S. HRG. 116–375

PENDING LEGISLATION

HEARING

BEFORE THE

SUBCOMMITTEE ON
WATER AND POWER

OF THE

COMMITTEE ON
ENERGY AND NATURAL RESOURCES
UNITED STATES SENATE

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

ON

S. 2718
S. 3811
S. 4188
S. 4189
S. 4228

JULY 22, 2020

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PENDING LEGISLATION

WEDNESDAY, JULY 22, 2020

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

The Subcommittee met, pursuant to notice, at 2:40 p.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 [presiding]. The hearing of the Senate Energy and Natural Resources Subcommittee on Water and Power will come to order. Sorry for being a few minutes late. It is great to see all the women here.

This marks our first meeting of the Water and Power Subcommittee since the COVID–19 outbreak with our new socially-distanced setup. While it is crucial that we do get back to business, we also need to recognize, like so many other areas of our economy, the pandemic is impacting our water sector. We will hear about some of those impacts at the Full Committee hearing tomorrow where I am pleased that there will be a witness who will discuss the challenges that our water managers are facing. But today, we are here to receive testimony on five bills pending before the Subcommittee, including S. 4228, my Water-Energy Technology Demonstration and Deployment Act. This legislation is a result of information and recommendations we received from hearings this Committee has held this Congress, as well as continued engagement with water stakeholders in Arizona and across the West.

The Department of Energy is doing a lot of good work on water technologies. At the same time, the Bureau of Reclamation has programs that support deployment of many of these same tools, whether it is water reuse, recycling, or desalination, better pumps or some other technology, my bill will help get the advancement and expertise developed by the Department of Energy (DOE) out of the lab and into the hands of water managers where they are needed now. Doing that is a win all the way around. It will accelerate commercialization of the technology, get a bigger bang for the buck from taxpayer dollars being spent by DOE and Reclamation on these solutions, and start producing additional water supplies needed by Western communities. S. 4228 also establishes a Western Water Resilience Center at one or more universities in the West. As the universities in Arizona have shown, our academic in-

stitutions can drive innovation that will not only improve water security but will also spur greater development of a water technology industry in the U.S. which will create jobs and economic growth.

In addition to S. 4228, we will receive testimony on a number of bills that have been introduced by our Democrat colleagues, including Senator Udall's S. 2718, Senator Feinstein's S. 3811, Senator Harris' S. 4188 and Senator Wyden's S. 4189. Each of the bills today contain provisions that are important to Western water management. But as we craft and review legislation, we must be careful to not intentionally or unintentionally put up additional regulatory roadblocks in front of much needed water storage or other supply projects. I do have some serious concerns with language in some of the bills, but I believe there are many elements we can work together on and reach bipartisan agreement. When it comes to water, we need to resist efforts to drag us back into old conflicts or either/or games and focus on solutions the Committee has shown can be developed by working constructively across party lines.

In addition to the bills we are reviewing today, there are a number of bipartisan bills that have already received Committee consideration and are awaiting further action. This includes S. 2044, the bill I introduced with Senator Sinema to address aging water infrastructure, and S. 1932, that was introduced by Senator Gardner and co-sponsored by Senators Feinstein, Sinema, Rosen and myself. Combined together, the consensus provisions from the bills reviewed and reported by this Committee, can and should form the basis of a water package that we can and should move this year. I look forward to hearing from our witnesses on the five bills before us today and working through the remaining issues to enact meaningful water legislation this year.

Now I will hand it over to Senator Cortez Masto.

STATEMENT OF HON. CATHERINE CORTEZ MASTO, U.S. SENATOR FROM NEVADA

Senator CORTEZ MASTO. Thank you. Good afternoon to everyone and thank you to Senator McSally for calling this legislative hearing. This is the first legislative hearing since the start of the COVID–19 pandemic, and I want to thank everyone, including our witnesses, for being flexible and adaptable during these uncertain times. This Congress, the Energy Committee has already reported out six water bills. However, it has been just over a year since we have had a legislative hearing on water legislation and I welcome the opportunity to move another five water bills through the Committee's process to help advance legislation that protects our nation's water supplies.

Today's hearing covers a variety of issues facing the Bureau of Reclamation, and the bills on today's agenda attempt to advance federal water policy to promote drought resiliency through forward thinking, collaborative policy solutions. These bills also call for investment in more resilient and robust infrastructure in surface groundwater and natural storage, recycling and reuse, desalination, efficiency and conservation. The legislation also highlights the need for greater investment in watershed health to benefit our downstream communities, fish, and wildlife. Managing our water

resources for the future means developing smart, collaborative solutions that benefit both people and the environment.

We will start with Senator Udall's bill, S. 2718, also known as the Western Water Security Act. This bill aims to promote water conservation, desalination and improve water management strategies that benefit both water managers and ecosystems in New Mexico and other Western states. An important aspect of this bill is to expand the Bureau of Reclamation's WaterSMART Water and Energy Efficiency Grant Program to include natural infrastructure projects and to allow participation from conservation, non-governmental organizations. Among other provisions, this bill expands emergency drought assistance for states and tribes, supports collaborative water management and research efforts and expands federal support for water desalination projects, particularly rural projects which can really help address water shortages across the arid West.

Our next agenda item is Senator Feinstein's legislation, the Restoration of Essential Conveyance Act. This bill authorizes $600 million in federal aid to repair three major canal projects in California that have been impacted by land subsistence and $200 million for the restoration goal of the San Joaquin restoration settlement. Senator Feinstein is here. We will hear further on this bill as well.

We also have Senator Harris' bill, S. 4188, the Water for Tomorrow Act. This bill focuses on addressing water management through sustainable investments in water infrastructure technology improvements and multi-benefit projects that support resilient, healthy ecosystems. It also creates a new grant program at the Department of the Interior to assist disadvantaged communities facing declines in drinking water in the arid West.

Next on the agenda is S. 4189, the Water for Conservation and Farming Act, sponsored by Senator Wyden. This bill aims to improve water access by funding projects that balance the needs of irrigators, fish and wildlife, watershed health and urban water users. This bill highlights the importance of investing in a balanced approach to water management. I want to thank Senator Wyden for emphasizing this in his legislation.

We will also be discussing, as the Chairwoman has said, Chairwoman McSally's bill on water and energy innovations in research and technology. I look forward to learning more about this bill today as well.

Let me just say, in order to sustainably manage scarce water resources, Congress must listen closely to those who work on and deal with these issues in their everyday lives. It may be easier to propose policies that pit one part of the economy over another or that override protections for the environment, but despite the thorny nature of these issues, it is imperative that we work together to find sustainable and collaborative solutions for our nation's water management challenges. Win-win solutions are our only hope of addressing climate change, drought and other water issues in the West over the long-term.

I want to commend the bills' sponsors for their focus and attention on water management challenges across the Western United States, and I look forward to a productive conversation today.

Chairwoman McSally, I also have a statement from Senator Harris on her bill, S. 4188, and letters of support for several bills on the agenda and ask that they be included in the hearing record.

Senator MCSALLY. Without objection, they will be included in the record.

Senator CORTEZ MASTO. Thank you.

[Senator Harris' statement and various letters of support follow:]

KAMALA D. HARRIS
CALIFORNIA
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United States Senate

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
COMMITTEE ON THE JUDICIARY
SELECT COMMITTEE ON INTELLIGENCE
COMMITTEE ON THE BUDGET

July 22, 2020

The Honorable Lisa Murkowski
Chair
U.S. Senate Energy and
Natural Resources Committee
Washington, DC 20510

The Honorable Joe Manchin
Ranking Member
U.S. Senate Energy and
Natural Resources Committee
Washington, DC 20510

Dear Chair Murkowski and Ranking Member Manchin:

Thank you for holding a legislative hearing on S. 4188, the Water for Tomorrow Act. This legislation is a critical component to ensuring the nation's water supply is safe and sustainable.

Every American has the right to clean water, but too many communities are confronting the effects of contaminated drinking water, increasing water bills, and the lack of a sustainable water supply. The threat of climate change, which has a disproportionate impact on low-income communities and communities of color, will continue to intensify water scarcity and extreme weather conditions, particularly in California and the West, underscoring the need to address the water crisis before it is too late.

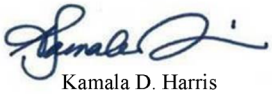
A diverse portfolio of water management, storage, recycling, and reuse techniques can help sustainably and responsibly manage water in the United States. A sustainable water supply relies on environmentally sound water storage projects with net ecosystem benefits, protection of clean water programs, support for water recycling and reuse, improvements to wastewater systems and flood management, utilization of natural infrastructure, water conservation and efficiency, and healthy ecosystems. Robust Federal investment and support is needed to assist the Western United States in developing drought resiliency in the face of climate change and addressing inequitable access to clean, affordable, and sustainable water.

That is why I am proud that the Water for Tomorrow Act puts forward a people and environment-focused approach to (1) water infrastructure and sustainability, (2) ecosystem protection and restoration, and (3) improved technology and data. We have the tools to comprehensively invest in the solutions that will provide clean, affordable, and sustainable water for tomorrow and generations to come.

Attached to this letter are letters of support for S. 4188 from the Natural Resources Defense Council, Earthjustice, Golden State Salmon Association, Pacific Coast Federation of Fishermen's Associations, and American Sportfishing Association.

I look forward to working with you and the Senate Energy and Natural Resources Committee on advancing this critical legislation.

Sincerely,



Kamala D. Harris
United States Senator

July 20, 2020

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

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

RE: Sportfishing Industry SUPPORT of the Water for Conservation and Farming Act (S. 4189)

Dear Chairman Murkowski and Ranking Member Manchin,

On behalf of the sportfishing industry, I am writing to express the American Sportfishing Association's (ASA) strong support for the Water for Conservation and Farming Act (S. 4189), introduced by Senators Ron Wyden and Jeff Merkley. ASA stands with thousands of recreational fishermen and business owners calling for Congressional attention and INVESTMENT in western water conservation and prevention of habitat destruction. The complex nature of western water issues is a challenge, yet the Water for Conservation and Farming Act is able to balance the needs of irrigators, conservation, and recreation.

The sportfishing industry has a vested interest in ensuring not only the solvency of our businesses, but also the natural resource conservation that are the foundation of our sector. We have long been concerned about the significant appropriations of public funds for water diversion and storage projects - with fishing populations and critical fish habitat as collateral damage. Many dams and other water infrastructure in the west coast serve to collect and store water for uses such as hydropower and irrigation. These water infrastructure projects led to lower natural flows and less habitat for fish downstream. In addition, changes occur in the quality of water when it is stilled behind dams. Year-after-year, we have seen large-scale fish kills and habitat destruction as a result of these publicly funded water infrastructure projects, with little or no attention given to the damage left in their wake.

In order for salmon and other fish to thrive, it is important to provide safe, swift passage past dams for juveniles traveling to the ocean and for adults migrating back to their spawning grounds. The Water for Conservation and Farming Act recognizes the need for western water security while authorizing critical funding to improve fisheries and habitat that are negatively impacted by current water management approaches. Of particular note, the bill reauthorizes the Fisheries Restoration and Irrigation Mitigation Act, providing $25 million through 2027 for fish

passage projects. Funds distributed from this program will allow continued support for fish screen and passage projects in Oregon, Washington, California, Montana, and Idaho.

In addition, S. 4189 establishes a new program for aquatic system restoration projects aimed at supporting fish passage projects that improve the health of threatened fish populations in addition to species listed under the Endangered Species Act. In order to carry out this objective, $25 million is authorized per year through 2026.

With western water becoming scarcer every year, the conservation of the natural environment must not be forgotten when attempting to address water needs. Senators Wyden and Merkley have offered legislation addresses the needs of water users in Reclamation States, while balancing the need to conserve habitat, fish populations and entire watersheds.

We thank Senators Wyden and Merkley for their leadership on this critical issue and for developing legislation that includes fish populations among the list of traditional water users, such as irrigators and power producers.

Sincerely,

Danielle Cloutier

Danielle Cloutier, PhD
Pacific Fisheries Policy Director
American Sportfishing Association

EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER

July 20, 2020

The Honorable Lisa Murkowski, Chair
Committee on Energy and Natural Resources
304 Dirksen Senate Office Building
Washington, DC. 20510

The Honorable Joe Manchin, Ranking Member
Committee on Energy and Natural Resources
304 Dirksen Senate Office Building
Washington, D.C. 20510

RE: Support for S. 4188

Dear Senator Murkowski and Senator Manchin,

I am writing to express Earthjustice's support for the recently introduced Water for Tomorrow Act, S. 4188, by Senator Kamala Harris, which addresses America's water infrastructure needs on multiple levels. We appreciate the important step this bill takes towards securing sustainable and equitable water for the West and for our nation as a whole. Climate change is placing further stress on all facets of our water supply, and we must invest in forward-looking legislation that promotes resilience in the face of emerging challenges. The Water for Tomorrow Act promises to do just that.

S. 4188 embodies a balanced approach to water management by authorizing a Reclamation infrastructure finance and innovation program that grants funding for a variety of water supply projects, including water recycling, stormwater capture, desalination, and water transport as vital complements to water storage. We support this significant investment in environmentally responsible management measures as essential alternatives to conventional water storage. We also appreciate that the program prioritizes low-interest loans for projects that benefit low-income communities and communities impacted by climate change - a necessary corrective to the heightened threat climate change poses to water supplies of these communities.

Additionally, we appreciate this bill's recognition that water supply projects are not only compatible with, but are enhanced by, the achievement of net ecosystem benefits. To that end, we strongly support the requirement for all projects authorized under Sec. 102's program to achieve net ecosystem benefits in excess of required environmental mitigation or compliance obligations. This requirement is a welcome contrast to bills that would subsidize compliance requirements with taxpayer funds.

This bill correctly underscores the critical role of ecosystem protection and restoration in securing a sustainable water supply - providing significant federal funding for refuge water deliveries, watershed restoration, drought planning for fisheries, and aquatic ecosystem protection. We appreciate reauthorization of the Cooperative Watershed Management Program with an added emphasis on disadvantaged communities, which will support long-term watershed resilience and ensure funding meets the greatest needs and achieves the greatest impact.

1001 G St NW, Suite 1000 Washington, D.C. 20001

EARTHJUSTICE
BECAUSE THE EARTH NEEDS A GOOD LAWYER

Finally, and crucially, this bill respects the sovereignty of existing laws by requiring authorized water infrastructure projects to comply with all applicable state and federal laws. This strong and clear legal safeguard is essential in light of recent attempts to authorize illegal and harmful water supply projects. We appreciate the Water for Tomorrow Act's approach to environmentally sound water management that meets the immediate needs of our water users and of our sensitive, water-dependent ecosystems, while increasing the sustainability and resilience of Western water in the face of new and growing challenges.

Sincerely,

Danny Folds

Associate Legislative Counsel | Lands, Wildlife & Oceans
Earthjustice

July 20, 2020

The Honorable Lisa Murkowski
Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Joe Manchin
Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Office Building
Washington, D.C. 20510

Re: Support for the Water for Tomorrow Act of 2020 (S. 4188)

Dear Chair Murkowski and Ranking Member Manchin:

Our organizations represent all aspects of the salmon fishing community, including commercial and recreational fishing, party boats, restaurants, marine equipment manufacturers and retailers, tribal interests and more. California's salmon runs support jobs from Santa Barbara to Alaska. In California alone, when our salmon runs are healthy, our industry generates $1.3 billion annually, as well as 23,000 jobs. We are writing to offer our strong support for the Water for Tomorrow Act of 2020 (S. 4188).

Past federal investments in water projects have resulted in dramatic impacts to the salmon fishing industry. We are pleased that S. 4188 works to address critical water needs while avoiding further impacts and promoting habitat and fisheries restoration. In particular, we offer our support for the following elements of the bill.

Habitat Restoration: Section 201 authorizes funding for habitat restoration projects that benefit commercially and recreationally important fish species, as well as species listed under the ESA. The potential benefits of well-designed salmon habitat restoration projects are significant. Our organizations invest a great deal of effort into habitat restoration projects that are critical to restoring river health and sustainable fisheries.

Drought Planning for Critically Important Fisheries: Section 204 authorizes the preparation of drought plans for critically important fisheries. Over the past decade, droughts have led to significant impacts to salmon runs. Those impacts have often been exacerbated by inappropriate water management decisions. This provision directs the preparation of drought management plans that could help avoid similar impacts in the future, through habitat restoration, hatchery release policies, hatchery facilities improvements, parentage-based tagging and the retrofit of existing water management facilities.

Net Ecosystem Benefits: Section 102 requires water supply projects funded by this section to provide net ecosystem benefits. The bill also requires a careful analysis to scrutinize the potential benefits and impacts of proposed projects. There is no need for water supply projects to result in ecosystem harm. In fact, our organizations actively support projects that can produce important water management, as well as ecosystem and fishery benefits.

Natural Infrastructure: The bill emphasizes the use of natural infrastructure (Sec. 102). Natural infrastructure, such as multibenefit floodplain projects, can provide benefits including groundwater recharge, reduced flood risk and habitat and fisheries restoration.

Water Quality for Disadvantaged Communities: Section 103 authorizes grants to support projects to help disadvantaged communities access safe drinking water. Past federal water projects have often failed to provide drinking water to disadvantaged communities. In addition, some past federal projects still provide highly subsidized – and therefore waste-inducing - water for agricultural users that result in the contamination of groundwater drinking water sources upon which many communities depend. Like fisheries impacts, groundwater contamination is a legacy federal impact that future federal water investments must address. S. 4188 does so.

Water Recycling: Sections 102 and 104 would fund water recycling projects. These projects can meet urban and agricultural needs and reduce vulnerability to climate change while reducing reliance on our over-tapped rivers. In fact, well designed recycling projects can also provide real environmental and fisheries benefits.

Improved Technology and Data: Section 301 supports improved technology and data. These investments, such as improving snowpack data and understanding the climate related risks facing federal dams, are critical to meeting 21st century water management challenges.

We urge the committee to pass S. 4188. Thank you for considering our comments.

Sincerely,

John McManus
Golden State Salmon Association

Mike Conroy
Pacific Coast Federation of Fishermen's Associations

Danielle Cloutier
American Sportfishing Association

Cc: Senator Kamala Harris

Audubon

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July 16, 2020

The Honorable Martha McSally

The Honorable Kyrsten Sinema

The Honorable Tom O'Halleran

The Honorable Ann Kirkpatrick

The Honorable Raúl Grijalva

The Honorable Paul Gosar

The Honorable Andy Biggs

The Honorable David Schweikert

The Honorable Ruben Gallego

The Honorable Debbie Lesko

The Honorable Greg Stanton

RE: Yuma Desalination Plant - Oppose

Dear Senators McSally and Sinema and Representatives O'Halleran, Kirkpatrick, Grijalva, Gosar, Biggs, Schweikert, Gallego, Lesko, and Stanton:

As you address urgently needed infrastructure priorities, we urge you to oppose the inclusion of authorization language or appropriations that could relate to the proposed Yuma Desalting Plant (YDP). This issue concerns Audubon because of the devastating impact the YDP would have on birds as well as the U.S.-Mexico relationship on the Colorado River. Specifically, the YDP relies on outdated technology and would decimate critical wildlife habitat. We urge you to oppose this harmful project.

Currently, draft infrastructure legislation sponsored by Senator McSally includes the following language, which could spur future action on the YDP:

> (ii) not less than 1 shall be an eligible desalination project conducted in the lower Colorado River Basin that—
>
> (I)(aa) is authorized under the Colorado River Basin Salinity Control Act (43 U.S.C. 1571 et seq.); and
>
> (bb) processes water to remove salt and returns the water to the mainstem of the Colorado River; or
>
> (II) would provide similar amounts of water to support Colorado River drought contingency operations, consistent with the Colorado River Drought Contingency Plan Authorization Act (Public Law 116–14; 133 Stat. 850), by improving efficiency in deliveries of Colorado River water, consistent with the treaty obligation of the United States to Mexico under the Agreement approving

Minute 242 of the International Boundary and Water Commission setting forth a permanent and definitive solution to the international problem of the salinity of the Colorado River, entered into force August 30, 1973 (24 UST 1968; TIAS 7708).

As part of the Colorado River Drought Contingency Plan (DCP), with thanks to your leadership in helping to pass this authorization through Congress in 2019, the United States Bureau of Reclamation (Reclamation) committed to conserving 100,000 acre feet of water per year. Some claim that the operation of the YDP would allow Reclamation to meet this commitment, because the project would reduce the volume of water released from Lake Mead required to meet Treaty-based delivery obligations to Mexico. In Arizona, there are understandable concerns around the impact to the state from having to release water from Lake Mead to meet delivery obligations to Mexico. However, there are faster and cheaper alternatives to YDP operation that Reclamation can implement. Nature-based alternatives include Colorado River System Conservation and improved management of Yuma area groundwater. In addition, a new agreement with Mexico could generate water as an alternative to YDP operation while creating permanent, bilateral protection for important water resources.

These alternatives would avoid harmful side effects on the Ciénega de Santa Clara—a 40,000-acre wetland 50 miles from the U.S. border fed by agricultural drainage water from the United States. Some 75% of the endangered Yuma Ridgway's Rail rely on the Ciénega de Santa Clara—a globally important bird area—for food, nesting, and their life cycle. Mexico has protected the Ciénega de Santa Clara as a federal Biosphere Reserve, and any U.S. action that harms the resource would be considered a breach of the hard-won binational partnership on the Colorado River that benefits water users in both countries.

Moreover, operation of the YDP would jeopardize the U.S. relationship with Mexico on the Colorado River, as Mexico has given the Ciénega its highest status protection as a Biosphere Reserve. YDP operation would create great uncertainty not only with respect to the renewal of Minute 323, the agreement that commits Mexico to sharing Colorado River shortages with U.S. water users, but also the prospects of developing a binational ocean desalination facility on the Upper Gulf of California, a project that could provide twice as much water supply as the YDP.

Thank you for your attention to this important issue and your assistance in opposing authorizing language or funds for the harmful YDP project. We look forward to continuing to work with the Arizona delegation to promote water conservation and water infrastructure priorities in the future.

Sincerely,

Julie Hill-Gabriel
Vice President, Water Conservation
National Audubon Society

Haley Paul
Policy Director
Audubon Arizona

CC: Senator Lisa Murkowski

Senator Joe Manchin

Audubon

Audubon | NEW MEXICO

The Honorable Martha McSally
Chair
Subcommittee on Water and Power
404 Russell Senate Office Building
Washington DC 20510

The Honorable Catherine Cortez Masto
Ranking Member
Subcommittee on Water and Power
516 Hart Senate Office Building
Washington DC 20510

July 22, 2020

RE: Western Water Legislation

Dear Senators McSally and Cortez Masto:

On behalf of the National Audubon Society and Audubon New Mexico, and in advance of the subcommittee's hearing on water legislation, we write to share our support for H.R. 4891/S. 2718, the Western Water Security Act, which would support water conservation efforts in the west. This legislation is critical to address the ongoing drought occurring in the Colorado River basin.

More than 40 million people rely on the Colorado River or its tributaries for their water, and these waters irrigate over five million acres of ranch and farmland, providing food and forage for states across the country. Our organizations represent people who value rivers and clean water, which provide important benefits to rural communities, the West's recreation economy, and fish and wildlife habitat, in addition to providing critical water supplies for cities, irrigated farmland, and tribes.

The Western Water Security Act (H.R. 4891/S. 2718) reauthorizes vital programs to address the ongoing western drought and water recycling. These projects create numerous jobs and provide economic benefits to local communities, which are critical during the ongoing economic recovery efforts. As water scarcity in the Colorado River Basin continues to pose serious challenges for cities, farms, wildlife and recreation, we appreciate proactive drought response and water conservation solutions. In particular, the focus on conservation, efficiency, and environmental restoration in this legislation will help the region adjust to shifts in water availability and the changing climate and help protect birds like the Southwestern Willow Flycatcher, Yellow-billed Cuckoo, Vermillion Flycatcher, and Western Tanager.

Sincerely,

Julie Hill-Gabriel
Vice President, Water Conservation
National Audubon Society

Jonathan Hayes
Executive Director
Audubon New Mexico

CC: Senator Tom Udall

July 14, 2020

The Honorable Lisa Murkowski
Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Office Building
Washington, D.C. 20510

The Honorable Joe Manchin
Committee on Energy and Natural Resources
United States Senate
304 Dirksen Senate Office Building
Washington, D.C. 20510

RE: Support for the Water for Tomorrow Act of 2020 (S. 4188)

Dear Chair Murkowski and Ranking Member Manchin:

On behalf of the Natural Resources Defense Council (NRDC), which has more than 3 million members and activists, more than 450,000 of whom are Californians, I am writing to express NRDC's support for the Water for Tomorrow Act of 2020 (S. 4188) by Senator Harris. S. 4188 employs a balanced approach to helping to address water supply, environmental, and safe drinking water challenges in the 17 Reclamation states across the Western U.S.

In particular, we support several provisions in section 102 of the bill that prioritize the bill's low interest loan program for water infrastructure projects that benefit disadvantaged communities and for multi-benefit projects, and that requires eligible projects to not only improve water supply but also to restore and protect fish and wildlife, and the communities and thousands of jobs that depend on a healthy environment. This approach is a welcome contrast to the Bureau of Reclamation's traditional approach to constructing and operating dams and water infrastructure that has produced significant economic benefits but also caused devastating impacts to native fish and wildlife in California and other western states.

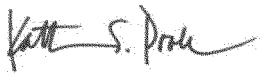
Section 102 of S. 4188 requires that water storage and other infrastructure projects demonstrate that they provide a net ecosystem benefit to be eligible for this loan program, ensuring that water infrastructure and ecosystem restoration go hand in hand. This approach is similar to California's successful 2014 water bond, which was broadly supported by agricultural groups, cities, conservation groups including NRDC. Section 102 prioritizes these low-interest loans for multi-benefit projects and projects that benefit disadvantaged communities, which helps ensure that federal funding is prioritized towards those with the greatest need and provides the greatest benefits.

In addition, other provisions of S. 4188 authorize significant federal funding for projects to ensure safe drinking water for disadvantaged communities, water recycling projects, and rural water supply projects. Finally, S. 4188 also provides funding for projects to help restore and protect wildlife refuges, native fish and wildlife, and watersheds. We greatly appreciate that the

bill funds habitat restoration projects that exceed existing mitigation and compliance obligations, ensuring that federal dollars result in additional habitat restoration projects, rather than simply subsidizing existing obligations.

NRDC also supported the Water Justice Act (S. 2466) that Senator Harris introduced on July 22, 2019. The Water Justice Act not only includes many of the provisions of S. 4188, but also includes two additional titles that are dedicated to addressing the problem of ensuring safe and affordable drinking water for everyone in the United States. While we support S. 4188 and recognize that this bill addresses legislative issues that are solely within the jurisdiction of the Committee on Energy and Natural Resources, we reiterate our support for S. 2466 and commend Senator Harris' efforts to help ensure that everyone has access to safe and affordable drinking water.

Sincerely,



Katherine Poole
Senior Director, Nature Program

July 20, 2020

The Honorable Lisa Murkowski
Chairman
Energy and Natural Resources Committee
U.S. Senate
Washington, DC 20510

The Honorable Joe Manchin
Ranking Member
Energy and Natural Resources Committee
U.S. Senate
Washington, DC 20510

The Honorable Martha McSally
Chairman, Water and Power Subcommittee
Energy and Natural Resources Committee
U.S. Senate
Washington, DC 20510

The Honorable Catherine Cortez Masto
Ranking Member, Water and Power Subcommittee
Energy and Natural Resources Committee
U.S. Senate
Washington, DC 20510

Re: July 22, 2020 Subcommittee on Water & Power Legislative Hearing

Dear Chairman Murkowski, Ranking Member Manchin, Chairman McSally and Ranking Member Cortez Masto:

We write to express our support of the Subcommittee on Water and Power holding its July 22nd legislative hearing on water bills and appreciate that Senator McSally, Senator Udall, Senator Wyden, Senator Harris and Senator Feinstein have all introduced bills to address water infrastructure and water conservation challenges. We appreciate the inclusion of provisions in many of the bills on the hearing's agenda that support collaborative, multi-benefit projects that will help to conserve water and reduce demand on western water supplies. We are pleased that a number of these provisions are similar to those found in the western drought section of the House passed HR 2, which our groups strongly supported.

More than 40 million people rely on the Colorado River or its tributaries for their water, and these waters irrigate over five million acres of ranch and farmland, providing food and forage for states across the country. Our organizations represent millions of people who value rivers and clean water, which provide important benefits to rural communities, the West's recreation

economy, and fish and wildlife habitat, in addition to providing critical water supplies for cities, irrigated farmland, and tribes.

We want to highlight several of the key provisions that include policies for the Bureau of Reclamation to help address ongoing drought in the West, and more specifically in the Colorado River Basin. Taken together, these provisions will help maintain the benefits of flowing rivers and healthy riparian areas for communities, fish and wildlife.

First, Senator Udall's Western Water Security Act, S. 2718, includes critical changes to focus and strengthen the WaterSMART program at the Bureau of Reclamation (Sections 101 and 202), reauthorizes the highly successful Cooperative Watershed Management Act (Section 305), and adds targeted, emergency drought funding (Section 103). These programs provide tools necessary to conserve water and allow for our organizations to partner with irrigators to implement win-win projects.

Senator Wyden's Water for Conservation and Farming Act, S. 4189, establishes a grant program to complete multi-benefit irrigation infrastructure and habitat restoration projects to improve watershed health and mitigate drought impacts (Section 204). This bill also improves drought planning and preparedness (Section 202) and supports restoration of aquatic connectivity by removing fish passage barriers (Section 206), among its many water security provisions.

Finally, there are several provisions in Senator Harris' Water for Tomorrow Act, S. 4188, which focus on ecosystem protection and restoration. These strategies will increase the drought-resiliency of watersheds of the Colorado River and across the West, and increase the economic, social and recreational benefits that healthy rivers provide.

We appreciate the Subcommittee's attention to western water and urge you to advance the provisions mentioned above through the committee. We look forward to working with the Committee as these bills move through the legislative process.

Sincerely,

Jimmy Hague
The Nature Conservancy

Melinda Kassen
Theodore Roosevelt Conservation Partnership

Julie Hill-Gabriel
National Audubon

Steve Moyer
Trout Unlimited

Mark Rupp
Environmental Defense Fund

Ted Illston
American Rivers

TO:

The Honorable Mitch McConnell
Majority Leader
U.S. Senate
S-230, United States Capitol
Washington DC 20510

The Honorable Chuck Schumer
Minority Leader
U.S. Senate
S-221, United States Capitol
Washington DC 20510

The Honorable Nancy Pelosi
Speaker
U.S. House of Representatives
H-204, United States Capitol
Washington DC 20515

The Honorable Kevin McCarthy
Minority Leader
U.S. House of Representatives
H-204, United States Capitol
Washington DC 20515

FROM: Trout Unlimited, Environmental Defense Fund, Theodore Roosevelt Conservation Partnership, National Audubon Society, American Rivers

April 20, 2020

RE: Coronavirus Emergency Relief Package

Dear Senate Majority Leader McConnell, Senate Minority Leader Schumer, Speaker Pelosi, and Minority Leader McCarthy:

On behalf of the above groups, we thank you for your leadership on emergency relief funding to address the economic impacts from the public health crisis created by the spread of COVID-19. As Congress works to address the ongoing crisis, we encourage you to ensure that job-creating investments also increase the resiliency and sustainability of critical infrastructure systems and focus on nature-based solutions for restoring watersheds and ecosystems in the Colorado River Basin. Helping workers remain in current jobs, providing new jobs, and encouraging economic recovery are critical to the country overcoming this crisis. The priorities and programs discussed below provide opportunities to retain and create jobs, while energizing the economy and providing conservation value.

More than 40 million people rely on the Colorado River or its tributaries for their water, and these waters irrigate over five million acres of ranch and farmland, providing food and forage for states across the country. Our organizations represent millions of people who value rivers and clean water, which provide important benefits to rural communities, the West's recreation economy, and fish and wildlife habitat, in addition to providing critical water supplies for cities, irrigated farmland, and tribes. Arizona's waterways alone contribute $13.5 billion to the state's economy and support 114,000 jobs.[1]

Investment in healthy ecosystems creates multiple economic benefits through ecotourism and outdoor recreation, increased resiliency, and the creation of new jobs or revenue to maintain existing jobs in local communities. As part of the next emergency relief bill or economic stimulus bill, we urge Congress to consider the following water and drought response priorities:

- **U.S. Department of the Interior, Bureau of Reclamation programs:** Projects and programs that address drought in the West and provide economic opportunities can improve the efficiency of Colorado River water use and result in conserved water savings that benefit all Colorado River water users. Stimulus funding could include:
    - $20 million for Cooperative Watershed Management Act projects;
    - $50 million for Drought Contingency Plan projects in the Lower Colorado River Basin;
    - $25 million for WaterSMART for the water energy and efficiency grant program specifically for multi-benefit projects designed to improve river flows or habitat for fish and wildlife;[2]
    - $50 million for the Title XVI water reuse and recycling projects that are part of the WaterSMART program;[3]
    - $50 million to drought response specifically for grants to improve watersheds and benefit ecosystems by building drought resiliency; and
    - $160 million for water conservation investments (canal lining, water control structures and on-farm irrigation infrastructure) and habitat development and maintenance in the Colorado River Delta, pursuant to Minute 323.
    - $50 million of funding for the Bureau of Reclamation should be allocated to natural infrastructure projects that support water supply and habitat improvements.
- **U.S. Department of the Interior, U.S. Geological Survey, and public lands projects:** Protection and restoration of our public lands and waters through these programs will create jobs, improve public safety, and increase resilience in a changing climate. The significant backlog in infrastructure and maintenance on the public facilities as well as restoration needs for lands managed and operated by these agencies could be addressed in a stimulus package, creating new jobs and economic opportunities across the country. Stimulus funding could include:
    - $100 million for U.S. Geological Survey's Federal Priority Streamgage program, an early warning system for states and communities; and

[1] Please see published report at: https://www.audubon.org/economic-impact-arizonas-rivers-lakes-and-streams.
[2] H.R 4891 and S. 2718 include provisions to improve the WaterSMART grant program. We would support adding these bills to an emergency relief or economic stimulus bill that includes infrastructure investments.
[3] H.R. 1162 includes provisions to strengthen the Title XVI program. We would support adding it in its entirety to an emergency relief or economic stimulus bill.

  - $150 million to the National Park Service's construction program, which funds water system improvements.
- **USDA Natural Resources Conservation Service (NRCS), Environmental Quality Incentives Program (EQIP), and Regional Conservation Partnership Program (RCPP):** Projects developed through NRCS programs would benefit the agricultural community and local economies and communities by funding drought resiliency projects, watershed restoration projects, and salt removal projects. Stimulus funding could include:
  - $200 million in additional funding to EQIP and RCPP, including funding to support habitat and dust mitigation projects in the Salton Sea.
- **Tribal lands:** Including projects for water supply and access on Tribal lands is critical to ensuring these communities, which are being disproportionally impacted by the coronavirus, are included in the next relief or stimulus bill. Example projects could include:
  - $110 million to fund improved infrastructure for Navajo Nation municipal water supply projects already designed to improve access to water supply on the Reservation.

We ask for your consideration of these priorities as you work to craft the emergency relief and stimulus bill that helps the economy while protecting both communities and natural resources. Please see us as a trusted resource moving forward on this and other issues where healthy communities, economies, and wildlife can overlap.

Sincerely,

Trout Unlimited

Environmental Defense Fund

Theodore Roosevelt Conservation Partnership

National Audubon Society

American Rivers

CC: Representative Steny Hoyer, House Majority Leader

Representative Marcy Kaptur, Chair, House Energy and Water Appropriations Subcommittee

Representative Mike Simpson, Ranking Member, Energy and Water Appropriations Subcommittee

Representative Raúl Grijalva, Chairman, Natural Resources Committee

Representative Rob Bishop, Ranking Member, Natural Resources Committee

Senator Lamar Alexander, Chairman, Energy and Water Appropriations Subcommittee

Senator Dianne Feinstein, Ranking Member, Energy and Water Appropriations Subcommittee

Senator Lisa Murkowski, Chairman, Energy and Natural Resources Committee

Senator Joe Manchin, Ranking Member, Energy and Natural Resources Committee

Senator MCSALLY. Thank you, Senator Cortez Masto.

Before we turn to our panel of outside witnesses, I am pleased that we are joined today by Senator Feinstein and Senator Udall—Senator Feinstein, in person, and Senator Udall, virtually—to speak about the bills they have before the Subcommittee.

Senator Feinstein, thank you for being here, and I would also like to express my appreciation for all the work you do to find common ground on water issues and advance bipartisan legislation. You are now recognized.

