

**OPPORTUNITIES TO INCREASE WATER STORAGE
AND CONSERVATION THROUGH REHABILITA-
TION AND DEVELOPMENT OF WATER SUPPLY
INFRASTRUCTURE, AND TESTIMONY ON PEND-
ING LEGISLATION**

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

ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

ON

S. 1570
S. 1932
S. 2044

JULY 18, 2019



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OPPORTUNITIES TO INCREASE WATER STORAGE AND CONSERVATION THROUGH REHABILITATION AND DEVELOPMENT OF WATER SUPPLY INFRASTRUCTURE, AND TESTIMONY ON PENDING LEGISLATION

THURSDAY, JULY 18, 2019

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

The Subcommittee met, pursuant to notice, at 10:49 a.m. in Room SD-366, Dirksen Senate Office Building, Hon. Martha McSally, presiding.

**OPENING STATEMENT OF HON. MARTHA MCSALLY,
U.S. SENATOR FROM ARIZONA**

Senator MCSALLY. The hearing of the Senate Energy and Natural Resources Subcommittee on Water and Power will come to order.

I first want to apologize for being tardy. I was trying to be in a few places at once. Thanks for your patience.

Throughout the West, water is central to everything we do. The infrastructure to provide and protect this water supply took centuries to build and has allowed our cities to grow and our farms to prosper. Without these dams and canals, recharge basins and reclaimed water plants, the American West would not be a home, bread basket, economic engine or worldwide destination that it is today. It has taken tremendous foresight and major investment to develop the water systems that are the backbone of our western communities and businesses, and they have been great investments, by any standard.

In my home State of Arizona, what started as a \$10 million federal investment in the Salt River Project in 1903 laid the groundwork for today's Phoenix metropolitan area which now contributes \$250 billion in GDP to the nation. Earlier this year, I toured all 15 counties in Arizona in my first 90 days as a Senator. I saw first-hand how these major investments shaped the state through Hoover Dam to Lake Powell, Salt River Project to the Central Arizona Project. Arizona's past and future relies entirely on how we deliver water, and federal investment in these projects is therefore critical.

When I visited Yuma County in January local water experts, including Wade Noble, one of our witnesses here today, laid out to me how the water districts responsibly maintain and manage Im-

perial Dam and related infrastructure which supplies water to both California and Arizona's massive agriculture economy.

Irrigation projects have unleashed Arizona's \$23 billion agriculture economy. The return on these investments for our nation is clear. It is now our turn to step up and make the next round of investments in our water infrastructure. We must ensure our existing facilities keep running and develop the next generation of projects that will provide water security for the next century. The bipartisan bills before us today will do just that.

My bill, S. 2044, the Water Supply Infrastructure Rehabilitation and Utilization Act, which I am proud to have worked side by side with Senator Sinema to develop, will make huge strides in addressing the significant needs at the existing Bureau of Reclamation assets. The beneficiaries of these assets, local irrigators and water districts, are responsible for covering the costs of regular operations and maintenance of the infrastructure. They do so by building these costs into rates that water users pay throughout the year.

As with any large-scale infrastructure project, large capital upgrades are needed from time to time and they are beyond regular operation and maintenance. We call this extraordinary maintenance, and it is often accompanied with a price tag too high to fold into a single year of rates. For example, Imperial Dam has upwards of \$50 million in needed renovations. Yet, because our water districts are just operators and not the actual owners of the federal infrastructure, they don't have access to many of the traditional financing tools needed to fund these critical repairs. This was something that Wade and the team in Yuma brought to my attention when I visited you there, and that has directly resulted in this legislation. So this is representative government in action.

My bill addresses this by setting up an account within the Bureau of Reclamation (BOR) to fund extraordinary maintenance projects and allows operators to repay the cost, with interest, over a longer period of time. Importantly, my bill modifies Reclamation's existing extraordinary maintenance authority to provide greater transparency and control to Congress and to stakeholders so that this authority is actually utilized as originally intended to get these types of repairs done. The bill also establishes a pilot program to modernize reservoir operations and increase water storage at existing dams without any new construction.

While my bill looks at the needs of existing infrastructure, S. 1932, the Drought Resilience and Water Supply Infrastructure Act, which I co-sponsored with Senators Gardner, Feinstein and Sinema, focuses on the need for new infrastructure. Nearly every basin in the West will require new storage and supply to provide drought resilience in the face of population and economic growth, increasing environmental demands and changing runoff regimes. But the needs and opportunities for developing new water resources are different for every community. S. 1932 recognizes that fact by creating a broad set of tools that allow water managers to keep all options on the table while developing their long-term strategy.

We are in an exciting time, and we have a real opportunity to move forward on water supply solutions that benefit water users and ecosystems. Instead of knee-jerk reactions and false choices be-

tween water development and the environment that have permeated the debate in past decades, water users and conservation groups are coming together to develop comprehensive solutions.

I look forward to continuing this constructive approach to water issues and look forward to hearing from our witnesses today, all of whom are doing the hard work on the ground to develop needed water infrastructure by promoting partnerships rather than conflict.

We don't have a Ranking Member here today, do we have anyone else who wants to make a statement?

Senator Gardner.

**STATEMENT OF HON. CORY GARDNER,
U.S. SENATOR FROM COLORADO**

Senator GARDNER. Thank you very much, Chairman McSally, for the opportunity to be here today and thanks to all the witnesses. I particularly want to welcome the two from Colorado, Mr. Marshall Brown and Ms. Melinda Kassen. Thank you very much for all of you being here today. And Mr. Wade Noble, every time you say Yuma County—I am from Yuma County.

Senator MCSALLY. I know.

Senator GARDNER. So, you know.

Senator MCSALLY. But Yuma County, Arizona, is better.

Senator GARDNER. Yuma County, Colorado, it is a little bit cooler in Yuma County.

[Laughter.]

Alright.

Senator MCSALLY. Wonderful, thanks a lot.

Before turning to our witnesses, I ask unanimous consent to add a statement from Senator Feinstein in support of S. 1932 to the record—

[The statement of support from Senator Feinstein follows:]

**Senator Dianne Feinstein
Statement of Support
Drought Resiliency and Water Supply Improvement
Act
July 18, 2019**

Chairmen Murkowski and McSally, Ranking Members Manchin and Cortez Masto, and members of the Committee, I thank you for this opportunity to speak in support of the bipartisan “Drought Resiliency and Water Supply Improvement Act,” S. 1932.

Introduced by Senators Gardner, McSally, and Sinema and me, S.1932 would provide new tools that are critical for the West to address the increasing threat of drought.

Let there be no mistake, climate change presents a clear and present danger to our water supply. Rising temperatures will continue to reduce the Sierra snowpack – essentially California’s largest bank of water – and will cause more frequent and dangerous droughts.

As California continues to recover from the historic five-year drought that stretched from 2011 to 2017, we must accept this new reality and start preparing now.

The Sierra snowpack is the source for 30 percent of California's water supply, but it's at risk. Scientists at the Lawrence Berkeley National Laboratory forecast that climate change will eliminate more than half of the snowpack within the next 20 to 40 years. They further estimate that 79 percent of the snowpack will be gone by the end of the century.

At the same time the snowpack is dwindling, droughts are expected to become more severe. One example: scientists predict a strong likelihood that the Colorado River Basin will experience a megadrought lasting between 20 and 50 years during this century.

Just last week, the Scripps Institute of Oceanography released a study finding that atmospheric rivers concentrated during the winter of a few wet years will

constitute a significantly increased portion of our water supply, with major droughts in-between.

Alexander Gershunov, a Scripps meteorologist, observed that California will have to increase the amount and type of tools it uses to manage water in light of this changing weather.

Add to that challenge our antiquated water infrastructure – predominately built in 1960s, when California was home to just 16 million people compared to the 40 million we have now – and you see the dire straits we face.

Our bill provides a roadmap for improving our aging water infrastructure in three fundamental ways:

1. First, the bill invests in an all-of-the-above strategy to replace our dwindling snowpack.

There is no silver bullet that will replace snowpack loss, but there are significant steps we can take.

To capture more water from large rainstorms and the rapid spring snowmelt in the future, the bill authorizes \$670 million for surface and groundwater storage projects. It also provides funding to improve canals to transport floodwaters to underground storage.

The bill also authorizes more funding for alternative water supply sources. That includes \$100 million for water recycling and \$60 million for desalination.

2. Second, the bill obtains maximum benefit from limited federal funding by leveraging federal dollars.

The bill creates a new cost-effective loan program so water districts can afford to invest in new water projects.

The loans, offered at 30-year Treasury rates, will allow the federal government to heavily leverage the money it devotes to these projects. The new program would be known as the Reclamation Infrastructure Finance and Innovation Act (RIFIA) loan program, and it is modeled closely after the successful Water Infrastructure Finance and Innovation Act (WIFIA) loan program.

The Office of Management and the Budget (OMB) has approved loans of \$2.3 billion for WIFIA in fiscal year 2018 backed by appropriations of just over 1% of that amount, or \$25 million in budget authority. OMB was able to approve loans backed by just 1% of the loan amount because there is a virtually non-existent default rate for water projects. Only 4 in 1,000 water infrastructure projects default, based on a study conducted by the Fitch credit rating agency.

Given OMB's experience that federal outlays need only cover 1% of the loan cost for water projects, the \$125

million authorized to back the loans in the bill could support \$12.5 billion in water project lending authority.

Needless to say, \$12.5 billion is a meaningful amount of federal low-interest lending assistance for new water supply projects. And, because RIFIA is limited to no more than 49 percent of total project costs, that same \$125 million in RIFIA budget authority would support at least \$25 billion in new water infrastructure investments throughout the west.

Significantly, the loans include all the taxpayer protections from the successful WIFIA and TIFIA (Transportation Infrastructure Finance and Innovation Act) loan programs. In particular, the RIFIA loans would be limited to 49% of the project cost, and the federal loans would have senior status in the event of any default. These provisions ensure the taxpayer won't be harmed in any default where the project retains at least 50% of its value, which is extremely likely for ratepayer backed water supply projects.

The bill also stretches federal dollars further by requiring 50 to 75 percent of the grant funding for water projects to come from state and local sources.

Make no mistake, this isn't just a state issue or a federal issue. It will take buy-in and investments from local, state and federal governments, outside groups and the private sector to modernize our water infrastructure in order to cope with climate change and droughts.

3. Third, the bill helps protect and restore imperiled species and reduces the risk of destructive wildfires.

The bill authorizes \$140 million for environmental restoration to help protect fish, migratory birds and forests from climate change.

The bill also authorizes significant funds to improve habitat for salmon and Delta smelt and to combat invasive species. And it helps fund storage projects like the

proposed Sites Reservoir in Colusa County in order to increase cold water habitat for salmon.

Importantly, the bill requires that all applicable federal and state environmental laws – including the *Endangered Species Act*, the *National Environmental Policy Act*, and the *Clean Water Act* – are followed before a project can receive funding.

Regarding wildfires, the bill allows the Bureau of Reclamation to contribute to forest, meadow and watershed restoration projects. Healthier forests upstream can improve water quality and reduce the risk of sediment polluting reservoirs during wildfires.

The bottom line is that climate change is forcing us to rethink our approach to water. That means improving storage and ways to move water to groundwater storage areas, and finding new sustainable water sources.

S. 1932 will give us new tools to support these projects, and I thank Senators Gardner, McSally, and Sinema for working with me on this critical bill.

I look forward to working with the Committee to move this bill forward. Thank you.

Senator MCSALLY. —along with letters of support from 18 national and statewide water groups and 58 water districts and municipalities for S. 1932 and S. 2044. These include Agribusiness and Water Council of Arizona, Irrigation and Electrical Districts Associations of Arizona, Salt River Project, Cities of Phoenix and Safford, Pima County.

Without objection they will be placed into the record.

[Letters of support follow:]

PRESIDENT
TOM DAVIS
Yuma County Water Users' Association
Yuma, Arizona

VICE-PRESIDENT
DONOVAN NEESE
Roosevelt Irrigation District
Buckeye, Arizona

SECRETARY
CHERYL ZITTE
Salt River Project
Phoenix, Arizona

TREASURER
GLEN VORTHERMS
Maricopa Water District
Surprise, Arizona

EXECUTIVE DIRECTOR
CHRIS UDALL
Mesa, Arizona



**AGRIBUSINESS
& WATER
COUNCIL
OF ARIZONA**

1819 E. Southern Avenue, Suite E-10
Mesa, Arizona 85204
(480) 558-5301 • Fax (480) 558-4170
info@agribusinessarizona.org

Arizona's Representative to the National Water Resources Association

June 20, 2019

The Honorable Cory Gardner
U.S. Senate
354 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Dianne Feinstein
U.S. Senate
331 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Kyrsten Sinema
U.S. Senate
317 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Martha McSally
U.S. Senate
404 Russell Senator Office Building
Washington, D.C. 20510

Dear Senators Gardner, Feinstein, Sinema and McSally:

The Agribusiness & Water Council of Arizona (ABWC) gladly supports the "Drought Resiliency and Water Supply Infrastructure Act," being introduced shortly. ABWC's diverse membership of irrigation and related water districts and municipal water interests will benefit immensely from the provisions drafted in this legislation.

When passed and signed into law, this legislation will provide additional tools needed to address the various needs of our members, whatever the type of needed water infrastructure project it may be.

The legislation will bring new options to the table in financing projects with the U.S. Bureau of Reclamation. It will provide low interest loans to assist in financing water supply improvement projects and allow the expediting of the funding approval process.

We thank you for your leadership when it comes to water infrastructure needs. Please use us as a resource and let us know how we can assist in passing this sorely needed legislation.

Respectfully,

Chris Udall
Executive Director

www.agribusinessarizona.org

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N.W. "BILL" PLUMMER
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Scottsdale, Arizona

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Tucson, AZ

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West Pinal NRCO
Casa Grande, Arizona

MARK CLARK
Mohave Valley, L & DD
Bullhead City, Arizona

MICHAEL CURTIS
Attorney
Phoenix, Arizona

GEORGE FLETCHER
Replenishment Services, LLC
Tempe, Arizona

ED GERAK
Executive Director
Arizona Power Authority
Phoenix, Arizona

ELSTON GRUBAUGH
Wellton-Mohawk I&DD
Wellton, Arizona

DEWAYNE JUSTICE
McMicken Irrigation District
Waddell, Arizona

SHANE LINDSTROM
San Carlos I&DD
Coolidge, Arizona

ROBERT S. LYNCH
Attorney
Phoenix, Arizona

RICHARD MORRISON
Salmon, Lewis & Wellton
Gilbert, Arizona

JASON MOYES
Yuma Mesa I&DD
Phoenix, Arizona

WADE NOBLE
Attorney
Yuma, Arizona

DR. LARRY OLSON
Arizona State University
Mesa, Arizona

DAVE ROBERTS
Salt River Project
Phoenix, Arizona

DR. JEFF SILVERTOOTH
Cooperative Extension, UA
Tucson, Arizona

SIDNEY SMITH
Hohokam I&DD
Coolidge, Arizona

GRANT WARD
Maricopa-Santitas I&DD
Maricopa, Arizona

June 14, 2019

The Honorable Dianne Feinstein
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

Dear Senator Feinstein and Senator Gardner:

The undersigned organizations, companies, municipalities, and water districts are writing to express our support for the Drought Resiliency and Water Supply Infrastructure Act, which includes a 5-year, \$100 million reauthorization of the Bureau of Reclamation's Title XVI Water Reclamation and Reuse competitive grant program, originally authorized in the 2016 Water Infrastructure Improvements for the Nation (WIIN) Act (Title XVI-WIIN). In addition to the key Title XVI-WIIN Competitive Grant Program, the legislation includes \$60 million for desalination, an additional funding for surface and groundwater storage, and a new low-interest loan program for the financing of a range of water infrastructure projects.

We greatly appreciate the bipartisan nature of this bill and the westwide sweep of the projects and programs to help build drought resiliency. We are anxious to work with you during the process to see the bill amended to further increase the authorization level for the Title XVI-WIIN program, in order to meet the driving need to recycle and reuse our precious water supply.

Title XVI is the only federal program focused on funding water recycling projects in the western states, and with enactment of the FY 2019 Energy and Water Appropriations bill, the \$50 million authorization for Title XVI-WIIN has been reached. Therefore, it is critical to reauthorize Title XVI-WIIN to support the continued development of water reuse in the West and the development of drought-proof water supplies. Another important tool in the Western water management toolbox is the Desalination Program, which provides funding for projects in Reclamation states that involve ocean or brackish water desalination. In the arid West, desalination is an important tool that can help communities increase their water supply. The Drought Resiliency and Water Supply Infrastructure Act provides critical funding for this program.

Since Title XVI began in 1992, Congress has authorized 53 Title XVI recycling projects producing more than 400,000 acre-feet of drought-resistant water supply. To date, Congress has appropriated approximately \$672 million in federal funding which has been leveraged with non-federal funding to implement more than \$3.3 billion in water reuse improvements – a nearly 5:1 leverage ratio. However, as no new projects had been authorized by Congress since 2009, the 2016 WIIN Act created a mechanism to continue support for Western water reuse projects by establishing a competitive grant program within Title XVI, enabling new projects to be eligible for federal assistance. There are currently 55 Title XVI-WIIN eligible projects awaiting assistance, with a total of more than \$550 million in eligible federal cost-share, and this list will only grow as

more projects become eligible. The need is clearly there as demonstrated by the range of communities who have applied for and are awaiting funding to drought-proof their communities' future.

A clean and reliable water supply is the foundation of a community's health, economy, and sustainability. Water reuse provides a drought-proof and secure water supply for communities, increasingly important in the face of more frequent and severe droughts and changing hydrologic conditions throughout the West. We applaud you for your vision and your efforts in addressing one of our greatest challenges.

We are excited to work with you to bring this bill forward, hopefully with more robust funding for the successful Title XVI-WIIN program. Should you have any questions or would like to discuss further, please do not hesitate to contact Patricia Sinicropi, WateReuse Association at psinicropi@watereuse.org.

Sincerely,

Albuquerque Bernalillo County Water Utility Authority
 American Public Works Association
 Arcadis
 Association of California Water Agencies
 Blair, Church & Flynn Consulting Engineers
 Blackwater Consulting Engineers, Inc.
 Brandt Water Strategies
 California Association of Sanitation Agencies
 Carollo
 Central Basin Municipal Water District
 City of Escondido, California
 City of Norman, Oklahoma
 City of Quincy, Washington
 City of Riverside, California
 City of Rio Rancho, California
 City of Safford, Arizona
 City of Springfield, Oregon
 Contra Costa Water District
 Denver Urban Gardens
 Dublin San Ramon Services District
 Eastern Municipal Water District
 El Paso Water
 Elsinore Valley Municipal Water District
 Environmental Management Systems Inc.
 Epic CleanTec
 Garver
 Gulf Coast Authority
 INTERA Incorporated

Las Virgenes Municipal Water District
Leucadia Wastewater District
Marina Coast Water District
Monterey Peninsula Water Management District
National Association of Clean Water Agencies
National Water Research Institute
Oklahoma Water Environment Association
Olivenhain Municipal Water District
Orange County Water District
Padre Dam Municipal Water District
Pajaro Valley Water Management Agency
Palmdale Water District
Pima County, Arizona
Project WET Foundation
Rincon del Diablo Municipal Water District
San Elijo Joint Powers Authority
San Francisco Public Utilities Commission
Santa Margarita Water District
Scotts Valley Water District
Silverdale Water District
Soquel Creek Water District
Tanner Pacific, Inc.
Truckee Meadows Water Authority
Vallecitos Water District
Walnut Valley Water District
Warner and Associates
WaterReuse Association
Water Replenishment District of Southern California
Weil Aquatronics, Inc.
West Basin Municipal Water District



CALIFORNIA ASSOCIATION of SANITATION AGENCIES

1225 8th Street, Suite 595 • Sacramento, CA 95814 • TEL: (916) 446-0388 • www.CASAAweb.org

June 17, 2019

The Honorable Dianne Feinstein
U.S. Senate
Washington, D.C. 20515

Dear Senator Feinstein:

The California Association of Sanitation Agencies (CASA) writes in support of your continuing commitment to address water resiliency in the western U.S. and specifically throughout the State of California. CASA has reviewed your draft Drought Resiliency and Water Infrastructure Act. Among other matters, it would establish a number of programs to address climate induced challenges and lead to a more safe and reliable water supply for Californians. CASA supports provisions that would maintain a federal partnership with local water agencies to develop water recycling facilities. As we have noted in support of your prior Congress's legislative efforts, and most notably WIIN, water recycling is an integral element of a comprehensive water infrastructure portfolio.

The draft legislation would reauthorize the U.S. Bureau of Reclamation's Title XVI program. Title XVI and the successor WIIN water recycling program is critical to California. Many CASA members are planning and designing projects that depend on these programs. As drafted, the program would benefit from a new \$100 million authorization and equally important raise the project cap to \$30,000,000. CASA would encourage the bill be revised in two important areas. First, we believe that an authorization of at least \$500,000,000 is appropriate to serve as a catalyst for California and other western states's water agencies to develop new water recycling infrastructure. Second, the provision to deauthorize Title XVI projects that have not secured federal assistance or begun construction within the past several years deserves further review. The Title XVI projects backlog can be reduced through the elimination of projects that are no longer feasible. However, some authorized Title XVI projects may be feasible, but for the absence of a federal partnership that has prevented projects from proceeding. We believe that the legislation should address such a circumstance to avoid eliminating projects that can contribute to a sustainable water supply.

CASA looks forward to working with you on these matters as the legislation progresses through Congress. Again, we are deeply grateful for your unwavering commitment to develop federal policies and programs that will lead to solutions to our water supply challenges.

Sincerely,

Jessica Gauger
Director of Legislative Advocacy



CALIFORNIA FARM BUREAU FEDERATION

2600 RIVER PLAZA DRIVE, SACRAMENTO, CA 95833-3293 · PHONE (916) 561-5520 · FAX (916) 561-5690

June 18, 2019

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Building
Washington, DC 20510

Dear Senator Feinstein:

On behalf of the California Farm Bureau Federation (Farm Bureau), I write to thank you for the introduction of the Drought Resiliency and Water Supply Infrastructure Act. Farm Bureau supports this legislation and also thanks you for your ongoing perseverance to improving the certainty and reliability of water supply in the face of continued crisis.

Despite wet conditions this winter, drought is a fact of life in California. The severe 2012-2015 drought followed by wet years has illustrated what both extended drought and extreme rainfall cycles look like with inadequate water infrastructure. If longer and drier droughts coupled with powerful floods are the future of California's possible larger climate trend, it means we must do a better job of investing in water infrastructure and capturing water resources when they are available.

Water infrastructure investments should be made more attractive and affordable for non-federal interests. For that reason, Farm Bureau has been supportive of expanding federal financing mechanisms. We believe the funding authorized in this bill bundled with the additional financial tools, such as the creation of the Reclamation Infrastructure Finance and Innovation Act (RIFIA) loan program, will aid western water managers with the construction, rehabilitation and improvement of surface and groundwater storage projects, conveyance, as well as water recycling and desalination projects.

Farm Bureau is also supportive of the provisions of the bill that authorizes federal participation in forest, meadow or watershed restoration activity on federally owned lands that improve the quality, timing or other attributes of runoff to a surface or groundwater facility. Recent California wildfires have not only been deadly and destructive to our rural communities, but they have also resulted in increased sediment, ash and debris in our water infrastructure systems. Destructive wildfires do not discriminate what or where they burn. It is critical that our federally owned forest lands are actively managed for public safety, the environment, and water supply that is so critical to California agriculture.

Water users need to have every tool available to survive and recover from the inevitable cycles of drought. For this reason, Farm Bureau supports the Drought Resiliency and Water Supply Infrastructure Act.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jamie Johansson'.

Jamie Johansson
PRESIDENT



July 15, 2019

The Honorable Martha McSally
Chair, Subcommittee on Water & Power
Committee on Energy and Natural Resources
United States Senate
Washington, DC 20510

The Honorable Kyrsten Sinema
317 Hart Senate Office Building
United States Senate
Washington, DC 20510

RE: Clean Water Services Supports S. 2044, the “Water Supply Infrastructure Rehabilitation and Utilization Act.”

Dear Chairman McSally and Senator Sinema,

On behalf of Clean Water Services of Washington County, Oregon, I am writing to express support for S. 2044, the *Water Supply Infrastructure Rehabilitation and Utilization Act*. Clean Water Services is specifically supportive of the bill’s provision to raise the Bureau of Reclamation’s Safety of Dams program authorization by \$550 million to address the program’s future workload needs.

Clean Water Services (CWS) is the water resources management utility serving more than 600,000 residents of urban Washington County and our 12 member cities. CWS operates wastewater treatment facilities; constructs and maintains drainage, water quality, and stream enhancement projects; and manages flow in the Tualatin River. CWS is a Bureau of Reclamation repayment contractor for Scoggins Dam/Hagg Lake.

Reclamation’s Scoggins Dam is located in Washington County and serves as the primary drinking water, irrigation and river flow restoration source for our basin. In 2012, Reclamation identified Scoggins as among the most seismically threatened facilities in the Bureau’s inventory. As a result, Scoggins is currently one of the highest priority dam safety projects in Reclamation’s Safety of Dam portfolio. Acceleration and completion of this project, which will secure the safety of our residents as well as address a regional water supply need, is critically important and remains the County’s highest priority issue.

Given the need to address projects such as Scoggins Dam, the Safety of Dams program will be reaching the program’s current authorization cap—which was last established by Congress in 2015 (P.L. 114-113)—in the not-too-distant future. As such, the provision in S. 2044 to increase the authorization of Reclamation’s SOD program by \$550 million will assure that high-priority Safety of Dams projects, like Scoggins, will not be held up due to a lack of authorized program funding.

I greatly appreciate your leadership of Congressional efforts to increase funding for the Bureau of Reclamation’s Safety of Dams program, and look forward to supporting the “*Water Supply Infrastructure Rehabilitation and Utilization Act*,” as it works its way through the legislative process.

Sincerely,

Kathryn Harrington, Chair
Clean Water Services/Washington County

cc. Senator Ron Wyden
Senator Jeff Merkley



July 15, 2019

The Honorable Patty Murray
United States Senate
154 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Maria Cantwell
United States Senate
511 Hart Senate Office Building
Washington, D.C. 20515

Dear Senator Murray and Senator Cantwell:

On behalf of the Columbia Basin Development League (League) we want to express our support for S.2044, the "*Water Supply Infrastructure Rehabilitation and Utilization Act*," and S.1932, the "*Drought Resiliency and Water Supply Infrastructure Act*."


The League is made up of farmers, businesses, civic and economic groups, and individuals who recognize the value of the Bureau of Reclamation's Columbia Basin Project, the importance of continued development, and the need for infrastructure reinvestment. We are dedicated to the rehabilitation and improvement of Columbia Basin Project water supply facilities.

Our support of S.2044, the "*Water Supply Infrastructure Rehabilitation and Utilization Act*" stems from the need to reinvest in the decades-old infrastructure on the Columbia Basin Project. S.2044 would establish a revolving fund to continuously address extraordinary maintenance needs at Bureau of Reclamation Transferred Works. This new fund, known as the "Aging Infrastructure Account," would allow water managers to access funds for outstanding maintenance needs on projects in the West including the Columbia Basin Project. These investments help support the \$4 billion economic activity in the region.

S.1932, the "*Drought Resiliency and Water Supply Infrastructure Act*," would authorize \$670 million for surface and groundwater storage, and supporting conveyance. Due to lack of surface water infrastructure in the Columbia Basin, farmers were left with drilling deep wells to access water for their farms. These aquifers are declining and the wells are failing. The State of Washington and local communities have invested significant funding into this federally-owned project. However, federal investments, like those available in S.1932, are a critical component. These investments would help irrigation districts on the Columbia Basin Project build the water delivery infrastructure needed to complete the Project. These efforts support the region's economic vitality and sustainability.

The League asks for your continued efforts to fund water infrastructure projects in the future, along with supporting S.2044 and S.1932.

Sincerely,


Vicky Scharlau
Executive Director

Cc:

Senator Martha McSally, Chairwoman of the Subcommittee on Water and Power
Senator Catherine Cortez Masto, Ranking member of the Subcommittee on Water and Power



June 11, 2019

The Honorable Dianne Feinstein
U.S. Senate
331 Hart Senate Office Building
Washington D.C. 20510

Subject: Drought Resiliency and Water Supply Infrastructure Act – Support

Dear Senator Feinstein,

Contra Costa Water District (District) has adopted a position of Support on the proposed Drought Resiliency and Water Supply Infrastructure Act.

The District is encouraged to see legislation that authorizes funding for surface and groundwater storage, desalination, recycling, and watershed restoration and management. The District supports the expansion of the funding authorizations in the Water Infrastructure Improvements for the Nation (WIIN) Act and the creation of the Reclamation Infrastructure Finance and Innovation Act. The extended timeframe included for the WIIN Act funding will also be beneficial. These funds are an important federal component to what California is trying to do with Proposition 1 money plus local funds in building more above ground and below ground water storage projects. We are in complete agreement with you that with climate change, additional water storage is critically needed. The District also appreciates the approach of using a wide variety of tools in the near and long term to address complex water issues.

The District encourages legislators to move forward on legislation supporting immediate and long-term actions that would create water supply benefits while protecting the environment and water users.

If you have any additional questions, please contact General Manager Jerry Brown at (925) 688-8034.

Sincerely,

Lisa M. Borba
President

LMB/JA

cc: Senator Kamala Harris
Representative Mark DeSaulnier
Representative Jerry McNerney
Representative Eric Swalwell
Representative Mike Thompson
CCWD Board of Directors

Board of Directors
Lisa M. Borba, AICP
President
Connstance Holdaway
Vice President
Ernesto A. Avila, P.E.
Bette Boatman
John A. Burgh
General Manager
Jerry Brown



June 13, 2019

The Honorable Dianne Feinstein
United States Senate
331 Senate Hart Office Building
Washington, D.C. 20510

Subject: EMWD Supports the Drought Resilience and Water Supply Infrastructure Act

Dear Senator Feinstein:

On behalf of the Eastern Municipal Water District, we thank you for your leadership, and for being a lead sponsor of the "Drought Resiliency and Water Supply Infrastructure Act."

Eastern Municipal Water District (EMWD) is the water, wastewater service, and recycled water provider to more than 825,000 people living and working within a 555-square mile service area in western Riverside County. We are California's sixth-largest retail water agency and our mission is to deliver value to our customers and the communities we serve by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services. EMWD provides service to retail customers located within the cities of Hemet, Menifee, Moreno Valley, Murrieta, Perris, San Jacinto, and Temecula; and, in the surrounding unincorporated communities. EMWD also supplies water on a wholesale basis to a number of cities and other water agencies.

EMWD is very pleased that this legislation will reauthorize, expand, and reform the U.S. Bureau of Reclamation's competitive Title XVI program authorized in the Water Infrastructure Improvements for the Nation (WIIN) Act (Public Law 114-322). Title XVI is the only federal program that provides funding specifically for water reuse projects. Since its original enactment in 1992, Title XVI has provided \$639 million in federal grant funding and leveraged an additional \$2.4 billion in non-federal funding for water recycling projects in the West. In addition, Title XVI projects have produced more than 400,000 acre-feet of drought-proof water supplies. Even though the competitive grant Title XVI program

Board of Directors

Ronald W. Sullivan, *President* Philip E. Paule, *Vice President* Stephen J. Corona Randy A. Record David J. Slawson

2270 Trumble Road • P.O. Box 8300 • Perris, CA 92572-8300

T 951.928.3777 • F 951.928.6177 www.emwd.org

The Honorable Dianne Feinstein
 June 13, 2019
 Page 2

authorized in WIIN is only a few years old, project funding demand is very high – currently estimated at \$550 million for over 45 projects. Moreover, the funding demand will only increase as additional recycling projects become program eligible. As we all recognize demand for this program is significant, we appreciate your willingness to hold further discussions on funding allocations.

