally Authorized Indian Water Rights Settlements

On February 22, the DOI announced that it would allocate \$1.7 billion this year from the IIA fund and the Reclamation Water Settlement Fund (RWSF) toward Congressionally-authorized Indian Water Rights settlements, including: (1) Aamodt Litigation Settlement (Pueblos of San Ildefonso, Nambe, Pojoaque, and Tesuque); (2) Blackfeet Nation; (3) CSKT; (4) Crow Nation; (5) Gila River Indian Community; (6) Navajo-Utah Water Rights Settlement and Navajo-Gallup Water Supply Project; (7) San Carlos Apache Nation; (8) Tohono O’odham Nation; and (9) White Mountain Apache Tribe.

The IIA includes a total of \$2.5 billion to implement the Indian Water Rights Settlement Completion Fund, and the RWSF receives \$120 million in mandatory funding annually from FY20 to FY29. DOI’s press release noted that tribes may see additional investments this year “to address ongoing federal obligations such as operation, maintenance and repair costs under existing settlements” pending further Congressional action on the FY22 budget. Secretary Deb Haaland said: “Water is a sacred resource, and water rights are crucial to ensuring the health, safety and empowerment of Tribal communities. With this crucial funding from President Biden’s [IIA], the Interior Department will be able to uphold our trust responsibilities and ensure that Tribal communities receive the water resources they have long been promised. I am grateful that Tribes, some of whom have been waiting for this funding for decades, are finally getting the resources they are owed.”

The press release said: “Indian reserved water rights are vested property rights for which the United States has a trust responsibility. Federal policy supports the resolution of disputes regarding Indian water rights through negotiated settlements. Settlement of Indian water rights disputes breaks down barriers and helps create conditions that improve water resources management by providing certainty as to the rights of all water users who are parties to the disputes. As part of the implementation strategy, an Indian Water Rights Settlement Completion Fund Executive Committee

⁵⁶<https://www.usbr.gov/newsroom/news-release/4395>

has been established, comprised of the Commissioner of the Bureau of Reclamation, Chairperson of the Working Group on Indian Water Settlements, Director of the Bureau of Indian Affairs, Assistant Secretaries of Water and Science and Indian Affairs, and the Solicitor. The Executive Committee will recommend future allocations of the remainder of the Completion Fund to the Secretary based on current project needs.”⁵⁷

Senate Committee on Indian Affairs Hearings

On March 23, the Senate Committee on Indian Affairs held a legislative hearing on several bills, including the Colorado River Indian Tribes (CRIT) Water Resiliency Act (S. 3308) and a bill to amend the White Mountain Apache Water Rights Quantification Act of 2010 (S. 3168). Witnesses providing testimony on the two bills included: Bryan Newland, Assistant Secretary for Indian Affairs, DOI; Amelia Flores, Chairwoman of the CRIT; and Gwendena Lee-Gatewood, Chairwoman of the White Mountain Apache Tribe.

Newland said DOI supports S. 3308, which “would authorize CRIT to enter into agreements to lease, exchange, or store a portion of its decreed water rights in Arizona,” subject to several pre-conditions regarding agreements between CRIT, Arizona, and DOI. The bill provides that “only that portion of CRIT’s water right that was consumptively used in Arizona four of the five years immediately preceding a proposed agreement would be available for lease, exchange, or storage. In addition, the agreements could be entered into only for use in the Lower Basin portion of the State and could not exceed a term of 100 years. CRIT would be responsible for negotiating all agreements, payments would be made directly to CRIT, and the Secretary would have no trust responsibility with respect to funds paid to CRIT.”

Newland noted that CRIT’s water rights were quantified by the U.S. Supreme Court in 2006, and CRIT has historically diverted about 90% of its entitlement. He said the bill is the result of many years of negotiations between the CRIT and the Senate, and that it is “consistent with principles of self-determination and Tribal sovereignty.” DOI “supports the right of all Tribes to achieve economic value from their water rights....”

Flores talked about the water shortages at Lake Mead and efforts under the Drought Contingency Plan. She said: “CRIT is doing its part. We have been fallowing productive farmland to leave water in the Lake Mead since 2016. We have left more than 200 thousand acre-feet in the Lake, raising it by 3 feet. But without [S.3308], this is the only way we can help. The River needs all the tools that can be made available to survive this continuing trend of less and less water.”

She added, “The CRIT water is the first and highest priority water on the River. The water used by the Arizona metro areas that is delivered by the CAP is the lowest priority, and is getting cut. But unlike many other tribes in the State, we cannot make our water available for deliveries to them

⁵⁷<https://www.doi.gov/pressreleases/tribes-receive-17-billion-president-bidens-bipartisan-infrastructure-law-fulfill>

until Congress allows it.” She also noted that no new infrastructure was needed to deliver or treat the water, and that no federal dollars were needed to implement the bill.

Lee-Gatewood testified in support of S. 3168 regarding cost overruns on the proposed Miner Flat Dam. She said: “The driving force behind the 2009 water rights settlement and the 2010 Quantification Act was the long-standing need to provide a reliable and safe water supply and delivery system to the members of the White Mountain Apache Tribe.” Drinking well production has continued to fall, underscoring the need for surface water supplies delivered by the White Mountain Apache Tribe Rural Water System (RWS). “Without reservoir storage behind Miner Flat Dam, a feature authorized by the Act, the unregulated stream flows of the North Fork of the White River, supplemented by a sharply reduced Miner Flat Well Field, are together inadequate to meet current, much less future, community demands....” The Tribe’s consulting engineers altered the design of the dam to address seepage and stability issues, and the Tribe and the USBR have been working together to complete a mutually-satisfactory design. The bill proposes amendments to increase both the authorized cost of the dam and extend the enforceability deadline.

Newland said: “[DOI] agrees with the Tribe that there are significant challenges and cost gaps associated with the design of the [RWS], specifically Miner Flat Dam. The Bureau of Reclamation and the Tribe have been working to reach agreement on the final project design and cost estimates of Miner Flat Dam, but work remains to be done. At this time, the Department cannot determine whether the additional \$250M proposed by S. 3168 would provide sufficient funding to complete the [RWS]. In addition, S. 3168 raises questions about the timing of indexing for newly authorized appropriations. [DOI] would like to resolve those questions with the Tribe and the bill sponsors. [DOI] supports the intent of S. 3168 to provide the means to complete a needed rural water supply project for the Tribe. We agree and support an amendment that would extend the enforceability date of the Quantification Act to 2025. We are committed to working with the Tribe, the bill sponsors, and this committee to develop a more reliable cost estimate and to clarify indexing of any additional appropriations.”

Arizona

Hualapai Tribe Water Rights Settlement Act

On April 28, Senator Krysten Sinema (D-AZ) and Rep. Tom O’Halloran (D-AZ) introduced the Hualapai Tribe Water Rights Settlement Act (S. 4104 and H.R. 7633). Part of the Hualapai Tribe’s water rights were settled and authorized by Congress in 2014 with the Bill Williams River Water Rights Settlement Act.⁵⁸ The bills authorize \$180 million for the Hualapai Water Trust Fund Account, and \$5 million for the Hualapai Water Settlement Implementation Fund Account. The trust fund is to plan and construct the “Hualapai Water Project, which shall be designed to divert, treat, and convey up to 3,414 [acre-feet per year] of water from the Colorado River in the lower basin [in Arizona], including locations on or directly adjacent to the Hualapai Reservation, for municipal,

⁵⁸PL 113-223

commercial, and industrial uses on the Hualapai Reservation,” for operations and maintenance, for electrical power facilities to pump water, to update well infrastructure and conveyance systems, and for other purposes. The purpose of the implementation fund is to monitor off-reservation groundwater withdrawals in the Truxton Basin to ensure they do not exceed the estimated 3,000 acre-feet per year.

The bills include various provisions for waiving certain claims against the United States and Arizona, such as “for water rights, including rights to Colorado River water, for Hualapai land, arising from time immemorial and, thereafter, forever.” The bills direct the Secretary of the Interior to reallocate the Tribe’s Central Arizona Project (CAP) water, firming it to the equivalent of CAP M&I priority water. The bills authorize the Tribe to supplement its CAP water, at its expense, by entering into agreements with the Central Arizona Water Conservation District, the Arizona Water Banking Authority, or other lawful authority under Arizona law. The Tribe is further authorized to enter into contracts or options to lease or exchange its CAP water within the lower basin of Arizona. The Tribe may also lease any Colorado River water entitlement for use or storage within Arizona, and the leased water may be transported through the CAP infrastructure. Groundwater rights may not be leased off-reservation, and may only be used outside the reservation boundaries under an exchange.

Hopi Reservation/Little Colorado River Adjudication

On May 25, the Special Master filed a final report in the Hopi Reservation subcase of the Little Colorado River Adjudication.⁵⁹ The case adjudicates the claims for federal reserved water rights asserted by the Hopi Tribe, allottees, and the United States from water sources that are appurtenant to the Hopi Reservation, which consists of two non-contiguous geographic areas covering approximately 3,000 square miles. The Hopi Tribe has additional water rights claims under state law that are part of the comprehensive stream adjudication, which began in 1985. Following years of settlement negotiations, the AZ DWR began its investigation of claims in 2004, and in 2008, the Court initiated this subcase to determine priority dates for the federal reserved water rights. In 2016, after AZ DWR filed its Hopi Reservation hydrographic survey report, the Court bifurcated the case into two phases, first to determine past and present water uses, and the second to consider future water uses. The two trials took place in 2018 and 2020.

The 408-page report includes: (1) a procedural history of the case; (2) a legal description of the attributes of federal water rights, tied to the 1882 date of the reservation, and of aboriginal water rights that have a priority of time immemorial, including a right to access to groundwater that is hydrologically tied to surface waters used by the tribe; (3) a description of the physical landscape of the Hopi Reservation; (4) a description of tribal history and culture; (5) a description of past, present and future uses and sources of water for domestic, commercial, municipal, industrial, agricultural, recreational, mining, power, and livestock and wildlife uses; and (6) a recommended decree of the Hopi Tribe's federal reserved water rights, 28,988 acre-feet per year (parsed out by type of use), from

⁵⁹Arizona Superior Court, CV 6417-203.

waters appurtenant to the Hopi Reservation. The priority dates vary: (a) time immemorial for aboriginal water uses within Land Management District 6; (b) 1882 for water diverted on the Hopi Reservation; and (c) 1934 for water diverted on Moenkopi Island and on allotment lands. Objections to the report were due by November 21.⁶⁰

Navajo Nation

Navajo-Utah Federal Reserved Water Rights Settlement Agreement

On May 27, Governor Spencer Cox (R-UT), Navajo Nation President Jonathan Nez, and Secretary of the Interior Deb Haaland formally signed the Navajo-Utah federal reserved water rights settlement agreement. The press release said: “The settlement recognizes a reserved water right of 81,500 acre-feet for current and future water use within the Navajo Nation in Utah. The federal government will pay the Navajo Nation more than \$210 million and the state of Utah will contribute \$8 million toward water projects on the Navajo Nation.”

Governor Cox said: “Today we celebrate the opportunity to bring drinking water infrastructure to the Navajo Nation and water certainty for Utah, the fastest growing state in the country. Sometimes the most important work done by government is done quietly on issues that don’t sound very exciting but which make a big difference in the lives of people. This is one of those times. I’m proud of the staff and leaders who have worked diligently and in good faith for many years to make this happen.”

Navajo Nation v. Department of the Interior

On November 4, the U.S. Supreme Court granted certiorari for two petitions from: (1) the States of Arizona, Colorado, Nevada and various water districts from Arizona, California, and Nevada (Docket #21-1484); and (2) the DOI (Docket #22-51), appealing a 9th Circuit decision, *Navajo Nation v. Department of the Interior et al.*, 996 F.3d 623 (9th Cir. 2021). The two cases have been consolidated under Docket #21-1484.

The Navajo Nation filed the underlying case in 2003, which included a breach of trust claim against the federal government for failure to consider or protect the Nation's unquantified water rights in managing water projects on the Colorado River. Following a lengthy stay for settlement negotiations, the case resumed in 2013, and the Navajo Nation amended its complaint multiple times in response to decisions from the District Court and 9th Circuit about issues of sovereign immunity and standing to assert its various claims for relief. In its proposed Third Amended Complaint, the Navajo Nation sought an injunction compelling the federal government to: (1) “...determine the extent to which the Navajo Nation requires water from sources other than the Little Colorado River to enable its Reservation to serve as a permanent homeland for the Navajo Nation;” (2) “develop a

⁶⁰<http://www.superiorcourt.maricopa.gov/SuperiorCourt/GeneralStreamAdjudication/docs/Final-Report-6417-203-05-25-2022.pdf>

plan to secure the water needed;” (3) “exercise [the government’s] authorities, including those for the management of the Colorado River, in a manner that does not interfere with [such] plan;” and (4) “analyze” the government’s “management decisions” in light of such plan and “adopt appropriate mitigation measures to offset any adverse effects” (as quoted in the DOI petition).

The District Court denied the motion to file the proposed Third Amended Complaint, holding that there was no treaty, statute, or regulation that imposed an enforceable trust duty on the federal government; that enforceable trust duties are not inferable from implied water rights; and that claims to *Winters* rights would have to be filed with the Supreme Court under the retained jurisdiction in *Arizona v. California*. The 9th Circuit reversed the decision, holding that the breach of trust claim was appropriately premised on the implied federally-reserved water rights in the Nation’s treaties with the United States, under the *Winters* Doctrine. The court further held that the “Nation’s [proposed Third Amended Complaint] does not seek judicial quantification of rights to the [Colorado] River, so we need not decide whether the U.S. Supreme Court’s retained jurisdiction [in *Arizona v. California*] is exclusive.” The 9th Circuit remanded to the District Court to allow the Navajo Nation to amend its complaint.

The intervenor-defendant States appealed, presenting the questions of: (1) Whether the 9th Circuit’s decision was contrary to the Supreme Court’s exclusive jurisdiction over the allocation of Lower Basin Colorado River (LBCR) water, as retained in *Arizona v. California*; and (2) Whether the Navajo Nation could assert breach of trust claims by relying on implied rights to water under the *Winters* Doctrine?

The States argued that DOI would not be able to meaningfully manage the LBCR to protect the Nation’s alleged and unquantified water rights, or to develop a plan to meet the Nation’s water needs, without a judicial decree quantifying those rights. An *ex parte* determination of those rights by DOI has already been prohibited by *Arizona v. California*. Additionally, the delivery of LBCR water to the Nation would necessarily reduce the volume of water available to vested water rights holders in Arizona under the 2006 Consolidated Decree in *Arizona v. California*, and would undermine the court’s goals of finality and clarity in issuing that Decree.

The DOI, including the USBR and BIA, also appealed, presenting the question: “Whether the federal government owes the Navajo Nation an affirmative, judicially enforceable fiduciary duty to assess and address the Navajo Nation’s need for water from particular sources, in the absence of any substantive source of law that expressly establishes such a duty?”

DOI’s petition recounted parts of the history of the Colorado River Compact and the proceedings in *Arizona v. California*. While the United States claimed *Winters* rights on behalf of 25 Indian reservations in the Lower Basin, including the Navajo Reservation, only five of those reservations were located on the “mainstream” of the Colorado River. The remaining reservations, including the Navajo Reservation at that time, were located on tributaries, and the Special Master in *Arizona v. California* held that the 1928 Boulder Canyon Project Act intended to apportion only

the mainstream, the water delivered to Lee's Ferry by the Upper Basin states. The Supreme Court declined to adjudicate the claims of reservations asserting *Winters* rights in the tributaries.

The boundaries of the Navajo Reservation have been expanded since then, by Executive Order and Congressional statute, and the mainstream of the Colorado River now flows along the Reservation's northwestern border. Meanwhile, the United States has asserted *Winters* rights to tributaries of the Colorado River system on behalf of the Navajo Nation in adjudications in Arizona, New Mexico, and Utah. The Navajo Nation's water rights to tributaries in New Mexico and Utah have been quantified and resolved as part of negotiated settlements approved by Congress, currently in the implementation phase. The United States did not seek to quantify the Nation's rights to the mainstream of the Colorado River.

DOI's petition argued that the Supreme Court and other appellate courts have set precedents "...that an Indian tribe cannot sue to enforce an asserted trust obligation against the United States unless the tribe can 'identify a specific, applicable, trust-creating statute or regulation that the Government violated.'" DOI argued that such trust obligations raise "significant separation-of-powers concerns," where the court may undermine Congress's "sovereign capacity to implement national policy respecting the Indian tribes." Additionally, DOI argued that the amorphous nature of a potentially broad range of duties under the *Winters* Doctrine could impose a regime of ongoing judicial oversight of duties not expressly accepted by Congress.

The Navajo Nation noted that the precedents cited by DOI are all Indian Tucker Act decisions relating to monetary damages, and do not address *Winters* water rights and seeking injunctive relief. The Nation also pointed out that the federal government already litigates *Winters* rights and administers the water on the Colorado River, and the case-specific holding of the 9th Circuit would not have far-reaching trust implications for the courts or Congress. The Nation's brief recounted the Supreme Court's history of recognizing the distinctive obligation of trust with exacting fiduciary standards in the United States' execution of its treaty obligations toward tribes, including the implied rights to water recognized in *Winters*. The Nation also noted the DOI's acknowledgment of the Nation's legal interests in its unquantified reserved water rights in the environmental impact statements for the 2007 Colorado River Interim Guidelines (for shortages) and for surpluses (2020). Further, the Nation emphasized that at this stage, the 9th Circuit has only authorized the Nation to amend its complaint, with no order compelling the government to deliver water.

In their own petition and their response to the DOI petition, the States pointed to cases where courts have "consistently rejected claims that *Winters* rights require the Government to develop water for a tribe or enforce water rights on behalf of a tribe:" (1) *Hawkins v. Haaland*, 991 F.3d 216, 225-27 (D.C.Cir. 2021); *Ute Indian Tribe of the Uintah & Ouray Reservation v. United States Dep't of Interior*, 1:18-CV-00547 (CJN), 2021 WL 4189936, at *7 (D.D.C. Sept. 15, 2021); and *Hopi Tribe v. United States*, 782 F.3d 662, 669 (Fed. Cir. 2015). "In each of these cases, the courts looked for specific, enforceable trust obligations established by federal law or treaty, and found none." The States also noted that the effects of the 9th Circuit opinion would extend beyond this case, impacting eleven other tribes in Arizona with unquantified water rights claims currently assigned settlement

negotiation teams. Additionally, "...its effect will be felt throughout the West, leaving those with adjudicated water rights in the Colorado River Basin subject to having the security of their water rights severely undermined by administrative adjudications conducted not in courts but within the offices of the U.S. Bureau of Reclamation and the Bureau of Indian Affairs."

The Navajo Nation disputed that the three cases cited by the States are applicable. "One of the additional decisions doesn't even involve a breach-of-trust claim; another does not involve reserved water rights under *Winters*; and in yet another, the tribe – unlike the Nation here – failed to identify a specific source of law establishing a fiduciary duty. None of the decisions undermines the conclusion that treaty-based *Winters* rights combined with extensive statutory and regulatory government control over water can impose fiduciary duties."

California

Tule River Water Rights Settlement Act

On September 15, Senators Alex Padilla (D-CA) and Dianne Feinstein (D-CA) introduced the Tule River Water Rights Settlement Act (S. 4870). The bill ratifies the 2007 settlement agreement and recognizes the Tule River Tribe's reserved water rights and quantifies the tribe's water right to 5,828 acre-feet/year of surface water from the South Fork of the Tule River. The bill would also transfer 10,000 acres of federal lands in the Sequoia National Forest into trust for the tribe to enable management of the headwaters of the watershed.

Neil Peyron, Chairman of the Tule River Tribe, said: "The bill captures decades of hard work on a real solution in our drought-stricken homelands and is also beneficial to our neighbors, the downstream agricultural community, that depend on the South Fork of the Tule River."

Senator Padilla said: "Water is a sacred and necessary resource for Tribal Nations and for all people. As California and the West continue to experience a historic megadrought, [S. 4870] would help provide water security to Tule River citizens now and for generations to come. It is long past time for the federal government to live up to its trust and treaty responsibilities to the Tule River Tribe. We must codify this water settlement and ensure the continued strength of Tribal Nations...."

Senator Feinstein said: "The Tule River Tribe - the second largest tribe in California with more than 1,900 members - often lacks enough drinking water during the summer and is forced to import bottled water for basic household needs.... I'm happy to support Senator Padilla's bill to codify a settlement between the Tule River Tribe, the Interior Department and downstream water users of the tribe's federally reserved water rights that date back nearly 150 years."

Infrastructure

Bipartisan Infrastructure Law Guidebook

On January 31, the Biden Administration released its BIL guidebook with information on 2021 IIJA funding available through more than 375 federal programs. The press release said “[T]he White House has also published an accompanying data file that allows users to quickly sort programs funded under the law by fields like agency, amount, recipient, or program name.” Mitch Landrieu, Infrastructure Implementation Coordinator said: “This resource is a critical part of our extensive outreach to state, local, tribal and territorial governments to ensure the people of America can benefit from this once-in-a-generation investment.”

The 465-page guide includes 39 pages on water infrastructure. It provides an overview of seven major programs: (1) the Drinking Water and Clean Water SRFs (\$23.43 billion); (2) Lead Service Lines (\$15 billion); (3) PFAS and Emerging Contaminants (\$10 billion); (4) Indian Water Rights (\$2.5 billion); (5) Indian Health Service Water and Sewer (\$1.8 billion); (6) Water and Sewer Tax (\$1.25 billion); and (7) Rural Water (\$1 billion). In addition, the Western Water program (\$7.1 billion) “appropriates funds to be spent on projects associated with water storage, groundwater storage, and conveyance projects, water recycling and reuse projects, water desalination projects and studies, watershed management, dam repair and replacement, repairing and replacing aging infrastructure, and WaterSMART grants.” Each program has a separate page with the funding amount, the period of availability, the funding mechanism, the recipients, a description, eligible uses, and the next milestone. Some critical information is still pending. “Future phases of the guidebook will update dates, key timelines for program implementation, best practices, case studies, and links to key resources developed by the White House and key partners.”