STATEMENT OF HON. DIANNE FEINSTEIN,
U.S. SENATOR FROM CALIFORNIA

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

Madam Chairman and Madam Ranking Member, thank you for inviting me to speak in support of the "Restoration of Essential Conveyance Act." California's 40 million people and our leading agricultural industry depend on thousands of miles of major canals to bring them water. I want to show you how desperately our canals need to be repaired.

This first picture shows what has happened as a result of subsidence, where the land has dropped 10, 20 or more feet due to over pumping of groundwater. You can see the result—the walls of the canal are completely collapsing.

[Senator Feinstein's Figure 1 follows:]

Figure 1. **Damage to water infrastructure**: Subsidence along the Delta-Mendota Canal

Senator FEINSTEIN. The second picture shows even longer cracks, and the entire side of the canal is caving inwards.

[Senator Feinstein's Figure 2 follows:]

***Figure 2*. Damage to water infrastructure**: A photo of subsidence along the California Aqueduct. The crack at the bottom of the photo is about 5 feet long and has caused the entire side of the canal to cave inwards. You can also see a crack developing that runs the length of canal (highlighted by arrows).

Madam Chairman, I know you have a bill to restore Reclamation's deteriorating infrastructure. S. 3811 has similar goals. It would: 1) authorize $200 million each to repair three essential canals in California, the Friant Kern Canal, the Delta Mendota Canal, and the California Aqueduct; and it would 2) authorize an additional $200 million for a critical environmental project, the San Joaquin River Restoration Program.

I want to put this bill in a larger context affecting Arizona and Nevada and the whole West. As you both well know, we are facing a severe threat of drought, which a changing climate is only going to make worse. The journal, Science, has concluded that we may be entering what is actually a megadrought, and we face a structural water deficit in the Colorado River Basin of approximately 1.2 million to 1.5 million acre-feet per year. This water deficit is only going to get much worse over time. The Bureau of Reclamation has projected that the Colorado River Basin's annual water supply deficit will be 3.2 million acre-feet by 2060. This projected annual deficit is equivalent to the water supply of 16 million people. This is a looming crisis, and it is critical that Congress develop bipartisan solutions to address it.

The canal restoration bill advances the types of projects that we need to reduce the Colorado Basin's water supply deficit. These canal restoration projects will provide significant water supply at an affordable cost. The three projects together will create an average of 367,000 additional acre-feet per year, or enough water for 1.8 million people. The new water will cost approximately $250 to $300 per acre-feet, about one-half to one-fifth the cost of other water supply projects. The federal cost-share will be 50 percent or less with water contractors paying the rest. The projects are broadly supported and non-controversial.

Madam Chairman, I would like to ask that these 25 support letters be placed in the record.

Senator MCSALLY. Without objection.

Senator FEINSTEIN. Thank you very much.

[Letters of support follow:]

AFRICAN-AMERICAN FARMERS OF CALIFORNIA

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

The African-American Farmers of California are pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and we thank you for your leadership on this issue.

We represent over 60 members throughout California. Our organization has doubled its membership since it started a 16-acre demonstration farm, which serves as a testing area where new farmers can get hands-on experience growing a variety of produce. Members are taught everything from driving a tractor to irrigating their crop. Water still remains the most important part of farming.

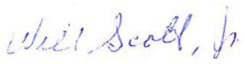
Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are all critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta, all of which affect the San Joaquin Valley.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals.

Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. We are on the brink of a water crisis given the state of aging and inadequate infrastructure.

We write to you in support of S. 3811 and support its passage.

Sincerely,



Will Scott, Jr.
President
African-American Farmers of California
3171 West Kearney
Fresno, CA 93706
559-970-8020

AMERICAN AGCREDIT
MONEY FOR AGRICULTURE

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

American AgCredit is writing in support of S.3811, the *Restoration of Essential Conveyance Act*, and applaud you for your leadership on this issue.

American AgCredit is part of the Farm Credit System, a nationwide network of lending institutions. We are a customer-owned cooperative with the sole mission of supporting the financial needs of American agriculture. We serve approximately 4,000 customers in California with loan volume just over $6 billion.

Being a single industry lender to agriculture, American AgCredit is keenly interested in reliable water supplies essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems.

California, as well as much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,
Byron Enix, CEO

400 Aviation Boulevard, Ste. 100
Santa Rosa, CA 95403
707-545-1200
AgLoan.com

July 21, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

The American Olive Oil Producers Association (AOOPA) is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

AOOPA is a voluntary national trade association for American olive oil farmers, millers, ancillary industries and state associations. AOOPA represents approximately 80 percent of olive oil producers throughout the U.S., with California representing almost 98 percent of domestic olive oil production. Our mission is to promote growth for the American olive oil industry, create fair access to global markets, and ensure the integrity and quality of olive oil for all consumers.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

Although olive trees are drought tolerant, a reliable water source is imperative to produce consistent olive crops for the production of high quality extra virgin olive oil. Extra virgin olive oil is scientifically proven to support the health and nutrition of consumers, as well as enhance their culinary enjoyment of the bountiful food produced in California. Olive production continues to expand south of the Delta as farmers look to ways to diversify their farming portfolios. This expansion represent an investment in the production of nutritious food and the communities in which they are grown. S.3811 provides a long overdue investment in California's water infrastructure to provide certainty to support further economic investment and enhance the wellbeing of the citizens of our farming communities and the great state of California.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The

1521 "I" Street
Sacramento, CA 95814
Phone: 916.441.1581

bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Kimberly Houlding
President and CEO
American Olive Oil Producers Association

AMERICAN PISTACHIO GROWERS™

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

American Pistachio Growers is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

American Pistachio Growers (APG) is a non-profit trade association representing over 800 growers and member processors in California, Arizona, and New Mexico. APG is governed by a democratically elected board of directors who are growers and is funded entirely by growers and independent processors with the shared goal of increasing global awareness of nutritious, American-grown pistachios.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

Infrastructure is the lifeblood of water in California. Even with a strong rainy year, the extra water means nothing to communities and farmers if it cannot be transported where it is needed. Investing in water conveyance infrastructure is an investment in communities that were drought-stricken in recent years, in need a safe drinking water supply. The success of these communities is reliant on an adequate and safe water supply and a vibrant farm economy.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed

to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Richard Matoian

Richard Matoian
President

ACWA
Association of California Water Agencies

Bringing
Water
Together

July 17, 2020

The Honorable Lisa Murkowski
Chairwoman – Senate Committee on
Energy & Natural Resources
522 Hart Senate Building
Washington, D.C. 20510

The Honorable Joe Manchin
Ranking Member – Senate Committee on
Energy & Natural Resources
306 Hart Senate Building
Washington, D.C. 20510

RE: ACWA Support for S. 3811, Restoration of Essential Conveyance Act

Dear Chairwoman Murkowski and Ranking Member Manchin,

The Association of California Water Agencies (ACWA) is pleased to support S. 3811, the Restoration of Essential Conveyance Act. ACWA's 455 public water agency members supply over 90 percent of the water delivered in California for residential, agricultural, and municipal uses.

S. 3811 raises the critical issue of deteriorating canal infrastructure across the American west. Subsidence, in addition to the age of canal infrastructure, continues to put California water users at a risk of supply shortages due to an inability to transfer water across the state. The Restoration of Essential Conveyance Act will help ensure water resiliency for Californians by providing funding for subsidence mitigation projects.

ACWA appreciates Senator Feinstein's efforts and specific actions this legislation takes to address these issues. We look forward to working with you to advance S. 3811 during this Congress and if you have any questions, feel free to contact ACWA's DC office at (202) 434 – 4760.

Sincerely,

David L. Reynolds

David Reynolds
Director of Federal Relations

CC:

U.S. Senator Dianne Feinstein

SACRAMENTO 980 9th Street, Suite 1000, Sacramento, CA 95814 • (916) 441-4545
WASHINGTON, D.C. 400 North Capitol Street NW, Suite 357, Washington, DC 20001 • (202) 434-4760
www.acwa.com

July 17, 2020

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

Re: Support for S. 3811, the Restoration of Essential Conveyance Act

Dear Senator Feinstein,

California Citrus Mutual (CCM) is pleased to support S.3811, the Restoration of Essential Conveyance Act, and thanks you for your leadership on this issue.

CCM is a voluntary advocacy association representing California's citrus growers and the state's $3.4 billion commercial citrus industry. Our members produce multiple varieties of citrus crops, operate farms of all sizes and scales, and are located in nearly every region of the state. While the citrus industry is diverse in many ways, every citrus producer and farming operation shares in common the need for a reliable water supply.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts

(559) 592-3790
512 N. Kaweah Avenue
Exeter, CA 93221
www.cacitrusmutual.com

of a changing climate. The Restoration of Essential Conveyance Act is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Casey Creamer
President and CEO

1785 N. Fine Avenue
Fresno, CA 93727
Telephone: 559.252.0684
Fax: 559.252.0551

July 19, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

On behalf of the over 600 cotton growers and 22 operating cotton gins in California representing the membership of the California Cotton Ginners and Growers Association, we wish to express our wholehearted support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

No commodity knows this water dilemma better than cotton. Between 2005 and 2009, the imposition of the two biological opinions in the delta for delta smelt and salmon reduced water flow south of the delta, by over 500,000 acre-feet. As a result, Fresno County went from the #1 cotton producing county in the country to #75, and the number of cotton gins dropped from 26 to 6. This resulted in more than 1,000 jobs to be lost in the county for cotton alone! As you know all too well, California is in a dire situation in terms of water supply. Over the past several years California has experienced devastating droughts, both man-made and nature-made. Then when we have abundant rainfall years, a lack of storage and conveyance issues, can cause a loss of millions of acre feet of water to the ocean.

Given all the dire situation in terms of water supply, our growers have taken measures to maximize water efficiency by converting to drip irrigation however if the supply issues continue to persist it will cause additional cotton acreage to be fallowed. This will result in not only farm jobs lost but also jobs at cotton gins, transportation and all the jobs that serve our operations will be lost.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Priscilla Rodriguez
Director of Regulatory Affairs

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

California Dairy Campaign and California Farmers Union are pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and we thank you for your leadership on this important issue.

California Dairy Campaign (CDC) is a grassroots organization of dairy farmers who work on a range of issues on behalf of family owned dairy farmers throughout California. CDC is a member organization of California Farmers Union (CFU) which is a state chapter of National Farmers Union (NFU), an organization representing more than 200,000 members nationwide

Reliable water supplies are essential to the public health, ecosystems, agriculture, and the economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

California farmers rely upon the canal system to provide water to their farming operations. California farmers are unable to pass on the higher costs for rising water rates that will result unless the repairs are made to repair the damaged canal system. Damage from subsidence poses a threat to the availability of water throughout the Central Valley and making the needed investments to repair the system will do a great deal to ensure a reliable water supply for farmers in the future.

S. 3811, the *Restoration of Essential Conveyance Act*, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both

325 Mitchell Avenue, Turlock, CA 95380
P.O. Box 1957, Turlock, CA 95381
www.californiafarmersunion.org
(209)632-0381 Fax: (209)632-5262
Email: cdc@californiadairycampaign.com
www.californiadairycampaign.com

groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the importance of this legislation for California farmers and support its passage by Congress.

We commend your leadership in addressing critical water infrastructure issues. We thank you for your attention in this regard and look forward to working with you on these and other issues that affect California's farm families. If you should require further information, please contact Executive Director Lynne McBride at 925-385-0217.

Sincerely,

Joe Augusto
President
California Dairy Campaign

Joaquin Contente
President
California Farmers Union

325 Mitchell Avenue, Turlock, CA 95380
P.O. Box 1957, Turlock, CA 95381
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(209)632-0381 Fax: (209)632-5262
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CALIFORNIA FARM BUREAU FEDERATION
2600 River Plaza Drive, Sacramento, CA 95833-3293 · Phone (916) 561-5520 · Fax (916) 561-5690

July 21, 2020

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

Re: Support for S. 3811, the Restoration of Essential Conveyance Act

Dear Senator Feinstein:

California Farm Bureau Federation (Farm Bureau) is pleased to support S. 3811, the Restoration of Essential Conveyance Act. Farm Bureau thanks you for the introduction of this important legislation and your ongoing dedication to improving the certainty of water supply reliability for California's farmers and ranchers.

The Delta-Mendota Canal, Friant-Kern Canal, and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost infrastructure capacity, failure to repair and prevent future impairment of these critical facilities will result in increased pumping costs to operate these projects, ultimately resulting in water rate increases for California's farmers and ranchers.

Federal support is needed to restore and maintain the capacity of California's essential water delivery systems. S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding to repair three extremely critical water infrastructure projects that have experienced reduced conveyance capacity. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $200 million for the California Aqueduct.

As you know, the state of California is implementing the Sustainable Groundwater Management Act. It has been estimated that 20% of farmland, approximately 1 million acres, may have to be retired in a region that produces $36 billion in crops annually if the canals are not restored, groundwater recharge accomplished, and other critical water solutions found. Restoring capacity of these canals could allow farmers and ranchers to sustainably manage aquifers and offset reductions in groundwater pumping by conveying surplus water in wet years for use in groundwater recharge projects.

As our members continue to farm during the ongoing COVID-19 pandemic, it is more important than ever that farmers have reliable and consistent water resources needed to produce nutritious, safe and affordable food. Again, Farm Bureau greatly appreciates your dedication to addressing

California's infrastructure maintenance needs. The Restoration of Essential Conveyance Act is an important step in stewarding California's critical water resources. For these reasons, we strongly support S. 3811 and support its passage.

Sincerely,

Jamie Johansson
President

CALIFORNIA
FRESH FRUIT
ASSOCIATION

TELEPHONE 559.226.6330
FAX 559.222.8326
EMAIL cffa@cafreshfruit.com

7647 N. Fresno Street, Suite 103
Fresno, CA 93720

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein:

The California Fresh Fruit Association (CFFA) is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue. CFFA is a statewide voluntary public policy organization that works on behalf of our members – growers, shippers, marketers, and associates – on issues that affect tree fruit and table grape commodities.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal, and California Aqueduct are critical water infrastructure facilities that convey much needed water from the Sacramento-San Joaquin Delta to water users across California, including farmers and agricultural producers. Each of these conveyance facilities has suffered a reduction in capacity due to land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the *Restoration of Essential Conveyance Act*, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

CALIFORNIA
FRESH FRUIT
ASSOCIATION

TELEPHONE 559.226.6330
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7647 N. Fresno Street, Suite 103
Fresno, CA 93720

California and much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. The *Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Ian LeMay
President
California Fresh Fruit Association

CALIFORNIA WOMEN for AGRICULTURE

1521 I Street
Sacramento, CA 95814
(916) 441-2910
www.CAWomen4Ag.com

July 22, 2020

The Honorable Dianne Feinstein

United States Senate

331 Hart Senate Office Building

Washington, DC 20510

Re: Support for S. 3811, Restoration of Essential Conveyance Act

Dear Senator Feinstein,

California Women for Agriculture would like to add our organization's support for S. 3811 which would authorize $600 million in federal funding for three major projects to repair California's water delivery systems.

Land subsidence in our water infrastructure facilities has caused a reduction in capacity, increased pumping costs, and ultimately negatively impacted water users through water rates increases. These important canals convey water from the Sacramento-San Joaquin Delta to California water users, especially those who produce our food and fiber.

Our organization has long supported the protection of existing water supplies and the need to provide reliable water for current and future needs of both urban and rural users.

We thank you for addressing the water crisis in our state with the Restoration of Essential Conveyance Act.

Sincerely,

Rose M Tryon

Rose Tryon VanCott,

State President

California Women for Agriculture

County of Fresno
BOARD OF SUPERVISORS

Chairman	Vice-Chairman				
Buddy Mendes	**Steve Brandau**	**Brian Pacheco**	**Sal Quintero**	**Nathan Magsig**	**Bernice E. Seidel**
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July 17, 2020

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

Re: Support for S. 3811, the Restoration of Essential Conveyance Act

Dear Senator Feinstein:

On behalf of the residents of the County of Fresno, I am writing to express our support for your legislation entitled the "Restoration of Essential Conveyance Act" (S. 3811). Additionally, I want to thank you for your leadership on this important issue.

As you are very aware, agriculture is the economic engine of the San Joaquin Valley and nowhere is that more apparent than in Fresno County. Our farmers produce over 300 commodities that supply the highest quality of food and fiber nationwide, as well as to more than 95 countries around the world. Fresno County is home to nearly one million hardworking Californians, most of whom contribute to and or rely upon our more than $7 billion-dollar agriculture economy.

The viability of the San Joaquin Valley's most significant economic driver, agriculture, is dependent on the availability of water. With the passage of the Sustainable Groundwater Management Act in 2014, California's water managers are now required to develop a strategy to operate underlying aquifers sustainably by 2040. With the southern San Joaquin Valley estimated to have a 2.5-million-acre-foot shortfall of groundwater, every drop of additional surface water made available will help prevent the fallowing of some of the most productive farmland in the world and affecting those that rely on it.

To that end, reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal, and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, which will negatively impact water users through water rates increases.

Your legislation authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, and much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. Your bill is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We appreciate your leadership on this issue and support the passage of your bill.

Sincerely,

Ernest Buddy Mendes, Chairman
Fresno County Board of Supervisors

cc: Fresno County Board of Supervisors
Fresno County Federal Legislative Delegation

Friant
WATER AUTHORITY

854 N. Harvard Ave.
Lindsay, CA 93247

1121 L St., Ste. 610
Sacramento, CA 95814

(559) 562-6305

July 21, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

On behalf of Friant Water Authority (FWA), I am pleased to offer our support for S.3811, the *Restoration of Essential Conveyance Act*. FWA is grateful for your continued leadership on this issue and so many others related to California water.

FWA is a public agency formed under California law to operate and maintain the Friant-Kern Canal, a component of the Bureau of Reclamation's Central Valley Project (CVP), and to represent the water rights and interests of its members, all of whom are contractors in the CVP's Friant Division. FWA (initially as the Friant Water Users Authority) has operated and maintained the Friant-Kern Canal as a "transferred work" under contract to the Bureau of Reclamation since 1986. Reclamation retains ownership of the 152-mile-long canal and its related distribution works, and Reclamation administers the contracts governing the purchase and delivery of CVP water to about 1.5 million acres of farm land, more than 15,000 farms, and several municipalities. FWA is responsible for all aspects of the canal's operation, maintenance and replacement (OM&R) as well as all costs related to those activities.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Friant-Kern Canal, Delta-Mendota Canal, San Luis Canal, and California Aqueduct are critical water infrastructure that form the backbones of our statewide water management system. Each of these conveyance facilities has suffered a reduction in capacity resulting from land subsidence.

In 2017, FWA discovered that during the recent severe drought years, a section of the Friant-Kern Canal had subsided by more than three feet since 2014. This limited the canal's ability to carry water through its southernmost third to about 40% of its designed capacity. That same year, the conveyance constriction prevented more than 300,000 acre-feet of water from being delivered to farms, cities and, importantly, for use to recharge the southern San Joaquin Valley's overdrafted groundwater aquifers. FWA has worked for more than three years to develop a plan for addressing the conveyance restriction and secure funding to help implement it.

S. 3811, the *Restoration of Essential Conveyance Act*, authorizes $600 million in federal funding to repair California's water delivery systems which have experienced reduced conveyance capacity resulting from subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement, an agreement to which the Friant Division long-term contractors are parties.

California and much of the western United States, is facing an ever-worsening water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. The *Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat.

Thank you, again, for introducing this legislation and continuing to provide inspiring leadership for addressing California's most critical and urgent water challenges.

Sincerely,

Jason Phillips
Chief Executive Officer

HARRIS FARMS

23300 W. Oakland Ave.
Coalinga, CA 93210
(559) 884-2477
FAX (559) 884-2267
www.harrisfarms.com

July 21, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

Harris Farms, Inc. is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

Harris Farms is a diversified agricultural company in California that produces and markets, almonds, pistachios, citrus and several vegetable crops. It also includes Harris Ranch Inn & Restaurant, a major hospitality center on Interstate 5, which includes the fifth busiest independent restaurant in California. Harris Farms has been active in breeding and racing thoroughbred horses for almost 50 years, producing several California bred champions.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

John C. Harris
Chairman/CEO

(661) 634-1400

Mailing Address
P.O. Box 58
Bakersfield, CA 93302-0058

Street Address
3200 Rio Mirada Drive
Bakersfield, CA 93308

July 15, 2020

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

The Honorable Lisa Murkowski
522 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Kamala Harris
112 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Joe Manchin
306 Hart Senate Office Building
Washington, D.C. 20510

Re: Support of S. 3811

Dear Honorable Members:

The Kern County Water Agency (Agency) supports S. 3811, the Restoration of Essential Conveyance Act, which is scheduled to be heard by the Senate Energy and Natural Resources Committee on July 22, 2020.

The Restoration of Essential Conveyance Act (Act) would provide a proportionate share of funding to supplement the local funding available to restore the California Aqueduct to its full capacity. The California Aqueduct serves much of California's San Joaquin Valley including Kern and Tulare Counties, the country's second and third highest producing agricultural counties growing a wide range of fruits, nuts, and vegetables to meet the national demand.

The water supply that supports those crops is delivered by the California Aqueduct which has suffered subsidence over past decades reducing its ability to safely carry water to the farms in Kern and Tulare counties. The Act would restore the capacity of the aqueduct by providing $200 million as a share of the total costs for repair of the California Aqueduct. The Act also would fund similar repairs on the Friant-Kern Canal and the Delta Mendota Canal also located in California.

The farmers in California's San Joaquin Valley grow almost one third of the country's vegetables and two-thirds of its fruits and nuts. The federal investment provided by the Act will join investments by local water districts to help safeguard the national food supply.

The Agency appreciates Senator Feinstein's leadership in solving this problem and her career-long dedication to ensuring California's farmers can continue providing the Nation with a reliable, high quality, year-round supply of fruits, nuts, and vegetables. The Restoration of Essential Conveyance Act is a necessary next step in the national investment in food security.

Thank you for your consideration and support of S. 3811.

Sincerely,

Royce Fast
President

KERN
GROUNDWATER AUTHORITY

July 20, 2020

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

Re: Support for S. 3811, the Restoration of Essential Conveyance Act

Dear Senator Feinstein,

The Kern Groundwater Authority is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

The Kern Groundwater Authority was established though a Joint Powers Agreement for the requirement of the Sustainable Groundwater Management Act (SGMA) as a Groundwater Sustainable Agency (GSA) for the Kern County subbasin. The Kern County subbasin is home to the most productive agricultural lands in the United States and is known as part of the "breadbasket" that feeds the people of the United States and the World. Without the essential component of water, there would not exist the productivity and the jobs associated to that productivity.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Jason Selvidge, Chair

1800 30th Street, Suite 280, Bakersfield, CA 93301 • Tel: (661) 479-7171 • Fax: (661) 616-5890 • www.kerngwa.com

Mape's Ranch and Lyons' Investments
10555 Maze Road Modesto, CA 95358
Office: (209) 522-1762 FAX: (209) 522-7871

July 21, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

Mape's Ranch / Lyons' Investments is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your continuing leadership on this issue and many other issues and opportunities that impact the residents of California.

Our family has been actively farming and ranching in the Central Valley of California for almost 100 years. We grow almonds, walnuts, grapes, alfalfa, corn, oats, wheat, and have a 1,500 cow/calf herd.

As the former Secretary of Agriculture under Governor Gray Davis, and recently as senior advisor on agriculture and water policy to Governor Gavin Newsom, I understand reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100

million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, state and federal in-fighting, and particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. On behalf of my family, we write to express the need for this legislation and support its passage.

Sincerely,

William (Bill) J. Lyons, Jr.

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

June 2, 2020

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

RE: S.3811, the Restoration of Essential Conveyance Act - SUPPORT

Dear Senator Feinstein:

The Metropolitan Water District of Southern California (Metropolitan) is pleased to support S.3811, the Restoration of Essential Conveyance Act, and thanks you for your leadership on this issue.

Metropolitan is the regional wholesale water provider for the six-county, 5,200 square mile region of Southern California serving about 19 million people through its 26 member agencies and their retail providers. Metropolitan supplies roughly 30 percent of the region's water supply from the State Water Project (SWP). The California Aqueduct, a critical part of the SWP that carries water from the Sacramento-San Joaquin Delta to Southern California, has suffered a reduction in capacity as a result of land subsidence along the aqueduct. In addition to lost capacity, continued subsidence will increase pumping costs to operate the project.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, and $200 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems.

Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

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

Sincerely,

Jeffrey Kightlinger
General Manager

700 N. Alameda Street, Los Angeles, California 90012 • Mailing Address: Box 54153, Los Angeles, California 90054-0153 • Telephone (213) 217-6000

cc: The Honorable Kamala Harris
Southern California Congressional Delegation
The Honorable Jim Costa
The Honorable TJ Cox
The Honorable John Garamendi
The Honorable Josh Harder

MILK PRODUCERS COUNCIL

Serving the Dairy Industry for More Than 60 Years

July 16, 2020

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

RE: Support for S. 3811, the *Restoration of Essential Conveyance Act*
Delivered via email to Shelly_Abajian@feinstein.senate.gov

Dear Senator Feinstein,

Milk Producers Council (MPC) strongly supports S. 3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

MPC is a dairy producer trade association, which has represented California dairy farm families since our founding in 1949. Over the past 70 years, California has emerged as a world leader in agriculture and milk production. We have benefited from the vision and the investments in water infrastructure of prior generations. Some of that backbone infrastructure is now showing the stresses of age. A renewed investment in those facilities is critical to be able to provide water for public health, ecosystems, agriculture, and to support economic viability throughout California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities needs repair to restore and sustain their crucial role in moving water from areas of abundance to areas of need in California.

The dairy industry provides nutritious food, thousands of jobs, and billions of dollars of economic activity, including tax revenue, for our communities. Its viability depends directly on having a reliable and sufficient water supply to grow the feed and water the cows. That water supply is at risk of being severely curtailed due to the problems of these major water conveyance facilities.

The Restoration of Essential Conveyance Act is a critical step towards restoring water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Kevin Abernathy
General Manager

P.O. Box 4030, Ontario, CA 91761 ~ phone: (909) 628-6018 ~ fax: (909) 591-7328
2328 Jonathon Court, Escalon, CA 95320 ~ phone: (209) 691-8139
office@milkproducers.org ~ http://www.milkproducers.org

NISEI FARMERS LEAGUE
1775 N. Fine Street
Fresno, CA 93721
(559) 251-8468

July 20, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

Nisei Farmers League is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and we thank you for your leadership on this issue.

We represent over 500 members throughout California. Our representation includes growers, packing houses, farm labor contractors and farm workers. We keep our members informed about ever-changing regulations and policies and provide legal assistance for labor and workplace related issues. Our leadership and staff maintain a close working relationship with local, state and federal agencies and legislators to assure our members interests are adequately understood and defended. We also provide training and educational programs for our growers and farm workers.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are all critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to many of our members. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct.

Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Manuel Cunha, Jr.
President

San Luis & Delta-Mendota Water Authority

P.O. Box 2157
Los Banos, CA 93635
Phone: (209) 826-9696
Fax: (209) 826-9698

July 17, 2020

Delivered via email

The Honorable Lisa Murkowski
Chairman
Committee on Energy & Natural Resources
United States Senate
Washington, DC 20510

The Honorable Joe Manchin III
Ranking Member
Committee on Energy & Natural Resources
United States Senate
Washington, DC 20510

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Chairman Murkowski and Ranking Member Manchin,

The San Luis & Delta-Mendota Water Authority ("Authority") is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, authored by Senator Dianne Feinstein and appreciates the Committee's consideration of the legislation at its upcoming hearing.

The Authority is a joint-powers authority of 28 member agencies that serves two important roles: 1) to provide representation on common interests of the Water Authority's member agencies; and 2) to operate and maintain the Delta Division and south of Delta Central Valley Project ("CVP") facilities, including the Jones Pumping Plant, the Delta-Mendota Canal ("DMC") and the O'Neill Pumping Plant, that the Authority's member agencies depend on for delivery of CVP water. The Authority's member agencies contract with the U.S. Bureau of Reclamation ("Reclamation") for a portion of their water supply and provide water to approximately 1.2 million acres of irrigated agriculture in the San Joaquin Valley, over 2,000,000 people in the Silicon Valley, and approximately 200,000 acres of managed wetlands of critical importance to the Pacific Flyway. The Authority appreciates your ongoing efforts to assist in addressing water supply and infrastructure needs in California and across the United States.

Reliable water supplies are essential to the public health, ecosystem, agriculture, and regional economic viability of the San Joaquin, San Benito and Santa Clara Valleys. From investments in conjunctive use, improved surface and subsurface storage, more efficient conveyance methods, and water recycling, the Authority and its member agencies continue to do their part to build a more resilient future for the communities and ecosystems that are reliant on the water made available through the CVP. Integrating federal and state water policy, water management and water infrastructure to respond and adapt to the challenges posed by changing hydrology is one of the defining challenges of our time for California's

economy and environment. We appreciate the collaborative partnership between local and state government, the Committee and the federal administration to establish policy and provide the necessary funding needed to address this challenge.

The Delta-Mendota and San Luis Canals are critical CVP facilities that convey water from the Sacramento-San Joaquin Delta to California water users and each has suffered a reduction in capacity as a result of land subsidence along the aqueduct. In addition to lost capacity, continued subsidence will increase pumping costs to operate the project.

S. 3811, the *Restoration of Essential Conveyance Act*, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems.

Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. The *Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Federico Barajas
Executive Director

cc: The Honorable Dianne Feinstein (CA)
The Honorable Kamala Harris (CA)

South Valley Water Association

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

July 20, 2020

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 S. 3811, the Restoration of Essential Conveyance Act. SVWA believes that the funding mechanisms in this bill can provided needed resources to begin addressing the impacts of subsidence in California.

Subsidence is an issue that plagues the entire state of California but nowhere are the impacts as visible as in the San Joaquin Valley. Because of subsidence, the Friant-Kern canal, which relies entirely on gravity to deliver water to communities and a total of 1 million acres of farmland, has lost roughly 60% of its carrying capacity, as the canal has literally sunk into the ground creating pinch points upstream of some of the largest users of water. These pinch points prevent the efficient movement of water and have caused serve economic impacts.

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 wield water from Millerton Lake through to the southern end of the Friant service area. 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. The double-sided impact of subsidence is not just the inability to deliver irrigation and recharge water and gain the resulting benefits, but also that the diversion of that water into the Friant-Kern Canal is also part of mitigating flood impacts on the levy systems below Friant Dam.

SVWA appreciates all that 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

July 20, 2020

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

The Honorable Lisa Murkowski
522 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Kamala Harris
112 Hart Senate Office Building
Washington, D.C. 20510

The Honorable Joe Manchin
306 Hart Senate Office Building
Washington D.C. 20510

Dear Honorable Members:

The State Water Contractors (SWC) respectfully convey its strong support for S. 3811, the Restoration of Essential Conveyance Act authored by Senator Dianne Feinstein. The Senate Energy and Natural Resources Committee is scheduled to hear S. 3811 at its July 22, 2020 hearing.

The SWC is a non-profit association of 27 public water agencies from Northern, Central and Southern California that deliver water for use in our homes, schools, hospitals, farms, and businesses. These public water agencies receive some portion of their water supply from the State Water Project (SWP) and help manage our state's precious and finite water resources.

The SWP is a collection of 700 miles of canals, pipelines, reservoirs, and hydroelectric power facilities that deliver water flowing from high in the Sierra Nevada Mountains all the way to the tap. Two of every three Californians receive water from the SWP, which provides high-quality drinking water to 27 million Californians and 750,000 acres of farmland throughout the state.

Subsidence along the California Aqueduct, a feature of the SWP, has reduced the aqueduct's ability to carry water to its customers, has resulted in higher operational power use and costs, increased water delivery outages and major repairs. The present and future loss of capacity of the California Aqueduct due to subsidence impacts and erodes the ability for regions across the state to optimize groundwater banking and conjunctive use programs and to fully adapt to the widely varying hydrology of climate change.

Over $260 million in rehabilitation projects to address the impacts of subsidence have already been completed or are in the planning and design phases. In addition, the planning and assessment of long-term subsidence recovery projects is advancing and cost estimates for these more extensive efforts exceed $1.35 billion. When completed, the projects funded by these investments will be protected from further subsidence by California's Sustainable Groundwater Management Act.

1121 L Street, Suite 1050 • Sacramento, California 95814-3944 • 916.447.7357 • FAX 916.447-2734 • www.swc.org

The federal funding provided by S. 3811 would match funding provided by local public water agencies and anticipated state funding to restore the California Aqueduct to its original capacity. The California Aqueduct supports the economies of Southern California and the Silicon Valley which are an integral part of the national economy. The food supply provided by the farmers in California's Central Valley produce much of the nation's vegetables and most of its fruits and nuts. The Restoration of Essential Conveyance Act makes an appropriate federal investment in a strong national economy and food security by funding a share of the repairs to the California Aqueduct.

The State Water Contractors respectfully request your support for S. 3811.

Sincerely,

Jennifer Pierre
General Manager

WESTERN AGRICULTURAL PROCESSORS ASSOCIATION

1785 N. Fine Avenue, Fresno, California 93727
559-455-9272
f: 559-251-4471
www.agprocessors.org

July 19, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

On behalf of the tree nut hullers and processors of almonds, pecans, pistachios and walnuts in California, the membership of the Western Agricultural Processors Association (WAPA), we wish to express our wholehearted support S.3811, the *Restoration of Essential Conveyance Act*, and thanks you for your leadership on this issue.

Reliable water supplies are essential to the public health, ecosystems, agriculture, and economic viability of all of California. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered a reduction in capacity as a result of land subsidence. In addition to lost capacity, continued subsidence will increase pumping costs to operate these projects, ultimately negatively impacting water users through water rates increases.

As you know all too well, California is in a dire situation in terms of water supply. Over the past several years California has experienced devastating droughts, both man-made and nature-made. Then when we have abundant rainfall years, a lack of storage and conveyance issues, can cause a loss of millions of acre feet of water to the ocean. The dire water situation minimizes our ability to protect ourselves and diversify our commodities. If the state moves forward to cut the flows on the three tributarty rivers, you will see the similar impact on the East side of the Central Valley as the two Biological Opiniions had on the West Side of the Central Valley. This will cause farm land to be fallowed and a large loss of not only farm jobs, but similarly hullers, transportation, and all the jobs that serve those operations will be lost.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100

million for the California Aqueduct. Both groundwater overdraft and drought have contributed to subsidence in these areas, and federal support is needed to restore the capacity of California's water delivery systems. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, 3 million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,

Priscilla Rodriguez
Director of Regulatory Affairs & Food Safety

July 21, 2020

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

Re: Support for S. 3811, the *Restoration of Essential Conveyance Act*

Dear Senator Feinstein,

Western Growers is pleased to support S.3811, the *Restoration of Essential Conveyance Act*, and we thank you for your leadership on this issue. Western Growers Association is an agricultural trade association headquartered in Irvine, California that represents fresh fruit, vegetable, and tree nut producers in California, Arizona, New Mexico, and Colorado. Our association's members grow approximately 50 percent of the total fresh produce production in the United States, including 50 percent of the total organic produce production.

You have long focused on ensuring that all Californians, including our world-class farmers, have reliable water supplies. The Delta-Mendota Canal, Friant-Kern Canal, San Luis Canal and California Aqueduct are critical water infrastructure facilities that convey water from the Sacramento-San Joaquin Delta to California water users. Each of these conveyance facilities has suffered critical damage that has significantly reduced their capacity largely as a result of land subsidence. Without significant repairs, s these facilities' conveyance capacity will further decline, choking off water supplies for farmers and also undermining the Newsom Administration's desired resiliency in adapting to the Sustainable Groundwater Management Act (SGMA). As you know, adaptation to SGMA's mandates will result in good farmland being taken out of production. The question to be answered by policy decisions is how much farmland will be permanently lost. Only a fully capable conveyance system capable of moving excess precipitation runoff to groundwater storage facilities and recharge-capable farmland can provide the resiliency needed to avert an economic and social disaster under SGMA.

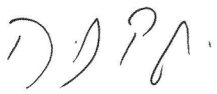
Obviously these variable outcomes are enormously consequential to thousands of farms in California and millions of our fellow Californians connected to the agricultural economy. These canals must be repaired and water reliability must be ensured.