We applaud and support your inclusion of provisions to establish a mechanism to deauthorize the inactive Congressionally-authorized Title XVI projects. We believe creating such a process is important because there are several Congressionally-authorized projects that are not being advanced by the local sponsor, nor have they received any federal funding since their original authorization was enacted. Deauthorizing inactive Title XVI projects will provide Congress with an accurate accounting of the program's federal funding demand to help inform future budgetary allocations.

Additionally, EMWD strongly supports continuing the U.S. Bureau of Reclamation Desalination program, which also originated in the 2016 WIIN Act. Desalination, both brackish and ocean, that produces drinking water from otherwise unusable salt water, is another critical tool to help "drought-proof" arid regions in the West. EMWD has embarked on a successful brackish desalination program with two desalters in operation, a third desalter currently under construction, and a fourth one being contemplated. EMWD's two operating desalters provide 8 million gallons per day of potable water and its third desalter will have the capacity to produce 5.4 million gallons per day.

We acknowledge and applaud and your colleagues in the Senate for introducing this important Western water infrastructure measure. Furthermore, we greatly appreciate your commitment to and leadership of Congressional efforts to increase federal funding for water recycling and desalination programs. We look forward to supporting the "Drought Resiliency and Water Supply Infrastructure Act," as it works its way through the legislative process. If EMWD could be of service to you in the future, please contact General Manager Paul Jones at (951) 928-6130 or by email at jonesp@emwd.org.

Sincerely,



Ronald W. Sullivan
 President, Board of Directors



Paul D. Jones II, P.E.
 General Manager



Protecting Water for Western Irrigated Agriculture

June 20, 2019

The Honorable Lisa Murkowski, Chairwoman
The Honorable Joe Manchin, Ranking Member
Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Building
Washington, DC 20510

Dear Chairman Murkowski, Ranking Member Manchin and Members of the Committee:

On behalf of the Family Farm Alliance (Alliance), I write in support of the *Drought Resiliency and Water Supply Infrastructure Act*. The Alliance is a grassroots organization of family farmers, ranchers, irrigation districts and allied industries in 16 Western states. The Alliance is focused on one mission: To ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers.

Water challenges in the West are significant and daunting. These challenges are not unique to any one state; rather they impact every state west of the 100th Meridian. The bottom line is we need new investments in water storage projects in the West – both above or below ground – to adapt to a changing hydrology and develop usable and sustainable supplies to meet growing demands for water. Surface storage provides a degree of operational flexibility and significant water supply volumes that cannot be provided by other management actions.

In March, the Alliance – working with the California Farm Bureau Federation and Western Growers Association – transmitted letters signed by over 100 national and Western agriculture and water organizations, calling upon you and other Members of Congress to develop an infrastructure package that addresses water infrastructure needs for storage and conveyance.

As a nation, we must continually invest in the Western water infrastructure necessary to meet current and future demands. Failing to improve water infrastructure and expand useable supplies will inevitably result in more conflict as pressure grows to ‘solve’ urban and environmental water shortages by moving water away from Western irrigated agriculture. Water recycling, reuse and desalination programs are other tools in the suite of demand management actions that can be used to complement necessary supply enhancement improvements.

We support provisions in the *Drought Resiliency and Water Supply Infrastructure Act* that would:

- Reauthorize provisions in the Water Infrastructure Improvements for the Nation (WIIN) Act (P.L. 114-322) to increase financial support by \$670 million for the study, design and construction of both federal and non-federal surface water and groundwater storage and supporting projects;
- Create a “*Reclamation Infrastructure Finance and Innovation Act*” (RIFIA) pilot program, which would provide billions of dollars in low interest loans to help affordably finance non-federal water project development costs;
- Authorize \$100 million in funding levels for the Bureau of Reclamation Title XVI grant program;
- Authorize \$60 million for desalination projects and programs; and
- Authorize \$120 million to fund restoration of watersheds, forests and meadows and to support environmental compliance associated with WIIN Act infrastructure improvements, Colorado River endangered species recovery programs, settlements with state agencies, and other collaborative processes developed by federal agencies in conjunction with other parties.

The Alliance believes the *Drought Resiliency and Water Supply Infrastructure Act* takes an important step forward in addressing many critical Western water needs. We stand ready to help address any lingering concerns and to assist your Committee in moving this bill expeditiously to enactment.

Thank you for your efforts to provide Western water users with the tools to help survive and recover from years of drought and to prepare for future water shortages, and for the many opportunities your Committee has provided the Alliance to engage on these matters important to Western farming and ranching families.

Sincerely,



Dan Keppen
Executive Director



City of Phoenix

OFFICE OF THE MAYOR

June 21, 2019

The Honorable Dianne Feinstein
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Martha McSally
404 Russell Senate Office Building
Washington, DC 20515

The Honorable Kyrsten Sinema
317 Hart Senate Office Building
Washington, DC 20515

RE: Support for Drought Resiliency and Water Supply Infrastructure Act
Dear Senators,

I am writing you today in support of the Drought Resiliency and Water Supply Infrastructure Act. As you know, our ability to provide safe, clean drinking water supplies to the citizens of Phoenix depends on the condition of our infrastructure, and the potential for additional federal investment in infrastructure is of paramount importance to the City as we face the challenge of a hotter and drier future.

Phoenix Water Services delivers safe, clean water to more than 1.6 million people in our desert community. Our vast network of infrastructure includes five surface water treatment plants, 7,000 miles of water lines, hundreds of wells, pump stations, tanks, and reservoirs, and more than 50,000 fire hydrants. The City reclaims and re-uses our wastewater for power generation and agricultural purposes, and are looking to increase investment in water recycling projects in the near future. Phoenix Water Services also partners with the Salt River Project on aquifer recharge facilities to ensure that local groundwater supplies are available for future generations and on forest restoration to protect the quality of our surface water supplies. I am encouraged to see the bill addresses the financing of water supply infrastructure, forest restoration, environmental compliance, recycling efforts, and aquifer recharge projects.

The West was built on collective investment in water infrastructure, and the federal government, through the Bureau of Reclamation, has always played the most important role in that investment. This bill supports responsible management of water in Phoenix, in Arizona, and throughout the West. I thank you for your leadership in ensuring that Arizona has a sustainable and resilient water supply to support public health, economic opportunity, and quality of life today and tomorrow.

Thank you for your attention to this important issue. I look forward to working with you in support of this legislation.

June 21, 2019
Page 2

Sincerely,

A handwritten signature in black ink, appearing to read "Kate Gallego". The signature is fluid and cursive, with a long horizontal stroke extending from the end.

Kate Gallego
Mayor

**IRRIGATION & ELECTRICAL DISTRICTS
ASSOCIATION OF ARIZONA**

R.D. JUSTICE
PRESIDENT

ELSTON GRUBAUGH
VICE-PRESIDENT

SUITE 140
340 E. PALM LANE
PHOENIX, ARIZONA 85004-4603
(602) 254-5908
Fax (602) 257-9542
E-mail: rslynch@rslynchaty.com

R. CHRIS MICHIE
SECRETARY-TREASURER

ROBERT S. LYNCH
COUNSEL AND
ASSISTANT SECRETARY-TREASURER

E-MAILED ONLY

July 17, 2019

Hon. Martha McSally, Chair
Water and Power Subcommittee
Senate Energy & Natural Resources Committee
United States Senate
404 Russell Senate Office Building
Washington, D.C. 20510
Attn: Trevor Pearson

Re: S. 2044, the Water Supply Infrastructure Rehabilitation and Utilization Act

Dear Senator McSally:

I am writing on behalf of the Irrigation & Electrical Districts' Association of Arizona (IEDA), whose Board of Directors yesterday directed me to communicate with you indicating IEDA's support for this important bill. IEDA is greatly appreciative of the fact that you were able to craft a bill, along with Senator Sinema, that improves upon three important existing programs: the extraordinary maintenance program of the Bureau of Reclamation, its safety of dams program, and the flood control manual and reservoir operations program of the Army Corps of Engineers.

All three of these programs play an important role in Arizona in water supply, water for conservation, and water safety, and have proven over the years to be essential programs that provide extraordinary benefits.

Thank you again for this bill and for moving it to a hearing so quickly. We appreciate your efforts in this regard and your concern for water-related programs that benefit Arizona. Our thanks to you and to Senator Sinema for this well-crafted effort.

Sincerely,



Robert S. Lynch
Counsel and Assistant Secretary/Treasurer

RSL:psr
cc: IEDA Presidents/Chairmen and Managers

SERVING ARIZONA SINCE 1962



June 11, 2019

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

RE: Drought Resiliency and Water Supply Infrastructure Act

Dear Senator Feinstein:

On behalf of the Irvine Ranch Water District (IRWD), I am writing to express the District's support for your proposed Drought Resiliency and Water Supply Infrastructure Act.

Over many years, IRWD has been grateful to you for your continued pursuit of federal investments in water security for California. The WIIN Act reauthorized and authorized much-needed programs, such as the Bureau of Reclamation's Title XVI Water Reclamation and Reuse Program and the federal water storage program.

IRWD strongly supports the federal water storage program, which was authorized in the WIIN Act, and the extension of the program's authorization as well as the increased funding authorizations for the program included in your Drought Resilience and Water Supply Infrastructure Act. We also greatly appreciate your inclusion of language in Section 3, which expressly states that non-federally owned storage projects include both surface and groundwater storage facilities and facilities conveying water to a surface or groundwater storage facility. The \$670 million proposed funding for surface and groundwater storage projects will help bring much-needed groundwater and surface water storage to fruition in California.

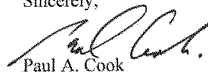
IRWD also strongly supports the Bureau of Reclamation's Title XVI Water Reclamation and Reuse Program as it was reauthorized by the WIIN Act, and supports your proposal to authorize \$100 million for fiscal years 2020 through 2024 for the program along with raising the maximum federal funding contribution for each Title XVI project from \$20 million to \$30 million. By supporting the expansion of water reclamation and reuse in California, Title XVI funding is crucial to ensuring responsible management of our water resources.

The Honorable Dianne Feinstein
June 11, 2019
Page 2

IRWD applauds your steadfast efforts to plan for the long-term health of California's water resources. The WIIN Act provided programmatic authorizations and statutory provisions that are crucial to California's water supply, water quality, and environment, and we support your proposal to expand and update the Act's Bureau of Reclamation funding provisions.

Should you have any questions or if we can be of assistant to your or your office, please feel free to contact me at (949) 453-5590 or our federal advocate, Mark Kadesh, at (202) 547-8800.

Sincerely,



Paul A. Cook
General Manager

cc: John Watts, Legislative Director, Office of Senator Dianne Feinstein



June 10, 2019

The Honorable Lisa Murkowski
Chairman
Senate Energy and Natural Resources
Committee
304 Dirksen Senate Building
Washington, DC 20510

The Honorable Joe Manchin
Ranking Member
Senate Energy and Natural Resources
Committee
304 Dirksen Senate Building
Washington, DC 20510

Dear Chairman Murkowski and Ranking Member Manchin:

The Monterey Peninsula Water Management District urges your support for the Drought Resiliency and Water Supply Infrastructure Act, which includes a 5-year, \$100 million reauthorization of the Bureau of Reclamation's Title XVI Water Reclamation and Reuse competitive grant program, originally authorized in the 2016 Water Infrastructure Improvements for the Nation (WIIN) Act (Title XVI-WIIN). In addition to the key Title XVI-WIIN Competitive Grant Program, the legislation includes \$60 million for desalination, additional funding for surface and groundwater storage, and a new low-interest loan program for the financing of a range of water infrastructure projects.

We greatly appreciate the bipartisan nature of this bill and hope to see the bill amended to further increase the authorization level for the Title XVI-WIIN program. Title XVI is the only federal program focused on funding water recycling projects in the western states, yet with enactment of the FY 2019 Energy and Water Appropriations bill, the \$50 million authorization for Title XVI-WIIN has been reached. Therefore, it is critical to reauthorize Title XVI-WIIN in support of continued development of water reuse in the West.

The 2016 WIIN Act created a mechanism to continue support for Western water reuse projects by establishing a competitive grant program within Title XVI, enabling new projects to be eligible for federal assistance. There are currently 55 Title XVI-WIIN eligible projects awaiting assistance, with a total of more than \$550 million in eligible federal cost-share, this list will only grow as more projects become eligible. The need is clearly there as demonstrated by the range of communities who have applied for and are awaiting funding to drought-proof their future.

A clean and reliable water supply is the foundation of a community's health, economy, and sustainability. We appreciate the authors for their vision, breadth, and bipartisan efforts in addressing one of our greatest challenges.

Sincerely,

A handwritten signature in black ink that reads "David J. Stoldt".

David J. Stoldt
General Manager



Street Address:
18700 Ward Street
Fountain Valley, California 92708

Mailing Address:
P.O. Box 20895
Fountain Valley, CA 92728-0895

(714) 963-3058
Fax: (714) 964-9389
www.mwdoc.com

Brett R. Barbre
President

Joan C. Finnegan
Vice President

Larry D. Dick
Director

Megan Yoo Schneider
Director

Sat Tamaribuchi
Director

Jeffery M. Thomas
Director

Robert J. Hunter
General Manager

MEMBER AGENCIES

City of Brea
City of Buena Park
East Orange County Water District
El Toro Water District
Emerald Bay Service District
City of Fountain Valley
City of Garden Grove
Golden State Water Co.
City of Huntington Beach
Irvine Ranch Water District
Laguna Beach County Water District
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City of La Palma
Mesa Water District
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City of Newport Beach
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Orange County Water District
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Santa Margarita Water District
City of Seal Beach
Serrano Water District
South Coast Water District
Trabuco Canyon Water District
City of Tustin
City of Westminster
Yorba Linda Water District

June 5, 2019

The Honorable Dianne Feinstein
U. S. Senate
331 Hart Senate Office Building
Washington, DC 20510

RE: Support for the Draft "Drought Resiliency and Water Supply Infrastructure Act" and a recommendation of a bifurcation of funds going to both surface and groundwater projects.

Dear Senator Feinstein:

The Municipal Water District of Orange County, California (MWD OC), a major water agency that serves the needs of more than two million residents and 28 retail water agencies, is writing to express strong support for the Draft Drought Resiliency and Water Supply Infrastructure Act which your office has been circulating for public comment.

Our water district has been very active in planning for future needs and many, if not most of our member agencies, are evaluating their future water needs and assessing the current state of water reliability for their service districts. These assessments frequently lead to further feasibility studies and ultimately the construction of water infrastructure. Your draft legislation expands, and updates Bureau of Reclamation funding authorizations contained in the Water Infrastructure Improvements for the Nation (WIIN) Act to help make future water infrastructure construction possible. We applaud these efforts.

Among the important elements of your legislation is the federal authorization of \$670 Million for surface and groundwater storage projects and related conveyance facilities. We respectfully encourage you to bifurcate this authorization so that 50% of the authorization goes to surface storage projects and 50% go to groundwater storage projects. In recent years we have seen a decline in federal funds going to surface projects and this "surface" allotment would help encourage the construction of surface storage projects.

We greatly appreciate all of your efforts on behalf of the people of California and look forward to working with you as the Congress considers this legislation and other important water policies. Should you have any questions regarding this matter, please contact either Jim Barker at (202) 413-2986 in Washington, or Rob Hunter in Orange County at (714) 593-5026.

Sincerely,

Brett R. Barbre
Board President

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY



President – Cheryl Zittle
Vice President – Christine Arbogast
Treasurer – Tom Myrum
Executive Vice President – Ian Lyle

July 18, 2019

The Honorable Martha McSally
U.S. Senator
404 Russell Senate Office Building
Washington, DC 20510

The Honorable Kyrsten Sinema
U.S. Senator
317 Hart Senate Office Building
Washington, DC 20510

Chairwoman McSally and Senator Sinema,

On behalf of the Board of Directors and the members of the National Water Resources Association (NWRA), I write in support of S.2044, the Water Infrastructure Rehabilitation and Utilization Act. We support this legislation and appreciate your efforts to address extraordinary maintenance at Bureau of Reclamation's transferred works.

The NWRA is a nonprofit federation made up of agricultural and municipal water providers, state associations, hydropower producers, and individuals dedicated to the conservation, enhancement and efficient management of our nation's most important natural resource, water. Our members provide water to more than 50 million Americans and millions of acres of irrigated agricultural. This water is critical to the health of our communities and our economy.

The increasing demand on water supplies underscores the need to maintain this critical infrastructure. Many of the Bureau of Reclamation's facilities are between 50 and 100 years old. Aging infrastructure requires increased maintenance and replacement, which has become a burdensome financial challenge. While NWRA members manage many of these facilities, the federal government owns them. As the owner, the Bureau of Reclamation must play an active role in supporting the increased maintenance and replacement cost of these valuable assets.

The NWRA believes S.2044 would help address aging water infrastructure needs by creating the Aging Infrastructure Account to invest in extraordinary maintenance work at transferred works facilities. The bill would also allow for extended repayment contracts and direct repayments to be reinvested in future extraordinary maintenance needs. This provides water users the necessary flexibility and certainty to address their aging infrastructure needs. The NWRA believes these investments will help increase water supply, improve efficiency, and address drought concerns.

S.2044 would also amend the Reclamation Safety of Dams Act of 1978 to increase the amount of funding for dam safety modifications to \$550 million. The NWRA believes this investment will help prevent catastrophic failures at federal facilities and prepare for future water needs.

We appreciate your leadership on this important issue and we look forward to working with you on the Water Infrastructure Rehabilitation and Utilization Act.

Sincerely,

Ian Lyle
Executive Vice President
National Water Resources Association



PLACER COUNTY WATER AGENCY
 SINCE 1957
 BOARD OF DIRECTORS BUSINESS CENTER
 Gray Allen, District 1 144 Ferguson Road
 Primo Santini, District 2 MAIL
 Mike Lee, District 3 P.O. Box 6570
 Robert Dugan, District 4 Auburn, CA 95604
 Joshua Alpine, District 5 PHONE
 (530) 823-4850
 (800) 464-0030
 Einar Maisch, General Manager WWW.PCWA.NET

July 2, 2019

The Honorable Dianne Feinstein
 United States Senate
 Washington, D.C. 20510

SUBJECT: Support of S. 1932, Watershed Restoration Provisions in the Drought Resiliency and Water Supply Infrastructure Act

Dear Senator Feinstein:

The Placer County Water Agency (PCWA), writes in support of the watershed restoration provisions in the Drought Resiliency and Water Supply Infrastructure Act (S. 1932), that you are co-sponsoring. PCWA appreciates your leadership to address federal watershed restoration and forest health policies. We are hopeful that the Senate will move expeditiously to consider this legislation to allow continued progress in protecting our watersheds like the Middle Fork American River Watershed.

In California, the need to address the protection of watersheds from catastrophic wildfire is overwhelming. California lost a total of over 1.7 million acres to wildfires in 2018. PCWA along with the County of Placer, The Nature Conservancy, the U.S. Forest Service and other stakeholders are collaborating on the French Meadows Project, a landscape-scale forest restoration and fuels reduction project. Located in the headwaters of the Middle Fork of the American River, the French Meadows Project will improve the health and resilience of an important watershed that directly benefits the Folsom Dam and Reservoir, a major Bureau of Reclamation facility.

We share your belief that watershed restoration management activities can enhance reliable downstream water supply. It can also protect and enhance water quality. As you and your colleagues work toward passage of this important legislation during this Congress, PCWA looks forward to working with you and your colleagues to make watershed restoration a federal priority throughout the West.

Sincerely,

PLACER COUNTY WATER AGENCY

Andrew Fecko
 Director of Strategic Affairs

c: David Reynolds, ACWA
 Dave Eggerton, ACWA
 Ian Lyle, NWRA
 Einar Maisch, PCWA
 Ross Branch, PCWA



David C. Roberts
Associate General Manager, Water Resources
PAB232 | P.O. Box 52025
Phoenix, AZ 85072-2025
P: (602) 236-2343 | C: (602) 818-7747
Email: Dave.Roberts@srpnet.com

June 20, 2019

The Honorable Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Diane Feinstein
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Martha McSally
404 Russell Senate Office Building
Washington, DC 20515

The Honorable Kyrsten Sinema
317 Hart Senate Office Building
Washington, DC 20510

Dear Senators Gardner, Feinstein, Sinema, and McSally:

I am grateful for your introduction of "Drought Resiliency and Water Supply Infrastructure Act" and pleased to offer the support of the Salt River Project (SRP) for the bill. This legislation would provide resources and opportunities for Reclamation States to protect their water resources, and expand access to future water supplies.

Since 1917 when the Federal Government transferred the operations of the Salt River Project to a group of local water users in Arizona, SRP has been delivering reliable renewable water supplies to the greater Phoenix area. Today SRP delivers about 800,000 acre-feet of water to agricultural and municipal water users annually and serves nearly 1 million electric customers in central Arizona. Our supply originates from a 13,000 square mile watershed that encompasses the Salt and Verde Rivers, with over 75% of this land lying within the U.S. National Forests. Forest restoration is vitally important in helping protect SRP investments in facilities and infrastructure, including seven reservoirs and numerous miles of canals.

SRP has extensive experience with the financing of water supply infrastructure, forest restoration, environmental compliance activities, and underground storage projects. SRP has also been heavily involved in binational efforts to augment the Colorado River Basin supplies with desalinated ocean water. We are encouraged to see the bill address all of these areas, and feel that, if implemented this bill would be an important step forward in the responsible management of water in Arizona and throughout the West.

Thank you for your continued leadership and commitment to ensuring that the western United States has a resilient water supply now and in the future. A reliable water supply is fundamental

to western economies and required for the resiliency of a community. Vibrant, healthy forests and watersheds are key to maintaining the growing development of Arizona, and providing a foundation for generations to come.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Roberts". The signature is fluid and cursive, with a large initial "D" and "R".

Dave Roberts


San Diego County Water Authority

4677 Overland Avenue • San Diego, California 92123-1233
(858) 522-6600 FAX (858) 522-6568 www.sdcwa.org

June 20, 2019

Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

MEMBER AGENCIES

Carlsbad
Municipal Water District
City of Del Mar
City of Escondido
City of Imperial City
City of Oceanside
City of Poway
City of San Diego
Fallbrook
Public Utility District
Helix Water District
Cleveland
Municipal Water District
City Water District
Poudre Dam
Municipal Water District
Camp Pendleton
Marine Corps Base
Escondido
Municipal Water District
Pomona
Municipal Water District
Boron del Distrito
Municipal Water District
San Diego Water District
Santa Fe Irrigation District
South Bay Irrigation District
Valencia Water District
Valley Center
Municipal Water District
Vista Irrigation District
Yuma
Municipal Water District

OTHER REPRESENTATIVE
County of San Diego

SUBJECT: Drought Resiliency and Water Supply Infrastructure Act – SUPPORT

Dear Senator Feinstein:

On behalf of the San Diego County Water Authority, I am pleased to inform you that we support your “Drought Resiliency and Water Supply Infrastructure Act.” We are especially pleased to see the additional authorization and eligibility changes made to the Water Infrastructure Improvements for the Nation (WIIN) Act desalination project grant program.

The Water Authority is a public agency serving the San Diego region as a wholesale supplier of water from the Colorado River, Northern California, and through locally-developed sources. The Water Authority works through its 24 member agencies to provide a safe, reliable water supply to support the region’s \$231 billion economy and the quality of life of 3.3 million residents.

The Water Authority knows all too well the devastating impacts of drought and water shortage. As such, we have become strong believers in achieving water supply reliability through diversification. We have made and will continue to make significant investments in recycled water, potable reuse, and desalination projects. We greatly appreciate that this legislation will help ensure that the federal government is a partner in these efforts across the west.

Specifically, we are very pleased that the bill includes modifications regarding eligibility to the WIIN act desalination program. As you know, the Water Authority is currently involved in a public-private partnership with Poseidon Resources to operate the Claude “Bud” Lewis Carlsbad Desalination Plant. This \$1 billion project is the newest seawater desalination plant in the United States and provides 56,000 acre-feet of drought resilient water annually. The language included in your legislation would allow for projects like the Carlsbad Plant, and future modifications to it, to be eligible for WIIN funding.

Thank you for your consistent advocacy for solutions to address drought resiliency and water supply reliability in California. We appreciate your leadership in the United States Senate.

U.S. Senator Dianne Feinstein
June 20, 2019
Page 2

Please don't hesitate to contact me at (916) 840-5634, or Ken Carpi or Laura Morgan-Kessler with Carpi & Clay at (202) 822-8300, if you have any questions regarding the Water Authority's position on the "Drought Resiliency and Water Supply Infrastructure Act."

Sincerely,



GUENN A. FARREL
Government Relations Manager



San Francisco
Water Power Sewer
 Services of the San Francisco Public Utilities Commission

525 Golden Gate Avenue, 13th Floor
 San Francisco, CA 94102
 T 415.554.3155
 F 415.554.3161
 TTY 415.554.3488

June 10, 2019

The Honorable Dianne Feinstein
 United States Senate
 331 Hart Senate Office Building
 Washington, D.C. 20510

Dear Senator Feinstein,

On behalf of the San Francisco Public Utilities Commission (SFPUC), I am writing to express support and appreciation for your sponsorship of the Drought Resiliency and Water Supply Infrastructure Act.

As drought becomes increasingly common, the SFPUC is actively working to implement strategies to diversify our water supply. We are working closely with San Francisco Bay Area partners and others to develop projects aligned with Governor Newsom's recent Executive Order N-10-19 directing state agencies to prepare a water resilience portfolio to meet the needs of California's communities, economy, and the environment through the 21st century. This bill would enhance those discussions and provide funding to support critical water supply projects and environmental restoration efforts.

The crisis at the Oroville Dam in California highlighted the need to upgrade water supply infrastructure throughout the country. Engineering standards and knowledge have increased since this infrastructure was built decades ago, and upgrades to comply with current standards and best practices are needed. Low-cost financing mechanisms can mitigate impact to ratepayers to reduce the financial burden for infrastructure repairs.

Therefore, we strongly support provisions in the Drought Resiliency and Water Supply Infrastructure Act to create a new loan program known as the Reclamation Infrastructure Finance and Innovation Act (RIFIA) with initial funding authorized at \$150 million. This would build off the successful Water Infrastructure Finance and Innovation Act (WIFIA) program and provide much-needed low-interest loans for water supply projects. WIFIA is an important tool for supporting local efforts to reinvest in the nation's water infrastructure, particularly when paired with State Revolving Fund loan programs.

Thank you for your leadership on these vital water infrastructure issues.

Sincerely,

Harlan L. Kelly, Jr.
 General Manager
 San Francisco Public Utilities Commission

London N. Breed
 Mayor

Ann Moller Cae
 President

Francesca Vietor
 Vice President

Anson Moran
 Commissioner

Sophie Maxwell
 Commissioner

Tim Paulson
 Commissioner

Harlan L. Kelly, Jr.
 General Manager

OUR MISSION: To provide our customers with high-quality, efficient and reliable water, power and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care.





Consisting of 240,000 acres on the Westside of the San Joaquin Valley

May 23, 2019

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Vice Chairman

CHRIS WHITE
Executive Director

STEVE CHEDESTER
Director of Policy & Programs

**MINASIAN, MEITH,
SOARES, SEXTON
& COOPER LLP**
Legal Counsel

**CENTRAL CALIFORNIA
IRRIGATION DISTRICT**

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President

Chris White
General Manager

**SAN LUIS CANAL
COMPANY**

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WATER DISTRICT**

Mike Stearns
President

Jeff Bryant
General Manager

**COLUMBIA CANAL
COMPANY**

Chris Cardella
President

Randy Houk
General Manager

P.O. Box 2115
541 H Street
Los Banos, CA 93635
(209) 827-8616
Fax (209) 827-9703
e-mail: jwhite@sjrecwa.net
Website: www.sjrecwa.net

The Honorable Lisa Murkowski
U.S. Senate
Hart Senate Office Building, Room 522
2nd & C Streets, NE
Washington, D.C. 20515

Re: *Drought Resiliency and Water Supply Infrastructure Act*

Dear Senator Murkowski:

The San Joaquin River Exchange Contractors Water Authority (Exchange Contractors) are pleased to support the proposed Drought Resiliency and Water Supply Infrastructure Act. If enacted into law, this legislation would help to provide the tools direly needed for additional water supply infrastructure projects in the western United States. This bill will assist the San Joaquin Valley to achieve the infrastructure needed for drought resiliency and for more efficient management of our water supplies.

Thank you for your efforts to provide California water users with the means to help survive and recover from years of drought and to prepare for future water shortages. The Exchange Contractors believe the Drought Resiliency and Water Supply Infrastructure Act takes an important step toward addressing this critical need. We stand ready to assist you and other members of the Committee on Energy and Natural Resources to help move your bill expeditiously. If you or the members of your staff have any questions, please feel free to contact me.

Sincerely,

Chris White,
Executive Director

cc: The Honorable Dianne Feinstein

South Valley Water Association

President
Jim Costa

Vice President
Kelley Hampton

Executive Director
Daniel G. Vink

General Counsel
Alex Peltzer

Member Districts

Delano-Earlimart I.D.

Exeter I.D.

Ivanhoe I.D.

Lower Tule River I.D.

Pixley I.D.

Shafter-Wasco I.D.

Stone Corral I.D.

SSJMUD

Tea Pot Dome WD

3746 W. Mineral King Ave.
Visalia, CA 93291
Tel: (559) 372-2400
Fax: (559) 553-6221

June 18, 2019

The Honorable Diane Feinstein
United States Senator
331 Hart Senate Office Building
Washington, DC 20515

Dear Senator Feinstein,

On behalf of the South Valley Water Association (SVWA), which consists of nine irrigation districts within the Central Valley Project's (CVP) Friant Division that provide water to more than 400,000 acres of farmland, I write in support of the Drought Resiliency and Water Supply Infrastructure Act.

Water supply reliability in the San Joaquin Valley will require robust state, federal and local investment in infrastructure. The Drought Resiliency and Water Supply Infrastructure Act provides greatly needed federal investment in water supply infrastructure.

As the state of California moves towards implementation of the Sustainable Groundwater Management Act, the inability to efficiently move water through the Friant-Kern canal creates significant hurdles as it limits the ability to deliver water from Millerton Lake through to the southern end of the Friant service area, a vital part of the system for our members. This part of the San Joaquin Valley has significant groundwater recharge potential, but it can only be fully realized if the infrastructure exists to deliver water during times when excess flows are in the system. SVWA believes that the funding mechanisms in this bill can provide needed resources to begin addressing the impacts of subsidence in California.

We appreciate all you are doing to ensure one of the world's most productive agricultural regions can continue to provide good jobs and safe, affordable food to all of the United States. Please do not hesitate to reach out with any questions.

Sincerely,



Dan Vink
Executive Director
South Valley Water Association



June 10, 2019

The Honorable Diane Feinstein
United States Senator
331 Hart Senate Office Building
Washington, DC 20515

Dear Senator Feinstein,

On behalf of the Tehama-Colusa Canal Authority (TCCA), which delivers Central Valley Project (CVP) irrigation water to seventeen water districts that serve 150,000 acres of high value agricultural lands in California's Sacramento Valley, I write in support of the Drought Resiliency and Water Supply Infrastructure Act. As California continues to experience hydrologic boom and bust cycles, TCCA believes it is critical to build strategic water storage to capture water during the wet periods for use in the dry periods.

TCCA sits on the Sites Project Authority, which is responsible for building Sites Reservoir, and the Drought Resiliency and Water Supply Infrastructure Act includes multiple provisions that will provide financial resources for the project. For example, the RIFIA program in the legislation will create a financial mechanism to help reduce the cost per acre foot of water out of the reservoir, making it more affordable for farms and cities throughout California. The bill also includes a \$670 million funding authorization for surface and groundwater storage projects which will allow Sites Reservoir to continue to compete for additional federal funding going forward.

TCCA appreciates all that you are doing to ensure that our communities are prepared to deal with future west wide droughts. Please do not hesitate to reach out with any questions.

Sincerely,

A handwritten signature in dark ink, reading "Jeffrey P. Sutton". The signature is written in a cursive style and is positioned above the printed name.