The guidebook said: “The majority of the water funding will move through the State Revolving Fund programs. Water utilities, non-profits, drinking water providers, and other potential recipients should begin to work with local stakeholders and state program contacts to identify potential projects, with a focus on prioritizing projects serving disadvantage communities. The Environmental Protection Agency and other agencies will provide technical assistance to help these disadvantaged communities overcome barriers to receiving loans and grants for water improvements. Potential recipients of the lead service line funding are also encouraged to accelerate the development and use of lead service-line inventories, which can help guide the design of replacement projects eligible for these funds. Additional national program guidance will be issued soon to state water primacy agencies.”⁶¹

⁶¹<https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/31/biden-administration-releases-bipartisan-infrastructure-law-guidebook-for-state-local-tribal-and-territorial-governments/>

Landsat

On December 1, the Senate Commerce, Science and Transportation Subcommittee on Space and Science held a hearing titled, “Landsat at 50 & the Future of U.S. Satellite-based Earth Observation.” The hearing highlighted critical Earth Observation (EO) data provided by NASA, NOAA, and the USGS. They discussed the rise of commercial providers, improving access to EO data to spur economic growth, and EO value-added services enabling precision agriculture, improved city planning, water management, wildland fire prevention and detection, and disaster response.

Subcommittee Chair John Hickenlooper (D-CO) noted in his opening remarks that EO data enables farmers to measure soil moisture and improve crop yields, and has assisted Colorado with two things that have become increasingly important: wildfire mitigation and drought management. He provided examples of Landsat images of recent wildfire burn scars in Colorado and of differences in Lake Powell water levels between 1999 and 2021. He acknowledged that the droughts have gone on for so long that some consider it aridification or desertification rather than drought. Subcommittee Ranking Member Cynthia Lummis (R-WY) said that the land in the West is a key part of our lives and culture, from agriculture to energy production, and having detailed data about how that land changes over time is extremely valuable and necessary to make informed decisions. She noted that since the Landsat program moved toward open data, it has become indispensable for individuals and businesses in Wyoming. Committee Chair Maria Cantwell (D-WA) remarked on how valuable the data are in Washington for agriculture and coping with wildfires.

Witnesses included: Kevin Gallagher, Associate Director, Core Science Systems, USGS; Steve Volz, Assistant Administrator for Satellite and Information Services and Acting Assistant Secretary for Environmental Observation and Prediction, NOAA; Kate Calvin, Chief Scientist, NASA; Daniel Jablonsky, President and Chief Executive Officer, Maxar Technologies; and Waleed Abdalati, Director, Cooperative Institute for Research in Environmental Sciences, University of Colorado.

Gallagher noted that the more than \$2 billion in economic benefits of Landsat data surpass the investments in its technology. He called it the gold standard for all civil and commercial land imaging due to the accuracy and precision of the data, and the long and unbroken record of the data since the first Landsat satellite was launched in 1972. He said: “Landsat data is used for a wide variety of domestic applications. In Colorado, for example, Landsat has important applications for agriculture, water, forests, and development of natural resources. In Wyoming, Landsat’s thermal infrared sensor collects data on Yellowstone National Park’s thermal areas, including those previously unknown. As seen with the recent hurricane in Florida, Landsat supports research and response efforts on hurricane and storm surge impacts including assessing tree loss and vegetation damage, structure damage, flooding, water quality, storm surge debris, coastline shift, and long-term vegetation recovery in urban and natural ecosystems.”

Gallagher acknowledged the rise in low-cost, low-orbiting satellites that are commercially developed and operated. While they provide high-resolution optical imagery that is useful for a

variety of applications, he noted that they cannot replace the value that Landsat provides. “This data can augment and complement the coarser-resolution, broader area coverage baseline measurements made by Landsat and other government-sponsored observatories. However, commercially owned global satellite systems currently lack the complicated and expensive calibration capabilities to provide the long-term science-quality imagery required to fully meet government objectives.” Landsat also provides moderate-resolution shortwave infrared and thermal infrared imagery that isn’t expected to be commercially viable for another ten years. He noted the continued relevance and increased popularity of Landsat data: “In 2022, the USGS has fulfilled more requests for Landsat data-at last count, more than 4 billion requests-than in the entire previous 49-year history of the program. That demand for Landsat data is linked to its global utility, free and open access in the cloud, and most importantly, the program’s unrelenting commitment to maintaining the accuracy and precision of these data into the future.”

Volz noted that developing the next-generation satellites takes a decade or longer from concept to deployment, but that the programs to modernize data are already underway to provide enhanced observations into the 2050s. “Harnessing the advances in high performance computing, artificial intelligence/machine learning, and the cloud, NOAA will provide additional capabilities to process and deliver data and information to users such as communities, emergency managers, and city planners to inform their activities and actions. The requirement to sense the atmosphere for temperature, pressure, and water vapor input for weather and environmental numerical models remains one of NOAA’s top priorities for its next-generation systems. To provide needed protections to coastal communities, NOAA plans to add an ocean color imager in geostationary orbit that will complement and vastly augment capabilities in the polar orbit to detect harmful algal blooms.... To best facilitate user needs across orbits and observations, NOAA’s next-generation satellite architecture includes three portfolios: geostationary observations, low Earth orbit, and space weather observation. The next-generation architecture also includes an evolved support system to operate the satellites and use the data.... NOAA’s integrated next-generation observing system will leverage new and existing technologies and partnerships at all levels, and will combine data from various sources, allowing us to deliver significantly improved products and services to our users. The urgency of our changing environment requires action now to better fulfill NOAA’s essential mission to protect lives, property, critical infrastructure, and our economy.”

Calvin said: “NASA plays an essential role in supporting continuity of data records provided by our interagency partners’ satellites.... For example, NASA has been working closely with USGS to finalize the next-generation system architecture for the Landsat Next satellite and will begin formulation activities for the mission activities shortly. NASA’s goal has been striking a balance between incorporating the latest land imaging technologies with ensuring Landsat’s continuous long-term record of land imagery and data within the budget that the Administration and Congress can provide. Landsat Next, now expected to launch as a ‘triplet’ configuration of three platforms, will join Landsat 8 and Landsat 9 on orbit in adding to the continuous long-term record of land imaging that began with the first Landsat in 1972.”

Jablonsky testified on the value Earth observation technology provides to society, the important role of the commercial space sector, and steps industry and Congress should take to help ensure America's continuing leadership. Maxar designs, manufactures, and operates satellites, spacecraft and communications equipment. He stated, "We are here today to mark the 50th anniversary of the launch of the first satellite in the Landsat series by the U.S. Geological Survey (USGS) and NASA in 1972. The fifty-year archive of Landsat observations has supplied invaluable, empirical evidence that has helped build confidence in Earth observation technology and created a shared understanding of how the Earth is changing. Since that time, Earth observation technology and the U.S. space industrial base have advanced rapidly."

He continued: "Earth observation technology is key to solving some of the biggest problems facing humanity and enables a better understanding of the world around us. Earth observation capabilities help identify, monitor, and address problems that threaten the security and economic well-being of every American, and aid in the improvement of the lives of people across the globe."

Abdalati added: "As we continue to live in a world in which our relationship with the environment is critical to our success and prosperity, the value of knowledge about our environment has never been more consequential. Ours is a changing planet, and space-based observations of Earth not only provide us situational awareness that allows us to watch the story of that change unfold, but they provide us the information needed to understand the underlying causes, the evolution of their behaviors, and the implications for the future. They...are a critical element of our national informational infrastructure that helps us thrive in the face of environmental changes and challenges."

The WSWC submitted written testimony in support of the Landsat missions, satellite technology, and ground-truthing data collection programs, noting the value of the continuous record of data for water managers across the West.⁶²

River Basins

Colorado River Basin

Drought Response Operations Plan/Lake Powell

On January 28, the USBR and Colorado River Upper Basin States presented their draft Drought Response Operations Plan (DROP) for public review and comment. The 2019 Colorado River Drought Contingency Plan (DCP) included a Drought Response Operations Agreement (DROA) between the DOI and the Upper Basin States to develop a plan to protect critical water elevations at Lake Powell. The DROA establishes a coordinated and collaborative process for considering implementation of two potential strategies: (1) working within the Glen Canyon Dam annual release volume by changing the timing of monthly water releases to temporarily retain more water in Lake Powell; and (2) increasing water releases from the upstream Colorado River Storage

⁶²See Testimony on pg. 65.

Project Act Initial Units of Flaming Gorge, Aspinall, and Navajo to improve the downstream elevation of Lake Powell.

The DROP includes: (1) a framework document naming various reservoirs upstream of Lake Powell, with provisions for the development of yearly plans in the event of drought; and (2) attachments with current hydrological information for each reservoir that would be updated annually to inform the drought operations in the yearly plan.

The initial page of the plan noted that it would be ready to implement as early as April 2022 if needed. “It does not contain specific Drought Response Operations for 2022 but instead describes the process and the decision-making framework the DROA Parties intend to follow as they develop a Plan for 2022 and the following years.... The DROA Parties request a review of this draft document now...as an initial opportunity to obtain input regarding the more durable process and decision-making framework provisions.” Following consideration of input, they will develop a plan for 2022 if needed. “No Plan can be developed until more information becomes known such as precipitation, snowpack, runoff, reservoir elevations, and other variables during the winter and spring of 2022.”⁶³

Lake Powell Elevation Levels

On March 4, the USBR announced Lake Powell was expected to temporarily decline below a 3,525-foot target elevation, given the abnormally dry winter. The target is part of the 2019 DCP Agreements, specifically the DROP. Elevation 3,490 feet is the minimum power pool elevation, the lowest point at which Glen Canyon Dam can generate hydropower. The target elevation provides a 35-foot buffer and allows time for response actions to help prevent Lake Powell from dropping below the minimum power pool.

A very dry January and February led to a drop in projected unregulated inflows into Lake Powell for Water Year 2022 by approximately 2.2 million acre-feet (and 2 to 3 feet below the 3,525-foot target in March). Lake Powell’s elevation is expected to recover through the course of the spring runoff season, likely in May. USBR, the Upper Colorado River Commission (UCRC), and the Upper Division States are preparing additional measures to implement later this year to help maintain the elevation above 3,525 feet.

“This year the Colorado River Basin has experienced extremely variable conditions with a record high snowpack one month, followed by weeks without snow,” said Reclamation Acting Commissioner David Palumbo. “This variable hydrology and a warmer, drier west have drastically impacted our operations and we are faced with the urgent need to manage in the moment.”

Under the DROA, USBR, in consultation with the UCRC, has implemented proactive drought response operations that together have helped protect Lake Powell’s target elevation by: (1)

⁶³<https://www.usbr.gov/dcp/droa.html>

sending an additional 161,000 acre-feet (af) of water from Blue Mesa and Flaming Gorge reservoirs downstream to Lake Powell; and (2) temporarily reducing monthly releases from Glen Canyon Dam in order to hold back 350,000 af for release later in the year. These proactive actions ensured that Lake Powell will avoid dropping significantly below 3,525 feet during the Spring of 2022.

“Reclamation is not planning to take further action to address this temporary dip below 3,525 feet because the spring runoff will resolve the deficit in the short term,” said Upper Colorado Basin Regional Director Wayne Pullan. “However, our work is not done. Lake Powell is projected to drop below elevation 3,525 feet again later this year. Reclamation and the Upper Division States continue to collaborate with stakeholders and partners to develop and implement additional actions....”

“We appreciate the collaboration among Reclamation and the Upper Basin States at this critical time to develop the 2022 Drought Response Operations Agreement and Operations Plan. We are optimistic these actions will provide additional protection to critical elevations in Lake Powell,” said Chuck Cullom, Executive Director of the UCRC.

USBR is closely monitoring basin snowpack and runoff projections, while actively engaging with the Upper Division States, Tribes, and federal agencies such as the NPS, USFWS and Western Area Power Administration, water users, non-governmental organizations and key stakeholders to protect the elevation of Lake Powell.⁶⁴

On May 3, the USBR announced two operational changes to keep the Lake Powell surface water elevation above 3,490 feet, the lowest point at which Glen Canyon Dam can generate hydropower. The actions will increase flow from upstream reservoirs and release less water downstream. Under the terms of the 2019 DCP and the 2022 DROA, approximately 500,000 acre-feet of water will be released from Flaming Gorge Reservoir, which is at 78% of its storage capacity. Another 480,000 acre-feet will be left in Lake Powell by reducing Glen Canyon Dam’s annual release volume from 7.48 million acre-feet (maf) to 7.0 maf, as outlined in the 2007 Interim Guidelines. Further supplemental upstream releases from Blue Mesa and Navajo reservoirs may be required later this year. Similar upstream releases were made during the summer of 2021.

Assistant Secretary for Water and Science Tanya Trujillo said: “Today’s decision reflects the truly unprecedented challenges facing the Colorado River Basin and will provide operational certainty for the next year. Everyone who relies on the Colorado River must continue to work together to reduce uses and think of additional proactive measure we can take in the months and years ahead to rebuild our reservoirs.” Reclamation Acting Commissioner David Palumbo said: “Reclamation applauds the quick response and support from across the Basin for these actions. As we focus on these short-term response actions, we recognize the importance of simultaneously planning for the longer-term to stabilize our reservoirs before we face an even larger crisis.”⁶⁵

⁶⁴<https://www.usbr.gov/newsroom/#!/news-release/4117>

⁶⁵<https://www.usbr.gov/newsroom/#!/news-release/4196>

Lake Powell's Estimated Loss of Storage Capacity

On March 21, the USGS and the USBR released a report on Lake Powell's storage capacity, titled "Elevation-area-capacity relationships of Lake Powell 2018 and estimated loss of storage capacity since 1963." The USGS survey used "high-resolution multibeam bathymetry and lidar to create the equivalent of an underwater topographic map of the reservoir. The data were then combined to create a topobathymetric digital elevation model (TBDEM), a continuous representation of submerged bathymetry and subaerial topography."

The news release said: "The report confirms Lake Powell has lost 4% [1.1 million acre-feet] of its potential storage capacity since 1986, when the last survey was completed, and 6.79% [1.8 million acre-feet] since 1963, when the diversion tunnels of Glen Canyon Dam closed and the reservoir began to fill. The loss is largely due to sediments continuously transported by the Colorado and San Juan rivers settling on the reservoir bottom."⁶⁶

Impacts of Drought and Low Runoff

On April 8, Tanya Trujillo, Assistant Secretary for Water and Science, DOI, sent a letter to representatives of the Governors of Arizona, California, Colorado, New Mexico, Nevada, Utah, and Wyoming outlining the most recent impacts of drought and low runoff in the Colorado River Basin, as well as the finalization of the 2022 DROP in the coming month. She expressed additional concerns about hydropower operations. The letter said: "Notwithstanding these robust, ongoing efforts...we believe that additional actions are needed to reduce the risk of Lake Powell dropping to elevations at which Glen Canyon Dam releases could only be accomplished through the river outlet works (i.e., below elevation 3490' mean sea level (msl)), or hydropower operations infrastructure at Glen Canyon Dam would be adversely impacted.... In such circumstances, Glen Canyon Dam facilities face unprecedented operational reliability challenges, water users in the Basin face increased uncertainty, downstream resources could be impacted, the western electrical grid would experience uncertain risk and instability, and water and power supplies to the West and Southwestern United States would be subject to increased operational uncertainty."

The letter continued: "Glen Canyon Dam was not envisioned to operate solely through the outlet works for an extended period of time and operating at this low lake level increases risks to water delivery and potential adverse impacts to downstream resources and infrastructure. In addition, should Lake Powell decline further below elevation 3490 feet, we have recently confirmed that essential drinking water infrastructure supplying the City of Page, Arizona and the LeChee Chapter of the Navajo Nation could not function. Given our lack of actual operating experience in such circumstances since Lake Powell filled, these issues raise profound concerns regarding prudent dam operations, facility reliability, public health and safety, and the ability to conduct emergency operations." The letter requested that the States consider further conservation efforts and potentially

⁶⁶<https://www.usgs.gov/news/national-news-release/lake-powells-storage-capacity-updated-first-time-1986>

reducing Lake Powell releases by 500,000 acre-feet, to 7.0 million acre-feet for the 2022 water year, under the terms of the 2007 Interim Guidelines.

Additional Water to Protect Critical Elevations

On July 19, the Upper Division States of Colorado, New Mexico, Utah, and Wyoming, through the UCRC, delivered a letter to USBR Commissioner Camille Touton in response to her requested that the Colorado River Basin States develop plans by mid-August to find an additional 2-4 million acre-feet (Maf) of water to protect critical elevations at Lake Powell and Lake Mead. The request was made in testimony on June 14, before the Senate Natural Resources Committee to “Examine Short and Long-Term Solutions to Extreme Drought in the Western U.S.”

The 5-Point Plan outlines additional actions and tools to help protect the Upper Basin’s critical infrastructure. However, the tools are naturally limited due to the shrinking supply of the river, depleted reservoir storage, and also due to previous drought response actions taken in the Upper Basin. The letter read, “The Upper Basin is naturally limited to the shrinking supply of the river, and previous drought response actions are depleting upstream storage by 661,000 acre-feet. Our water users already suffer chronic shortages under current conditions resulting in uncompensated priority administration, which includes cuts to numerous present perfected rights in each of our states.”

All Basin States and water users need to participate and collaborate on solutions that can bring the system into balance. The success of the 5-Point Plan hinges on additional actions implemented below Lake Powell. While there are significant investments in additional water conservation underway by some water users in the Lower Basin, Reclamation forecasts for 2022 show that overall water depletion in the Lower Basin plus Mexico is not significantly below 2021 levels. The Upper Division States note they stand ready to work with the United States, Basin States, Tribes, and water users to not only address the near-term risks in the Basin but also to develop longer-term solutions to improve the resiliency of the Colorado River.

The letter continued, “We intend to implement the 5 Point Plan to the extent it is effective, in conjunction with plans developed for the Lower Basin. The components of the 5 Point Plan: (1) Seek amendment and reauthorization of the System Conservation Pilot Project legislation originally enacted in 2014...and seek funding to support the program in the Upper Basin.... (2) Commence development of a 2023 Drought Response Operations Plan (2023 Plan)...consistent with the Drought Response Operations Plan Framework (Framework).... These requirements include, but are not limited to, determining the effectiveness of any potential releases from upstream...to protect critical elevations at Glen Canyon Dam, and ensuring that the benefits provided to Glen Canyon Dam facilities and operations are preserved. (3) Consider an Upper Basin Demand Management program as interstate and intrastate investigations are completed. (4) Implement, in cooperation with Reclamation, the Bipartisan Infrastructure Law for Upper Basin Drought Contingency Plan funding to accelerate enhanced measurement, monitoring, and reporting infrastructure to improve water management tools across the Upper Division States. (5) Continue strict water management and

administration within the available annual water supply in the Upper Division States, including implementation and expansion of intrastate water conservation programs and regulation and enforcement under the doctrine of prior appropriation.”

The letter concluded: “The challenges in the Colorado River Basin affect us all and require collaboration across the entire Basin.... Reclamation data shows that Lower Basin and Mexico depletions are more than double the depletions in the Upper Basin. Therefore, additional efforts to protect critical reservoir elevations must include significant actions focused downstream of Lake Powell. Otherwise, the effectiveness of our 5 Point Plan will be limited. We look forward to working with you on this critical effort while also developing sustainable long-term solutions to address the challenges we face in the Colorado River Basin.”⁶⁷

2023 Operating Conditions for Lake Powell and Lake Mead

On August 16, the DOI set the 2023 operating conditions for Lake Powell and Lake Mead and announced further action to protect the long-term sustainability of the Colorado River system.

The USBR’s August 2022, 24-month study projected that the January 2023 water surface elevations for Lake Powell would be 3,521.84 feet (38 feet above minimum power pool) and for Lake Mead would be 1,047.61 feet, triggering a Tier 2a shortage condition under the DCP.

The Lower Colorado River Basin will take additional water delivery reductions: (1) Arizona will be reduced by about 21% of its annual apportionment, 592,000 acre-feet; (2) Nevada will be reduced by 8% of its annual apportionment, 25,000 acre-feet; (3) Mexico will be reduced by 7% of its annual allotment, 104,000 acre-feet; and (4) California is not yet required to reduce its water apportionment under the 2023 operating conditions.

In the Upper Colorado River Basin, drought operations were implemented to protect Lake Powell beginning in May 2022. The 2023 projections indicate that Lake Powell could release between 7 and 9.5 million acre-feet (maf), but upon further evaluation of hydrologic conditions in April 2023, DOI may limit releases (with a minimum of 7 maf) under Section 7.D of the 2007 Interim Guidelines to protect Lake Powell from declining below 3,525 feet by December 2023.

USBR’s recent Protection Volume Analysis provides a range of further actions that may be needed to stabilize water surface elevations for future years, depending on future snowpack and runoff. The preliminary analysis considers two protection levels: (1) for Lake Powell, at 3,525’ and 3,500’; and (2) for Lake Mead, at 1,020’ and 1,000’. Additional water reductions to protect these levels may range from 600,000 acre-feet to 4.2 maf annually, depending on Lake Powell inflow.