S. 3811, the Restoration of Essential Conveyance Act, authorizes $600 million in federal funding for three major projects to repair California's water delivery systems which have experienced reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the

Friant-Kern Canal, $200 million for the Delta-Mendota Canal, $100 million for the San Luis Canal, and $100 million for the California Aqueduct. Groundwater overdraft (exacerbated by state and federal regulatory policies that have since 1992 increasingly reduced surface water deliveries to the San Joaquin Valley and Southern California) and persistent and worsening drought conditions have contributed to subsidence in these areas. Without federal support it is unlikely the capacity of California's water delivery systems will be protected and restored. Additionally, the bill provides $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

California, indeed, much of the western United States, is on the brink of a water crisis given the state of aging, impacted, or inadequate infrastructure, particularly in light of the hydrologic impacts of a changing climate. *The Restoration of Essential Conveyance Act* is a welcome step towards restoring critically-important water supplies to 27 million Californians, particularly to those communities most in need, three million acres of the nation's most productive farmland, and hundreds of thousands of acres of wildlife habitat. We write to express the need for this legislation and support its passage.

Sincerely,



Dave Puglia
President and CEO
Western Growers

dpuglia@wga.com
949.885.2252

Because these projects are restoring canals damaged by subsidence to their original design capacity, they actually raise very few environmental issues.

Finally, the bill not only improves water supply to adapt to future droughts, but the bill also authorizes an additional $200 million for restoring a salmon run on the San Joaquin River, California's longest river. For these reasons, I urge the Committee to approve the "Restoration of Essential Conveyance Act" and I look forward to working with you both—to the three of you now, two women and one man, which is a historic reversal of the ratio—to getting it enacted along with other critical water legislation. Thank you so much.

Senator MCSALLY. Thank you, Senator Feinstein.

[The written statement of Senator Feinstein follows:]

Senator Dianne Feinstein
Statement Supporting Restoration of
Essential Conveyance Act
July 22, 2020

Madam Chairman [McSally] and Madam Ranking Member [Cortez Masto], thank you for inviting me to speak in support of the "Restoration of Essential Conveyance Act."

California's 40 million people and our leading agricultural industry depend on thousands of miles of major canals to bring them water.

I want to show you how desperately our canals need to be repaired. This first picture shows what has happened as a result of subsidence, where the land has dropped 10, 20 or more feet due to overpumping of groundwater. You can see the result – the walls of the canal are completely collapsing.

The second picture shows even longer cracks, and the entire side of the canal is caving inwards.

The third picture shows another problem caused by this severe subsidence; the bridge over the canal is now barely over the water. The ability of our canals to carry vital water has dropped as well, by as much as 60%.

Madam Chairman, I know you have a bill to restore Reclamation's deteriorating infrastructure. S. 3811 has similar goals. It would:

1) Authorize $200 million each to repair three essential canals in California, the Friant Kern Canal, the Delta Mendota Canal, and the California Aqueduct; and it would

2) Authorize an additional $200 million for a critical environmental project, the San Joaquin River Restoration Program.

Severe Threat of Drought and Climate Change

I want to put this bill in a larger context affecting Arizona and Nevada and the whole West. As you both well know, we are facing a severe threat of drought, which a changing climate is only going to make worse.

- The journal *Science* has concluded we may be entering a megadrought, and we face a structural water deficit in the Colorado River Basin of approximately 1.2 million to 1.5 million acre-feet per year.

- This water deficit is only going to get much worse over time. The Bureau of Reclamation has projected that the Colorado River Basin's annual water supply deficit will be 3.2 million acre feet by 2060.

- This projected annual deficit is equivalent to the water supply of 16 million people.

- This is a looming crisis, and it is critical that Congress develop bipartisan solutions to address it.

Benefits of This Bill:

The canal restoration bill advances the types of projects that we need to reduce the Colorado Basin's water supply deficit.

These canal restoration projects will provide significant water supply at an affordable cost:

- The three projects together will create an average of 367,000 additional acre feet per year, or enough water for 1.8 million people;

- The new water will cost approximately $250 to $300 per acre feet, about one-half to one-fifth the cost of other water supply projects.

- The federal cost-share will be 50% or less with water contractors paying the rest.

The projects are broadly supported and non-controversial. Madam Chairman, I would like to ask that these 25 support letters be placed in the record. [Pause for "without objection"].

Because these projects are restoring canals damaged by subsidence to their original design capacity, they raise few environmental issues.

Finally, the bill not only improve water supply to adapt to future droughts, but it will also help restore the environment as well. The bill authorizes an additional $200 million for restoring a salmon run on the San Joaquin River, California's second longest river.

For all these reasons, I urge the Committee to approve the "Restoration of Essential Conveyance Act" and I look forward to working with you both to get it enacted along with other critical water legislation. Thank you.

Senator MCSALLY. Senator Udall, you are now recognized.

STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO

Senator UDALL. Thank you, Chairman McSally and Ranking Member Cortez Masto and members of the Subcommittee. And thank you for the opportunity to appear before you today in support of S. 2718, the Western Water Security Act. In the West we know that "Agua Es Vida, Water is Life." Indigenous peoples of the West base their lives around access to water and had and still have sophisticated strategies and techniques to manage this precious resource. In the 16th century in my home State of New Mexico, the Spanish settlers, native peoples and other settlers began blending traditions from the Old World and the new and developed, the acequia systems, that to this day provide water to communities for irrigation and for agriculture. They've lasted for 400 years.

In the 20th century, large cities such as Las Vegas and modern agricultural communities like the Salt River Project in Arizona were born out of the construction of the Bureau of Reclamation water projects. Now, in the 21st century, we know more about the uncertainty of our water resources. Science tells us we built those big water projects based on assumptions about water supply and predictability that no longer hold. Our climate is changing and the Southwest U.S. will continue to experience hotter, drier summers that last longer, leaving smaller snowpacks for spring runoff and increased evaporation from surface storage from lakes and reservoirs. The Bureau of Reclamation and the seven Colorado River Basin states found that the Basin-wide imbalance in future supply and demand will be 3.2 million acre-feet annually by 2060. On top of that, the 2000 to 2018 drought in the Southwest was the second driest 19-year period since 800 CE, exceeded only by the late 1500s megadrought. All of this puts more stress on precious groundwater resources that, in many cases, are not being recharged anywhere near the rate at which they're being drawn down. In many cases, we don't even know how much groundwater we have.

These are the facts and it's important for us to talk truthfully about the world we now face, particularly when we discuss and design programs that invest public money to sustain our way of life. Infrastructure investments change the natural world around these projects and have long life spans, often extending for many decades or more. But the uncertainty of water resources driven by climate change, these infrastructure investments need to incorporate flexibility like how the acequias have operated for generations.

However, I'm a reservoir half-full type of person. We can adapt. We can build smarter and implement an approach that takes account of the whole ecosystem. And the bill before you today, S. 2718, the Western Water Security Act, is a 21st century solution and it will move us in the right direction. My bill represents a straightforward, commonsense approach based on the realities and the science of today, and it is crucial. This is a collaborative bill. The entire New Mexico delegation is in support and Representative Xochitl Torres Small is co-sponsoring the bill in the House and that bill has been marked up and passed out of Committee.

The Western Water Security Act also has the support of a broad cross section of water users and interest groups, including the Elephant Butte Irrigation District, the Middle Rio Grande Conservancy District, the State of New Mexico, the Audubon Society, The Nature Conservancy, Trout Unlimited and the National Wildlife Federation.

So again, Chairman McSally and Ranking Member Cortez Masto, thank you for the opportunity to present this important legislation. I'll look forward to your support and will be glad to follow up at a later date on any issues raised today. Thank you so much and I would just ask your permission to exit to my next committee, the Foreign Relations Committee. It's been great being with you today.

Senator MCSALLY. Well, thank you, Senator Udall. I like your "reservoir is half-full" kind of approach there, that level of optimism. Thanks for your testimony and your bill. I want to thank Senator Feinstein as well and Senator Udall, we look forward to working with you both to find a landing place that will allow these bills to move forward quickly.

We will now turn to our panel of outside witnesses.

Our first witness is Ms. Aubrey Bettencourt, who is the Deputy Assistant Secretary for Water and Science at the Department of the Interior. She will present the Administration's views on five bills before us today. Next, we will hear from Dan Keppen, the Executive Director of Family Farm Alliance. After Mr. Keppen, we will hear from Joe S. Whitworth, President of The Freshwater Trust.

Thank you all for being with us today. We ask you keep your remarks to five minutes. Your full written remarks will be put into the record.

Ms. Bettencourt, you are recognized now for five minutes.

STATEMENT OF AUBREY BETTENCOURT, DEPUTY ASSISTANT SECRETARY FOR WATER AND SCIENCE, U.S. DEPARTMENT OF THE INTERIOR

Ms. BETTENCOURT. Thank you.

Chairman McSally, Ranking Member Cortez Masto and members of the Subcommittee, my name is Aubrey Bettencourt. I am the Deputy Assistant Secretary for Water and Science at the Department of the Interior, and I thank you for this time today to provide Interior's views on the legislation which affects the Bureau of Reclamation and the farms, communities, environment it serves. I prepared a written statement on the bills before the Committee today but will use my time to highlight a few issues.

The West, as we know and as we've heard, is defined by its longstanding water challenges and how it has addressed them in the past. As a Westerner, born and raised in rural California, with family and friends spread across Arizona, Oregon and the West, these challenges and the magnificent solutions of infrastructure, science and technology and the changing relationship to our most precious resource, have defined me as well. My home State of California became the fifth largest global economy in less than 100 years because of the water systems. Today, the list of water challenges is the same in many ways and has changed as our states have grown and evolved, now stressing the incredible system that

got us here. Drought and flood, urban and rural population growth, subsidence, groundwater depletion and recharge, urban and rural water quality, aging infrastructure, changing environment and environmental protection requirements are pressing concerns. While the challenges may change from a new era, the basic need remains the same. Adequate, safe and reliable water supplies are fundamental to the health, economic prosperity and security of our communities, farms, environment and nation. How the West addresses these challenges, once again, will define its future.

Cities, communities, water and irrigation districts and individuals on the ground are actively investing to get ahead of these challenges, meeting them with new and innovative solutions as well as tried and true solutions in new and improved ways. Investment in the water infrastructure, water quality and water supplies of the 21st century is a priority of the Administration, the Department of the Interior and the Bureau of Reclamation. The tools in the tool kit of Reclamation and the Interior such as the WIIN Act Dam Safety Program, the suite of programs in WaterSMART, the Cooperative Watershed Management Program, the SECURE Water Act, Rural Water Supply Program and Title Transfer, along with many others, many of which are discussed today, have successfully allowed Reclamation to meet, match and partner with diverse customers, water users, stakeholders and communities and are critical to Reclamation and these parties' ability to prepare for natural disaster, addressing aging and undersized infrastructure and diversify and expand water supplies for the needs and the priorities of the future.

As important as these partnerships are with our customers on the ground, Interior and Reclamation are leading in an incredible era of federal collaboration across departments within the water sector actively seeking partnerships and alignment to focus resources toward solutions to address some of the West and the nation's water needs for agriculture, rural and disadvantaged communities, investment in traditional and new infrastructure, applications of the best available science, technology, modeling and forecasting, water quality, drought and flood preparedness and all around, better customer service in responsiveness for providing and delivering clean, reliable water and renewable hydropower. The Bureau and Interior and I look forward to working with the Committee and the bill sponsors to address any concerns and to better align the legislation with the existing commitments by Reclamation to maximize the effectiveness of these programs and projects that are referenced.

In closing, I'd like to thank you again for this opportunity, and I look forward to our discussion today. It's clear that we all agree that investment in our water future is a priority, and it's exciting to see that none of us are shying away from these challenges because, as Westerners, we know the opportunity that water will surprise—will provide us and surprise us in the future. Thank you.

[The prepared statement of Ms. Bettencourt follows:]

Statement of Aubrey Bettencourt
Deputy Assistant Secretary for Water and Science
U.S. Department of the Interior
Before the
Energy and Natural Resources Committee
Subcommittee on Water and Power
U.S. Senate
on
S. 2718, the Western Water Security Act of 2019
S. 3811, the Restoration of Essential Conveyance Act
S. 4188, the Water for Tomorrow Act of 2020
S. 4189, the Water for Conservation and Farming Act
S. ____ (McSally) - Water-Energy Technology Demonstration and Deployment Act

July 22, 2020

Chairman McSally, Ranking Member Cortez Masto, and members of the Subcommittee, I am Aubrey Bettencourt, Deputy Assistant Secretary for Water and Science within the Department of the Interior (Interior). Thank you for the opportunity to provide Interior's views on this legislation which affects the Bureau of Reclamation.

Reclamation's dams and reservoirs, water conveyance systems, and power generating facilities are integral components of the Nation's infrastructure. Reclamation is the nation's largest wholesale water supplier, delivering 10 trillion gallons of water to more than 31 million people each year. Reclamation owns 491 dams and operates 338 reservoirs across the 17 western Reclamation states. 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.

S. 2718, the Western Water Security Act of 2019

The Western Water Security Act of 2019, introduced by Senator Udall, would authorize funding for New Mexico and other Western states for research, technology and infrastructure to secure future water supplies. The bill is broken up into three titles, infrastructure and water management improvement, groundwater management, and water conservation and environmental restoration.

As described below, the Department has serious concerns regarding some of the details in the bill and while we cannot support it as written, we are happy to work with the Committee and the sponsor of the bill on modifications that may facilitate implementation of the activities to be authorized by the bill.

Reclamation's WaterSMART program is very successful as currently authorized and implemented. Through WaterSMART, Reclamation works cooperatively with States, Tribes, and local entities as they plan for and implement actions to increase water supply through investments to modernize existing infrastructure and attention to local water conflicts. Since 2017, Reclamation has provided over $117 million in Federal funding, leveraged with over $425 million in non-Federal cost share contributions to complete over 190 on-the-ground projects to improve water management through one category of funding, WaterSMART Water and Energy Efficiency Grants. In total, these projects are expected to result in annual water savings of over 300,000 acre-feet once completed. The program also includes funding for smaller water management improvements that project sponsors identify to assist in effective water management, as well as funding for development of water marketing strategies to increase water supply reliability. Since the start of the Water Marketing Strategy Grant Program in 2017, over $5.5 million in Federal funding has been leveraged with $7.4 million in non-Federal funding, totaling over $12.9 million in water marking strategy planning activities.

Section 101 of S. 2718, entitled WaterSMART Extension and Expansion, would increase the authorized appropriations ceiling in Section 9504(e) of the SECURE Water Act by $170 million to $650 million from $480 million. It is important to note that the Further Consolidated Appropriations Act, 2020, Public Law 116-94 signed on December 20, 2019, already increased the ceiling of Section 9504(e) to $530 million.

Currently, eligibility for financial assistance for water management improvements under Section 9504(a) of the SECURE Water Act is limited to any State, Indian tribe, irrigation district, water district, or other organization with water or power delivery authority. The Western Water Security Act, through Section 101, would expand the definition of eligible applicant by adding State, regional, or local authorities that include organizations with water or power delivery authority as members.

Occasionally, Reclamation receives applications for funding from a joint powers authority composed of water districts or other organizations with water delivery authority. The revision included in the bill would clarify that such joint powers authorities are eligible to apply directly for funding.

Section 101 of S. 2718, if enacted, would expand eligibility to also include nonprofit conservation organizations. Currently, nonprofit conservation organizations are not eligible to apply but may partner with eligible entities as those eligible entities seek funding to improve their infrastructure. The Department has serious concerns that expanding eligibility to nonprofit conservation organizations could lead to unintended results and confusion over ownership and responsibilities for operation and maintenance of infrastructure that is modified pursuant to this provision. For example, a nonprofit conservation organization awarded Federal funding for a facility improvement could be in the unusual position of agreeing to implement and operate the improved facility under the parameters described in the financial assistance agreement, even though the project would continue to be operated and maintained by a water district, tribe, or municipality. Nonprofit conservation organizations are, however, currently eligible and encouraged to directly apply for categories of WaterSMART funding that rely on other authorities, including the

Cooperative Watershed Management Program and Applied Science Grants and Water Marketing Strategy Grants.

Section 102 of S. 2718 would modify the existing authority for funding the construction of desalination projects under section 4009(a) of the WIIN Act. This bill would amend the existing authority to highlight that desalination projects in rural areas are eligible to compete for funding. Rural desalination projects are already eligible under the existing statute. It would also create additional authority to provide cost share funding for appraisal and feasibility studies for rural desalination projects and a mechanism for the non-Federal cost share to be reduced for these projects. We would like to work with the sponsor and this Committee to address some questions and concerns we have regarding requirements for studies and construction of projects.

Section 103(a) would add financial assistance authority and a new appropriation ceiling for financial assistance under the Reclamation States Emergency Drought Relief Act of 1991. Reclamation currently utilizes existing authorities under Sec. 9504 of the SECURE Water Act to provide financial assistance through the WaterSMART Drought Response Program for many of the project types identified in Section 103(a)(3). We believe that the new authority included in the bill is unnecessary, but if it remains, we recommend revising this language to require that applicants provide a non-Federal cost share, as now provided in the SECURE Water Act.

Currently, the authorities of Title I of the Drought Act expire on September 30, 2020. Sec. 103(c) would extend the authorities through September 30, 2030, extending the Drought Act by ten years. Extension of the authority would allow Reclamation to continue carrying out drought planning and emergency response actions under the existing program.

Section 201 of S. 2718 addresses the Transboundary Aquifer Assessment Program (TAAP). The Department believes that the bill's author has crafted this Section in such a manner to avoid any confusion or conflict with the Department's responsibilities for the management of the Colorado River.

The Department also supports the continued coordination with the International Boundary and Water Commission authorized in Public Law 109–448, which is proposed to be reauthorized by S. 2718. The Department considers the International Boundary and Water Commission a valued and essential partner on transboundary water management issues such as those covered by S. 2718.

Section 202 of S. 2718 could have potentially significant and unintended consequences for Reclamation's WaterSMART programs, if enacted. Section 9504 of the SECURE Water Act is Reclamation's primary authority to fund water management improvements through financial assistance. Projects are carried out by not only irrigation and water districts but Tribes, municipalities, municipal water agencies, and States. Reclamation is concerned that S. 2718 would unnecessarily restrict use of this authority. Reclamation is seriously concerned by Section 202 of S. 2718, which would amend the SECURE Water Act with restrictive new language to prohibit any grant that would "increase the consumptive use of water for agricultural operations above the pre-project levels," even for downstream users who are not the recipient of the grant. Grant recipients are already prohibited from increasing their own consumptive use with water conserved through the program. However, the proposed language could have the effect of forcing recipients

to agree that downstream users will commit all saved water solely for instream flows, even though recipients have no control of what happens to water once it goes back into the stream. The Department believes this language in the bill, if enacted as drafted, could be subject to contradictory interpretations and inadvertently prevent Reclamation from assisting water managers with some water management improvements or discourage potential applicants from even participating in existing programs.

Finally, Section 203 of S. 2718 would direct the United States Geological Survey (USGS) to study impacts to water from energy development in the west. The Department has concerns regarding the energy nexus changes in the bill. The USGS is currently working on a water use model for unconventional oil and gas at a basin scale to test and apply nationally, and would prefer to work with the Committee and sponsors of the bill to address some of these concerns.

S. 3811, the Restoration of Essential Conveyance Act

The Restoration of Essential Conveyance Act, S. 3811, introduced by Senator Feinstein, would authorize $800 million for purposes including the repair of canals in the San Joaquin Valley that have been damaged by subsidence. The $800 million authorized breaks down to $200 million for California Aqueduct repairs, $200 million for the Friant-Kern Canal, $200 million for the Delta Mendota Canal, and $200 million for the San Joaquin River Restoration Settlement to help restore salmon populations in the river.

The Department supports the intent of S. 3811 to repair storage and conveyance capacity and has been working to address reductions in conveyance capacity due to subsidence and other factors which have impacted facilities of the Central Valley Project in California, such as the Delta-Mendota Canal and the Friant Kern Canal. We would like to work with the sponsor of the bill to address certain concerns we have regarding funding to existing infrastructure. In particular, we would like to align the legislation with existing funding commitments by Reclamation to many of the projects referenced in this bill.

S. 4188, the Water for Tomorrow Act of 2020

The Water for Tomorrow Act of 2020, S. 4188, introduced by Senator Harris, seeks to provide investments and financing for water infrastructure and resiliency programs, including stormwater capture and desalination projects and includes authorizations for several programs. Title I proposes to authorize investments in water infrastructure and sustainability, financing for storage, desalination, and stormwater capture projects. Title II focuses on ecosystem protection and restoration, and Title III includes two sections on improved technology and data.

S. 4188 includes several provisions that were included in H.R. 2473, the Securing Access for the Central Valley and Enhancing (SAVE) Water Resources Act and others we have previously testified on in the House. While the Department supports the intent of the bill, we have some concerns that we have attempted to address below and look forward to working with the bill sponsor and the Committee to address those concerns.

Section 102 includes a provision establishing a new "Reclamation Infrastructure Finance and Innovation Program", to provide financial assistance to eligible entities. Specifically, Section 102 of S. 4188 would provide Reclamation with the authority to establish a loan program similar to the Environmental Protection Agency Water Infrastructure Finance and Innovation Act (WIFIA) program and require compliance with direction from P.L. 115-270, America's Water Infrastructure Act. That law directs the EPA to enter into an agreement with Reclamation to aid in administering and servicing Federal credit instruments that Reclamation is authorized to make available.

Reclamation and the EPA signed the agreement referenced in P.L. 115-270 in October 2019. Reclamation notes that federal credit may not provide an efficient use of federal funding to support the types of projects contemplated in S. 4188. Additionally, we have concerns about the additional environmental requirements under this section with respect to identifying and implementing eligible projects.

As we testified on the Disadvantaged Community Drinking Water Assistance Act introduced by Rep. Cox in the House of Representatives (H.R. 5347) in January, Section 103 would establish a grant program within the Department to assist municipal water systems throughout California and the United States that have experienced a significant decline in the quantity or quality of drinking water. The Department appreciates the intent of this provision and recognizes the importance of safe drinking water; several individual Reclamation projects list drinking water as an authorized purpose. However, we believe the bill's language as introduced overlaps with the Environmental Protection Agency's existing Small and Disadvantaged Communities Drinking Water Grant Program and would be duplicative of their efforts. In addition, new language on populations of defined rural communities differs from other Reclamation authorizations, which could complicate implementation.

As defined in Section 2104 of the Water Infrastructure Improvements for the Nation Act of 2016 (Public Law 114-322), the focus of the EPA's Small and Disadvantaged Communities grant program is to help public water systems meet public health requirements. Most of the projects eligible for funding under this section of S. 4188 are eligible projects under the EPA's program. Additionally, there is also some overlap between the types of projects funded under Reclamation's existing Drought Response Program, but many of the project types described in this bill are outside the scope of current programs or authorities.

Section 104 would further amend Section 1602(f) of the Reclamation Wastewater and Groundwater Study and Facilities Act (title XVI of Public Law 102–575; 43 U.S.C. 390h et seq.) to increase the authorization for Reclamation's Title XVI water recycling competitive grant program from the $50 million enacted by the WIIN Act to $500 million and would increase the individual project maximum federal cost share from $20 million to $30 million. The program remains successful at the current federal cost share ceiling. The bill would also remove the requirement that selected projects appear by name in enacted appropriations legislation, which would result in a significant streamlining of the selection process and enable Reclamation to obligate funding to selected projects much faster. The WIIN Act sunsets the WIIN-authorized Title XVI competitive grants program five years after enactment. The Department looks forward to working with the Committee on these provisions and other aspects of potential WIIN

reauthorizations, in particular the Section 4007 storage program, which would also benefit from the above-mentioned removal of the requirement that selected projects appear by name in enacted appropriations legislation.

Earlier this year, the Bureau of Reclamation awarded $16.6 million for nine congressionally authorized Title XVI water reclamation and reuse projects in California and Hawaii. Awards for WIIN-eligible Title XVI projects are handled separately with references in appropriations bills. The funding will be used to improve flexibility during water shortages and diversify the water supply.

Section 106 of S. 4188 would reauthorize the Rural Water Supply Act through 2026, subject to available appropriations. Reclamation previously implemented a Rural Water Supply Program authorized by Title I of P.L. 109-451, the Rural Water Supply Act of 2006 (Act). This program had a 10-year lifespan, and enabled Reclamation to assist rural communities in the western United States with the planning and design of projects to develop and deliver potable water supplies. However, Title II of the Act, which authorized Reclamation to provide federal loan guarantees, was never implemented. The scoring rules applicable under the 1990 Federal Credit Reform Act (FCRA) could not be used in program implementation. While many Reclamation facilities are operated and maintained by non-federal entities under contract with Reclamation, the facilities are still owned by the United States. Present value FCRA scoring is only applicable to loans between the Federal government and a non-Federal borrower or for non-Federal assets. Therefore, for each dollar of Federal loan, Reclamation would have been required to provide the entire loan amount in discretionary appropriations. The program's authority expired on September 30, 2016.

Discretionary rural water funding has enabled Reclamation to make progress in promoting the reliability of basic drinking water needs of rural western communities. However, Reclamation's ability to make Federal investments that match on the ground capabilities has its limitations. Given constrained budgets associated with rural water projects under construction, the additional authority contemplated by S. 4188 would have to compete with existing budget obligations.

Section 201 would authorize the Secretary to establish a competitive grant program for habitat restoration projects in the Reclamation States to provide ecosystem benefits; restore native species; protect against invasive species; restore ecosystems; enhance recreational and commercial fishing and river-based recreation; and mitigate against the impacts of climate change to fish and wildlife. This section further states that projects that achieve one or more of these listed benefits should receive priority.

The Cooperative Watershed Management Program (CWMP) extended and amended in Section 202 of this bill, is an existing competitive grant program that that Reclamation manages to provide funding for watershed management projects. Many types of projects authorized under the new grant program in Section 201 are already pursued under the existing CWMP. CWMP has two phases; and Reclamation currently implements Phase II of the Cooperative Watershed Management Program by providing funding, on a competitive basis, to watershed groups to conduct watershed management projects, including projects that address critical water supply needs, water quality concerns, and restoration needs that will benefit multiple water uses in the watershed (e.g., agricultural, municipal, tribal, environmental, recreation).

Section 202 would extend the Cooperative Watershed Management Act, Subtitle A of Title VI of the Omnibus Public Land Management Act of 2009 (Act) through 2025 and authorizes the appropriation of $40 million each year for the program from 2021 through 2025. The Act is currently set to expire at the end of 2020.

This section would also (1) amend the Act to define and add disadvantaged communities to the stakeholder groups that should be included, to the maximum extent practicable, in a watershed group developed under the Cooperative Watershed Management Program; and (2) amend the definition of a Watershed Management Project to include projects that "[generate] environmental benefits, such as benefits to fisheries, wildlife and habitat, and water quality and water-dependent ecological systems, as well as water supply benefits for agricultural or urban water users". These changes would not significantly impact the way the program is currently implemented. Reclamation currently prioritizes projects for which the Watershed Group will represent the diverse stakeholders within a watershed; in many cases this includes disadvantaged communities. Reclamation also prioritizes watershed management projects that have multiple benefits, including benefits to water-dependent ecosystems, fish and wildlife habitat, water quality, and water quantity.

Section 203 of S. 4188 references deliveries to wildlife refuges served by Reclamation's Central Valley Project (CVP) in California. For background, water deliveries to the refuges are prescribed in the Central Valley Project Improvement Act (CVPIA, Title 34 of PL 102-575) and defined in CVPIA as "Level 2" and "incremental Level 4". These delivery levels are defined with Level 2 as representing the historical average amount of water deliveries prior to CVPIA enactment in 1992 and is the baseline water required for wildlife habitat management (422,251 acre-feet per year), and "incremental Level 4", which represents the additional increment of water required for optimal wetland habitat development (133,264 acre-feet per year).

S. 4188 requires that the Department submit to Congress a publicly available report that list all level 2 and incremental level 4 water delivered to each refuge. It would also include the amounts that are required to be delivered, and those which have received their full required supply from 1992 – 2018. The report would also need to include an assessment of how the elimination of transaction fees for a donation of water rights to the refuges would advance the goals of the CVPIA. This water delivery reporting requirement is duplicative, as refuge water supply delivery figures are already reported on in annual CVPIA Accomplishments Reports posted to the Reclamation web site.

Section 301 would require Reclamation to incorporate information from emerging technologies such as synthetic aperture radar; laser altimetry; or any other emerging technologies that can provide more accurate or timely snowpack measurement data as determined by the Secretary. Additionally, this section suggests the Secretary coordinate data use and collection efforts with other Federal agencies and bureaus that currently use or may benefit from the use of emerging technologies for snowpack measurement and authorizes $5 million to carry out the provisions in Section 301.

The additional investment in technology and forecasting tools under Section 301 would help in achieving greater accuracy in evaluating water year types for our annual allocation process. However, an unreasonable expectation may be made that as currently written Section 301 implies that Reclamation take the emerging technology and use it directly to adjust water supply allocations. Water supply allocations are generally made through the information provided by our Federal and State partners with responsibility for water supply forecasting. Reclamation supports the concept of Section 301 whereby we can coordinate with those operational forecasting agencies such that emerging technologies can inform their operational water supply forecasts that Reclamation can then use for allocations.

Section 302 requires Interior to work with the National Academies of Sciences, Engineering, and Medicine to conduct a study to look at how climate change impacts the safety of Reclamation dams, devise a list of vulnerable dams, and submit a report to Congress based on the National Academies findings. It would be helpful to understand more specifically what the sponsor is trying to accomplish with this study. Reclamation's dam safety program is an internationally known and respected program; Reclamation provides dam safety expertise to fellow bureaus at Interior and coordinates with the State Department to provide training and technical assistance to countries around the world. In the last 10 years, the dam safety program improved 11 dams in 7 states, making 1.5 million people safer This proposed study may be duplicative, as Reclamation currently reviews many factors, including climate change, as part of dam safety risk assessments. In addition, Reclamation was directed in Public Law 111-11, the SECURE Water Act, to assess the risks and impacts from climate change on many aspects of Reclamation's mission including reliability of our infrastructure. Public Law 111-11 requires a report on these assessments every five years to Congress, and those were delivered in 2011 and 2016, with another report to be delivered in 2021.

S. 4189, the Water for Conservation and Farming Act

The Water for Conservation and Farming Act, S. 4189, introduced by Senator Wyden, seeks to address drought in the west by improving water access and efficiencies for agriculture and conservation. While we support the intent of some provisions in the bill, we have serious concerns that we have attempted to identify below and look forward to working with the bill sponsor and the Committee to address those concerns.

Section 102 would direct $300 million in revenues that would otherwise be deposited in the Reclamation Fund each year for 30 years to three types of Reclamation water projects including $100 million per year for Title XVI water recycling projects, $100 million per year for WaterSMART water-use efficiency projects, and $100 million per year for Bureau of Reclamation dam safety projects. We note that this provision is similar to H.R. 2473, the Securing Access for the Central Valley and Enhancing (SAVE) Water Resources Act, which we provided testimony on in the House on June 13, 2019.

Like the language in S. 2718 which also amends the SECURE Water Act, we believe that Section 103 of S. 4189 could have potentially significant and unintended consequences for the WaterSMART programs, if enacted. Section 9504 of the SECURE Water Act is Reclamation's

primary authority to fund water management improvements through financial assistance. The WaterSMART program has been extremely successful as currently authorized and implemented. The authority is the basis for planning and construction activities for many different types of projects – from relatively small planning activities to identify the location of a potential new headgate or installation of a water measurement device in one location, to construction of large aquifer recharge facilities. Reclamation has implemented the authority through a series of programs, each with its own focus and intended benefits, including WaterSMART Water and Energy Efficiency Grants that focus on quantifiable water savings; WaterSMART Small-scale Water Efficiency Projects for relatively small improvements based on previous planning efforts; WaterSMART Water Marketing Strategy Grants to assist with planning activities to develop water marketing strategies; WaterSMART Drought Resiliency Projects; small-scale planning and design activities through the Water Conservation Field Services Program; and water conservation projects through the California-Bay Delta Restoration Program.

Reclamation is concerned that the bill would unnecessarily restrict use of this authority. In particular, Reclamation is concerned by Section 103 of S. 4189, which, like the language in S. 2718, would amend the SECURE Water Act with restrictive new language to prohibit any grant that would "increase the consumptive use of water for agricultural operations above the pre-project levels," even for downstream users who are not the recipient of the grant. Grant recipients are already prohibited from increasing their own consumptive use with water conserved through the program. However, the proposed language could have the effect of forcing recipients to agree that downstream users will commit all saved water solely for instream flows, even though recipients have no control of what happens to water once it goes back into the stream. We believe the bill, if enacted, could be subject to contradictory interpretations and inadvertently prevent Reclamation from assisting water managers with some water management improvements or discourage potential applicants from participating in existing programs. If Section 103 is enacted, Reclamation would expect many entities to cancel plans to improve water efficiency through Reclamation's programs rather than face uncertainty about the effect of grant funding on their operations.

Section 103 would also result in a wholesale restructuring of the existing statute to limit funding solely to projects that address interstate compacts, basin-wide supply-demand imbalances, or other similar concerns, before any funding could be considered. Many projects funded under this authority are located in areas where there may not be an applicable interstate compact or a completed basin-wide supply-demand assessment. Under the statutory authority currently in effect, applicants in those areas are able to describe the benefits of the project to the local and surrounding areas, which in many cases can be quite significant in terms of reducing diversions and other benefits. It is not clear that these types of applicants would continue to be eligible to apply if the bill is enacted. It is also unclear how some projects currently eligible for funding under the statute, such as projects to install small hydropower units to increase renewable energy, could be funded consistent with new requirements.

The bill would also require that all applicants, as a condition of eligibility, submit a monitoring plan demonstrating how the project would improve streamflow and habitat, an analysis of how the project would improve compliance with interstate compacts, or an analysis of how the project would reduce basin-scale water supply-demand imbalances. We believe this requirement would

result in a significant new administrative burden for entities seeking funding, particularly entities applying for a relatively small amount of cost-shared funding to develop water conservation plans or to install a measurement device in one limited portion of a water delivery system.

Reclamation believes that Section 103 would severely restrict, rather than expand, the statute currently used to carry out a number of successful programs by placing new conditions on eligibility and requiring applicants to submit information with little relationship to most projects. If Section 103 is enacted, Reclamation would need to significantly revise or eliminate some categories of funding, particularly WaterSMART Small-scale Water Efficiency Projects and planning activities under the Water Conservation Field Services Program.

Currently, all activities funded through this authority include at least 50% non-Federal funding, which has allowed available appropriations to be leveraged to carry out as many projects as possible. The bill would allow for up to 75% Federal funding for projects expected to result in conserved water that will be returned to a surface water source with ecological or recreational benefits. To implement this change, Reclamation would need to define the level of commitment necessary to meet the statutory threshold for a higher funding percentage. Because only some western states have a formal mechanism for dedicating water for instream use, Reclamation would find it difficult or impossible to implement the section without inadvertently excluding or causing disadvantage to entities in some parts of the west.

Reclamation maintains that projects focused on environmental benefits are already extremely competitive under existing programs. This change would also, in effect, redirect a large amount of program funding to one type of project – projects with instream benefits. The programs that implement Section 9504 of the SECURE Water Act support other needs, such as maintaining irrigated agriculture in times of shortage, helping cities cope with population increases and scarce water supplies, and supporting projects that include hydropower components.

Title II includes several provisions for ecosystem protections and restoration including reauthorization and expansion of the Cooperative Watershed Management Program.

S. ____ (McSally) - Water-Energy Technology Demonstration and Deployment Act

The Water-Energy Technology Demonstration and Deployment Act, based on our review of the draft provided by the office of Senator McSally, would among other things, establish a pilot program in conjunction with the Department of Energy to select eligible desalination projects that would benefit from the Department of Energy's participation, advance existing research and development, and have a focus on those projects in the Colorado River Basin, particularly those that support the Colorado River drought contingency operations.

We believe that advancing existing research and development, supporting Colorado River drought contingency operations in partnership with the Department of Energy are worthwhile ventures and look forward to working with the Department of Energy on this endeavor.

That concludes my written statement. I would be pleased to answer questions at the appropriate time.

Senator MCSALLY. Thank you, Ms. Bettencourt.
Mr. Keppen, you are now recognized for five minutes.

STATEMENT OF DAN KEPPEN, EXECUTIVE DIRECTOR, FAMILY FARM ALLIANCE

Mr. KEPPEN. Good afternoon, Chairwoman McSally, Ranking Member Cortez Masto and members of the Subcommittee. Thank you for this opportunity to address the bills that are before you today. The Family Farm Alliance has a long history of collaboration with a variety of partners who seek real solutions to water resource challenges in the West. One of those partners is The Freshwater Trust. I'm honored to be testifying today with my good friend, Joe Whitworth, President of that organization.