Jeffrey P. Sutton
General Manager
Tehama-Colusa Canal Authority



Truckee-Carson Irrigation District

Newlands Project

July 15, 2019

The Honorable Martha McSally, Chairwoman
 The Honorable Catherine Cortez Masto, Ranking Member
 Committee on Energy and Natural Resources
 Subcommittee on Water and Power
 United States Senate
 304 Dirksen Senate Building
 Washington, DC 20510

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Rusty D. Jardine, Esq., General Manager &
 Counsel

Re: TCID Support for S. 1932 and S. 2044

Dear Chairwoman McSally, Ranking Member Cortez Masto and Members of the Subcommittee:

On behalf of the Truckee-Carson Irrigation District (TCID), I write in support of two bills that will be considered at your upcoming hearing on July 18, 2019.

TCID is a political subdivision of the State of Nevada organized and chartered in 1918 for the purpose of representing the water right holders within the boundaries of the Newlands Project in connection with the operations of the Project. The District was formed, and is paid for, by landowners within the boundaries of the Newlands Project who own water rights appurtenant to their land. The federal government is obligated, both contractually and statutorily, to serve those water rights. As a result, TCID's first and fundamental obligation is to the farmers who are its constituents-promoting their rights and defending their interests with respect to the operations of the Newlands Project.

The *Drought Resiliency and Water Supply Infrastructure Act* (S. 1932) extends funding under the Water Infrastructure Improvements for the Nation (WIIN) Act for an additional five years, including additional authorizations for up to \$670 million for surface and groundwater storage projects and supporting conveyance; \$100 million for water recycling projects; and \$60 million for desalination projects. It creates a new loan program for water agencies at 30-year Treasury rates to spur investment in new water supply projects. It also authorizes \$140 million for habitat restoration and environmental compliance projects, including forest, meadow and watershed restoration and projects that benefit threatened and endangered species. We appreciate the efforts of our Nevada and other Western Senators to provide our water users with the tools to help survive and recover from years of drought and to prepare

for future water shortages. The *Drought Resiliency and Water Supply Infrastructure Act* takes an important step toward addressing this critical need.

We also support the second bill - the *Water Supply Infrastructure Rehabilitation and Utilization Act* (S. 2044) - because it gives local operators of federally owned facilities – like mine – the tools we need to maintain and improve aging federally owned water infrastructure in a timely manner. Importantly, it includes provisions to deal with extraordinary maintenance challenges and is designed to amend the aging infrastructure section of P.L. 111-11. That 2009 law was created, in part, to help prevent future disasters of the type that occurred in 2008, when the Truckee Canal in our district failed near Fernley, Nevada. Obviously, this subject matter literally strikes close to home. Our world was rocked by that canal failure, and it has taken a full decade to clear the legal fall-out, settlements, inspections, endless reviews, and risk studies.

P.L. 111-11 authorized the Bureau of Reclamation (Reclamation) to finance extraordinary maintenance on reserved and transferred works up to 50-years at Treasury interest rates, but appropriated funding is needed up front for these provisions to work. Unfortunately, Reclamation rarely budgets for these non-federal obligations. S. 2044 requires Reclamation to take requests from water users who require federal funding and long-term repayment terms to make these extraordinary improvements possible and to report those requests to Congress for their consideration in the appropriations process.

S. 1932 and S. 2044 both provide important steps towards addressing the West's water infrastructure needs on a fiscally responsible basis. On behalf of TCID, I ask for your support of both bills. Thank you for your efforts to provide Nevada and Western water users with the tools to help survive and recover from years of drought, to prepare for future water shortages, and to help maintain and improve aging infrastructure in a more efficient way.

Sincerely,

TRUCKEE-CARSON IRRIGATION DISTRICT

By: 
Rusty D. Jardine, Esq.
General Manager & Counsel

Cc: Board of Directors



Senator Dianne Feinstein
331 Hart Senate Office Building
Washington DC 20510

Re: Drought Resiliency and Water Supply Infrastructure Act

Senator Feinstein,

We thank you for introducing the Drought Resiliency and Water Supply Infrastructure Act. We are supportive of this legislation as a vehicle in order to address the daunting water challenges in the West that we face.

Water challenges are significant in all of Western Growers home states of Arizona, California, Colorado and New Mexico. As a nation we must continually invest in the Western water infrastructure necessary to meet current and future demands. Our existing water infrastructure in the West is aging and in need of rehabilitation and improvement. As the population of the West expands our portfolio of options to provide water must expand with them. We believe that water conservation, water recycling, watershed management, conveyance, desalination, groundwater storage, and surface storage are all needed in a diversified management portfolio. Your bill tackles these issues in an environmentally sensitive and fiscally responsible way that would benefit the whole of the West.

We all know how much you have worked on this issue. Thank you for your continued efforts to bring much-needed focus on the need to enhance our vital water resources in California.

Sincerely,

A handwritten signature in dark ink, appearing to read "Dave Puglia".

Dave Puglia
Executive Vice President
Western Growers

Senator MCSALLY. Alright, let's now turn to our witnesses.

We have five great witnesses today to discuss water infrastructure and the three bills before us today. And I might add that nearly everyone on the panel here has Arizona roots, just saying.

First up is the Honorable Brenda Burman, Commissioner of Reclamation.

Next we will hear from Mr. Wade Noble, a water attorney from Yuma, a water "sensei" is what we like to call him, who represents a number of irrigation districts that rely on Bureau of Reclamation facilities and the Wellton-Mohawk Irrigation & Drainage District. He also serves in leadership and advisory positions with the Yuma County Agricultural Water Coalition, Agribusiness and Water Council of Arizona, National Water Resources Association (NWRA) and the Family Farm Alliance. What do you do in your free time, Wade? I am glad you could be here. Thanks for making the trip out from Arizona and for all the work you do for Yuma irrigators and water resource in our state.

After that, we will hear from Mr. Marshall Brown, General Manager for Aurora Water in Colorado. He is also representing the WaterReuse Association and I would note, he comes from Aurora by way of Scottsdale. So I know that we can trust him.

Next we will hear from Ms. Melinda Kassen, Senior Counsel for the Theodore Roosevelt Conservation Partnership.

And finally, Mr. Wesley Hipke, Managed Recharge Program Manager for the Idaho Department of Water Resources. Another Arizona transplant, I might add, having spent nearly 20 years in Arizona's Department of Water Resources.

I really did not plan this, but it is great to have a lot of Arizona roots on the panel, even though you are now using your skills to help some other states.

Commissioner Burman, it is good to see you again. Thanks for being here. You are recognized for five minutes.

**STATEMENT OF HON. BRENDA BURMAN, COMMISSIONER,
BUREAU OF RECLAMATION, U.S. DEPARTMENT OF THE
INTERIOR**

Ms. BURMAN. Thank you.

Chairman McSally, Senator Gardner, members of the Subcommittee who are here with us, perhaps virtually, my name is Brenda Burman, Commissioner of the Bureau of Reclamation with the Department of the Interior. Thank you for providing me the opportunity to appear before you today.

Before I begin my remarks, I would first like to, again, thank you and thank this Committee and your staff for their leadership and excellent quick work on the Colorado River Drought Contingency Plan Authorization Act this past spring. It was really incredible work and it is moving forward. In fact, just last week I was in San Diego for a signing ceremony where the International Boundary and Water Commission, both the Republic of Mexico section and the United States section, signed a joint report. This report describes how the United States and Mexico will protect Lake Mead elevations to benefit the Colorado River. This is really the last step in moving forward with our drought and scarcity plans for the Colorado River.

It's a great accomplishment for cities, states, tribes and all the others who depend on the Colorado River and thank you.

The Committee has my written statement, so I'll use my time to highlight some of the underlying areas where we think the Committee seeks to address in Senate bill 1932, the Drought Resiliency and Water Supply Infrastructure Act, Senate bill 2044, the Water Supply Infrastructure Rehabilitation and Utilization Act, and Senate bill 1570, the Aquifer Recharge Flexibility Act.

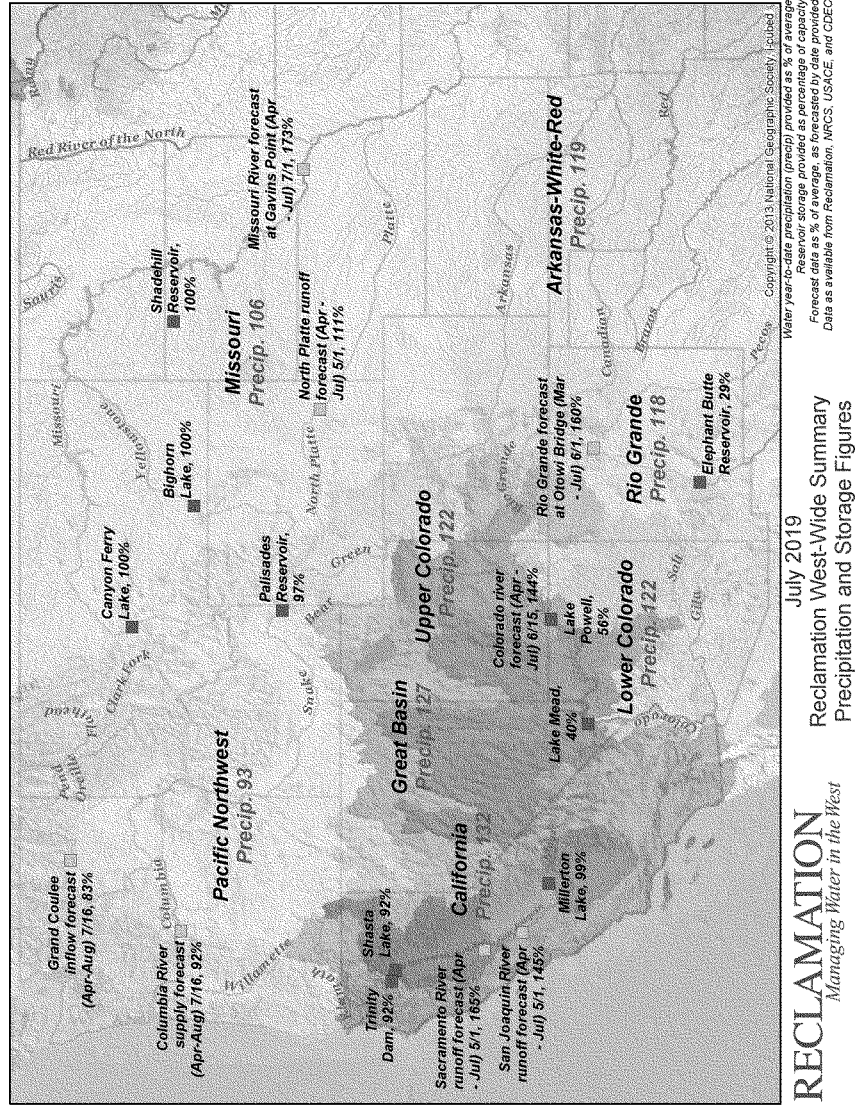
As the co-sponsors of these bills are aware, as a nation we need to invest in new and existing infrastructure. We need to invest in storage to increase water reliability, and we need to improve conveyance to secure our water supplies for future generations.

Reclamation's dams and reservoirs, our water conveyance systems and power generation facilities are integral components of the nation's infrastructure and the economies of the Western states. This infrastructure is key to Reclamation's continued success. We operate just under 500 dams throughout 17 Western states. We impound 338 reservoirs with a total storage capacity of 140 million acre-feet. We are the largest wholesaler of water in the United States. The water we deliver irrigates ten million acres, so 20 percent of the farmers in the West, and provides drinking water to 31 million people.

Reclamation is also the second largest hydropower producer in the United States. We provided some handouts that I hope are in front of you to help explain the backdrop of where we work.

You'll see in front of you—one is a map of 2019, the hydrologic condition in the West for 2019.

[The 2019 map follows:]



July 2019 Reclamation West-Wide Summary

Key Precipitation / Runoff / Storage Figures

(Note: Water year-to-date precipitation shown in percent of average, as provided by the NRCS or CDEC)

Great Plain Region

Arkansas River Basin Water Year-to-Date Precipitation	115%
Missouri River Basin Water Year-to-Date Precipitation	104% (Headwaters)
	100% (Mainstem)
	108% (Big Horn)

Lower Colorado Region

Lake Mead Content	10.4 million acre feet
Lake Mead % Capacity	40%
Elevation	1084.27 feet above MSL
Projected end of CY 2019	1087.45 feet above MSL

Mid-Pacific Region

North Sierra (Northern) Year-to-Date Precipitation	136%
San Joaquin (Central) Year-to-Date Precipitation	127%
Tulare Basin (South) Water Year-to-Date Precipitation	130%
Truckee/Carson Water Year-to-Date Precipitation	124/122%
Upper Klamath Water Year-to-Date Precipitation	97%

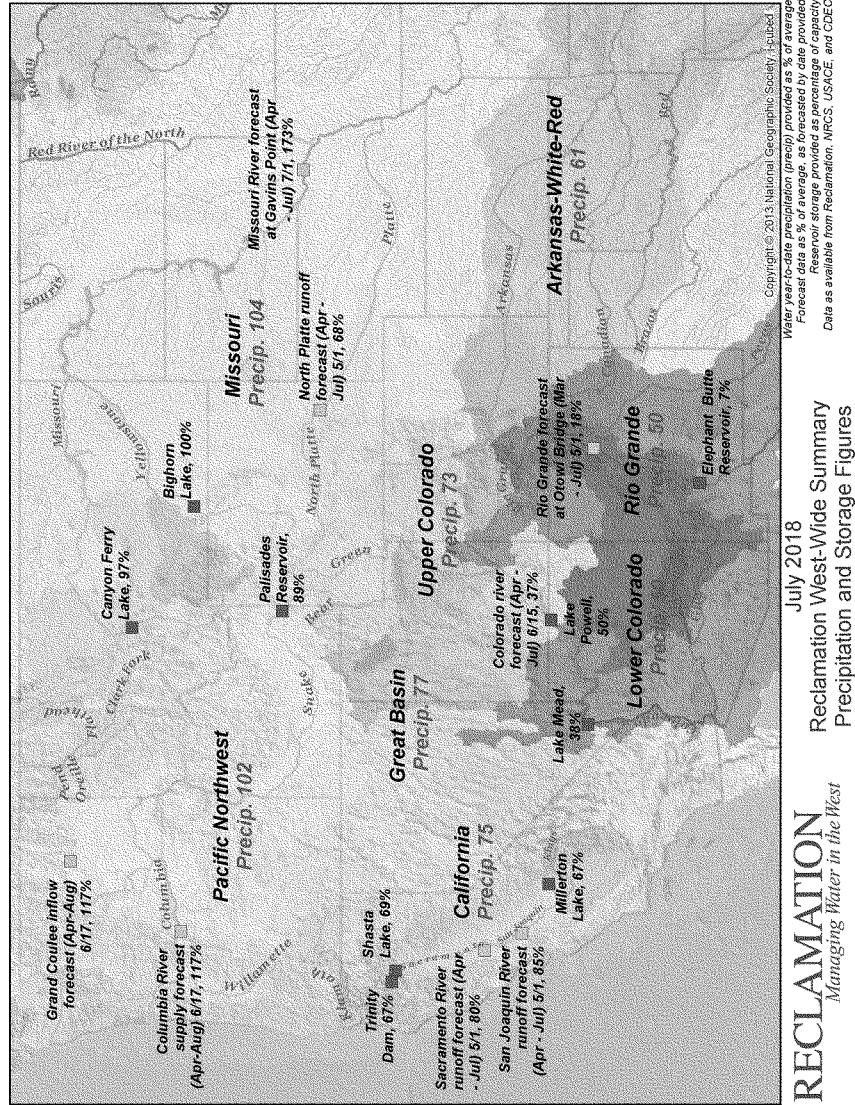
Pacific Northwest Region

Upper Snake Water Year-to-Date Precipitation	108%
Idaho Middle Snake Water Year-to-Date Precipitation	107%
Oregon Middle Snake Water Year-to-Date Precipitation	102%
Yakima Water Year-to-Date Precipitation	81%
Central Oregon Water Year-to-Date Precipitation	87%
Rogue Water Year-to-Date Precipitation	95%
Grand Coulee inflow forecast (<i>Apr-Aug runoff</i>)	83% of average
Columbia River (<i>The Dalles water supply forecast Apr-Aug runoff</i>)	92% of average

Upper Colorado Region

Upper Colorado Basin Water Year-to-Date Precipitation	122%
Great Basin Water Year-to-Date Precipitation	157%
Rio Grande Water Year-to-Date Precipitation	118%
Pecos Water Year-to-Date Precipitation	109%
Lake Powell Content	13,626 (KAF)
Lake Powell % Capacity	56%
April-July Inflow Forecast	148% (10,600 KAF)

Ms. BURMAN. And the other is exactly a year ago, so 2018.
[The 2018 map follows:]



July 2018 Reclamation West-Wide Summary

Key Precipitation / Runoff / Storage Figures

(Note: Water year-to-date precipitation shown in percent of average, as provided by the NRCS or CDEC)

Great Plain Region

Arkansas River Basin Water Year-to-Date Precipitation	62%
Missouri River Basin Water Year-to-Date Precipitation	117% (Headwaters)
	121% (Mainstem)
	114% (Big Horn)

Lower Colorado Region (as of July 9, 2018)

Lake Mead Content	9.73 million acre feet
Lake Mead % Capacity	37%
Elevation	1076.60 feet above MSL
Projected end of CY 2018	1077.68 feet above MSL

Mid-Pacific Region

North Sierra (Northern) Year-to-Date Precipitation	81%
San Joaquin (Central) Year-to-Date Precipitation	76%
Tulare Basin (South) Water Year-to-Date Precipitation	63%
Truckee/Carson Water Year-to-Date Precipitation	91/86%
Upper Klamath Water Year-to-Date Precipitation	80%

Pacific Northwest Region

Upper Snake Water Year-to-Date Precipitation	106%
Idaho Middle Snake Water Year-to-Date Precipitation	92%
Oregon Middle Snake Water Year-to-Date Precipitation	106%
Yakima Water Year-to-Date Precipitation	103%
Central Oregon Water Year-to-Date Precipitation	89%
Rogue Water Year-to-Date Precipitation	78%
Grand Coulee inflow forecast, 6/17 (Apr-Aug runoff)	117% of average
Columbia River, 6/17 (The Dalles water supply forecast) (Apr-Aug runoff)	117% of average

Upper Colorado Region

Upper Colorado Basin Water Year-to-Date Precipitation	70%
Great Basin Water Year-to-Date Precipitation	51%
Rio Grande Water Year-to-Date Precipitation	36%
Pecos Water Year-to-Date Precipitation	42%
Lake Powell Content	12,488 (KAF)
Lake Powell % Capacity	51%
April-July Inflow Forecast	39% (2,800 KAF)

Ms. BURMAN. And if you look at the two, what a difference a year makes.

So if you look at the Rio Grande, last year's spring runoff was at 18 percent, and this year it's at 160 percent. Last year the Colorado River Basin was in its fifth driest year on record that we know about, and this year, we're at 144 percent of average. I think we even had some snow in June. So this is the backdrop we work in. We need, as water managers, to be able to deliver water whether it's wet or whether it's dry and there can be very large swings in the West.

So just a thought to keep in mind of like, what is the infrastructure we need when it's a dry year like 2018 in some areas or it's a wet year, like it can be in 2019 and we'll see what we have in store for us in 2020.

Let me give an example on the Colorado River. Despite a wet year, the Colorado River is in its 19th year of drought. And despite that, we have consistently delivered our treaty obligations to Mexico and we have not yet had to declare a shortage in the Lower Basin.

And what is the reason for that? First, as you saw in the spring, a lot of cooperation between the states, the water districts and the two countries, a lot of water savings. But overwhelmingly we have a robust storage system on the Colorado River.

Federal surface storage on the Colorado River is about 60 million acre-feet meaning the federal reservoirs can store a combined total of four times the Colorado River's annual flow. If you compare that to somewhere like California, the Sacramento River in Northern California has about the same runoff as the Colorado River, only their storage is barely up to a year's runoff. So that means, in a time like 2017 which was the wettest year on record in California, we had to let most of that water go out of the system. And in 2018, which started off very dry in California and worked its way up to more toward an average year, we weren't able to make deliveries. We had to take several months where we had farmers who didn't know if they were going to get water or not, municipalities who didn't know if they could depend on our supplies.

Storage is absolutely essential. Infrastructure is absolutely essential to what we do and how we provide reliable water in the system. The investment that's made in the Colorado system are the generations that went before us that invested in those systems. That's what provided the efficiency, the flexibility, the conservation. That's what's increased our water supply reliability during this 19-year drought and for the future.

Across the West we look at an all-of-the-above approach. We encourage diversity of resources. We have many programs that help with that. We view water reuse, water recycling as well as ground-water recharge and desalinization as important parts of this water supply strategy.

We'd like to work with the Committee, to keep working with you to strengthen these three bills that we're here to discuss today, and we'd like to discuss some other WIIN-related authorities to secure our water for future generations.

So, thank you for your time.

[The prepared statement of Ms. Burman follows:]

Statement of Brenda Burman, Commissioner
Bureau of Reclamation
U.S. Department of the Interior

before the Committee on Energy and Natural Resources
Subcommittee on Water and Power
U.S. Senate
on
S. 1932, the Drought Resiliency and Water Supply Infrastructure Act,
S. 2044, the Water Supply Infrastructure Rehabilitation and Utilization Act,
S. 1570, the Aquifer Recharge Flexibility Act

July 18, 2019

Chairman McSally, Ranking Member Cortez Masto, and members of the Subcommittee, I am Brenda Burman, Commissioner for the Bureau of Reclamation within the Department of the Interior (Interior). Thank you for the opportunity to provide Interior's views on S. 1932, the Drought Resiliency and Water Supply Infrastructure Act, S. 2044, the Water Supply Infrastructure Rehabilitation and Utilization Act, and S. 1570, the Aquifer Recharge Flexibility Act.

Reclamation's dams and reservoirs, water conveyance systems, and power generating facilities are integral components of the Nation's infrastructure. This infrastructure is key to Reclamation's continued success. Approximately 50 percent of Reclamation's dams were built between 1900 and 1950, and approximately 90 percent of the dams were built before adoption of currently used, state-of-the-art design and construction practices. Effectively managing the modernization of this infrastructure and the benefits that these structures provide is among the significant challenges facing Reclamation in the next several years. The reliability, safety, efficiency, and cost effectiveness of Reclamation's infrastructure to ensure water deliveries and power generation is a high priority. Our FY 2020 budget proposed increases in funding for extraordinary maintenance, including dam safety, to modernize infrastructure. We appreciate that the bill sponsors are working to improve western water reliability.

S. 1932, the Drought Resiliency and Water Supply Infrastructure Act

The Department supports the goals of S. 1932 that build upon the progress of the Water Infrastructure Improvements for the Nation ("WIIN") Act (Pub. L. 114-322). We would like the opportunity to continue working with the committee on improvements to key sections of the bill that we believe would clarify and streamline implementation. WIIN contains other operational authorities currently in use, and we would like to work with the committee on the full scope of WIIN amendments.

Water Storage

Section 3 of the Drought Resiliency and Water Supply Infrastructure Act would replace section 4007 of the WIIN Act. Overall, this section is similar to the WIIN Act section 4007, but it also makes some clarifying changes. The applicability is expanded to be more inclusive of different

types of non-Federal partners by defining “non-Federal entities” to include tribes, water users’ associations, inter-state agencies, and joint-powers’ authorities. Storage project definitions are expanded to include conveyance facilities. Subsection (b) establishes a grant program; paragraph (b)(1) appears to allow for grants to be provided to a non-Federal entity to construct a federally-owned facility.

Paragraph (d)(2) of S. 1932 includes specific provisions for Federal participation in State-led studies and design, which is a helpful clarification, because the WIIN Act did not fully address these scenarios. Paragraph (d)(6)(B) requires the Secretary to publish guidelines for non-Federal storage projects that are consistent with Title XVI Feasibility Studies; Title XVI is a well-established program. Subsection (f) expands on the definition of Federal benefits to include operational flexibility, where it would optimize achievement of other authorized project purposes. Paragraph (g)(3) authorizes the Secretary to continue funding projects that have already been approved by Congress, which would allow for greater program flexibility and could help avoid work stoppages due to variations in appropriations act timing. Paragraph (g)(5) would allow for a continuous transition from the WIIN Act for eligible projects.

Water Recycling and Reuse

Title XVI of the Reclamation Projects Authorization and Adjustment Act of 1992 (P.L. 102-575) would provide authority for Reclamation’s water reclamation and reuse program. The WIIN Act amended Title XVI in 2016 to provide a path for new water reclamation and reuse projects to compete for program funding. Section 4 of S. 1932 would increase the program-wide amount of funding that may be appropriated for Title XVI projects that are eligible under the WIIN Act amendments from \$50 million to \$100 million and would increase the maximum per-project amount of Federal funding that all Title XVI projects can receive from \$20 million to \$30 million. While some adjustment for inflation may be appropriate, the program remains successful at the current project-specific ceiling of \$20 million. Section 4 would also streamline the process of awarding funding to projects that had been selected through the competitive process in previous years.

The WIIN Act also amended the Water Desalination Act of 1996, giving Reclamation the authority to provide funding for the planning, design, and construction of ocean and brackish water desalination facilities. Reclamation released its first funding opportunity for these projects in fiscal year 2018. Section 5 of this Act would authorize \$60 million to be appropriated for the period of fiscal years 2020 through 2024, in addition to the \$30 million authorized under the WIIN Act amendments for eligible desalination projects. This would increase the total amount of appropriations for eligible desalination projects to \$90 million and would allow Reclamation to offer additional funding opportunities for these projects through 2024.

Reclamation Infrastructure Finance and Innovation Pilot Program

S. 1932 would provide Reclamation with the authority to establish a pilot loan program similar to the Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) program. The bill would also require compliance with the 2018 Water Resource Development Act (Public Law No: 115-270), which directs the EPA to enter into an agreement with Reclamation to provide assistance in administering and servicing any Federal credit

instruments Reclamation is authorized to make available. Section 6 would provide Reclamation with authority and funding for such a credit instrument.

Reclamation has not yet completed the agreement referenced in P.L. 115-270. The forthcoming work with EPA on that agreement will help inform a final Departmental position on Section 6 of S. 1932.

Restoration and Environmental Compliance

Section 7 of S. 1932 would authorize the Secretary to participate in environmental restoration activities benefiting Federally listed species adversely affected by Reclamation project operations; environmental compliance activities achieving the purpose of the project or fulfilling Reclamation responsibilities under Section 7 of the Endangered Species Act; and forest, meadow or watershed restoration activities on Federal land. The third category expands Reclamation's existing environmental restoration authorities. Currently Reclamation works with partner agencies via cooperative agreements and other methods to address issues outside of Reclamation's existing authorities and therefore do not believe this expanded authority is necessary.

Section 7(a)(B)(i) describes the proportion of Federal funding in relation to the total cost of the project and leaves discretion to the Secretary to develop a methodology.

Deauthorization and Offsets

Section 8 of S. 1932 would establish a process for deauthorizing Title XVI projects that have not sought Federal funding and are not being implemented by the project sponsor. Reclamation believes this section would achieve the objective of deauthorizing inactive projects but would appreciate the opportunity to work with the committee on technical edits to the bill that could streamline this process.

Section 9 of S. 1932 repeals Section 4011 of the WIIN Act, replacing subsections (a) through (d) concerning conversion of water service contracts to repayment contracts and prepayment of repayment obligations and eliminating subsection (e), which created the Reclamation Water Storage Account to be funded out of prepayment receipts. Section 9 would make permanent contract conversion and prepayment authorities set to expire in 2021 under the WIIN Act, without substantive revision. It repeals provisions related to the funding of the Reclamation Water Storage Account, which would have committed prepayment receipts to WIIN Act section 4007 storage projects, through appropriations, and recognizes these receipts as offsets more generally against the appropriations funding the activities authorized under the bill.

Reclamation would like to continue working with the Committee on edits to the bill that could clarify a few areas and help to ensure the intent of the bill can be fully achieved.

S. 2044, Water Supply Infrastructure Rehabilitation and Utilization Act

The Department supports the intent of S. 2044 to address Reclamation's aging infrastructure. We applaud this bipartisan effort to assist the Bureau in making major updates and replacements. We have stated on the record that it is our priority to make investments in modernizing our

infrastructure, and this bill would advance our mutual goal. We would appreciate the opportunity to continue working with the Committee on improvements to the bill that we believe would clarify and improve implementation.

Aging Infrastructure Account

Section 2 of S.2044 amends Section 9603 of Public Law 111-11 (43 U.S.C. 510b) to create a new extraordinary maintenance (XM) account (account) to fund eligible XM projects at transferred works. The account would be funded with appropriations under Section 9605 of P.L. 111-11 and through project beneficiaries' repayment of Federal expenditures from it. It would fund non-emergency XM only, leaving emergency XM projects to be funded as they are currently funded under P.L. 111-11, through continuing Section 9605 appropriations outside the account. The bill sets forth various conditions and processes for using the account, including an annual application process and annual reports to specified Congressional Committees on the eligible projects, some key details of their evaluations, and the Secretary's recommendations regarding repayment periods. Based on our analysis of Section of S. 2044, expenditures out the newly created account would still be subject to appropriations, and project beneficiaries' repayments of XM would incur interest, consistent with existing Reclamation law and policy.

Appropriations for the Reclamation Safety of Dams Act

This section would provide an increase to the appropriations ceiling for the Reclamation Safety of Dams Program. Raising the dam safety authorization ceiling would assure that Reclamation can continue to meet crucial dam safety needs across the West. Dam safety projects are vital to sustaining the benefits Reclamation projects provide and enable Reclamation to incorporate new information as relevant knowledge and technology change.

Flood Control Rule Curves Pilot

Section 4 of the Water Supply Infrastructure Rehabilitation and Utilization Act would authorize Interior to establish a pilot project within the Bureau of Reclamation to review flood control rule curves. In general, Reclamation could implement the pilot project as proposed in the legislation. However, clarifying the role of the Secretary of the Army and the Army Corps of Engineers (USACE) in approving changes to flood control rule curves may help ensure effective implementation.

The considerations described in section 4 for assessing potential changes to flood rule curves are consistent with approaches currently being implemented by Reclamation. For example, Reclamation recently completed five reservoir operations pilot studies using improved forecasting and hydrologic information to assess opportunities to better meet water demands. Reclamation also is implementing the October 2018 "Presidential Memorandum on Promoting the Reliable Supply and Delivery of Water in the West", specifically Section 3: Improve Forecasts of Water Availability, and is engaged with Federal and non-Federal partners on several forecasting applications in California.

S. 1570, the Aquifer Recharge Flexibility Act

S. 1570, the Aquifer Recharge Flexibility Act, seeks to improve aquifer levels across western states by expanding the ability for aquifer recharge through federal lands and facilities.

In Idaho, Reclamation has been working with the state and water users on efforts to stabilize the Eastern Snake Plains Aquifer (ESPA) and reduce conflict over groundwater withdrawals. This comes on top of the ESPA Comprehensive Aquifer Management Plan, adopted by the Idaho legislature in 2009, which sets forth strategies to stabilize the aquifer, including a managed recharge. Reclamation has been assisting with these efforts while still meeting obligations to the Minidoka Project contractors and listed fish species.

In Idaho, and many other locations, aquifer recharge could require the use of Federal property, sometimes after a lengthy wait for congressional authorization. Reclamation provided technical assistance on this legislation, and we believe its new authorities will help reduce delays in using appropriate federal lands to recharge local aquifers. We would like to work with the committee and bill sponsors to clear up ambiguities and avoid unintended consequences.

Conclusion

Thank you for the opportunity to provide the Department's views on these pieces of legislation. We look forward to continuing our work with the sponsors and the Committee on these bills.

Senator MCSALLY. Absolutely. I am going to do something a little non-traditional since we started late. Mr. Noble, I am going to wait to have you testify. I am going to let Mr. Brown testify and then I am going to let you [motioned to Senator Gardner] ask some questions and then we are going to continue on with the panel just because he has a hard stop.

Alright, flexibility is the key to air power we used to say in the military.

Mr. Brown.

**STATEMENT OF MARSHALL P. BROWN, GENERAL MANAGER,
AURORA WATER, AND ON BEHALF OF THE WATEREUSE
ASSOCIATION**

Mr. BROWN. Okay, good morning.