⁶⁷<http://www.ucrcommission.com/upper-division-states-and-ucrc-provide-5-point-plan-for-additional-protection-actions/>

The urgent actions USBR will be taking in the Upper Basin include: (1) administrative actions needed to authorize a reduction of Glen Canyon Dam releases below 7 million acre-feet per year, if required to protect critical infrastructure at Glen Canyon Dam; (2) accelerate ongoing maintenance actions at Glen Canyon Dam and studies to determine and enhance projected reliability of the use of the river outlet works, commonly referred to as the bypass tubes, for extended periods; (3) support technical studies to ascertain if physical modifications can be made to Glen Canyon Dam to allow water to be pumped or released from below currently identified critical and dead pool elevations; (4) continue to work with the Basin States, Basin Tribes, stakeholders and partners to be prepared to implement additional substantial releases from Upper Basin Reservoirs to help enhance reservoir elevations at Lake Powell under the Drought Contingency Plan's Drought Response Operations Agreement; (5) invest in system conservation and voluntary agreements; and (6) consider other operational actions to establish flexibility in Upper Basin operations at USBR facilities.

In the Lower Basin, USBR will: (1) take administrative actions needed to further define reservoir operations at Lake Mead, including shortage operations at elevations below 1,025 feet to reduce the risk of Lake Mead declining to critically low elevations; (2) prioritize and prepare for additional administrative initiatives that would ensure maximum efficient and beneficial use of urban and agricultural water, and address evaporation, seepage and other system losses in the Lower Basin; (3) support technical studies to ascertain if physical modifications can be made to Hoover Dam to allow water to be pumped/released from elevations below currently identified dead pool elevations; (4) invest in system conservation and voluntary agreements; and (5) consider other operational actions to establish flexibility in Lower Basin operations at USBR facilities.⁶⁸

Responding to the August 2022 USBR 24-month study, Upper Colorado River Basin Commissioner Becky Mitchell (Colorado) stated: "The Colorado River Basin is facing unprecedented challenges, and the 40 million people who rely on this critical resource are depending on the Basin states and federal government to develop inclusive, sustainable solutions that protect the system and its infrastructure now and into the future. I am proud to say that the Upper Division States are meeting the moment with our 5-Point Plan, and our focus now turns to implementation, including additional conservation efforts to maximize efficiency in all sectors. However, this plan is ineffective without action in the Lower Basin. This will require leadership from the U.S. Department of the Interior through the U.S. Bureau of Reclamation, and bold action across the Basin. Downstream of Lake Mead and Lake Powell, depletions must come into balance with available supply. Colorado stands ready to work with our partners in the Lower Basin, the U.S. Bureau of Reclamation, and the U.S. Secretary of the Interior as they make the difficult decisions that are necessary to sustain the system."

Conservation and Efficiency Program

On October 12, the DOI announced a new Lower Colorado River Basin System Conservation and Efficiency Program to help prevent depletions from the Colorado River. The Inflation Reduction

⁶⁸<http://www.doi.gov/pressreleases/interior-department-announces-actions-protect-colorado-river-system-sets-2023>

Act (H.R. 5376) included \$4 billion for the water management and drought mitigation program, which will be managed by the USBR.

There are three program components for applicants to submit proposals for conservation, with the first two available in October to November, and the third allowing proposals to be submitted in 2023. The first component accepts proposals for conservation that result in wet water remaining in Lake Mead at set prices: (1) \$330 per acre-foot for one-year agreements; (2) \$365 per acre-foot for two-year agreements; and (3) \$400 per acre-foot for three-year agreements. The second component accepts proposals for projects at a variety of pricing options. The third component accepts proposals for long-term improvements for multi-year conservation.

DOI Secretary Deb Haaland said: “The prolonged drought afflicting the West is one of the most significant challenges facing our country. I have seen firsthand how climate change is exacerbating the drought crisis and putting pressure on the communities who live across Western landscapes. Thanks to historic funding from the Inflation Reduction Act, the Interior Department is committed to using every resource available to conserve water and ensure that irrigators, Tribes and adjoining communities receive adequate assistance and support to build resilient communities and protect our water supplies.”

USBR Commissioner Camille Calimlim Touton said: “This significant investment from the Inflation Reduction Act enables the Bureau of Reclamation to improve water management and conservation efforts in the Colorado River Basin today - and for the future. The Lower Colorado River Basin System Conservation and Efficiency Program provides both new opportunities for system conservation and more durable long-term solutions for areas experiencing drought.”

Notice of Intent/Supplemental Environmental Impact Statement

On October 28, the DOI announced expedited steps to prepare new operational measures that are needed to protect the Colorado River under projected continued low-flow hydrologic conditions. More specifically, the USBR is “initiating an expedited, supplemental process to revise the current interim operating guidelines for Glen Canyon and Hoover Dams in 2023 and 2024 in order to provide additional alternatives and measures.” As part of this announcement, USBR published a Notice of Intent (NOI) to prepare a Supplemental Environmental Impact Statement (SEIS) to revise the Colorado River Interim Guidelines finalized in a December 2007 Record of Decision.

The NOI outlined the potential need to modify current operations and reduce releases from both Glen Canyon Dam and Hoover Dam. In addition to a No Action alternative, the SEIS will analyze two possible action alternatives. First, the Framework Agreement Alternative refers to an “additional consensus-based set of actions that would build on the existing framework for Colorado River Operations” as outlined in the 2019 Colorado River Drought Contingency Plan (DCP) Authorization Act. Second, the Reservoir Operations Modification Alternative included a set of actions and measures, developed by USBR, pursuant to Secretarial authority under applicable federal law. This alternative would also “consider how the Secretary’s authority could complement a

consensus-based alternative that may not sufficiently mitigate current and projected risks to the Colorado River System reservoirs.” USBR is accepting input on the SEIS through December 20, 2022.⁶⁹

Endangered Fish Recovery Programs

On March 15, the House passed the Upper Colorado and San Juan River Basins Recovery Act (H.R. 5001) by a vote of 397-27. The bill reauthorizes the DOI endangered fish recovery programs for the two river basins (PL 106-392) through FY24. Sponsor Joe Neguse (D-CO) said: “These successful recovery programs are the result of states, tribes and water users coming together to ensure we are advancing local water projects and protecting the fish that are native to the Upper Colorado and San Juan River Basins. And as our state experiences unprecedented drought and damaging western wildfires, continuing water development while preserving species is even more important.” Rebecca Mitchell, Director, Colorado Water Conservation Board said: “The recent down-listing of the Humpback chub from endangered to threatened status is evidence of successful cooperation through the Colorado Basin endangered fish recovery programs.” The bill would extend programs which currently study, monitor, and stock the fish, manage habitat and river flows, and combat invasive species. The programs work to recover four threatened and endangered species: the humpback chub, bonytail, Colorado pikeminnow, and razorback sucker.

Columbia River Basin

State Department/Columbia River Treaty

On May 17, representatives from the United States and Canada met in one of a series of informal discussions in 2022 about identifying critical issues and advancing negotiations on modernizing the Columbia River Treaty. The U.S. representatives presented a new proposal, “which included a framework for operations and addresses flood-risk management, hydropower co-ordination, ecosystem co-operation and Canadian operational flexibility.”⁷⁰

According to the U.S. State Department, in 2024, the current flood risk management provisions of the treaty will shift to a less-defined approach. It also marks the earliest date that the U.S. or Canada may provide ten years’ written notice of the desire to terminate the treaty.⁷¹

On August 10-11, a U.S. delegation participated in the 13th round of negotiations with the government of Canada on the Columbia River Treaty. The U.S. delegation included representatives from: the Bonneville Power Administration; the Corps, Northwestern Division; the DOI; and NOAA.

⁶⁹<https://www.doi.gov/pressreleases/interior-department-initiates-significant-action-protect-colorado-river-system>

⁷⁰<https://news.gov.bc.ca/releases/2022EMLI0035-000826>

⁷¹https://www.state.gov/columbia-river-treaty/#nav__primary-nav

The U.S. State Department press release said: “The negotiating teams reviewed proposals developed by both countries to reach an agreed upon a modernized framework that incorporates flood risk management, hydropower coordination, ecosystem cooperation, and increased Canadian operational flexibility. This progress builds upon discussions in a series of meetings since resuming negotiations in December 2021.”

Klamath River Basin

House Natural Resources Subcommittee Oversight Hearing

On March 8, the House Natural Resources Subcommittee on Water, Oceans, and Wildlife held a virtual oversight hearing titled Klamath River Basin Conditions and Opportunities. Witnesses included: Steve Guertin, USFWS; David Palumbo, USBR; Amy Cordalis, Yurok Tribe and Ridges to Riffles Conservation Fund; Joe Davis, Hoopa Valley Tribe; Robert Super, Karuk Tribe; Tricia Hill, Klamath Water Users Association; and Geri Byrne, Modoc County, California.

Guertin testified on the DOI’s response to the ongoing drought crisis in the Klamath Basin, including efforts to maintain and restore species, and the \$162 million in funding through the IJA “to engage with Tribes and stakeholders in one of the largest wetland restoration projects in the nation, secure water for the Klamath Refuges, and ensure the persistence of endangered Lost River and shortnose suckers for future generations.” He noted that 2021 was one of the worst water years on record for the Klamath Basin, between major wildfires and water shortages. He said drought is not new, but the scale and intensity are unparalleled, and this “may be the baseline for future hydrologic conditions.” Every community, stakeholder, and species has been affected. Collaboration between federal agencies, states, tribes, irrigators, legislators and local communities is important for long-term solutions.

Cordalis emphasized the need for dam removal, habitat restoration, and quantification of water rights. She noted that fish and rivers need water to function ecologically. “There will be no equity, peace, or sustainability in the Basin until all the water rights in the Basin are quantified. Currently, the Yurok Tribe’s water rights are the largest unquantified water right in the Basin and no water goes down the River in the Tribe’s name. This is a glaring inequity provided the Tribe’s rights are the most senior in the Basin and that the lack of water for instream flows in the Klamath Basin has been a major factor in the decline of Klamath River salmon. The Tribe’s water rights include water necessary to fulfill the purposes of the Yurok Reservation. That purpose necessarily includes water for fish and ecological flows. Satisfying the Yurok water rights will secure a more ecologically beneficial instream flow regime for overall ecosystem health, not just a single species like what is provided under the ESA. This will improve fish production and survival and improve the overall health of the River. Fulfilling the homeland purposes of the Yurok Reservation is paramount to the overall restoration of the Klamath Basin.”

Davis testified regarding the Hoopa Tribe’s concerns over the Trinity River management, treaty rights and responsibilities that have been ignored, congressional statutes that have been

ignored, and the loss of fish that has devastated the tribe. He said: “The Law of the Trinity River provides a framework of authority for opportunity in the basin. Key statutes, regulations, administrative decisions and judicial opinions are in place. Faithful compliance with them and respect for Hoopa sovereignty will carry us a long way to the future we all seek in the Klamath basin.”

Super testified regarding the dam removal schedule for later in 2022, noting that the dams “provide no irrigation deliveries, no drinking water, and no flood control benefits,” and that the removal of the dams is not funded by the federal government. But he said that dam removal alone is not enough to restore the river and fish habitat, and welcomed the IJA funds, urging the federal agencies to make sub-basin restoration a priority.

Hill and Byrne testified about the consequences of the USBR’s decision in 2021 to allocate zero water for wildlife refuges and Klamath River Project agriculture. They noted that the decision was intended to protect fish, but it did so at the expense of other species, dried up hundreds of domestic wells, and created health problems in the form of dust.

Water Supply

On August 18, the USBR notified irrigation districts in the Klamath Basin that water diversions from Upper Klamath Lake, already reduced to 15% of 2022 demand, would be cut off for the remainder of the season. The districts questioned USBR’s legal authority to cut off water supply to the farming community. On August 23, the Klamath Irrigation District notified USBR that it had closed the A Canal Headworks “under duress and continued protest.” Irrigators are pumping groundwater to keep crops alive, and return flow-dependent wildlife refuges are dry.

In May, the Klamath Tribes filed a lawsuit against the federal government for letting farmers take irrigation water rather than leaving water in the lake for endangered fish, in violation of a 2020 biological opinion and the ESA. The current guideline establishes a minimum 4,138’ elevation.

On August 23, DOI announced a \$26 million allocation of IJA funds for Klamath Basin restoration projects, including \$16 million for ecosystem restoration, water quality improvements, and sustaining wetlands, and \$10 million to expand the fish rearing capacity of the Klamath Falls National Fish Hatchery.

The USBR and National Fish and Wildlife Foundation will provide another \$2.2 million to improve fish and wildlife habitat. Projects include the removal of fish passage barriers, improved access to cold water refugia, instream habitat enhancement, water conservation, and fine sediment reduction.

Environmental Impact Statement

On August 26, the FERC issued its final Environmental Impact Statement (EIS) on the proposed removal of the Lower Klamath Hydroelectric Project. FERC found that “any short and long-term, adverse environmental effects and the loss of power generation resulting from the proposed action would be outweighed by the substantial long-term environmental benefits gained from project decommissioning, as stated in this final EIS. The environmental and public benefits of the proposed action, with additional staff recommendations, would exceed those of the no-action alternative (status quo). Therefore, [FERC] recommends approval of [the Klamath River Renewal Corporation’s] application for surrender of license, as proposed, with the above-stated additional staff recommendations and conditions from the water quality certifications issued by the California Water Board and Oregon [Department of Environmental Quality] and the [biological opinions] issued by [the National Marine Fisheries Service and Fish and Wildlife Service].”⁷²

USBR/River Basin Studies

On December 22, USBR announced it will spend \$4.6 million to partner on four river basin studies in Colorado, Idaho, Oregon, Utah and Washington. The Basin Study Program is part of the WaterSMART Program. Basin studies are collaborative studies, cost-shared with non-Federal partners, to evaluate water supply and demand and help ensure reliable water supplies by identifying strategies to address imbalances.⁷³

The four basin studies include: (1) the Big Wood River, Columbia-Pacific Northwest (\$494,000 each); (2) Dolores Water Conservancy Project Plan of Study, Upper Colorado River Basin (\$100,000 each); (3) Great Salt Lake Basin, Upper Colorado River Basin (\$3.17 million federal/\$3.32 million non-federal); and (4) Walla Walla River, Columbia-Pacific Northwest (\$500,000 each).

Trujillo said: “Reclamation is working to address widening imbalances between demand and supply in basins throughout the West. Working collaboratively with stakeholders within each respective basin, we can develop options that will achieve a sustainable water supply.” Touton said: “These studies will help ensure reliable water supplies in communities affected by the impacts of drought. Each of these programs will use the latest science and data available to develop strategies that meet current and future water demands.”

Saline Lake Ecosystems in the Great Basin States Program Act

On December 27, President Joe Biden signed into law the Saline Lake Ecosystems in the Great Basin States Program Act (S. 1466). The bipartisan legislation was introduced by Senator Jeff Merkley (D-OR), with co-sponsor Senators Dianne Feinstein (D-CA), Catherine Cortez Masto

⁷²<https://klamathrenewal.org/press-releases/>

⁷³<https://www.usbr.gov/watersmart/bsp/>

(D-NV), Jacky Rosen (D-NV), Ron Wyden (D-OR), and Mitt Romney (R-UT). Rep. Blake Moore (R-UT) introduced an identical bill (H.R. 5345), co-sponsored by Representatives Jared Huffman (D-CA), Jay Obernolte (R-CA), Jim Costa (D-CA), Mike Thompson (D-CA), Mark Amodei (R-NV), Susie Lee (D-NV), Burgess Owens (R-UT), John Curtis (R-UT), and Chris Stewart (R-UT). The new law will establish a program to help save the Great Salt Lake and other saline lakes in the Great Basin

The broadly supported law will provide the USGS – in coordination with the USFWS and tribal, state, academic, and nonprofit organizations – resources to conduct scientific monitoring and assessments to establish effective management and conservation efforts to preserve essential saline lake habitats.

As directed, the Secretary of the Interior “shall establish a multiyear work and implementation plan to assess, monitor, and conserve saline lake ecosystems in the Great Basin and the migratory birds and other wildlife that depend on those ecosystems.” The plan shall include a synthesis of available information, literature, and data, and an assessment of scientific and informational needs, relating to: (1) water quantity, water quality, water use, and water demand; (2) migratory bird and other wildlife populations, habitats, and ecology; (3) annual lifecycle needs of migratory birds; and (4) environmental changes and other stressors, including climatic stressors.

The plan is to include proposed activities, such as monitoring, data infrastructure needs, and development of tools necessary to implement the program; recommendations and a cost assessment for the implementation of the plan; and such other matters as the Secretary determines to be appropriate. The law authorizes the appropriation of \$5 million annually through FY27.

Of note, the Bear River is a primary source of water for the Great Salt Lake, and the use of its waters is subject to a compact between the States of Idaho, Utah, and Wyoming. The law explicitly states that it shall not affect: (1) any interstate water compacts in existence on the date of enactment, including full development of any apportionment made in accordance with those compacts; (2) valid and existing water rights in any State located wholly or partially within the Great Basin; (3) water rights held by the United States in the Great Basin; and (4) the management and operation of Bear Lake or Stewart Dam, including the storage, management, and release of water.

States

Alaska

Flooding/Disaster Declaration

On September 17, Governor Mike Dunleavy declared a state disaster in response to the damage caused by Typhoon Merbok. On September 20, he requested a federal declaration of a major disaster under the Stafford Act, noting the need to act quickly before the onset of winter.

The historic storm hit Alaska between September 15-20 and the water surged 10-18 feet above normal tide. Hurricane-force winds exceeded 90 mph and sea waves were over 50 feet. The wind damage, rain, and flooding impacted 40 cities and villages along 1,300 miles of the Western and Northwestern Alaska coastline, damaging drinking water systems, power, roads, and properties. The early warnings from the NWS enabled local and tribal governments to activate emergency response plans to protect their communities, preventing injury and loss of life. The NWS reported that the storm was the worst seen in 50 years, with widespread damage exceeding the 2011 and 1974 storms in some areas.

Governor Dunleavy said: “I am truly grateful for every Alaskan who stepped in to help their neighbors in a time of need. I appreciate all of the support from individuals, FEMA, Coast Guard, Tribal entities, Native corporations, Red Cross, Salvation Army, the State Emergency Operations Center staff, and so many more. The State is grateful for our partners and community leaders who helped protect lives before, during, and after the storm. Thankfully, there are still no reported injuries or deaths at this time. Once the federal disaster declaration is approved, that will aid in reimbursements and additional resources for long-term recovery.”

Arizona

Infrastructure Legislation

On July 6, Arizona Governor Doug Ducey signed legislation (SB 1740) making an historic \$1 billion investment over three years to secure Arizona’s water future, fulfilling a promise outlined during his State of the State address in January. “Today, we are taking a bold step to do what the men and women of Arizona hired us to do - position our state for success today, tomorrow and for generations to come,” said Governor Ducey. “This legislation is crucial for our continued growth and prosperity. It will ensure Arizona remains a land of opportunity for families and for businesses large and small. As we’ve done over the past seven and a half years, we came together, brought everyone to the table and delivered for the people of this great state. And by doing so, we are leaving Arizona better and stronger than we found it. . . . It is because of all your efforts that this passed with overwhelming bipartisan support.” The bill was sponsored by Senator Sine Kerr and Representative Gail Griffin.

The legislation takes an “all of the above” approach to address water supply for the next 100 years and fund projects that will bring additional water to the State. “As Arizona’s population grows, the competition for water is fierce,” said House Speaker Rusty Bowers. “An enhanced water-securing body is just what Arizonans need. With this forward-thinking water plan, we’re adding new tools and resources to our toolbox to support our state’s explosive growth.”

SB 1740 appropriates more than \$1 billion to the WIFA of Arizona and expands it with new responsibilities to provide loans and grants to water providers and entities for the purposes of importing water into Arizona, as well as encouraging new technologies. “We’ve been wise in our water conservation, efficiency and reuse projects, but now we need to go a step further,” said Senate

President Karen Fann. “Arizona’s economy is booming and in order to sustain that growth, we need to look ahead. This water package does just that.”

WIFA will continue to finance the design and construction of water and wastewater infrastructure projects using federal and state funds. With the expansion, WIFA will pursue augmentation and conservation projects with a new board structure with members appointed jointly by the Arizona Legislature and Governor Ducey. “Challenges bring opportunity,” said AZ DWR Director Tom Buschatzke. “This expansion of WIFA creates an opportunity for the state to secure its water future. I want to thank Governor Ducey, the Arizona Legislature and stakeholders for coming together to collaboratively come up with this important legislation.”

SB 1740 gives WIFA additional authority and tools to be proactive in bringing in new water sources, which will allow the State to make significant investments in water conservation and innovative technologies such as desalination, as well as identify and develop new innovative long-term water sources. WIFA will administer additional funds for water augmentation, supply development, and conservation projects. WIFA will have the ability to acquire, store and sell new imported water, as well as engage in private-public partnerships to help enable these projects.

“Today we celebrate our action to address the water issues our great state faces,” said Senator Kerr. “All Arizonans now and in the future will benefit from this legislation. Thanks to Governor Ducey’s leadership and bipartisan legislative support, we are setting in motion a strong pathway toward securing future water sources.” Rep. Griffin said, “This critical legislation just makes sense. It’s fair and forward-looking. I’m glad we’ve come together to find a solution for our water future. Thank you to Governor Ducey, Speaker Bowers and President Fann for this collaborative effort.”

PFAS

On September 2, the AZ DEQ announced an agreement with the WIFA to test all public water systems for PFAS, including small water systems. AZ DEQ Water Quality Division Director Trevor Baggione said: “DEQ is committed to ensuring that all public water systems in Arizona are tested for PFAS – regardless of the number of people they serve. Sampling all public water systems is critical to understanding where PFAS is so that steps can be taken to reduce people’s exposure to PFAS in drinking water and to connect affected public water systems to funding sources to achieve solutions.”

AZ DEQ’s press release notes that 287 of more than 1,500 public water systems have been tested, and PFAS compounds have been detected in 56 of them. Baggione said: “Right now, EPA’s PFAS health advisories are non-regulatory and non-enforceable. But we expect the EPA to set national PFAS drinking water standards that public water systems must meet as early as the end of next year. The PFAS data we’ve collected since 2018, along with our statewide sampling effort over the next year, have well-positioned Arizona to identify and work with public water systems to address PFAS drinking water challenges early and head on. Our proactive efforts also will ensure

that Arizona’s public water systems – including small systems – are able to leverage existing funding sources as well as new sources we expect to become available this fall.”