Some of these bills contain provisions that work well for both producers and NGO's, others put the needs of fish, wildlife and ecosystems above the interests of our farmers and ranchers. The WaterSMART provisions in some of these bills raise the most concerns. Our members worry that adding non-profit conservation organizations as eligible recipients in WaterSMART will increase the competition for program grants. We were pleased to see Senator Wyden and Senator Merkley address this concern. They included a requirement in their bill that NGO's partner with a traditional, eligible water delivery entity for potential WaterSMART projects.

The WaterSMART program is accomplishing what it was intended to do. It modernizes infrastructure and helps local water users better respond to future water conflicts. The only consistent complaint we've heard about WaterSMART is that it's underfunded and oversubscribed. So we appreciate efforts to provide more funding to WaterSMART. We're concerned, however, that adding more conditions could actually harm a program that really works. It could limit the number of future applicants and diminish the benefits that we currently see. We need to stick with the original intent of the program and try not to add new conditions and processes. Let's not water down WaterSMART.

I'll now briefly address each of the bills before you today.

S. 4188 appears to be well-intended. Section 301 could assist our members who are already using emerging technologies to provide more accurate and timely snowpack measurement data. There are several other areas of the bill that cause concerns, though, as detailed in my written testimony.

Senator Wyden's S. 4189, importantly, reauthorizes the Fisheries Restoration and Irrigation Mitigation Act which our members in the Pacific Northwest strongly support and benefit from. This program provides federal cost-shared funding for voluntary efforts to improve fish passage while maintaining a steady, reliable water supply for human use. S. 4189 also authorizes funds for important Reclamation water reuse, recycling and conservation programs.

We support the Water-Energy Technology Demonstration and Deployment Act which improved the efficiency of projects like the Yuma Desalting Plant in Arizona.

Our New Mexico members are strongly supportive of S. 2718; however, we also have members in our other states who have concerns. They are worried about using federal grants to reduce consumptive use of water, including water conservation acquisitions.

Our organization has consistently taken the position that conservation programs, the Farm bill, for example, should not be used to pay farmers not to farm. We also believe that the best solutions to Western water challenges are developed at the local level. In this case, seed money from the Federal Government will help our New Mexico members develop a groundwater management scheme that could result in a voluntary fallowing program. This could benefit the farmer and urban water users in this region.

S. 3811, by Senator Feinstein, is a welcome step toward addressing the impacts of groundwater subsidence on major portions of California's water delivery system. The bill authorizes $600 million in federal cost-shared funding for three major projects. Subsidence in these areas has reduced the carrying capacity of those canal systems. Many of our California producers would directly benefit from this legislation.

In addition to bills discussed today, we need legislation that addresses aging water infrastructure and insufficient water storage. Over 160 Western water and agricultural organizations recently wrote to Senate leaders urging the same. That large number of groups speaks to the critical demand that Westerners feel for addressing these issues in this Congress. The reasons are clear. Water infrastructure that was built early in the last century is aging. Meanwhile, less progress has been made at the federal level on these matters developing new and improved water infrastructure. We need these projects to keep up with the growing water demands of the West.

We strongly support Senator McSally's S. 2044, a bill that would establish a revolving loan account to address extraordinary maintenance backlogs within Reclamation-owned facilities. Failing to address the backlog in the short-term could well lead to dealing with it in the long-term in a much more expensive and costly manner. We also need to extend water infrastructure funding provisions in the WIIN Act which are set to expire in 2021. We continue to support the bipartisan S. 1932 which extends funding under the WIIN Act for an additional five years, including $670 million for surface and groundwater storage projects.

We look forward to working with this Committee on a bipartisan, Bureau of Reclamation legislative package that may be considered in the future. Thank you again for this opportunity to testify.

[The prepared statement of Mr. Keppen follows:]

Family Farm ALLIANCE SM

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Testimony of Dan Keppen
Executive Director Family Farm Alliance

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

Legislative Hearing
Washington, D.C.
July 22, 2020

Good afternoon, Chairwoman McSally, Ranking Member Cortez Masto, and Members of the Subcommittee.

My name is Dan Keppen, and I am executive director of the Family Farm Alliance (Alliance). I thank you for this opportunity to present this testimony on the important bills that are before you today. 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. We are also committed to the fundamental proposition that Western irrigated agriculture must be preserved and protected for a host of economic, sociological, environmental, and national security reasons – many of which are often overlooked in the context of other national policy decisions.

Family Farm Alliance: A Philosophy of Collaboration

The Alliance has a long history of collaboration with partners at all levels of government, as well as conservation, and energy organizations, and Native American tribal interests who seek real solutions to water resource challenges in the West. One of those partners is The Freshwater Trust, and I am honored to be testifying today with my good friend Joe Whitworth, the president of that organization.

The Alliance seeks to advocate for a proper role for the federal government on water matters, a vision that focuses on research and development; full integration, coordination, and maximum sustainable use of resources; and water resource development planning that is driven from the

"ground up." The Alliance also has a well-established relationship with Congress, with over 80 invitations to testify before congressional committees on Western agriculture, water, and environmental matters over the past fifteen years. The Alliance has a seat on the Steering Committee of the Western Agriculture and Conservation Coalition (WACC), a diverse group of organizations that first came together a decade ago around the Farm Bill conservation title with the goal of supporting the common interests of agriculture and conservation. Other founding steering committee members include Trout Unlimited, The Nature Conservancy, California Farm Bureau, Environmental Defense Fund, Public Lands Council, Arizona Cattle Growers Association, Wyoming Stock Growers Association, and the Irrigation Association. The group has expanded in recent years; for a complete list of members, go to: http://www.waccoalition.org/.

The WACC provides a core policy message that can help policy makers and our collective members understand that the foundation for most true, collaborative solutions are driven from the constructive "center". The WACC's shared perspective on species conservation is rooted in our experience with practical, on-the-ground solutions that work well for ranchers, farmers, and other landowners, as well as for fish, wildlife, and plants. Indeed, maintaining a mosaic of working farms and ranches along with lands managed for conservation purposes, represents the best opportunity for conserving, restoring, and improving the ecosystems upon which species depend.

An Overview of the Bills Before the Subcommittee Today

Can ranchers and farmers come together with conservationists to have a future where we all can coexist? There are many pressures we all must face in this regard, but we must work to find a balance on these sometimes-contentious issues. Some of the bills before you today contain provisions that work well for both producers and the NGO community. Others, in our view, appear to put the needs of fish, wildlife and ecosystems above the interests of our farmer-rancher membership.

"Water for Tomorrow Act of 2020"

We appreciate the effort behind the "Water for Tomorrow" Act. On the surface, this bill appears to be well-intended. The bill hits many of the right marks with respect to identifying the problems in the West. The *Findings* section identifies many of the pressing challenges we are currently facing and will continue to confront in the future, including aging water infrastructure, impacts from extreme hydrologic events like prolonged drought, major water shortages, and catastrophic wildfires. One issue not addressed in this section is "regulatory drought", caused by agency implementation and associated litigation related to the federal Endangered Species Act (ESA). Using the ESA as a regulatory hammer continues to threaten the livelihoods of Western family farms and ranches by taking away irrigation water and other resources that those rural livelihoods rely upon for their very existence – livelihoods that provide local, regional and national commerce as well as a portion of our food supply.

We do support *Section 301, Determination of Water Supply Allocation*. We have members in California's Central Valley and elsewhere who are already employing synthetic aperture radar and other emerging technologies that can provide more accurate or timely snowpack measurement data. In our testimony before your committee last October, we asked for authorized resources that would allow the U.S. Department of Agriculture (USDA) - Agriculture Research Service (ARS) to continue to perform a critical role of translating Airborne Snow Observatory (ASO) data into estimates of water supply and runoff in the Western U.S. Current estimates for program funding needs at USDA-ARS are approximately $2.2 million in additional funding annually for the next 10 years. Section 301 could provide federal funding, support, and cooperation for the Bureau of Reclamation (Reclamation) to oversee the continued operation in California and the expansion of ASO technology application throughout the West.

With that said, there are several other areas of the bill that cause concerns for our membership because of potential far-ranging and uncertain negative impacts to water management and irrigated agriculture in the West.

For example, the Reclamation Infrastructure Finance and Innovation Act (RIFIA) program proposed in this new legislation would require eligible projects to provide "net ecosystem benefits" in excess of required environmental mitigation measures or compliance obligations pursuant to state and federal law. This is a major concern for our membership. One would assume that the requirement for a "federal benefit" in the definition of eligible projects would include any ecosystem benefits. However, the additional requirement for a "net ecosystem benefit" actually appears to be at odds with the idea that storage projects shall have "multiple" benefits. And, requiring the U.S. Fish and Wildlife Service (USFWS) to define what a "net ecosystem benefit" is may well eliminate many viable water storage projects that could provide other multiple benefits to society. Yet another layer of uncertainty is added to this process by providing the opportunity for project opponents to file a petition for federal district court review, up to 180 days after the final report is "completed".

We are concerned that the proposed RIFIA program would also emphasize the use of "natural infrastructure" and "nature-based" solutions where practicable over traditional "bricks and mortar" projects that have a proven track record of success. We are amenable to having "nature-based solutions" in the mix (particularly in forestry operations), but natural infrastructure should not be a replacement for traditional water infrastructure projects. Both can and must play a role in solving Western water supply problems. We also do not believe natural projects should be eligible for significantly more cost share (federal and non-federal) than traditional, proven infrastructure projects.

Also, project costs that are eligible for federal financial assistance under this new "RIFIA" program would be limited to the nonreimbursable cost, capped at 25% of total project cost, for elements of a project that would achieve public benefits, such as flood control, recreation, and fish and wildlife benefits, much less than the Water Infrastructure Finance and Innovation Act (WIFIA) 49% of total project cost limitation. It is unclear whether the costs associated with water supplies to urban

and agricultural interests would be covered under this new program, limiting the usefulness of the loan program to provide financial assistance to much needed water storage and management infrastructure.

Another provision of concern in the bill is the *Study Examining Climate Vulnerabilities at Dams*, which does not include considerations of how climate vulnerabilities affect future water supply needs. We believe the question that really needs to be answered is this: How do we develop more new water storage or other water projects in order to adequately prepare for future water needs and shortages, given the many climate vulnerabilities we face now and in the future?

Unfortunately, these are just two examples in the bill that potentially could impose negative impacts – intended or not – on the Western water interests we represent. This in turn could exacerbate the need for our members to spend time and effort diverted from their primary job of sustaining irrigated agriculture. As the federal presence grows in water resource development and management in general (and would potentially continue to grow under this bill) so does the diligence of our agricultural producers who must closely monitor agency actions directed from afar, and spend valuable time and resources in doing so. Some Western producers have learned the hard way – "If you're not at the table, you'll end up on the menu."

Instead of creating new bureaucratic processes, taxpayer dollars and our collective efforts should be focused on modifying existing and proven programs and activities that have already been authorized and shown to be successful. The Alliance, as well as the farmers and water management organizations we work with, has shown we are willing to implement pragmatic actions. We seek to find a sustainable balance of environmental protection and economic prosperity. That is why farmers, ranchers, and constructive environmental groups work so well together; we are results-oriented and can productively work with organizations with the same mindset.

We do not believe we need to create new processes and planning groups to tackle pressing environmental and water challenges. Instead, existing collaborative funding programs that have proven successful should be given emphasis and perhaps be used as templates to duplicate that success elsewhere. This bill broadens access to existing Reclamation grant programs that have traditionally been the sole source of cost-shared funding for water conservation and management improvement projects. We fear this will dilute Reclamation's limited funding for WaterSMART, for example. The Alliance believes there are many other existing programs focused on federally funding of environmental and fish habitat enhancements This would prevent thinning the already limited funding for Reclamation's relatively small WaterSMART water infrastructure grant program, one of the only grant programs for Western water improvements.

Water for Conservation and Farming Act

Oregon Senators Ron Wyden and Jeff Merkley have introduced S. 4189, legislation aimed at helping communities in Oregon and across the West experiencing high levels of drought. The bill

touches on some important aspects of addressing the key water challenges occurring across the West that are of interest to our members.

First, and importantly, it reauthorizes the Fisheries Restoration and Irrigation Mitigation Act (FRIMA) which supports voluntary fish screen and passage projects. It also authorizes funds for important Reclamation water reuse, recycling, and conservation programs. Other issues addressed in the bill include promoting waterfowl habitat creation, sustaining biodiversity during droughts, cooperative watershed management extension and expansion, watershed health, drought planning and preparedness for fisheries, and aquatic ecosystem restoration. This bill provides important tools to address water and natural resources challenges across the West that are important to our members. However, certain provisions in the legislation do raise some concerns.

For example, *Section 102 - Bureau of Reclamation Infrastructure Fund* - provides mandatory funding after ten-years for a number of important water reuse, recycling, WaterSMART, and dam safety programs, which we support. We are generally supportive of desalination, reuse, and recycling programs, because such projects provide additional new water supplies to areas in need without looking to existing water supplies for irrigated agriculture as a source of new supply. However, our aging federally owned water infrastructure poses a significant risk to irrigated agriculture in the future. We believe a substantial portion of this funding should be directed to long term low interest loans to assist non-federal transferred works operators and project beneficiaries. These parties are responsible for paying for extraordinary maintenance projects that will prolong the useful life of these important facilities.

Certainty in Western Water policy is essential to the farmers and ranchers I represent. That is why a suite of conservation, water transfers and other demand reduction mechanisms must be balanced with proactive and responsible development of new water infrastructure, as well as major repairs on existing aging facilities. We will continue to advocate for programs like these, with the understanding that will also be paired with water supply enhancement programs, as described later in this testimony.

Regarding *Section 103 - WaterSMART Extension and Expansion* - we appreciate the attention that this bill draws to the WaterSMART program. This is a program that many of our members utilize and appreciate. Probably the only consistent complaint we have heard about WaterSMART is that it is underfunded and oversubscribed. So, we greatly appreciate the proposal in this bill to provide more funding for this program. However, we also feel that the current program works well, and we should try to stick with the original intent of the program, wherever possible.

Through WaterSMART, Reclamation works cooperatively with states, tribes, and local entities to plan for and implement actions to increase water supply through investments to modernize existing infrastructure and attention to local water conflicts. Some of the provisions in Section 103 are of concern and may veer the program away from the original intent and current effectiveness of the WaterSMART program by sacrificing dollars that could be used on the ground to support more process. These new provisions appear to be intended to address perceived problems with use of consumptively saved water, and place weighted emphasis on improved streamflow and habitat,

interstate compacts, and basin-wide imbalances. We have heard anecdotal concerns raised by some in the conservation community that WaterSMART grants are somehow being used to create efficiency improvements, with the resulting water savings then being used to expand acreage. While we certainly support a farmer's prerogative to do that, we have not seen reports of this actually happening. Further, state water laws typically prohibit expanding acreage under the same water right. So, it is difficult to understand what problems or issues some of the proposed language is trying to address.

In the meantime, Reclamation reports that recent WaterSMART projects have conserved about 100,000 acre-feet of water. Clearly, the WaterSMART program is accomplishing what it was intended to do: modernizing infrastructure and helping local water users better respond to future water conflicts. The program is working and will continue to work on an even bigger scale with more federal dollars behind it. We question the proposed new monitoring requirements and other conditions that may prove to be high hurdles to clear for some of our rural local water districts. Many WaterSMART projects entail simply lining canals and ditches to minimize seepage losses. Requiring pre-project and post-project monitoring on these simple projects makes no sense and will disincentivize potential WaterSMART applicants from participating. Adding more conditions could actually harm the existing successful program and limit the number of future applicants and diminish the benefits that we currently see.

Several provisions of Section 103 appear to emphasize using conserved water for additional instream flows, which does not necessarily comport with the intent of the WaterSMART program. This new emphasis could also dampen the enthusiasm of potential WaterSMART applicants who might understandably fear they may lose the water supply they conserve if they participate in this program. Importantly, some state water laws do not allow conserved water to be automatically converted to instream water purposes.

We generally concur with increasing the federal grant to 75% for non-consumptive benefits that are greater than 30% of total project cost. However, we are concerned that a larger federal share of these grants for such restoration projects already enjoy funding sources from multiple federal funding programs. This could diminish the limited funding for water infrastructure management improvement grants used to accomplish meaningful water conservation benefits that have no other federal program designed to provide the same financial assistance.

Finally, we worry that adding non-profit conservation organizations (NGOs) as eligible recipients in WaterSMART, also proposed in other bills, would provide added competition for program grants and also direct funds away from water infrastructure improvements towards environmental restoration projects that already have many other federal funding sources. Reclamation's budget is not getting any larger, and in recent years has been pulled in many different directions -- thus taking the agency away from its essential mission of delivering water and power.

We were pleased to see Senators Wyden and Merkley include a requirement in S.4189 that NGOs partner with a traditional eligible entity for projects involving land or infrastructure owned by them, rather than an NGO being able to submit an application for that kind of project on its own.

We would suggest that this section also include land or infrastructure owned *or operated* by the partner agency, as many non-federal water management entities operate transferred works owned by Reclamation. Additionally, we appreciate that this section limits funding for NGOs at 30% of the overall funding, thereby ensuring a majority of the funding would be directed toward projects involving traditionally eligible entities.

We strongly support *Section 309 - FRIMA*. Our members in California, Idaho, Oregon, Montana, and Washington are strong supporters and benefactors of FRIMA, which supports voluntary fish screen and passage projects. When funded, this has been a successful program to protect native and endangered fish and other aquatic species. These fish protection components are critical to many water delivery systems in the West, and they can be very expensive. The program was originally inspired to provide federal cost-share funding to improve fish passage by screening water withdrawals and building upstream fish passage devices, while maintaining a steady, reliable water supply for human uses.

We also support *Section 201 - the Waterfowl and Shorebird Habitat Creation Program.* However, we believe it should be made clear that the program should be overseen by the Secretaries of Agriculture and the Interior. We look forward to working with this Subcommittee and Senators Wyden and Merkley to find ways to make this new program compatible with existing programs at the agencies, particularly Farm Bill conservation programs and the Partners for Fish and Wildlife Program USFWS within the Interior Department.

Section 204 - Multi-Benefit Projects to Improve Watershed Health - would appear to have promise. Again, we would suggest investigating opportunities to coordinate with programs like the Partners for Fish and Wildlife Program. This existing program and others like it could be used as the basis to develop criteria for the program proposed in Section 204. We would also recommend providing opportunities for public comment – particularly from organizations like ours, Partners for Fish and Wildlife, Intermountain West Joint Venture, and waterfowl conservation groups - as this program is developed.

Section 205 - Drought Planning and Preparedness for Critically Important Fisheries - raises concerns and questions. In times of drought, all beneficiaries of water resources should "share the pain" of drought. Does this section authorize agencies to mandate changes in water management in times of drought or shortages? How would a drought plan impact or coordinate with a biological opinion for an Endangered Species Act (ESA)-listed species?

Also, while we have members that could likely benefit from *Section 206 - Aquatic Ecosystem Restoration* - we have some concerns. For example, provisions affecting the use of water such as those if Section 206 should be consistent with state law regarding water rights. This section does provide a good list of the many kinds of stressors that impact fish, above and beyond the oft-heard, but not always accurate mantra, "more water equals more fish". Providing a public comment period of 90 days before finalizing a plan is a good idea, as well.

As an alternative to authorizing yet another federal environmental program as Section 206 calls for, we believe a simple commitment by federal agencies – with support, direction and oversight from Congress – to work in a coordinated manner with the states and stakeholders within the framework of existing data collection programs would be the wisest and simplest approach to address the issues raised by these two sections. Some common guidance principles to move towards improved data continuity between states could be derived by reviewing existing programs and finding templates for success that already exist, instead of attempting to fashion new solutions.

While we appreciate the language that calls for "voluntary and compensated" actions in Section 204 (b)(1) and clarifies no impacts on water rights in Section 206(c)(1), both programs raise the same concerns noted near the end of the above discussion under the "*Water for Tomorrow Act*". As the federal presence grows, so must the diligence of producers who must closely monitor agency actions directed from afar and spend valuable time and resources in doing so.

We appreciate the Senators' leadership and look forward to working with them to improve specific provisions to ensure the bill's effectiveness and purpose is achieved in a way that works for all water users.

Water-Energy Technology Demonstration and Deployment Act

It is our understanding there are two primary purposes of this bill. The first is to drive coordination between Department of Interior (DOI) and Department of Energy (DOE) in their various water research/implementation functions, including injecting more DOE funds into DOI projects. The second purpose is to facilitate federal support for a Western Water Resilience Center similar to state level efforts by Arizona universities.

We support this legislation, which could improve the efficiency of projects like the Yuma Desalting Plant, constructed under authority of the Colorado River Basin Salinity Control Act of 1974. The plant was built to treat saline agricultural return flows from the Welton-Mohawk Irrigation and Drainage District, a Family Farm Alliance member. The treated water is intended for inclusion in water deliveries to Mexico, thereby preserving a like amount of water in Lake Mead.

S. 2718 - Western Water Security Act

This bill authorizes a New Mexico river basins-centric water acquisition program at Reclamation to acquire water through lease or purchase from willing lessors or sellers to enhance instream flow for fish and wildlife benefits, water quality, and river ecosystem restoration; enhance water stewardship and conservation; and address water supply-demand imbalances in the named New Mexico river basins. It authorizes cost shared grants, consistent with the Rio Grande Compact and state laws, to water districts in New Mexico to reduce water depletions through efficiency improvements, as well as to establish and implement a water leasing program for irrigators for pre-

1907 water rights to provide benefits to ESA listed species and other river ecosystem benefits. It authorizes funding and technical assistance to Middle Rio Grande water districts to install metering and measuring devices along with check structures on irrigation diversions and appurtenant facilities to ensure conservation and efficient water use through reduced consumptive water uses, as well as infrastructure in the Middle Rio Grande to improve habitat for ESA listed species. It reauthorizes the Cooperative Watershed Management Program to 2031.

Our New Mexico members are strongly supportive of this bill. However, we also have members in other states who are concerned about using federal grants to fund demand management projects and reduce consumptive use of water, including water acquisitions. Our organization has consistently taken a position, for example, that Farm Bill conservation title programs should not be used to pay farmers not to farm. We also have long advocated that the best solutions to Western water challenges are developed at the local level. In this case, our New Mexico members need the seed money from the federal government to provide its fair share of the cost of helping our members develop a groundwater management scheme that could result in a voluntary fallowing program, the Depletion Reduction Offset Program, or DROP. This is something that could benefit the farmer and urban water users in this drought-riddled region of the southwest.

The proposed WaterSMART provisions in this bill raise the most concerns for the Alliance, and the concerns we raised above apply even more so here. For example, the definition of "qualified partners" includes non-profit organizations operating in a Reclamation state. This provision may allow canal companies or other private water delivery entities to take advantage of these infrastructure funding opportunities. However, it would also open these opportunities up to other non-governmental organizations with different goals and objectives. We are concerned with how this provision would affect the ability of water managers to compete for these funds, and we understand our New Mexico members share those concerns. As noted above, we support how Senator Wyden's bill addresses this matter.

We appreciate this bill's intent to provide more funding for the WaterSMART program. However, we also feel the current program is working fine, and we should try to stick with the original intent of the program and minimize adding new conditions and processes, wherever possible. Also, as stated above, broadening the WaterSMART program to include ecosystem restoration projects would further dilute available funding for grants supporting water conservation and management improvement projects on irrigation canals and ditches – the original purpose of one of the only the grant programs available to support such projects.

Restoration of Essential Conveyance Act

The introduction of the S.3811, the *Restoration of Essential Conveyance Act* by Senator Feinstein is a welcome step toward restoring critically important water supplies to 27 million Californians, 3 million acres of the nation's most productive farmland, hundreds of thousands of acres of wildlife habitat and restoration of the San Joaquin River. This legislation will help to address the impacts of groundwater subsidence on major portions of California's water delivery system – infrastructure millions of people depend on for water supply, flood control, and environmental protection.

The bill authorizes $600 million in federal cost-shared funding for three major projects to repair California's water delivery system, which has reduced conveyance capacity as a result of subsidence along the canals. The bill provides $200 million for the Friant-Kern Canal, $200 million for the Delta-Mendota Canal, and $200 million for the California Aqueduct. Additionally, the bill provides an additional $200 million in funding for restoration of the San Joaquin River, including environmentally protective infrastructure such as fish screens, fish bypass projects, and control structures necessary to successfully implement the San Joaquin River Restoration Settlement.

Land subsidence has been a persistent problem in the San Joaquin Valley and is exacerbated during drought periods, including during the 2012-2016 drought[1]. As a result, at times regional groundwater pumping has increased significantly, particularly during 2014 and 2015 when Central Valley Project (CVP) South-of-Delta and Friant Division deliveries were consistently at zero. The increased reliance on groundwater induced rapid land subsidence in several areas of the San Joaquin Valley. Some areas experienced measured reductions in land elevation of one to two inches per month between May 2015 and September 2016.

Recent land subsidence in the San Joaquin Valley lowered the elevation of regional water conveyance facilities, including the CVP Friant-Kern Canal and Delta-Mendota Canal, and the State Water Project (SWP) California Aqueduct, resulting in reduced conveyance capacity. In the case of the Friant-Kern Canal, capacity of the canal through the most subsided area is estimated to be only about 40 percent of its design capacity. In the case of the Delta-Mendota Canal, capacity has been reduced by an estimated 10-15 percent of design capacity.

While the most recent drought may have abated somewhat for now, land subsidence has not ceased as ongoing over-reliance on groundwater continues. In addition, residual subsidence will continue for some time even after groundwater pressure has stabilized. Implementation of California's Sustainable Groundwater Management Act (SGMA) requirements will be strongly guided by concerns over the control and avoidance of future subsidence.

The Restoration of Essential Conveyance Act complements legislation by Rep. Jim Costa (CA-16), the author of H.R. 5752, the *Conveyance Capacity Correction Act*, and H.R. 5316 by Rep. T.J. Cox (CA-21), the *Move Water Now Act*. Together, the Senate and House bills, if enacted, will provide the significant funding necessary to repair these essential conveyance projects.

[1] Land subsidence is the surface manifestation of the soil compaction in clay layers within groundwater aquifers. Groundwater overpumping reduces pressure, resulting in the compaction of clay as water is squeezed from pore spaces. Compaction of clay layers is typically inelastic and results in permanent land subsidence and the loss of groundwater storage capacity.

Congress Must Support a Suite of Demand Management and Supply Enhancement Projects

In addition to bills discussed today, legislation that addresses aging water infrastructure and insufficient water storage projects should also be advanced this Congress. In April, over 160 Western water and agriculture organizations from every Reclamation state wrote to Senate leaders collectively urging that water conservation, water reuse and recycling, watershed management, conveyance, desalination, water transfers, groundwater storage, and surface storage are all needed for a diversified water management portfolio (*the letter is attached as Appendix A to this testimony)*. The large number of groups signing in support of that effort speaks to the critical demand that we all feel in the West for addressing these issues, in whole or in part, in legislation this Congress.

The reasons are clear. Western water managers today continually face significant regulatory and policy-related challenges. Water infrastructure that was built early in the last century is aging. Meanwhile, less progress has been made at the federal level toward developing new and improved water infrastructure to keep up with the growing water demands of agriculture, expanding cities, energy production, the environment, and other needs.

While the water conservation, water efficiency, and water reuse provisions can be important tools for addressing certain water supply challenges, they are limited and do not yield the quantities of water that storage facilities do. Adequate water supplies for the future require supply enhancement measures – new and expanded water storage projects that can provide long-term solutions across the West.

Aging Water Infrastructure Must Be Addressed

Critical water infrastructure in the West must be maintained and modernized to ensure the delivery and safety of water today and for future generations. This economically crucial infrastructure is aging and needs improvement. Many Reclamation facilities are between 50 and 100 years old. Reclamation has reported an infrastructure and maintenance backlog of approximately $3 billion. Such aging infrastructure presents a further challenge because it requires ever increasing maintenance and replacement investments.

The replacement value of Reclamation's infrastructure assets is approaching a staggering $100 billion and growing by the year (Reclamation's total operating budget is approximately $1.5 billion annually).

If our aging Western water infrastructure that supports the economic force and the national food security benefits of Western irrigated agriculture crumbles, thousands of farms and ranches across the West, along with the rural American communities dependent on them will also crumble. Given the magnitude of the food security issue to the nation's economic and social wellbeing, policy makers must prioritize protection of our aging water infrastructure. Investing in our aging

irrigation water infrastructure before it fails will save taxpayers' money in the long run and allow us to preserve it and the many other benefits it provides, including the paramount need for national food production security.

The Alliance strongly supports S. 2044, the *Water Supply infrastructure Rehabilitation and Utilization Act*. This important legislation would establish a revolving loan account to address extraordinary maintenance backlogs within Reclamation, which is our nation's largest wholesale water provider. As stated above, Reclamation is facing significant maintenance backlog issues. The Alliance recently worked with our member districts to compile a list of such projects West-wide. It is staggering in its breadth and amounts to billions of dollars. Most of the districts are struggling to find affordable financing to get these projects done. Failing to address the backlog in the short term could well lead to dealing with it in the long term in a much more expensive and costly manner. The revolving loan fund that Senator McSally's bill – S. 2004-- would establish, known as the "Aging Infrastructure Account," would allow water managers to access funds for outstanding extraordinary maintenance needs and thus help improve the efficiency and effectiveness of federally owned water delivery facilities. Federal funding provided to the account would be repaid, with interest by water users through the loan process authorized in P.L. 111-11, and those payments would be made available to address future needs. Establishing a loan program to invest in aging water infrastructure would have significant safety, conservation, and economic benefits. Western irrigators would greatly benefit from this funding for affordable loans to address their most pressing aging infrastructure projects on federally owned irrigation facilities.

Water infrastructure investments not only provide immediate short-term economic benefits and create jobs, they are the foundation our soon-to-be-growing-again economy will need for the foreseeable future. Continued investment in our water infrastructure will also be important to the continued stability of our Nation's food supply, which has never been more important to American families than right now as we deal with the fallout from the coronavirus shutdown.

The Need for Legislation to Address Water Storage and Conveyance Infrastructure

It is also critical that water infrastructure for agricultural water providers is recognized as nationally important and qualified as such in potential infrastructure legislation. Qualifying projects should include water conveyance, surface water storage, aquifer recharge, and other water supply enhancement opportunities.

In particular, we support efforts to extend water infrastructure funding provisions in the *Water Infrastructure Improvements for the Nation* (or WIIN) Act, which are set to expire in 2021. As you know, the WIIN Act provides a much-needed streamlined process for the review, approval, and funding of water infrastructure projects – both federal and non-federal. Our members in several Western states have benefited from this program, and more are sure to see value from this funding in the future.

The Alliance in June 2019 supported a bipartisan Western drought and water supply bill introduced by Senators Feinstein, Gardner, McSally and Sinema. The *Drought Resiliency and Water Supply*

Infrastructure Act (S. 1932) which builds on Senator Feinstein's 2016 California drought legislation that was included in the WIIN Act. S. 1932 extends funding under the WIIN Act for an additional five years, including $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, similar to the WIFIA program at EPA, for non-federal water agencies to borrow up to 49% of project costs at 30-year Treasury rates (currently about 2.6 percent) to spur investment in new water supply projects. Repayment can be deferred until five years after completion of the project. This bill 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.

Conclusion

Extreme hydrologic events – marked by drought on one end, and floods on the other – will require everyone in the West to adopt a new paradigm, one that truly promotes wise management of our limited and valuable water resources. This new paradigm will also mean additional investment in technology, conservation and new/improved water storage and management infrastructure in order to deal with the uncertainties that lay before us. We are confident that your Committee will once again show a strong commitment to existing and future water infrastructure, recognize the unique challenges faced by our Western rural communities, and take strong strides to address those challenges.

The public infrastructure challenges our Nation is currently facing are daunting, and they will require innovative solutions. The infrastructure investments made by prior generations have benefited this country for over a hundred of years. Now it is this generation's responsibility to invest in our water infrastructure for future generations.

Thank you again for the opportunity to testify .

The Family Farm Alliance and our members stand ready to assist you in your efforts to advance legislation that addresses the many water conservation, supply, and delivery challenges facing the West. To that end, in addition to the bills discussed today, we also strongly urge that you consider including pertinent provisions of S. 1932 and S. 2044 as part of any bipartisan Bureau of Reclamation legislative package that may be considered in the future.

Again, we stand ready to assist you in your efforts. I will answer any questions you may have.

April 20, 2020

APPENDIX "A"

The Honorable Mitch McConnell
Majority Leader
U.S. Senate
S-230, The Capitol
Washington, D.C. 20510

The Honorable Chuck Schumer
Minority Leader
U.S. Senate
S-221, The Capitol
Washington, D.C. 20510

The Honorable Nancy Pelosi
Speaker
U.S. House of Representatives
H-232, The Capitol
Washington, D.C. 20515

The Honorable Kevin McCarthy
Minority Leader
U.S. House of Representatives
Room H-204, The Capitol
Washington, D.C. 20515

Dear Majority Leader McConnell, Minority Leader Schumer, Speaker Pelosi and Minority Leader McCarthy:

On behalf of the undersigned parties, we thank you for your bipartisan leadership to address the massive consequences caused by the recent COVID-19 outbreak by passing legislation to address and mitigate for this emergency. We represent thousands of Western farmers, ranchers and businesses on millions of acres of productive land who provide the food our nation relies upon, as well as many of the public agencies who supply water to Western urban, suburban and rural residents. As you consider further measures to help our country recover economically - including boosting federal funding for infrastructure -we urge that you consider critically needed investments that address the shortcomings of our aging Western water infrastructure.

The COVID-19 pandemic underscores the importance of safety and stability provided by domestic food production. As this crisis has pointed out, a stable domestic food supply is essential and of national security interest. For farmers and ranchers to survive, and for food to continue to be produced here in the American West, a stable water supply is a necessary part of any conversation about our national food security.

As a result, we believe it is critical that our country 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. Most of the federally funded water infrastructure projects that benefit the large cities, rural communities and small farms in the West were built over 50 years ago. As hydrological conditions in the West change and populations continue to expand, failure to address water security has become increasingly critical. Failing to improve water infrastructure and develop supplies will inevitably result in additional conflict as pressure grows to 'solve' urban and environmental water shortages. Moving water away from Western irrigated agriculture will surely contribute to the decline of our national food security.

Our organizations collectively believe that water conservation, water recycling, watershed management, conveyance, desalination, water transfers, groundwater storage, and surface storage are all needed for a diversified water management portfolio and such efforts MUST be included in the next stimulus package.

- Water conservation, one of the most cost-effective actions that can positively affect water supply stability, needs to continue to be aggressively pursued in conjunction with new water storage and other actions.

- Additional funding will be needed to kick-start new water recycling, reuse and desalination projects currently being studied or that are ready for construction, either through the Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 and other funding authorities.

- Programs that fund water conservation and management improvements, fish passage, and habitat restoration - all in support of water project operations in the Reclamation states of the West - need additional funding to accelerate construction of this ready-to-go infrastructure.

- We need new water storage – both surface water and groundwater – in order to adapt to a changing hydrology and develop usable and sustainable supplies to meet growing demands for water. Water storage projects should be tailored to local circumstances and need. This means in some cases projects will be constructed above ground and others below ground. Some projects will be traditional construction and others green infrastructure, dependent on the wide variety of local needs.

- The federal government must remain an active partner and expand its involvement in finding 21st century solutions to water problems in the West either through direct funding to help meet these needs or by developing and expanding federal financing mechanisms that have a very low cost to the Treasury and to taxpayers. There is a need for additional federal funding for loans from the Bureau of Reclamation (Reclamation) to non-federal irrigation districts responsible for operating, maintaining and rehabilitating federally owned infrastructure (under P.L. 111-11 authorities). These local operating entities need immediate funding and financing for extraordinary repairs and rehabilitation on their federally owned canals and water delivery structures. Most, if not all of these major construction projects are ready to proceed if direct financing was made available. Unfortunately, these operating entities have very few, if any, affordable financing options available. In short, water resource infrastructure investments in rehabilitating these aging federal projects should be made more attractive and affordable for these non-federal districts who operate and maintain this critical federally owned water delivery infrastructure.

- Similar funding and financing tools should be made available to commence construction on permitted and approved water storage and supply infrastructure. The WIIN Act made funding available to help non-federal entities plan, design and construct new water supply infrastructure at both federal and non-federally owned facilities. New financing tools like the Water Infrastructure Finance and Innovation Act (WIFIA) can also work to finance some non-federally led construction on new and existing water supply and delivery projects. Any existing and additional funding could be made available immediately to kick-start these worthy projects that have already been approved by Reclamation and the Congress.