To start, I'd like to thank Chairwoman Murkowski, Ranking Member Manchin and members of the Subcommittee for inviting me here to speak about these issues today. I appreciate the opportunity to represent the City of Aurora and also the WaterReuse Association who represent over 250 utilities and over 300 other businesses and institutions across the country that implement water recycling.

Aurora Water is a utility located east of Denver, Colorado. We provide drinking water, wastewater and stormwater services to a population of over 370,000 people.

Aurora Water and the WaterReuse Association strongly support the Drought Resiliency and Water Supply Infrastructure Act, or Senate bill 1932, and thank Senators Gardner, Feinstein, McSally and Sinema for their leadership on this important legislation. Senator Gardner has long been an advocate on critical water issues, and we very much appreciate your leadership on such.

Meeting the water needs of a growing community in the arid West is challenging. Aurora's water supply infrastructure is extensive and complicated. Aurora owns or partners in 12 reservoirs located throughout about a third of the State of Colorado, and we manage and maintain hundreds of miles of pipes, have three drinking water treatment plants, as well as a reclaimed water treatment facility.

As most of the water supply is located west of the Continental Divide and most of the population is to the east, Aurora must transport and store water, including transporting over mountain ranges up to 180 miles away before it reaches our customers. This requires a large and concerted effort to move water through tunnels, pipelines and pumping facilities and requires that we build and maintain large reservoirs to effectively utilize that supply.

Senate bill 1932 creates valuable funding programs for utilities like Aurora Water to help address the enormous capital needs required to build and maintain the infrastructure necessary to sustain the growing populations that we have. In order to ensure our ability to provide water, we must create robust systems that integrate multiple, increasingly complex components and technologies.

For example, Aurora Water has storage capacity to meet three years of our annual average demand to help see us through variable climate and endemic droughts. This storage is integrated into a system that also includes our ability to reuse 100 recapture and

reuse, essentially, 100 percent of our wastewater return flows. We use that for irrigation and to meet potable demands.

While we've invested over \$700 million in processes including river bank filtration, aquifer recharge and recovery and industry leading water treatment that includes advanced oxidation in order to create those reuse capabilities, we're not done. In order to manage increasingly variable source water conditions, we're planning to add over 150,000 acre-feet of additional storage in our system. And since we operate in essentially a closed loop, we're seeing increasing levels of salinity and we know that eventually, probably in the not too distant future, we're going to have to start removing the salts from that water in order to continue reusing it. Those types of needs and projects can benefit greatly from the legislation being considered here today.

While the roles of government agencies may not be exactly the same today as they've been in the past, there remains a critical need for partnership at a local, state and national level. Almost 36 percent of the lands in Colorado are federally owned and systems like Aurora's, both our current or existing system and future system, are not possible without partnership and support.

So thank you again for allowing me the opportunity to visit with you today about how Senate bill 1932 could be hugely beneficial to us and assist Aurora Water and other similarly situated water providers in meeting these needs into the future. This bill goes a long way in providing realistic and sustainable funding mechanisms to help us develop or expand these complex, multifaceted systems and solutions to address those ongoing water needs.

Thank you again.

[The prepared statement of Mr. Brown follows:]

**Testimony of Marshall P. Brown
General Manager
Aurora Water**

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

July 18, 2019

Madam Chairwoman and members of the Subcommittee, my name is Marshall P. Brown. I am the General Manager for Aurora Water and have served there since 2012. I previously worked at Scottsdale Water in Arizona. Between these two municipalities, I have developed extensive experience in water service in arid climates, focusing in the areas of water reuse and storage to help meet the needs of growing communities in water constrained states.

Aurora Water is a municipal utility located east of Denver, Colorado, providing drinking water, wastewater conveyance, and storm drain services to a population of over 370,000 residents. Aurora is a rapidly growing city projected to double its population over the next 40 years.

I am pleased to also represent the WaterReuse Association at today's hearing. The WaterReuse Association represents nearly 250 water utilities serving over 60 million customers and over 300 businesses and institutions across the country that are engaged in water recycling. The association advocates for policies that advance safe and sustainable water supplies through various forms of water reuse.

Aurora Water and the WaterReuse Association strongly support the Drought Resiliency and Water Supply Infrastructure Act (S. 1932), and thank Senators Gardner, Feinstein, McSally, and Sinema for their leadership on this important legislation. Senator Gardner has long been an advocate for water storage, recharge, and reuse projects essential for municipal and agricultural needs. His efforts on the Upper Colorado River Endangered Fish Program and the Platte River Recovery Implementation Program helped Colorado constituents be able to meet requirements under the Endangered Species Act and, most recently, his leadership on the Colorado River Basin Drought Contingency Plan legislation provides a path forward to help minimize future water supply risks for all those dependent upon the Colorado River.

S. 1932 includes a five-year, \$100 million reauthorization of the Bureau of Reclamation's Title XVI Water Reclamation and Reuse competitive grant program, originally authorized in the 2016 Water Infrastructure Improvements for the Nation (WIIN) Act. The Title XVI program is the

only federal program dedicated to advancing water recycling and has been a critical tool for increasing water supplies in a sustainable manner across the West.

There are currently 55 Title XVI-WIIN eligible projects awaiting assistance, with a total of more than \$550 million in eligible federal cost-share, and this list will only grow as more projects become eligible. The critical need for this funding is clearly demonstrated by the number of communities that have applied for and are awaiting funding to diversify their communities' water supply.

The legislation also provides support for important desalination projects – a form of water recycling that enables communities and businesses to treat and reuse not only ocean water, but also high-saline waters in inland streams and reservoirs for beneficial fresh water purposes, such as cooling and drinking.

Aurora Water and the WaterReuse Association encourage the swift consideration and passage of this bipartisan legislation.

Aurora Water Overview

Meeting the demands of a growing community like Aurora is challenging. Colorado is an arid state, with the Front Range averaging only 15 inches of precipitation annually, while the Rocky Mountains can receive significantly more moisture, primarily from winter snows. Colorado is the headwaters of the West's great rivers. Water in the state has been fully allocated in the South Platte, Arkansas, and Rio Grande water basins. The state and water users are developing water demand management policies and projects within the upper Colorado River basin. Colorado's water resources prove additionally challenging as 85 percent of the state's water supply originates in the western half of the state, while 85 percent of the population resides in the eastern half. The logistical challenges of collecting, storing and moving water across mountain ranges are extraordinary. The Bureau of Reclamation (BOR) has been at the forefront of many of these efforts, yet many Colorado municipalities must also develop their own infrastructure in partnership or individually to meet their specific needs.

Aurora Water obtains its water from three separate river basins. 25 percent of our water comes from the Colorado River, where we share facilities with both Colorado Springs Utilities and the Pueblo Board of Water Works. Another 25 percent comes from the Arkansas River Basin, where we utilize BOR facilities. Our final 50 percent of supply is from the South Platte River, primarily in the upper reaches of the basin. As a result, Aurora's water supply infrastructure is extensive and complicated. Aurora owns or partners in 12 reservoirs, manages and maintains hundreds of miles of pipes and has three drinking water treatment plants, as well as a reclaimed water facility. All told, Aurora's water can travel up to 180 miles before it reaches our customers' taps.

This diverse and extraordinary water supply system requires a large and concerted effort to move water through tunnels, pipelines, and pumping facilities. Large reservoirs are strategically located to help preserve this supply to meet current and future demands in both wet and dry

years. Aurora Water has storage capacity to meet three years of average demand to help see us through Colorado's variable climate and endemic droughts. As we grow in population, our storage capacity must continue to grow to meet these future demands.

Aurora is in the planning phases for three surface reservoirs. Wild Horse Reservoir, which will be located in the upper reaches of South Platte Basin, could have a capacity of up to 96,000 acre feet. This will be an off-stream reservoir located primarily on private land. Targeted for completion by the late 2020's, the design work and land acquisition have been underway for several years and permitting is expected to begin soon.

Box Creek Reservoir, proposed for the Upper Arkansas River Basin, began with initial scoping and land acquisitions in year 2000. With a proposed initial capacity of 25,000 acre feet, this reservoir is planned to include an estimated 400 surface acres on Aurora's property and 20 surface acres on U.S. Forest Service lands. There is also a potential interaction with a Bureau of Reclamation project that may benefit both parties. Due to costs and permitting complexities for this project, Aurora Water is planning this project for completion sometime between 2050 and 2070.

Last on our surface storage list is a new water supply and storage cooperative project within the confines of a regional joint use agreement called the Eagle River Memorandum of Understanding (Eagle River MOU). Established in 1998, the Eagle River MOU includes the cities of Aurora and Colorado Springs, Climax Molybdenum Company, Colorado River Water Conservation District, Eagle River Water and Sanitation District (ERWSD), Upper Eagle Regional Water Authority, and Vail Associates, Inc. The shared project goal is to develop up to 30,000 acre-feet of new annual supply with initial allocations of 20,000 acre-feet of average yield for Aurora and Colorado Springs and 10,000 acre-feet of firm yield for the Vail area. Several components are in the early conceptual review stage, including Whitney Reservoir, with proposed capacity of up to 20,000 acre feet.

Surface reservoirs in the west are effective methods for storing and moving large amounts of water. In Colorado, due to our dry climate, high evaporative losses are a consideration with open storage. These three reservoirs are all at high altitude and are relatively deep, reducing losses from evaporation. For storage at lower elevations, especially near municipalities, new and innovative solutions, beyond the typical surface reservoir, are required to ensure people have water available for delivery year-round. Aquifer Storage and Recovery (ASR), which uses ground water recharge, is a scalable and cost-effective storage mechanism. I will discuss Aurora's strategy for ASR later in my testimony.

Aurora Is a Leader in Reuse

Aurora's potential for growth has forced the utility to seek innovative solutions to meet water demands. Water reuse has been an important strategy used by Aurora Water for over 50 years and is ingrained in our policies and culture.

Since 1968, many of the city's golf courses and parks have been irrigated using reclaimed water, which is "scalped" off the city's sewer system and treated to meet or exceed federal and state standards. Aurora Water currently provides up to five million gallons of reclaimed water per day. While reclaimed water has proved beneficial for Aurora, challenges exist in creating additional uses for this resource. Due to the nature of reclaimed water's water quality, this source must use dedicated infrastructure, including treatment, pumping, pipelines and storage. Also, with Colorado's seasonal variabilities, irrigation demand for reclaimed water is limited to the summer months, which is a substantial impact on the cost effectiveness of this system.

Potable water demand, however, is year-round, so when Colorado faced its deepest drought on record in 2002-2003, Aurora Water had to take reuse to a new level. In 2010, we completed a potable reuse system called Prairie Waters. By recapturing wastewater effluent and treating the water with a multi-barrier process, Prairie Waters currently provides up to 10 million gallons of high-quality drinking water per day. Built by the city at an initial cost of \$638 million, this system was designed for expansion, since increased demands will mean increased water that is available for reuse. This included the development of a natural pre-treatment campus downstream of the regional wastewater treatment facility; the laying of 34 miles of 60 inch pipeline that crosses four counties, supported by three large pumping stations; and the construction of a state-of-the-art water purification facility. Prairies Waters was designed, permitted and constructed in only five years by carefully avoiding impacts on Waters of the US and jurisdictional wetlands. While this approach added to construction and land costs, the savings in time and related permitting impacts was immense.

Aurora Water had to overcome many challenges with Prairie Waters, including technical and financial hurdles and customer perception issues regarding reuse in drinking water. In the end, this new water source has been accepted by our drinking water customers as indistinguishable from our original mountain water supply. To date, there have been no water quality concerns that have been attributed to Prairie Waters, and the treatment facility that delivers this water has been recognized by the Partnership for Safe Water with its highest honor, the "Excellence in Drinking Water" Phase IV designation (one of only 18 facilities in the nation to have achieved this level).

Prairies Waters has become a model in water reuse for other communities. Aurora Water recently participated in workshops hosted by WaterReuse Colorado and Western Resource Advocates to promote the expanded use of potable reuse. Over the past two years, these workshops have brought stakeholders together from across Colorado, including large and small utilities, water resource agencies, and the State regulatory body for drinking water compliance, the Colorado Department of Public Health and Environment (CDPHE), to create a framework for regulatory acceptance of potable reuse. These groups also developed baseline materials for public outreach that are customizable for any utility that wished to pursue potable reuse for its community. Accessible funding remains critical for many utilities that seek to build and implement similar systems to help provide renewable and sustainable water sources.

Prairie Waters also provides the backbone for a water sharing partnership between Aurora Water, Denver Water, and 10 members of the South Metro Water Supply Authority. Called the WISE Partnership, this cooperative agreement provides potable reuse water from both Denver and Aurora to small districts that are dependent on non-renewable water sources from deep aquifer wells. Incremental WISE deliveries began in 2017 as infrastructure was put in place connecting the South Metro entities, with full deliveries of 7,725 acre feet per year. WISE not only helps smaller communities achieve sustainability with a renewable supply, but it also provides a creative funding solution for other large reuse projects.

Groundwater Storage Projects

I understand that other experts will speak directly to groundwater recharge, but I want to emphasize the importance this mechanism is as a cost-effective means to supplement surface storage. For much of the history of the West, groundwater has been pumped at unsustainable rates; it is a non-renewable resource that has been mined and depleted. Over the past couple of decades, advances in technology have afforded communities with the ability to not just withdraw that resource, but also replenish it. Known as Aquifer Storage and Recovery, the ability to use emptied underground storage space has many advantages for storing water to help meet the needs in the arid and growing West. Since ASR is underground, surface land impacts are minimized. Cities, towns, and communities can grow and thrive above ground while being in close proximity to their water supply. With ASR, a community does not need to submerge large swaths of land far from their citizens, nor seek to dam streams.

One of the biggest challenges with surface storage and conveyance is evaporation. Each year, a significant percentage of the water stored in a surface reservoir is lost to the atmosphere to no benefit of the community that stored it. With ASR, the stored water does not evaporate and is available when it is needed. By storing the water underground, a community's water supply is stored more sustainably and efficiently over the long term, providing an effective tool with which to meet the climatological uncertainties of hydrologically lean years.

An often-forgotten benefit of ASR is that it is a scalable operation. This means that an ASR project can be built as a pilot or small project and grow as need grows. Over time, a community can add to and expand their ASR operation from a single well at a single location to many wells over multiple locations throughout the area as necessary to best meet their growing needs. Being sensitive to subsurface constraints, a community can choose when and where best to store water depending on the outcomes they need most.

Within Colorado, ASR has historically been selectively practiced in a specific series of aquifers along the Front Range known as the Denver Basin aquifers. These four bedrock aquifers have been and are the primary source of water for many of the greater metro communities. As a non-renewable resource, the Denver Basin ground water is being depleted, and the aquifer water levels are dropping. Dropping water levels means there is less water and that the cost to withdraw the water from the aquifer is increasing, causing additional hardship on the communities that rely on this type of water supply.

As communities grow, higher demands result in greater depletions of the Denver Basin. In the past two decades, however, more utilities are exploring ASR as a tool with which to slow aquifer declines.

Aurora Water is now establishing an ASR program as a priority, recognizing that all communities need a diverse portfolio when it comes to drought resiliency and water supply planning.

Aurora is engaged in expanding ASR efforts on several fronts and within varying hydrogeologic settings. Aurora is developing partnerships with farmers and rural aquifer users in an area called the Lost Creek Designated Groundwater Basin. The Box Elder Creek Basin, adjacent to Lost Creek, is also under review for the potential to serve as a place for ASR and aid in meeting Aurora's critical water needs into the future. Aurora is reviewing the Denver Basin aquifer for its potential to help optimize the City's water supply planning, its drought resiliency, and to support solving regional water problems in partnership with other water suppliers.

Desalination

Desalination is not an intuitive solution being sought by inland utilities. As arid western communities continue to grow, so too does the demand for the water to sustain them. As water becomes more difficult to acquire, we must be creative and innovative in our solutions. Every drop is precious, so we use and reuse it as many times as possible through water recycling. And each time that drop is used, it collects salts. Over time that drop will become too salty to feasibly use or dilute.

Traditionally, desalination has been used by coastal communities to turn seawater into drinking water; however, increased salinity in freshwater sources is increasing the need for this treatment process by inland communities. Salinity sources in freshwater streams and lakes have several primary sources, including return flows from agricultural irrigation and runoff from urban uses such as deicers and road salt and wastewater effluent. Salinity impacts water quality, making water harder to treat and rendering it difficult for downstream agricultural users who depend on the freshwater source to operate. Desalination and water reuse are, and should be, closely related. Without desalination, communities that reuse water or receive the higher salinity water downstream must blend the lower quality water with high quality water to reduce the salt concentration and make the water usable. Finding and using high quality blending water is an expensive endeavor as the source of high quality water is often from high mountain water, or from groundwater, which is a short-term limited solution due to slow recharge rates and over-pumping. Blending has severe limits, as over time, the freshwater streams become more saline and low-salinity water becomes more valuable. Desalination will be required to remove the salinity, which is an expensive and energy intensive process that, through traditional means, results in a brine solution that must be disposed. Coastal communities return the brine to the oceans, which can have its own ecological downsides, but inland communities must find alternative methods for this disposal. Currently, deep well injection is the common standard for brine disposal, but this technology has limited capacity, is expensive financially, has extensive

regulatory oversight, wastes water, and can have unintended consequences, including localized seismic activity.

We need to invest in Zero Liquid Discharge desalination technologies to ensure that drops can continue to be put to beneficial uses indefinitely, continuing our mission to be good stewards of every drop. In years of plenty, as that drop grows into many drops, we will need more places to store them. Additional storage is needed to buffer ourselves for the drought years. Zero Liquid Discharge and ASR are newer, innovative, and more flexible water supply tools. As one who has lived and worked in the arid West, all parts of the Drought Resiliency and Water Supply Infrastructure Act are equally crucial for the continued prosperity of those States that work with and rely on the Bureau of Reclamation.

Funding

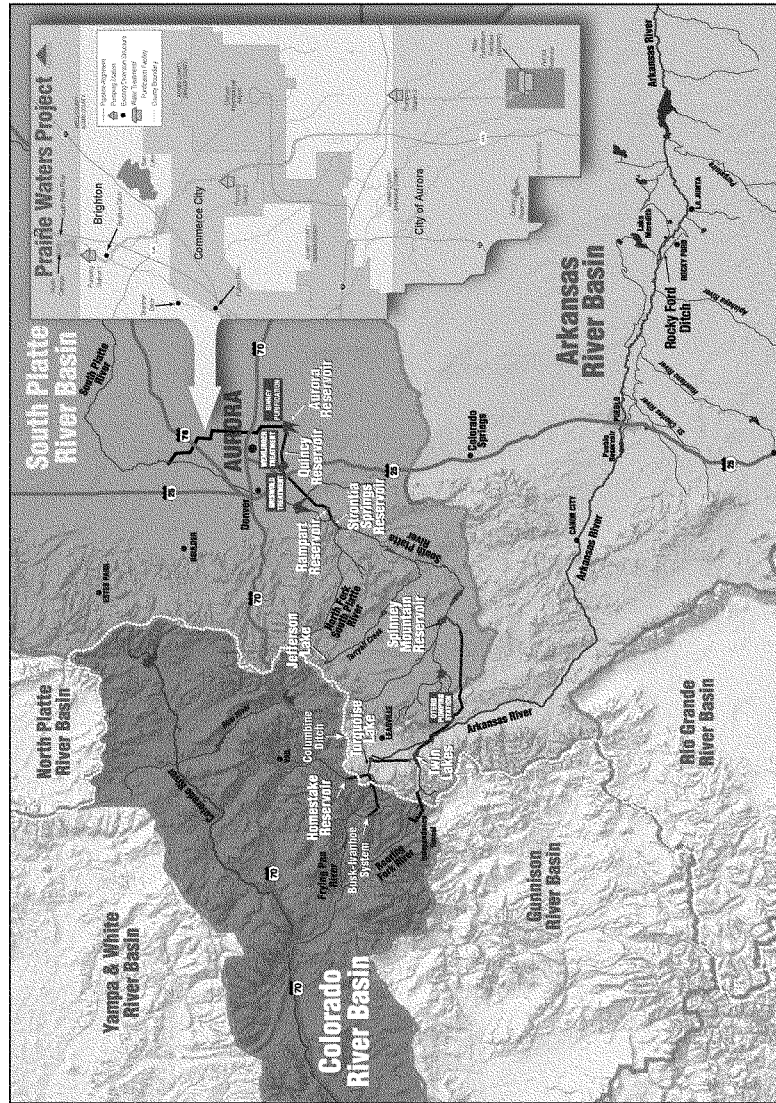
For many utilities, the financial component of developing much needed infrastructure can be daunting. These solutions are not inexpensive, and many utilities do not have sufficient cash-on-hand or reasonable access to the bond markets.

Given the enormous capital needs to build and maintain necessary water infrastructure to meet future growth and the challenges of a variable climate, Aurora Water and all water utilities must be resourceful and have funding mechanisms available. Federal funding is critical to ensure that water suppliers large and small will be able to provide essential water supplies. The forward thinking funding opportunities contained in the Drought Resiliency and Water Supply Infrastructure Act can help both challenged and well positioned utilities find the most sustainable method to build and maintain extremely expensive, but critically necessary infrastructure.

Conclusion

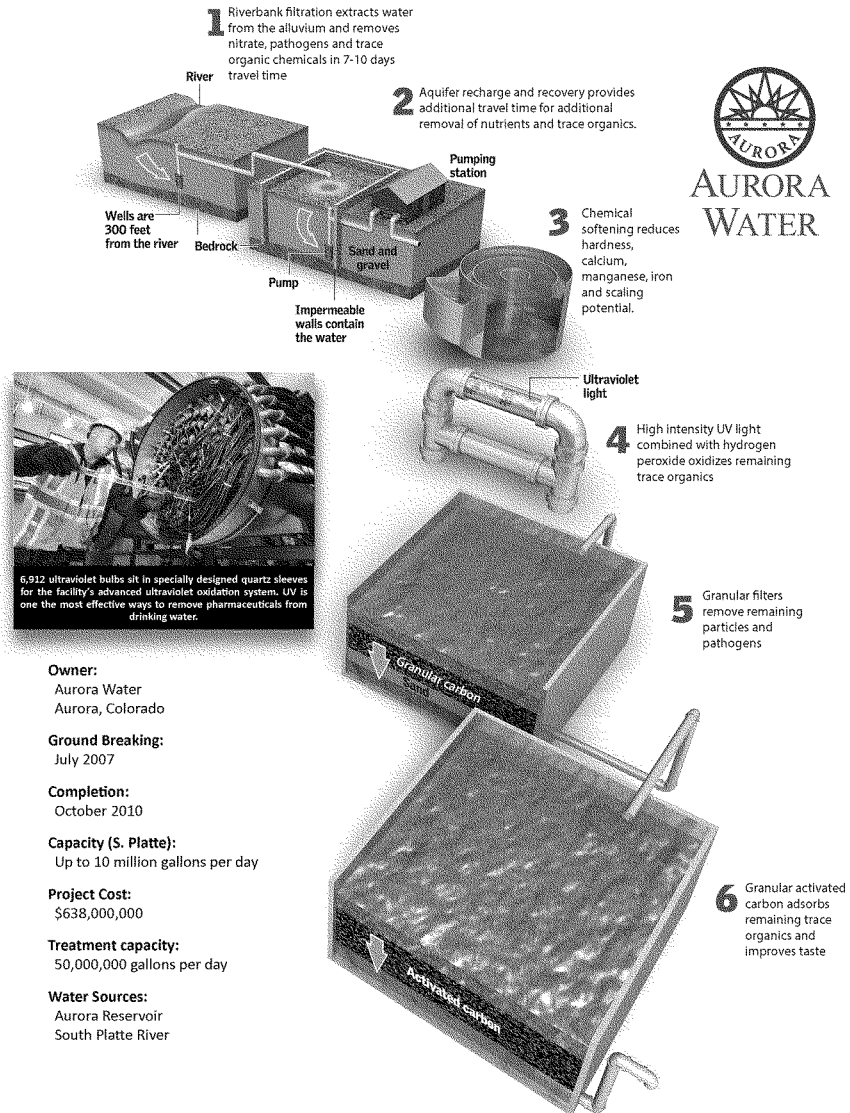
Thank you for allowing me to discuss how S. 1932 can assist the challenges that municipalities have in the arid west. I especially want to recognize Senator Gardner for his engagement and leadership in water issues. Aurora Water's relationship with the Senator and his excellent staff has been enormously helpful to moving us closer to solutions for sustainable, efficient and effective means to create much needed infrastructure.

In short, S. 1932 goes a long way in helping to provide a realistic and sustainable funding mechanism to help us develop solutions to critical water needs. Aurora Water and WateReuse strongly urge support for and passage of this bill.



AURORA WATER ♦ Water Supply

— Aqueducts, diversion tunnels, pipelines — Streams, canals, reservoirs
 — Major roads, highways — Continental Divide



Owner:
Aurora Water
Aurora, Colorado

Ground Breaking:
July 2007

Completion:
October 2010

Capacity (S. Platte):
Up to 10 million gallons per day

Project Cost:
\$638,000,000

Treatment capacity:
50,000,000 gallons per day

Water Sources:
Aurora Reservoir
South Platte River

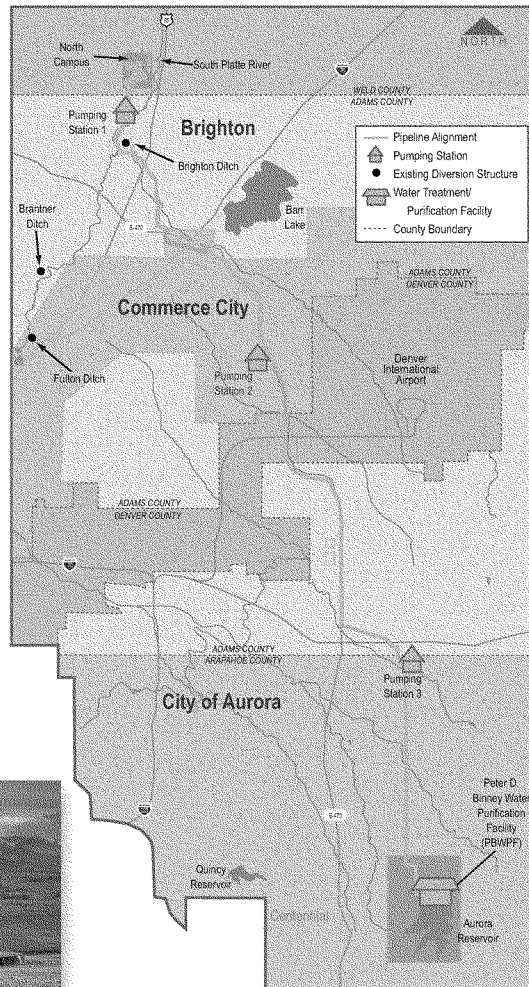


AURORA WATER

Prairie Waters Project

Prairie Waters is an innovative system that uses a sustainable water source by recapturing river water to provide drought insurance and as a cornerstone of a water supply plan that will help meet much of Aurora's needs for decades. Prairie Waters uses both natural cleansing processes and state-of-the-art purification technology to deliver an additional 10 million gallons of water per day.

Aurora owns rights to water in the South Platte River Basin which includes water from the Colorado and Arkansas River Basins, as well as agricultural rights in the South Platte purchased from willing sellers. In most cases, Aurora's water rights in the South Platte allow the city to use the water "to extinction." Essentially, this means that the water residents use for washing, laundry, showering, as well as some of the water from lawn watering, stays in the South Platte River Basin. Since this water is not native to the South Platte basin, we have the right to take an equivalent amount back out of the river.



Senator MCSALLY. Thank you, Mr. Brown.

We are going to go to Ms. Kassen next, and then we will allow Senator Gardner to ask some questions. We are going a little out of order here, Senator Risch, because we started a little bit late.

Senator RISCH. That is not unusual for this place.

Senator MCSALLY. Exactly.

Ms. Kassen.

**STATEMENT OF MELINDA KASSEN, SENIOR COUNSEL,
THEODORE ROOSEVELT CONSERVATION PARTNERSHIP**

Ms. KASSEN. Thank you.

I guess the first thing I should say, Chairman, is thank you for letting me be on this panel when I don't have a tie to Arizona.

[Laughter.]

Senator MCSALLY. Absolutely.

Ms. KASSEN. The Theodore Roosevelt Conservation Partnership (TRCP) is an alliance of 60 hunter, angler, outdoor recreation and science organizations dedicated to ensuring all Americans enjoy quality places to hunt and fish. TRCP appreciates this opportunity to testify about how to help the West build drought resilience in the face of decreasing water supplies and increasing demand.

Well-focused, federal policies and resources will allow us to meet a range of water needs. Congress can incentivize water conservation, water sharing, innovative technologies and new strategies to help build a future with thriving cities and rural communities, diversified economies, sustainable agriculture and healthy rivers and watersheds that provide recreation and ecological benefits to residents and visitors alike.

Hunters and anglers need water in the landscape. Outdoor recreation infuses \$887 billion into the U.S. economy and is especially important for rural America. Fish swim in clean, flowing rivers and streams. Migratory birds feed and rest on the wetlands along our flyways. Local bird populations nest in the riparian corridors.

TRCP, its partners and other NGOs recognize how many interests compete for the West's limited water supplies. Our experience shows that cooperation among diverse interests is the only path that leads to durable solutions.

Recently, this Committee helped pass the Colorado River DCP—I'll add my voice—an example of basin-wide cooperation, thank you.

An amended version of S. 1932, one of the bills you're considering today would build on the success of DCP. I suggest several modifications for your consideration.

First, the Committee should ensure both compliance with state and federal laws and the support of the Governor of the state for Section 3, Storage Projects, at each step from feasibility to construction. This avoids having projects a state doesn't support move forward to receive federal funding, a scenario that may be more likely to lead to litigation than construction.

Second, we'd ask the Committee to expand the eligible projects in Section 3 to projects that store and retain water in features of the landscape for later release. Just as restoring natural systems increases resiliency and can save money by diminishing the effects of coastal flooding, this approach can be a powerful tool for responding to drought and a strategy to ensure water supplies for cit-

ies and agriculture, and also maintaining flows and habitat for fish and wildlife.

Like built water storage, infrastructure retains wet season precipitation and releases it during the dry season for use. It does so using the landscape. The quintessential Western infrastructure which stores 75 percent of the West's water is the mountain snowpack, but there are other systems, mountain meadows, wetlands, floodplains and riparian aquifers.

Many groundwater projects in the West already use natural infrastructure. One, as part of the Platte River Recovery Implementation Program, is the Tamarack State Wildlife Area in Eastern Colorado, the other Yuma.

[Laughter.]

During spring runoff partners pump water to ponds that then let the water seep into the ground and move back to the river arriving in late summer and fall to augment low flows. The project improves wildlife habitat and contributes a measurable 10,000 acre-feet of water for recovery of endangered cranes downstream in Nebraska.

Another is the Cochise Conservation and Recharge Network along the San Pedro in Arizona, a desert river that supports native fish, 300 species of migratory birds and hunters from the Clovis people to today's bow hunters. The Cochise partners use 6,000 acres of land along 25 miles of river to direct stormwater and effluent into catchment basins that allow the water to infiltrate, replenishing local groundwater for communities and base flows for fish and wildlife.

Third, S. 1932 authorizes over \$1 billion for water projects, but one of the most effective and important strategies to combat drought and build a more resilient future isn't there and that's water conservation and efficiency. The bill includes no money for reducing water demand nor for the kind of voluntary, temporary compensated water demand management activities that will be critical in the Colorado River Basin to implement DCP and elsewhere in the West.

TRCP encourages the Committee, either by reauthorizing existing legislation like WaterSMART or through bold, new programs, to add funding for conservation and efficiency to this package.

Thank you for inviting me. TRCP looks forward to working with you and other Western water interests to make our water delivery system sustainable today and for a hotter, drier and more crowded Western future.

My written testimony includes other suggestions, and I'd be happy to answer questions.