Currently, AZ DEQ and WIFA are applying \$3 million of federal Safe Drinking Water Act funds toward testing, but WIFA anticipates further allocations from the IJA to address emerging contaminants, including \$13.6 million to the Drinking Water SRF and \$632,000 to the Clean Water SRF. WIFA submitted a letter of intent for another \$17.6 million from the federal Emerging Contaminants in Small or Disadvantaged Communities Grant.

California

Drought/Water Supply Storage

On March 18, the USBR and CA DWR jointly filed a Temporary Urgency Change Petition (TUCP) with the State Water Resources Control Board (SWRCB) to modify requirements in water right permits and licenses for the CVP and SWP between April 1 and June 30. The requested changes are in response to a historically dry January, February, and first half of March, typically California’s wettest months, and a third consecutive year of critically dry conditions. The changes are expected to conserve upstream reservoir storage for critical needs later in the year, including public health and safety, and environmental needs.

After a series of strong December storms, USBR and CA DWR hoped Folsom and Oroville reservoirs would provide adequate water supplies and a TUCP would not be necessary. However, following the extraordinarily dry January and February, Folsom and Oroville are seeing unprecedented declines in inflow forecasts and cannot support Delta outflows as expected. There is not enough storage in other CVP and SWP reservoirs to meet water supply and environmental needs later in the year.

USBR Regional Director Ernest Conant said: “Reclamation and DWR, along with the federal and state fish agencies, have been coordinating throughout the winter to address increasingly challenging hydrologic conditions for environmental flows and water supply. We all recognize what a difficult year this is going to be for everyone. It’s definitely another roll-up-your-sleeves, all-hands-on-deck water year.” CA DWR Director Karla Nemeth said: “DWR has been planning for conditions to remain dry since the start of the water year on October 1. We are facing tough but important decisions about how to manage the system for a third year of drought.” “We are taking critical steps like submitting the [TUCP] in coordination with our federal and state partners, to balance the needs of endangered species, water supply conservation, and water deliveries to Californians.”

Additional projects operational flexibility is needed to: (1) support minimum health and safety water supplies; (2) preserve upstream storage for release later in the summer to control saltwater intrusion into the Sacramento-San Joaquin Delta; (3) preserving cold water in Shasta Lake and other reservoirs to maintain cool river temperatures for Chinook salmon and steelhead; (4)

maintain protections for state and federally endangered and threatened species; and (5) meet critical water supply needs. CDWR also plans to refill the notch in the Emergency Drought Salinity Barrier in the Delta to reduce the amount of saltwater intrusion and the need for releases from upstream reservoirs to conserve water storage.⁷⁴

Drought/Executive Order

On March 28, Governor Gavin Newsom signed an Executive Order (N-7-22) expanding measures to address the ongoing drought emergency in California. It called on urban water suppliers to move Water Shortage Contingency Plans to Level 2, based on a projected shortage of up to 20%, and encourage voluntary activation of Level 3 requirements based on a shortage level up to 30%. The order directed the SWRCB to adopt emergency regulations defining “non-functional turf” and ban its irrigation in commercial, industrial, and institutional sectors. It directed the CA DWR to develop strategies to improve conservation, including technical and financial assistance.

The order directed SWRCB to “expand inspections to determine whether illegal diversions or wasteful or unreasonable use of water are occurring and bring enforcement actions....” Further, it suspended ordinances and regulations that prohibit hauling water outside a basin of origin to facilitate hauling water by truck for domestic use to communities with degraded water quality or supply due to drought. To increase the resilience of state water supplies, the order directed DWR to “prepare for the potential creation and implementation of a multi-year transfer program pilot project for the purpose of acquiring water from willing partners and storing and conveying water to areas of need.”

To facilitate and protect the use of groundwater during drought, the order directed CA DWR to work with other agencies to expedite regulatory pathways to repair or reconstruct small community public supply wells. It prohibits local agencies from issuing new permits for groundwater wells – other than domestic wells less than two acre-feet per year – in basins “subject to the Sustainable Groundwater Management Act [SGMA] and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency [GSA]” that the proposed well would not interfere with the local GSA’s sustainability plan.

The order directed state agencies to “collaborate with tribes and federal, regional, and local agencies on actions related to promoting groundwater recharge and increasing storage.” It directed SWRCB and the Regional Water Quality Control Boards to prioritize “water right permits, water quality certifications, waste discharge requirements, and conditional waivers of waste discharge requirements to accelerate approvals for projects that enhance the ability of a local or state agency to capture high precipitation events for local storage or recharge, consistent with water right priorities and protections for fish and wildlife.” It suspends various statutes and regulations to address the need to recharge groundwater during the drought.⁷⁵

⁷⁴<https://www.usbr.gov/newsroom/#!/news-release/4137>

⁷⁵<https://www.gov.ca.gov/wp-content/uploads/2022/03/March-2022-Drought-EO.pdf>

California Judicial Council/Water Judges

On May 19, the California Assembly held an Appropriations Committee hearing on AB2313, to require the California Judicial Council to establish a program that provides training and education on water-related matters, and to authorize water-related cases to be assigned to judges that have participated in that training. The Legislative Council's Digest said: "This bill would require the Judicial Council to identify experts in water science or management, or research attorneys, who may be available to any judge adjudicating an action relating to water, as defined, as an expert pursuant to the procedure specified above, as a research attorney, or to consult on the contents of a document submitted by a party. The bill would authorize the Judicial Council to pay or reimburse courts for the costs of employing or contracting with those experts or research attorneys in an action relating to water with funds appropriated for that purpose. The bill would authorize a judge to appoint a qualified special master to assist the judge with an action relating to water with duties similar to those for special masters in comprehensive groundwater adjudications. The bill would authorize the reasonable and appropriate compensation for experts and research attorneys identified pursuant to the bill, special masters appointed pursuant to the bill, and for experts appointed to an action relating to water pursuant to the procedure specified above, to be funded by an appropriation from the General Fund in the annual Budget Act or another statute. For a special master in a comprehensive groundwater adjudication, the bill would authorize their compensation to be provided pursuant to the procedures specified above under existing law or by that General Fund appropriation."⁷⁶

Water Infrastructure Projects for Tribes

On September 7, the CA DWR and San Luis Rey Indian Water Authority signed an agreement for \$15 million to advance water infrastructure projects for five tribes. The projects include water storage tank installation, water distribution upgrades, and emergency generators. The press release noted that this was the first state-tribe funding agreement that addressed challenges for tribes in securing funding, including a limited waiver of sovereign immunity and environmental review of the funded projects. Karla Nemeth, CA DWR Director, said: "The State is committed to getting financial assistance directly to Tribal communities and providing resources to improve the water supply infrastructure and clean water access that these communities need to respond to California's extreme drought and a hotter, drier future. This funding agreement is a first of its kind and a true government-to-government collaborative effort." Bo Mazzetti, President of the San Luis Rey Indian Water Authority, said: "This is a historic achievement demonstrating that the Tribes and the State can respectively work together to achieve a common goal. It is our hope to continue our positive working relationship. This achievement is a major step in the right direction."

⁷⁶https://leginfo.legislature.ca.gov/faces/billStatusClient.xhtml?bill_id=202120220AB2313

Colorado

Wildfire

On January 7, President Joe Biden visited Colorado to view the devastation from the Marshall fire. On December 30, Governor Jared Polis declared a state of emergency as grass fires in Boulder County driven by hurricane force wind gusts eventually burned some 6200 acres and destroyed around 1000 structures. The Governor's declaration provided access to state disaster emergency funds. On December 31, President Biden ordered the FEMA to supplement state and local recovery efforts. On January 3, the National Interagency Fire Center (NIFC) reported that the Marshall Fire was 74% contained. On January 5, Governor Polis' administration provided a joint update on the fire recovery efforts, emphasizing resources available to tens of thousands of Coloradans impacted by the loss of homes, businesses, and community gathering places.⁷⁷

Residents were advised to boil water, as water utilities lost water pressure and power and are investigating whether the water system was damaged and contaminated by the fire. (E&E News 1/6/21) Ironically, investigation and recovery efforts have subsequently been hampered by several inches of snow. In addition to high winds, dry conditions contributed to the grass fire's spread. Front Range precipitation over the last half of 2021, measured at Denver International Airport, was 1.2 inches (less than the 1.91 inches at Death Valley National Park). The recent snows have done little to change the current drought outlook.

Groundwater, Drought, and Agriculture

On July 6, Governor Jared Polis visited agricultural producers to discuss how his administration is working to support farmers and ranchers and protect Colorado's water. Polis recently signed into law the Groundwater Compact Compliance Fund (SB22-028) and Modifications to Conservation District Grant Funds (SB22-195). SB22-028 creates a groundwater compact compliance sustainability fund to help finance groundwater use reduction efforts in the Rio Grande and Republican River Basins. Measures include buying and retiring irrigation wells and acreage in these river basins, subject to the approval of the State Engineer. SB22-195 allows modifications to the Conservation District Grant Fund and requires an annual transfer of funds from the Colorado Department of Agriculture and State Treasury.

To help the Colorado agricultural industry mitigate the effects of the drought and improve the efficiency of agricultural water distribution systems, 21 grants totaling more than \$1.68 million were awarded to agricultural businesses, tribal organizations, and watershed improvement projects. The funds were approved by the state legislature in 2021 (SB21-234). Les Owen, Conservation Division of the Colorado Department of Agriculture said: "As we continue to face the effects of climate change, drought mitigation and resiliency tactics are becoming a daily consideration for farmers and ranchers across Colorado. These Drought Resiliency grants, funded with Colorado

⁷⁷<https://www.colorado.gov/governor/news>; <https://www.whitehouse.gov/briefing-room/statements-releases>

Comeback recovery funds, are helping producers, conservation districts, and ag water users across our state to improve their water infrastructure and prepare for ongoing drought.”

Idaho

Water Infrastructure

On March 28, Governor Brad Little signed HB769 into law, investing \$325 million in water infrastructure. The IDWR will manage the funds to complete various water projects, including: (1) raising the Anderson Ranch dam; (2) finishing the pipeline to the Mountain Home Air Force Base; (3) water recharge on the Upper Snake River; and (4) replacing aging infrastructure for irrigation districts and canals. Governor Little said: “Water is the lifeblood of Idaho’s economy.... We’ve done a great job of managing the resource, but we need to do more as our state grows and continually faces water scarcity. With these one-time investments, we can increase our storage capacity to better withstand drought years.”

Emergency Drought Declaration

On April 29, with approval from Idaho Governor Brad Little, the IDWR issued an emergency drought declaration for southern Idaho. The declaration allows temporary water right changes in the point of diversion, place of use, and purpose of use for valid, existing water rights, when it is determined that such changes can be accomplished without harming other existing water rights. The declaration may also help with the eligibility requirements for federal drought assistance.

IDWR Director Gary Spackman noted that all Idaho counties south of the Salmon River are classified as being in moderate to severe drought and are experiencing below-normal snowpack. The press release said: “Specifically, total cumulative snow water equivalent (SWE) levels in these basins as of April 1, 2022, ranged from 50 to 78 percent of median. The April-to-September streamflow forecasts for most locations south of the Salmon River are between 25 and 75 percent of median. As of April 1, 2022, storage in most reservoirs serving the southern half of Idaho were between 20 to 65 percent of capacity, increasing the chances that many reservoirs will not fill.”

Drought/Curtailments

On May 6, the IDWR issued a methodology order, predicting a 162,600 acre-foot shortfall for senior priority surface water users on the Eastern Snake River Plain (ESPA) for the 2022 irrigation season. IDWR will begin curtailing more than 328 junior groundwater users with priority dates junior to 1979, unless they have joined one of seven approved mitigation plans or can otherwise demonstrate how their water use will not cause injury to senior surface water users. Past water litigation on the Snake River, between surface water and groundwater users, resulted in settlement agreements. The IDWR Director is required to issue an order at the beginning of the irrigation season and again in July to determine any shortfalls and curtailment obligations.

Mathew Weaver, IDWR Deputy Director, said: “By law, we have to keep people with senior water rights whole, and we want to make the junior ground water pumpers aware that despite the settlement agreements...if junior ground water pumpers are not participating in an approved mitigation plan, they could be subject to curtailment this year.”⁷⁸

Kansas

Legislation

On February 12, the Kansas House Committee on Water introduced a large bill (HB 2686) that would, among other things, create a new Kansas Department of Water and Environment (KDWE). The duties and powers of the KWO, Kansas Department of Health and Environment (KDHE), Division of Environment, KDA, Division of Conservation, and Division of Water Resources would be transferred to the KDWE.

The bill would create a new board to oversee the state water plan fund and a new water and environment maintenance fund. It would modify procedures for groundwater management districts, increase water protection fees, authorize the Chief Engineer to issue certain orders without review by the Secretary of Water and Environment (formerly Agriculture) and establish civil penalties for violations of the obstructions in streams act.⁷⁹

Groundwater Levels

On March 24, the University of Kansas published preliminary data compiled by the Kansas Geological Survey (KGS) showing that average groundwater levels dropped by more than a foot in 2021. “The KGS, based at the University of Kansas, and the Division of Water Resources (DWR) of the Kansas Department of Agriculture measure about 1,400 wells every year to monitor the health of the High Plains aquifer and other aquifers in western and central Kansas. Those measurements showed an overall average decline of 1.01 feet last year. Most parts of the region saw below-average precipitation for the year, especially during the summer growing season for agricultural crops.... The 2021 decline followed an overall drop of 0.93 feet in 2020, which was another abnormally dry year. Dry years lead to increased pumping demands, primarily for irrigation, which in turn typically cause greater declines in water levels.” Most of Kansas continues to experience drought conditions in 2022. The article noted that most of the wells monitored by KGS and DWR are located in Groundwater Management Districts.

⁷⁸<https://idwr.idaho.gov/wp-content/uploads/sites/2/news-release/IDWR-order-predicts-162600-acre-foot-water-short-fall-on-Snake-River-FINAL.pdf>

⁷⁹<https://kwrconsulting.com/blog/hcow2022/summary-of-hb-2686-the-mega-water-bill/>

Drought Declarations

On October 6, Governor Laura Kelly approved updated drought declarations, placing all 105 Kansas counties in a watch (27), warning (11), or emergency (67) status.

Governor Kelly said: “Much of Kansas continues to experience severe drought conditions which have impacted the daily lives of Kansans through our hot and dry summer months. As these conditions are forecast to persist or worsen over the foreseeable future, I strongly encourage all Kansans to be mindful of ways we can conserve water and minimize fire hazards.”

Connie Owen, Director of the KWO and Chair of the Governor’s Drought Response Team, said: “The current drought conditions impacting much of Kansas have stressed surface and groundwater supplies, negatively impacted crop production, and led to elevated wildfire risk in many areas. The Governor’s Drought Response Team will continue to be diligent in the monitoring of drought conditions across Kansas and make future drought recommendations to Governor Kelly as conditions change. With outlooks continuing to call for challenging conditions into the winter months, the need for continued drought awareness and action across Kansas is essential.”

The press release said: “Much of Kansas has experienced above normal temperatures dating back to the previous April, with precipitation averaging well below normal for many of those same locations over that same timeframe. In some parts of Kansas these precipitation deficit conditions have existed since the latter part of 2021. The outlooks from now through December favor above-normal temperatures and below-normal precipitation for nearly all portions of Kansas, meaning drought conditions could persist and expand over the next several months.”

Infrastructure Funds

On October 5, the EPA presented \$80 million in water infrastructure funds from IIJA to the KDHE for their SRF. Leo Henning, KDHE Deputy Secretary for Environment, said: “Kansas has taken its responsibility in implementing the Clean Water Act seriously since its inception in 1972. We have made significant investments in our wastewater infrastructure, which grants such as this one today from EPA have made possible. As a rural state, we have had to be innovative in incentivizing management practices to reduce pollutants coming off of ag lands during runoff. While emerging issues always loom on the horizon of clean water, KDHE is positioned with strong staff, programs, and authorities to meet those challenges now and in the future. We are thankful for our partnership with Region 7, working together to improve and protect the water of Kansas in the manner intended by this Act 50 years ago.”

Nebraska

Perkins County Canal Project

On January 10, Governor Pete Ricketts proposed a major canal project in Colorado and southwest Nebraska to support irrigation, power production, and municipal water supplies under the authority of the South Platte River Compact. The project would require legislative funding. Ricketts emphasized the need to protect Nebraska water supplies threatened by planned developments in Colorado. The press release said: “Signed in 1923, the Compact divides the waters of the South Platte River, ensuring certain flows will be delivered to Nebraska at the state line near Julesburg, Colorado. Construction of the canal and storage system (colloquially known as the ‘Perkins County Canal’ at the time the Compact was signed) along the Nebraska-Colorado border will preserve Nebraska’s sovereign right to its share of the South Platte River water into the future.” Several other water projects have been developed by a special legislative committee over the past six months and have been recommended for approval, including flood control measures along the Lower Platte River and the creation of a 4,000-acre reservoir between Lincoln and Omaha.⁸⁰

On April 12, the Nebraska Legislature passed the Perkins County Canal Act (LB1015) by a vote of 42-4, authorizing the Nebraska Department of Natural Resources to build a canal under the terms of the 1923 South Platte River Compact. The stated purpose of the Act is to provide “Nebraska water users certainty of continued South Platte River flows to protect Nebraska’s communities, businesses, agriculture, and environment. Without this project, Colorado’s water planning documents and recent legislation have identified the South Platte River flows to Nebraska as excess that should be stored and diverted to other uses within Colorado.” The legislative findings said: “[I]t is essential to the economic prosperity, health, and welfare of the people of the State of Nebraska, and to the environmental health of the entire Platte River Basin, to protect Nebraska’s full entitlement to the flows of the South Platte River as provided for in the South Platte River Compact.”

Alternative Water Sources

In July, the City of Lincoln began a study of alternative water sources to ensure adequate water supply to meet future demand. Current projections indicate a safe and reliable water supply for the next 20 to 25 years, but as the city continues to grow in population and to weather drought conditions, the city is planning now to secure a second source of water. Two projects are currently under consideration: (1) a pipeline from the Missouri River; and (2) a partnership with the Omaha Metropolitan Utilities District to use water from its existing pipelines. The review of options is expected to be completed by the end of the year.⁸¹

⁸⁰<https://governor.nebraska.gov/press/gov-ricketts-state-leaders-announce-proposals-strengthen-water-resources>

⁸¹www.lincoln.ne.gov/City/Departments/LTU/Utilities/LWS/Second-Water-Source

Nevada

Groundwater Shortages

On June 16, the Nevada Supreme Court reversed a district court decision regarding a community-based solution to long-term groundwater shortages in Diamond Valley (*Diamond Natural Resources Protection & Conservation Assn., et al. v. Diamond Valley Ranch, et al.*, No. 81224). The State Engineer designated the Diamond Valley hydrologic basin as a Critical Management Area (CMA) that was over-appropriated and over-pumped. The majority of water rights holders in the basin petitioned the State Engineer to approve a Groundwater Management Plan (GMP) that established a process for removal of the CMA designation. The Court said: “Although the GMP deviated somewhat from the guiding principle underlying Nevada’s water law statutes – the doctrine of prior appropriation, which dictates that priority is assigned based on first in time, first in right to put the water to beneficial use – the State Engineer approved the Diamond Valley GMP. The crux of this case... concerns whether [the relevant statutes] allow the State Engineer to approve a GMP that deviates from the doctrine of prior appropriation. We hold that the Legislature unambiguously gave the State Engineer discretion” to approve the Diamond Valley GMP. The Court then reinstated the State Engineer’s decision.

In its recitation of facts, the Court noted that (1) the Diamond Valley aquifer has a perennial yield of 30,000 acre-feet; (2) roughly 76,000 acre-feet of groundwater is withdrawn annually; (3) water rights permit up to 126,000 acre-feet of water to be withdrawn from the aquifer every year; (4) post-1960 water rights would be subject to curtailment if the State Engineer limited pumping to the perennial yield; and (5) pre-1960 water rights would have seniority and would not be subject to curtailment. The Diamond Valley GMP created a 35-year plan to reduce pumping at five-year intervals, requiring all water rights holders to reduce their withdrawals, not just junior users.

Senior water rights holders in the basin filed petitions for review of the GMP decision. “The district court concluded that the GMP violated (1) the doctrine of prior appropriation by forcing senior appropriators to reduce their water use; (2) the beneficial use statute, NRS 533.035, by allowing unused groundwater to be banked or transferred; and (3) two permitting statutes, NRS 533.325 and NRS 533.345, by allowing appropriators to change the point or manner of diversion without filing an application with the State Engineer.”

The State Engineer and several water rights holders appealed to the Nevada Supreme Court, arguing that the State Engineer had discretion to approve the GMP as long as the factors enumerated in NRS 534.037(2) were considered and the GMP would remove the CMA designation. The seven factors to consider are: (a) the hydrology of the basin; (b) the physical characteristics of the basin; (c) the geographic spacing and location of groundwater withdrawals; (d) the water quality; (e) the wells located in the basin, including domestic wells; (f) whether a GMP already exists; and (g) any other factor deemed relevant by the State Engineer.

At oral argument, the Nevada Supreme Court inquired about the evidence the senior water rights holders presented to the State Engineer during the GMP approval process, and it was determined there was no evidence presented and that the burden of proof was on the senior water rights holders to show that the approval of the GMP was arbitrary or capricious.

In addressing the dissenting justices, the majority pointed out that the Diamond Valley GMP “ratably reduces water usage such that senior appropriators are still allowed more water than junior appropriators, and in that regard, still honors priority rights and therefore does not abrogate them.”

