WATER ABUNDANCE: OPPORTUNITIES AND CHALLENGES IN CALIFORNIA

OVERSIGHT FIELD HEARING

BEFORE THE

SUBCOMMITTEE ON WATER, WILDLIFE AND FISHERIES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED EIGHTEENTH CONGRESS

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To: Subcommittee on Water, Wildlife and Fisheries Republican Members

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Date: Friday, September 6, 2024

Subject: Oversight Hearing on "Water Abundance: Opportunities and Challenges in California"

The Subcommittee on Water, Wildlife and Fisheries will hold an oversight hearing on "Water Abundance: Opportunities and Challenges in California" on **Friday, September 6, 2024, at 10:30 a.m. (PDT) at Hotel Mission de Oro in Santa Nella, CA**.

Member offices are requested to notify Sophia Varnasidis (Sophia.Varnasidis @mail.house.gov) by 4:30 p.m. on Thursday, September 5, 2024, if their Member intends to participate in the hearing.

I. KEY MESSAGES

- California's Central Valley is one of the largest agriculture producers in the United States, producing one-quarter of the food consumed in the nation, and is home to more than 300 different crops.
- A year after Central Valley communities were experiencing widespread flooding due to historic precipitation, those same communities began the 2024 water year with a paltry 15 percent water allocation for California's south-of-delta farmers.
- The Central Valley Project was built to protect farmers from water shortages and floods. Yet, current management has moved away from its primary purpose using the system instead to mitigate impacts beyond the scope of the project's purposes. This has led to unreliable water supplies even during average water years.
- This field hearing will explore the opportunities and challenges of providing water reliability and abundance in California.

II. WITNESSES

- **The Honorable Richard Spinrad**, Under Secretary of Commerce for Oceans and Atmosphere & NOAA Administrator, Department of Commerce, Washington, DC [invited]
- **The Honorable Camille Calimlim Touton**, Commissioner, Bureau of Reclamation, Department of the Interior, Washington, DC [invited]
- **The Honorable Martha Williams**, Director, U.S. Fish and Wildlife Service, Department of the Interior, Washington, DC [invited]
- **Mr. Jason Phillips**, Chief Executive Officer, Friant Water Authority, Lindsay, CA

- **Ms. Allison Febbo**, General Manager, Westlands Water District, Fresno, CA
- **Mr. Josh Weimer**, Director of External Affairs, Turlock Irrigation District, Turlock, CA
- **Mr. William Bourdeau**, Founder and CEO, Bourdeau Farms LLC, Coalinga, CA
- **Ms. Ronda Lucas**, Attorney, Lucas Law, Hilmar, CA
- **Mr. John Herrick**, General Counsel and Manager, South Delta Water Agency, Lodi, CA

III. BACKGROUND

California's Central Valley

California's Central Valley is divided into three basins: the Sacramento Valley, the San Joaquin Valley, and the Tulare Lake Basin. The mean annual inflow to the Sacramento and San Joaquin valleys is approximately 23.1 million acre-feet (AF).[1,2] However, annual flows have ranged from a low of 6.2 million AF in 1977 to a high of 52.7 million AF in 1983.[3] In the Tulare Lake Basin, the Kings, Kaweah, Tule, and Kern Rivers have a combined mean annual runoff of approximately two million AF.[4]

The Central Valley is one of the greatest agriculture producers in the United States, producing one-quarter of the food consumed in the nation, and is home to more than 300 different crops.[5] The region faces many challenges that impact its water resources, which has significant implications for American agriculture. These include 'boom or bust' water cycles and system operational volatility through continuous and shifting Endangered Species Act (ESA) consultations. Long-term uncertainty impacts the Central Valley's workforce, the broader agriculture sector, and the national economy. The volatility in the region's water supply contributes to food price volatility, with price fluctuations month-to-month impacting inflation indicators such as the Consumer Price Index (CPI). The latest CPI data from the Bureau of Labor Statistics (BLS) found that overall CPI increased 2.9 percent from July 2023 to July 2024, with food prices increasing 2.2 percent.[6] Price increases have persisted over several years, the BLS found that food prices increased 11.4 percent from August 2021 to August 2022, the largest annual increase since May of 1979.[7] The link between food prices and broader economic trends like inflation and interest rates only further highlights the importance of ensuring a reliable water supply, which underpins the future of agriculture in the Central Valley and its importance to the United States economy.