- Beyond monetary assistance, the federal government should also bring forward policy changes that help ensure that water projects are built in a timely fashion. Making funding available for projects is useless if projects take decades to be approved. In the past, Congress has, on a bipartisan basis, put forward significant efforts to streamline and improve environmental regulation and permitting

processes. Any infrastructure package should contain similar provisions to streamline the development of water projects.

Congress must use any infrastructure stimulus package to not only address our nation's chronic needs surrounding roads, bridges and airports, but to also include water infrastructure needs for storage and conveyance. If and when additional infrastructure funding is discussed as part of a larger economic stimulus package, we need your help to ensure that federal dollars flow to the water infrastructure needs mentioned above. We look forward to working with you to address this critical need and national security interest.

If you have any questions regarding this letter, please do not hesitate to contact Erin Huston (California Farm Bureau Federation - ehuston@cfbf.com), Dan Keppen (Family Farm Alliance – dan@familyfarmalliance.org) or Dennis Nuxoll (Western Growers Association - dnuxoll@wga.com).

Sincerely,

African American Farmers of California
Agribusiness & Water Council of Arizona
American Pistachio Growers
Arizona Cotton Growers
Arizona Farm Bureau Federation
Arnold Irrigation District (OR)
Association of California Egg Farmers
Association of California Water Agencies
Association of Oregon Counties
Associated Oregon Hazelnut Industries
Bitter Root Irrigation District (MT)
Byron-Bethany Irrigation District (CA)
California Agricultural Irrigation Association
California Alfalfa and Forage Association
California Apple Commission
California Association of Wheat Growers
California Bean Shippers Association
California Blueberry Association
California Blueberry Commission
California Cattlemen's Association
California Cherry Growers and Industry Association
California Citrus Mutual
California Cotton Alliance
California Cotton Ginners and Growers Association
California Farm Bureau Federation
California Fresh Fruit Association
California Grain and Feed Association
California Pear Growers Association
California Pork Producers Association
California Seed Association
California State Beekeepers Association
California Sweetpotato Council
California Warehouse Association
California Water Alliance
California Wool Growers Association
California Wild Rice Advisory Board
California Women for Agriculture
Carlsbad Irrigation District (NM)
Central Arizona Irrigation and Drainage District
Central Oregon Irrigation District
Central California Irrigation District
Central Valley Project Water Association (CA)
Charleston Drainage District (CA)
Colorado Farm Bureau
Colorado Fruit and Vegetable Growers Association
Colorado River District (CO)
Colorado Wool Growers Association
Columbia Basin Development League (WA)
Del Puerto Water District (CA)
Deschutes Basin Board of Control (OR)
Dolores Water Conservancy District (CO)
Eagle Field Water District (CA)

Eldorado County Water Agency (CA)
Elephant Butte Irrigation District (NM)
Farmers Conservation Alliance (CA/MT/NV/OR)
Far West Equipment Dealers Association (CA)
Garrison Diversion Conservancy District (ND)
(NE/WY)Glenn-Colusa Irrigation District (CA)
Grassland Basin Authority (CA)
California Grower-Shipper Association of
Santa Barbara and San Luis Obispo Counties (CA)
(CA)Idaho Farm Bureau Federation
Imperial Irrigation District (CA)
Kansas Bostwick Irrigation District (KS)
Kern County Water Agency (CA)
Kittitas County Timothy Hay Growers & Suppliers
Kittitas Reclamation District (WA)
Little Snake River Conservation District (WY)
Lower Yellowstone Irrigation Project (MT)
Milk Producers Council (CA)
Dist.(AZ) Modesto Irrigation District (CA)
Association
Monterey Peninsula Water Management District (CA)
Nebraska State Irrigation Association
New Magma Irrigation and Drainage District (AZ)
Nevada Farm Bureau Federation
North Dakota Irrigation Association
Northeast Oregon Water Association
North Platte Valley Irrigators Association (NE)
Ochoco Irrigation District (OR)
Olive Oil Commission of California
Oregon Association of Nurseries
Oregon Dairy Farmers Association
Oregon Forest Industries Council
Oregon Women for Agriculture
Pacific Seed Association
Panoche Water District (CA)
Pershing County Water Conservation District (NV)
Pothook Water Conservancy District (CO)
Reclamation District 108 (CA)
Roza Irrigation District (WA)
Salt River Project (AZ)
Electrical District No. 3 of Pinal County (AZ)
Family Farm Alliance (WEST-WIDE)
Farwell Irrigation District (NE)
Friant Water Authority (CA)
Gering-Ft. Laramie Irrigation District
Goshen Irrigation District (WY)
Grower-Shipper Association of Central
Hawaii Farm Bill Federation
Henry Miller Reclamation District #2131
Idaho Water Users Association
Imperial Valley
Vegetable Growers Association (CA)
Kings River Conservation District (CA)
Kittitas County Farm Bureau (WA)
Klamath Water Users Association (CA /OR)
Lone Pine Irrigation District (OR)
Mercy Springs Water District (CA)
Maricopa-Stanfield Irrigation & Drainage
Montana Water Resources

Nampa & Meridian Irrigation District (ID)
Nebraska Water Users Association
New Mexico Farm and Livestock Bureau
Nisei Farmers League (CA)
North Dakota Water Users Association
Northern California Water Association
North Unit Irrigation District (OR)
Olive Growers Council of California
Oregon Association of Conservation Districts
Oregon Cattlemen's Association
Oregon Farm Bureau
Oregon Water Resources Congress
Pacheco Water District (CA)
Panoche Drainage District (CA)
Pathfinder Irrigation District (NE / WY)
Plant California Alliance
Queen Creek Irrigation District (AZ)
River Garden Farms (CA)
Roza Sunnyside Board of Joint Control (WA)
San Carlos Irrigation & Drainage District (AZ)

San Luis Water District (CA)
(CA) Sargent Irrigation District (NE)
Savery – Little Snake River Water Conservancy District (WY)
South Columbia Basin Irrigation District (WA)
South Valley Water Association (CA)
Sunnyside Valley Irrigation District (WA)
Tehama-Colusa Canal Authority (CA)
Truckee-Carson Irrigation District (NV)
Tumalo Irrigation District (OR)
Utah Farm Bureau Federation
Ventura County Agricultural Association (CA)
Washington State Potato Commission
Western Growers Association (AZ/CA/CO/NM)
Western Plant Health Association (CA)
Whitehead H2O (CO)
Yuma County Water Users Association (AZ)
San Luis & Delta-Mendota Water Authority
San Joaquin River Exchange Contractors Water Authority (CA)
Sites Project Authority (CA)
Southeastern Colorado Water Conservancy District
Southwestern Water Conservation District (CO)
Swalley Irrigation District (OR)
Three Sisters Irrigation District (OR)
Tulare Lake Basin Water Storage District (CA)
United Water Conservation District (CA)
Utah Water Users Association
Washington State Farm Bureau
Washington State Water Resources Association
Western Agricultural Processors Association (CA)
West Stanislaus Irrigation District (CA)
Yuba Water Agency (CA)

cc: The Hon. Lisa Murkowski, Chair, Senate Committee on Energy and Natural Resources
The Hon. Joe Manchin, Ranking Member, Senate Committee on Energy and Natural Resources
The Hon. John Barrasso, Chairman, Senate Committee on Environment and Public Works
The Hon. Thomas Carper, Ranking Member, Senate Committee on Environment and Public Works
The Hon. Jared Huffman, Chair, House Committee on Natural Resources
The Hon. Rob Bishop, Ranking Member, House Committee on Natural Resources
The Hon. Peter DeFazio, Chair, House Committee on Transportation and Infrastructure
The Hon. Sam Graves, Ranking Member, House Committee on Transportation and Infrastructure

Senator MCSALLY. Thank you, Mr. Keppen.
Mr. Whitworth, you are now recognized for five minutes.

STATEMENT OF JOE S. WHITWORTH, PRESIDENT, THE FRESHWATER TRUST

Mr. WHITWORTH. Thank you, Chairwoman McSally, Ranking Member Cortez Masto and members of the Subcommittee. My name is Joe Whitworth, President of The Freshwater Trust. With 50 scientists, coders, implementers, lawyers and ag economists, we're a non-profit "do-tank" focused on leveraging technology and finance in new ways to solve legacy water problems. At the intersection of the economy and the environment, we have developed a quantified conservation approach to work with landowners, agencies, utilities and other partners to get conservation done on the ground, in the right places, in the right amount, on an expedited basis. I really appreciate the opportunity to testify today regarding the bills before you, and I will summarize here but put the testimony in the record.

Technology now exists to identify and target specific actions that improve watershed health, invest taxpayer dollars well and secure good water in all of our communities. Leveraging these tools will enable us to create durable jobs in rural economies and increase resilience in the face of change. Several of the bills before this Committee include steps in the right direction on these fronts toward data-informed investments, and these should be pursued and extended. Solving our water problems on a meaningful timeframe requires that we accelerate and focus restoration funding while producing the best environmental outcomes for the least cost coordinated by analytics, standardized accounting and quantified results. The first step is understanding within a watershed-wide basis, where we need to work, how much it will cost and what we'll get. In short, we need price tags, we need finish lines and we need the ability to coordinate and mobilize resources toward those ends.

Slow and uncertain application cycles often keep landowners with the most critical lands and the smartest farm upgrades from ever participating or ever realizing the benefits that they could have. It's a massive, massive missed opportunity because not all restoration is created equal and simply authorizing bigger spends won't improve the results. We need better spends, and that's why I'm here today.

A quick example: a small, subwatershed in the Columbia River Basin representing about 1.7 percent of the land mass actually has a fairly outsized impact on downstream water quality due to runoff. We used publicly available data, federally approved model formulas and advanced technologies to run the entire basin and understand what it is we had on our hands. Of the 4,100 agricultural fields, less than 1,500, actually less than half, had any environmental benefit whatsoever regardless of investment. And so, here are the biggest gains come from on farm upgrades of irrigation in order to decrease runoff. They also improve farm profitability, but here's the big takeaway when we're talking about spending correctly. Of those, the original price tag of all the 4,100 fields took about $150 million but at a cost of $24 million working on only 190 of those fields, we can knock down about 63 percent of the nitrogen running

off in those, in that system. And that's what it's going to take in order to solve problems versus spend on problems.

In addition to undertaking the right actions in the right places, we need to track and report results in rigorous and standardized ways at a watershed level, not simply a project level. The Freshwater Trust, of course, supports funding for environmental restoration in these bills. Those extensions and additions are very welcome. However, we need something more beyond that, we need better ones. If there is one common theme throughout these that we really needed to pay attention to as we go forward and develop a water package, it is to really understand that there is a need for a standardized accounting system that understands what our actions do before we do them so that we can seek optimal outcomes that perform at a watershed basis as opposed to a maximal outcome at a project level basis.

With that, I would like to thank you again for allowing me to testify and look forward to any questions.

[The prepared statement of Mr. Whitworth follows:]

JOE S. WHITWORTH, PRESIDENT
THE FRESHWATER TRUST

Testimony of Joe S. Whitworth
Before the Senate Committee on Energy & Natural Resources
Subcommittee on Water and Power
July 22, 2020

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

Good afternoon. My name is Joe Whitworth, President of The Freshwater Trust. We are a "do-tank" nonprofit organization focused on leveraging technology and finance in new ways to solve legacy water problems. Working at the intersection of the economy and the environment, we have developed a "quantified conservation" approach to working collaboratively with landowners, agencies, utilities and other partners to get conservation actions done in the right places in the right amount on an expedited basis. This approach gives society the best chance to recover listed species, ensure clean water for all uses, and make local economies more resilient. This is the future we seek and on behalf of our Board of Directors, I appreciate the invitation to testify today.

Despite mounting complexity, Congress faces an historic opportunity for our nation's freshwater resources and rural economies. Technology is now available to identify and target restoration actions that restore freshwater ecosystems, invest taxpayer dollars efficiently, and get America on track toward providing fishable, swimmable, and drinkable water for *all* communities. Our use of technology creates durable jobs in America's rural economies and increase rural resiliency to climate change. Several of the bills before this committee include steps in the right direction toward data-informed investments, and additional work will put us on a faster track to meeting these needs.

This country has made significant progress on restoring water quality since the passage of the Clean Water Act. However, the scale of this nation's water problems remains daunting and progress has stalled. Simply put, the innovations of last century will not address the challenges of this one. After more than a generation of effort, more than half of America's stream miles do not meet water quality standards. Indeed, the fact that the majority of our river miles designated as Wild & Scenic fail to meet fishable-swimmable-drinkable requirements signals clearly that the environmental words we write on legal paper need to toggle to realities on the ground.

For the first time in human history, they can. But it does not include "more of the same".

Solving our water problems on a meaningful timeframe requires that we accelerate restoration funding and focus it on producing the best environmental outcomes, for the least cost, driven by coordinated technology analytics. Currently, funding drawn from federal restoration programs is disbursed through process-heavy, technical, and lengthy grant or loan programs. This is true

even of programs that were intended to break down silos, such as the USDA's Regional Conservation Partnership Program. Though its conservation aims are leading edge, the long and uncertain application cycles associated with these programs often deter landowners with key lands and smartest farm upgrades from participating, and leaves opportunities to improve the environment unseen and unleveraged. There is also little information to determine whether limited restoration dollars are funding the projects that will produce the necessary environmental outcomes. The intent of such programs must better toggle to their results on the ground.

Existing technology is available to change this pattern and enable federal programs to efficiently identify and fund projects that will provide the greatest benefits on taxpayers' investments. The Freshwater Trust knows this is possible because we use these technological tools every day in our work to restore watersheds and support the needs of our project partners, such as the U.S. Department of Agriculture, the Bureau of Reclamation, the Department of Energy's Bonneville Power Administration, Idaho Power Company, Sacramento's Regional Sanitation District and other public and private entities. Our decades of success inform our proposed "Rural Resiliency Jobs Initiative", which we have submitted into the record. We know it's possible to take a data-driven, basin-scale approach to secure long-term health for our nation's watersheds and rural economies – it's what we do. Technology and analytics are currently available to decisionmakers that could sort millions of acres in a basin to find the on-farm actions with the greatest environmental benefits for the least cost. These results are already leveraging existing federal funding to draw private investment in rural communities, bringing the best of the private sector to local economies that need it the most. The status quo funding model, however, slows this down.

For example, TFT analyzed a key subwatershed in the Columbia River Basin for agricultural runoff impacts that contribute to downstream water quality impacts. Using publicly available data, federally approved model formulas, and advanced technology tools, TFT determined that of the nearly 4,100 agricultural fields in the watershed, only 1,500—less than half —would generate any significant outcomes from restoration actions, no matter the investment. In this basin, the primary actions involve converting farm irrigation practices from flood to center pivot irrigation – a process that can improve farm profitability, and if targeted in the appropriate locations in a watershed, provide more in-stream conserved water for ecosystem and recreational benefit where those protection programs exist in the West.

Funding-wise, and problem-solving wise, here's the takeaway from this example: the total sum of all possible restoration and management actions in that basin had a price tag of $150,000,000. That's a dollar figure that partners could not muster, particularly when you consider that this subwatershed represents just 1.7% of the larger Columbia River Basin. However, the underlying data showed that implementing certain targeted actions on just 193 fields would remove 63% of the nitrogen runoff in the basin – and could be done for $24,000,000, or just 16% of the original basin estimate. Thus, the good news is, with advanced analytics to inform smart funding, we can get to a "fixed" basin, meaning it can meet the fishable-swimmable-drinkable standards of the Clean Water Act. This represents the difference between spending and solving. Of the billions of

dollars on the table today, we could all benefit from knowing what these will get us in terms of results.

Of the bills before you today, S. 4189 provides a good step forward on changing the funding status quo. This bill ensures that funding for multi-benefit watershed health projects goes to ones that are designed, implemented, and monitored to produce outcomes for watersheds. We believe this outcome-based funding approach will demonstrate that limited federal restoration dollars can be spent more effectively to produce greater results, and will serve as a model for other programs. Additionally, this approach will afford greater accountability and transparency in restoration funding. It will also drive further growth in the restoration technology field, as funding applicants compete in demonstrating that their proposed projects will produce the greatest benefits in order to obtain funding.

It is evident that Congress recognizes the critical and growing role that technology must serve in understanding our water supplies. For example, S. 4188 includes good starting points for incorporating information from emerging technologies to improve our understanding of climate change impacts on water. Leveraging additional technologies, such as machine-learning and advance restoration analytics, would further clarify climate impacts and how to best optimize federal effort in response. S. 4188 also includes important funding for watershed restoration. By incorporating actionable insights into funding decisions at a basin scale, we can understand actions, price tags, and outcomes in advance so that the most beneficial projects are funded on a coordinated and streamlined basis.

S.____ (Water-Energy Technology Demonstration and Deployment Act) also identifies the importance of data collection, modeling, and use of advanced data analytics for evaluating precipitation, runoff, and water resources at the regional level, as well as developing technology that improves management and infrastructure development. We believe this bill should be expanded to include development and technology to assist in watershed restoration and quantifying environmental metrics to more clearly understand the outcomes of these funding decisions.

S. 2718 includes important funding to support voluntary transactions to enhance stream flow for fish and wildlife, water quality, and freshwater ecosystems in western states. This funding is crucial to support species, watersheds, and even agriculture operations that are facing potential collapse under the weight of over-appropriated systems and climate change. We believe this funding could go even further and provide greater resiliency by incorporating technology-informed funding procedures to ensure that public dollars support projects that will provide the tangible, quantified outcomes that rural communities need.

In addition to environmental outcomes, tech-informed funding leads to increased jobs and agricultural profitability. Existing rural restoration projects have shown to generate up to 40 jobs per $1 million spent, with an additional local economic multiplier of 2.5x as the wages are spent in those communities. Projects that implement certain best management practices, such as

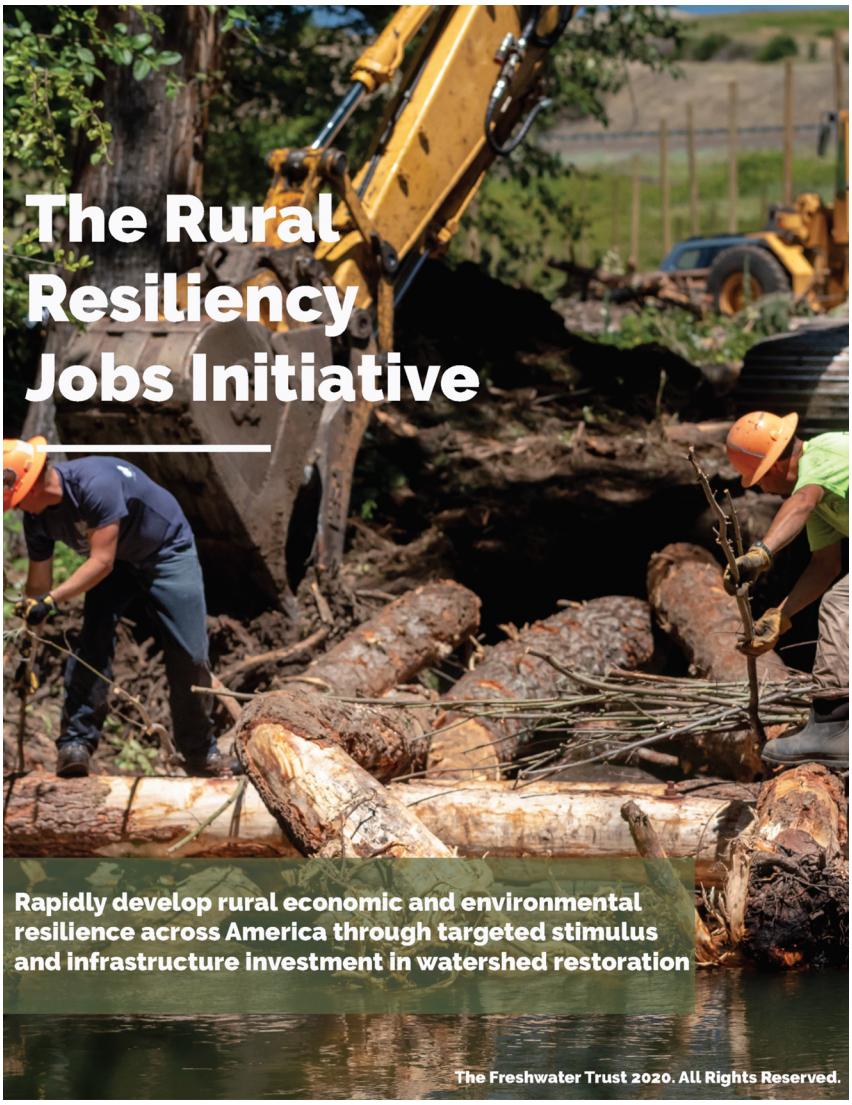
irrigation efficiency improvements, reduce soil loss and, in states with in-stream protection programs, increase farm profitability without expanding consumptive water use.

At this time, The Freshwater Trust believes S. 4188 and S. 4189 provide good steps forward towards advancing precision restoration work, and we would welcome the opportunity to work with the bill sponsors on further developing this legislation. We are all in this water crisis together, and we are willing to provide additional insight to committee members on these bills and serve as an additional resource to you based on our decades of experience. In the meantime, I have submitted a copy of our Rural Resiliency Jobs Initiative, which includes additional information about the opportunities that technology is providing now for watershed restoration, rural jobs, and pay for success mechanics.

Thank you for the opportunity to testify today. I am happy to answer any questions.

BIOGRAPHY: JOE S. WHITWORTH, PRESIDENT
THE FRESHWATER TRUST

Mr. Whitworth has been responsible for strategic direction of The Freshwater Trust since 2000, growing the organization tenfold during that time. He is focused on the next generation of conservation tools at the intersection of technology and finance to get results on the ground. In addition to formal advisory roles in B Corp, foundation and government settings, he is a patented inventor of "System, Method, and Apparatus for Collaborative Watershed Restoration Projects", author of the book "Quantified: Redefining Conservation for the Next Economy" published by Island Press and was founding board chair of the COUNCIL FOR RESPONSIBLE SPORT. Joe has also served as a guest lecturer at the Stanford Graduate School of Business and the Kellogg School of Management at Northwestern University. He holds a B.A. from Dartmouth College and a J.D. from Lewis & Clark College with an emphasis in natural resources and water law.


The Rural Resiliency Jobs Initiative
Rapidly develop rural economic and environmental resilience across America through targeted stimulus and infrastructure investment in watershed restoration
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THE RURAL RESILIENCY JOBS INITIATIVE
July 17, 2020

OVERVIEW

Every day, the hardworking, "can do" spirit of America is on display in rural communities across America. Whether on farms, in small shops, in factories, in schools, or elsewhere, rural citizens are dedicated to providing for their families, their communities, and their nation. Rural America has always played a critical, yet often unseen, role in our everyday lives, whether we live in the country's heartland or on her coasts. America is often characterized by rural landscapes – farms, ranches, small towns, flowing rivers and open spaces. Most of the food supply for the entire country is grown here. Our most beautiful and critical natural resources, such as rivers and streams, run through it.

Among those that live here, there is a deep recognition of the importance of effective stewardship of rural lands and waters so that a cherished way of life can be preserved for generations. To that end, partnerships involving various levels of government – notably federal, state and local agencies along with private entities of all types and sizes – have worked together for many years to address the needs and opportunities associated with environmental conservation across the nation in general, and specifically in rural areas.

And there have been notable successes. However, with those successes, there has been a recognition that the process by which federal programs and funding focused on environmental improvements has often failed to achieve the intended goals. This can be attributed to the cumbersome and inefficient process associated with distributing the federal funding associated with natural resource conservation – from the application process, to lack of performance metrics, to a lack of coordination among agencies both at the career and political level. The result has yielded lost opportunities to fully achieve agency goals; hindered or failed to achieve "on the ground" results with private sector partners; and regrettably wasted large amounts of taxpayer dollars.

Rural America's economic fortune has often been directly dependent on fluctuating farm prices, local jobs, weather and international markets. As our cities and suburbs benefited from the last economic revival, some of our rural communities didn't fare so well.

Today, there is a pent-up desire among practitioners and policy makers to address environmental stewardship in rural America in a more innovative, timely, cost-effective, and outcome-based manner. This desire can fill a vital, current need that existed even before the onset of the pandemic: rapid job creation in rural areas. A better 21st century for rural communities will require a 21st century approach – and the need for improved employment and resiliency has never been greater. To address this need, The Freshwater Trust has

developed a **Rural Resiliency Jobs Initiative (RRJI)** that uses technology to remove barriers, leading to rapidly creating large economic and environmental improvements in rural communities. This memo outlines key technology components, opportunities for public-private funding, and a pathway to results.

EXECUTIVE SUMMARY

The Rural Resiliency Jobs Initiative brings the best of the private sector to rural communities and stretches federal funds further, with measurable results to accelerate jobs and add resilience to local economies.

Building on the proven elements of a decade of focused collaborative innovation, this Initiative seeks to integrate a data-driven, basin-scale approach to address excess nutrients and temperature and drought/flood resiliency in key tributaries to secure long-term health for the nation's watersheds and rural economies. Catalyzed by a group of dedicated and experienced problem-solvers, this effort will engage partners ranging from federal, state, and local levels as well as public and private funders seeking both environmental and economic gains. This effort will coordinate, prioritize, and quantify economic and environmental results. The undertaking will center on outcomes, not effort.

KEY ELEMENTS INCLUDE:

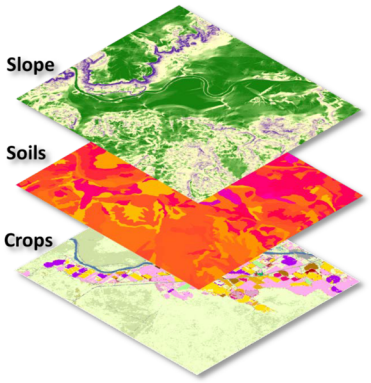
- **ADVANCE BASIN ASSESSMENTS + ACTIONABLE TOOLS:** Linking approved agency models, publicly available information, and machine learning, analytics can sort millions of acres in a basin to find the on-farm actions with greatest environmental benefit for the least cost. Local action flows from there.
- **FINANCING:** Funding is important, but the key to outcome-based success is deploying funding in a streamlined, timely way across programs to achieve more effective, measurable outcomes. This requires blending public dollars into a seamless, multifaceted funding stream that allows rural America to utilize dollars immediately in a way that undertakes quality on-farm projects with known environmental benefits that leverage existing supply chains and accelerate results. These projects should be tiered to Basin Assessments to ensure value and efficiency.
- **LEVERAGE FEDERAL BUYING POWER:** Utilizing available funding and significant credit standing, public agencies have the ability to play a partnership role in incentivizing private investment in rural communities nationwide and standardizing environmental markets. As an example, agencies could serve as a buyer of outcomes at a known price, or as a "guarantor," by signaling ability and intent to buy credits at a certain price if other buyers fail to materialize.

WHO WE ARE

The Freshwater Trust (TFT) builds tools that chop thorny legacy problems down to a solvable size. With 35+ years of technology-driven, watershed-scale restoration expertise, TFT has a proven track record of working collaboratively with rural landowners, regulated entities, governments, and businesses to build, measure, and track optimized solutions in pursuit of specific targets that "fix" rivers. TFT's growing portfolio of work currently spans Oregon, Idaho, California, Washington, Colorado and Iowa, and ranges from on-the-ground projects such as planting streamside vegetation to analytical work such as environmental market design. Further details about our organization and work can be found below in Appendix B.

PRECISION ANALYTICS TO PRIORITIZE BEST OUTCOMES

The RRJI will use analytical technology to identify projects that yield the most cost-effective environmental outcomes, and assist agencies in their effort to focus limited funds on prioritized projects in pursuit of achieving their statutory and programmatic mandates. TFT's current work has shown that this technology is critical in ensuring restoration funding is focused and dollars are used effectively. Specifically, TFT proposes a three-step prioritization approach in the RRJI, based on how we manage our current work:



1. Integrating established federal government models and data with satellite imagery, as well as machine-learning technology to remotely survey and assess a watershed and identify specific conservation practices that could be implemented at the field level.
2. From the group of feasible practices, identify optimal combinations of practices that would produce the best ecological and economic options on the ground, as well as measuring cost and desired outcomes (e.g., employment generation).
3. Run analytical scenarios to identify the most efficient combination of regional investments for achieving watershed-level objectives, such as achieving a nutrient reduction target.

With the RRJI, federal funding agencies would identify the highest priority projects with information compiled on an automated data platform that identifies priority projects and produces the best outcomes. When a qualified project is located, the funding should be allocated and disbursed appropriately to the project, all the while ensuring results.

A coordinated federal approach will assist in the recovery and expansion of local jobs and existing supply chains, such as irrigation equipment installers, plant nurseries, and general contractors. Through RRJI's outcomes-based approach, federal funding could be used to rapidly invest in the nation's rural and outdoor natural infrastructure restoration economy, while also improving rural water resiliency by decreasing risk of flood, drought, forest fires, and drinking water quality issues.

THE INVESTMENT

Based on our experience, rural job creation and needed conservation progress will be driven most effectively through targeted investments and modifications to existing federal programs.

In particular, the Administration and Congress have an opportunity to make a significant investment in the future of our nation's rural communities and watersheds. This investment would yield a broad array of benefits, both immediate and long-term. Existing projects have been shown to generate up to 40 jobs per $1 million spent, with up to a 2.5x local economic multiplier. The vast majority of those jobs take place in outdoor settings and are at low risk of airborne virus transmission. The RRJI would benefit most directly from federal investments that catalyze and coordinate private monies to fund prioritized restoration projects throughout rural America. TFT envisions distribution of this funding through existing federal programs, but with vastly streamlined disbursement mechanisms. Rural communities can no longer endure the long, technical, uncertain funding application cycles associated with current programs. Instead, the RRJI proposes funds be deployed quickly, with a simplified programmatic structure meant to encourage local private sector entities to see the value in the work, hire staff, and achieve the needed environmental outcomes. This is the standard by which our nation can rapidly recover its rural economic vitality, in the places that need it most and are long overdue for investment.

The RRJI envisions investments and modifications to existing federal programs to fund rural job creation through needed conservation and watershed restoration projects. Given the RRJI's dual benefits to both unemployment and water system resiliency, it may be possible and appropriate to include these investments in upcoming stimulus or infrastructure spending bills – but even within existing agency funds and authorities there is strong potential for impactful regional pilot programs. Funding combined with this modified approach would be distributed across the appropriate "Water Subcabinet" agency programs. To catalyze investment at the scale needed to address unemployment and nonpoint source pollution effectively in tandem, it's vital that agencies streamline, prioritize, leverage, and coordinate funding in ways that improve upon existing programs.[1] Traditionally, these funds are disbursed through a process-

[1] Per the Government Accountability Office, "using data—such as information collected by performance measures and findings from program evaluations and research studies—to drive decision making can help federal agencies improve program implementation, identify and correct

heavy, technical, competitive, and lengthy grant or loan programs that often do not prioritize funding based on cost effectiveness or the maximization of environmental benefits.

Key programs for RRJI deployment may include the **Regional Conservation Partnership Program** (RCPP); the **Clean Water State Revolving Fund** (CWSRF); the **Water Infrastructure Finance and Innovation Act** (WIFIA); **WaterSMART** and other programs as deemed appropriate. Program investments should utilize best available data and technology to identify the specific projects that will deliver the highest measurable improvements to water quality and quantity for the least cost.[2] With all implicated agencies using platform-based, real-time watershed analytics to identify projects that generate needed resiliency outcomes, rapid increases in employment and environmental resiliency are attainable.

Streamlining Deployment of Federal Program Investments

The ongoing COVID-19 crisis brings urgency to the need to amplify the way funding moves to rural communities and projects. Critical to the success of the RRJI is the distribution of federal dollars in a manner that improves operability and execution of programs through enhanced delivery channels, processes, timelines, and clear outcome-based guidelines so as to catalyze coordinated private sector action in response. The US Government Accounting Office (GAO) key issues summary for Data-Driven Decision Making explicitly supports this intent, noting that federal agencies can and should consider using evidence-based tools to improve program effectiveness and foster innovation.

Today's programs involve multi-year application cycles, and the bureaucracy associated with each one makes it nearly impossible to utilize these funding sources together in a leveraged way that can quickly create jobs and impact rural economies. In short, **the timing, prioritization, and certainty mismatches make it nearly impossible to leverage America's largest environmental spending sources in a meaningful way.**

For example, the USDA spends $6.4 billion per year through Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) conservation programs.[3] However, recent analysis found that only 36% of NRCS EQIP program applications were funded.[4] Like USDA, the EPA currently has $2.82 billion per year in available CWSRF and Drinking Water State Revolving Fund funds available nationwide,[5] but there are a billion-plus dollars of appropriated SRF funds

problems, and make other management decisions." U.S. Gov't Accountability Office, Data Driven Decision Making, https://www.gao.gov/key_issues/data-driven_decision_making/issue_summary#t=0 (last visited May 22, 2020).

[2] These technologies should also improve efficiency for your agencies by reducing grant application paperwork, streamlining the funding approval process, and systematizing project tracking and reporting.

[3] In FY 2019, NRCS had $4.37 billion available for conservation programs. In FY 2019, FSA had $2.09 billion available for conservation programs. U.S. DEP'T OF AGRIC., FY 2019 BUDGET SUMMARY (2019), *available at* www.usda.gov/sites/default/files/documents/usda-fy19-budget-summary.pdf.

[4] UNION OF CONCERNED SCIENTISTS, SUBSIDIZING WASTE: HOW INEFFICIENT U.S. FARM POLICY COSTS TAXPAYERS, BUSINESSES, AND FARMERS BILLIONS 8 (Aug. 4, 2016), *available at* www.ucsusa.org/resources/subsidizing-waste#ucs-report-downloads.

[5] U.S. ENVTL. PROT. AGENCY, FY 2019 CWSRF FINAL ALLOTMENTS (Apr. 2019), *available at* www.epa.gov/cwsrf/clean-water-state-revolving-fund-cwsrf-allotments-federal-funds-states. Memorandum from Anita M. Thompkins, Director Envtl. Prot. Agency, Office of Groundwater & Drinking Water,

that remain unspent, each year.[6] Meanwhile, approximately $20B is spent each year on Clean Water Act compliance by government and industry.[7] This is a lot of money, but most of the programs can't coordinate with each other, resulting in substantial funding, leverage and outcomes left on the table each year.

To improve the efficiency of federal funding, TFT sees a scenario where, much like the Payroll Protection Program forgivable loans established by the CARES Act—which vastly simplified an existing program, removed most eligibility barriers, and relied on private banks to move funds on the basis of a federal guarantee—the RRJI would require similar deployment innovation. So long as projects fit the general program constraints, and produce high priority environmental outcomes that can be measured or calculated in uniform ways, funds should be able to flow in the form of forgivable loans, direct subsidies to supply chain providers, and other similarly streamlined mechanics.

In the case of EPA, under a RRJI model, SRF programs could be restructured to offer forgivable loans for capital-intensive natural infrastructure projects, such as irrigation upgrades and wetland restoration, so they are available to the borrowers whose activity is needed to catalyze rural economic recovery – but who are not typically eligible borrowers for such loans. For example, while SRF funds are intended to support nonpoint source projects, and EPA has written extensively on how to move funds to non-traditional borrowers, in practice most funds still flow to a limited to a narrow band of municipal borrowers.[8]

With respect to EQIP, instead of requiring 2/3 of applicants to pour time and energy into a long, laborious, and potentially unsuccessful process that also requires them to obtain match funding, TFT envisions a scenario with twice as much funding for these programs, paired with disbursement mechanisms to reduce burdens on applicants by providing upfront funding for all eligible prioritized revegetation projects. Farm Bill legislation also funds the Regional Conservation Partnership Program (RCPP) at $300 million/year.[9] This program explicitly calls out the need to make watershed-scale investments and leverage federal investments with private financial mechanisms, including via performance-based payments to producers.[10] RCPP

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to DWSRF Branch Chiefs & Reg'l Coordinators, FY 2019 DWSRF Allotment Availability (Apr. 22, 2019), www.epa.gov/sites/production/files/2019-04/documents/fy_2019_dwsrf_allotment_availability.pdf.

[6] U.S. GOV'T ACCOUNTABILITY OFFICE, STATE REVOLVING FUNDS: IMPROVED FINANCIAL INDICATORS COULD STRENGTHEN EPA OVERSIGHT, GAO-15-567, 27 (Aug. 2015), www.gao.gov/assets/680/671855.pdf ($1.1B of SRF funds remained idle in 2015). Updated data on idle SRF funds could not be located.

[7] David Keiser & Joseph Shapiro, *Consequences of the Clean Water Act and the Demand for Water Quality*, 134 Q.J. Econ. 349--396 (Feb. 2019), https://academic.oup.com/qje/article/134/1/349/5092609.