The Court added in a footnote that the holding was limited to non-vested (post-1913) rights, and that it does not preclude any vested (pre-1913) water rights holders (including surface water rights) from asserting future constitutional claims if the GMP actually affects their water rights, “because statutory law may not impair vested water rights. NRS 533.085(1).”

Drought/Conservation Efforts

On August 24, Governor Steve Sisolak met with Nevada Senator Jacky Rosen (D), Representative Susie Lee (D), and John Etsminger, Manager of the SNWA to discuss drought and water conservation efforts, including water recycling, nonfunctional turf removal, and the reduction of water consumption in response to Lake Mead declines. Governor Sisolak announced the creation of “a small group of water advisors, including Senior Climate Advisor Kristen Averyt and is preparing a water conservation and infrastructure package with American Rescue plan dollars to ensure our local governments have the tools they need to prepare for the State’s future.” Governor Sisolak said: “Our State has been preparing for this moment for decades – we’ve been a leader in water conservation and innovative technology and that’s not going to stop. Nevada’s doing our part – and we’re calling on all users of the Colorado to make sure all drops of water in the river are staying in the river and join us in our extensive measures to conserve and recycle.”⁸²

Infrastructure/Walker River Paiute Tribe

On September 13, the U.S. Secretary of Commerce announced a \$5.2 million grant for water system infrastructure improvements to the Walker River Paiute Tribe. The grant was funded by the Indigenous Communities Program, authorized by the ARPA. The press release said: “This project will support replacement and expansion of four water mains and installation of 45 fire hydrants, resolving water system capacity constraints that limit commercial development. This [Economic Development Administration] EDA investment will be matched with \$156,674 in local funds and is expected to create or retain 25 jobs, according to grantee estimates.”

Senator Catherine Cortez Masto (D-NV) said: “Tribes in Nevada and across the country were hit hard by the pandemic, and I supported this funding to make sure they were able to recover.” Senator Jacky Rosen (D-NV) said: “Water infrastructure can have a significant effect on the health

⁸²https://gov.nv.gov/News/Press/2022/2022-08-24_WaterConservationLakeMead/

and economy of a community, and it is critical that we protect access to clean water for all Nevadans.” Representative Steven Horsford (D-NV) said: “I recently visited the Walker River Paiute Tribe and listened to their concerns, top among them being their infrastructure issues.... This investment will allow for the commercial growth necessary for the Walker River Paiute Tribe to thrive.”⁸³

New Mexico

Produced Water

On January 12, the New Mexico Produced Water Research Consortium published a paper on the major challenges, concerns, and priorities for research and development needed to put produced water to use outside the oil and gas industry, titled “A Gap Analysis and Research Plan for the Reuse of Produced Water Addressing the Technical, Economic, and Health and Safety Risks of Fit-for-Purpose Reuse.” The introduction noted that any wastewater reuse process requires analytical characterization, health and safety testing, and risk analysis to support guidance and regulations, to define and measure “safe use” of produced water.

The paper was prepared in response to the New Mexico Legislature’s 2019 Produced Water Act (HB 546). Topics addressed in the 50-page plan include: (1) improved produced water quantity and quality sampling, analysis, and data access; (2) produced water pre-treatment/treatment costs, performance testing, and analysis; (3) toxicity testing standards development and risk analysis; (4) socio-economic, environmental, and ecological cost/benefit analysis; (5) health and safety compliance monitoring of fit-for-purpose applications; (6) regulatory agency cooperation and collaboration; (7) water and energy infrastructure planning and development; and (8) public education and outreach.

Clean-Up of Abandoned Mines

On March 10, New Mexico Senators Martin Heinrich (D) and Ben Ray Luján (D) and Representatives Melanie Stansbury (D) and Teresa Leger Fernández (D) welcomed the FY22 appropriation of \$2.8 million for the DOI to accelerate cleaning up abandoned coal mines in New Mexico, in addition to the \$2.4 million from the IJA. Heinrich said: “While I’m excited to see this funding, I’m also eager to get the ball rolling on the additional goal of cleaning up the abandoned hardrock mines that are still a threat to New Mexico’s most precious resource, our water.”

Statewide Emergency for Drought/Wildfires

On April 25, New Mexico Governor Michelle Lujan Grisham declared a statewide emergency for severe drought and fire conditions. The executive order noted that 93% of New Mexico was experiencing severe to exceptional drought conditions, and that significant fire danger

⁸³<https://eda.gov/news/press-releases/2022/09/13/walker-river-indian-reservation.htm>

“has increased throughout the State due to warmer temperatures, lower humidity, high winds, and an abundance of dry, fine fuels.” According to the NIFC, New Mexico is currently fighting six large fires across more than 235,000 acres. Governor Lujan Grisham has issued five other emergency declarations in April regarding the various fires.⁸⁴

On May 4, Governor Lujan Grisham submitted a request for a Presidential Disaster Declaration through FEMA, as well as applied for a hazard mitigation assistance grant. In a press release she said: “The state has aggressively pursued a Presidential Disaster Declaration for New Mexico, using every available tool and technology to document the damage that we know New Mexico communities have sustained and are still experiencing in order to expedite the process. I am laser focused on getting New Mexicans the disaster relief they need and deserve, and I am confident that FEMA and the President will grant our request.”

Wildfires/Flooding

On September 13, Governor Lujan Grisham met with USDA Secretary Tom Vilsack to advocate for additional resources related to wildfires and flooding, for the deployment of teams for forest restoration work and processing applications for federal assistance. In April, USFS prescribed burns led to the Calf Canyon-Hermits Peak fire, which burned over 340,000 acres by July when it was 93% contained, and was not fully contained until September 14. In August, heavy monsoon rains brought flood waters that affected the watersheds in the burned areas, contaminated water supplies, and impacted the surrounding communities.

On September 6, the NMED made available free bacteria sample kits for private well owners to test their drinking water. NMED Ground Water Quality Bureau Chief Justin Ball said: “The combination of fires and floods have put significant strain on residents who rely on private well water for their drinking needs. These tests provide needed assurance to residents that their private water well system is free from harmful bacteria.” The NMED news release noted that the public water systems were tested periodically, but that they have no jurisdiction over private wells.

On September 7, the City of Las Vegas, New Mexico held a town hall meeting to address the drinking water crisis and dwindling water supply precipitated by the fires and flooding. The city has been under Stage 6 or 7 water restrictions under the Drought Contingency and Emergency Response Plan since the end of July, prohibiting outdoor watering and new water connections, limiting water consumption, imposing higher fees for water use beyond conservation plan levels, directing fire departments to use foam or effluent in place of water where there is no imminent threat to life or property, and requesting commercial customers to delay projects requiring large quantities of water. Governor Grisham declared a State of Emergency for the city on July 29, making \$2.25 million available for emergency measures and repairs. The Governor’s press release said: “The burn scar created by the Hermit’s Peak/Calf Canyon Fire has left thousands of acres of ash and debris along the Gallinas River watershed, which serves as the city’s primary municipal water source. While Las

⁸⁴<https://www.governor.state.nm.us/about-the-governor/executive-orders/>

Vegas currently retains an estimated two-month supply of safe drinking water, ongoing flooding in the burn scar threatens to contaminate the city's water supply with ash and debris, which could negatively affect the use of the municipal water supply. The emergency funding...will support the City of Las Vegas to establish and operate a temporary pre-treatment system that will allow the city to safely treat and draw water from Storrie Lake for municipal use.”

On September 13, Governor Lujan Grisham signed an executive order declaring a State of Emergency for Hidalgo County, providing an additional \$750,000 for infrastructure repair and emergency protective measures. The press release said: “The emergency declaration comes after monsoon rain events that began in August have resulted in flooding that broke the all-time record water level for the Gila River water gage near the Village of Virden and resulted in damage to both private and public property.”

On September 14, Governor Lujan Grisham announced an extension of the registration period for FEMA assistance for individuals affected by burn scar flooding and debris flows. On September 15, local, state and federal partners began hosting a series of coordinated recovery response open house events to answer questions and provide community assistance in the recovery from the Calf Canyon and Hermits Peak Fires.

Water Infrastructure Funds

On September 30, EPA announced \$26 million in water infrastructure funds from IJA to the NMED and the New Mexico Finance Authority (NMFA). Governor Michelle Lujan Grisham said: “We worked diligently to ensure that New Mexico quickly received our share of infrastructure funding so that we can begin to put it to use as soon as possible. The people of New Mexico will have more access to quality drinking water and healthy watersheds thanks to our successful efforts to leverage these unprecedented federal investments. I thank the members of New Mexico's congressional delegation for their work to deliver this important funding for our state.”

The NMED received \$8.7 million through the Clean Water SRF, with half the grant focused on assisting disadvantaged communities. NMFA received \$17.9 million through the Drinking Water SRF, with a focus on improving water treatment, fixing aging water distribution systems, improving sources of water supply, and replacing or repairing water storage tanks.

North Dakota

Statewide Emergency/Flooding

On April 25, Governor Doug Burgum declared a statewide emergency following a three-day blizzard over April 12-14 that dropped over 30 inches of snow and brought 60 mph wind gusts, and a spring storm over April 22-24 that brought additional freezing rain and snow. The declaration notes that the “flood outlooks issued by NOAA's National Weather Service (NWS) indicate significant river, tributary and overland flooding in the Sheyenne and Red River basins....” The order

temporarily waives restrictions for levee construction, power restoration, and other flood fighting efforts.

Burgum plans to request presidential disaster declarations and seek federal assistance. He said: “From flooding in the east to power outages affecting thousands of residents in the west, to record April snowfall depleting snow removal budgets and hitting ranchers hard during calving season, this April has been an extremely challenging month for all North Dakotans. We appreciate the federal government considering these requests for assistance to help communities recover from these storms and build resiliency against future severe weather events. We’re especially grateful for the whole-of-government response by our state agencies as well as the incredible efforts by local emergency managers, first responders, road crews, health care workers and others to protect the lives and property of all North Dakota citizens.”⁸⁵

Oklahoma

Emergency Drought Cost-Share Funds

On October 3, the Oklahoma Conservation Commission unanimously approved a program to make emergency drought cost-share funds available to all 77 Oklahoma counties through the local conservation districts. The \$3 million appropriated by the Oklahoma Legislature can be applied to projects such as drilling water wells, watering and pumping facilities, pipelines, pasture taps, cover crop planting, forage and biomass planting, pond cleanout, and heavy use area protection. The press release noted that 99.88% of the State is in Moderate to Exceptional Drought, with 94% in Severe to Exceptional Drought.⁸⁶

Oregon

Drought Emergency

On March 4, Oregon Governor Kate Brown declared a severe, continuing drought emergency in Klamath County based on the low snowpack, low reservoir levels, low streamflow, and forecasted water supply conditions that are not expected to improve. “Drought is likely to have a significant economic impact on the farm, ranch, and natural resources sectors, as well as an impact on drinking water, fish and wildlife, important minimum flows for public instream uses and other natural resources dependent on adequate precipitation, stored water, and stream flow in these areas. Extreme conditions are expected to affect local growers, increase the potential for fire, shorten the growing season, and decrease water supplies.” The Executive Order 22-02 directs state interagency coordination for mitigation efforts.⁸⁷

⁸⁵<https://www.governor.nd.gov/news/burgum-declares-statewide-emergency-flooding-infrastructure-damage-caused-weekend-storms>

⁸⁶<https://conservation.ok.gov>

⁸⁷https://www.oregon.gov/gov/eo/eo_22-02.pdf

On April 25, Governor Brown signed an executive order declaring drought across four counties with low snowpack, low reservoir levels, and low streamflow. “Forecasted water supply conditions and precipitation levels are not expected to improve. Drought is likely to have a significant economic impact on the farm, ranch, vineyard, recreation, tourism, and natural resources sectors, as well as an impact on drinking water, fish and wildlife, and important minimum flows for public instream uses and other natural resources dependent on adequate precipitation, stored water, and streamflow in these areas. Extreme conditions are expected to affect the local growers and livestock, increase the potential for fire, shorten the growing season, and decrease water supplies.” The order directs agencies to coordinate and provide assistance to water users, to understand the impacts of water availability on wildlife, to assess and mitigate emergency activities, and to assist with federal resources to mitigate drought conditions and agricultural recovery.

On June 7, Governor Brown declared a drought emergency for 17 counties, including Klamath County. The legislature approved \$5 million for the Department of Human Services for drought response. In Klamath County, the funds have been used to help municipalities deliver 500-gallon tanks and weekly water to residents with dry wells. The solution is temporary, while well owners seek more permanent solutions to their water supply problems. For residents considering digging deeper wells, the legislature approved \$4 million in December 2021 for well assistance to Klamath County residents, including reimbursement for 75% of the wells’ costs.

Wildfires

On August 28, Governor Brown issued an executive order proclaiming a state of emergency due to the imminent threat of wildfire. “We have experienced wildfires this season that resulted in evacuations, threatened critical infrastructure, homes and other structures. Our neighboring states of Washington, California, Nevada, and Idaho, continue to experience similar fires and weather. The extended climate forecast in Oregon calls for continued warm and dry conditions, resulting in imminent threat of fire over a broad area of the State.” Oregon currently has 29 active fires, including 6 large fires, that have burned over 21,000 acres.

On August 29, the NIFC reported 42 active large fires burning over 300,000 acres including: Arizona (1 fire); California (5); Idaho (14); Montana (10); Nevada (1); Oregon (6); Washington (3); and Utah (1). “To date, 47,918 wildfires have burned 6,127,402 acres in the United States. This continues to be well above the 10-year average of 40,298 wildfires and 5,210,323 acres burned.”

South Dakota

Drinking Water and Wastewater Projects

On April 13, the South Dakota Department of Agriculture and Natural Resources (DANR) announced \$1.1 billion in grants and loans to more than 90 organizations for drinking water and wastewater projects. The grants and loans were awarded from DANR’s Drinking Water State

Revolving Fund Program, Clean Water SRF Program, Consolidated Water Facilities Construction Program, and the ARPA.

South Dakota Governor Kristi Noem said: “These projects will serve our grandchildren and their grandchildren. I am proud to support these community investments to ensure the people of South Dakota continue to have clean drinking water and safe disposal systems to serve their needs for decades to come.”

Texas

Water Storage Levels

On May 27, the City of Austin announced that the combined water storage level of Lakes Travis and Buchanan was projected to drop below 1.4 million acre-feet, triggering the Stage 1 conservation measures of Austin’s DCP. The city has been in the Conservation Stage, the lowest stage of the Water Conservation Code, for the past three years. Stage 1 reduces the irrigation watering hours.

Kevin Critendon, Assistant Director at Austin Water, said: “While the changes in restrictions for Stage 1 are limited, Austin Water also views the declaration of Stage 1 as an opportunity, and obligation, to inform citizens about the current situation with drought and lake volumes. Although some rain has fallen in Central Texas this year, it doesn’t always make its way into the streams and rivers that replenish the Highland Lakes.” Austin Water is also exploring potential locations for a future aquifer storage and recovery project as part of its Water Forward plan, a roadmap for Austin’s water future for the next 100 years.⁸⁸

Disaster Declarations

On August 5, Texas Governor Greg Abbott renewed a declaration of exceptional drought for 227 of Texas’ 254 counties, authorizing the use of all available resources to cope with the disaster.

On August 15, Governor Abbott renewed a wildfire disaster proclamation for 73 counties, noting that the same conditions that started the wildfires in February continue to exist.

On August 23, Governor Abbott issued a flooding disaster declaration for 23 counties, noting that “severe storms and significant flooding pose a threat of imminent disaster, including widespread and severe property damage, injury, and loss of life, due to river flooding, flash flooding, and damaging winds.”

⁸⁸<https://www.austintexas.gov/news/austin-enters-stage-1-drought-contingency-plan-0>

Water Infrastructure Projects

On September 1, the TWDB approved \$13.7 million in state and federal financial assistance for the construction of water supply, wastewater treatment, flood control, and agricultural water conservation projects. The City of China was awarded \$6 million from the Clean Water SRF to finance the planning, design, and construction of a wastewater treatment plant. The City of Alice was awarded \$7 million in financing and principal forgiveness from the Drinking Water SRF for a water supply project, constructing two brackish groundwater wells and a reverse osmosis treatment plant to create a new potable water source. The City of Kingsville was awarded \$700,000 in financing and grant funding from the Flood Infrastructure Fund, a program the Texas Legislature approved in 2019. Kingsville will use the financial assistance to modify a detention pond outfall, improve stormwater sewer and ditches, and replace pavement for better surface water drainage, relieving the existing storm drainage issues.

Utah

Coordinated Action Plan for Water

On January 13, Utah Governor Spencer Cox and state agencies released the first chapter of Utah's Coordinated Action Plan for Water in an effort to tackle water issues with a goal "to compile past recommendations, prioritize them, negotiate trade-offs among competing objectives, and create a plan of action for the state's top priorities to ensure the best use of this valuable resource." The first 24-page chapter addresses state investments in water infrastructure. Future chapters will address communities, agriculture, and healthy watersheds. Agencies preparing the chapters include the Departments of Natural Resources (DNR), Environmental Quality (DEQ), and Agriculture and Food (UDAF). The document will guide the work of executive branch agencies.

The infrastructure chapter covers policy issues, increasing Utah's water supply, conservation, the relationship between water pricing and infrastructure needs, agricultural conversion, water storage capacity, water reuse, weather modification, various infrastructure funding mechanisms, existing state and federal funding under the ARPA and IJA, and funding gaps.

Previous water planning efforts identified over 200 recommendations to better secure Utah's water future. The report identified five key priority actions and associated steps to address Utah's water infrastructure needs: (1) a framework for resources, data collection, funding, and planning for local governments and water providers; (2) streamlining the needs assessment process; (3) continue funding matches and ensure that the grant and loan evaluation criteria are advancing the state's priorities; (4) streamlining approvals for innovative projects such as reuse, desalinization, green infrastructure, surface storage, aquifer storage and recovery, and public-private partnerships; and (5) investing in research, data collection, and operator training.⁸⁹

⁸⁹<https://gopb.utah.gov/waterplan/>

Water Shortage Contingency Plan

On April 12, Salt Lake City announced that it would start the peak season of water demand at Stage 2 of its 5-stage Water Shortage Contingency Plan. The Plan's five water shortage stages are triggered by water supply levels, streamflows, and water demand. Under Stage 2, actions are focused on augmenting current water supplies and saving for prolonged shortages, while water customers are asked to meet a 5% reduction in daily water use, and municipal water users, parks, and city-owned buildings will be required to take specific actions to reduce overall water use and adjust lawn watering frequency. The Department of Salt Lake City Public Utilities, tasked with monitoring water conditions, noted that Utah remains in severe or extreme drought, with many reservoirs below capacity. The snowpack is below normal, although soil moisture has improved, and forecasts indicate a season of higher temperatures and lower precipitation.⁹⁰

State of Emergency/Drought

On April 21, Governor Cox declared a state of emergency due to drought. He said: "We've had a very volatile water year, and unfortunately, recent spring storms are not enough to make up the shortage in our snowpack. Once again, I call on all Utahns – households, farmers, businesses, governments and other groups – to carefully consider their needs and reduce their water use. We saved billions of gallons last year and we can do it again."

The press release noted that Utah has been in drought eight of the past ten years, and that this year's snowpack is 25% below normal. The Utah Department of Natural Resources reported that: (1) 99.39% of the state is in severe drought or worse, with 43.46% of Utah in extreme drought; (2) statewide snow water equivalent (SWE), or how much water would be in the snowpack if it melted, peaked at 12 inches (75% of the typical median peak of 16 inches for our water year); (3) nineteen of Utah's largest 45 reservoirs are below 55% of available capacity, with overall statewide storage at 59% of capacity (compared to 67% capacity at this time in 2021); (4) soil moisture – critical for effective spring runoff – is 4% higher compared to normal for this time of year; (5) of the 94 measured streams, 59 are flowing below normal despite spring runoff, and two streams are flowing at record low conditions.⁹¹

Water Law Judges/Water Rights

On April 28, the Utah Supreme Court and Judicial Council comment period ended on a proposed rule creating designated water judges in Utah district courts to handle cases involving water law and the adjudication of water rights. CJA06-104 would authorize the Utah Judicial Council to formally designate at least three district court judges to volunteer as water judges with appropriate

⁹⁰<https://www.slc.gov/mayor/2022/04/12/salt-lake-city-starts-peak-demand-season-under-stage-2-of-its-water-shortage-contingency-plan/>

⁹¹[https://governor.utah.gov/2022/04/21/drought-emergency-order/#:~:text=SALT%20LAKE%20CITY%20\(April%2021,triggers%20increased%20monitoring%20and%20reporting](https://governor.utah.gov/2022/04/21/drought-emergency-order/#:~:text=SALT%20LAKE%20CITY%20(April%2021,triggers%20increased%20monitoring%20and%20reporting)

knowledge and experience, or with a willingness to become familiar with water laws. It would authorize cases filed under Title 73, Chapters 3 (water exports, groundwater recharge, and wastewater reuse) or 4 (water rights) to be assigned to a water judge. Other cases would be “reviewed and assigned by the supervising water judge if the case is of sufficient legal complexity as related to water law to warrant assignment to a water judge.”

The water judges would elect one to be the supervising water judge, to assign cases, coordinate schedules and adjust caseloads, address concerns, and oversee the water law education of the judges. The supervising water judge would have access to “the use of law clerk resources to develop water expertise, to assist the water judges, and to facilitate consistency in the development of case precedents in the water law area and otherwise assist in the transition as new water judges are designated.”⁹²

On May 31, Chief Justice Matthew B. Durrant promulgated Rule 6-104 Water Law Judges, effective November 1, 2022, designating certain district court judges as water judges and establishing procedures for handling cases involving water rights. The intent is to help eliminate inconsistencies in water rulings. The Utah Water Task Force supported the rule, as well as broadening it to include “cases involving water law, including the adjudication of water rights.” Another comment addressed the need for more than 3 district court water judges to sufficiently addressing caseloads.