[The prepared statement of Ms. Kassen follows:]

Testimony of Melinda Kassen
Before the Senate Committee on Energy & Natural Resources
Subcommittee on Water and Power

July 18, 2019

Good Morning, Chairman McSally, Ranking Member Cortez-Masto and members of the subcommittee. I am Melinda Kassen, Senior Counsel for the Theodore Roosevelt Conservation Partnership, an alliance of 60 non-profit sportsmen & women, outdoor recreation and science organizations founded in 2000, dedicated to ensuring that all Americans enjoy quality places to hunt and fish.

TRCP appreciates this opportunity to testify to the subcommittee about proposed water legislation designed to respond to long-term drought and the needs of western states and water users to build drought resilience into their water management and delivery systems. If well focused, the bills can provide the policies and resources that will allow the arid and semi-arid west to adapt to a future that is likely to have more people, but a more variable, and overall lower water supply to meet a range of water demands for the environment, recreation, cities and agriculture. As the West prepares for this future, Congress will play an important role to incentivize water conservation, water sharing, innovative technologies and new strategies so that we build a future with thriving cities and rural communities that have diversified economies, sustainable agriculture, and healthy rivers and watersheds that provide recreational and ecological benefits to resident and visitor alike.

Hunters and anglers need water in the landscape to hunt and fish. Outdoor recreation is an \$887 billion economic industry for the country as a whole and can be especially important to rural America. Fish swim in clean, flowing rivers and streams, as well as lakes; migratory birds use wetlands to feed and rest along the country's major flyways, while local bird populations nest along riparian corridors. All species and all communities need access to water.

TRCP, its partners and other conservation organizations recognize that there are many competing demands on the West's limited water supplies. Our experience shows time and again that cooperation among water users is the only path that leads to durable solutions. Recently, this committee helped enact a pact with support from Reclamation, seven western states and a diverse set of water users to chart a path towards right-sizing water use in a water-short basin: The Colorado River Basin Drought Contingency Plan. Thank you so much for the role you played earlier this spring to finalize HR 2030!

An amended version of S. 1932, one of the bills you are considering today, would help water interests, states and the federal government build on the success of the DCP, and broaden its spirit of cooperation. Below I suggest several modifications to the bill as introduced for your consideration.

S. 1932, Section 3 - \$670 million authorization for water storage.Ensure state support

To ensure that projects receiving public funds have broad support, TRCP asks that the committee add language to build on existing provisions to ensure both compliance with state and federal laws, and the support of the Governor of the state in which the proposed project is located. This is consistent with the spirit of federalism and avoids having projects a state does not support move forward or receive federal funding, a scenario more likely to lead to litigation than construction.

As drafted, S. 1932 calls for such a Governor request for non-federal projects. The committee should ensure that, when Reclamation seeks Congressional authorization to study or construct a federal project or expansion, Reclamation provides Congress a written statement from the Governor that explains the state's position on such a project.

In addition, TRCP urges the committee to require written Governor support for both initial pre-construction and construction grants for non-federal projects. Also, the Secretary should be allowed to award follow-on federal funding for any project – federal or non-federal -- at any stage (pre-construction or construction) without additional Congressional approval **only if** the state provides written confirmation of its continued support. Otherwise, the Secretary should have to come back to Congress for approval to proceed.

Finally, TRCP appreciates that the bill includes a provision requiring the Secretary to act in conformance with state law, as well as multiple subsections requiring compliance with NEPA. Because of the potential for confusion between the two approaches, TRCP asks the committee to include, in all subsections where the bill requires compliance with NEPA, compliance as well with applicable state laws. Moreover, federal or non-federal projects the construction of which would violate state or federal laws should not be eligible to receive grant funding.

Include natural infrastructure

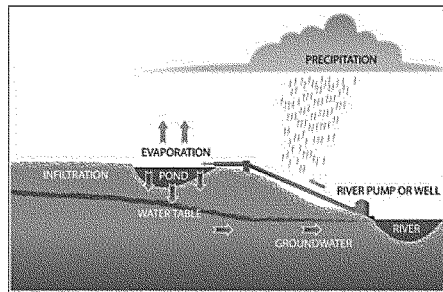
We ask the committee to expand the eligible projects in Section 3 to projects – and processes – that retain or store water in features of the landscape for later release. As I know members of the committee have heard from other witnesses at other hearings, restoring natural systems increases resiliency – and can save real money – by diminishing the effects of coastal flooding. Natural infrastructure approaches can also be a powerful tool for responding to drought, and as a strategy to ensure water supplies for water needs in water-short West, as well as providing flows for at risk species and improving habitat.

Natural infrastructure approaches essentially expand the definition of storage beyond just projects to include processes. Using processes that allow landscapes to retain water and then release it for other uses when and where needed can work as well as built water storage to make wet season precipitation or runoff available later during the next drier season with high water demand.

The quintessential western natural infrastructure water storage is mountain snowpack, which stores winter water for release during spring runoff. As a warming climate results in more rain and less snow, we need to think about replacing that snowpack reservoir, which today accounts for 75% of the West's water supply.

Other natural water storage in the western landscape includes headwaters mountain meadows, wetlands complexes, natural lakes, floodplains, and riparian as well as deep ground water aquifers. These features are highly dispersed and so require a different mindset when thinking about how to expand and incentivize this type of storage. Similar kinds of storage exist in agricultural working landscapes; healthy soils and farm ponds also store water.

Many ground water replenishment projects, as well as projects designed for other purposes, direct water back into the landscape for retention, so they use natural infrastructure elements. One such project that uses the landscape is at the Tamarack State Wildlife Area in eastern Colorado along the shores of the South Platte River. The project is part of the Platte River Recovery Implementation Program. During spring runoff when the river is not fully appropriated, partners pump water to strategically located ponds designed for the water to seep into the ground. From there, the water moves back to the river, arriving at times when it helps replenish low flows. Not only does the project improve local wildlife habitat, but the increased flows contribute 10,000 acre feet of water for recovery of endangered cranes and other species downstream on the Platte River in Nebraska.



Schematic from Northern Colorado Water Conservancy District

Another is the Cochise Conservation and Recharge Network along the San Pedro River in Arizona. The San Pedro River, a 140-mile-long tributary to the Gila River, flows north from Mexico. It supports a variety of native fish, some of which are at-risk species, as well as over 300 species of migratory birds. Just as centuries ago, the Clovis people hunted near the river, today, the San Pedro National Conservation Area allows bow hunting throughout its landscape in all seasons. The Cochise partners have a network of over 6000 acres of land along 25 miles of the River. Projects direct stormwater runoff (and in some cases effluent)

into catchment basins that allow the water to infiltrate the riparian aquifer, thereby replenishing ground water. The benefits of this approach accrue to the River in the form of more reliable base flows, and also to the local communities that rely on ground water for their municipal water supply.

There are natural infrastructure water storage projects in place, under consideration or that could be developed and benefit water management in the arid and semi-arid west, were funds available. A 2012 white paper, produced by a group of California agricultural and conservation non-profit organizations, including TRCP partners The Nature Conservancy and Trout Unlimited, describes some categories of these, as well as potential financing mechanisms, including Revolving Loan Programs. (See below for further comments on Section 6, RIFIA.)

One reason to provide grants for natural infrastructure as part of a water storage program is that increased water retention can be an important, and quantifiable result, including of activities where the primary purpose was not to provide storage. Consider stream restoration. Trout Unlimited spent a decade in Montana along Nine Mile Creek restoring the stream and watershed that had been degraded by legacy mining. That restoration improved habitat and stream function. In addition, as documented by research from the University of Montana, the restoration increased ground water retention by capturing water during runoff and then, similar to the Tamarack project described above, improved base stream flows later in the year: “The cumulative impact of restoration resulted in a longer period of alluvial aquifer recharge early in the season, and higher volumetric discharge at baseflow.”

Maximizing water storage in our natural infrastructure will be an increasingly important tool for western water managers in the 21st century. Committee staff circulated proposed language to add natural infrastructure/storage into Section 3’s funding for other water storage, i.e., ground and surface water, and asked for comments. TRCP strongly supports this approach and urges the committee to add natural infrastructure water storage to Section 3.

In addition, TRCP suggests that the Committee cap the size of grants going to any one type of storage so that the new funding does truly incentivize western water interests to conceive new strategies for water storage. If all \$670 million were to go to traditional surface water storage, then Congress would have lost this opportunity to encourage western water managers to pivot to thinking about new ways of securing water storage.

Ensure accountability

TRCP appreciates that the current system for Reclamation to move projects forward from feasibility to permitting to construction requires multiple Congressional authorizations and appropriations. We do not disagree with the sponsors’ goal of accelerating the approval process for authorized projects with initial Congressional appropriations authorized in the WIIN Act. However, approval process changes must be balanced with accountability.

Reclamation should report annually to Congress on how (or if) it is spending money on authorized projects, including information about how authorized projects are progressing, refinements or updates to cost estimates, delays or changes to project plans, and any movement of funds between projects.

S. 1932, Section 6 – Federal Loan Program

Section 6 would establish a pilot federal low-interest loan program for Reclamation, similar to the existing TIFIA and WIFIA programs at the Department of Transportation and for the Corps of Engineers and Environmental Protection Agency. Given the committee's recent experience and critical leadership with passing DCP, and given the large infusion of funds for grants for water storage projects contemplated in Section 3, TRCP suggests that the committee target this new pilot program for projects and activities that reduce water supply-demand imbalances in most western watersheds, and in particular projects or processes that are multi-purpose or that reduce consumptive use, including through temporary, voluntary and compensated programs.

At scale, low interest federal loans for crop switching, rotational fallowing and even strategic upgrades of aging infrastructure may provide a return on investment that will entice private funders to engage with irrigators. Similarly, the RIFIA program could prioritize loans for municipal infrastructure that are coupled with watershed improvements or sustainability requirements. These infrastructure projects could include some of the same types of projects eligible for grants elsewhere in S. 1932, such as water reuse, aquifer recharge or ecosystem retention, but in situations where a loan would leverage private capital. Some of these investments strategies are being tested in western states, e.g., as described in [papers](#) from the Liquid Assets Project, a collaborative of private investors, technical experts and TRCP partner Trout Unlimited.

Before turning to the other new and expanded programs of S 1932, I want to note one difference between the money authorized for Section 3's water storage grants and the money authorized for these other programs. As TRCP understands Section 3 and the WIIN Act, the additional funding for storage grants would not require a new, scored appropriation; rather the appropriators would write these new projects into future bills based on previously appropriated funds. Set up in this way, projects that fit within Section 3 do not need to find new money. The other provisions of S 1932 would require new appropriations, before the money gets to the ground. TRCP urges the committee to consider adding water recycling, desalination, environmental restoration and water conservation to Section 3's WIIN expansion so that they may also take advantage of that streamlined process to get money to the ground.

S. 1932, Sections 4, 5 and 7 – Water Reuse, Desalination & Environmental RestorationSection 4 – Water Reuse and Recycling

Water reuse and recycling, along with ground water and natural infrastructure storage, will likely grow in importance as the West's water management systems adapt to a future that many expect to be hotter and drier. As introduced, the legislation gives equal priority to projects that increase water supply reliability or flexibility and multi-benefit projects. TRCP urges the committee to consider prioritizing multi-benefit projects, i.e., those with ecological in addition to water supply benefits. With all of the balancing of interests that water managers need to do to build durable water systems for the future, Reclamation can help by incentivizing the multi-benefit projects that bring broad coalition support, and therefore matching funds.

Section 5 – Desalination

Desalination of both ocean and brackish inland water is a small piece of the west's water supply. According to a 2016 [report](#) from four California entities, including TRCP partner The Nature Conservancy, desalination is likely to remain so, even though it may grow and be important for local supplies. Desalination is expensive, potentially creates some adverse environmental effects and uses extraordinary quantities of energy to purify the salty water to levels appropriate for human consumption. For these reasons, TRCP suggests the following additions to S. 1932.

First, it will be important to minimize the adverse effects on the ocean from desalination. There are strategies to deploy both at the beginning and end of the process to accomplish this goal. On the front end, for example, facilities should use subsurface intakes where possible. At both the front and back end (brine disposal), facilities receiving federal funding should demonstrate that they are consistent with state and federal resource protection laws, especially in marine and wetlands protected areas, and that they have minimized adverse effects on, and certainly the mortality of, ocean and wetlands species through careful siting, advanced design and technology, and appropriate mitigation. Specifically, for brine disposal, this would include a demonstration that disposal is not occurring to marine or wetlands areas with special biological significance.

Second, desalination in general, but ocean desalination in particular, according to the report cited above, requires significant energy. TRCP therefore urges the committee to prioritize desalination projects powered with renewable energy. A French [company](#) has piloted solar-powered no-battery desalination in places like Abu Dhabi and French Polynesia. Congress should incentivize this type of solution for the West.

Section 7 – Restoration and Environmental Compliance

TRCP supports federal funds for projects that restore fisheries, riparian corridors, wetlands and wet meadows, and in fact all components of healthy watersheds. There is no question

that some of our 19th and 20th century water development substantially adversely affected western rivers and watersheds, resulting in degraded habitat for fish and wildlife. The kinds of projects described in Section 7 can help repair some of this damage. That said, for such an effort to be credible, it is important that the federal government not spend federal dollars on mitigation, the costs of which should properly be borne by the non-federal beneficiaries of these water development projects.

S. 1932, Missing: Water Demand Management, Conservation and Efficiency

S. 1932 authorizes over one billion dollars for water projects, and substantially more if the loan fund has anywhere near the multiplier effect of the TIFIA and WIFIA loan programs. If the theme of the bill is to prepare the West for a hotter, drier and more crowded future while maintaining a water economy that provides for cities, agriculture, recreation and the environment, one of the most effective and important strategies is missing from the package: conservation and efficiency. TRCP is disappointed and surprised that the bill does not include any money for reducing water demand outright, and in particular the kinds of voluntary, temporary, compensated water demand management activities critical to bringing the West's supplies and demands in places like the Colorado River Basin back into balance. These are the same measures that will be critical to the success of the DCP that this committee was instrumental in getting passed.

Drought, or aridification, as some scientists are now calling what is happening in the southwest is often a slow-moving crisis, without the sizzle of a fire or the crash of a hurricane storm surge. Drought in the western U.S. may not cause instantaneous crises, because 20th century water managers built water storage, which can soften the blow of an inadequate year's supply. However, moving forward, any all-of-the-above strategy for managing western water supplies and demands in the 21st century must include water conservation and efficiency.

The WaterSMART program initially authorized in the SECURE Water Act that was part of the Omnibus Lands Management Act of 2009 (42 USC §10361, et seq.) includes a water efficiency grant program. Water conservation was also a critical element of the Colorado River Basin system conservation pilot program that Congress established five years ago. And the Cooperative Water Management Act provides funding to give watershed groups sufficient capacity to bring communities together around multi-faceted efforts to provide water for people and nature. Finally, in many cases, upgrading irrigation infrastructure, as Senators McSally and Sinema have proposed to in S. 2044, can result not just in a safer and more reliable water supply, but also in one that is better from an environmental and recreational standpoint.

One notable example from Colorado is a project done in the late 1990s and early 2000s on the North Fork Gunnison River. There, the North Fork River Improvement Association worked with dozens of irrigators to replace over 20 push-up dams with modern diversion structures. In 2002, one of the driest years on record, the river flowed, where it had not done so for many previous seasons, because of this work.

Multi-benefit projects pull communities together, while helping water users adapt to the reality of less available water for more competing needs. TRCP encourages the committee, either by reauthorizing, targeting and expanding existing legislation, or through bold new programs, to add funding for conservation and efficiency to S. 1932. TRCP, its partners and other conservation organizations would be happy to work with the committee to develop appropriate legislation that would accomplish these purposes.

Conclusion

I thank the Committee again for inviting me to testify and look forward to working with you during these exciting times as western water users collaborate on ways to make our water delivery systems sustainable today and in a hotter, drier future with increased demands. I would be happy to answer any questions you have.

Senator MCSALLY. Thank you, Ms. Kassen.

Senator Gardner.

Senator GARDNER. Thank you, Chairman McSally, and I hope I am not setting a bad precedent for you on the Committee by doing this, but thank you. I greatly appreciate it.

Father Fitzgibbons from Regis University in Denver really appreciates this too, so I can catch up with his group as well. So thank you.

I would ask unanimous consent for a number of letters to be entered into the record in support of Senate bill 1932 from the National Water Resources Association, the Colorado Water Congress, the Metropolitan Water District of Southern California, the Water Infrastructure Network and others. I would just ask they be entered into the record.

Senator MCSALLY. Without objection.

Senator GARDNER. Thank you.

[Letters of support for S. 1932 follow:]



*Bringing
Water
Together*

June 10, 2019

The Honorable Cory Gardner
U.S. Senate
354 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Dianne Feinstein
U.S. Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Gardner and Senator Feinstein:

The Association of California Water Agencies (ACWA) is pleased to support the "Drought Resiliency and Water Supply Infrastructure Act" upon introduction. ACWA's 455 public water agency members supply over 90 percent of the water delivered in California for residential, agricultural, and industrial uses.

Once enacted, this legislation would offer both fiscal support and a modern approach to financing western water projects under the Bureau of Reclamation. ACWA appreciates the inclusion of authorizations for all types of water projects including storage, water recycling, and desalination. This will help western water agencies utilize all of the available tools necessary to continue providing reliable water.

The new Reclamation Infrastructure Financing and Innovation program will provide low interest loans to help water agencies finance a variety of water supply improvement projects. Additionally, the ability to expedite the process for funding approval of projects through the existing appropriations process will be of value as California strives to update and improve its' water infrastructure.

ACWA appreciates your leadership on this issue and looks forward to continuing to work together on this legislation. If you have any questions, please feel free to contact the DC office at 202-434-4760.

Sincerely,

David Reynolds
Director of Federal Relations



May 29, 2019

Senator Diane Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

Senator Cory Gardner
United States Senate
354 Russell Senate Office Building
Washington, DC 20510

SUBJECT: Support for the Drought Resiliency and Water Supply Infrastructure Act 2019

Dear Senators Feinstein and Gardner:

CalDesal is membership association and the leading advocate for desalination and salinity management in California. CalDesal is the only advocacy organization dedicated to advancing policies, innovation and funding to promote desalination and salinity management throughout the state. CalDesal is a public and private association comprised of water industry leaders, water agencies or utilities, and industry companies who are working to promote desalination projects and to develop sensible, cost-effective solutions to growing water supply and salinity challenges throughout the west and California.

We are pleased to provide this letter of support for the proposed Drought Resiliency and Water Supply Infrastructure Act of 2019. We support the funding authorizations for Storage projects and conveyance, Water Recycling projects and Desalination projects. We urge Congress to create the proposed new loan program to be known as the Reclamation Infrastructure Finance and Innovation act (RIFIA). This Act represents a strong Federal commitment and pathway to have Reclamation participate in Drought Resiliency projects. Water supply in chronic drought areas like the West need a portfolio approach with drought resilient water projects to sustain economic vitality, agricultural production and community resiliency.

CalDesal recognizes and supports the element of this Act's Water Supply policies and would like to emphasize some key elements that further the Federal Government's commitment to Water Security in America. The funding authorization for Water Recycling projects is key to future drought resiliency projects that can provide communities with resources to implement more water recycling projects. We strongly support the reauthorization of the Water Desalination Act and the \$60 Million funding authorization for desalination projects that will further help water portfolio planning and drought resiliency in our communities.

We strongly encourage Congress to pass the proposed eligibility clarification language in the Act. Aligning the language to be more like the "WaterSmart" definition in section 9502 of the Secure Water act will help deliver more projects and provide clear direction to the Bureau. Desalination projects can be costly and some are best delivered using Public Private



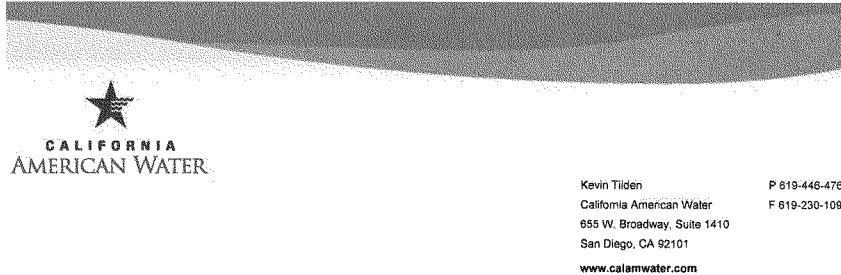
Partnerships (P3), and clarifying that public water projects that use this delivery method are eligible will be very helpful for the delivery of future projects.

Our association stands ready to help the Senators, the committee and Congress pass this Act and work to get the Act implemented for water resiliency and security in America.

Sincerely,

A handwritten signature in cursive script that reads 'Paul Kelley'.

Paul Kelley
Executive Director



June 4, 2019

Senator Diane Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

Senator Cory Gardner
United States Senate
354 Russell Senate Office Building
Washington, DC 20510

SUBJECT: Support for the Drought Resiliency and Water Supply Infrastructure Act 2019

Dear Senators Feinstein and Gardner:

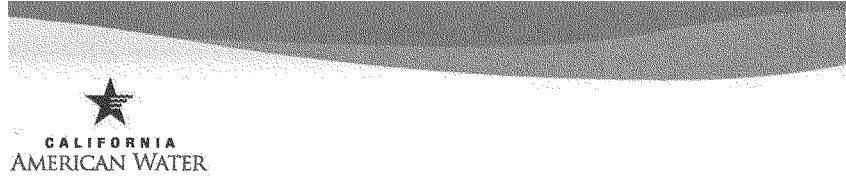
California American Water provides water service to about 660,000 Californians. We are also the water provider on the Monterey Peninsula, where we are in the process of permitting a desalination plant to serve our 100,000 customers there. The plant is part of a "portfolio approach" that includes aquifer storage and recovery, water reuse and desalination. More information is available at www.watersupplyproject.com.

For this project, more than 6 years were spent on a combined Environmental Impact Report/Statement (EIR/EIS) by the two lead agencies, the California Public Utilities Commission and NOAA/Monterey Bay National Marine Sanctuary. After reviewing many alternatives, in 2018 the Public Utilities Commission certified the EIR and approved the project as environmentally superior to other alternatives analyzed. The desalination plant would rely on subsurface intakes, share an outfall with a local waste water operator and is consistent with the California Ocean Plan.

As you no doubt know, building and operating a desalination plant is not cheap. On the Monterey Peninsula, there is no option for imported water yet we must substantially reduce water diversions from the local Carmel River due to a Cease & Desist Order from the State Water Resources Control Board. This community could benefit from the proposed new loan program.

We are pleased to provide this letter of support for the proposed Drought Resiliency and Water Supply Infrastructure Act of 2019. We support the funding authorizations for Storage projects and conveyance, Water Recycling projects and Desalination projects. We urge Congress to create the proposed new loan program to be known as the Reclamation Infrastructure Finance and Innovation Act (RIFIA). This Act represents a strong Federal commitment and pathway to have Reclamation participate in Drought Resiliency projects. Water supply in chronic drought areas like the West need a portfolio approach with drought resilient water projects to sustain economic vitality, agricultural production and community resiliency.

California American Water strongly supports the reauthorization of the Water Desalination Act and the \$60 Million funding authorization for desalination projects that will further help water portfolio planning and drought resiliency in communities like the Monterey Peninsula.



We strongly encourage Congress to pass the proposed eligibility clarification language in the Act. Aligning the language to be more like the "WaterSmart" definition in section 9502 of the Secure Water Act will help deliver more projects and provide clear direction to the Bureau. Desalination projects can be costly and some are best delivered using Public Private Partnerships (P3). Clarifying that public water projects which use this delivery method are eligible will be very helpful for the delivery of future projects.

Our company is ready to serve as a resource in this process if it is helpful to Senators, the committee and Congress to pass this Act and work to get the Act implemented for water resiliency and security in America.

Thank you for your time and attention.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kevin Tilden", is written over a light blue horizontal line.

Kevin Tilden
Vice President



Colorado Water Congress EST. 1958
THE LEADING VOICE OF COLORADO'S WATER COMMUNITY

July 12, 2019

The Honorable Cory Gardner
 United States Senate
 354 Russell Senate Office Building
 Washington, D.C. 20002

The Honorable Dianne Feinstein
 United States Senate
 331 Hart Senate Office Building
 Washington, D.C. 20510

The Honorable Martha McSally
 United States Senate
 404 Russell Senate Office Building
 Washington, D.C. 20002

The Honorable Kyrsten Sinema
 United States Senate
 317 Hart Senate Office Building
 Washington, D.C. 20510

Re: S.B. Drought Resiliency and Water Supply Infrastructure Act

Dear Senators Gardner, Feinstein, McSally and Sinema:

On behalf of the Colorado Water Congress (CWC), we are writing in support of S. 1932, the Drought Resiliency and Water Supply Infrastructure Act, in the 116th Congress. The Colorado Water Congress is a membership organization consisting of over 400 members, serving as the principal voice of Colorado's water community.

CWC's members represent the municipal, agricultural, industrial, commercial, recreation, and environmental sectors. This legislation would help support Colorado economies, address the rising cost of water, and assist in the facilitation of improving and updating aging water infrastructure. By allowing the Secretary of the Interior the ability to enter into contracts for funding of infrastructure projects, both public and private infrastructure projects, this legislation will allow for greater flexibility in the improvement and construction of infrastructure projects in Colorado. Additionally, the Reclamation Infrastructure Finance and Innovation Pilot Program will provide greater drought resiliency by developing projects providing better water supplies for domestic, agricultural, environmental, municipal or industrial use will benefit water users in Colorado.

The CWC supports the inclusion of a provision for funding of small community projects that allow for the combination of several individual projects into a single project in order to meet the minimum funding threshold. This provision will allow small communities, that cannot fund a project themselves, access to federal funding that traditionally has not been available to them. It will also enable water conservation and conservancy districts to receive funding for smaller scale projects that have been neglected due to restrictions on funding mechanisms.

The Colorado Water Congress looks forward to continuing to work with you and your staff by supporting sound legislation protecting western water rights' holders. We thank you for sponsoring this legislation and continuing the effort to protect Colorado's water.



Colorado Water Congress EST. 1958
THE LEADING VOICE OF COLORADO'S WATER COMMUNITY

Sincerely,

A handwritten signature in dark ink, appearing to read "Doug Kemper". The signature is fluid and cursive, with a horizontal line underneath it.

Douglas Kemper
Executive Director

A handwritten signature in dark ink, appearing to read "Andy J. Colosimo". The signature is bold and cursive, with a horizontal line underneath it.

Andy Colosimo
Federal Affairs Committee Chair

A handwritten signature in dark ink, appearing to read "Chris Treese". The signature is cursive and somewhat stylized, with a horizontal line underneath it.

Chris Treese
Federal Affairs Committee Vice Chair



IDAHO
**WATER
USERS**
ASSOCIATION

1010 W. Jefferson, Ste. 101, Boise, ID 83702 | www.iwua.org
P 208-344-6690 F 208-344-2744 E iwua@iwua.org

July 25, 2019

The Honorable Cory Gardner
U.S. Senator
354 Russell Senate Office Building
Washington, DC 20510

The Honorable Dianne Feinstein
U.S. Senator
331 Hart Senate Office Building
Washington, DC 20510

The Honorable Martha McSally
U.S. Senator
404 Russell Senate Office Building
Washington, DC 20510

The Honorable Kyrsten Sinema
U.S. Senator
317 Hart Senate Office Building
Washington, DC 20510

Dear Senator Gardner, Senator Feinstein, Senator McSally, and Senator Sinema:

On behalf of the Idaho Water Users Association (IWUA), I write in support of S.1932, the Drought Resiliency and Water Supply Infrastructure Act. IWUA supports this legislation and appreciates your efforts to address and invest in water storage infrastructure. We thank you for sponsoring this important legislation. IWUA is a non-profit corporation representing approximately 300 canal companies, irrigation districts, ground water districts, municipal and public water suppliers, hydroelectric companies, aquaculture interests, agri-businesses, professional firms and individuals throughout Idaho. Our purpose is to promote, aid and assist in the development, control, conservation, preservation and utilization of Idaho's water resources.

Water infrastructure is vital to our nation's security and economy. An investment in water infrastructure is an investment in our nation's economy, health, and future. This act provides and enhances opportunities for infrastructure for our nation.

Particularly, IWUA supports the efforts in S.1932 to address Bureau of Reclamation's funding authorizations from the Water Infrastructure Investments for the Nation Act (WIIN Act, P.L.114-322) to authorize \$670 million for surface and groundwater storage projects. The WIIN Act has provided opportunities to enhance infrastructure throughout the west. Idaho's Anderson Ranch Dam is one of those projects. The amendments proposed in S.1932 will enhance the WIIN Act and provide better assurances that the program can address infrastructure needs.

IWUA also supports the innovative financing mechanisms in the bill, known as the Reclamation Infrastructure Finance and Innovation Act (RIFIA) that would create a new

July 25, 2019
Page 2

loan program for water agencies at 30-year Treasury rates to encourage investment in new water supply projects. These federal investments and new financing options will help provide water users the necessary tools to manage water demands and prepare for future needs.

Again, IWUA appreciates the leadership you have taken in creating solutions to invest in our nation's crumbling water infrastructure and we look forward to working with you on this bill.

Sincerely,

A handwritten signature in black ink, appearing to read 'PLA', followed by a long horizontal line.

Paul L. Arrington
Executive Director/General Counsel

PLA:kje



THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

July 9, 2019

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Re: S. 1932 (Gardner): The Drought Resiliency and Water Supply Infrastructure Act - SUPPORT

Dear Senator Feinstein:

Metropolitan is pleased to express support for S. 1932, "The Drought Resiliency and Water Supply Infrastructure Act", and we thank you for your role in helping advance this important legislation.

It is encouraging to see strong multi-state and bipartisan support for effective, cost-efficient and locally responsive water resource management solutions that are needed to strengthen climate resiliency.

Some of the most significant benefits the bill would provide to local water agencies include:

- Extending and enhancing many provisions of the Water Infrastructure Improvements for the Nation Act (WIIN) Act by:
 - Removing the WIIN Act Title XVI expiration date
 - Authorizing increased appropriations for the WIIN Act Title XVI funding
 - Increasing the federal funding cap from \$20M up to \$30M for Title XVI
 - Establishing a process to deauthorize inactive recycling projects
- Enhancing federal funding for surface and groundwater storage projects, with an authorization of appropriations of \$670 million, and
- Establishing the "Reclamation Infrastructure Finance Innovation Act" (RIFIA), an innovative low-cost financing tool to be provided by the Bureau of Reclamation

We look forward to working closely with you and your staff on this bill; please let us know how Metropolitan can be of additional support to your office.

Finally, thank you for your consistent and effective leadership on water issues, investments and innovation. Your tireless efforts in pursuit of water supply reliability continue to contribute to a thriving, vibrant California.

Sincerely,

Jeffrey Kightlinger
General Manager

cc: The Honorable Cory Gardner
The Honorable Martha McSally
The Honorable Kyrsten Sinema



MOVING WATER FORWARD

National Association
of Water Companies 2001 L Street, NW, Suite 850 • Washington, DC 20036 • t 202.833.8363 • f 202.331.7442 • www.nawc.org

May 31, 2019

Senator Diane Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

Senator Cory Gardner
United States Senate
354 Russell Senate Office Building
Washington, DC 20510

SUBJECT: Support for the Drought Resiliency and Water Supply Infrastructure Act
2019

Dear Senators Feinstein and Gardner:

The National Association of Water Companies (NAWC) is the voice of the private water industry—the organization exclusively representing this group of quality service providers, innovation drivers and responsible partners. NAWC is dedicated to advancing policies, innovation and funding to promote desalination and salinity management throughout the state. NAWC, through its members, works to promote desalination projects and to develop sensible, cost-effective solutions to growing water supply and salinity challenges throughout the west and California.

We are pleased to provide this letter of support for the proposed Drought Resiliency and Water Supply Infrastructure Act of 2019. We support the funding authorizations for Storage projects and conveyance, Water Recycling projects and Desalination projects. We urge Congress to create the proposed new loan program to be known as the Reclamation Infrastructure Finance and Innovation act (RIFIA). This Act represents a strong Federal commitment and pathway to have Reclamation participate in Drought Resiliency projects. Water supply in chronic drought areas like the West need a portfolio approach with drought resilient water projects to sustain economic vitality, agricultural production and community resiliency.