[8] EPA has noted that the SRF "program's flexibility and broad range of funding authorities enable states to target CWSRF funds to their specific water quality priorities[, but d]espite this flexibility, the majority of CWSRF funding is used for traditional wastewater infrastructure projects, while funding for nontraditional projects is an area that is still being developed and explored." U.S. ENVTL. PROT. AGENCY, FINANCING OPTIONS FOR NONTRADITIONAL ELIGIBILITIES IN THE CLEAN WATER STATE REVOLVING FUND PROGRAMS, 830B17003, 1 (2017), www.epa.gov/sites/production/files/2017-05/documents/financing_options_for_nontraditional_eligibilities_final.pdf.

[9] 16 U.S.C. § 3871d (2018) (as modified by Section 2705 of the 2018 Farm Bill).

[10] Statutory amendments from the 2018 Farm Bill now allow USDA to "achieve conservation benefits on a regional or watershed scale, such as—(i) infrastructure investments relating to agricultural or nonindustrial private forest production that would (I) benefit multiple producers; and (II) address natural resource concerns such as drought, wildfire, or water quality impairment on the land covered by the project; (ii) projects addressing natural resources concerns in coordination with producers, including the development and implementation of watershed, habitat, or

funds could therefore be used to subsidize irrigation conversations at the watershed scale, and integrate more easily to complement large-scale watershed compliance programs.

The WIFIA program is likewise well-positioned to provide low-interest, long-term, and (potentially) forgivable debt to local water agency infrastructure partnerships—which could help cash-strapped local governments pay for needed wastewater and drinking water investments throughout watersheds, without further taxing their economically compromised ratepayers.

The Bureau of Reclamation's WaterSMART programs also serve as a model with cost-share grants for irrigation upgrades that can be matched with other non-federal programs and funding, particularly if match requirements can be reduced in response to dwindling public funds. Larger grants and more flexibility regarding partnerships with conservation groups and others in the private sector could provide additional funding opportunities for natural infrastructure restoration projects that can provide benefits to both irrigation and the environment. WaterSMART grants could also provide funding toward the development and ongoing operations of a national system of analytics, funds tracking, project management tools, and mobile applications necessary to ensure that all local actors who engage in these programs generate the intended rural water resiliency benefits.

IMPLEMENTATION: SPEND SMARTLY & CATALYZE THE PRIVATE SECTOR

The use of technology is key to ensuring that the highest impact projects are prioritized and targeted. It can also assist in ensuring that finite funds are not unnecessarily spent. For example, TFT analyzed a key river in central Oregon and determined that, of the 4,070 agricultural fields assessed, only 1,500 were identified through the use of analytics technology as having a feasible conservation action, the majority being conversion from flood to center pivot irrigation.

However, of the $106M in possible irrigation upgrade projects, projects representing **35% of that overall price tag** could produce **75% of the overall potential sediment and phosphorus loading reductions**. If the right projects in that river are not prioritized based on their relative reduction-per-dollar efficiency, it would be possible to waste up to $70M **without achieving any additionally meaningful pollutant reductions**. It should be noted this is a relatively small watershed. Such wasteful spending, if extrapolated to watersheds across the U.S., would result in hundreds of billions of dollars wasted.

other area restoration plans; (iii) projects that use innovative approaches to leveraging the Federal investment in conservation with private financial mechanisms, in conjunction with agricultural production or forest resource management, such as (I) the provision of performance-based payments to producers; and (II) support for an environmental market…." 16 U.S.C. § 3871c(d)(3)(A).

If properly supported by the Water Subcabinet agencies, the profit efficiencies highlighted by this example should galvanize the speed and scale of private investment. Using a "Pay-for-Success" framing, built from robust analytics, federal funders could knowledgeably set a price that they will pay for an environmental benefit – signaling to local, regional and national groups that top-priority projects will generate returns on investment and stimulating the deployment of private labor and capital in a cohesive and impactful manner. The various modifications to existing funding programs discussed in the Investment section of this document are all operational methods to create "Pay for Success"[11] mechanisms.

An example of aligned funding towards a holistic watershed "fix" is shown in Figure 1 below, as a demonstration of how different types of funds can be coordinated and stacked towards effective goal achievement and leverage[12].

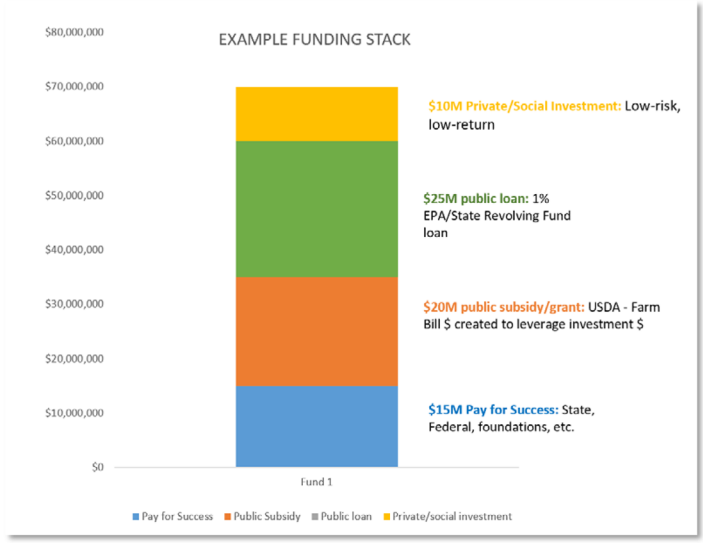

Figure 1 Example Funding Stack

Something like this pricing structure exists in some areas, via Water Quality Trading programs where entities regulated by the Clean Water Act (such as wastewater treatment plants) are allowed to purchase credits in their watershed to offset the impacts of their discharge. These

[11] Per the Government Accountability Office, "Pay for Success (PFS) … is a new contracting mechanism to fund prevention programs, where investors provide capital to implement a social service." U.S. GOV'T ACCOUNTABILITY OFFICE, PAY FOR SUCCESS: COLLABORATION AMONG FEDERAL AGENCIES WOULD BE HELPFUL AS GOVERNMENTS EXPLORE NEW FINANCING MECHANISMS, GAO-15-646 (Sept. 2015), www.gao.gov/assets/680/672363.pdf.

[12] The Freshwater Trust (TFT) is the developer and owner of a project management and funds tracking platform named StreamBank®, which is a patent-protected invention (U.S. Patent No. 8,036,909). StreamBank® is also a registered TFT trademark.

compliance "buyers" must maximize pollutant reductions in a watershed for the least cost on a specific timeline. However, outside of the compliance context, most programs are still farmer support-driven, rather than runoff-reduction-driven, and it often takes a long period of time to select projects for funding. The majority of the work and the additional burden of uncertainty is placed on the farmers willing and able to pursue the funds.

To increase speed of project implementation, as seen in the recent disbursement of the Paycheck Protection Program (PPP) through a variety of private-sector lenders (as noted above), agencies could also catalyze the existing agricultural supply chain to manage "deal flow" (or funding disbursement) of projects by offering local companies and coordinators standardized financing and incentives for securing those prioritized projects.[13]

Figure 2 below demonstrates how analytical and project management tools, investors, implementation companies and private landowners would be engaged by coordinated federal investments (for simplicity named here the "Rural Water Resilience Fund," but in practice, likely a blend of existing funding programs with modified disbursement mechanisms), which in turn builds more data to drive towards better outcomes. The benefits of each project would be move through a 'quantified clearinghouse' – ie a place or platform where the outcomes of a project are assessed and then sold to (or funded by) a federal agency, and then the data from each project as it's implemented and maintained flows back into improving the analytics and project management tools. In sum: projects are prioritized by the analytics, coordinated/contracted/implemented by a blend of large and small firms, quantified benefits are then generated and funded via the clearinghouse, and data flows back into improving future implementation.

[13] The PPP has been criticized for resulting in loans flowing to those entities with the strongest existing financial relationships with banks. In contrast, because RRJI funds would be based on reduction potential, there would be no such potential inequity baked into catalyzing the private sector to help move funds to the ground.

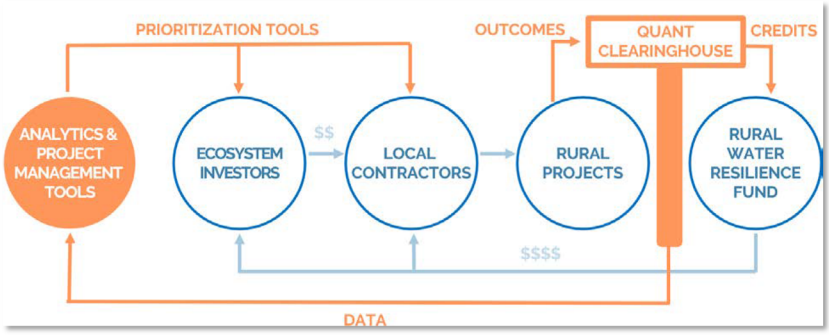

Figure 2: Coordinated Implementation Diagram

MONITORING: TRACK IT ALL ON A SINGLE DASHBOARD

The RRJI envisions that investments be prioritized based on uniform environmental impact metrics. With a single web interface used across all of the agencies, it will be possible to track project implementation and environmental benefits against watershed targets on a single dashboard. This tool could help immensely in implementing the paradigm shift from the traditional government funding programs to outcome-prioritized programs across the rural landscape, and can be both adaptable and extremely detailed as seen in Figure 3 below.

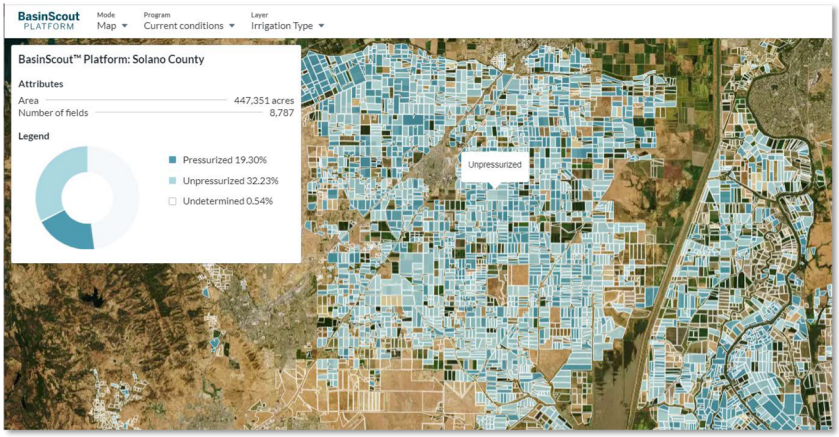

Figure 3: Dashboard Example – The BasinsScout Platform view of irrigated agriculture in Solano County, CA

CONCLUSION & POTENTIAL ACTION OPTIONS

With focused federal investment, the RRJI can create strong incentives for creation of local jobs, improve farm profitability, and move environmental markets toward scale. These new mechanics fit into ongoing direct and indirect efforts by policy makers to positively respond to the fallout from the COVID-19 pandemic and lay the groundwork for rural resiliency. This proposal will ensure rural economies are not left out of the recovery and that agencies can invest in meaningful, rapid, and collaborative results. **We appreciate your consideration.**

Potential Next Steps:

- Test individual RRJI elements/mechanics in a needed programmatic area of work. Use of robust basin analytics could help move to a Pay for Success approach most rapidly and apply most broadly across programs.
- As a pilot project, integrate RRJI elements in a targeted set of watersheds (see Appendix A for regions that could serve as appropriate demonstrations) on an expedited basis to drive jobs and local economic benefit.
    a. Advance watershed assessments: Dedicate a portion of watershed scale analytics to understand benefits and costs of precise actions at a watershed scale to focus federal funds on projects with significant measurable results.
    b. Tightly coordinate known funding/financing already slated for spending, using some combinations of mechanisms described above.
    c. Pay for Success in practice: Use existing authorities to utilize as a funding source or sources to serve as a 'Backup Buyer' or 'Guarantor' of outcomes, to demonstrate how private sector responds.

APPENDIX A: CASE STUDIES

REDUCING SEDIMENT AND NUTRIENT LOADING IN THE SNAKE RIVER BASIN, IDAHO

According to the EPA, excess nutrient and sediment loss from irrigated agricultural lands is a major impact on groundwater quality, and the leading source of water quality impacts to surface water nationally. This runoff leads to high nitrate levels that affect rural drinking water supplies, significantly increased wastewater treatment costs, methylmercury production in downstream reservoirs, and other impacts on human health and ecosystems.

Excess nutrient and sediment load from irrigated agriculture is the leading source of water quality impairments in Idaho's Snake River Basin. Drinking water wells in small rural communities are contaminated with nitrates;[14] methylmercury production in downstream reservoirs has resulted in widespread fish consumption advisories; treatment costs for CWA compliance is becoming unbearable for cities and industry—creating tension with agriculture; and as conditions worsen, advocates are suing and the threat of new regulation is growing. In Idaho, these excess loads flow downstream into Idaho Power Company's (IPC) reservoirs. IPC has already begun implementing its $350M Snake River Stewardship Plan (SRSP) required by Clean Water Act, and will be developing a mercury mitigation plan.

With coordinated funding, six practices could be applied in row crop and dairy-intensive areas in the mid-Snake River Basin in eastern Oregon and western Idaho to solve these water quality problems, including:

1. Converting flood irrigation to sprinkler or drip irrigation;
2. Installing end-of-drain passive wetlands with activated substrate to filter dissolved phosphorus and other pollutants;
3. Using treatment technology from point sources to avoid discharge hot spots;
4. Installing edge-of-field and return drain sediment detention basins;
5. Reducing tillage, performing cover cropping, or both practices; and
6. Operating manure management systems.

The scale and cost of addressing these issues is so large that any realistic solution will require pooling multiple sources of funding, focused funding on actions with the highest reduction/cost efficiency that make financial sense for producers, and making adoption easy for producers. With a RRJI-driven dynamic, watershed-level plan based on advanced analytics, it will be

[14] See ID. DEP'T OF ENVTL. QUALITY, NITRATE IN GROUND WATER (2019), www.deq.idaho.gov/water-quality/ground-water/nitrate/. Idaho has assembled a statewide list of areas with degraded groundwater quality and ranked them based on severity of degradation. In 2014, 28 of the 34 hot spots identified by the state were communities of less than 10,000. ID. DEP'T OF ENVTL. QUALITY, WATER QUALITY DIV., 2014 NITRATE PRIORITY AREA DELINEATION & RANKING PROCESS (2014), www.deq.idaho.gov/media/1117845/nitrate-priority-area-delineation-ranking-2014.pdf.

possible to identify the right mix of these projects to invest in and track overall progress. For example, the basin's 4.7 million irrigable acres comprise a large pool of potential on-farm projects that would reduce runoff – a "supply" of benefits that require coordination, labor and capital to generate. Initially, the RRJI could focus on irrigation improvements because it is one of the few conservation practices that both increases productivity and value for producers and also efficiently reduces nutrient loss and sediment loads. This practice is supported by an existing profit-motivated supply chain already aimed at securing these conversions, so it could be easily catalyzed by the streamlined deployment mechanisms described above.

If properly coordinated, RRJI projects could also leverage the enormous amount of CWA compliance spending in the region. In partnership with TFT, Idaho Power Company (IPC) recently developed the $350 million SRSP, which was approved by Oregon and Idaho regulators in 2019. The SRSP is a Clean Water Act watershed compliance program that will pay for: (1) replanting key upstream tributaries; (2) deepening the main river channel and enhancing natural floodplains to improve water quality, velocity and fish habitat; and (3) converting land from flood to overhead irrigation in order to reduce sediment loading in the Grand View area of the Snake River. Through the third aspect of the SRSP, IPC has already successfully converted more than 1,700 private acres from gravity irrigation to overhead sprinklers. The company is poised to convert roughly 8,000 more acres to achieve its water quality objectives. IPC's work in the basin already supports an existing supply chain of materials, with experienced conservation and agricultural professionals that can quickly train new workers. Over the next 40 years, the program is projected to create 14,000 new jobs. In addition, a cluster of Boise-area municipalities hold nutrient National Pollutant Discharge Elimination System (NPDES) permit obligations that will be very expensive to meet on a dollar-per-reduction basis. One city recently had to approve a $165M wastewater bond to pay for nutrient treatment.

With RRJI deployment, municipalities could fund treatment technology in combination with less-costly, end-of-drain activated wetlands that remove dissolved phosphorus from the system and remaining sediment and phosphorus farm runoff. Agencies could fund more of the on-farm practices needed to reduce sediment and nutrient loading, as well as manure management. Using BasinScout technology, agencies would be able to identify the optimum mix of projects within that 4.7-million-acre geography to achieve overall environmental objectives. Agencies would avoid spending taxpayer dollars on projects that would not contribute to meeting those objectives, or that could be spent more cost effectively on a different project type. RCPP and SRF funding methods could be refined to provide up-front financial support for high-impact projects, and potentially forgivable loans for the most critical and capital-intensive. With clear funding direction and coordination from funding agencies, private entities would speedily invest in these projects. Together, private and public funding would further the impact of federal government investment, and the quantified benefit framework would connect it to other funding sources in the watershed to enable projects to occur more quickly. Like the TMDL

program originally envisioned, such coordinated project selection and spending could result in watershed-wide progress toward achieving water quality standards.

RUNOFF REDUCTIONS AND WATER CONSERVATION IN THE CROOKED RIVER, OREGON

In recent years, temperature and algae issues in the Lower Deschutes River have fueled concerns from recreational users, regulators, and community members alike. The water quality impacts are attributed in part to a mixing tower and fish passage facility on Lake Billy Chinook (the Lake) operated by Portland General Electric (PGE) that was installed as part of the relicensing process for the Pelton-Round Butte hydroelectric project. Under the CWA, the outfall from dams is expected to as closely as possible mimic the flow volume and water quality of the river prior to the installation of the dam. The tower at the Lake was designed to adjust the mix of water to meet the modeled temperature conditions. However, since the mixing tower began operating in 2010, the colder, cleaner and heavier water from the bottom of the Lake that historically fed the Lower Deschutes is now mixed with water from the Lake's surface. In addition to being warmer, the surface water contains excess nitrogen, phosphorus and other chemicals carried to the Lake from farms and livestock grazing in the upstream Crooked, Metolius, and Upper Deschutes Rivers. Scientists and local stakeholders agree that the Crooked River is contributing the highest nutrient load to the Lake, and is a primary driver of the water quality issues being experienced in the Lower Deschutes. This issue is consistent with national trends. Without immediate and targeted action, water quality in the Lower Deschutes will continue to decline, threatening one of the most important fisheries in Oregon and imperiling one of Oregon's most iconic rivers. Improving land and water management practices on properties in the Crooked River basin could significantly reduce these impacts.

In 2019, TFT used its BasinScout Analytics platform to assess cropping, irrigation, and runoff in the Crooked River Basin in central Oregon. Of the 4,070 fields TFT analyzed, roughly 1,500 were identified as having a feasible conservation action, with the most impactful activity on almost all fields being a conversion from flood to center pivot irrigation. Other modeled activities included livestock exclusion fencing, riparian buffer implementation, and addition of drip irrigation. Digging deeper into the outputs of TFT's analysis, TFT found that out of the $106M in feasible irrigation upgrade projects, projects representing 35% of that overall price tag could produce 75% of the potential sediment and phosphorus loading reductions present in the watershed. See TFT's Crooked River Basin Explorer webtool here for more insight. This means that unless irrigation upgrades in the Crooked River are prioritized based on their cost-per-reduction efficiency, it would be possible to over-spend by up to $70M without achieving any additionally meaningful pollutant reductions in the basin. By prioritizing projects, money could be repurposed to other large capital projects—namely, end of drain activated wetlands that would filter out excess sediments and break down excess nutrients—and water delivery system modernizations such as those already occurring in the basin.[15]

[15] The Deschutes River Conservancy (DRC), Farmers Conservation Alliance, USDA Natural Resources Conservation Service, and the Bureau of Reclamation are working with Ochoco Irrigation District to implement an irrigation modernization project that directly benefits the basin as a

TFT sees clear potential to deploy a $50-$70M funding stack of public and private capital to implement prioritized actions such as pressurized irrigation and end-of-drain activated wetlands, and adaptively manage towards achieving water quality targets by 2029. Without the development of an integrated, right-sized, coordinated funding stack across all of these project types, existing conditions that keep the Crooked and Deschutes Rivers degraded are expected to continue. Individual landowners will continue to have difficulty accessing grants and loans even when an upgrade makes fiscal sense, government will be unable to solve complex basin-scale environmental problems, and the poor track record of uncoordinated conservation efforts to fix systemic issues will continue.

TRUCKEE RIVER IRRIGATION MODERNIZATION AND IMPROVEMENT, CALIFORNIA

Modernizing irrigation district water delivery systems can create significant benefits for agriculture, the community and the environment. 80% of the water in the Western United States moves through mainstem and on-farm irrigation infrastructure that was constructed over 100 years ago. Modernizing these systems is one of the best ways we can increase food and job security, and the resilience of our Western communities.

In recent years, the Farmers Conservation Alliance (FCA) has developed the Irrigation Modernization Program (IMP). Through the IMP, FCA partners with irrigation districts to develop a comprehensive system improvement plan and modernization strategy to determine the highest and best use of investment to strengthen agricultural and environmental resilience. This program identifies key public-private funding opportunities to implement projects.

Though FCA has been successful in leveraging federal and state programs and private investment to support modernization, there are a number of federal barriers that slow down the pace at which projects can be installed. For example, a “Bridging the Headgates” memorandum of understanding allowed for streamlined engineering projects, but multiple agencies still need to review projects before initiation. Streamlining federal programs will be essential to increasing the pace and scale at which irrigation infrastructure can be modernized throughout the Western United States, and by using watershed analytics across regions that streamlining can focus investments to where the greatest environmental and economic outcomes are possible.

The Bureau of Reclamation (the Bureau) has been investing in irrigation modernization projects that increase agricultural resiliency and habitat connectivity along the Truckee River in Nevada. The Bureau currently is working with FCA to construct an innovative downstream fish screen at Derby Dam that will restore watershed connectivity and support fish movement along the

whole. The project will upgrade infrastructure for the district, reducing operations and maintenance costs and restoring natural flow to McKay Creek to support a habitat for a robust population of redband trout and a critical tributary for the reintroduction of summer steelhead above the Pelton Round Butte Dam. Mainline piping of regional irrigation systems will decrease overall costs of on-farm upgrades by increasing water pressure and improving delivered water quality.

Truckee River. This project will promote both the recovery of the federally threatened Lahontan Cutthroat Trout (LCT) as well as fishing and recreation opportunities in Nevada. In addition, Granite Construction estimates that this project alone has created approximately 130 direct jobs.

The Bureau also has hired FCA to collaborate with the Truckee Carson Irrigation District to develop a comprehensive system improvement plan. This system improvement plan will identify the highest and best use of investment in irrigation modernization projects to reduce operations and maintenance costs, and increase agricultural resilience, water quantity and water quality.

Opportunities also exist outside of mainline piping in the Truckee. The Truckee River Operating Agreement enables interested entities in the watershed to establish a 'California Environmental Credit Water' program whereby conserved water can be stored without charge for later release to maintain or enhance instream water quality and habitat. This can serve as the foundation for on-farm irrigation efficiencies as well as water rights transfers, especially if analytical tools are used to understand where the most effective actions exist. A holistic effort focused on all possible irrigation upgrades in the Truckee, as determined by robust analytics, would be timely and highly effective in creating more local jobs, agricultural productivity, regional resiliency and environmental strength. Many watersheds in California and Nevada are facing similar instream water quantity issues, so scaling and proving out effectiveness of these coordinated and prioritized activities in the Truckee would be highly transferrable.

RACCOON RIVER NUTRIENT REDUCTIONS, IOWA

The 'North Raccoon Partnership for Soil and Water Outcomes' was funded by RCPP in 2020 and is led by the Iowa Soybean Association (ISA). Together with 11 other partner organizations, ISA was awarded a 5-year USDA-NRCS RCPP grant to increase conservation adoption in North Raccoon River watershed.

Key project activities include 1) support for a network of conservation agronomists working in cooperation with crop input suppliers in the watershed, 2) enrollment of eligible farmers and landowners in conservation practice implementation agreements with NRCS, 3) quantification of the water quality outcomes resulting from conservation practice implementation.

Key outcomes of the project include streamlined technical assistance by connecting retail crop input suppliers with an embedded conservation agronomist. These agronomists will assist customers and staff to successfully implement in-field conservation projects. New practice implementation will result in an estimated 781,000 pounds of nitrogen loss reductions in water and 33,600 tons of reduced sediment loss. This work will also focus on the development of tools and technology to evaluate and monitor the outcomes of conservation practice implementation.

An adjacent Soil and Water Outcomes Fund project was funded by the Walton Foundation and seeks to expand the implementation of conservation practices on farms by offering performance-based payments tied to water quality and carbon sequestration outcomes. Funding from the RCPP grant will then be used to "purchase" these environmental outcomes from on-farm conservation practices. RCPP funding assistance for the purchase of outcomes is being combined with partner contributions from state government and two municipalities to create a pool of funds to fund verified nitrogen and phosphorus water quality improvements. Cargill, also a partner, will participate to purchase verified CO2e reductions resulting from the same conservation practices. This unique approach to stacking and monetizing the value of the multiple environmental outcomes produced from the same conservation practices results in cost-competitive pricing for funding partners, and attractive payments for participating farmers.

The goal of this project is to highlight the advantages of stacking environmental outcomes in a pay-for-performance, outcome-based transaction model in scaling the implementation of conservation adoption. In such transactions, the beneficiaries of the outcomes of conservation practices pay for the outcomes only after they have been achieved, rather than paying for the upfront cost of practice implementation. Pay-for-performance payments are only triggered once the water quality and CO2e outcomes have been verified by a third-party.

The objectives of the project are to complete pay-for-performance transactions on 100,000 acres in Iowa in 2021 and 2020. Additionally, the project will pilot 5,000 acres in two additional states. Enrolled farms will be implementing new conservation practices that are a higher standard of conservation than the current baseline of implementation.

These activities are highly aligned with the tenets of the RRJI, but further investment to analyze and understand where the most cost-effective actions are located would advance coordination of these and other agricultural incentive programs in the North Raccoon watershed. The ecology of this region of Iowa makes these initiatives highly transferrable to many other tile drainage-dominated farm regions in the Midwest.

CECIL COUNTY PAY FOR SUCCESS STREAM RESTORATION, MARYLAND

The Chesapeake Bay (the Bay) is home to one of the largest ongoing watershed restoration efforts in the world, with stream restoration and protection projects occurring across the 64,000 square mile watershed. Nitrogen, phosphorous, and sediment deposits into the Chesapeake Bay's rivers and streams are the leading cause of poor water quality and habitat health in the Bay. In 2010, the EPA led efforts to set limits on the amount of nitrogen, phosphorus, and sediment that can enter the Bay and its tidal rivers to meet water quality goals. While significant improvements have been made in wastewater treatment facilities, a point-source of nitrogen pollution in the Bay, nonetheless agriculture remains a top source of

nutrient pollution. In the Chesapeake watershed, agricultural practice improvements are generally a more cost-effective tool to reduce nutrient runoff than the practices used to address stormwater pollution in urban areas.

Public funding supporting the Chesapeake Bay and watershed restoration, including federal, state, and local funding, has amounted to tens of billions of dollars over forty years. However, public funding alone will not be sufficient to solving the Bay's challenges. Private capital deployed through ecosystem market opportunities has proven to be a potential game changer for the future health of the Chesapeake Bay and the health of local economies. Recent projects in the restoration sector have proven that the traditional approach to paying for restoration work can be dramatically enhanced by leveraging private capital, by using better data, and by switching an effort-based approach to a performance-based approach.

After several years of project overruns and underperforming projects, the Maryland Department of Natural Resources (DNR) and subsequently Maryland Department of Transportation's State Highway Authority turned to 'Pay for Success' contracting as a means of limiting risk and achieving success.

A private company named Ecosystem Investment Partners (EIP) was the first to pioneer a Pay for Success contract approach in Maryland by working with a local land trust to win an initial restoration grant from the State's DNR to restore approximately 1.8 mile of degraded streams. Rather than being paid up front, EIP agreed to provide all of the capital needed to fully construct the stream restoration, and is being compensated over a 5-year period following completion subject to successful monitoring of the sites. This demonstration of a performance-based contracting structure to meet the State's environmental goals subsequently led to EIP securing three similar additional Pay for Success contracts with the State of Maryland.

For each project, EIP contractually assumed 100% of the financial risk and liability, including site identification, design, permitting, construction, maintenance, monitoring and final regulatory release. The contracts include payments at various milestones throughout project development, with substantial portions received only after project success is achieved, monitored, and verified. By aggregating several large projects together, EIP can take advantage of economies of scale and offer a highly competitive price compared to other stream restoration projects. EIP's up-front financing and performance-based contracting also greatly reduce the state's risk, helping to ensure that the project will perform as expected and that the restored streams will achieve the required pollution reductions.

This project has also benefited from high-resolution, highly accurate and precise data provided by a non-profit partner Chesapeake Conservancy in order to help EIP identify parcels that would achieve the greatest possible level of cost-effective nutrient reduction. This advanced data and analysis is allowing ecosystem service markets to work more efficiently and achieve better environmental outcomes.

To date, EIP has restored or is in the process of restoring approximately 18 miles of stream for the State of Maryland. Financed and managed by EIP, these projects are being completed by a private restoration firm and also involve guidance and data analysis from non-profit conservation organizations.

Through this approach, the State of Maryland has acquired successful projects faster and at a lesser cost than initial efforts procured through traditional contracting means. This successful restoration strategy in Maryland (and in many other states) demonstrates the power of a market-based approach that takes advantage of precision analytics to optimize outcomes. A very similar approach could be applied to addressing regional and national water quality issues throughout the nation, from the Florida Everglades to the Great Lakes.

APPENDIX B: THE FRESHWATER TRUST OVERVIEW

With more than 37 years of on-the-ground experience, The Freshwater Trust is the largest restoration-focused organization in the Pacific Northwest. We have a unique mix of in-house staff expertise, ranging from fish biologists and hydrologists to GIS experts, business and conservation systems leads, attorneys and ecosystem services analysts. TFT employs 50 staff across five offices in Oregon, Idaho and California and implements groundbreaking on-the-ground and analytical-based projects each year with a roughly $12M budget.

Quantified Conservation: Moving beyond a procedure-based past to an outcome-based future is an approach we call 'Quantified Conservation'. It's about ensuring every action translates to a positive outcome for the environment. It's about leveraging the best practices used by businesses and social sector organizations to restore the state of our natural resources. We put quantified conservation to work and offer services that accelerate the pace and scale of restoration.

Quantifying the outcomes of conservation also allows us to integrate the economy with the environment. It turns conservation into a sound investment opportunity, allowing investors to target river projects with the greatest impact and grant funders to purchase actual outcomes. We don't buy into the notion that more is better. For us, better is better, and we track how every action we take is making a difference for our freshwater resources, our economy and our rural communities.

Ensuring a future with clean, healthy rivers requires understanding the outcomes of our actions and staying adamant about achieving results. Our most recent 2018 Uplift Report demonstrates the environmental outcomes that can be generated through our powerful analytic tools and in-house monitoring applications. Through our work, TFT believes that restoration objectives are entirely achievable if we commit to using evidence-based tools, clear outcome-based guidelines, and streamlining funding to enable this work on a timeline that matters.

Senator MCSALLY. Great, thank you. We will now turn to questions and I will kick it off.

We have discussed the energy-water nexus a number of times in this Subcommittee, and I know the Ranking Member, Senator Cortez Masto, has an important bill on that issue. Since the beginning of President Trump's Administration, we have also heard a lot about a so-called "Water Subcabinet" which has a more water-centric focus in its efforts to increase coordination among agencies—DOE, DOI and other agencies. My water technology bill aims to build off those efforts.

Ms. Bettencourt, can you talk a bit more about some of the work being done by the Water Subcabinet and how the Bureau of Reclamation projects could benefit from resources brought to bear by DOE, and also how the pilot program established in S. 4228 could help facilitate that work?

Ms. BETTENCOURT. Absolutely.

First of all, Senator, thank you so much for recognizing the informal entity that is quote/unquote, "the Water Subcabinet." When I spoke about leading in this kind of new era of federal collaboration, that's exactly what we're talking about. Very simply put, what the Water Subcabinet does is it's the power of convention. There's no new budget attached to it. There's no new authorities attached to it. It is alignment of the water sector across multiple departments. And in the power of that convention, of regularly communicating to each other, regularly understanding each other's priorities and initiatives, cross-training and understanding each other's programs, we start looking at every problem, not through our own lens of our own issues that we bring to the table or our own programs we bring to the table. We now have these other points of reference that we can now draw into and align those resources and, kind of, supercharge solutions.

And so, when we look at the options that you have brought forward, you know, especially with the Department of Energy, there is, I think, an amazing opportunity to, just like you said, get pilot to lab, get technologies and applicable technologies and resources into the hands of our water managers, get them out on the field, get them out on the ground so we can see the application and modernization happen in real time. And that's definitely something that we appreciate with an emphasis of bringing support to aligning DOE with Reclamation. I think there's a lot of opportunity in that space, not only in what you were talking about with regards to water supply opportunities, but even in the hydropower space. I think there's a lot of opportunity there and alignment with the Department of Energy as we start to get those pieces in place.

Senator MCSALLY. Great, thanks.

Our universities in Arizona have tremendous expertise on water. So also in my bill is bringing in university research and establishing the Western Water Resilience Center at one or more universities. Can you share what you think the benefit would be of the collaboration with research universities on this important topic?

Ms. BETTENCOURT. You know, especially research universities that are out on the ground, at least in my experience, is when you can get them again, you get those technologies applied. You better know how the investment is going to go or where to focus your in-

vestment when you can get them in real life applications. And so, being out in the West, being out on those universities in the West to bring in the resources and expertise and collaboration, not only from the university sector and research sector, but also that lab tech concept out of DOE and that water wielding engineering expertise that Reclamation brings to the table, we get that out on the ground and see what we can do with it.

Senator MCSALLY. Great, thank you.

One reason I introduced S. 4228 is because I speak with water managers all the time. They are working hard to find resources to implement many of the things DOE is doing R&D on. I mentioned in my opening things like recycling and energy efficiency, but we have also seen initiatives and things like fish passage and other matters.

Mr. Keppen and Mr. Whitworth, can you talk about some of the challenges you hear from the water sector in deploying water technology and how tapping into resources like at the Department of Energy might be able to help?

Let's go to Mr. Keppen first.

Mr. KEPPEN. Sure, thanks.

Well, there's lots of opportunities in the West, I think for example, to utilize tainted waters that are brackish or salty and apply some of this new treatment technology to make that water useable, if not drinkable. In some areas in the Rocky Mountain West there's potential to use the produced waters that are associated with natural gas development. Use some of this new screening and treatment technology and bring it up to a point where you can maybe use it to irrigate pastures instead of reinjecting that water back into the ground. So it's essentially adding new water to the system. I think having DOE technology and funding employed in conjunction with Reclamation could be beneficial.

Senator MCSALLY. Thank you.

Mr. WHITWORTH. Chairwoman McSally, you know, I think getting new technologies to market has several ingredients that we really need to pay attention to and one of those things includes, you know, the purchase of outcomes or the rewarding of outcomes by the private sector. And so, I think putting the dollars that are being spent from the federal level in a position of purchasing outcomes will actually provide market forces to draw those technologies in. That's where I would see quite a bit of synergy between your bill, the Resilience Center and taking good ideas to market.

I think there are a couple of other things that are, I would just touch on. You know, the barriers to entry for actors is real. And so, I think, finding the coordination among federal agencies to be able to remove those barriers and accelerate toward outcomes is going to be really welcomed. And I think that applies not just to the Department of Energy but across the administrative apparatus. And finally, I think it's really important to talk about not effort, but outcomes. We do quite a bit of work with the Bonneville Power Administration which spends about a $250 million each year on fish and wildlife mitigation efforts. And despite full generation nearly of effort, we're not terribly close to recovering any of the listed species under the Endangered Species Act. And I think there is

a way to get ahead of this and I think it does have to do with requiring and rewarding outcomes.

Senator MCSALLY. Great, thank you.

Senator Cortez Masto.

Senator CORTEZ MASTO. Chairwoman, I know Senator Ron Wyden has joined us and he has a bill and has not had a chance to speak. So I would defer to him and ask my questions after he has had the opportunity to ask his questions.

Senator MCSALLY. Absolutely.

Senator Wyden.

Senator WYDEN. I thank my good friend from Nevada for her thoughtfulness and both of you for scheduling the hearing.