Norman Johnson, Gordon Rowe, and Sarah Shechter, Assistant Attorney Generals, Council to Utah State Engineer, submitted comments on the Rule with concerns of Publishing Opinions. “Section (5) of the proposed rule requires certain water law opinions to be published. This rule should be revised to clarify what types of ‘opinions’ are to be published. The terminology in this rule is somewhat confusing as district court rulings are typically described as decisions, orders, or decrees. Additionally, the proposed rule should be modified to clarify what precedential value, if any, these decisions carry. The rule contemplates the ability of a district court judge to ‘create new law,’ which seems to imply that their decisions could carry precedential value. The State Engineer requests that the rule be modified to establish that a decision of a district court is not binding on any other court and only carries persuasive value.” Additionally, the State Engineer has initiated general adjudications in Utah’s fifteen river drainage systems. Twelve of those adjudications are still pending, and comments addressed concerns that water judges should sit in the judicial districts where the adjudications have been initiated. This will help judges apply the law consistently throughout the drainage basin and develop familiarity with basin-specific hydrology.

Great Salt Lake Recovery Act

On July 14, Senator Mitt Romney (R-UT) introduced the Great Salt Lake Recovery Act (S. 4536), referred to the Environment and Public Works Committee. This bill is to “study how the Great Salt Lake and other saline lakes are affected by drought and to require a feasibility study on

⁹²<https://www.utcourts.gov/utc/rules-comment/wp-content/uploads/sites/31/2022/03/6-104-rule-draft-Water-Law-for-public-comment.pdf>

drought solutions...” The bill authorizes \$10 million for the Corps to establish a monitoring and assessment program for saline lakes in the Great Basin, including the Great Salt Lake. The bill also authorizes funding for a feasibility study to evaluate technologies capable of redirecting water to the Great Salt Lake. Identical legislation (H.R. 8389) has been introduced by Rep. Chris Stewart (R-UT). In 2021, Senator Jeff Merkley (D-OR) and Rep. Blake Moore (R-UT) introduced the Saline Lakes Ecosystems in the Great Basin States Program Act (S.1466/H.R. 5345 to authorize the Director of the USGS to establish a regional program to assess the hydrology and wildlife of saline lakes.

Washington

Drought/Water Supply

The second-wettest May through June in Washington since 1895 and unanticipated cool weather preserved snowpack, causing it to last longer into the summer, which will support late-summer water supply needs, prompting the WA DOE to cancel the drought declaration for Central and Eastern Washington. “Conditions have improved. All areas of the state, including the five watersheds specified in the drought declaration, have received significantly above-normal precipitation,” according to Jeff Marti, Ecology’s statewide drought coordinator. “The outlook is much better than forecast back in May.”

Washington DOE issued an emergency drought declaration in July 2021 covering 96% of the state. Only Seattle, Everett and Tacoma – cities with ample water storage – escaped the drought designation. By May 2022, wetter temperatures brought relief to much of the state, but some portions of eastern Washington had yet to fully recover, with WA DOE retaining the drought declaration for some watersheds until now.

Streamflow Restoration

On October 5, the WA DOE announced the 26 projects selected for \$35 million in competitive grants to help increase water storage capacity, improve fish habitat, acquire water rights, and improve water management and infrastructure. The Washington Legislature passed the 15-year Streamflow Restoration Program in 2018, which seeks to protect rivers and streams while providing water for rural homes. This is the third round of grants since the first projects were approved in 2019.

Infrastructure Financing

On November 4, the Washington Public Works Board (PWB) approved \$118 million in loans for community infrastructure construction and pre-construction activities, including domestic water, wastewater, stormwater, solid waste, and transportation. The Washington Legislature created the PWB in 1985 to work with municipalities and districts on meeting infrastructure needs, and provides a dedicated pool of funding for low-interest financing in a revolving loan program, which is managed

by a citizen's board of infrastructure representatives. The PWB has approved over \$3.1B in loans since its inception for nearly 2,000 projects.⁹³

Litigation

Texas v. New Mexico/Rio Grande

On October 25, New Mexico Attorney General Hector Balderas announced that after a nearly decade-long battle over the waters on the Rio Grande, the case has reached an important legal milestone.

The States of Texas, New Mexico, and Colorado have reached a historic agreement after nine years that, if finalized, will settle the massive legal dispute between the States over how water from the Rio Grande is divided between southern New Mexico and west Texas. The agreement addresses interstate issues, but intrastate issues related to the federal Rio Grande Project within New Mexico remain.

Texas filed a lawsuit in 2013, before the Supreme Court, which has original jurisdiction over cases between States, bypassing lower courts. The Court allowed the U.S. to intervene due to the impact on the USBR's Rio Grande Project. The Court appointed a Special Master, Michael Melloy, a senior U.S. 8th Circuit Court of Appeals judge, to first hear arguments.⁹⁴ Texas argues groundwater pumping in Southern New Mexico has reduced Rio Grande flows, limiting how much water makes it across the border. New Mexico argues it has been shorted on its share of the river. Last fall, Melloy took testimony from farmers, hydrologists, irrigation district managers and others, with more hearings anticipated. He will now review the States' agreement and ultimately make a recommendation to the Supreme Court for action.

On November 3, Texas Attorney General Ken Paxton announced that the historic agreement, if approved by the United States Supreme Court, would guarantee that the resources of the Lower Rio Grande River are justly distributed among the states. The 1938 Compact provided for an "equitable apportionment" of the waters of the Rio Grande among the three states, and the proposed agreement would resolve any disputes the states have about their obligations under the Compact.

The dispute focuses on a stretch of the Rio Grande between Elephant Butte Dam and Hudspeth County and involves not only surface water, but the use of groundwater supporting the flow of the river. The federal government and some irrigation districts have announced their objection to the settlement, but the States are currently in the process of requesting approval despite the objections.

⁹³<https://www.commerce.wa.gov/uncategorized/public-works-board-approves-over-118-million-in-pre-construction-and-construction-loans/>

⁹⁴U.S. Supreme Court, #220141.

“I’ve continued to fight to ensure our state has the legal access to the Rio Grande River that we’re owed, and that we can responsibly use the river’s resources to limit the damage of droughts and help Texas farmers,” said Paxton. “This agreement helps protect the resources of all the states involved, and I encourage the federal government to reconsider its objection to this important agreement.”

“Extreme drought and erratic climate events necessitate that states must work together to protect the Rio Grande, which is the lifeblood of our New Mexico farmers and communities,” Balderas said. “And I’m very disappointed that the U.S. is exerting federal overreach and standing in the way of the states’ historic water agreement.”⁹⁵

November 14 was the deadline for the States to submit a motion requesting approval of the agreement to the Special Master. Then the parties are expected to prepare legal briefs addressing whether or not the States have the ability to settle the case over the objection of the U.S. Federal officials and downstream irrigation districts will have an opportunity to respond by January 6, 2023, in preparation for a hearing scheduled for January 24, 2023.⁹⁶

From its origin in southcentral Colorado, the Rio Grande flows 1,896 miles through New Mexico, Texas, and into Mexico before discharging into the Gulf of Mexico. It provides water to agricultural producers and multiple cities in Colorado, New Mexico, and Texas.

The Elephant Butte Irrigation District (EBID) last spring cautioned its agricultural producers to plan for a critically water short year. Some Rio Grande ranches in New Mexico recorded historic low flows, and some farmers voluntarily fallowed fields to help the State meet compact obligations. Recent monsoon rains provided a good start to the 2023 water year, but Elephant Butte Reservoir is at only 6% of capacity.

According to Phil King EBID’s hydrology consultant, “The Rio Grande Project was built and lives on snowmelt runoff from southern Colorado and Northern New Mexico (the watershed headwaters), and that’s what has cratered.” He explained, “We still get the monsoonal inflow spikes like we’re getting right now, but we’re not getting the ‘meat and potatoes’ which is the spring snowmelt runoff.”

Even with average precipitation this past winter, with soil moisture deficits, only 35 percent of the median spring runoff made it to Elephant Butte Reservoir. The hot dry outlook for the next few months, consistent with a third year of La Niña (cooler Pacific equatorial surface temperatures), indicates persistent drought conditions. It will take significant winter snowpack for runoff next

⁹⁵*Santa Fe New Mexican*, October 26.

⁹⁶*Western States Water*, **Special Report #2456, Date**. The status report released by the Special Master on October 24, is available at: [https://ecf.ca8.uscourts.gov/files/smDocuments/10242022%20Status%20Report%20and%20COS%20\(00139497xD2C75\).pdf](https://ecf.ca8.uscourts.gov/files/smDocuments/10242022%20Status%20Report%20and%20COS%20(00139497xD2C75).pdf).

spring to make its way to Elephant Butte. EBID expects another later start for the 2023 surface water irrigation season.⁹⁷

Subseasonal and Seasonal (S2S) Forecasting

Appropriations/NOAA/S2S

In April, the WSWC sent letters to Western Senators and Representatives, supporting a FY2023 \$15 million increase in NOAA's Weather Research Program to begin a western pilot project for improving sub-seasonal to seasonal (S2S) precipitation forecasting. WSWC staff followed up with several virtual and in person meetings and calls with Congressional staff.

A letter of support to the Senate and House Appropriations Subcommittees on Commerce, Justice, and Science, was signed by numerous water management agencies and organizations including: the Association of California Water Agencies; Association of Metropolitan Water Agencies; Bay Planning Coalition; California Special Districts Association; California Water and Environmental Modeling Forum; Central Utah Water Conservancy District; Colorado River Authority of Utah; Family Farm Alliance; Friant Water Authority; Interstate Council on Water Policy; Klamath Water Users Association; Los Angeles Department of Water and Power; National Association of Counties; National Water Resources Association; Northern California Water Association; Oregon Water Resources Department; Regional Council of Rural Counties; San Luis and Delta-Mendota Water Authority; Six Agency Committee; Sonoma Water; State Water Project Contractors; Truckee Meadows Water Authority; Turlock Irrigation District; Utah Association of Special Districts; Weber Basin Water Conservancy District; and WSWC.

On September 1, key NOAA officials briefed WSWC representatives on Western Water and Hydroclimatological Activities, including plans to accelerate improvements in S2S precipitation forecasting. The WSWC has urged NOAA to implement a western pilot project for improving S2S precipitation forecasting, contained in its 2020 report to Congress pursuant to the Weather Research Act. Improvements will require investments across NOAA research, operations and services at time scales ranging from 3-4 weeks to months and years (S2S). Activities to improve predictive capabilities at shorter times scales will also improve outcomes at longer time scales.

More useful winter S2S precipitation forecasts for water management in the Western U.S. requires better model resolution (horizontal and vertical) to resolve the influence of mountainous terrain on the intensity and rates of rain vs. snow, including higher fidelity in modeling the atmospheric boundary layer in mountainous regions. It also requires better prediction of blocked vs. unblocked flow patterns and periods over the eastern North Pacific Ocean.

Improvements in spring and summer S2S precipitation forecasts for agriculture for the Central U.S. requires better observations and model accuracy for the land surface and hydrologic

⁹⁷<https://www.ebid-nm.org/blog-post/ebids-october-outlook-state-of-the-water-update>

cycle, especially soil moisture and the processes leading to flash drought, as well as greater fidelity in the modeling of warm season precipitation processes; and a better understanding and prediction of large-scale upper-level dynamical flow anomalies that occur in this region at this time of year.

NOAA's focus is on continued investment in the Precipitation Prediction Grand Challenge (PPGC) in order to accelerate research to operations (R2O) and leading to a transformational advance in the skill of atmospheric forecasts used in hydrologic models to predict streamflow across all time scales, including multi-decadal forecasts of water resources availability in the Western U.S. NOAA recognizes that the changing hydroclimate of the western U.S. poses a real and increasing threat to the Nation's economic and national security. "There is a societal imperative for improved precipitation prediction across time scales to inform critical and growing climate change challenges related to public safety, adaptation, and resilience." NOAA observed, "Unfortunately, precipitation forecast skill has not improved substantially over decades and remains one of the major technical challenges in atmospheric sciences. Poor prediction skill for flood and drought has an inordinate impact on disadvantaged communities."

The PPGC Strategy, published by NOAA's Weather, Water and Climate Board, is intended to focus on research as the foundation with users as the driver towards: (1) improving products and applications; (2) sustaining, enhancing and exploiting observations; (3) improving process-level understanding and modeling; (4) advancing understanding of precipitation predictability; (5) improving prediction systems for precipitation; and (6) enhancing and sustaining user engagement.

PPGC activities that are already underway involve: (1) product improvements, decision support services, and social science research to identify and address needs of vulnerable populations; (2) improvements to the Office of Atmospheric Research's (OAR) Earth System Model (SPEAR) and Unified Forecast System (UFS) especially for precipitation, flooding and drought; (3) data assimilation and model evaluation; (4) precipitation dataset development; (5) ocean data evaluation and analysis; (6) process studies including field campaigns and global modeling experiments; and (7) international coordination on the Global Precipitation Experiment (GPEX).

The PPGC is designed translate improved model forecasts into actionable information for critical decisions through: (1) improved Day 8, 9, 10 probabilistic daily precipitation forecasts and Week 3 and 4 forecasts; (2) improved understanding of atmospheric forcings leading to more accurate hydrologic forecasts across time scales; (3) improved Drought Early Warning information; (4) enhanced skill for prediction of atmospheric rivers; and (5) new tools based on reforecasts - such as the Extreme Forecast Index, and artificial intelligence (AI)-powered applications.

The Inflation Reduction Act (IRA) includes \$2.6 billion in Section 40001, Investing in Coastal Communities and Climate Resilience, for "to enable coastal communities to prepare for extreme storms and other changing climate conditions, and for projects that support natural resources that sustain coastal and marine resource dependent communities."

Section 40004, Oceanic and Atmospheric Research and Forecasting for Weather and Climate, provides \$150 million “to accelerate advances and improvements in research, observation systems, modeling, forecasting, assessments, and dissemination of information to the public as it pertains to ocean and atmospheric processes related to weather, coasts, oceans, and climate, and to carry out section 102(a) of the Weather Research and Forecasting Innovation Act of 2017.” Another \$50 million is “for competitive grants to fund climate research as it relates to weather, ocean, coastal, and atmospheric processes and conditions, and impacts to marine species and coastal habitat.”

Further, language in the Fiscal Year (FY)2022 Omnibus Appropriations Bill directed NOAA, in collaboration with the Interagency Integrated Water Cycle Group (IWCG) of the U.S. Global Change Resources Program (USGCRP), including the NASA, the DOI, Corps, the Council on Environmental Quality, and other federal agencies, to conduct a study of hydroclimatological changes in the major river basins of the Western United States over the next 30 years.

Within 24 months, NOAA is directed to submit a report on the results of the study, which shall include, to the extent possible, methodological evaluation and probabilistic modeling of future changes in the volumes of water naturally available and natural water cycle in the different regions of the West; taking into consideration the impacts of rising temperatures, changes to snowpack, hydrologic extremes, changes in the timing and quantity of runoff, and other factors, as deemed appropriate. The report shall also include a discussion of associated impacts on ecosystems, aquatic biology, and food production.

NOAA and federal collaborators are also directed to develop a plan to establish a long-term research and monitoring program to improve the understanding of the hydroclimatological changes in the major river basins of the Western United States, to be updated every five years, which also identifies sources of uncertainty in the hydroclimatological outlook for the Western United States and enumerates initiatives that associated federal agencies might undertake to improve future studies.

To support this work on western water across timescales, as well as to advance the work on S2S weather prediction, the FY2022 Omnibus appropriations act provided an increase of \$2 billion above the FY2021 enacted level to Climate Competitive Research.

Water Data

GOES-West Satellite

On March 1, NASA and NOAA launched the Geostationary Operational Environmental Satellite (GOES)-18, also known as GOES-West. The satellite replaced GOES-17, and will work in tandem with GOES-16 (GOES-East). With advanced instruments, it will monitor weather systems and hazards (e.g., fires, hurricanes, volcanoes, space weather) over the western contiguous United States, Alaska, Hawaii, Mexico, Central America, and the Pacific Ocean. The new satellite includes an upgraded magnetometer and an improved cooling system.

Appropriations/EPA/Water Data

On April 28, the WSWC sent a letter addressed to the House and Senate leadership supporting a \$15 million FY23 appropriation for EPA's Water Data Sharing Pilot Program authorized under the IIJA §50213 and included in President Biden's FY23 EPA budget request.

House/Water Data Act

On May 18, Representative Melanie Stansbury (D-NM) introduced the Water Data Act (H.R. 7792). This bill creates a National Water Data Framework for integrating data technologies and tools, ensuring Federal water data is accessible, and adopting common standards for collecting and sharing water data.

Section 4 of this bill establishes a Water Data Council, chaired by the Secretary of the Interior, to support the National Water Data Framework development. Duties of the council include facilitating communication among council members, promoting partnerships across federal and non-federal entities, and advancing innovation and solutions to water data.

The bill authorizes \$25 million a year for FY2023-27 for a DOI grant program to invest in improving water data partnerships with state, local, and other organizations.

The WSWC submitted a letter of support on May 23. The letter noted that WSWC "supports leveraging state and federal resources to build a national water data framework for sharing, integrating, and utilizing water data and supporting the development of innovative water data technologies and tools. Water and water-related data must be recognized as a critical public policy priority given the importance of the resource to our public health, economy, food security, environment, and western way of life. All levels of government must prioritize the collection, analysis, and open sharing of reliable data regarding water availability, quality, and usage given its importance to research for sound science and data-driven decision making. Developing common standards will help expand and unlock existing and future data, leading to further innovation and the creation of new tools to empower water users, managers, and administrators. Critical and vital information is gathered and disseminated through a number of important federal programs. The WSWC has a long history of support for federal data-related observation, analysis, assessment, and dissemination efforts."

The letter continued: "State-of-the-art technology has been developed to provide historic and real or near real-time data in formats that can be shared and used by different computer programs with the potential to vastly improve information available to decisionmakers in natural resources and emergency management, and thus better protect the public safety, welfare, and the environment. There is a serious need for adequate and consistent federal funding to maintain, restore, modernize, and upgrade federal water, weather, and climate observation programs, not only to avoid the loss or further erosion of critical information and data, but also to address new emerging needs, with a primary focus on coordinated data collection and dissemination."

Senate/OpenET Data Act

On June 7, the Senate Energy and Natural Resources Subcommittee on Public Lands, Forests, and Mining held a hearing on several land and water bills, including the OpenET Data Act (S. 2568). The bill directs the USGS to establish an OpenET program to provide satellite-based ET data, including field-scale estimates, to advance the quantification of evaporation and consumptive water use in cooperation with states and other organizations. The House Natural Resources Committee held a hearing on the companion bill, H.R. 4832, on November 4, 2021.⁹⁸

Witnesses included: Nada Culver, Deputy Director, Policy and Programs, BLM; Sean McKenna, Executive Director, Division of Hydrologic Sciences, Desert Research Institute; Tony Willardson, Executive Director, WSWC; Bart Leeftang, Colorado River Program Manager, Central Utah Water Conservancy District; E. Joaquin Esquivel, Chair of the California SWRCB; Adam Sullivan, Nevada State Engineer, NV Division of Water Resources; Greg Lanning, Wyoming State Engineer, WY SEO; and Zane Marshall, Director, Water Resources, SNWA.

Culver noted DOI's support for OpenET. "The value of improved ET reporting is widely understood in the water resources science and management community. Accurate information on ET is required to balance water supply and water demand in a watershed and ensure that adequate water supplies for multiple uses are available over time. The USGS has actively engaged with an OpenET team to help develop and test a prototype system. This engagement has provided USGS with unique insights into the program and its potential as well as current limitations."

Culver expressed some concerns with the bill as written, noting that the report deadline may be too short and that the cost estimates for the program are not yet known. She also said DOI believes that "satellite-based methods of determining ET values should be combined with other types of ET estimation methods that can validate and augment satellite-based delivery of nationwide ET data."

Culver said that cooperative agreements with program partners is a productive way to research and test the applicability of various methods, "however, relying on these partners to continually deliver ET data as part of a plan to operationally deliver ET data nationally is uncertain for the long term. External partners are an important contributor to researching potential techniques and methods, but the responsibility for operational delivery, and the mechanisms with which to do so, should belong to USGS to ensure long-term continuity and success."

McKenna testified in support of S. 2568 as a member of the OpenET Consortium. He said: "OpenET is a consortium that has worked over the past five years to build a satellite-based ET cloud computing and data services platform that begins to address this critical data gap for water management. The OpenET team looks forward to working with the USGS and other partners under

⁹⁸*Western States Water*, #2477, [Date](#), and #2466 Special Report, [Date](#).

this bill to continue to advance this important work.... Sustaining and advancing the underlying science, automated production of transparent and consistent ET data at national scales, and stakeholder engagement with water agencies and agricultural producers are core components of this legislation and underscores the need for the federal government's support and participation. Additional collaboration with federal agencies, extension specialists, agricultural producers, and university partners to conduct additional accuracy assessment for key crops and regions is also needed. A primary goal for OpenET going forward is to continually provide the best available science-based estimates of ET at scale and with consistency and transparency. This requires teams of researchers and software developers from across the federal government and working collaboratively with the academic community, water resource managers and agricultural producers to maintain and update software and data archives as the science, underlying input data, validation sites, and computing platforms advance and evolve." McKenna concluded: "The biggest threat to U.S. agricultural producers today is drought and lack of data to develop accurate water use and budget information. We must find the most cost-effective ways to support and sustain water supplies for agricultural production."

McKenna's written testimony also included support for OpenET from several Western water agencies, councils, and agricultural producers.