NAWC recognizes and supports the element of this Act's Water Supply policies and would like to emphasize some key elements that further the Federal Government's commitment to Water Security in America. The funding authorization for Water Recycling projects is key to future drought resiliency projects that can provide communities with resources to implement more water recycling projects. We strongly support the reauthorization of the Water Desalination Act and the \$60 Million funding authorization for desalination projects that will further help water portfolio planning and drought resiliency in our communities.

We strongly encourage Congress to pass the proposed eligibility clarification language in the Act. Aligning the language to be more like the "WaterSmart" definition in section 9502 of the Secure Water act will help deliver more projects and provide clear direction to the Bureau. Desalination projects can be costly and some are best delivered using Public Private Partnerships (P3), and clarifying that public water projects that use this delivery method are eligible will be very helpful for the delivery of future projects.

Our association stands ready to help the Senators, the committee and Congress pass this Act and work to get the Act implemented for water resiliency and security in America.

Sincerely,

A handwritten signature in black ink, reading "Robert F. Powelson". The signature is written in a cursive, flowing style.

Robert F. Powelson
President and CEO



President – Cheryl Zittle
 Vice President – Christine Arbogast
 Treasurer – Tom Myrum
 Executive Vice President – Ian Lyle

July 18, 2019

The Honorable Cory Gardner
 U.S. Senator
 354 Russell Senate Office Building
 Washington, DC 20510

The Honorable Dianne Feinstein
 U.S. Senator
 331 Hart Senate Office Building
 Washington, DC 20510

The Honorable Martha McSally
 U.S. Senator
 404 Russell Senate Office Building
 Washington, DC 20510

The Honorable Kyrsten Sinema
 U.S. Senator
 317 Hart Senate Office Building
 Washington, DC 20510

Dear Senator Gardner, Senator Feinstein, Senator McSally, and Senator Sinema:

On behalf of the Board of Directors and the members of the National Water Resources Association (NWRA), I write in support of S.1932, the Drought Resiliency and Water Supply Infrastructure Act. The NWRA supports this legislation and appreciates your efforts to address and invest in water storage infrastructure. We thank you for sponsoring this important legislation.

The NWRA is a nonprofit federation made up of agricultural and municipal water providers, state associations, hydropower producers, and individuals dedicated to the conservation, enhancement and efficient management of our nation's most important natural resource, water. Our members provide water to more than 50 million Americans and millions of acres of irrigated agricultural. This water is critical to the health of our communities and our economy.

Water infrastructure is perhaps the most important, yet overlooked, form of infrastructure in our nation. An investment in water infrastructure is an investment in our nation's economy, health, and future. Access to a reliable supply of water is a fundamental necessity for all economic development. Water storage allows us to store water during the wet years and helps protect us during the dry years. With increasing variability in weather patterns, water storage infrastructure is essential to a reliable water supply.

The NWRA supports the efforts in S.1932 to expand and update Bureau of Reclamation's funding authorizations from the Water Infrastructure Investments for the Nation Act (WIIN Act, P.L. 114-322) to authorize \$670 million for surface and groundwater storage projects, and supporting conveyance; \$100 million for water recycling projects; and \$60 million for desalination projects. The NWRA also supports the innovative financing mechanisms in the bill, known as the Reclamation Infrastructure Finance and Innovation Act (RIFIA) that would create a new loan program for water agencies at 30-year Treasury rates to encourage investment in new water supply projects. These federal investments and new financing options will help provide water users the necessary tools to manage water demands and prepare for future needs.

Again, we appreciate the leadership you have taken in creating solutions to investing in our nation's crumbling water infrastructure and we look forward to working with you on this bill.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ian Lyle', with a stylized flourish at the end.

Ian Lyle
Executive Vice President
National Water Resources Association



June 28, 2019

Senator Cory S. Gardner
354 Russell Senate Office Building
Washington DC 20510

Re: Drought Resiliency and Water Supply Infrastructure Act.

Dear Senator Gardner:

I write today in support of the "Drought Resiliency and Water Supply Infrastructure Act". Formed in 1937, Northern Colorado Water Conservancy District (Northern Water) covers the more than 985,000 people that live within Northern Water boundaries, which encompass 1.6 million acres in portions of eight Colorado counties: Boulder, Broomfield, Larimer, Logan, Morgan, Sedgwick, Washington and Weld. You have been a great supporter of our efforts to serve Northern Colorado for years and we appreciate your service to our communities.

Through our partnership with the Bureau of Reclamation (Reclamation) and co-management of the Colorado-Big Thompson Project, Northern Water provides cities, towns, rural-domestic water districts and industries with year-round deliveries. This infrastructure is vital, and we thank you for being open to input during its drafting process and being willing to work through needs and concerns of regional stakeholders. Those involved have listened to concerns and feedback, addressing criticisms and improving the legislation.

Northern Water has been a strong and steady supporter of proper water management and infrastructure improvement and we support this legislation's desired outcome. Specifically, we support provisions which insure that existing contractors on Reclamation Projects are considered in future uses of the federal infrastructure. We look forward to engaging with you and your office further on these issues. Water infrastructure is critical to Colorado's economy and having a safe, locally managed water supply is a necessity to Colorado and we applaud these actions. Northern Water believes this Act is important in helping to protect and ensure the future for western water use, helping to reduce unnecessary burdens for water management and ensuring water security for future generations.

Sincerely,

Bradley D. Wind, P.E.
General Manager



Clean Water • Healthy Environment • Flood Protection

June 19, 2019

The Honorable Cory Gardner
 United States Senate
 354 Russell Senate Office Building
 Washington, DC 20510

The Honorable Dianne Feinstein
 United States Senate
 331 Hart Senate Office Building
 Washington, DC 20510

Subject: Support for Drought Resiliency and Water Supply Infrastructure Act

Dear Senator Gardner and Senator Feinstein:

The Santa Clara Valley Water District (Valley Water) is pleased to support the "Drought Resiliency and Water Supply Infrastructure Act" prior to introduction. If enacted, your bill would increase the federal support for and investment in water storage and supply projects, including many that serve the people and environment in our own Santa Clara County. This support is critical to ensuring a reliable, drought-resilient supply of water for millions of people living in the arid West.

Valley Water is responsible for providing safe, clean water and healthy waterways throughout Santa Clara County, California, which is home to nearly two million people and is the heart of Silicon Valley. We manage 10 dams and surface reservoirs, 3 water treatment plants, 28 natural flood protection projects, 1 advanced purification center, and 275 miles of creeks. Our programs are as diverse as importing and treating water; managing flood control projects along rivers, creeks, and the South San Francisco Bay shoreline; and improving the health of all our waterways.

California and other western states that are large suppliers of water face a range of increasingly challenging hurdles that must be considered to effectively manage a high-quality water supply. Climate change and longer drought cycles require that western water agencies have access to adequate surface and groundwater storage, drinking water and wastewater systems, and funding for water recycling and reuse in order to build a diverse, drought-resistant water supply for the future. Yet, the water infrastructure systems of these states are increasingly unable to keep pace with these demands. Increased funding to repair, rehabilitate, or construct new facilities is needed to meet the growing demands on water infrastructure.

Valley Water particularly appreciates the potential this legislation holds for supporting a storage project that is important to the people and environment in our region—the Pacheco Reservoir Expansion Project. This project would create a new source of emergency water supply and free up critical space in the San Luis Reservoir, benefiting all South-of-Delta contractors that utilize that reservoir. We look forward to working with you to advance this critical storage project as this bill moves through the legislative process.



The Honorable Cory Gardner
The Honorable Dianne Feinstein
Page 2
June 20, 2019

Valley Water appreciates your leadership on water resources issues, and we thank you for introducing this important bill. Should you have any questions, please do not hesitate to contact me at (408) 630-2884 or rgibson@valleywater.org.

Sincerely,



Rachael Gibson
Deputy Administrative Officer
Office of Government Relations

cc: The Honorable Kamala Harris
The Honorable Anna Eshoo
The Honorable Zoe Lofgren
The Honorable Jimmy Panetta
The Honorable Ro Khanna

bz:fd
0619b-l



SOUTHERN NEVADA WATER AUTHORITY

100 City Parkway, Suite 700 • Las Vegas, NV 89106
 MAILING ADDRESS: P.O. Box 99956 • Las Vegas, NV 89193-9956
 (702) 862-3400 • snwa.com

July 16, 2019

The Honorable Cory Gardner
 United States Senate
 354 Russell Senate Office Building
 Washington, D.C. 20510

The Honorable Dianne Feinstein
 United States Senate
 331 Hart Senate Office Building
 Washington, D.C. 20510

RE: Support for Drought Resiliency and Water Supply Infrastructure Act -S.1932

Dear Senator Gardner and Senator Feinstein:

On behalf of the Southern Nevada Water Authority (SNWA), I urge you to support the Drought Resiliency and Water Supply Infrastructure Act (S. 1932). This legislation provides water systems with tools to diversify their water resource portfolios; fund critical infrastructure improvements; support environmental protection and restoration; and enhance system efficiency, sustainability and reliability.

For nearly two decades, aggregate snowfall and runoff in the Colorado River Basin has been well below normal. As a result Lake Mead, the reservoir from which Southern Nevada draws 90 percent of its water supply, is at 39 percent of capacity with continued declines projected over the next several years. In response, more than \$2 billion has been invested in water infrastructure and associated facilities to ensure access to water as lake levels drop.

Outside of the Colorado River Basin, small water systems throughout Nevada have been impacted by drought conditions in recent years, requiring costly water system improvements to mitigate impacts. The 30-year Treasury rate for loan programs provided within this legislation would provide an added and important benefit to rural, groundwater-dependent systems. With relatively small populations, important water infrastructure should not come at the expense of water rates, potentially affecting these community's quality of life.

This legislation also would provide vital assistance for the completion of critical habitat and watershed restoration projects. The Lower Colorado River Multi-Species Conservation Program—which spans more than 400 miles of the lower Colorado River Basin and protects at least 27 federally-listed species—is an example of a successful partnership between the U.S. Department of Interior and state and local partners in Nevada, California and Arizona. By providing funding for environmental restoration efforts such as this, water systems can continue to provide for the recovery of threatened or endangered species and habitat.

Finally, S. 1932 would authorize additional funding for groundwater storage, desalination and water recycling projects to help drought-stricken communities. Southern Nevada's wastewater agencies play an integral role treating wastewater and returning it to Lake Mead, thus extending SNWA's Colorado River supply via return-flow credits. Continued investment in water recycling projects such as this will benefit our region by enhancing water system efficiency, reliability and sustainability.

For these reasons, I urge you to support S. 1932, the Drought Resiliency and Water Supply Infrastructure Act. Thank you for your leadership on this legislation.

Sincerely,

John J. Entsminger
 General Manager

SNWA MEMBER AGENCIES

Big Bend Water District • Boulder City • Clark County Water Reclamation District • City of Henderson • City of Las Vegas • City of North Las Vegas • Las Vegas Valley Water District



July 11, 2019

The Honorable Cory Gardner
United States Senate
354 Russell Senate Office Building
Washington, D.C. 20510

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510

RE: Support for Drought Resiliency and Water Supply Infrastructure Act-S.1932

Dear Senator Gardner and Senator Feinstein,

I write in support of the Drought Resiliency and Water Supply Infrastructure Act (S. 1932). This legislation gives water districts the necessary tools to diversify their water portfolio and infrastructure, create sustainable and efficient water systems, and improve habitat and environment for threatened or endangered species. Such assistance is vital for water-constrained areas in Nevada.

TMWA manages the water supply for the communities of Reno, Sparks and surrounding areas in Washoe County, Nevada. Our primary water source comes from the Truckee River system (the river and a series of upstream Federal and non-federal reservoirs located in California and Nevada) that flow from Lake Tahoe through the cities of Reno and Sparks to Pyramid Lake. The Truckee River Operating Agreement (TROA), which was signed by TMWA, the States of California and Nevada, the United States (Department of Interior), and the Pyramid Lake Paiute Indian Tribe, provides for the flexible operation of those reservoirs and associated conveyance facilities to provide multiple benefits to all water users including providing significant drought supplies for Reno and Sparks area residents. TMWA applauds the legislation's focus on drought resiliency measures by authorizing funding and loan programs for the construction and rehabilitation of surface and groundwater storage projects.

In its implementation, TROA also provides for the continued protection of endangered species and river restoration projects. The bill provides federal funding to assist with the completion of habitat and watershed restoration projects. Finally, TMWA is also very active in using treated surface water to recharge groundwater aquifers and is working with other local wastewater/reclaim agencies to test the potential of injecting highly treated wastewater into groundwater aquifers to help diversify our water resources and provide a sustainable water supply for the future. The bill's focus on groundwater storage and water recycling projects helps drought-prone communities create diversity and redundancy in their water supply systems.

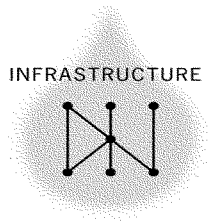
TMWA is continually looking for ways to manage our water resources in the most efficient and effective way as droughts become longer and more severe. Thank you for your leadership on this legislation.

Sincerely,

A handwritten signature in black ink, appearing to read "Mark Foree".

Mark Foree
General Manager

WATER INFRASTRUCTURE NETWORK



July 18, 2019

Senator Cory Gardner
354 Russell Senate Office Building
Washington, DC 20510

Senator Dianne Feinstein
331 Hart Senate Office Building
Washington, DC 20510

Senator Martha McSally
404 Russell Senate Office Building
Washington, DC 20510

Senator Kyrsten Sinema
317 Hart Senate Office Building
Washington, DC 20510

Re: WIN's Strong Support - Drought Resiliency and Water Supply Infrastructure Act

Dear Senator Gardner, Senator Feinstein, Senator McSally and Senator Sinema,

The Water Infrastructure Network (WIN), a coalition of the nation's leading construction, engineering, municipal, labor and manufacturing organizations strongly supports the bipartisan Drought Resiliency and Water Supply Infrastructure Act – S. 1932. This landmark water infrastructure funding legislation is both timely and innovative in its approach to addressing the water supply challenges facing our nation. WIN is committed to working with you to secure Senate passage and enactment of the Drought Resiliency and Water Supply Infrastructure Act during the 116th Congress.

The Reclamation Infrastructure Finance and Innovation Pilot Program – Sec. 6 of S. 1932 -- builds on the successful WIFIA Program currently administered by the Environmental Protection Agency. This innovative finance tool has the potential to leverage \$150 M in federal funding into more than \$12 B in low interest loans for critical water supply projects. In 2018, a \$25 M appropriation for WIFIA supported \$2.3 B in loans for water infrastructure projects across the nation. WIN has been an outspoken advocate for the utilization of WIFIA to meet our nation's most vexing clean water and drinking water finance challenges and believes the new "RIFIA" Program will support billions of dollars in new water infrastructure projects.

The Drought Resiliency and Water Supply Infrastructure Act also establishes significant new federal matching grant programs for critical water reuse and recycling, water storage, environmental restoration, and desalination projects:

- \$670 M for Water Storage Projects
- \$140 M for Restoration and Environmental Compliance Projects
- \$100 M for Water Reuse / Water Recycling Projects
- \$60 M for Desalination Projects

These new matching grant programs leverage limited federal funds to dramatically increase overall water infrastructure investment. Every federally owned water supply project will require at least one non-federal dollar for every federal dollar invested. State and local led water supply projects will require a 75% non-federal match to access new water infrastructure grants.

The Water Infrastructure Network looks forward to working with you to educate other Members of Congress on the fiscal and financial merits of the water infrastructure funding provisions in the Drought Resiliency and Water Supply Infrastructure Act. Your bipartisan leadership in addressing America's water infrastructure challenges is greatly appreciated.

Sincerely,

The WIN Executive Committee

- **American Council of Engineering Companies – ACEC**
- **American Society of Civil Engineers – ASCE**
- **Associated General Contractors of America – AGC**
- **Hydraulic Institute – HI**
- **International Union of Operating Engineers – IUOE**
- **Laborers International Union of North America – LIUNA**
- **LafargeHolcim**
- **National Electrical Contractors Association – NECA**
- **United Association of Plumbers and Pipefitters - The United**
- **Vinyl Institute – VI**

Senator GARDNER. Mr. Brown, it is obviously good to see you here today. This is your first time testifying before Congress, so well done.

I am thankful that you are here today. Aurora has an incredibly diverse water supply system. The Boustead Tunnel is a part of that system as well, I believe. Is that correct?

Mr. BROWN. Not our system.

Senator GARDNER. It is the Fry-Ark system, not the Aurora system. So, you know, if you ever get a chance to, as I have with, I think it was, partners from Aurora standing in the Boustead Tunnel in water that was this deep, the coldest water you can ever imagine—incredible engineering feat.

But I know you are here on behalf of the Reuse Association. Let's focus on that.

In the West, permitting for water storage has been incredibly expensive. New water storage can take years. You mentioned in your testimony that you started planning in 2000 for a project you hoped to complete between 2050 and 2070. That increase of capacity out West for new storage has become increasingly difficult. I think those numbers speak for themselves.

How do we then refocus on increasing supply through other means, as you did with Aurora and some of the other projects like Prairie Water system? Can you walk through the extensive reuse system that you have and how that impacts this?

Mr. BROWN. Yeah. The water reuse system we have, obviously, wastewater return flows are available year-round. So it's a critical supply that doesn't exactly match up with our demands, necessarily, and it's also got some challenges associated with treatment but provides huge opportunities for a consistently available, steady supply.

Also though, it requires that we dampen the demand associated with the supply so that we can meet the needs during peak demand periods such as the summer when the supply doesn't increase compared to lower demand periods in the winter when the supply is still there.

So our system actually uses a multibarrier approach, with very high-quality water, a fairly expensive source of supply, and we've shared that supply with some of our partners to the south.

But again, in order to use it effectively, we'll have to expand the system in the future to meet increasing wastewater return flows and we'll also have to build storage in the system in order to store the water when it's available as compared to the seasonal demands for the supply.

So, fantastic opportunity. It gives us the ability to recapture, roughly, all of our indoor wastewater return flows, but again, in order to utilize those, we have to store some of those during the non-peak demand periods to use them during peak demands.

Senator GARDNER. Thank you, Mr. Brown.

Commissioner Burman, obviously great to see you again. I have not seen you, I don't think, since the signing of the historic DCP. Congratulations. That is a very important accomplishment made necessary, as you pointed out, by a very historic drought.

Part of the agreements is studying a demand management program, and the basins are looking at that but it is still vital for us to focus as well on the supply side.

How important is it for us to take into account an all-of-the-above approach as we look at water, not just storage but conservation, desalination, recharge to increase the water supply in the West?

Ms. BURMAN. Senator, it's absolutely critical.

Communities need to be looking at all of their possible water supplies and that is groundwater, that is conservation, reuse, desalination where that's the right thing to do.

It's creating that redundancy. So if you know in the system, surface water might not be there if you have several years of drought in a row. You can then turn back and rely on that groundwater or have built down your demand.

Through WaterSMART programs, through Title 16, through desalinization, sort of all the programs you're looking at here and others, we absolutely believe in an all-of-the-above strategy.

Senator GARDNER. Thank you.

Ms. Kassen, thank you again for being here, thanks for your work as well. I am trying to find a solution on the Good Samaritan language and hopefully we can have another hearing and opportunity on that within Congress.

The project you identified in your testimony, dealing with the Platte River, talking about some of the natural opportunities to store water within systems. Could you talk a little bit more about how we could do a better job of that in the legislation?

Ms. KASSEN. The number one thing would be, and Committee staff actually circulated some language along with this draft bill with some potential adds with some carefully crafted definitions, but Section 3 talks about surface water storage and groundwater storage. You could add a definition and add natural infrastructure, water storage as well. It would not be, I don't think, complicated.

And in fact, a lot of these projects, and Tamarac is one example, there is a pump so there is a piece of built infrastructure, but then the rest of the project is natural in that it uses the seepage and comes back to the river.

So a lot of the natural infrastructure projects which are measurable are still taking advantage of pieces and using both some little pieces of built and a lot of the landscape to do the work.

Senator GARDNER. Thank you, Ms. Kassen and thank you, Chairman, for the accommodation. Thank you.

Senator MCSALLY. Absolutely.

Next I am going to go to Senator Risch for some questions, and he will introduce Mr. Hipke and then Mr. Noble, you will clean it up.

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

Senator RISCH. Well, thank you very much, Madam Chairman.

I have a bill here that is the Aquifer Recharge Flexibility Act. From my friends, none of them seem to be here, but my friends from the East Coast don't really understand this. They don't under-

stand how important water is to us, and they don't understand what a minimal amount of water we get.

In Eastern Idaho we get about 11 inches total, snow and water and not much better upstream where Mr. Hipke is from but in any event, we do a lot of different things to use our water, to be able to do what we do in Idaho and that is to have a state that even though we are owned two-thirds by the Federal Government, we are able to do a lot of things with raising crops and those kinds of things. But water is absolutely critical.

And one of the things that is relatively recent, and I use the word "relatively," is recharge. It is incredibly important to us, particularly in Eastern Idaho where we have Idaho's Eastern Snake Plain Aquifer which is about the size of Lake Erie. Is that right, Mr. Hipke?

[Mr. Hipke nods head in agreement.]

Lake Erie is a pretty sizable body of water and so you think, well, gosh, we've got that much water, this shouldn't be a problem. Well, it is a problem because it is in the aquifer and we have become very efficient at drilling wells and taking water out of it in order to irrigate and do other things. So it is important that we monitor that aquifer and that we recharge it where possible, and that is what this bill is designed to do.

Mr. Hipke is in charge of the programs that do the recharge, and he has done an excellent job of it.

But, because as I said, two-thirds of the land is owned by the Federal Government and they get kind of cranky when you do things that you think need to be done but they don't, particularly if they live back East which a lot of them do—it is important that we have laws that allow us to do this and allow us to do it more smoothly.

This bill will allow or make it more smooth to cross BLM land when a canal already holds an easement. Recharge will take place on Reclamation land and Reclamation facilities convey non-project water for recharge.

These are all things that are really important to us. And I think Mr. Hipke will be able to tell us how important these things actually are for recharging this aquifer.

So, without further ado, I would like to introduce Mr. Hipke, with your permission, Madam Chairman, and he can explain to us, if you would, how this bill will provide greater flexibility in the use of our beloved federal lands to get water to our aquifers.

Mr. Hipke, the floor is yours.

STATEMENT OF WESLEY HIPKE, IDAHO MANAGED RECHARGE PROGRAM MANAGER, IDAHO DEPARTMENT OF WATER RESOURCES

Mr. HIPKE. Chairman McSally and Senator Risch, I'm honored to testify today on behalf of the Idaho Water Resource Board on S. 1570, the Aquifer Recharge Flexibility Act.

As has been mentioned, I'm the Recharge Program Manager for the State of Idaho and, also has been mentioned, I previously worked in the State of Arizona for many years on their Managed Recharge Program.

I want to thank Senator Risch of my home State of Idaho for his tireless work on behalf of the Board and other states in the West on this important legislation.

Idaho's largest and most productive aquifer is the ESPA, and it underlies much of Southern and Eastern Idaho. This aquifer has been declining since 1952. These declines have a direct impact on both the groundwater and surface water users of the area. About one million acres of irrigated agriculture, as well as the cities, towns, businesses, industries and homes in the region rely on water pumped from this aquifer.

In addition, the declining spring flows from the aquifer have an important, have an impact on about 600,000 irrigated acres that divert water from the Snake River. These spring flows also provide water for the world's largest concentration of commercial fish hatcheries and feed surface water to the Mid-Snake and Hells Canyon hydropower complexes which provide Idaho with clean, hydro-electric energy.

Over much of the last two decades, Southern Idaho water users have been embroiled in numerous court battles and at least four State Supreme Court appeals over this declining aquifer.

In 2015, the State of Idaho and the water users throughout the region reached historic agreements to stabilize and rebuild this aquifer. As part of those agreements, groundwater users collectively agreed to reduce groundwater use by 240,000 acre-feet annually. In addition, Idaho's legislature tasked the Idaho Water Resource Board with developing a program to recharge an average of 250,000 acre-feet annually to the ESPA.

On average about 1.4 million acre-feet in a given year are available for the Snake River for aquifer recharge to the ESPA, mostly in the winter and during flood control operations in the spring.

The managed aquifer effort is a major undertaking for the State of Idaho. The state is committed to constructing the required infrastructure needed to accomplish these goals, having invested nearly \$20 million on these improvements to date. Since 2016, Idaho has recharged over 1.2 million acre-feet into the ESPA. Groundwater users have recharged an additional 400,000 acre-feet during that time—all record setting accomplishments for the State of Idaho. But more must be done to restore this aquifer and other aquifers in the state.

Based on studies conducted by the Board, many optimal ESPA recharge sites either require the use of: (1) federally owned property to conduct the recharge activities, (2) existing irrigation canals that cross federal lands where the easement specifies a purpose other than aquifer recharge, or (3) canal systems in federal ownership by the Bureau of Reclamation where Congressional authorization did not include aquifer recharge.

By utilizing existing water infrastructure, including those lands and canals under federal ownership to recharge our aquifers, we can optimize the use of these systems for multiple uses and benefits while maintaining the cost of aquifer recharge to affordable levels. However, obtaining these necessary federal authorizations or permits has been one of our main challenges.

S. 1570, if enacted, would help provide greater flexibility in the Board's effort to recharge the ESPA and other aquifers in Idaho.

This bill would authorize Reclamation and other federal agencies to allow the use of existing easements and the excess capacity in federally owned canals to deliver recharge water to the aquifers with a minimum of red tape, all consistent with state water laws and policies.

In conclusion, managing declining aquifers is a critical issue for most Western states. Idaho is at the forefront in developing large-scale managed aquifer recharge to actively manage their aquifers. The enactment of S. 1570 will help Idaho and other Western states to use managed aquifer recharge as a key tool in dealing with this critical issue. Combined with the other water resource bills being considered here today, Idaho and the West will be provided additional strategic tools that would encourage partnerships and investment in new water storage, aquifer recharge, reuse, recycling, desalinization and our aging water delivery infrastructure.

Again, thank you very much for this opportunity to testify on behalf of the Idaho Water Resource Board in support of this important legislation and I would stand for any questions you may have.

[The prepared statement of Mr. Hipke follows:]

**Testimony of Wesley Hipke
Idaho Managed Recharge Program Manager
Idaho Department of Water Resources**

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

Legislative Hearing on S. 1570, the “Aquifer Recharge Flexibility Act”

**Washington, D.C.
July 18, 2019**

Good morning Chairwoman McCally, Senator Cortez Masto and Members of the Subcommittee.

My name is Wesley Hipke, and as the Managed Recharge Program Manager for the State of Idaho, I am privileged to testify on behalf of the Idaho Water Resource Board (Board). I thank you both for this opportunity to present this testimony on S. 1570, the “Aquifer Recharge Flexibility Act.” I also want to thank Sen. Jim Risch of my home state of Idaho for his tireless work on behalf of the Board and other states in the West on this important legislation.

The Eastern Snake Plain Aquifer (ESPA) underlies much of southern and eastern Idaho and is the state’s largest and most productive aquifer. The ESPA is a critical water resource in the semi-arid southern Idaho. The ESPA directly supports about 1 million acres of irrigated agriculture through direct pumping, and supplies water to all the cities, towns, businesses, industries, and homes that overlie the ESPA. In addition, through spring flows from the ESPA to the Snake River, the ESPA provides a partial water supply to about 600,000 acres in the Magic Valley that divert from the Snake River. Spring flows from the ESPA also provides water for the world’s largest concentration of commercial fish hatcheries in the Hagerman area, and provides flows for the Mid-Snake and Hells Canyon Hydropower Complexes which provide Idaho with clean energy.

With the assistance of stakeholders, Idaho either has developed or is in the process of developing comprehensive ground water models for aquifers throughout Idaho. These models further Idaho’s understanding of recharge benefits and aid in selecting and designing future recharge strategies and projects. Understanding the economic, legal, ecological and technical aspects of recharge is critical for the development of policy and planning consistent with state law and the State Water Plan.

In 2012, the Board adopted the Idaho State Water Plan “to guide the development, management and use of the state’s water and related resources,” including “the optimum use of the state’s resources will benefit the citizens of Idaho.” Policy 11 of the State Water Plan identifies that managed recharge may enhance water supplies and minimize climate variability impacts.

The ESPA has been in decline since 1952. These declines have resulted in lower spring flows – affecting not only ground water pumping, but surface water irrigation and Idaho’s aquaculture industry. For much

of the last 2 decades, southern Idaho water users have been embroiled in water disputes, including numerous court battles and at least 4 State supreme court appeals. These declines threatened a large percentage of Idaho's economy and created uncertainty about whether state instream minimum flow requirements established in the Swan Falls Agreement with Idaho Power could be maintained.

In 2015, the State of Idaho and the water users throughout the ESAP reached an historic agreement to stabilize and rebuild the ESPA. As part of that agreement, ESPA groundwater users collectively agreed to reduce ground water use by 240,000 acre-feet annually. This reduction is accomplished through a suite of actions including voluntary curtailments, conversions to surface water irrigation, per-acre diversion reductions and private managed recharge. In addition, Idaho's legislature tasked the Idaho Water Resource Board with developing a program to recharge an average of 250,000 acre-feet annually to the ESPA.

An average of about 1.4 million acre-feet annually are available from the Snake River at this location for aquifer recharge, but this amount varies widely from year to year. It occurs mostly in the winter and during flood control operations in the spring.

The managed aquifer recharge effort is a major undertaking for the state of Idaho. It has been estimated that constructing required infrastructure will cost about \$40M, and it will require \$3-to-\$4M annually thereafter to operate. While an expensive undertaking, Idaho is committed. Since 2016, Idaho has recharged over 1.2 million acre-feet into the ESPA and invested nearly \$20 million on infrastructure and improvements to date. Groundwater users have recharged an additional 400,000 acre-feet during that time – all record setting accomplishments for recharge efforts in Idaho. But, even with these record levels of recharge, more must be done to restore the ESPA and other aquifers in the state.

Based on studies conducted by the Board, many optimal ESPA recharge sites either require the use of:

- (1) federally owned property to conduct the recharge activities,
- (2) existing irrigation canals that cross federal lands where the easement specifies a purpose other than aquifer recharge, or
- (3) canal systems in federal ownership by the Bureau of Reclamation (Reclamation) where Congressional authorization did not include aquifer recharge.

Obtaining the necessary federal authorizations or permits can be expensive and time consuming, especially for existing infrastructure. However, by utilizing existing water infrastructure, including those lands and canals under federal ownership to recharge our aquifers, we can optimize the use of these systems for multiple uses and benefits while maintaining the cost of aquifer recharge at affordable levels.

S. 1570, if enacted, would help to provide greater flexibility in the Board's efforts to recharge the ESPA and other aquifers in Idaho by:

- Authorizing the use of excess capacity for non-federal project water to be delivered through federally-owned facilities for aquifer recharge purposes without requiring additional approvals or Congressional authorizations, protecting other water and power uses and existing contractual agreements in the process;
- Authorizing contract holders to use federal project water for aquifer recharge on eligible land;
- Authorizing aquifer recharge as a project use for federal Reclamation projects;

- Authorizing modifications of existing contracts, if necessary, to encourage aquifer recharge;
- Allowing for “in-lieu” recharge activities to be carried out under the Act;
- Providing a Sense of Congress that the Secretary of the Interior, through the Bureau of Land Management (BLM) should encourage the use of federal lands for aquifer recharge with no further approvals; and,
- Authorizing the use of existing easements or rights-of-way on or over federal lands for aquifer recharge efforts without additional authorization from the Secretary of the Interior where such use does not expand or interfere with the easement or right-of-way.

S. 1570 also requires that all activities authorized under the Act shall comply with all applicable federal law and the policies of the Bureau of Reclamation and, in particular, shall comply with all applicable state laws and policies.