I have a piece of legislation on the calendar, S. 4189, the Water for Conservation and Farming Act. What we try to do is build on existing programs and then provide new tools to expand, improve and repair water conservation infrastructure, pipes and sprinklers, and do it with a focus on reducing water use and improving fish and wildlife habitat and try to make farming more efficient. Obviously, farmers and ranchers are very conscientious right now about the resources they use. We are all Westerners. We know that especially water is the life blood of the West and right now in Oregon 35 out of 36 counties are seeing at least some level of drought. And of course, with climate change causing uncharacteristic weather events, we, as a country, have to be mindful about using precious resources. So Senate bill 4189 seeks to address those concerns.

Dan Keppen, why don't we start with you? It is great to have you here again. You have put enormous sweat equity into the Basin over the years and we have been through lots of tough battles together, and we are so grateful for your help on drafting S. 4189. Several of the bills we are reviewing today make changes to WaterSMART by expanding program eligibility to non-profits. There may be some challenges making sure we can address concerns for farmers and ranchers because we want to make sure because they are currently eligible for funds. They are being taken care of. You and I have worked on this specifically.

Can you talk, for example, about how S. 4189 responds to your members?

Mr. KEPPEN. Sure Senator, and thank you for your leadership. It's been 20 years you and I have been working together starting in the Klamath Basin.

So right now the WaterSMART program, again, we believe it works, particularly when you look at what's happening in Central Oregon, [. . .] What your bill does is it says conservation groups are welcome to apply, but they need to do it in partnership with a local water entity that has that authority to deliver water. So they work together and our experience shows that those sorts of partnerships really lead to creative solutions with broad community and political support.

Senator WYDEN. Great.

Mr. KEPPEN. Thank you.

Senator WYDEN. Real quickly, and we look forward to working with you.

Our next Oregonian, Joe Whitworth, with The Freshwater Trust, has done terrific work all the way through the West, especially in

Oregon. They look at multi-benefit water conservation projects and it helps farmers, improves habitat for salmon and wildlife. Joe, can you walk through some of the provisions of S. 4189 that would help Freshwater Trust ensure that the water projects that are proceeding on the ground generate maximum amount of environmental benefits for the least amount of cost?

Mr. WHITWORTH. Thank you, Senator. I appreciate the time and the effort to figure out an integrated way to look at water management in the West. Certainly we can't do one thing without the other and for 4189's part, one of the sections of the bill that we like the most, of course, is Section 204(b) which establishes a grant program and prioritizes the multi-benefit projects that hold the design implementation and monitoring of outcomes of habitat improvements. We think that is an incredibly good step forward, and we also think that it can be improved just a little bit to get into more quantified outcomes simply because we don't want this to become a box-checking exercise in the same way that some green infrastructure projects that we've seen with programs like SRF and others have become. So I think there's—it's a great platform to build upon and really do appreciate the time and the effort.

Senator WYDEN. We will work closely with both of you. I want to thank Senator Cortez Masto, again, for the favor of letting me go, and Chair McSally, I very much appreciate the hearing and look forward to working as we always have in this Committee in a bipartisan way to address resources issues. I thank you both.

Senator MCSALLY. Okay.

Senator Cortez Masto.

Senator CORTEZ MASTO. Thank you.

Mr. Whitworth, this first question is for you. I want to discuss the Bureau of Reclamation's WaterSMART program, a program that stands for Sustain and Manage America's Resources for Tomorrow. This program was developed to assist local communities in stretching their limited water resources and help communities alleviate conflicts over water and expand our management approaches to promote water conservation and ecological resiliency.

There are two bills on the agenda today, S. 2718 and S. 4189, which expand this program to include participation from conservation, non-governmental organizations, or the non-profits I believe that you talked about, and to fund groundwater storage and natural infrastructure projects. Now I understand there's, maybe, disagreements on the impacts of these proposed changes, but what I want to discuss is the potential benefits of investing in natural infrastructure projects.

So Mr. Whitworth, why is it important for that investment in natural infrastructure projects?

Mr. WHITWORTH. Thank you, Ranking Member Cortez Masto. I think that is an excellent question. You know, the way I would approach that is the natural infrastructure is our first and best insurance policy in protecting our local economies and local ecosystems as well as the built infrastructure investments that we're undertaking. And so, I think that, you know, as you've heard me say before and as I will probably say again, you know, the integrated nature of addressing these problems at the watershed level is really going to be crucial to determining our success over time. Of course,

I mean, at a basic level we do need to upgrade our delivery systems. We do need to increase the efficiency at point of use. We also need to protect and ensure, through the use of natural infrastructure, that can be, all of the functionality can be quantified now in a way that we don't have to get into box-checking game of saying, hey, we built a wetland, or hey, we added some more water. We can look at those things not for what they are, but for what they do.

How many tons of sediment do not get into the stream? How many pounds of phosphorus or nitrogen? How many kilocalories per day of shading benefit can get into the system and actually address problems?

So if we can figure out how to coordinate on all of those pieces and, again, it does come down to the ability to have the same discussion with common understood accounting across the agencies as opposed to various interpretations across agencies that can be litigated, we can actually bring the full weight and force of the resources that we have to get to the positive things within the, within a watershed. And that ultimately comes down to local economy security, food supply security, ecosystem benefit and water for good. That's really what we are in pursuit of across all of these bills. A natural infrastructure is a central component that has been largely kept separate from the discussion, and we need to integrate it into the discussion and our decision-making factors.

Senator CORTEZ MASTO. Thank you.

Ms. Bettencourt, did you have a comment on that question as well?

Ms. BETTENCOURT. You know, we have a lot of opportunity within the program to collaborate and, I think, talk to that alignment just in hearing Joe's comments there, and I think what would be a good example of that is it's something that we've tried, it's worked, and we're going to continue to work that. I think there's a lot of opportunity in aligning the different departments angle on that would be in WaterSMART. The benefit for agriculture, if they're enrolled in an EQIP program with NRCS. There's a scoring bump that demonstrates that benefit that comes across as vice versa. If an EQIP applicant also is within an area that has a WaterSMART grant, we're acknowledging and aligning these programs in a way that hopefully can encourage more of this and I think there's more to that as we continue to explore it. And we're excited to, I think, work with the new technologies and development that I'm hearing out of private sector and especially those on-the-ground partnerships. We want to make sure we're driving and meeting our partners in that as well.

So as we are catching up and evolving from the new place we're standing, we need to make sure that our programs are evolving and catching up with that as well.

Senator CORTEZ MASTO. Thank you.

I know I am running out of time. I will give it back to the Chairwoman, and we will go in another round. I am assuming we are going to have other rounds of questions?

Senator MCSALLY. Yes, we are going to have one more round.

Senator CORTEZ MASTO. All right.

Senator MCSALLY. Okay, thank you.

Mr. Keppen, as you mentioned, several of the bills in this hearing would authorize and amend the WaterSMART program. I agree this has been a successful program over a decade and, while I'm open to improvements if appropriate, it is certainly important that we don't unintentionally discourage good conservation projects or make the program overly cumbersome.

Ms. Bettencourt, can you discuss the selection of WaterSMART projects and how Reclamation looks at multi-benefit projects?

Ms. BETTENCOURT. Absolutely. I think the selection of WaterSMART projects starts when we send out the funding notice, the opportunity for funding. When we're very clear on whatever the goal of that segment is, how we're scoring it, what the applicants know up front we're looking for in order to see applications that have the best chance or best opportunity are going to be analyzed on the best way that they are hitting their mark in that funding space for that intended purpose under WaterSMART.

And so, as you break down through that, those applications are then, they're evaluated based on those criteria by a panel of experts and naturally multi-benefit projects score higher. You know, a good example of that is if we're looking at some of our grant criteria under the water supply or liability criteria, it's worth 18 points. You know, the weight of the points on our multi-benefit projects increases exponentially. So naturally, those projects, we're looking for them. They're going to score well. We're trying to be up front with our applicants so they know that as well.

Senator MCSALLY. Great, thank you.

Mr. Keppen, I want to turn to infrastructure. Several of the bills before us include mechanisms to fund certain aspects of water infrastructure. As referenced in your testimony, S. 2044 and S. 1932 have also been considered by this Subcommittee to address water infrastructure investment. Looking across the various bills that are out there, what are the most important aspects of water infrastructure that need attention right now, what factors are important for us to consider to make sure federal investments result in programs that actually work out there?

Mr. KEPPEN. Well, yes, thank you, Madam Chair.

And you know, as I mentioned in my testimony, our organization has always been about looking for a suite of demand management actions and supply enhancement actions. And so, today a lot of the bills that we've been talking about sort of focus on demand management types of things, and in recent decades a lot of the focus in Congress has been on those sorts of projects. We strongly believe that, you know, equal or even greater emphasis must be placed on fixing our aging storage and conveyance facilities and building new storage and conveyance facilities.

There's a need for additional federal funding for loans from the Bureau of Reclamation under P.L. 111–11 authorities to our member irrigation districts. These local entities have huge and immediate repair and rehabilitation needs on their federally-owned canals, for example, and water delivery structures. We worked with our members here in the last few months and developed a list of over 200 projects that we could probably start working on immediately and, if they only had some funding opportunities. So I think the direct funding of long-term repayment provisions provided by

P.L. 111–11 and amplified in your bill, S. 2044, provides a good approach to allow Reclamation to work with local operators to get that work done on the ground.

We also need new funding to kick-start new water storage, water recycling and reuse, desal projects that are currently being studied or that are ready for construction through the WIIN Act and other authorities. And programs that fund water conservation—fish passage, habitat restoration—all these are in support of water project operations in Reclamation states are needed. We need additional funding to accelerate the construction of these ready-to-go infrastructure projects as well.

So again, I strongly feel and our organization feels that S. 1932, a bipartisan extension of the WIIN Act, and your S. 2044 are key packages that need to be wrapped in to any sort of legislative package that goes through this Committee.

Senator MCSALLY. Great, thank you. I appreciate it.

Senator Cortez Masto.

Senator CORTEZ MASTO. Thank you.

Mr. Whitworth and Mr. Keppen, Western rivers provide important benefits to rural communities, the West's recreation economy, and fish and wildlife habitat. Our rivers and aquifers also provide critical water supplies for cities, irrigated farmland and tribes. In the Colorado River Basin, more than 40 million people in seven states rely on this river and for its water. In the Basin, these waters irrigate over five million acres of ranch and farmland that provide food across the country. Many reservoirs in the Colorado River Basin are at historic lows. Lake Mead is one of them, in Nevada, and we are in a 19-year drought and it is growing. Diminished stream flows now pose serious challenges for cities, farms, wildlife, recreation.

So let me ask both of you, what else should we be thinking about here in Congress to ensure water supplies are resilient to drought and the impacts of climate change?

Mr. WHITWORTH. Ranking Member Cortez Masto, I might take a first cut at that one.

Senator CORTEZ MASTO. Okay.

Mr. WHITWORTH. I think, as I noted earlier on in my testimony, you know, natural infrastructure is really the underlying insurance policy here. We have within the Western United States and certainly within the Colorado Basin, we have freshwater ecosystems whose functionality has been drastically changed over time for several reasons. But where we're at right now is we have to understand that in every case, in every instance here, what we're talking about is, you know, capturing water that falls from the sky, storing it and then releasing it later. And we, of course, can do that by mechanical and built means, but it turns out that nature can do that on a fairly understandable schedule.

And so, there it's not just a simple matter of doing one more storage project or 1,000 more storage projects. We have to do these things in conjunction with natural infrastructure storage that happens in places like wet meadows, in flood plains and, you know, working with irrigators to upgrade their works to essentially, you know, save some of the water that they could be spending while actually making a little more money. We can do that in a much more

targeted way if we take the time to engage the actionable insights that are afforded to us now, you know, with 13,000 satellites that circle the Earth every 90 minutes. So I think figuring out where to go and do those things on a specific basis with specific outcomes will enable us to fill up those reservoirs and deliver better and more reliable water over time in the face of climate change.

Senator CORTEZ MASTO. Thank you. Anyone else?

Mr. KEPPEN. Sure.

Senator CORTEZ MASTO. Sure.

Mr. KEPPEN. Ranking Member, I, first of all, Colorado River Basin is something that our organization spends a lot of time on. We've got members in all states of the Colorado River Basin and so it's, we've got lots of views on what's happening there, even sometimes within the same state, sometimes even within the same watershed.

But to get to your question about, you know, what could Congress do to, sort of, address water supplies and impacts of climate change? We were actually one of the first organizations that put together a climate change report back in 2007 and it wasn't a pleasant experience, let me tell you, because there was some resistance met with some of our membership. But we did that and our report includes lots of recommendations that go to the questions that you're asking. But relative to what I testified on today, one of those things is we need to modernize our infrastructure so we can capture water. And one of the things that we're seeing throughout the West, just anecdotally, is the snowpack is melting faster and it's coming off earlier in larger quantities and we're having longer growing seasons. So again, if we can make sure that our infrastructure can properly capture that water and have flexibility to move it around, that's one way of mitigating some of the climate change impacts that are happening to our Western watersheds.

We're also working with a group called Solutions from the Land and the North American Climate Smart Agriculture Alliance to advance these and sort of other ideas that are out there to the international climate discussions that are going on right now.

Senator CORTEZ MASTO. Thank you.

I just have one more question on a separate subject—this is on S. 3811. Ms. Bettencourt, in your testimony on S. 3811 you cited certain concerns regarding funding commitments to existing infrastructure. Can you describe what you mean by that?

Ms. BETTENCOURT. I think you're referencing, Senator, a question that it prompts quite well which is looking at, kind of, the traditional mechanisms by which Reclamation finances a lot of its infrastructure projects, similar to the ones that were outlined in the bill. If you're thinking about the beneficiary pays concept that's embodied very well in the WIIN Act as well as our repayment contract concepts. But I think what's important to focus on with 3811 is the projects named and the increased emphasis on investment in our conveyance projects and our aging infrastructure is absolutely a priority that matches ours. So it's one of those things where we'd like to spend more time working with the bill's author to try to bring some of these things into alignment, because I don't want to lose the forest for the trees here. This is a priority for us. These

projects are a priority for us. We want to make sure this works out well, so we need the intent.

Senator CORTEZ MASTO. Thank you.

Ms. BETTENCOURT. Thank you.

Senator MCSALLY. Well, I want to thank all of our witnesses for your testimony on our bills.

Questions may be submitted for the record before the close of business on Thursday, and the record will remain open for two weeks.

With that, thank you again and the hearing is adjourned.

[Whereupon, at 3:42 p.m. the hearing was adjourned.]

APPENDIX MATERIAL SUBMITTED

U.S. Senate Committee on Energy and Natural Resources
Subcommittee on Water and Power
July 22, 2020 Hearing: *Pending Legislation*
Questions for the Record Submitted to Ms. Aubrey Bettencourt

Questions from Senator Joe Manchin III

Question 1: As you know, the Bureau of Reclamation has traditionally provided taxpayer funding to help subsidize the capital cost of constructing water supply facilities such as canals and diversion works, but required that the beneficiaries of these water projects - its contractors - to pay for the costs of operations and maintenance of these facilities. S. 3811 would authorize $600M in federal taxpayer subsidies to help pay for the cost of extraordinary maintenance of several canals in California, where unsustainable groundwater pumping has damaged conveyance capacity.

Significant land subsidence across California has been caused by the legal pumping of groundwater by a variety of entities combined with decades of irregular delivery of state and federal surface water supplies. Groundwater is regulated by the State of California. Since 1902, Reclamation has been directed by Congress to invest in western water infrastructure including dams, canals, diversions, etc., to support the economic development of the west.

a. Under existing law and contracts between the Bureau of Reclamation and Friant Water Authority, is the Friant Water Authority legally obligated to pay for the cost of repairs to the Friant-Kern Canal, including extraordinary maintenance?

   ANSWER: Yes, under existing contract, Friant Water Authority is responsible for 100 percent of the operations and maintenance costs, including extraordinary maintenance. However, Congress has provided up to $75M for Friant-Kern Canal improvements under Title X of P.L. 111-11, which included the San Joaquin River Restoration Settlement Act, in addition to other authorities, such as extended repayment of federal appropriated funds reimbursable pursuant to Title IX, Subtitle G of Public Law 111-11, and according to the project cost allocation, as shown in the July 2, 2020 feasibility report transmitted to Congress, or through a combination of both extended repayment or work funded directly by the Friant Water Authority. S. 3811 would change existing law with respect to the reimbursement percentages for which the FWA would otherwise be responsible. Further, S. 3811 would go beyond the cost share submitted in the feasibility report.

b. Under existing law and contracts between the Bureau of Reclamation and San Luis and Delta Mendota Water Authority, is the San Luis and Delta Mendota Water Authority legally obligated to pay for the costs of repairs of: (a) the Delta Mendota Canal; and/or (b) portions of the California Aqueduct that are owned by the Bureau of Reclamation? Does that include costs relating to extraordinary maintenance?

   ANSWER: The San Luis Canal is a federally-built and owned section of canal connected to the state-owned California Aqueduct and used by both federal and state agencies and operated by the State of California, and any payments for repairs would be paid by both state and federal contractors according to the project cost allocation. Under existing law and contracts, work on the Delta-Mendota would be paid for by the San Luis Delta-Mendota Water Authority (SMDMWA), either by funding it directly themselves, or through the extended repayment of federal appropriated funds reimbursable pursuant to Title IX, Subtitle G of Public Law 111-11, and according to the project

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cost allocation, or through a combination of both. S. 3811 would change existing law with respect to the reimbursement percentages for which the SLDMWA would otherwise be responsible for both the Delta-Mendota Canal and their allocated portion of the San Luis Canal.

c. Under existing law, is there any obligation for federal taxpayers to pay for the cost of repairs of the portions of the California Aqueduct that are owned and operated by the State of California?

ANSWER: Reclamation is not aware of any existing law that requires federal taxpayers to pay for the cost of repairs of the California Aqueduct that are owned and operated by the State of California.

d. How is the approach of S. 3811 consistent with the beneficiary pays approach that has guided Reclamation policy, particularly since the Reagan Administration?

ANSWER: While S. 3811 would reduce the reimbursable percentage of repairs to these canals that the beneficiaries would otherwise be responsible for, it would still require that 50% of the cost of the repairs be paid by the beneficiaries.

e. According to the California Department of Water Resources, significant subsidence to the California Aqueduct occurred as a result of unsustainable groundwater pumping within the boundaries of the Westlands Water District. Why shouldn't the Bureau of Reclamation require the parties that caused the damage to these facilities to pay for the costs of repairs, rather than forcing federal taxpayers to pay hundreds of millions of dollars?

ANSWER: As mentioned above, significant land subsidence exists across California because of legal pumping of groundwater combined with decades of irregular delivery of state and federal surface water supplies. Only the State can regulate groundwater pumping to address its impact on land subsidence. Under S. 3811, the federal cost share associated with these projects is limited to at most 50% of the costs, and project beneficiaries are responsible for the rest.

Questions from Senator Catherine Cortez Masto

Question 1: Regarding Section 202 of S. 2718, the section clarifying that WaterSMART's Water and Energy Efficiency Grant program prohibits any increase in consumptive water resulting from the Water and Energy Efficiency Grant funded project, your testimony confirms that the existing statutory language already prohibits such increases in consumptive water use from conserving non-consumptively used ditch seepage through canal lining, for example. The accompanying spreadsheet and one-page summary shows that approximately half of the Water and Energy Efficiency grant program's conserved water likely went to increased consumptive use through, for example, more irrigation by the WEEG-project applicant than would have been possible without the Water and Energy Efficiency Grant-funded project.

- Shouldn't Reclamation already have clear guidance that an increase in consumptive water use with the conserved water is not an eligible Water and Energy Efficiency Grant project?

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ANSWER: Reclamation has analyzed this issue and does not agree with the assertions included in the spreadsheet and NGO sponsored one-page summary that were shared along with this question. Many of the projects categorized as increasing consumptive use are municipal projects to install new or advanced residential water meters to reduce household water use, thereby avoiding pressure on existing water supplies. The summary also defines "increased consumptive use" to include some projects whose sponsors intend to help meet existing demands in the area during times of shortage; projects expected to help reduce groundwater pumping; and projects intended to increase the amount of water remaining in reservoirs to avoid the need for additional water supplies in the area. For example, one project classified as "increasing consumptive use" is a 2015 WaterSMART Water and Energy Efficiency Grant of $94,000 to the Truckee-Carson Irrigation District in Fallon, Nevada. The District used funding to improve remote monitoring of water deliveries to reduce spills and over-deliveries, and explained that deliveries from Lahontan Reservoir would be reduced accordingly. We do not agree that such activities are indications of increased consumptive use or of uses inconsistent with the statute.

Shortly after the SECURE Water Act was enacted in 2009, Reclamation established procedures to ensure compliance with statutory language about use of water savings from grant-funded projects. Since then, Reclamation has continually worked to strengthen those procedures, which are explained and documented in written guidance for Reclamation employees and for grant recipients. All WaterSMART Water and Energy Efficiency Grants awarded under the program comply with Section 9504(a)(3)(B) of the SECURE Water Act (42 U.S.C. 10364(a)(3)(B). Reclamation takes a number of steps to ensure that grant recipients agree not to use water savings to increase total irrigated acreage or otherwise to increase consumptive use, determined pursuant to state water law requirements.

The statutory restriction contained in Section 9504(a)(3)(B) is highlighted in every WaterSMART Water and Energy Efficiency Grants Funding Opportunity Announcement (FOA). The evaluation criteria used to rank and select projects for funding also require applicants to address how conserved water will be used, whether to offset groundwater pumping, to reduce diversions, to address shortages that impact diversions or reduce deliveries, made available for transfer, left in the river system, or to meet another intended use. Many entities explain through application materials that they frequently receive less than their full water allocations (e.g., due to drought conditions), and that projects undertaken through the program can assist in meeting existing demands and providing flexibility in times of shortage, without increasing consumptive use under state water law.

Every application review committee is specifically instructed to consider the information provided in light of the limitations in Section 9504(a)(3)(B) as part of the review process. The statutory requirement is highlighted again when each successful applicant is notified that its project has been selected for funding, and the statutory language is included as a term in all financial assistance agreements under the program. If an applicant is unwilling or unable to agree to this term, no award of funding is made. All successful projects go through this process, which is documented in the publicly available Reclamation Manual Directives and Standards, WTR 12-01.

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Questions for the Record Submitted to Ms. Aubrey Bettencourt

Question 2: With regards to S. 4188, you stated the DOI has "concerns about the additional environmental requirements under [Sec. 102] with respect to identifying and implementing eligible projects." However, you also noted the competitiveness of environmentally beneficial projects for Reclamation funding and the prioritization of multi-benefit projects under successful programs like WaterSMART. Projects that both increase water supply and achieve environmental benefits provide a greater public benefit and a greater return on the investment of taxpayer funding, and the California Water Commission has cited achievement of environmental benefits as an important factor to consider for project funding eligibility.

- What are the Department's reasons for not supporting Sec. 102's requirement for eligible projects to achieve net ecosystem benefits, given the federal and state-level precedent for supporting environmentally beneficial water supply projects?

ANSWER: The Department of the Interior's concerns about the wording of the additional ecosystem benefits requirement in S. 4188 center around potential limitations to the scope of projects that may be eligible. Reclamation staff would be happy to discuss this more specifically with Committee staff.

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Questions for the Record Submitted to Mr. Dan Keppen

Answers from Dan Keppen 8/12/2020

Question from Senator Joe Manchin III

Question: S. 4189 would expand the WaterSMART program to allow participation from conservation non-profits that work in partnership with water entities.

- Can you talk about how the WaterSMART program can support partnerships between conservation organizations, and agriculture entities, like the Family Farm Alliance, to cooperatively address water challenges in a balanced manner?

Answer:

The WaterSMART program is doing what it supposed to do, and we have examples in Central Oregon and Washington's Yakima Basin where constructive conservation groups are working with farmers, ranchers and irrigation districts to improve the profitability of producers and put more water instream for fish. Senator Wyden's bill allows for conservation groups to apply for WaterSMART funds, but only if they do so in partnership with the local water delivery entity. So– they work together. Our experience shows that these types of partnerships lead to creative solutions with broad community and political support.

Questions from Senator Martha McSally

Question 1: Mr. Keppen, can you expand on concerns you reference in your written statement about the proposed changes that could potentially harm the current effectiveness of WaterSMART? Do you think there is a way to encourage more projects that improve instream flow and habitat without sacrificing the success of the program?

Answer:

Some of the proposed changes to WaterSMART contemplated by legislation discussed at the recent subcommittee hearing are of concern and may veer the program away from the original intent and current effectiveness of the WaterSMART program by sacrificing dollars that could be used on the ground to support more process. These new provisions appear to be intended to address perceived problems with use of consumptively saved water, and place weighted emphasis on improved streamflow and habitat, interstate compacts, and basin-wide imbalances. We have heard anecdotal concerns raised by some in the conservation community that

WaterSMART grants are somehow being used to create efficiency improvements, with the resulting water savings then being used to expand acreage. While we certainly support a farmer's prerogative to do that, we have not seen reports of this actually happening. Further, state water laws typically prohibit expanding acreage under the same water right. So, it is difficult to understand what problems or issues some of the proposed language is trying to address.

In the meantime, Reclamation reports that recent WaterSMART projects have conserved about 100,000 acre-feet of water. Clearly, the WaterSMART program is accomplishing what it was intended to do: modernizing infrastructure and helping local water users better respond to future water conflicts. The program is working and will continue to work on an even bigger scale with more federal dollars behind it. We question the proposed new monitoring requirements and other conditions that may prove to be high hurdles to clear for some of our rural local water districts. Many WaterSMART projects entail simply lining canals and ditches to minimize seepage losses. Requiring pre-project and post-project monitoring on these simple projects makes no sense and will disincentivize potential WaterSMART applicants from participating. Adding more conditions could actually harm the existing successful program and limit the number of future applicants and diminish the benefits that we currently see.

Several provisions of Section 103 appear to emphasize using conserved water for additional instream flows, which does not necessarily comport with the intent of the WaterSMART program. This new emphasis could also dampen the enthusiasm of potential WaterSMART applicants who might understandably fear they may lose the water supply they conserve if they participate in this program. Importantly, some state water laws do not allow conserved water to be automatically converted to instream water purposes.

Finally, we worry that adding non-profit conservation organizations (NGOs) as eligible recipients in WaterSMART, also proposed in other bills, would provide added competition for program grants and also direct funds away from water infrastructure improvements towards environmental restoration projects that already have many other federal funding sources. Reclamation's budget is not getting any larger, and in recent years has been pulled in many different directions -- thus taking the agency away from its essential mission of delivering water and power.

In summary, my advice would be "Don't water down WaterSMART", as I noted in my testimony. The WaterSMART program is doing what it supposed to do. Expanding the scope and adding new monitoring requirements and other conditions could make the program more unwieldy and discourage smaller irrigation districts from participating. We support continued, increased funding for this program, since it is already underfunded and oversubscribed. With more WaterSMART improvements in place, other opportunities may develop to address habitat and streamflow needs, and other partnerships can flourish. We have already seen it happen in places like the Deschutes River Basin in Oregon and the Yakima Basin in Washington.

Question 2: Mr. Keppen, I greatly appreciate the emphasis you place on coming together and solving problems, and how you advocate looking at results rather than preconceived notions. How important is it to take a broad view of alternatives and environmental benefits in working collaboratively on water supply solutions? And more specifically, would functionally eliminating specific water management options, like surface storage, impact efforts to solve regional water issues?

Answer:

We need to look at the big picture, and find environmentally defensible projects that provide the biggest bang for the limited bucks we have to spend. Every basin is different, and has different issues and solutions. We have to look at that from those perspectives, and find locally-driven solutions that best match the unique local challenges. In my personal experience, surface storage can provide more multiple benefits than any type of water supply enhancement or demand management scheme. We have examples of this, particularly in the Yakima Basin, and the Sacramento Valley. Taking that storage option off the table immediately limits what might be one of your best options.

Question 3: S. 2718 includes a reauthorization of the Reclamation States Emergency Drought Relief Act. However, it also creates a parallel program that seems to duplicate the existing authority. What is the Family Farm Alliance position on reauthorization of the Emergency Drought Relief Act?

Answer:

The Family Farm Alliance has supported reauthorization of the Emergency Drought Relief Act in the past. This legislation was signed into law in 1991, and it still appears to be fairly flexible in its current form, although it generally only provides temporary solutions (such as temporary water supply lines, which must be removed after the drought is lifted). As drought becomes more prevalent, we may need flexibility to develop permanent fixes, as well.

Questions from Senator Catherine Cortez Masto

Question 1: Collaboration has been widely recognized as a critical driver of successful water strategies within local and regional watersheds. The Bureau of Reclamation's Cooperative Watershed Management Program helps stakeholders with diverse water interests work collaboratively to develop regional, multi-benefit water solutions.

- Is it important we continue to support collaborative water management approaches, such as fully funding the Cooperative Watershed Management Program?

Answer:

The Family Farm Alliance absolutely will continue to support collaborative water management approaches, such as fully funding the Cooperative Watershed Management Program. We have members in several states who have successfully engaged in forums funded by the existing program.

Question 2: S. 2718, S. 4188, and S. 4189 emphasize the need for greater investment in diverse and resilient water solutions that benefit people, agriculture and the environment.

- Could you provide more details on how S. 2718, S. 4188 and S. 4189 make sure that we are taking appropriate steps to prepare for an increasingly unreliable water supply that will likely be exacerbated by climate change?

Answer:

Our organization was one of the first ag groups is the country to publish a report on climate change and Western water. We did that back in 2007. Our report contains many recommendations, and some of those relate to our discussion here today. Notably, having modernized and expanded surface storage and conveyance facilities provides additional flexibility to address some of the changes we are seeing in Western watersheds right now: earlier, more intense snowmelt and spring runoff, and longer growing seasons. We're working with Solutions from the Land and the North American Climate Smart Agriculture Alliance to advance these and other ideas in the ongoing international climate discussions.

S. 3811 – Senator Feinstein's conveyance bill – will allow those canal facilities better flexibility to convey large volumes of water, some of which can be used to recharge local groundwater aquifers. And the two other bills I mentioned at the end of my testimony – S. 1932 and S. 2044 – provide funding mechanisms to ensure that we can move forward with modernizing and expanding surface storage and conveyance facilities.

S. 2718, S. 4188 and S. 4189 all include provisions intended to prepare for an increasingly unreliable water supply that will likely be exacerbated by climate change.

As discussed above, S. 2718 includes a reauthorization of the Reclamation States Emergency Drought Relief Act. However, it also creates a parallel program that seems to duplicate the existing authority. The Family Farm Alliance has supported reauthorization of the Emergency Drought Relief Act in the past, and we will do so again in the future. This legislation was signed into law in 1991, and it still appears to be fairly flexible in its current form, although it generally only provides temporary solutions (such as temporary water supply lines, which must be removed after the drought is lifted). As drought becomes more prevalent with the changing Western climate, we may need flexibility to develop permanent fixes, as well.

Section 301 of S. 4188 includes provisions intended to better assess hydrologic conditions, which we know are changing in many parts of the West. We have members in California's Central Valley and elsewhere who are already employing synthetic aperture radar and other emerging technologies that can provide more accurate or timely snowpack measurement data. In our testimony before your committee last October, we asked for authorized resources that would allow the U.S. Department of Agriculture (USDA) - Agriculture Research Service (ARS) to continue to perform a critical role of translating Airborne Snow Observatory (ASO) data into estimates of water supply and runoff in the Western U.S. Current estimates for program funding needs at USDA-ARS are approximately $2.2 million in additional funding annually for the next 10 years. Section 301 could provide federal funding, support, and cooperation for the Bureau of Reclamation (Reclamation) to oversee the continued operation in California and the expansion of ASO technology application throughout the West.

With that said, there are several other areas of S. 4188 that cause concerns for our membership because of the potential for far-ranging and uncertain negative impacts to water management and irrigated agriculture in the West. One of those provisions is "Study Examining Climate Vulnerabilities at Dams", which does not include considerations of how climate vulnerabilities affect future water supply needs. We believe the question that really needs to be answered is this: How do we develop more new water storage or other water projects that can adequately prepare for future water needs and shortages, given the many climate vulnerabilities we face now and in the future?

S. 4189 aims at helping communities in Oregon and across the West experiencing high levels of drought, something that will likely continue in the future as our Western climate continues to change. The bill touches on some important aspects of addressing the key water challenges occurring across the West that are of interest to our members.

Certainty in Western water policy is essential to the farmers and ranchers I represent. That is why a suite of conservation and other demand reduction mechanisms (like some of the provisions in S. 4189) must be balanced with proactive and responsible development of new water infrastructure, as well as major repairs on existing aging facilities. Modern, expanded water delivery and storage infrastructure provides water managers with greater flexibility to deal with extreme hydrologic events associated with climate change. We will continue to advocate for programs like these, with the understanding that will also be paired with water supply enhancement programs, as described in my written testimony.

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Questions for the Record Submitted to Mr. Joe Whitworth

Questions from Senator Joe Manchin

Question 1: What would be the most effective federal investment in water infrastructure to meet the current water challenges across the West?

Answer: The most effective water-related investment Congress can make is in using technology to drive investment decisions. The West's water challenges are too complex and too expensive to solve without using current data and sophisticated modeling to identify, develop, and fund the most cost-effective projects. Also, while traditional water infrastructure funding has supported important projects for agricultural sectors, much more needs to be done to support our freshwater ecosystems and build economic and ecological resiliency to climate change. Our 21st-century water problems require 21st-century solutions, which can only be provided through the application of technology.

Existing technology is already available to design and implement projects that restore watersheds, benefit agriculture, and save taxpayers' money. Satellite technology is available to scan thousands of watersheds to identify land management practices that affect surface and groundwater quantity and quality. Peer-reviewed and government-approved computer modeling programs are available to analyze the environmental and economic benefits of adjusting voluntary land management practices to improve surface and groundwater availability and restore water quality. Emerging technologies, such as artificial intelligence, are adding additional insight, enhancing our capabilities to identify and design water infrastructure projects and best land management practices that benefit rural economies and the environment. Federal funding agencies should integrate these technologies into their funding programs so that limited federal funds are directed to projects that will produce the best results.

The Freshwater Trust knows this technology-informed restoration strategy is effective because we use it every day in our work to restore watersheds and support the needs of our project partners, such as the U.S. Department of Agriculture (USDA), the Bureau of Reclamation, the Department of Energy's Bonneville Power Administration, Idaho Power Company (IPC), Sacramento's Regional Sanitation District, and other public and private entities. For example, The Freshwater Trust developed a watershed restoration program for IPC to help the company meet Clean Water Act requirements for its Hells Canyon Dam Complex operations on the Snake River in Idaho. Using models, satellite imagery, and other 21st-century technology, The Freshwater Trust identified natural infrastructure projects that would produce the most reductions in thermal loading on streams, as well as provide additional environmental benefits such as nutrient runoff reduction. In addition to planting riparian areas in specific locations where technology identified high thermal loading, The Freshwater Trust and IPC extended a large island and restored its streamside habitat to increase flow velocity and reduce water temperature. These technology-informed solutions are restoring water quality at a cost-effective rate, while also supporting jobs for local contractors.

The Freshwater Trust believes federal agencies should use a similar technology-driven approach when selecting projects for funding. Specifically, federal agencies should prioritize funding for those watershed restoration projects where the application of technology demonstrates the highest level of environmental improvement at the lowest cost. This approach would help ensure that environmental progress is being made and that limited restoration dollars are being spent on projects that have the greatest benefit for the environment. To integrate

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technology into the funding process, Congress should require funding applicants and awarding agencies to quantify the anticipated benefits of proposed projects by using technology.

S. 4189 takes a step in the right direction toward including such a requirement. Section 204(b) establishes a grant program for the "*** design, implementation, and monitoring of conservation **outcomes** of habitat restoration projects that improve watershed health ***." Among others, these outcomes include ecosystem benefits, restoration of native species (beyond existing legal requirements), and mitigation against climate change. The Freshwater Trust agrees that funding should be directed toward producing these outcomes. However, in order to measure progress toward meeting watershed restoration and climate change resiliency goals, those outcomes must be measured, quantified, and tracked by using technology (e.g., use technology to measure the pounds of nitrogen prevented from running off irrigated fields or the amount of kilocalorie reduction benefits provided by riparian restoration projects). The Freshwater Trust recommends that the term "quantified" be inserted before "conservation outcomes" in section 204(b) to ensure that outcomes are, in fact, produced and can be verified by Congress, agencies, and taxpayers. This will help drive watershed restoration technology development and integration into funding programs.