Tony Willardson, Executive Director, WSWC: "Tools to measure and monitor agricultural and other outdoor water uses and needs are increasingly important for present and future management of scarce water resources, particularly given recurring drought. OpenET will provide credible, transparent, automated, easily accessible consumptive water use data, through a broad network of collaborators also developing and refining operational applications. No such system can provide more easy access to more timely data with more refined spatial coverage. Currently, access to satellite and ET data is limited and expensive to process and interpret for many water users and decisionmakers."

Bart Leeftang, Central Utah Water Conservancy District, Colorado River Program Manager: "The development of OpenET is fundamental to filling a data black hole related to consumptive use of water. We are thrilled with the prospects it provides for improved, informed water management at the scale of basin and farm, alike. The passage of S. 2568 is crucial to making every drop count, at a time when every drop really does count."

E. Joaquin Esquivel, Chair of the California State Water Resources Control Board: "We learned from the last major drought in California that reliable water data is almost as critical to farmers and water managers as the water supply itself. The launch of OpenET during our current, even more severe drought will be invaluable in helping farmers and water managers plan for agricultural water needs in a way that just wasn't possible before."

Adam Sullivan, Nevada State Engineer, NV DWR: "The Nevada Division of Water Resources strongly supports the continued development and public accessibility of OpenET. This outstanding program directly benefits water users throughout Nevada and the west who strive to

improve efficiency and conserve water. Public access to these data will be increasingly vital to support water users and responsible water management needs into the future.”

Greg Lanning, Wyoming State Engineer, Wyoming State Engineer’s Office: “As a headwater state with seven interstate compacts and three court decrees prescribing the flow of water out of state, the State of Wyoming has numerous obligations for reporting water use. Yet, like many states, Wyoming has limited access to data or resources helpful in meeting our needs. OpenET would provide the State of Wyoming with more accurate estimates of key variables needed for reporting water use and consumption. If funded as proposed and made available to users at little or no cost, we would have a tremendous tool for calculating and reporting water use while helping meet our compact requirements.”

Zane Marshall, Director, Water Resources, Southern Nevada Water Authority: “OpenET will allow water managers to assess how much water is being used via a cost-effective and easy-to-use web-based platform, filling a critical data gap in water management across the U.S. The Authority believes OpenET is a valuable tool for federal, state, and local policymakers and water users.”

Internet of Water Coalition

On September 22-23, the Internet of Water (IoW) Coalition held its inaugural meeting in Cambridge, Massachusetts at the offices of the Lincoln Institute of Land Policy. The Coalition is a group of organizations working together with federal, state, and local government partners to build foundational water data infrastructure across the United States. There are five founding Coalition members that include: Lincoln’s Center for Geospatial Solutions; Duke University’s Nicholas Institute for Energy, Environment and Sustainability; the Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUASHI); the Water Data Collaborative (WDC); and the WSWC’s WaDE Program.

The Coalition’s motto is “Better Water Data for Better Water Management,” and it envisions a nation engaged in equitable, sustainable, and resilient water planning, management, and stewardship. The idea of an Internet of Water was first raised pursuant to an Aspen Institute Dialog Series on Water Data and formalized in a 2017 report, “The Internet of Water: Sharing and Integrating Water Data for Sustainability.” In 2018, the Nicholas Institute launched the IoW project as part of their Water Policy Program, and in 2022 this project expanded to become the IoW Coalition. The WSWC WaDE program began in 2011, with support from the WGA, and has since grown with funding from federal agencies and philanthropic organizations, in part through the Nicholas Institute.

The WaDE program is committed to assisting WSWC member states in publicly sharing water rights, allocation, supply, and use data through a common streamlined and standardized service that enables regional analyses to inform water resources planning and policies.

The IoW Coalition is designed to create a community of people and organizations using water data to make better decisions. Through close collaboration and engagement, the Coalition helps public agencies, water utilities, non-governmental organizations, and private partners modernize their water data infrastructure to make more effective water management decisions. The IoW Coalition supports water data management by providing tools that improve the discoverability, accessibility, and usability of water data, educational programs for data producers, users, and decisionmakers, and access to a nationwide community of practice.

Wildfires

National Interagency Fire Center

On April 24, the NIFC announced eleven new large fires had been reported over the weekend in Colorado, Florida, Nebraska, New Mexico, South Dakota, and Texas. Other large fires continue to burn in Alaska, Arizona, and Louisiana. Fuels and fire behavior advisories were issued in parts of Kansas, North Carolina, Oklahoma, and Texas. The report noted: “To date, 20,262 wildfires have burned 865,290 acres. This continues to be well above the 10-year average [for this time of year] of 14,522 wildfires [that] burned 669,042 acres.” Fires degrade water supplies and water quality.

Wildfire Response and Drought Resiliency Act

On July 29, the Wildfire Response and Drought Resiliency Act (H.R. 5118) passed the House by a vote of 218-199. Division A includes provisions addressing wildfires, ecosystem protection, and recovery.

Division B includes various provisions on drought, resiliency, and water resources. Title I authorizes various research, monitoring, and recovery programs. Section 104 addresses access to WaterSMART grant programs for tribes that face challenges with matching requirements. Section 105 makes permanent the RWSF by amending Section 10501 of the Omnibus Public Land Management Act of 2009⁹⁹ to remove the end dates for both funding to and distribution from the RWSF.

Under Title II, Section 223 authorizes an additional \$150 million for federal priority streamgages and directs the DOI to collaborate with states and local agencies “to maintain and enhance streamgage networks to improve both environmental quality and water supply reliability.”

Title III establishes the OpenET Data Program, authorizing \$23 million for each of FY2023-27. Title IV authorizes the CRIT to enter into agreements for water leases or exchanges, storage, or conserved water.

⁹⁹43 U.S.C. 407

Title V would authorize the Hualapai Tribe Water Rights Settlement Act, including appropriations of \$180 million to the Hualapai Water Trust Fund Account (to design, construct, and maintain the Hualapai Water Project) and \$5 million to the Hualapai Water Settlement Implementation Fund Account.

Title VI establishes a federal interagency Water Data Council composed of the Departments of Agriculture, Commerce, Defense, Energy, Interior, Homeland Security, Health and Human Services; EPA; and the NASA. The Water Data Council is directed to “jointly develop and implement a national water data framework for observing, integrating, sharing, and using water data.” In consultation with states and tribes, the Council will develop common national water data standards and ensure that federal water data “are made findable, accessible, interoperable, and reusable.” The bill also provides for an advisory committee of entities involved in water-related activities, including states, tribes, water agencies, and multi-state instrumentalities.

Division C, Title I, Section 116 includes provisions on drinking water resiliency for rural communities with dry wells. Title VI, Section 601 amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act¹⁰⁰ to define “underserved communities,” directs FEMA to issue guidance related to extreme temperature events, and provides criteria for hazard mitigation plans.

Water Supply Outlook

On August 11, NOAA’s CPC issued a La Niña Advisory, noting that it is expected to continue. “During the past month, below-average sea surface temperatures (SSTs) expanded across the central and eastern equatorial Pacific Ocean. The weekly Niño indices indicated renewed cooling.... Subsurface temperature anomalies also decreased rapidly in the past month, reflecting the reemergence of below-average subsurface temperatures across the east-central Pacific Ocean.... Low-level easterly wind anomalies and upper-level westerly wind anomalies persisted across most of the equatorial Pacific.... Overall, the coupled ocean-atmosphere system remained consistent with an ongoing La Niña.”

The advisory continued: “The forecaster consensus, supplemented with the latest models from the North American Multi-Model Ensemble (NMME), concurs that La Niña is the most likely outcome during the fall and winter. While a majority of NMME models suggest that La Niña will transition to ENSO-neutral in January-March 2023, forecasters are split on this outcome.... In summary, La Niña is expected to continue, with chances for La Niña gradually decreasing from 86% in the coming season to 60% during December-February 2022-23.”

On August 18, the CPC projected September-November precipitation outlook for most of the interior of the lower-48 states ranged from 33%-50% below normal, with temperatures 33%-70% above average across nearly the entire lower-48.

¹⁰⁰42 U.S.C. 5133

On November 3, the NRCS's weekly report highlighted an above-median snowpack to start winter across the West resulting from a series of storms in the Cascade Mountains, Sierra Nevada, the Intermountain West, and southern Alaska. "Farther east, in the Rocky Mountains, the snowpack ranges from above- to near-median conditions for this time of year. The central and southern east slope of the Rockies into the Black Hills have missed much of the snow so far. Though the snow water equivalent percentages are exceptionally high in some parts, the median values for this time of year are very small because it is early in the snowpack season. Additional strong storms with heavy snow are forecasted for this weekend, with expected totals of six inches in the southern Sierra and over three feet in the North Cascades."

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 WGA.

In 2022, the WSWC adopted one new position (No. 480) and revised and re-adopted numerous sunseting positions:

Position No. 478, supports Rural Water Infrastructure Needs and Projects.

Positions No. 479, supports Renewable Hydropower Development.

Position No. 480, supporting Migratory Birds and the Management of State Water Rights and Resources.

Position No. 481, regarding Clean Water Act Jurisdiction.

Position No. 482, regarding Preservation of Radio Frequencies Necessary for Weather Forecasting and Water Management.

Position No. 483, regarding Strengthening the Resiliency of Our Nation to the Impacts of Extreme Weather Events.

Position No. 484, regarding Hydraulic Fracturing.

Position No. 485, supports Water Research and Development Programs at the USDOE National Laboratories.

Position No. 486, regarding Clean Water Act § 404(c).

Position No. 487, supports NASA'S Applied Science Research Program.

Position No. 488, Support for DOI's WaterSMART Programs.

Position No. 489, supporting Legislation Requiring the Federal Government to Pay State Filing Fees in State General Stream Adjudications



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

**Arlington, Virginia
April 6, 2022**

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 regulatory mandates; and

WHEREAS, the USBR's rural water program seeks to identify rural water needs and evaluate rural water supply projects and the demand for new projects; and

WHEREAS, in 2014, the USBR working with other federal agencies and the WSWC estimated the demand for potable water supply systems in rural areas of the 17 western States to be in the range of \$5 billion to \$9 billion for non-Indian projects and approximately \$1.5 billion for specific Indian water supply projects; and

WHEREAS, USBR also estimated that the cost to complete currently authorized projects that are under construction rose from \$2 billion originally authorized to \$2.4 billion in 2014, and continues rising, and that given past levels of funding these priority projects will not likely be completed until well after 2065 at a cost of more than \$5.8 billion; and

WHEREAS, USBR has released a blueprint for spending \$1.66 billion annually through 2026 to implement the 2022 BIL, including \$420 million for rural water projects to benefit tribal and non-tribal underserved communities by providing better access to potable water; and

WHEREAS, there are several rural water projects that are under construction and two new rural water projects authorized in P.L. 116-260 (one for study only and one for construction) that may be eligible for funding; and

WHEREAS, USBR has in the past not requested funds for grants to undertake additional appraisal investigations or feasibility studies for new rural water projects, given the significant authorized backlog and lack of federal funding¹⁰¹ 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 other funding sources; and

¹⁰¹<https://www.usbr.gov/ruralwater/docs/Rural-Water-Assessment-Report.pdf>; pg. 6-7, 11.

WHEREAS, with respect to funding sources, more money is needed to address rural water needs and 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, USDA's Rural Development is a leader in helping rural communities with populations of 10,000 or less, including native Alaskan villages, tribal lands and colonias; and

WHEREAS, Rural Development's Water & Environmental Programs (WEP) invest billions to help rural communities improve quality of life and increase economic opportunities through technical assistance and financing to develop safe drinking water, wastewater and sanitary waste disposal systems; and

WHEREAS, WEP provides water and waste disposal grants, loans, loan guarantees, predevelopment planning grants, revolving loan funds, technical assistance and training grants, emergency community water assistance grants, and a circuit rider program, as well as individual water and wastewater grants and household water well system grants; 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

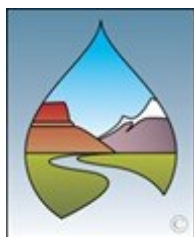
WHEREAS, water districts and individual water users depend on federal and non-federal infrastructure for their livelihood and the risk of default is minimal.

NOW, THEREFORE, BE IT RESOLVED, that the WSWC 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 WSWC also supports the development and implementation of appropriate soil, water and watershed 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.

(see also Position #432, March 22, 2019; #390, March 22, 2016; and #350, April 5, 2013)



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

**Arlington, Virginia
April 6, 2022**

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 primary source of renewable electricity in the United States, representing about 48% of total renewable electricity generation, with approximately 101 gigawatts (GW) of capacity and nearly 7% of total electricity generation;¹⁰² 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 low-head hydro on 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 CWA 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; and

WHEREAS, hydropower is a prominent component of electricity generation in a number of western states, and important part of state renewable portfolio standards; and

¹⁰²<https://www.energy.gov/sites/prod/files/2016/10/f33/Hydropower-Vision-Chapter-2-10212016.pdf>, p. 3, 76.

WHEREAS, the potential exists to increase hydropower production by as much as 189 GW by rehabilitating, expanding and upgrading existing facilities, powering non-powered dams, installing hydropower at existing conduits and canals, as well as developing new project sites.¹⁰³

NOW, THEREFORE BE IT RESOLVED, that the WSWC 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 efficient permitting processes, while appropriately protecting environmental resources and respecting States' 401 certification authority under the CWA and States' authority over water allocation within their borders.

BE IT FURTHER RESOLVED, that the WSWC 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.

(see former Positions #433, March 22, 2019, #391, March 22, 2016; and #351, April 5, 2013)

¹⁰³Ibid, pg. 95.



**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
MIGRATORY BIRDS AND THE
MANAGEMENT OF STATE WATER RIGHTS AND RESOURCES**

**Arlington, Virginia
April 6, 2022**

WHEREAS, the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.) prohibits the taking of various migratory birds; and

WHEREAS, in December of 2021, the United States Fish and Wildlife Service (USFWS) revoked its regulation establishing that a taking under the MBTA does not include an incidental taking (86 FR 54642); and

WHEREAS, the USFWS seeks to promulgate a new regulation under the MBTA that would for the first time codify a prohibition on incidental takes and would also allow incidental takes for government agency activities through general and specific permits; and

WHEREAS, water in the West is often a scarce resource critical for both a healthy economy and healthy environment, including protected endangered and threatened species; and

WHEREAS, water is both a public and a private resource, with some uses benefitting the public good as a whole, while others are recognized as protected private property rights; and

WHEREAS, the States are primarily responsible for the allocation, administration, management, and protection of the water resources and rights to the use of water within their borders, as well as the management and protection of migratory birds and the environments upon which they depend; and

WHEREAS, various state and local governmental agencies own or operate water use or distribution facilities which benefit water users and the public as well as migratory birds and their respective environments; and

WHEREAS, many, if not most, of the senior state granted rights to the use of waters in western rivers and streams predate federal environmental protections by decades, and the certainty provided by early water rights continues to be the foundation for past, present and future investments; and

WHEREAS, the West and its flora and fauna, including protected species, are part of a unique and unparalleled heritage reflecting the Nation's value for wild and open spaces, as well as a western conservation ethic; and

WHEREAS, western States and many western water uses are also committed to the preservation of western species through reasonable, transparent and effective regulatory protections and restrictions, as well as conservation incentives for private property owners; and

WHEREAS, opportunities exist for greater collaboration and cooperation to conserve threatened and endangered species, while recognizing state granted water rights and addressing western water issues, without unmitigated or uncompensated “takings” of either water rights or threatened and endangered species where provided for under state or federal law.

NOW, THEREFORE, BE IT RESOLVED, that the WSWC calls upon federal agencies to engage in a substantive discussion of past, present and future efforts to work in concert with State agencies to implement Congress' intent to resolve water and species protection issues and to ensure the creation of flexible regulations that do not interfere with state management of water resources.



**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
CLEAN WATER ACT JURISDICTION**

**Arlington, Virginia
April 6, 2022**

WHEREAS, the CWA is built upon the principle of cooperative federalism in which Congress intended the states, the EPA, and the Corps to implement the CWA as partners, delegating co-regulator authority to the states;

WHEREAS, the CWA's cooperative federalism framework has resulted in significant water quality improvements since the law's enactment in 1972, and western states have made great strides in protecting water quality and coordinating water quality and water quantity decisions; and

WHEREAS, it is imperative that EPA and the Corps actively seek meaningful state consultation, engagement, and participation in the review and development of any new proposed or final rule to define Waters of the United States; and

WHEREAS, States are best positioned to manage the water within their borders because of their on-the-ground knowledge of the unique aspects of their hydrology, geology, and legal frameworks; and

WHEREAS, States have both state statutory and constitutional authority pursuant to their "waters of the state" jurisdiction to protect the quality of waters within their borders, and such jurisdiction generally extends beyond the limits of federal jurisdiction under the CWA; and

WHEREAS, CWA Section 101(b) supports the states' critical role in protecting water quality by stating: "It is the policy of Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution;" and

WHEREAS, CWA Section 101(g) further provides that the primary and exclusive authority of each state to "allocate quantities of water within its jurisdiction shall not be superseded, abrogated, or otherwise impaired by this Act;" and

WHEREAS, the Supreme Court has interpreted the jurisdictional scope of the CWA in *U.S. v. Riverside Bayview Homes, Inc.*, 474 U.S. 121 (1985); *Solid Waste Agency of Northern Cook County (SWANCC) v. Corps*, 531 U.S. 159 (2001); and *Rapanos v. United States*, 547 U.S. 715, 723 (2006); and has granted certiorari in *Sacket v. EPA* (#21-424); and

WHEREAS, perennial streams with a relatively permanent surface water connection to navigable waters are presumptively considered to be under federal CWA jurisdiction consistent with *Rapanos*; and
WHEREAS, Justice Kennedy's "significant nexus" test in *Rapanos* requires a connection between waters that is more than speculative or insubstantial to establish jurisdiction; and

WHEREAS, Justice Scalia's plurality opinion in *Rapanos* held that the phrase “waters of the United States” includes only relatively permanent, standing, or continuously flowing bodies of water; and

WHEREAS, a one-size-fits-all national approach to federal regulations, guidance, and programs pertaining to the CWA does not recognize specific conditions and needs in the West, where water and precipitation can be scarce and a variety of unique waterbodies exist, including small ephemeral washes and arroyos, snow dependent intermittent streams, effluent dependent and dominated streams, prairie potholes, playa lakes, and terminal lakes, as well as numerous man-made reservoirs, impoundments, and water and stormwater conveyance structures; and

WHEREAS, physical, biological, and chemical differences between waters, and hydrologic differences, both spatially and temporally, as well as considerable differences in legal doctrines that govern water in western states, mean that any federal effort to clarify CWA jurisdiction will inevitably impact each state differently, thus underscoring the need to thoroughly involve states in developing and implementing any rule so as to clearly respect and avoid conflict with state authority over the regulation of water quality and the allocation of waters and water rights within their respective borders; and

WHEREAS, any efforts to redefine or clarify CWA jurisdiction have, on their face, numerous federalism implications that have the potential to significantly impact states and alter the distribution of power and responsibilities among the states and the federal government; and

WHEREAS, as co-regulators, states are separate and apart from the general public, and have a unique role with the federal government in the development and implementation of any rule to clarify or redefine CWA jurisdiction; and

WHEREAS, information-sharing does not equate to meaningful consultation, and the uncertainty and differences of opinion that exist regarding CWA jurisdiction requires EPA and the Corps to develop and implement federal CWA jurisdiction efforts in authentic partnership with the states; and

WHEREAS, uncertainty and differences of opinion have and continue to exist regarding CWA jurisdiction among states, and challenge EPA and the Corps to develop and implement any new rule in cooperation with the states, based on principles of cooperative federalism, and together to provide greater certainty and a clearer definition of the limits of federal jurisdiction; and

WHEREAS, substantial and recurring changes to regulatory definitions, policies, and programs between federal administrations create uncertainty for co-regulators and the regulated community, often leading to unreliable results, indecision, inconsistency, and lawsuits.

NOW, THEREFORE, BE IT RESOLVED, that Congress and the Administration should ensure that any federal effort to clarify or define CWA jurisdiction and define Waters of the United States:

1. Creates an enduring and broadly supported definition
2. Acknowledges and addresses the needs, priorities, and concerns of states as co-regulators.
3. Includes robust, meaningful, and representative state participation and consultation in the development and implementation of any rule, acknowledging the inherent federalism implications.

4. Gives full force and effect to Congress' intent to maintain a reasonable balance of state and federal authority and the purposes of CWA Sections 101(b) and 101(g).
5. Complies with the limits set by Congress as interpreted by the Supreme Court, and appropriately incorporates those limits.
6. Specifically identifies waters and features outside the scope of the CWA jurisdiction including but not limited to groundwater and historically recognized agricultural exemptions.
7. Acknowledges that states have authority to protect all “waters of the state,” and that excluding waters from federal jurisdiction does not always mean that they will be exempt from state regulation and protection.
8. Continues to provide access to appropriate technical and financial assistance to the states to protect and improve water quality under existing EPA programs without regard to jurisdictional determinations.
9. Provides a clearly delineated process for resolving differences of opinion over federal and non-federal jurisdiction, and jurisdiction between different States and tribes (treated as states).
10. Provides for mapping of jurisdictional waters as a joint federal/state/tribal effort employing the best available data and tools, with appropriate provisions and processes for map maintenance.
11. Includes an appropriate delay in the effective date of any new rule or otherwise allows for a transition enabling states to take such actions as may be necessary to address any gaps in state law, regulation and protection, and to ensure sufficient time for tools to be developed by federal agencies, in collaboration with states, that facilitate implementation of the new rule.
12. Recognizes the need to balance definitional clarity with flexibility in implementation to address the unique landscapes, flow regimes, and legal frameworks in various regions of the Nation and appropriately weighs all factors of science, law, and effective policy to draw jurisdictional conclusions that are appropriate, and that do not impinge on the rights of States.
13. Considers a regional approach to the definitions of terms for foundational and any categorical waters in the rule including terms such as “relatively permanent” and “significant nexus” and defines regions building upon existing classification systems based on hydrology, geology, and climate.
14. Provides, in the rule development process, a representative number of states, as co-regulators, with diverse perspectives and regions to engage actively in an integrated way with the EPA and Corps staff to provide direct and effective feedback on the implementability of a proposed rule which requires ample time for development of new regulatory language.