In conclusion, managing declining groundwater aquifers is a critical issue for most Western states. Idaho is at the forefront in developing large-scale managed aquifer recharge to actively manage groundwater aquifers. With the enactment of S. 1570 in addressing the issues outlined here today, we can continue to move forward using managed aquifer recharge as a significant water management tool in Idaho and other areas of the West. Again, thank you for the opportunity to testify on behalf of the Idaho Water Resources Board in support of this important legislation and I would stand for any questions you may have.

Senator RISCH. Thanks, Mr. Hipke. Thank you.
 Senator MCSALLY. Great, thank you. We appreciate it.
 Mr. Noble.

**STATEMENT OF WADE NOBLE, ATTORNEY FOR YUMA (AZ)
 AREA IRRIGATION DISTRICTS, NOBLE LAW OFFICE, FAMILY
 FARM ALLIANCE AND NATIONAL WATER RESOURCES ASSO-
 CIATION**

Mr. NOBLE. Chairman McSally, Senator Risch and the other unseen but appreciated members of the Water and Power Subcommittee, thank you for the opportunity to testify on the Water Supply Infrastructure Rehabilitation and Utilization Act, S. 2044. This legislation is important to Western irrigated agriculture and our whole nation.

And Senator McSally, if you'll permit me for just a deviation in my prepared remarks, we express to you our appreciation for the work that you have done. Personally, we had the opportunity to sit down and discuss this problem. You came to Yuma. You observed. You listened. You learned. You acted. You exercised leadership. We thank you for that.

My name is Wade Noble. I am from Yuma, Arizona. Yuma is at the southern end of the Colorado River. Yuma County agriculture provides the winter vegetables to 85 percent of the United States and Canada.

Across the West, Bureau of Reclamation facilities are, on average, 50 years old with some facilities 100 years old. In general, irrigation districts operate in maintained Reclamation-owned facilities. These are transferred works. Reclamation retains ownership but transfers routine operation and maintenance of the irrigation systems and the extraordinary maintenance and capital improvements of facilities and infrastructure to the district.

In some instances, there is an additional layer. Reclamation contracts with one district as the responsible party for the routine operation, maintenance and extraordinary maintenance and capital improvements of a shared, transferred work. The other irrigation districts sharing the facility or system become funding parties. They are not directly responsible for completing routine and extraordinary maintenance and capital improvements, but they are financially responsible for the work.

Imperial Dam is an example of a shared Reclamation transferred work. The example shows the financial impacts to the funding party irrigation districts as a result of the extraordinary maintenance and capital improvements needed on aging infrastructure. Imperial Irrigation District (IID), located in Imperial County, California, and diverting almost three million acre-feet of Colorado River water for agriculture and Imperial County cities and towns is the responsible party for Imperial Dam. IID is contractually obligated to perform all routine and extraordinary maintenance at the dam. However, the Arizona and other California irrigation districts sharing Imperial Dam are obligated to pay their portion of the costs.

In the next ten years the districts will spend over \$50 million on extraordinary maintenance and capital improvements. Because the funding parties are not the responsible party, they have less fund-

ing or finance options. There is difficulty in obtaining grant monies or seeking traditional financing. Bonding is especially difficult for non-responsible parties and smaller districts. This leaves most districts with only two options, increasing assessments or burning through reserves.

The aging infrastructure account addresses extraordinary maintenance challenges and creates a general fund for operating entities and project beneficiaries seeking funds.

While my testimony is focused on Section 2 of S. 2044, it is not meant to ignore the other two substantive sections.

Section 3—authorization of appropriations for the Reclamation Safety of Dams Act—is important to address Western and national needs of water infrastructure. Appropriation of an additional \$550 million for safety of dams will ensure Reclamation can financially address dam infrastructure woes, no pun intended.

Section 4—Review of Flood Control Curves Pilot Project—is important to Western and nationwide water managers. It will provide tools and flexibility to flood control and reservoir projects and allow managing entities to react to ever changing climatic conditions. In Arizona, our friends and colleagues at the Salt River Project would benefit in the operation of Roosevelt Dam. If these pilot projects are successful, it will change how we manage systems and create programs resilient to climate variability.

Considered as a whole, S. 2044 will have significant positive impact on water infrastructure needs and water resource management.

Again, we appreciate the opportunity to testify to the Subcommittee. It has been a privilege and a pleasure. I am prepared to answer questions, but the easy ones, please.

[The prepared statement of Mr. Noble follows:]

Testimony of

Mr. Wade Noble, Esq.

General Counsel – Wellton-Mohawk Irrigation & Drainage District, Coordinator – Yuma County Agriculture Water Coalition, Executive Committee Member and Legislative Committee Chairman – Agribusiness and Water Council of Arizona, Advisory Board Member – Family Farm Alliance and Past President and Policy Development Committee Chairman – National Water Resources Association

U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Power
July 18, 2019 at 10:00 a.m.

Chair McSally, Ranking Member Cortez Masto, members of the Water and Power Subcommittee,

Thank you for the opportunity to testify on the *Water Supply Infrastructure Rehabilitation and Utilization Act* (S. 2044). This legislation is important to Western irrigated agriculture and our nation as a whole.

My name is Wade Noble; I am a fifth generation Arizonan and I represent numerous organizations with interests in our nation's irrigation water infrastructure. I offer this testimony on behalf of Wellton-Mohawk Irrigation & Drainage District (Wellton-Mohawk), Yuma County Agriculture Water Coalition (Coalition), Agribusiness & Water Council of Arizona, Family Farm Alliance (Alliance), and National Water Resources Association (NWRA).

Yuma County, Arizona agriculture provides winter vegetables to 85% of the United States and Canada during the winter season. Wellton-Mohawk is one of five irrigation districts located in Yuma County and it is the largest district in the county. The district delivers nearly 385,000 acre feet of Colorado River water each year to irrigate 62,744 acres. Wellton-Mohawk owns, operates and maintains 378 miles of main canals, laterals, and return flow channels, 3 major pumping plants, 4 minor pump stations, 10 re-lift pumps, 90 drainage wells, and about 300 observation wells.

The Coalition was created by Yuma, Arizona area irrigation districts and the Yuma County Water Users' Association (Association) to address shared issues and concerns and to support and protect Yuma, Arizona area agriculture and its use of Colorado River water. The Agribusiness & Water Council of Arizona broadly represents the Arizona agriculture community and its membership includes growers, ranchers, electrical districts, irrigation and drainage districts, equipment, seed, and chemical suppliers, attorneys, agricultural processors, agribusiness financiers, commodity groups, trade associations, Arizona State University and the University of Arizona.

The Alliance advocates for family farmers, ranchers, irrigation districts, and allied industries in seventeen Western states and is focused on one mission – to ensure the availability of reliable, affordable irrigation water supplies to Western farmers and ranchers. NWRA represents state water associations, irrigation districts, municipal water providers, end water users and their collective interests in the management of irrigation and municipal water supplies throughout the western United States and portions of the South. The members of these organizations help

provide water to more than 50 million Americans and irrigate millions of acres of farmland across the United States.

America is blessed to have one of the most comprehensive water infrastructure systems the world has ever seen. This infrastructure was built thanks to the foresight and sacrifice of prior generations. Today, these systems need re-investment – in existing infrastructure and in new infrastructure – and it is our turn to ensure that future generations have access to affordable, safe and reliable water.

While I am not testifying on the *Drought Resiliency and Water Supply Infrastructure Act* (S. 1932), we fully support it and believe it will be instrumental in the development of new, additional, much needed water infrastructure. It is an integral part of addressing the country's water infrastructure needs and we ask for your support of S. 1932 as well.

S. 2044, the *Water Supply Infrastructure Rehabilitation and Utilization Act*, the bill I have been asked to testify on – specifically Section Two – addresses our country's existing, aging infrastructure and is greatly needed.

Water Infrastructure in the West

Water challenges in the West are significant and daunting. These challenges are not unique to any one state; rather they impact every state west of the 100th Meridian. Across the West, Bureau of Reclamation (Reclamation) facilities and existing infrastructure are on average fifty (50) years old, with some facilities one hundred (100) years old. These water resource facilities are dispersed throughout 17 western states and have an original development cost of more than \$21 billion. Aging infrastructure, as we all well know, presents a challenge because it requires ever increasing maintenance and replacement investments. The majority of these facilities are in dire need of rehabilitation.

Almost ten (10) years ago, Reclamation reported to this Committee an infrastructure and maintenance backlog of approximately \$3 billion for both Reserved and Transferred Works. That backlog can only be higher today. As of 2013, the replacement value of Reclamation's infrastructure assets was \$94.5 billion. We must recognize this infrastructure is, for all intents and purposes, irreplaceable and its true value is much higher.

The need is self-evident and well stated. Diverse stakeholders have reached out to Congress this year to convey their support for water infrastructure. Letters sent in January and March of this year highlight this support. In January, nearly 100 groups ranging from the Sierra Club to NWRA sent a letter to Congress encouraging investment in water infrastructure. In March, the Family Farm Alliance – working with the California Farm Bureau Federation and Western Growers Association – transmitted letters signed by over 100 national and Western agriculture and water organizations, calling upon Members of Congress to develop an infrastructure package that addresses water infrastructure needs. The support for water infrastructure investment is shared throughout our nation from agricultural groups to environmental and industry groups.

Irrigation Districts Role in Operation and Maintenance of Reclamation Facilities

In general, irrigation districts are operating and maintaining Reclamation-owned facilities. These are Transferred Works – Reclamation retained ownership but transferred by contract the

responsibility for routine operation and maintenance of irrigation systems and for the extraordinary maintenance and/or capital improvements of facilities and infrastructure.

In some instances, there is an additional layer. Reclamation contracts with one district, the Responsible Party, for the routine operation, maintenance and extraordinary maintenance/capital improvements of a Transferred Work. Where the Transferred Work is shared by other districts, the other districts become Funding Parties, and while they are not directly responsible for completing routine and extraordinary maintenance/capital improvements, they are financially responsible for the work.

Imperial Dam as an Example

The Imperial Dam is an example of a shared Reclamation Transferred Work and the financial impacts to irrigation districts as a result of the extraordinary maintenance/capital improvements needed on aging infrastructure.

Imperial Dam, built in 1938, is now 81 years old. The dam is a concrete slab and buttress, ogee weir structure across the Colorado River on the California/Arizona border 18 miles northeast of Yuma, Arizona. It retains the waters of the Colorado River for diversion into California (Imperial and Coachella valleys), Arizona (Yuma County) and Mexico. The facility consists of the dam itself, the main diversion headworks (All American Canal for California and Mexico), the Gila Gravity Diversion headworks (Arizona) and settling basins. Nearly six (6) million acre-feet of water is diverted through the dam annually – about 90% of the volume of the Colorado River. Diversions can top 40,000 cubic feet per second, more than 50 times the flow of the Rio Grande River.

Water is diverted for Arizona at the dam using the Gila Gravity Headworks to five (5) Yuma area irrigation districts (Wellton-Mohawk Irrigation & Drainage District*, Yuma Mesa Irrigation and Drainage District, Yuma Irrigation District*, North Gila Valley Irrigation and Drainage District*, and Unit B Irrigation and Drainage District* – *I am General Counsel). Water is diverted at the dam into the All American Canal on the California side to the Yuma County Water Users' Association and the City of Yuma, Arizona.

For California, the dam diverts water to three (3) irrigation districts (Imperial Irrigation District, Coachella Valley Water District, and Bard Water District* – *Meghan Scott, Noble Law Office is General Counsel), and the cities of El Centro, Brawley, Calexico, Imperial and Indio. The dam is the diversion facility for water to several Native American tribes in both states and, as previously mentioned, delivers Mexico's entitlement of Colorado River water pursuant to the 1944 Mexican Water Treaty.

Imperial Dam is a critical asset to the economy of the region and the livelihood of hundreds of thousands of regional residents, to the nation's food supply and other agriculturally related industries, and to national security.

Imperial Irrigation District is contractually obligated to perform all routine and extraordinary maintenance at Imperial Dam. However, the Arizona and other California irrigation districts listed above are contractually obligated to pay their portion of the cost of that routine and extraordinary maintenance. In the next ten (10) years, the districts will spend over \$50 million on extraordinary maintenance and capital improvements alone at Imperial Dam. That number does not include their routine maintenance obligations at the Dam, nor does it include the routine and

extraordinary maintenance costs within their own districts. It is also important to note that these repairs are not optional – they are required by Reclamation.

As the Responsible Party, and given its size and power revenues, Imperial Irrigation District has a number of options for its own financial obligations at Imperial Dam, including grants, bonds, assessment increases, use of other revenue, and/or loans. The other Funding Parties do not have those options. It is the lack of these options being available which brought us to Section 2 of S. 2044.

Financial Impacts on Irrigation Districts and Past Hurdles

Where the Funding Parties are not the Responsible Party, they have less funding and/or finance options. There is a difficulty in obtaining grant monies or seeking traditional financing. Bonding is especially difficult for non-Responsible Parties and for smaller districts. This leaves most districts with only two options – increasing their assessments and/or burning through reserves (if any). Use of reserves and increasing assessments does not leave these Funding Party districts in better condition.

Increasing assessments and burning through reserves for major capital improvement work either within their own systems or on those shared facilities leaves districts less stable. It makes it harder for districts to keep up with their regular operation and maintenance and there is less of a chance that these districts are able to keep a reserve for emergencies or new infrastructure.

With smaller districts, increasing their per-acre assessment may not raise the funds needed fast enough. It is difficult to raise funds over a short period of time, especially where the cost of repairs is significant. Exponential increases are also not easily absorbed by landowners and/or growers. In the Yuma area in particular, many landowners/growers do business in every district and the Association. A small number of individuals bear the brunt of the costs of these major capital improvements, and the impact to their business is substantial.

These districts have been seeking assistance with infrastructure funding for some time with no success. While past legislation has helped other districts and entities, the districts and entities I represent have not been able to benefit from those programs. This is because: 1) their infrastructure is Reclamation owned; 2) the infrastructure is pre-existing; 3) the projects are not storage facilities; and/or 4) helpful programs have been left unfunded. S. 2044 gets us past those hurdles and specifically addresses our needs.

Water Supply Infrastructure Rehabilitation and Utilization Act (S. 2044)

Section 2 of S. 2044 – the Aging Infrastructure Account – addresses extraordinary maintenance challenges and creates a general fund for operating entities and project beneficiaries responsible for repayment to seek funds for the completion of extraordinary operation and maintenance work for transferred works. This Account makes it possible for all parties, responsible and/or funding, to request funds for extraordinary maintenance and repay those funds on an extended schedule.

This Section is specifically designed to amend the aging infrastructure section of P.L. 111-11, which contains provisions many Western water interests pushed for following the Truckee Canal failure near Fernley, Nevada in 2008. P.L. 111-11 authorized Reclamation to finance extraordinary maintenance on reserved and transferred works for up to 50-years with Treasury rate interest rates.

Funds for P.L. 111-11 were never appropriated. The program existed without appropriated funding and was, therefore, of no value. Reclamation rarely budgets for these non-federal obligations, leaving the program dysfunctional and untapped.

S. 2044 requires Reclamation to take requests from water users who require federal funding and long-term financing to make these extraordinary improvements possible and to report those requests to Congress for their consideration in the appropriations process.

Creating a helpful and functional program that makes it easier for Reclamation to ask for much needed appropriations is only the first step. We will also need your support in the appropriations process. Still, this bill is a significant step in the right direction.

If created and funded, the Aging Infrastructure Account will relieve the pressure on districts to exponentially increase assessments and will provide funding flexibility to districts – both as responsible and funding parties. Work will move more quickly and be completed on shorter timelines and Reclamation's infrastructure will be repaired in great working order.

At Imperial Dam, Funding Parties will be able to fund the costs of routine and extraordinary maintenance with the flexibility of long-term repayment. Reclamation and its contract holders (the districts) can continue to deliver water to Arizona and California water users and Mexico without risk of system failures, and our Nation can continue to enjoy the food security provided by Yuma's winter vegetable and leafy green production.

S. 2044 is much needed, and if made functioning, it is an essential part to solving our country's aging infrastructure problem.

Sections 3 and 4 of S. 2044

While my testimony has focused mostly on Section 2 of S. 2044, it is not meant to ignore the importance of the other two substantive sections.

Section 3 – Authorization of Appropriations for the Reclamation Safety of Dams Act – is also significant to and important for addressing the needs of water infrastructure in the West and this Nation. The appropriation of an additional \$550 million to the Safety of Dams Act will ensure that Reclamation can financially address the infrastructure woes facing our dams and ensure the safety of those structures and the public throughout the West and across the country.

Section 4 – Review of Flood Control Rule Curves Pilot Project – is important to water managers, not only in the West but throughout the country, providing additional tools and flexibility to flood control and/or reservoir projects and facilities, and allowing managing entities to react to ever-changing climatic conditions. In Arizona, in particular our friends and colleagues at the Salt River Project would benefit in the operations of Roosevelt Dam. If these pilot projects are successful, it would help change the way we manage these systems and create programs that are resilient to the environment and its variants.

Considered as a whole, S. 2044 will have a significant positive impact nationwide on the needs of water infrastructure and the management of water resources.

Conclusion – The Value of Water Delivered through Reclamation Facilities and Sound Fiscal Policy
Every year Reclamation projects provide a direct economic benefit to the nation of more than \$20 billion and a total economic contribution of more than \$48 billion.

An investment in water infrastructure is an investment in our nation, its future, and its economy. Funding devoted to water infrastructure is a powerful economic driver and provides a significant return on investment. Every dollar invested in water and wastewater infrastructure increases long-term GDP by more than six dollars. This multiplier clearly shows that investing in water infrastructure is sound fiscal policy. Investing in our existing, yet aging infrastructure on the front end will save taxpayers money in the long run and allow us to preserve our current facilities and infrastructure and the many benefits they provide for future generations. As Bureau of Reclamation Commissioner Brenda Burman said in June of 2018: “We need to think ahead 20, 40, 50 years and enhance water infrastructure for reliable water supplies in the future.”

Investing in water is not just about economic return. It is also about health and safety. Reliable water infrastructure is essential to the health and well-being of all Americans; your efforts to ensure adequate investment in this critical sector of our nation’s infrastructure are greatly appreciated, and I, the Family Farm Alliance and NWRA stand ready to assist you in this work.

Thank you for the opportunity to testify and thank you for the work you have already done on water infrastructure in the 116th Congress. Title VIII of S. 47 included numerous provisions that will benefit the Bureau of Reclamation and water users, and we also appreciate all of on work on the Colorado River Drought Contingency Plan (DCP). We look forward to moving S. 2044 and S.1932 forward.

Senator MCSALLY. Thank you, Mr. Noble.

We will now turn to questions, and I will start it off.

You just explained how the challenges that we have with examples like Imperial Dam and others where those funding partners don't have any other choice but to repay in one year, pay back for any investment in capital improvements. You shared that in your written and your verbal testimony.

Can you further explain why some of the other options that others may have for debt financing don't work or are too expensive for districts like the Wellton-Mohawk or Yuma Water Users' Association in cases like this?

Mr. NOBLE. Sure, thank you, Senator.

The traditional other options available include such things as private financing, borrowing or bonding. Those are simply not available to smaller districts.

If you use private financing, they want collateral. As the funding parties, they don't have access to the collateral and, therefore, they can't pledge it. Private financing is often much more expensive as the interest rate is usually higher.

If we turn to bonding, that can be quite expensive. Just the cost of implementing the bond measure is very high. In addition, there's the problem of that interest rate is higher and you have to commit reserves which generally are not sufficient to cover the entire bond.

So, those two options, just not available.

Senator MCSALLY. Great, thanks.

Now speaking from your role at NWRA and Family Farm Alliance, how common is this challenge of access to capital for water managers around the West?

Mr. NOBLE. Well, in response, being prepared for this particular item, we chatted with several people involved throughout the West and we find it's very common that there are many situations where they simply cannot privately fund or bond the things that need to be done. It's not that they don't or that they never have, it's just that it is widespread.

Senator MCSALLY. Commissioner Burman, do you have anything to add on that?

Ms. BURMAN. No. I would say that this has been a long discussion in the water community about how to finance, you know, improvements to aging infrastructure.

And so, we tend to work with the Committee, with you and with our partners on all the ideas that can work there.

Senator MCSALLY. Great, thanks.

And as you know, Commissioner Burman, our bill is intended to improve how the Bureau's extraordinary maintenance authority is utilized.

Do you know, since enactment in 2009, how many times Reclamation has used its extended repayment authority for extraordinary maintenance projects at transferred works?

Ms. BURMAN. I had my staff pull that up, and we came up with 19 instances of where we've used that in the past.

Senator MCSALLY. Can you walk me through the current process for seeking funding and extended repayment for a project, what avenues do Congress or customers have to weigh in on that process?

Ms. BURMAN. So we have a directive in standard which is really our rules of how this works, but really, it's about approaching your local office of Reclamation, approaching your area office, talking it through, what is needed. On the official side, there needs to be a repayment contract that's signed. But I would say, you know, that can be all worked through.

The most significant hurdle is usually appropriations which it is for all the things we do and when you work with an area office about a project that's coming up, if it's going to happen under this authority, then under the authority from 2009, then it has to be through appropriations. So you are in the process and competing with all the other projects out there that are subject to appropriations.

Senator MCSALLY. Great, thanks.

Now I want to shift to safety of dams.

It is my understanding at some point there had been discussion as to whether some of the major repair items at the Imperial Dam qualified under safety of dams. Are large diversion dams like Imperial eligible for safety of dams if they meet other criteria?

Ms. BURMAN. If they meet other criteria, all our dams, both large and small, have the ability to be under the safety of dams program.

Senator MCSALLY. Okay, great.

Part of the reason that we included this increase in the safety of dams program is to ensure that there is enough cap room to accommodate any new projects added to the inventory, if needed.

We don't need to hash this out now, but are you willing to commit to working with me to take another look at whether Imperial Dam is one such project?

Ms. BURMAN. We would certainly work with you and work with the Committee and with Mr. Noble and his clients to move forward and look at Imperial Dam.

Senator MCSALLY. Okay, great. Thank you.

I now want to talk about supply portfolio.

Mr. Brown, hearing your testimony, the diversity of water supply infrastructure you are pursuing is something that stuck out. One of the important things that S. 1932 does is take a similar broad approach that puts multiple water infrastructure options on the table.

Can you talk a little bit about the importance of this diversified approach to infrastructure for your community and the strengths and weaknesses of the different components?

Mr. BROWN. Yes, Senator, thank you.

Again, water supply in the arid West is fun and challenging. It's not a very common resource anymore. So, the days of being able to find a supply that's fairly pristine and putting it through a treatment plant and then delivering it to customers, those days are pretty much gone.

All the supplies, the quality of the supplies is compromised, whether you look for new sources of supply or whether you're looking at reuse projects.

And so, technologies are constantly evolving and giving us new opportunities to deal with the water quality challenges. And then again, the seasonal and the annual variabilities in the supply also

present some significant challenges. The supplies are not always available. At the same time, the demands are there.

So we have to build systems now that are extremely robust, that are multifaceted and take advantage of a bunch of different technologies, take advantage of different types of storage.

There was a little bit of testimony talking about the challenges, and the opportunities with storage look a little different too. We can't go build storage like we used to be able to so we have to be more sensitive there. Underground storage is a great option but underground storage by itself, at least in multiple settings, doesn't work without surface storage integrated with the underground storage to be able to get the water in and out of the systems.

And so, really, we have to now as systems grow and expand and/or progress to meet existing demands, we have to have multiple tools in the tool box that afford us the opportunity to take advantage of emerging technologies, to take advantage of outside the box storage opportunities and create systems that are robust. We can't afford to let any of our water go wasted anymore or go unutilized when we have that water in our system.

Senator MCSALLY. Great, thanks, Mr. Brown.

Senator Cantwell.

Senator CANTWELL. Thank you, Madam Chair, and I thank the witnesses for being here.

Ms. Kassen, when you said there is a lot of hot, dry and more crowded West, you couldn't have been talking more specifically about the Pacific Northwest because that is exactly the way we feel.

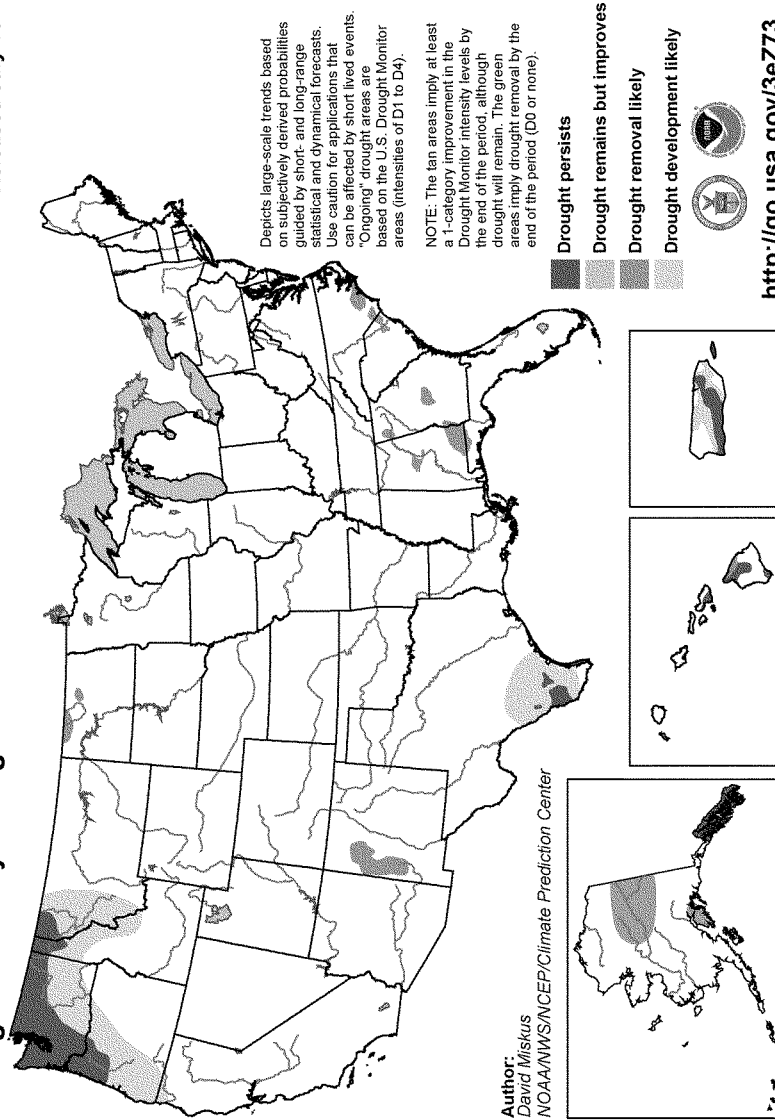
The most recent seasonal drought map definitely put us in the bullseye as far as that brown area, and it is no secret that this is an overlay to some of the challenges we face in the fire season as well.

[The map referred to follows:]

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for July 18 - October 31, 2019
Released July 18



Senator CANTWELL. So I am very concerned that we continue to adopt strategies, you outlined some like the WaterSMART programs and things we were able to help integrate into the Yakima Basin program.

Mr. Hipke, is that the right pronunciation, Mr. Hipke?

You talked about the aquifer recharge, and so, in concept, I certainly support Senator Risch's bill.

Why, at least for areas like the Pacific Northwest, shouldn't we be focusing more on recharge and holistic integration plans like we have been able to successfully do in Yakima?

By that I mean, if you are going to have warmer and drier conditions, less snowpack, but you are still going to have water, recharging those aquifers is like an easy layup and then coordination on the conservation side and smart strategies, making best use of that, also seem to just go hand-in-hand.

Do you have any comments about the recharge? You didn't specifically call that out.

Mr. HIPKE. Absolutely.

I've been doing managed recharge for over 25 years now. And so, I'm a big fan of that.

And having said that, having worked extensively in two different states now and seeing the broad differences between them, I am an extreme fan of adaptive management and what's been discussed here.

We need a lot of tools in the tool box because the situation is changing rapidly. It's not a one-size-fits-all.

Like in Idaho for the ESPA, recharge is a very good tool that we use, and that's not the only tool in that area. In other areas recharge might not be an option and then we need to look at storage because, as you mentioned, there's a lot of demand and the supply is much more variable. And we need to be flexible enough to take advantage of it when it's there.

Senator CANTWELL. Ms. Kassen, do you have ideas about what we could do to get better, let's see, evangelizing of these cooperative programs?

I almost still see us in, kind of, a divided universe here. There are those, definitely in the Pacific Northwest, that believe in that cooperation, coordination, very innovative, very holistic. And then I see other parts of the country who are just continuing to fight over water.

What can we do to better evangelize and get people to adopt these approaches?

Ms. KASSEN. I would say a couple of things.

First of all, I think the Colorado River Basin—we feel like we're doing cooperation too. So there are other—

Senator CANTWELL. Good, good. Go ahead.

Ms. KASSEN. —there are some places outside of the Northwest.

Senator CANTWELL. Good.

Ms. KASSEN. But one thing to think about in terms of increasing retention in the landscape and improving storage in non-traditional ways is there's a project that TRCP's partner, Trout Unlimited, worked on in Montana on Nine Mile Creek which was a drainage that had been adversely affected by legacy mining and they were in there to do restoration.

But healthy landscapes retain more water, healthy riparian areas, intact systems and they actually, after they spent ten years doing the restoration, they got the University of Montana to come in and measure the amount of additional water flow that was coming from that restored landscape into the stream.

I mean, it's measurable quantities of water that you can achieve just like frequently in some kinds of water supply projects and water management, the environment gets to be like a secondary beneficiary. In this restoration project water storage and supply was a secondary benefit of the restoration. So it goes both ways. And I think talking about the success stories is certainly one way to evangelize.

Senator CANTWELL. I also think having robust federal support programs for it so that people are incentivized on smart water or on restoration and, you know, doing a better job on coordination.

One of the reasons we fought so hard on the fire bill to get new fire funding fixes is because we were doing unbelievable stream restoration work and then we would have a fire come through and knock it out. So the point was, why?

So we have to get this coordinated and the challenges we face are becoming greater.

Thank you, Madam Chair. Thanks to the witnesses.

Senator MCSALLY. Thank you so much.

We did have votes called, nearly 50 minutes ago, so I will be the last there.

I want to ask one more question since you all made the trip out here.

Mr. Noble, again, as you know the extraordinary maintenance account created in S. 2044 only requires Reclamation to take requests for funding for projects that are transferred works and not those that are operated by Reclamation.

I know this is not the case for Yuma, but in your experience, which is vast, are districts who are responsible for O&M at reserved works facing similar challenges with repayment?

Mr. NOBLE. Senator McSally, yes, they are. We have observed that throughout the West. There are challenges.

The difference between reserved works and transferred works, as far as funding, is most often there is a sharing between the district and Reclamation as to the cost of the repairs or work that's being done, but Reclamation has the opportunity to appropriate for their share of the work.

Senator MCSALLY. Great, thank you.

Would it make sense for us to add that to our bill?

Mr. NOBLE. Yes, it would.

Senator MCSALLY. Reserved works?

Mr. NOBLE. Yes.

Senator MCSALLY. Okay, great, we might follow up on that with you.

Commissioner Burman, how do you feel about that?

Ms. BURMAN. The more flexibility we have, the easier it is to work.

Senator MCSALLY. Great, thank you.

I know we have a number of questions that we also still want to ask, and I know other members will probably then want to ask

for the record. I really would appreciate if you all were willing to answer those questions as they are submitted for the record.

I really appreciate everyone coming here today and, again, thanks for your patience and flexibility.

It was important to hear your testimonies on these pending bills as we move them forward to address this important issue of our water infrastructure and water investments for the future.

These questions may be submitted for the record before the close of business on Friday, and the record is going to remain open for two weeks. We ask that you respond in writing and they will be made a part of the record.

Again, thank you for coming today. The hearing is now adjourned.

[Whereupon, at 11:48 a.m. the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

Questions for the Record

U.S. Senate Committee on Energy and Natural Resources

Subcommittee on Water and Power

Hearing: *To Examine Opportunities to Increase Water Storage and Conservation through Rehabilitation and Development of Water Supply Infrastructure, and to Receive Testimony on Pending Legislation*

July 18, 2019

Question from Senator James E. Risch

Question 1. Commissioner Burman, thank you both for your technical assistance and your support for using federal lands for aquifer recharge. In your testimony, you mention ambiguity in the language that could have unintended consequences. Can you elaborate on what suggestions Reclamation has for improving the legislation?