S. 4188 also takes a step in the right direction by requiring reports on water supply project proposals that quantify the ecosystem benefits and adverse impacts to native fish and wildlife. Water supply projects may affect a number of watershed attributes, including in-stream flow, floodplain development, channel connection, water temperature, and fish passage to name a few. Identifying and quantifying changes to these watershed attributes is key to understanding whether net benefits to ecosystems will be generated by proposed projects. Using existing and emerging technology is necessary to identify and quantify these changes, and therefore this section should encourage agencies to integrate technology into their funding assessments.

S. 4188 also includes important funding for watershed habitat restoration that provides ecosystems benefits and mitigates climate change impacts. The Freshwater Trust believes this funding would produce greater benefits for watersheds if it required up-front, quantified proof that proposed projects will achieve claimed benefits. Therefore, we recommend amending section 201 to require applicants to demonstrate that benefits will occur based on the application of technology that quantifies potential benefits.

Finally, S. 2718 includes important funding to support voluntary transactions to enhance stream flow for fish and wildlife, water quality, and freshwater ecosystems in western states. This funding is crucial to support species and watersheds facing potential collapse under the weight of climate change. We believe this funding could go even further and provide greater resiliency by incorporating technology-informed funding procedures to ensure that funding supports projects that will provide the best outcomes for these resources.

Congress does not need to fund technology development and integration alone. Technology firms and non-governmental entities are already developing the technological tools necessary to ensure that agriculture and freshwater ecosystems persist in an era of climate change. Congress has an opportunity to accelerate the development of more cutting-edge tools by updating project-funding requirements. Specifically, Congress should require water project funding applicants to use technology to identify and quantify the projected benefits of their proposed projects. The funding agencies should use technology to prioritize projects and target funding to those that demonstrate the most public benefits in return for the requested public assistance. The Freshwater

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Trust believes that requiring such use of technology would result in funding for projects that have the greatest chance of ensuring that ecosystems and rural economies persist in an increasingly complex water future.

The Freshwater Trust would welcome the opportunity to discuss with you the economic and ecological benefits of integrating technology into funding programs.

Question 2: S. 4189 would expand the WaterSMART program to allow participation from conservation non-profits that work in partnership with water entities.

- Can you talk about how the WaterSMART program can support partnerships between conservation organizations, like The Freshwater Trust, and agriculture entities to cooperatively address water challenges in a balanced manner?

Answer: The WaterSMART program can, and should, lead to cooperative projects that restore stream connectivity, improve water reliability, and build ecological and economic resiliency to climate change. These cooperative projects, however, must be supported with current data and useful technology in order to identify the specific actions needed to deliver the highest measurable improvements to water quality and streamflows for the least cost. If the Bureau of Reclamation incorporated platform-based, real-time watershed analytics to identify projects that generate needed resiliency outcomes, rapid increases in project implementation, employment, and environmental resiliency would be attainable. S. 4189 should be amended to require integration of technology into WaterSMART funding decisions.

The Freshwater Trust knows that collaboration works. We established the nation's first water trust in 1993, and for the past twenty-seven years, we have been partnering with agricultural producers and agencies to develop and implement win-win solutions for rural economies and freshwater ecosystems. To date, our organization has utilized other federal funding programs focused on salmon recovery, as well as state funding, to support flow restoration projects. However, based on our experience, we know that partnerships are critical to restoring streamflows and enhancing economic and ecological resiliency to climate change.

The Freshwater Trust's work with irrigators demonstrates how agricultural producers and conservation non-profits can work together to achieve results for agriculture and the environment. For example, in the Lostine River Basin in northeast Oregon, we partnered with several landowners to transition 1,149 acres of flood-irrigated pasture to pressurized sprinkler irrigation, which has increased their crop yields and added 11 cubic feet per second (cfs) of protected streamflows to support Chinook salmon migration. We also developed an innovative transaction model in Fifteenmile Creek near The Dalles, Oregon, involving over a dozen irrigators, the local watershed council, and the local soil and water conservation district. Under this program, irrigators voluntarily reduce water diversions when computer models predict potential fish kills due to stream temperatures. Since starting this program in 2013, The Freshwater Trust and its agricultural partners have stopped fish kills on Fifteenmile Creek while continuing to maintain agricultural production. Finally, in California, we are working with nineteen local groundwater agencies to develop and implement a technology-based program to recharge groundwater aquifers and achieve state groundwater sustainability goals while keeping farms in production and providing new revenue stream options to irrigators.

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WaterSMART programmatic investments could catalyze cooperation and balance solutions by modernizing systems through investments in facility improvements like new water meters or gates, ditch lining, flow meters, and pressurization, while also identifying the most important locations for increasing conserved water and instream flow. Expanding WaterSMART to allow conservation non-profits to partner with water entities will expand the benefits of the WaterSMART program to include more win-win projects for agriculture and freshwater ecosystems throughout the West. Many conservation non-profits exist in reclamation states and can provide valuable insight on ecosystem needs and work cooperatively with irrigators to design and implement necessary solutions.

However, to ensure these partnerships produce the best results for in-stream and out-of-stream needs, the WaterSMART program must integrate the technological infrastructure necessary to identify and target funding toward those projects that will produce the best results. This technology includes, but is not limited to, advanced basin assessments of watersheds that quantify the impacts of ongoing land management practices and the benefits of alternative restoration approaches. Ideally, this technology would be linked to other funding programs so that applicants and agencies can understand whether funding a proposed WaterSMART project will help restore watershed health alone or in conjunction with other proposed water projects. Without prioritization, government will be unable to solve complex basin-scale environmental problems, and the track record of uncoordinated conservation efforts to fix systemic issues will continue.

The Freshwater Trust believes S. 4189 should authorize appropriations for the development and use of technology and data sharing that is necessary to support cooperative watershed restoration projects. For example, a subsection could be added to section 103 authorizing an appropriation of at least $50,000,000 in technical assessment funding to public, private, and nonprofit entities to develop technology needed to analyze and prioritize WaterSMART projects by the end of 2021.

The Freshwater Trust would welcome the opportunity to further discuss how the WaterSMART program could be updated to include greater use of technology.

Questions from Senator Martha McSally

Question 1: Mr. Whitworth, I greatly appreciate the emphasis you place on coming together and solving problems, and how you advocate looking at results rather than preconceived notions. How important is it to take a broad view of alternatives and environmental benefits in working collaboratively on water supply solutions? And more specifically, would functionally eliminating specific water management options, like surface storage, impact efforts to solve regional water issues?

Answer: The ongoing rural economic crisis exacerbated by COVID-19 brings urgency to the need to amplify the way funding moves to rural communities and projects for watershed assessments and water supply management solutions. Critical to the success of these solutions, as well fostering post-pandemic rural economic recovery, will be the distribution of federal dollars in a manner that improves operability and execution of programs through enhanced delivery channels, processes, timelines, and clear outcome-based guidelines so as to catalyze coordinated private sector action in response. The US Government Accounting Office (GAO) key

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issues summary for Data-Driven Decision Making explicitly supports this intent,[1] noting that federal agencies can and should consider using evidence-based tools to improve program effectiveness and foster innovation.

By using technology water managers can consider numerous management options, identify the best options for restoring watersheds and supporting agriculture, and start implementing solutions on a meaningful timeframe. Additionally, instead of focusing only on specific, siloed water management options, federal funding programs could utilize robust watershed basin-scale analytics to understand the cost and benefits of each type of management option, and focus resources on those with the most significant measurable results. This broader view, informed by data and clear-eyed about costs and tradeoffs, would begin to solve regional water problems on a pace and scale that matters.

In taking the broader view that you suggest, there is enormous potential to combine federal and private funding streams to provide more comprehensive solutions to watershed problems. For example, the USDA spends $6.4 billion per year through Natural Resources Conservation Service (NRCS) and Farm Service Agency (FSA) conservation programs. However, recent analysis found that only 36% of NRCS Environmental Quality Incentives Program (EQIP) applications were funded. Like USDA, the U.S. Environmental Protection Agency currently has $2.82 billion per year in available Clean Water and Drinking Water State Revolving Fund (SRF) funding nationwide, but there are a billion-plus dollars of appropriated SRF funds that remain unspent each year. Meanwhile, approximately $20B is spent each year on Clean Water Act compliance by government and industry. This is a lot of money, but most of the programs can't coordinate with each other, resulting in substantial funding, leverage, and outcomes left on the table each year.

Today's federal funding programs involve multi-year application cycles, and the bureaucracy associated with each one makes it nearly impossible to utilize these funding sources together in a leveraged way that can restore watersheds, quickly create jobs, collaborate on a watershed scale, and impact rural economies. In short, the timing, prioritization, and certainty mismatches make it nearly impossible to leverage America's largest environmental spending sources in a meaningful way. Therefore, in addition to researching water management improvement, The Freshwater Trust believes that part of the research effort established under section 4(b)(2) of the Water-Energy Technology Demonstration and Deployment Act should focus on how to improve water project funding. Specific research topics should include how to pair federal funding grants and leverage private investment dollars to drive faster, larger-scale watershed improvement projects.

Questions from Senator Catherine Cortez Masto

Question 1: Why is it important to invest in natural infrastructure projects?

Answer: It is important to invest in natural infrastructure because healthy watersheds provide an insurance policy for all of the investments we make to capture, use, protect, store, and release water. Investing in long-term watershed health projects also means that investment-driven jobs are durable and create downstream

[1] Per the Government Accountability Office, "using data—such as information collected by performance measures and findings from program evaluations and research studies—to drive decision making can help federal agencies improve program implementation, identify and correct problems, and make other management decisions." U.S. Gov't Accountability Office, Data Driven Decision Making, https://www.gao.gov/key_issues/data-driven_decision_making/issue_summary (last visited August 7, 2020).

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supply chain benefits. Materials for natural infrastructure projects are bought locally, which results in funding being invested in local labor pools and more dollars being directed to local communities. Thus, these projects are crucial to restoring watersheds, maintaining agriculture, and rebuilding rural economies.

Today, there is a pent-up desire among practitioners and policy makers to address environmental stewardship in rural America in a more innovative, timely, cost-effective, and outcome-based manner. This desire can fill a vital, current need that existed even before the onset of the pandemic: rapid job creation in rural areas. A better 21st century for rural communities will require a 21st century approach – and the need for improved employment and resiliency has never been greater.

The importance of these types of projects cannot be understated. A coordinated, technology-informed federal investment approach in natural infrastructure would assist in the recovery and expansion of local jobs and existing supply chains, such as irrigation equipment installers, plant nurseries, and general contractors. As illustrated in TFT's outcomes-based approach, federal funding could be used to rapidly invest in the nation's rural and outdoor natural infrastructure restoration economy, while also improving rural water resiliency by decreasing risk of flood, drought, forest fires, and drinking water quality issues.

Several of the water bills before the subcommittee include important funding for natural infrastructure. S. 4188 provides grant money for water supply projects that use natural infrastructure and nature-based solutions where practicable, and it prioritizes funding for projects that incorporate green or natural infrastructure components. S. 4189 and S. 2718 expand WaterSMART funding to projects that enhance natural water storage and recharge. These investments will help restore critical watershed functions and create jobs for local, rural workforces. To maximize the potential impact of these proposals, we encourage the bill sponsors to incorporate language in these bills that requires federal agencies to prioritize funding for those projects where the use of technology demonstrates the greatest watershed benefits in return for taxpayers' investments.

Question 2: Healthy watersheds are vital natural infrastructure for communities across our nation. Our watersheds collect, store and filter water and provide benefits for biodiversity, climate change adaptation, food security, and human health. S. 4189, Water for Conservation and Farming Act, creates a program that authorizes funding to support multi-benefit projects that improve watershed health.

- How does investing in watershed health improve water security and address climate change?

Answer: The biosphere is the ultimate closed loop. There is no more or less water than the day the Earth began. What has changed is whether or not water shows up, and in what quantity. Technology is already available to identify and target outcome-based restoration actions that restore freshwater ecosystems, invest taxpayer dollars efficiently, and get America on track toward providing fishable, swimmable, and drinkable water for all communities. Our use of technology creates durable jobs in America's rural economies and increases rural resiliency to climate change.

S. 4189 provides a good start toward identifying conservation outcomes and incentivizing multi-benefit projects that improve water security and address climate change. TFT recommends these conservation outcomes be quantified through use of analytics technology to prioritize the limited funding available in this area. Some

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examples of quantified outcomes include the following measured benefits: increased cfs of protected in-stream flows, pounds of nitrogen prevented from running off fields, and kilocalories of prevented solar loading to rivers and streams.

We know that drought and changes to snow and rainfall patterns are leading to crop loss, causing uncertainty for growers in planning, adding pressure on water quality, and stalling threatened and endangered species recovery. By investing in watershed health, federal investment can bring natural resiliency to a region through implementation of projects that filter out contaminants, combat invasive species, support local jobs, and develop and implement plans to protect and restore localized natural function over the long haul. We can do this, but it does not include doing more of the same. Therefore, to ensure projects with most conservation outcomes are prioritized for funding, The Freshwater Trust recommends that the term "quantified" be inserted before "conservation outcomes" in section 204(b).

Question 3: Collaboration has been widely recognized as a critical driver of successful water strategies within local and regional watersheds. The Bureau of Reclamation's Cooperative Watershed Management Program helps stakeholders with diverse water interests work collaboratively to develop regional, multi-benefit water solutions.

- Is it important we continue to support collaborative water management approaches, such as fully funding the Cooperative Watershed Management Program?

Answer: Yes. Based on our thirty-five years of experience, The Freshwater Trust knows that collaboration is key to restoring freshwater ecosystems. Our organization regularly participates in regional water supply planning efforts involving diverse stakeholders, and we work closely with irrigators, agencies, and tribes to restore rivers, streams, and groundwater resources. For example, prior to 2005, the Lostine River in northeastern Oregon routinely ran low during late summer, preventing the river's adult Chinook salmon, which were on the brink of extinction, from accessing spawning habitat located above major irrigation withdrawals. Since 2005, The Freshwater Trust has worked with nearly 100 irrigators to restore critical streamflows, enabling adult Chinook salmon migration while keeping farm operations in production and improving the functionality of their water diversions.

Collaboration is key, but the procedure-based federal funding systems sometimes impede it without getting much in return on investment. Currently, funding drawn from federal restoration programs is disbursed through process-heavy, technical, and lengthy grant or loan programs. Likewise, the Clean Water Act has not affirmatively solved our nation's water problems. After decades of engagement, it is clear today that litigation alone will not deliver functional, healthy watersheds. The projects TFT and its partners engage in have "buy-in" from land managers and other stakeholders and build rural resiliency. With a collaborative approach, our work in each basin has attracted more partners, more funding opportunities, and more landowners – not less.

Additionally, the success of a regional, multi-benefit water solutions process depends on whether its participants have access to necessary data and information to develop solutions. To date, much of this information is incomplete, siloed, difficult to access or use, and often times too general and outdated. For example, general

crop evapotranspiration rate studies from the 1990s may not provide the best information to irrigators who are trying to understand their local crop's needs today in light of climate change.

Fortunately, existing and emerging technology is available that can provide stakeholders with the information they need to cooperatively design and implement solutions that benefit agriculture and the environment. For example, The Freshwater Trust has developed its own technology that utilizes satellite imagery and peer-reviewed models to identify and assess watershed impairments, opportunities for conserving water while also improving streamflows, and prospects for increasing farm profitability. Technology firms and other conservation non-profits are developing additional technology that can be deployed in freshwater ecosystem restoration. Ideally, the WaterSMART program would be updated to include access to these resources so that more agricultural producers and conservation non-profits can work together to accelerate the pace and scale of restoring watersheds while strengthening agriculture.

As stated above, The Freshwater Trust believes some of the proposed WaterSMART legislation can be modified to ensure that technology is available to support stakeholders in designing and implementing the projects necessary to produce the best outcomes. For example, we would like to see S. 4189 authorize appropriations to fund the development and use of technology and data sharing that is necessary to support cooperative watershed restoration projects. Ideally, section 103 would be amended to include a subsection authorizing an appropriation of at least $50,000,000 for providing technical assessment funding to public, private, and nonprofit entities to develop technology needed to analyze and prioritize WaterSMART projects by the end of 2021.

Question 4: S. 2718, S. 4188, and S. 4189 emphasize the need for greater investment in diverse and resilient water solutions that benefit people, agriculture and the environment.

- Could you provide more details on how S. 2718, S. 4188 and S. 4189 make sure that we are taking appropriate steps to prepare for an increasingly unreliable water supply that will likely be exacerbated by climate change?

Answer: To varying degrees, these bills propose steps to prepare for increasingly unreliable water supplies. They directly or indirectly acknowledge a future where water is even more scarce and unreliable for agriculture and the environment, and in some cases, establish funding mechanisms that reward projects that address the needs of both. S. 4188 goes a step further by requiring certain water supply projects demonstrate *net* environmental benefits. These bills also move in the right direction on acknowledging and encouraging the use of technology in identifying and directing outcomes. However, unless we require the adoption and integration of technology in watershed restoration and water supply funding decisions, limited taxpayer dollars will continue to be spent on projects that do not collectively lead us to a sustainable water future for the environment or agriculture. All three bills could do more to reward good intentions with good, quantifiable results.

S. 2718

The Western Water Security Act of 2019 includes important drought assistance for agricultural operations and freshwater ecosystems, which is increasingly necessary because of climate change. For example, section 103

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establishes emergency drought funding for voluntary transactions that enhance streamflows for the benefit of fish and wildlife, water quality, and river ecosystem restoration. The Freshwater Trust has used similar funding programs to support transactions in the Columbia River Basin, which have provided water needed to support adult salmon and steelhead migration and juvenile rearing during periods of drought. In addition to assisting threatened fish, irrigators gain additional compensation to their farm revenues while knowing they have helped maintain their local watershed.

The Freshwater Trust encourages that the funding made available under this program be targeted to those transactions that would provide the greatest benefits to ecological needs. Specifically, the funding should be targeted to those transactions where state programs exist to protect the water in-stream and the data demonstrates the most benefits to freshwater ecosystems and species.

S. 4188

The Water For Tomorrow Act of 2020 includes good starting points for incorporating information from emerging technologies to improve our understanding of climate change impacts on water supply. Specifically, section 301 authorizes $5,000,000 to incorporating emerging technologies for measuring snowpack, a critical water supply source in the West. As climate change intensifies, The Freshwater Trust encourages that some of these funds be used on developing machine-learning technologies and predictive modeling so that water managers can manage water in an increasingly complex water system.

S. 4188 also includes important funding for watershed restoration, which is necessary to build greater climate change resiliency for our freshwater ecosystems. Specifically, section 201 establishes a competitive grant program that funds watershed restoration projects that provide multiple environmental benefits such as mitigating the impacts of climate change on fish and wildlife habitat, as well as providing other ecosystem benefits. Ideally, funding applicants and funding agencies will utilize existing and emerging technology to identify, design, and target funding to projects that will produce the greatest environmental gains while generating benefits for agriculture. Requiring such use of technology would provide greater guarantees.

Additionally, S. 4188 establishes a new water infrastructure funding program that requires projects to generate net ecosystem benefits. Section 102 requires the U.S. Fish and Wildlife Service use the best scientific data and information and, among other things, quantify and estimate the benefits and adverse impacts to native fish and wildlife from a proposed water supply project. The Freshwater Trust believes this approach could help ensure that water supply projects provide value to agriculture and freshwater ecosystems. Requiring the use of existing and emerging technology would provide assurances that these outcomes would be achieved.

S. 4189

The Water for Conservation and Farming Act takes the most significant first step in modernizing watershed restoration funding. Specifically, section 204(b) establishes a grant program for the design, implementation, and monitoring of conservation outcomes of habitat restoration projects that improve watershed health, including ecosystem benefits, restoration of native species, mitigation against climate change, and other benefits. For too long, restoration funding has been focused on designing and implementing projects with uncertain and

unquantified outcomes. By funding the design of outcomes, project proponents will have to demonstrate that their proposed projects will produce actual outcomes for watersheds, not just the promise of more projects themselves.

Section 204(b) does not expressly require quantification or use of technology to demonstrate that proposed outcomes will in fact occur. The Freshwater Trust prefers that it did. For example, The Freshwater Trust recommends that the bill expressly require quantified, modeled estimates of anticipated environmental benefits, such as the cubic feet per second of *protected* in-stream flows added to a stream, the pounds of nitrogen prevented from running off of farm fields, and the amount of kilocalorie benefits generated by a riparian restoration project. As restoration funding continues to be limited, we believe those proposed projects that use technology to quantify proposed project benefits will be the most competitive, and thus this bill should encourage the ongoing development of 21st-century river restoration technology.

Directly or indirectly, these bills acknowledge a future where water is even more scarce and unreliable. However, unless we use existing technologies to drive outcomes, we will continue to ignore available data that could maximize the efficiency and impact of these dollars. We would welcome the opportunity to discuss these bills further with you.

Question 5: Will you describe how The Freshwater Trust is using technology to deliver quantified environmental outcomes in a cost-effective manner, while also supporting rural economies?

Answer: Twenty-first century water management and project investments must leverage technology, analytics, and machine learning to coordinate resources toward watershed-scale outcomes. The Freshwater Trust puts these tools to work to deliver quantified environmental outcomes. With actionable insight, we identify and quantify outcomes, and set up systems that pay for successful outcomes through the highest and best use of restoration funding. We believe federal agencies and project developers can, and should, do the same.

For example, in our work to restore the Rogue River in Oregon, TFT used natural infrastructure and quantified environmental accounting to enable a municipality to meet its temperature compliance needs and save millions. The City of Medford sought ways to meet its Section 402 Clean Water Act thermal load limits, including evaluating options such as storage lagoons and chilling towers. To provide an equivalent natural infrastructure compliance option, TFT adapted a technical model called Shade-a-lator, a module of the HeatSource model for shade, to calculate the pre-project load of solar radiation reaching the surface of a stream, creek or river, using pre-project conditions, including the current vegetation height and distribution. With inputs on mature vegetation height and distribution from planting and project designs, TFT then predicted the future avoided load of solar radiation reaching the waterway if the City of Medford instead invested in natural infrastructure. The cost differential was substantial: by investing in natural infrastructure, Medford taxpayers saved some $8.5M compared to the next lowest-cost option of building $15M chilling towers. TFT committed to recruiting landowners willing to host shade trees for 20 years on their streamside properties, and is on track to fulfill Medford's compliance needs in 2020. TFT has leveraged this work to expand restoration across the basin, including using Bureau of Reclamation compliance dollars to build large wood structures and leverage state and philanthropic funds to lease water instream in specific places. We met compliance requirements for both entities, and also saw a 350% & 1500% increase in fish returns.

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In the Snake River Basin in Idaho, TFT helped Idaho Power Company come up with a smarter solution to environmental mitigation for their Federal Energy Regulatory Commission relicensing efforts. Their original solution, which would meet the letter of the law, was to have massive, expensive pumps discharging low-oxygen water into one of the last remaining stretches of fall Chinook salmon habitat in the Columbia Basin. Good on paper, bad in practice. Using our StreamBank™ and BasinScout® analytics, TFT leveraged multiple temperature, nutrient, flow and stream function models and datasets, geospatial data from LiDAR, and elevation models and satellites, to hone in on the precise locations and projects to generate the greatest environmental benefit. Using these specialized analytics, TFT was able to determine how to decrease nutrients and increase function upstream—which allows regulators and partners to also improve farm management and profitability. This allowed IPC to begin to solve the problem, not just spend money.

In addition to restoring freshwater ecosystems, our watershed restoration projects support jobs. For example, using public and private funding, The Freshwater Trust has infused over $14M into southern Oregon over the last decade. This funding has supported an estimated 322 direct and indirect jobs. A total of 29 local subcontractors have been contracted to perform streamside restoration work. As a result, approximately 75% of restoration funding has gone to the local economy.

The jobs supported by The Freshwater Trust's work are part of a larger, growing restoration economy in Oregon. According to the University of Oregon, every $1M investment on clean water and habitat restoration creates 15-24 jobs.[2] Restoration funding from the Oregon Watershed Enhancement Board alone supports 230 jobs per year.[3] These jobs typically benefit small, local businesses in communities throughout the state..

The Freshwater Trust believes that its technology-informed restoration approach should be adopted as a model for federal restoration funding programs. Our approach delivers quantified environmental benefits and supports jobs, both of which are necessary to build climate change resiliency and rebuild rural economies. For more information on our approach, please see our Rural Resiliency Jobs Initiative memorandum, which we submitted as an attachment to our written testimony.

[2] https://www.oregon.gov/oweb/data-reporting/Pages/economic-impacts.aspx (last viewed on August 11, 2020).
[3] Oregon Watershed Enhancement Board 2019-21 Legislatively Adopted Budget, at 162. A copy of this budget is available at https://www.oregon.gov/oweb/Documents/LAB-2019-2021.pdf

Laura Ziemer
Senior Counsel and Water Policy Advisor

July 31, 2020

The Honorable Martha McSally, Chairwoman
Subcommittee on Water and Power
Committee on Energy and Natural Resources
U.S. Senate
Washington, DC 20510

The Honorable Catherine Cortez Masto, Ranking Member
Subcommittee on Water and Power
Committee on Energy and Natural Resources
U.S. Senate
Washington, DC 20510

Re: Trout Unlimited Letter for the Record of the hearing held on July 22nd regarding western water bills, including S. 2718 and S. 4189.

Chairwoman McSally, Ranking Member Cortez Masto, and members of the Committee:

Trout Unlimited (TU) is the nation's largest coldwater fisheries conservation group dedicated to the protection and restoration of our nation's trout and salmon resources, and the watersheds that sustain them. TU has more than 370,000 members and supporters nationwide, organized into 400 chapters across 46 states. In watersheds across the country, TU staff and volunteers work collaboratively with partners, including farmers, ranchers, other landowners, tribes, local businesses, and state & federal agencies, to restore habitat for trout and salmon fisheries so that we, and future generations, can enjoy all they have to offer.

TU supports Senator Udall's S. 2718, the ***Western Water Security Act***, and Senator Wyden's S. 4189, the ***Water for Conservation and Farming Act***, and appreciates the bills' subcommittee hearing on July 22, 2020. TU joined with partner conservation organizations whose members, like TU's, care about the Colorado River basin, in writing in support of the drought-resiliency focus of the bills heard on July 22, and writes separately today to support S. 2718 and S. 4189. The House of Representatives has included S. 2718's revisions to WaterSMART, many of the bills' investments in healthy watersheds, and similar vehicles for investment in desalination in HR 2.

S. 2718, Western Water Security Act (Udall)

Senator Udall's *Western Water Security Act* supports needed drought response, particularly in America's arid Southwest, and provides a necessary clarification and update of the SECURE Water Act's authorizations. TU supports these provisions and the bill's proactive response to the challenges of drought in the West.

1. Title I—Infrastructure and Water Management Improvement.

TU supports Title I's establishment of emergency drought funding, and the key revisions to Reclamation's WaterSMART program, authorized in 2009 by the SECURE Water Act, and codified at 42 U.S.C. §§ 10362 *et seq*. Title I's important drought funding and updates to the SECURE Water Act's initial authorization over a decade ago include:

- Section 101(a)—adding a nonprofit conservation organization as an eligible applicant to WaterSMART's suite of grant programs. **This is a simple way to promote and encourage multi-benefit and drought resiliency projects**;

- Section 101(a)—defining the new term "natural water recharge infrastructure" so that **activities and projects to restore the hydrologic function of the West's watersheds will help the WaterSMART program meet its goals of western water security**;

- Section 101(c)—authorizing a $170 million increase in appropriations;

- Section 102—providing a federal cost share of 25% for desalination projects, with particular planning support for small, rural communities and the availability of a higher federal cost share, and authorizing $65 million through 2024;

- Section 103—providing **emergency drought funding and authority**, including through voluntary, temporary, and compensated programs to reduce water demands for the purpose of increasing water available in a system or reducing water supply-demand imbalances, as well as a range of other forward-looking actions to prepare for drought. This section authorizes $180 million through 2024;

- Section 104—extending the authorized time for the Rio Grande Pueblo Irrigation infrastructure originally authorized in 2009.

Title I's establishment of funding for forward-looking actions to prepare for drought and the enhancement of the SECURE Water Act's support for multi-benefit projects are wise 21st-century water management investments.

2. Title II—Groundwater Management and WaterSMART.

Pro-active groundwater management is essential to ensuring secure western water supplies. Title II's Section 201 provides for an important reauthorization through 2029 of the United States-Mexico Transboundary Aquifer Assessment Act, including adding the Yuma groundwater basin.

Section 202 focuses on the intersection between surface water and groundwater in Reclamation's WaterSMART program. Specifically, Section 202 requires that Reclamation analyze carefully the conservation of ditch seepage that has historically recharged shallow groundwater, and ensure that such conserved water is beneficially used for non-consumptive purposes such as improved river and stream flows, or otherwise managed to reduce water scarcity conflicts.

Section 202 revises the SECURE Water Act's articulation of purposes to be achieved through the WaterSMART grant program to make clear that compliance with interstate compacts, reducing basin water supply-demand imbalances, enhancing habitat for imperiled species, or increasing ecological resilience to climate change are the purposes to be achieved through such tools as water conservation, water-use efficiency, or enhanced water management. **This clarification and expansion of authorized purposes ensures that WaterSMART does not inadvertently increase water-scarcity conflicts by increasing consumptive water use through funded projects.** In addition, Section 202 also allows an increased federal cost-share for irrigation infrastructure projects that provide for significant, non-consumptive benefits **as a way to reward multi-benefit projects**.

Section 203 adds analysis of the withdrawal and use of surface and groundwater by oil, gas, and mineral development activities to the report on the national assessment of water availability and water use, codified at 42 U.S.C. § 10368(d)(3).

TU applauds the far-sighted approach of Title II to be proactive at the intersection of ground and surface water supplies as an essential component of the West's water management.

3. **Title III—Water Conservation and Environmental Restoration in the Rio Grande River Basin.**

TU supports wide range of activities authorized in Title III to conserve water and restore the Rio Grande River in New Mexico. TU also supports Section 305's reauthorization of the **Cooperative Watershed Management Program** through 2031, which has provided essential support for multi-stakeholder, locally-driven, solutions for watershed restoration and water supply security.

S. 4189, Water for Conservation and Farming Act (Wyden)

Furthermore, Senator Wyden's *Water for Conservation and Farming Act* takes a balanced approach to providing 21st-century western water infrastructure, water supply security, and ecological resiliency. TU supports S. 4189's focus on the need for innovative solutions to the West's most pressing issues.

1. Title I—Infrastructure Fund & WaterSMART Revisions

TU supports Title I's establishment of a future Bureau of Reclamation Infrastructure Fund to provide $300 million annually, from 2031 to 2061, and split equally among: water reuse reclamation and desalination; Reclamation's WaterSMART program; and dam safety at Reclamation facilities. The stable, future funding source for these essential elements of a secure western water supply that this Title provides is important. In addition, Title I makes key revisions to Reclamation's WaterSMART program, authorized in 2009 by the SECURE Water Act, and codified at 42 U.S.C. §§ 10362 *et seq*. The important updates to the SECURE Water Act's initial authorization over a decade ago includes:

- Section 103(a)—adding a nonprofit conservation organization as an eligible applicant to WaterSMART's suite of grant programs, acting in partnership with existing, eligible entities on a project involving the land or infrastructure of that entity, and limiting nonprofit applicants to no more than 30% of the total funding available. **This is a simple way to promote and encourage multi-benefit and drought resiliency projects**;

- Section 103(b)—revising the SECURE Water Act's articulation of purposes to be achieved through the WaterSMART grant program to make clear that compliance with interstate compacts, reducing basin water supply-demand imbalances, enhancing habitat for imperiled species, or increasing ecological resilience to climate change are the purposes to be achieved through such tools as water conservation, water-use efficiency, or enhanced water management. **This clarification and expansion of authorized purposes ensures that WaterSMART does not inadvertently increase water-scarcity conflicts by increasing consumptive water use through funded projects;**

- Section 103(b)—also allows an increased federal cost-share for irrigation infrastructure projects that provide for significant, non-consumptive benefits **as a way to reward multi-benefit projects**; and,

- Section 103(c)—authorizing a stepwise increase in appropriations from $50 million in 2021 to $70 million in 2025.

Title I's establishment of a future stable funding source for investment in western water supply and its clarification of the SECURE Water Act's purposes are wise 21st-century water management investments.

2. Title II—Ecosystem Protection and Restoration.

TU applauds the far-sighted approach of Title II to invest in healthy, functioning watersheds as an essential component of the West's water infrastructure. TU supports each section of Title II:

- Section 201's creation of a $3.5 million/year shorebird habitat restoration program;
- Section 202's addition of consideration of sustaining native biodiversity in drought planning;
- Section 203's reauthorization of the **Cooperative Watershed Management Program**, which has provided essential support for multi-stakeholder, locally-driven, solutions for watershed restoration and water supply security;
- Section 204's **Multi-Benefit Projects to Improve Watershed Health** grant program at $150 million/year through 2024;
- Section 205's Drought Planning and Preparedness for Critically Important Fisheries, with one recommendation detailed below;
- Section 206's **Aquatic Connectivity Restoration** for removal of fish passage barriers at $25 million/year through 2026; and
- Section 207's **reauthorization of the Fisheries Restoration and Irrigation Mitigation Act of 2000**, codified at 16 U.S.C. § 777 n. PL 106-502, through 2027 which has been widely applauded by irrigators for financial assistance in providing fish screens.

TU has one recommendation for improvement of Section 205's Drought Planning and Preparedness for Critically Important Fisheries. TU suggests modification of § 205(b)(2)(E), at page 24, lines 1-4, to strike subsection (E) which suggests expanding hatchery production as a drought response action.

Hatchery fish play a different conservation role, and have different impacts on wild fish, depending on whether hatchery-raised salmon are released in the Columbia River basin or whether hatchery-reared razorbacks or pikeminnow are producing wild progeny in the Colorado River basin. In the Pacific Northwest, hatcheries have played a more controversial role in the effort to save wild salmon and steelhead in the Columbia River basin. Hatcheries have served a stop-gap role to provide salmon fisheries while the dams have been in place, and in a few cases have helped conserve critically endangered stocks, such as Snake River sockeye salmon. Notwithstanding these contributions, hatchery fish are not the same as wild fish, do not represent the unique heritage or evolutionary legacy of wild Pacific salmon, and can contribute to declines in wild populations.

The simplified environment in which they are reared (concrete raceways, pellet food, unnatural crowding, relatively stable temperatures, no floods or drought, no predators) causes rapid domestication. The effects are so strong that even the best hatchery practices, such as

taking all or a high proportion of wild fish for broodstock, can't produce the genetic and life history diversity found in wild populations.

For example, conservation hatcheries attempting to rebuild Chinook salmon populations accelerate growth and migration in hatchery-raised fish. This results in a much higher proportion of small jack males than in wild populations, reducing their overall life history portfolio. Hatchery adults also tend to have less fat, a major indicator of condition, than their wild counterparts. Further, even if only wild fish are used for the hatchery, broodstock fish are still biologically different from wild fish. A recent study reared wild juvenile steelhead in a hatchery and found that they showed changes in gene expression at over 700 genes, after only one generation. For these reasons, and others, hatchery fish don't survive as well in nature as wild fish. Even when tens of millions of fish are released, their simplified life histories and maladapted behaviors make them prone to more prominent swings in abundance than we see in wild salmon and steelhead. Wild salmon and steelhead consistently survive at higher rates than hatchery fish.

In addition, hatchery salmon compete with wild salmon for food, space, mates, and breeding grounds, and because they are released in abnormally large groups over a very short period of time – which contrasts with wild fish that school in smaller groups and emigrate to the ocean over a much broader period – they also attract predators that prey on wild salmon smolts. Wild salmon mating with hatchery fish reduces the genetic variability of wild fish essential to adaptation to drought conditions. Although in some cases hatcheries can boost abundance and stave off extinction temporarily, hatchery fish do not solve the fundamental factors leading to declines in the Columbia River system. Broad scientific evidence indicates hatchery fish pose a significant threat to wild salmon and steelhead and releasing more hatchery smolts could only further those negative effects. Because of these dramatic differences between impacts of hatchery fish in different river basins, TU recommends striking subsection (E) of § 205(b)(2), as outlined above.

Conclusion

TU applauds the proactive approach of S. 2718 and S. 4189. Both bills invest in forward-looking actions to prepare for drought in the West. TU looks forward to working with you, your staff, and other Members to refine and move this important legislation forward. Please don't hesitate to contact me at laura.ziemer@tu.org or (406) 599-2606, or Steve Moyer at steve.moyer@tu.org or (571) 274-0593 if we can be of service in this regard, or, provide any additional clarification or suggestions.

Yours truly,

Laura Ziemer
Senior Counsel & Water Policy Advisor

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