*(see former Positions No. 472 - 9/16/2021; No. 427 -10/26/2018;
No. 410 - 6/29/2017; and No. 369 - 7/18/2014)*



**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
on the
PRESERVATION OF RADIO FREQUENCIES
NECESSARY FOR WEATHER FORECASTING AND
WATER MANAGEMENT**

**Polson, Montana
August 5, 2022**

WHEREAS, the Administration has launched a \$45 Billion “Internet for All” Initiative to Connect Everyone in America; and

WHEREAS, National Telecommunications and Information Administration (NTIA) sets policy regarding allocations and regulations governing the federal spectrum use, assigns frequencies, and participates in all aspects of the Federal government's communications related emergency readiness activities; and

WHEREAS, the Federal Communications Commission has been aggressively engaged in efforts to make as many frequencies of the radio spectrum as possible available for commercial broadband and wireless technologies, licensed and unlicensed; and

WHEREAS, legislation has been introduced that would require an estimation of the value of the electromagnetic spectrum assigned or otherwise allocated to federal entities, between 3 kHz and 95 GHz; and

WHEREAS, a proposed basis for estimation is “the value that the electromagnetic spectrum would have if the spectrum were reallocated for the use with the highest potential value of licensed or unlicensed commercial wireless services that do not have access to that spectrum as of the date of the estimate...while preserving the spectrum access necessary to satisfy mission requirements and operations of Federal entities;” and

WHEREAS, much of the nation's data for emergency and administrative information on weather, river and streamflows, groundwater and forest fires are transmitted from remote platforms to satellites (GOES and POES) and then to “direct receive or downlink” stations on the 1675-1710 MHz range of the spectrum; and

WHEREAS, Earth-observation satellites use several radio frequency bands tied to the physical properties of the scientific measurements, including water vapor (23.8 GHz), rain and snow (36-37 GHz), atmospheric temperature (50.2 - 50.4 GHz), clouds and ice (86 - 92 GHz) and others; and

WHEREAS, sharing bandwidth, or noise from adjacent bands on the spectrum with inadequate controls, has the potential to interfere with the quality, accessibility, and utility of Earth-observation satellite data and data collected and transmitted from remote platforms on earth to satellites; and

WHEREAS, significant public and private funds have been invested to establish our satellite and ground networks, many of which would be costly to replace, and some of which are irreplaceable; and

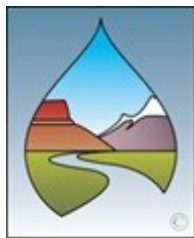
WHEREAS, the serious, unintended consequences of data interference may include degradation in short-term weather forecasts; loss of data for streamgaging and water monitoring networks; ability of state and federal agencies to prepare for and respond to floods, fires, and extreme weather events; the ability of western states to administer and manage their scarce water resources and water quality programs; and risks of loss to human life, health, welfare, property, and environmental and natural resources.

NOW, THEREFORE, BE IT RESOLVED, that the WSWC supports efforts to preserve frequencies needed for weather forecasting, streamgaging, and related water and emergency management information needs.

BE IT FURTHER RESOLVED, that the WSWC supports interagency coordination between the NTIA, FCC, NOAA, USGS and other state and federal agencies, to quantify and analyze the effects of commercial broadband use on satellite observation data and transmissions.

BE IT FURTHER RESOLVED, that the WSWC supports a meaningful evaluation of the existing government and potential alternative uses of the electromagnetic spectrum without discounting the costs of natural disasters and degradations in data needed for water management decisions, and with input from the States as appropriate.

(see also Position #434, July 18, 2019)



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

**Polson, Montana
August 5, 2022**

WHEREAS, the West and the Nation continue to suffer the effects of increasingly extreme weather events, including tornadoes, hurricanes, extreme precipitation, flooding and drought, resulting in the 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, widespread flooding along many western rivers and streams, including the Clark Fork, Flathead, James, Tanana, Yellowstone, and others, have demonstrated the continuing need for more flood control capacity and early warning systems, with timely and accurate forecasts; 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 flooding and drought impacts; and

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

WHEREAS, extreme prolonged drought has led to the cooperative development and implementation of the DCPs by the Seven Colorado River Basin States, the United States and Mexico and calls by the DOI for further reductions in water use; and

WHEREAS, flood control, drainage and other water resource issues also involve relations with Canada, including negotiations over renewing the Columbia River Treaty; 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, 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, investments in observations, research, forecasting, and monitoring the development of extreme weather events provide an opportunity to significantly improve real-time water rights

administration, planning and project design, and operations to maximize storage, avoid or minimize the loss of life and property, as well as mitigate economic and environmental damages; and

WHEREAS, the Weather Research and Forecasting Innovation Act of 2017 was reauthorized in 2019, together with the NIDIS Act, and both are soon due for reauthorization; and

WHEREAS, the WSWC continues to support NOAA's NIDIS, implementation of the Weather Research Act, and emergency drought response authorities for the USBR and other federal agencies; 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 using S2S forecasts as widely as we now use 5-10 day weather forecasts; and

WHEREAS, the WSWC has urged NOAA to implement the western pilot project for improving S2S precipitation forecasting contained in its 2020 report to Congress pursuant to the Weather Research Act; and

WHEREAS, NOAA has allocated minimal resources for improving the skill of S2S forecasts (forecasts extending from 3 weeks to 2 years); 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 the skill of precipitation forecasting at near-term weather and S2S timescales; 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, the WSWC 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 maintaining and improving existing monitoring networks that help provide early warning as well as tracking impacts of extreme events; and

WHEREAS, there is a need for improving precipitation forecasting at all time scales to support implementation of Forecast-Informed Reservoir Operations (FIRO); 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.

NOW, THEREFORE, BE IT RESOLVED, that the WSWC supports as a high priority appropriate federal appropriations and actions to plan, prepare for and avoid, minimize or mitigate the impacts of extreme weather events, including implementing the S2S forecasting pilot project recommended in NOAA's report to Congress and implementing NOAA's proposed Precipitation Prediction Grand Challenge.

BE IT FURTHER RESOLVED, that the WSWC 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 WSWC pledges to work with the Administration and the Congress to appropriately address current and future needs to improve S2S forecasting and extreme events response and resiliency.



**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
HYDRAULIC FRACTURING**

**Polson, Montana
August 5, 2022**

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, 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, states have decades of experience, knowledge, and information regulating hydraulic fracturing and other oil and gas activities, and making decisions regarding the protection of their water resources; 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.

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 based upon sound science and driven by states' research and policy priorities.

BE IT FURTHER RESOLVED, 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.

(see also Position #436, July 18, 2019;
#393, July 15, 2016; and Position #353, June 26, 2013)



**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**

**Polson, Montana
August 5, 2022**

WHEREAS, the WSWC has long recognized that water and energy resources are interdependent - using one requires the other - and this presents a particular challenge in the West, where energy demand continues to rise while water supplies are increasingly stressed; and

WHEREAS, integrating, protecting, and wisely managing our national water and energy resources for the benefit of our present and future generations, is increasingly important; and

WHEREAS, one purpose of the WSWC is to accomplish effective cooperation among western states (and our federal partners) in the conservation, development and management of water resources; and

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

WHEREAS many watersheds are already fully-appropriated, and new stresses are emerging from climate, population growth, land use changes and water needs for energy development and production; 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, as well as agricultural, municipal and environmental uses; and

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

WHEREAS, present water and energy 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's Office of Energy Efficiency and Renewable Energy, Office of and National Laboratories has included:

- exploring the energy-water nexus;

- highlighting energy-water-carbon nexus challenges and opportunities;
- developing unique multisector and multiscale model frameworks to address critical planning and operational decisions at the energy-water-land nexus;
- evaluating synergies between energy and water infrastructure to improve reliability and resiliency;
- understanding interactions among atmospheric particles, clouds, the land surface, and human activities;
- providing decision science, support and informatics for balancing water supply and demands;
- developing domestic water use projections;
- decreasing water and energy demands through efficient use;
- promoting sustainable groundwater management and storage opportunities while reducing cost and energy demands and insuring water quality;
- advancing next-generation hydropower and pumped storage systems;
- modernizing irrigation;
- increasing the safety, security, and sustainability of water infrastructure through the development of advanced technologies that create new water supplies;
- improving desalination membranes;
- managing water in a low-to-no snow future; and
- conducting research and development in hydrogen production, delivery, and storage for multiple end uses.

WHEREAS, such research should be guided by state needs as expressed in state water and energy planning documents and through state planning processes with a focus on water resource demands and water quality impacts; 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 WSWC urges the Administration and the Congress to recognize 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; Lawrence Berkeley and Lawrence Livermore National Laboratories in California; Los Alamos and Sandia National Laboratories in New Mexico; the National Renewable Energy Laboratory in Colorado; and Pacific Northwest National Laboratory in Washington, that collaboratively links federal energy research programs and water issues of concern to the western states.

BE IT FURTHER RESOLVED, that the WSWC urges the Administration and the Congress to encourage collaboration and cooperation between the National Laboratories and other federal agencies, including but not limited to the NOAA, USBR and USGS to leverage federal expertise and resources (including supercomputing power; climate and precipitation site sensitivity analysis; systems analysis, integration, and security, etc.) in addressing the Nation's water-related challenges.

BE IT FURTHER RESOLVED, that the WSWC urges the Administration and the Congress to recognize the primary role of the States in allocating water for energy.



**RESOLUTION
of the
WESTERN STATES WATER COUNCIL
regarding
CLEAN WATER ACT § 404(c)**

**Sulphur, Oklahoma
October 21, 2022**

WHEREAS, the WSWC's mission is "to ensure that the West has an adequate, secure, and sustainable supply of water of suitable quality to meet its diverse economic and environmental needs now and in the future;" and

WHEREAS, the CWA does expressly "recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources...." CWA § 101(b); and

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

WHEREAS, CWA § 401 grants States the right to issue certifications articulating project conditions necessary to ensure compliance with State water quality standards;

WHEREAS, CWA § 404 establishes a permitting program for the disposal of dredge or fill material administered by the Corps, unless delegated to a State or Tribe; and

WHEREAS, CWA § 404(c) grants the EPA Administrator the power "to prohibit the specification (including the withdrawal of specification) of any defined area as a disposal site, and...deny or restrict the use of any defined area...as a disposal site, whenever he determines...that the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreational areas;" and

WHEREAS, in 1992, as directed by CWA Section 404(q), EPA and Corps executed a Memorandum of Agreement ("1992 MOA") that bound the two agencies to specific procedures for resolving potential disagreements, including "elevation of specific individual permit cases...that involve aquatic resources of national importance;" and

WHEREAS, EPA's actions in the § 404 permitting process have recently been inconsistent with established protocols, creating challenges for States' engagement and public and private investment in projects requiring § 404 permits.

NOW, THEREFORE, BE IT RESOLVED, that the WSWC supports the promulgation of regulation and guidance: (a) improving predictability in § 404 permitting, specifically the (c) and (q) processes; (b) improving communication between federal agencies and states; and (c) requiring EPA to adhere to established § 404 permitting processes and protocols.

BE IT FURTHER RESOLVED, that the WSWC urges regulation and guidance expressly limiting exercise of EPA's § 404(c) power to the time period between USACE's indication of its intent to issue a permit, and USACE's final issuance of that permit.

BE IT FURTHER RESOLVED, that the WSWC urges EPA to:

(1) communicate with the state's environmental agency in which the § 404 permit is to be issued prior to exercise of its § 404(c) power and provide the State with a meaningful opportunity to address EPA's concerns;

(2) see the CWA § 404(q) process through to completion, prior to any proposed § 404(c) veto;

(3) abstain from issuing a § 404(c) veto unless and until the affected State's time period for issuing a § 401 certification has expired;

(4) update the existing 1992 MOA to reflect a procedure that the EPA and the Corps are committed to following;

(5) document the rationale for any § 404(c) veto, including:

(a) verification that impacted waters are Waters of the United States;

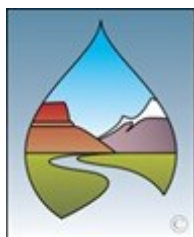
(b) findings from any Final Environmental Impact Statement pertaining to the proposed project;

(c) impacts to municipal water supplies, shellfish beds, fishery areas, wildlife, and recreational areas; and

(d) resolved issues emanating from discussions between the USACE and EPA; and

(6) abstain from issuing a § 404(c) veto until after discussion with the state's environmental agency on the rationale behind the 404(c) veto.

BE IT FURTHER RESOLVED, that the WSWC pledges to work with the Administration to reduce the uncertainties and inconsistencies in EPA's § 404(c) power, as it has been exercised to date.



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

**Sulphur, Oklahoma
October 21, 2022**

WHEREAS, the WSWC 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 8 and Landsat 9 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 developing a method to directly measure snow depth using Lidar measurements from the Ice, Cloud, and Land Elevation Satellite-2 (ICESat-2);¹⁰⁴ and

WHEREAS, NASA research has enabled operational use of airborne snow observations; 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

¹⁰⁴<https://www.nasa.gov/missions/icesat-2/nasa-scientist-discovers-new-means-to-measure-snow-depth-from-space/>

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 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 NASA-ISRO Synthetic Aperture Radar (NISAR), which is designed to observe and take measurements of the planet's crust and disturbances, including subsidence due to groundwater pumping; and

WHEREAS, the successful transfer of technology from the research domain to the applications domain or research to operations (R2O) 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 WSWC 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 WSWC 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.

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

BE IT FURTHER RESOLVED, that the wswc 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.

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

BE IT FURTHER RESOLVED, that the WSWC supports and strongly encourages interagency cooperation, including collaborative efforts between NASA, NOAA, and USGS to move research towards operational applications that inform and improve State water resources management and decisionmaking.

Revised and Readopted
(Originally adopted Oct 29, 2010 and revised and readopted on October 3, 2013;
September 30, 2016; and October 18, 2019.)



**POSITION
of the
WESTERN STATES WATER COUNCIL
regarding**

THE DEPARTMENT OF THE INTERIOR's WATER SMART PROGRAMS

**Sulphur, Oklahoma
October 21, 2022**

WHEREAS, the WSWC 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;¹⁰⁵ 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 WSWC 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 WSWC 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

WHEREAS, the Act authorizes a variety of activities to enhance the DOI's water data efforts with significant progress made on these activities, 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

¹⁰⁵See 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, 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 accurate streamflow information threatens to put human life, health, welfare, property, and environmental and natural resources at a considerably greater risk of loss; and

WHEREAS, the USGS's National Streamflow Information Program (NSIP) facilitates an improved national backbone focused on national needs and interests; and

WHEREAS, the Groundwater and Streamflow Information Program (GWSIP), 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, substantial advances in water science, together with emerging breakthroughs in technical and computational capabilities, have led the USGS to develop a Next Generation Water Observing System (NGWOS); and

WHEREAS, USGS provides "grants to State water resource agencies to assist in developing water use and availability datasets" under 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' NSIP, GWSIP, NGWOS, WAUSP, and WUDR programs together 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, authorization and funding for some of these WaterSMART programs have expired or appropriations have largely been depleted and some have 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 WSWC expresses our continuing strong support for authorization and implementation of the SECURE Water Act and related programs; and

BE IT FURTHER RESOLVED, that Western States recognize that too often program authorization and appropriations have not kept up with the need, limiting program participation and benefits; and

BE IT FURTHER RESOLVED, that the WSWC 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, as well as focus existing resources on these important programs.

*(see also Position #357, October 3, 2013,
Position #397, September 30, 2016; and Position #439, October 18, 2019)*



**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**

**Sulphur, Oklahoma
October 21, 2022**

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 often 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 WSWC 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 WSWC 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 WSWC 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.

(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, Oct. 3, 2013, and Oct. 18, 2019)

RULES OF ORGANIZATION

Preamble

The WSWC 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, WSWC membership is comprised of States with member representatives appointed by the Governors of each participating State. The activities of the WSWC are subject to the control and supervision of the Governors of member States through their appointed representatives. The WSWC is funded by dues from member States, set by an Executive Committee, which also controls expenditures.¹⁰⁶

Article I - Name

The name of this organization shall be “THE WESTERN STATES WATER COUNCIL (WSWC).”

Article II - Purpose

The purpose of the WSWC 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.

¹⁰⁶Revenue Ruling 57-128, 1957-1 C.B. 311 states: “In cases involving the status of an organization as an instrumentality of one or more states or political subdivisions, the following factors are taken into consideration: (1) whether it is used for a governmental purpose and performs a governmental function; (2) whether performance of its function is on behalf of one or more states or political subdivisions; (3) whether there are any private interests involved, or whether the states or political subdivisions involved have the powers and interests of an owner; (4) whether control and supervision of the organization is vested in public authority or authorities; (5) if express or implied statutory or other authority is necessary for the creation and/or use of such an instrumentality, and whether such authority exists; and (6) the degree of financial autonomy and the source of its operating expenses.”

(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 WSWC 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 WSWC 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 WSWC 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 WGA, which are not members of the WSWC, 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 WGA, 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 WSWC, 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 WSWC 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 WSWC activities and receive all information disbursed by the WSWC. However, Associate Member states shall have no vote in WSWC matters.

(5) If any state fails to pay the appropriate level of dues established by the Executive Committee of the WSWC, the privileges afforded by virtue of its membership to participate in WSWC activities and to receive all information dispersed by the WSWC 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 WSWC 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 WSWC 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 WSWC 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 WSWC. 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 WSWC.

(3) The Executive Committee of the WSWC shall set annual dues for WSWC participation and may, by unanimous vote, confer the status of Associate Member of the WSWC upon states it deems eligible. The Executive Committee shall, through regular WSWC 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 WSWC activities by non-member states and non-member state representatives (non-members).

(4) The Executive Committee shall annually adopt a budget and oversee all WSWC 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 WSWC.

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 WSWC representative is attending on behalf of a WSWC 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 WSWC 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 WSWC 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 WSWC for a vote, other than election of officers, or sunseting positions, any member state may upon request obtain one automatic delay in the voting until the next regular meeting of the WSWC. Further delays in voting on such matters may be obtained only by majority vote.

(5) The WSWC shall consider external policy positions for adoption at its three regular meetings held each year. No external policy matter may be brought before the WSWC for a vote unless advance notice of such matter has been mailed or emailed to each member of the WSWC at least 30 days prior to one of the WSWC'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 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. The WSWC will attempt to resolve any objections raised through WGA, and will not distribute any position if a majority of WSWC-member state governors object. 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, if not readopted at the closest regularly-scheduled WSWC meeting. The Executive Committee will review prior to each regular meeting those policy statements or positions due for sunseting. If a majority of the Executive Committee members recommend that the position be readopted by the WSWC, then such position shall be forwarded for WSWC consideration.

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 WSWC 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 WSWC 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 WSWC, to the extent practical the assets of the WSWC 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 WSWC 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.

Revised and Adopted – April 6, 2022

Glossary of Acronyms

AK DEC	Alaska Department of Environmental Conservation
AK DNR	Alaska Department of Natural Resources
ARPA	American Rescue Plan Act
ANPRUM	Advance Notice of Proposed Rulemaking
ACWA	Association of Clean Water Administrators
ASDWA	Association of State Drinking Water Administrators
BIA	Bureau of Indian Affairs
BIL	Bipartisan Infrastructure Law
BLM	Bureau of Land Management
CDWR	California Department of Water Resources
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CIG	Conservation Innovation Grants
Corps	Army Corps of Engineers
CPC	Climate Prediction Center
CRBSCP	Colorado River Basin Salinity Control Program
CREP	Conservation Reserve Enhancement Program
CRP	Conservation Reserve Program
CSKT	Confederated Salish and Kootenai Tribes
CSP	Conservation Stewardship Program
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
EQIP	Environmental Quality Improvement Program
ESA	Endangered Species Act
EWPP	Emergency Watershed Protection Program
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FWS	Fish and Wildlife Service
GWPC	Ground Water Protection Council
ICWP	Interstate Council on Water Policy
KDA	Kansas Department of Agriculture
KWO	Kansas Water Office
MT DNRC	Montana Department of Natural Resources and Conservation
NARF	Native American Rights Fund
NASA	National Aeronautics and Space Administration
NDRP	National Drought Resiliency Partnership
NEPA	National Environmental Policy Act
NDRP	National Drought Resilience Partnership
NIDIS	National Integrated Drought Information System
NMED	New Mexico Environment Department
NOAA	National Oceanic and Atmospheric Administration

NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NWS	National Weather Service
NWSA	National Water Supply Alliance
OK DEQ	Oklahoma Department of Environmental Quality
OWRB	Oklahoma Water Resources Board
OMB	Office of Management and Budget
PFAS	Per- and Ppolyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonic Acid
RCPP	Regional Conservation Partnership Program
RCRA	Resource Conservation and Recovery Act
SDWA	Safe Drinking Water Act
SRF	State Revolving Funds
STAG	State and Tribal Assistance Grants
SWRCB	California State Water Resources Control Board
TCEQ	Texas Commission on Environmental Quality
USBR	Bureau of Reclamation (also known as “Reclamation”)
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USFS	U.S. Forest Service
USGS	U.S. Geological Survey

WA DOE	Washington Department of Ecology
WaDE	Water Data Exchange
WestFAST	Western States Federal Agency Support Team
WGA	Western Governors' Association
WIFIA	Water Infrastructure Finance and Innovation Act
WOTUS	Waters of the United States
WQS	Water Quality Standards
WSWC	Western States Water Council
WWCC	Western Water Cooperative Committee