Response: The Bureau of Reclamation is in the process of working on technical assistance with staff from Senator Risch's office.

Questions from Senator John Hoeven

Question 1. On April 10, the Dickey-Sargent Irrigation District sent an offer of \$38,405.44 for the 5,000- acre facility to the Bureau of Reclamation. This is the discounted amount of dollars the government would receive over the next 40 years if the District signed a 40-year water service contract. When do you expect BOR to either accept or reject this purchase price?

Response: The transfer of title to eligible federal facilities to our local partners is a priority for Reclamation. As noted in our June 24, 2019 letter to the Dickey-Sargent Irrigation District (DSID), Reclamation is still in the process of implementing new guidelines for the general authority recently provided under Title VIII Subtitle A of the John D. Dingell Jr. Conservation, Management, and Recreation Act (P.L. 116-9) enacted this year. We share the District's interest in potentially applying these guidelines to the Oakes Test Area (OTA).

The OTA is a very unique project with several unique circumstances including its highly variable acreage (from 562 to 4,650 acres per year depending on availability of water), its age and condition (over 30 years old with some components having exceeded or nearly reached their life expectancy), and its role in addressing recommendations of the International Joint Commission regarding irrigation return flow water quality. These are factors that were not expressly considered in the development of P.L. 116-9, but which could affect other transfers across Reclamation beyond OTA. Reclamation is currently evaluating those circumstances in order to determine whether or not the District's proposed offer (\$38,405.44) complies with the new law's requirement to recover amounts "equivalent of the net present value of any repayment obligation" for the facility.

Reclamation will respond back to DSID as soon as possible. In the meantime we are continuing to work closely with the District as well as the Garrison Diversion Conservancy District as this review progresses.

Question 2. Once this piece of the title transfer agreement is settled, how quickly can we accomplish this transfer?

Questions for the Record

U.S. Senate Committee on Energy and Natural Resources

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July 18, 2019

Response: As soon as Reclamation and Dickey-Sargent Irrigation District (DSID) come to an agreement on the valuation, there are several steps required under the Act in order to complete the title transfer. First, P.L. 116-9 requires that there be compliance with the requirements under the National Environmental Policy Act (NEPA). Earlier this year, the Department published a categorical exclusion (CE) for title transfer. Once an agreement has been reached, Reclamation plans to review this title transfer action to determine whether this CE is applicable to the action. If applicable, use of this CE will significantly expedite the timeline for the transfer process and could significantly reduce administrative costs associated with the title transfer for the DSID. Once that is completed, we will need to develop the language of the title transfer agreement with respect to the legal, institutional, operational and financial arrangements relating to the conveyance. Based upon our discussions with DSID and the Garrison Diversion Conservancy District, Reclamation has begun to put together the framework of an agreement and will soon be ready to begin negotiations on its terms. It is our understanding, however, that Dickey-Sargent would like an answer to their valuation proposal before proceeding further. After the NEPA and National Historic Preservation Act compliance is completed and the language within the title transfer agreement is agreed to by both parties, under P.L. 116-9, Reclamation must then provide a 90-day notice to Congress before proceeding with the conveyance.

Question 3. Will BOR work with Dickey-Sargent to ensure that it does not lose rural water rights once the facility is out of federal hands?

Response: Currently the project only receives temporary annual water permits from the State Engineer for surplus James River flows, drain return flows, and groundwater. Reclamation has discussed options with the State Water Commission to firm up those permits and the State has agreed to review these. Reclamation plans to work with Dickey-Sargent to negotiate a long-term water service/repayment contract for water from Jamestown Reservoir based on the existing Oakes Test Area Operating Principles Agreement.

U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Parks

July 18, 2019 Hearing: *To Examine Opportunities to Increase Water Storage and Conservation through Rehabilitation and Development of Water Supply Infrastructure, and to Receive Testimony on Pending Legislation*
Questions for the Record Submitted to Ms. Melinda Kassen

Questions from Senator Martha McSally

Question 1: Ms. Kassen, all types of storage are good in my view and I am interested in your ideas about including a natural infrastructure component in the storage program reauthorized by S. 1932. One of the things we need to work through in the infrastructure context is the question “when is a project classified as ‘infrastructure’ and eligible for this funding, and when it is just good management practice?” Where is that line? Do you have thoughts on this issue and specifically what characteristics could be required for a project to cross that threshold?

Natural infrastructure projects apply engineering to be able to use nature’s power to deliver a service, such as water storage or retention. This sets them apart from restoration projects, or from best management practices that are encouraged or required in conjunction with other activities.

In a water context, a natural infrastructure project will produce a measurable yield of water retained or delivered, with appropriate accounting for seasonal variability. To achieve this target yield, those who plan and implement such projects use a defined source or sources of water, e.g., precipitation, runoff, stormwater, or reservoir release, in a specified amount (or range) to achieve a goal or goals, e.g.,

- to raise the ground water table;
- to retain water seasonally in the soil column or a wetland, alluvium or shallow aquifer; or
- to change the timing or volume of stream flows on a seasonal basis.

Natural infrastructure projects are made up of discrete actions. In the case of water storage, such actions may include directing water flows to accomplish the goals, e.g., with:

- construction or placement of structures in an incised stream channel to raise the channel bed and ground water levels and thereby reconnect channel and floodplain;
- diversion of flows to infiltration galleries or other natural depressions or catchments for aquifer recharge; or,
- pumping a portion of stream flow during high runoff season to infiltration basins or ponds, which will then contribute water for base-flow recharge in late season.

Best management practices, on the other hand, include native riparian vegetation restoration, rotational grazing management, or careful replacement and maintenance of woody debris in a stream channel to maximize structural complexity. BMPs can enhance natural infrastructure projects.

**U.S. Senate Committee on Energy and Natural Resources
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Questions for the Record Submitted to Ms. Melinda Kassen**

Question 2: During the hearing you discussed the interaction between built and natural infrastructure. Can you expand a bit on how built and natural components work together in water management regimes?

The examples in my testimony, and elsewhere in the West, have several common elements.

- The source water is directed or pumped into a shallow pond or applied or allowed to flow out onto a land surface. The structures directing, pumping or applying the water are built infrastructure.
- A pond receiving pumped or directed water may be built or natural infrastructure, depending on the origin of the pond and the pond's hydrologic relationship to nearby streams or rivers.
- If the water is directed to a natural pond, directed to overflow a floodplain, or applied directly to the ground, that feature is the first element of natural infrastructure.
- Once the water infiltrates into the ground, natural infrastructure has taken over the process entirely.
 - In some projects the goal may be to replenish an aquifer that has been drawn down. In that case, the introduced water may remain in storage in the aquifer close to the point of introduction.
 - In other cases, the goal is to improve river habitat, raise the ground water level, enhance riparian habitat, restore wet meadows, improve range lands, or use a surface water system to deliver water downstream. In those cases, the introduced water is stored temporarily in an adjacent, shallow aquifer and then flows with gravity to a nearby surface water stream or river.
- Just as it is possible to measure the amount of water being pumped or directed through the built infrastructure, it is possible to measure the amount of water that is meeting the project goal, whether raising the ground water table, improving riparian habitat or adding stream flows.

U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Parks

July 18, 2019 Hearing: *To Examine Opportunities to Increase Water Storage and Conservation through Rehabilitation and Development of Water Supply Infrastructure, and to Receive Testimony on Pending Legislation*
Question for the Record Submitted to Mr. Wesley Hipke

Question from Senator Martha McSally

Question: In your testimony you discussed the significant investment in infrastructure, monitoring and science that is required to undertake a recharge program like the one in Idaho. In addition to the importance of removing regulatory barriers to recharge as done by Senator Risch's bill, can you talk about what type of infrastructure and science is typically needed to be developed to carry out a major recharge program?

Response: Implementation of a comprehensive recharge program is a complex undertaking dependent upon successful coordination between a variety of stakeholders, support from decision makers, and a vast amount of data and technical information to support the development, operation, and assessment of program performance. The development of a managed recharge program can be broken into five basic components:

1. Define the problem and the purpose for recharge
2. Identify the source of water to be used for recharge
3. Determine where water will be recharged
4. Identify and develop infrastructure necessary to convey water for recharge
5. Monitoring and verification of the effects of recharge

The following is a brief summary of the data, science, and infrastructure required to support these components and to maintain a program of the scale that exists in Idaho.

1. Defining the problem managed recharge is intended to address

In the development of any program, it is important to define the problem to be addressed. In Idaho, after decades of conflict, water users, with the support of the state, defined a plan to stabilize and recover the Eastern Snake Plain Aquifer (ESPA). Water use activities in the region are supplied by water from the Snake River as well as groundwater from the ESPA. The region produces approximately 21 percent of all goods and services within the State of Idaho and supports over 2 million irrigated acres. Therefore, sustainable management of the aquifer is critical to the state of Idaho. Idaho was fortunate to have developed a regional groundwater model which was adopted by scientific experts representing all of the impacted stakeholders and accepted for use in administration of water rights. It was also used for the development of specific goals for aquifer recovery. The groundwater model helped define the problem (e.g. aquifer volume declines were estimated to be over 200,000 acre-feet/year) and it was used to evaluate strategies to "stop the drop" (e.g. 250,000 acre-foot average annual recharge target). The ESPA groundwater model and complementary groundwater/surface water interaction models have been critical for technical analysis, planning, and administrative decision making, and continue to support these actions.

**U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Parks**

**July 18, 2019 Hearing: *To Examine Opportunities to Increase Water Storage and Conservation through Rehabilitation and Development of Water Supply Infrastructure, and to Receive Testimony on Pending Legislation*
Question for the Record Submitted to Mr. Wesley Hipke**

2. Identify the source of water to be used for recharge

Clearly defining the potential sources, volume, and timing of the water available for managed recharge is critical. Unappropriated or unused water in river systems is the primary source of water for recharge in Idaho. Quantification of excess flow requires analysis of historic and current river flow as well as consideration of the real-time operation of reservoirs or other infrastructure on the river system that may influence or regulate availability and delivery of water. Natural processes (e.g. precipitation and temperature) also influence annual runoff, available water supply, and the use of that supply. Therefore, precipitation, snowpack, and other meteorological data is used for forecasting potential water supply and runoff patterns. All of this data is managed and made available in various ways by federal, state and local agencies such as the US Geological Survey, US Bureau of Reclamation, Natural Resources Conservation Service (NRCS), National Oceanic and Atmospheric Administration (NOAA), individual state water resource agencies, and the local stakeholders (such as irrigation entities).

To operate its recharge program, Idaho relies upon data collected from a wide-range of sources including SNOTEL sites, river gages, monitoring well water level loggers, and spring gages. Much of this data is made available on the internet as a result of significant investment in the installation of measuring devices, data loggers, and remote telemetry to transmit the data to provide broad accessibility. Some of this data is available real-time and some is hand measured and entered into a database manually. Idaho's recharge program depends upon access to real-time river flow and diversion data. This information used to assess how much water will be available for recharge at a given time and allows program managers to coordinate with partners to determine where water can be delivered. In addition, the most productive period for recharge in Idaho is during the winter months. Monitoring the hourly diversion rate of water through a canal to an off-canal recharge site is critical to ensure icing conditions do not develop which may limit a canal's carrying capacity and result in flooding or severe damage to the canal system.

It is important to note that not all watersheds or river and aquifer systems have the benefit of complete, accessible, long-term data. In many cases, the amount and type of data collected varies over time due to budget and resource constraints. In the long-term, this data has proven to be invaluable for understanding the potential available water supply for recharge and for operating recharge projects in real-time.

3. Determine where water will be recharged

Sound technical evaluation of potential recharge sites is another important aspect of a recharge program. It is important to have an understanding of the aquifer itself based on hydrologic and geologic data. It is also important to characterize each site to determine whether it will receive and transport water into the aquifer and how the recharge water will influence the aquifer. In Idaho, historic geologic analyses performed by federal agencies such as the US Geological Survey and state agencies provided the foundation for the understanding of the regional aquifer. More detailed geologic assessments have been necessary to evaluate the characteristics of specific recharge sites. These efforts have included drilling programs to complete test holes and monitoring wells to collect additional geologic data; completion of multi-year dye-tracer tests to determine the direction and speed with which recharge water moves through

**U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Parks**

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Question for the Record Submitted to Mr. Wesley Hipke**

the aquifer; seepage tests that involve running water into a site to monitor potential recharge rates; and water quality studies, also used to monitor recharge water and characterize the water in the aquifer.

Numeric groundwater and surface water models are extremely useful tools to help better understand the aquifer and river system, and, potentially, the interaction between the two. While the development of these models can be costly, and data and resource intensive, models adopted by a larger stakeholder group can provide the foundation for planning, regulation, and adaptive management.

4. Development of infrastructure to perform recharge activities

Development or enhancement of infrastructure to convey water for recharge is also a significant component of a recharge program. In Idaho, most recharge occurs through seepage in existing irrigation canal systems. Recharge water may also be diverted from these canals into open “spreading basins” which allow water to seep into the aquifer in locations conducive to aquifer enhancement. Additional infrastructure may be needed to allow canal systems to carry water during the winter months or to route water around features in a canal system, such as hydropower plants, to avoid damage due to icing under cold weather conditions. Improved and automated diversion works to recharge basins or pumping plants to move water to elevations higher than the delivery canal or river may also be necessary. Infrastructure to carry and deliver water may need to be constructed in areas where existing conveyance systems do not exist or to avoid using canal systems that are committed to deliver irrigation water during summer months. For example, pipelines to dedicated recharge sites may be practical to provide more flexibility in the delivery of recharge water. Ongoing operations and maintenance costs must also be considered in these projects.

Measuring devices on all water supply wells has also become a requirement on the ESPA. The resultant water diversion/pumping data is important for regulatory purposes but will also be invaluable for near and long-term analysis and monitoring of changes in groundwater levels, aquifer volume change, and the influence actions such as recharge, demand reduction, and natural precipitation.

5. Monitoring the effects of recharge

Monitoring is also an important part of recharge activities. At the site level, a monitoring plan should ensure appropriate measurement and sampling frequency protocols are in place to quantify the volume of water recharged, the quality of the water recharged, how the recharge is affecting the groundwater quality, and how the aquifer physically responds to the recharge. A regional monitoring plan is essential for larger recharge projects to determine how quickly recharge water travels through the aquifer, and to monitor regional effects to groundwater quality and groundwater levels as well as potential impacts to streams and rivers. Given the complexity of the hydrogeologic system, activities and use of water by others, and conditions outside the control of program managers, it is important to have data publicly available to demonstrate the effects of the program.



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Chief Operating Officer

854 N. Harvard Ave.
Lindsay, CA 93247

1121 L St., Ste. 610
Sacramento, CA 95814

(559) 562-6305

friantwater.org

June 28, 2019

Dear Senator Feinstein:

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, DC 20510

Dear Senator Feinstein:

On behalf the Friant Water Authority (Friant), thank you for your continued leadership in addressing the ongoing challenges facing water agencies such as ours regarding water storage and delivery infrastructure, demonstrated most recently through the release of your draft legislation, the *Drought Resiliency and Water Supply Infrastructure Act*.

The Friant-Kern Canal (FKC), as you know, is a major delivery source of clean and reliable water supply in the San Joaquin Valley. Yet, subsidence has had significant impact on the system's ability to deliver water. The canal has lost approximately 60 percent of its designed delivery capacity due to subsidence.

Just in the last 30 days, nearly 300,000 acre-feet of water, which could have been available for aquifer recharge, was not able to be delivered through the FKC due to several factors, the most significant of which was the lost capacity in the FKC. As the implementation of regulations under the Sustainable Groundwater Management Act approaches, the need to repair the FKC is even more amplified.

In addition, agricultural production is being substantially impacted by this lost capacity, with the potential for more than 100,000 acres of quality productive land going out of production annually, leading to an instability in agricultural production in the Valley and reducing a key component of California's economy.

Your legislation is an important step forward in the effort to aid Friant in continuing to meet the needs of its customers and eastside communities significantly hampered by the deterioration of the Friant-Kern Canal.

Friant appreciates that the bill expands Reclamation's loan and funding authorizations, including those in the *Water Infrastructure Improvements for the Nation (WIIN) Act*.

Senator Dianne Feinstein
June 28, 2019

In particular, Friant appreciates the inclusion of \$670 million authorized for surface and groundwater storage projects and supporting conveyance infrastructure.

Friant looks forward to working with you and your staff as the legislation is finalized, introduced and moves through the legislative process.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Phillips', with a stylized flourish at the end.

Jason Phillips

CEO, Friant Water Authority



August 9, 2019

Senator Martha McSally
 Senator Catherine Cortez Masto
 The Senate Committee on Energy & Natural Resources
 Subcommittee on Water and Power

Re: July 31, 2019 Subcommittee on Water & Power Hearing: *To Examine Opportunities to Increase Water Storage and Conservation through Rehabilitation and Development of Water Supply Infrastructure, and to Receive Testimony on Pending Legislation*

Dear Chairman McSally and Ranking Member Cortez Masto:

Trout Unlimited (TU), National Audubon Society, Environmental Defense Fund (EDF), and American Rivers join the written testimony of Melinda Kassen, who testified at the July 18th hearing for the Theodore Roosevelt Conservation Partnership (TRCP), of which TU and others are partners. National Audubon Society has more than 1 million members nationwide, 23 state offices and more than 400 independent Chapters. Audubon's mission is to protect birds and the places they need for today and tomorrow. With over 2.5 million members, EDF is an international non-partisan, non-profit organization dedicated to protecting human health and the environment by effectively applying science, economics, and the law. Trout Unlimited (TU) has over 300,000 conservation-minded members and supporters, organized into 380 chapters in 35 state councils. Our mission is to conserve, protect and restore the Nation's trout and salmon fisheries and their watersheds. We have 280 staff spread across America who work with our members and a wide variety of partners—including farmers, ranchers, miners and federal, state and local agencies—to accomplish our mission. TU's two decades of on-the-ground experience in restoring watersheds in the West has been spent addressing water scarcity and improving water management at a variety of scales.

As well characterized in TRCP'S testimony, the suite of bills under the consideration of this Subcommittee has the potential to guide the policies and marshal the resources

needed to adapt to a more arid future where we must balance the water demands for agriculture, the environment, recreation, and cities. As the West prepares for this future, Congress will play an important role to incentivize water sharing, conservation and transfers. These are key tools for thriving cities and rural communities with diversified economies which include sustainable agriculture and healthy rivers and watersheds that provide recreational and ecological benefits to all those who live in and visit the West.

TU also joins TRCP's thank you to the Subcommittee for its role in passing H.R. 2030 authorizing the Bureau of Reclamation to help implement the Colorado River Drought Contingency Plan (DCP) earlier this spring. TU believes that an amended version of S.1932 would build on the success of the DCP in helping water users build the innovative infrastructure, partnerships, and restoration of watersheds required to implement the DCP across the Colorado River Basin. TU recommends the following amendments to S.1932, which we believe will be important to successful DCP implementation.

1. Section 3, S.1932: \$670 million authorization for water storage projects.

Portfolio Approach

Any federal investment in western water infrastructure should strongly support the regional, cooperative initiatives which have taken watershed restoration and infrastructure reform to scale. Successful western examples are the Klamath and Yakima river basin collaboratives. These multi-stakeholder investment plans stack benefits, and they recognize economic and business risks of avoiding upgrades and missing opportunities to promote resiliency. Although Congress did not ratify the Klamath settlement before it expired, TU remains committed to a comprehensive solution for the basin and we believe that effort can point the way toward a common future there and in other places. As you know, Yakima's multi-stakeholder, basin-wide plan was federally authorized just this year.

These are examples of investment plans that have been made with a whole-system view—not just straight build or replace, but based upon more comprehensive, system-level evaluations. Their purpose is to make our infrastructure work for modern and future needs. These plans include new construction, deconstruction, re-operation of existing storage, upgrading water delivery, and investment in ecosystem service systems like floodplain, riparian, wetland, and streamflow restoration and management. Supporting drought resilience through a multi-pronged strategy reduces the need for government intervention and future spending, and creates a cost-effective system plan. Replication of the approach of the Klamath and Yakima investment plans should feature prominently in any western water infrastructure investment.



The benefits of whole-system planning and partnerships flowing from the Yakima is well-illustrated by the non-regulatory actions taken in the basin when drought conditions threatened crops and imperiled species alike. In this photo, Kittitas Reclamation District is using its canal and infrastructure to add water to tributaries in the upper Yakima River, home to ESA-listed Steelhead and Chinook Salmon, a fundamental food source for the Southern Puget Sound Orca Whales. This is especially critical during drought years when the tributaries go dry late season. This proactive, creative solution abated the need for other actions more disruptive to agriculture.

To this end, TU recommends the following provision be added to the bill's current "Conditions for Federal Construction Funding" requirements in subsection 3(c)(3):

"(3) CONDITIONS FOR FEDERAL CONSTRUCTION FUNDING.—The construction of a federally owned storage project that is the subject of an agreement under this subsection shall not commence until the Secretary—

(A) determines that the proposed federally owned storage project is feasible in accordance with the reclamation laws;

(B) determines that—

(i) the federally owned storage project provides a Federal benefit in accordance with the reclamation laws; and

(ii) not less than a proportionate share of the benefits of the federally owned storage project are Federal benefits, including water supplies dedicated to specific purposes, such as water quality improvements or fish and wildlife protection and restoration, including a wildlife refuge; and

(C) secures an agreement providing such upfront funding as is necessary to pay the non-Federal share of the capital costs of the federally owned storage project; and

(D) an alternatives analysis has been completed that reviews a range of options for meeting new water demand for the river basin in which the federally owned storage project is located, including improvements to water delivery efficiency, water conservation, water re-use and recycling, natural water storage, crop switching and deficit irrigation, stormwater capture and re-use or aquifer recharge, reservoir operation optimization, and any other methods of reducing water scarcity, and the proposed storage project is being executed along with the most cost-effective and least environmentally-harmful options resulting from the alternatives analysis."

Federal-State Coordination

Just as new water storage projects are most cost-effective if they are one element of a multi-pronged approach, TU asks that the Subcommittee ensure that federal storage projects proceed with close federal-state coordination. Currently, S.1932 requires all proposed federal storage projects to comply with the laws of the state in which they are located. This is one, essential step. TU requests that in addition, any new federal water storage project advance the goals of the State's Water Plan and fit well with the State's water-supply and demand-management planning. One way to ensure this fit is to require the Governor of the State in which the proposed federal project is located to request project construction, prior to any congressional consideration of construction funding authorization. TU requests this additional step of Governor request for construction funding, which was not requested in the written testimony of TRCP.

Include Natural Storage Infrastructure

TRCP's testimony asked the Subcommittee to include as eligible projects in Section 3 natural water storage infrastructure projects. Ms. Kassen's written testimony also included compelling examples of natural storage projects that have used natural features and hydrologic processes to capture and retain high flows which are then gradually released to downstream stream and river reaches during late-season, low flows. TU writes in support of TRCP's request, and augments TRCP's written testimony with additional support for: *why* restoring natural water storage is an essential drought resilience tool; *what* natural water storage projects are; and, *how* the storage component can be quantified.

Why Natural Water Storage?

In the American West, climate change has its strongest expression through water. More frequent drought years with less winter snowpack combined with earlier spring run-off requires a landscape-scale strategy to distribute water across the landscape, slow its passage, and store it as long as possible in natural, diverse features. Re-invigorating natural water storage across the West is a feasible and cost-effective response to a

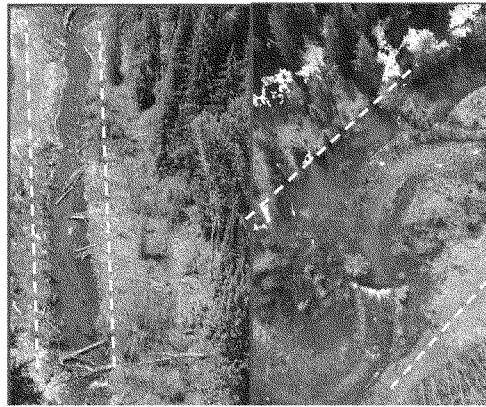
shrinking western snowpack. Because less than 5% of the West's hydrologic network is mainstem rivers, activating the remaining 95% in natural water storage can produce effective results to store more water.

Natural storage projects are like dams in that they also aim to capture and retain water to provide for downstream uses. Floodplains, wetlands and meadows are the natural sponges of our landscape, soaking up water when it is in abundance, and slowly releasing it to sustain streamflow and moderate water temperature throughout the year. These systems are key to buffering the impacts of droughts, floods, and wildfire, and providing reliable sources of water for drinking, agriculture, and fish. Natural storage restoration is a co-equal, complementary strategy to built storage for responding to a more arid future in the American West.

What is Natural Water Storage?

Natural storage projects enhance the capacity of a natural systems to hold water by increasing floodplain or wetland area or reconnection, and encouraging processes like flooding where there is little risk to infrastructure. These projects

usually occur in systems where natural storage potential has been reduced by confining and straightening streams, filling wetlands, or incising stream channels. By reconstructing the natural form and function of wetland and riverine systems, we can increase water storage in areas where dams are not appropriate. Quantifying the volume of stored water and its ecosystem benefits is an emerging field with a growing number of case studies. Below, we outline some common approaches to estimating hydrologic impact before and after project implementation.



Natural storage potential in a confined channel on Ninemile Creek, Montana (left) and restored channel (right). Yellow lines illustrate the floodplain area activated by spring high-flow events and available to retain water, releasing the "stored" water gradually as flows drop

How Can We Measure Natural Water Storage?

The *potential* of a project to store water can be estimated before construction using basic groundwater models. Similar to calculating reservoir storage, these models estimate how much a project would increase storage volume (the size of the “sponge”), and how much of that potential volume will actually be filled with water. More intensive modeling can be done to estimate the timing of that water being released back to a stream based on factors like soil type, geology and valley slope.

Once a project is implemented, the actual quantity of water stored, and its impacts to the stream can be monitored through various methods. Groundwater wells, installed before the project is implemented, measure the increase in water table height across the project area following restoration. This data can then be used to calculate the volume of water stored. Similarly, seepage runs within the stream are a common method to estimate the impacts of storage on streamflow. With this method, streamflow is measured at the top and bottom of a project. If streamflow decreases over the project length (a “losing” stream), water has left the stream and is being stored. If streamflow has increased over the project length (a “gaining” stream), stored water is being released to support streamflow. A combination of actual, measured storage across a range of project types and scales, together with modeled estimates for similar projects, could provide both accountability and advance the knowledge of how natural water storage infrastructure projects affect surface and groundwater availability and storage.

A successful natural storage project would likely show storage at high flows, and instream gains at low flows. Finally, a project with a long-term streamflow dataset below the project area could compare streamflows at peak and lowflow conditions, before and after the project. We would expect a natural storage project to decrease flood peaks and increase streamflow at times of water scarcity, attenuating flood risk and increasing drought resiliency.



Ninemile Creek, tributary to Upper Clark Fork River, near Missoula, Montana. TU project work restored the natural channel and reconnected it to its floodplain, and spring flows pictured here can now access the floodplain for natural water storage. Detailed monitoring showed that in this system, each mile of restored valley floodplain increased downstream base flows in late summer by 1 acre-foot/day.

Photo credit: TU, Paul Parson

2. Missing from S.1932: Water Demand Management, Conservation, and Efficiency

While S. 1932 authorizes over one billion dollars for water storage projects, TRCP's testimony emphasized that missing from S.1932 are other necessary tools for the toolbox needed to face a hotter, drier, and more-crowded West. The Bureau of Reclamation's WaterSMART program was authorized ten years ago in the SECURE Water as part of the Omnibus Lands Management Act of 2009, at 42 U.S.C. §§ 10361 *et seq.* As TRCP's testimony explains, WaterSMART has six different programs, including its water efficiency grant, basin study, drought response, and cooperative watershed management programs.

We have learned much about responding to drought over the last decade in the West—leading to such progress as this spring's passage of DCP. WaterSMART will be a more effective drought-response suite of programs with changes to reflect these lessons learned. Below we recommend four areas of change.

WaterSMART Amendment: Add Demand Management and Natural Storage

TRCP's testimony makes a strong case for demand management and natural storage to be included among WaterSMART programs. Natural storage projects can be implemented at a variety of scales. Small-scale projects are well suited for WaterSMART, whereas large-scale projects are more analogous to traditional, built water storage projects, and so are well-suited as a co-equal, complementary strategy to new or expanded built water storage.

As TRCP's testimony explains, demand management is a critical management activity to bring the West's water supplies and demands in places like the Colorado River basin back into balance, particularly because the Colorado's enormous reservoir capacity provides ample space to store conserved water. Demand management will also be key to the success of DCP implementation, that this Subcommittee was instrumental in passing. For these reasons, we recommend that WaterSMART also include authorization for demand management activities.

WaterSMART Amendment: Reauthorize Cooperative Watershed Program

The ten-year pilot authorization of Reclamation's Cooperative Watershed Management Program expires next year. This program has proven its worth in supporting multi-stakeholder planning and dialogue around prioritizing the most-needed restoration and water scarcity actions in local river basins. This is the kind of planning and dialogue that is required to produce good, multi-benefit infrastructure projects and complementary watershed restoration. Section 6002(g)(4) of the Omnibus Public Land Management Act of 2009, codified at 16 U.S.C. § 1015a(g)(4), should be amended by striking "2020" and inserting "2031."

WaterSMART Amendment: Direct Funding to Multi-Benefit Projects

TRCP's testimony provides a powerful explanation, and good examples, of how multi-benefit water infrastructure projects prepare western communities and landscapes for drought. The North Fork River Improvement Association's work in the North Fork of Colorado's Gunnison River to replace over 20 push-up dams with modern diversion structures illustrates the power of such preparedness. As TRCP's testimony explains, "In 2002, one of the driest years on record, the river flowed, where it had not done so for many previous seasons, because of this work."

Like the North Fork Gunnison River project, every aging, century-old piece of irrigation and water delivery infrastructure in the West is an opportunity to build flood and

drought resilience through improved water storage and delivery, and improved river health. Addressing the backlog of aging water infrastructure in the West presents an opportunity to re-design infrastructure that builds in improved stream and river flows through water conservation, improves fish passage, and restores natural riverine processes cut short by constricted and disconnected floodplains, degraded or eliminated riparian wetlands, or dewatered rivers and streams.

Reclamation's WaterSMART water efficiency grant program supports such multi-benefit projects, but in practice, funds many times more single-purpose projects than multi-benefit projects. To implement the lessons learned over the last decade, we propose amendments to WaterSMART to clarify the difference between project purposes—the outcomes projects are to achieve if implemented—and the types of projects authorized—how proposed projects might achieve those outcomes; for example, through increasing water delivery efficiency, reducing consumptive use, facilitating water markets, and incorporating renewable energy in water delivery. We also recommend clarifying the congressional intent in the SECURE Water Act, expressed at 42 U.S.C. § 10364(a)(B)(i)(II), that agricultural irrigation projects should not increase consumptive use, as defined by state water law. Such increase in consumptive use exacerbates water-scarcity conflicts at the basin scale, and works at cross-purposes to such efforts as the DCP.

In recognition that multi-benefit projects take more time and planning to design and implement due to their multi-stakeholder, multi-discipline aspects, we also recommend a higher federal cost-share for such projects, up to 75% or 80%.

WaterSMART Amendment: Add Non-profit Conservation Organization

With the direction of funding to multi-benefit projects, and the addition of demand-management activities and natural water storage projects as important tools for DCP implementation and drought preparedness across the West, adding non-profit conservation organizations will help bring planning and design capacity to water users. Specifying that in order to be eligible, non-profit conservation organizations shall have a history of collaboration with agricultural water users is one way to help ensure that the non-profit conservation organizations have a track record of project planning, design, and implementation expertise that will add value to the WaterSMART programs.

Conclusion

We look forward to working with the Subcommittee to provide the tools the West needs for drought preparedness. Please don't hesitate to contact any of us listed below if we can provide any additional detail, project examples, or project tours within Subcommittee members' States.

Yours truly,

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