Central Valley Project

Operated by the Bureau of Reclamation (Reclamation), the Central Valley Project (CVP) is one of the largest federal water projects in the United States. The CVP manages water resources throughout the Central Valley to support agriculture, provide flood control, and ensure adequate water supply for urban and industrial uses. The CVP covers a geographic area spanning roughly 400 miles from Redding, California, to the north and Bakersfield to the south.[8] The system contains 20 dams, reservoirs, and pumping stations capable of holding roughly 12 million AF of water.[9] The largest of these facilities being Shasta Dam, which has a storage capacity of 4.552 million AF.[10]

The CVP also includes numerous water conveyance facilities, the longest of which are the Delta Mendota Canal (which runs for 117 miles from the federally operated

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[1] USBR, *Sacramento and San Joaquin Rivers Basin Study*, March 2016. https://www.usbr.gov/watersmart/bsp/docs/finalreport/sacramento-sj/Sacramento_SanJoaquin_SUMMARY.pdf

[2] An acre foot of water is equivalent to 326,000 gallons, or enough to cover a football field with water one foot deep.

[3] USBR, *Sacramento and San Joaquin Rivers Basin Study*, March 2016. https://www.usbr.gov/watersmart/bsp/docs/finalreport/sacramento-sj/Sacramento_SanJoaquin_SUMMARY.pdf

[4] *Id.*

[5] Fruit Growers Supply, How the Central Valley Feeds the Nation. January 19, 2023. https://fruitgrowers.com/how-the-central-valley-feeds-the-nation/

[6] Bureau of Labor Statistics. Consumer Price Index Summary. August 14, 2024. https://www.bls.gov/news.release/cpi.nr0.htm

[7] Bureau of Labor Statistics. News Release, Consumer Price Index—August 2022. September 13, 2022. https://www.bls.gov/news.release/archives/cpi_09132022.pdf

[8] USBR, About the Central Valley Project, August 2022. https://www.usbr.gov/mp/cvp/about-cvp.html

[9] USBR, Central Valley Project, April 2024. https://www.usbr.gov/mp/cvp/index.html

[10] *Id.*

Bill Jones pumping plant in the Bay-Delta to the San Joaquin River near Madera) and the Friant-Kern Canal (which runs 152 miles from Friant Dam to the Kern River near Bakersfield).

Based on CVP water contracts, the project can deliver up to 9.5 million AF. However, actual deliveries are often much lower, averaging 5 million AF of water to farms, 600,000 AF to municipal and industrial users, 410,000 AF to wildlife refuges, and 800,000 AF for other fish and wildlife needs, among other purposes.[11]

State Water Project

The State Water Project (SWP) is a separate major project owned and operated by the California Department of Water Resources (DWR). The SWP delivers about 70 percent of its water to urban users, including water for approximately 25 million users in the San Francisco Bay Area, Central Valley, and Southern California; the remaining 30 percent is used for irrigation. The SWP draws water from many of the same sources as the CVP, which requires both the SWP and CVP to coordinate their operations. To achieve this, California maintained a consistency determination that deemed the federal ESA regulations covering operations of the CVP satisfied the California Endangered Species Act (CESA) for the purposes of SWP operations by DWR.

Challenges: Decline in Water Supply Reliability

Providing adequate water for multiple uses in the Central Valley remains challenging due to increasing federal and state regulations and inadequate infrastructure, further exacerbated by highly variable water supplies in the form of precipitation and snowpack. While the CVP was built to protect farmers from water shortages and floods, the project's management has moved away from its primary purpose to mitigate for impacts beyond the project's scope. This has led to unreliable water supplies even during average water years.

The CVP's operations have been subject to controversies and litigation, especially over the ESA. The CVP is subject to biological opinions (BiOps) issued by the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (FWS) over ESA-listed species. The intent of a BiOp is to ensure the project does not reduce the likelihood of survival and recovery of an ESA-listed species. In March 2020, following the issuance of the Record of Decision for the updated CVP BiOps, California abandoned its consistency determination. It issued an Incidental Take Permit (ITP) for SWP operations under the CESA.[12] This action established dual regulatory frameworks for the CVP and SWP, and imposed explicit operational requirements for the SWP that are separate from the federal requirements.[13]

Water allocations in recent years have encapsulated the 'boom or bust' cycle of California water. Even after a record-setting winter of 2023 left reservoirs with 8.17 million AF of water in storage—more than double the previous year.[14]—the 2024 initial water allocations for South-of-Delta agricultural contractors were just 15 percent of their maximum allocation.[15] This is a stark contrast from 2023, when the year began with 3.6 million AF of water in storage, one of the lowest starting points in recent years, yet initial allocations were 35 percent.[16] In the previous two years, 2022 and 2021, water allocations for South-of-Delta agricultural contractors were 0 percent.[17] Combined with other water requirements under the Central Valley Project Improvement Act (CVPIA, P.L. 102-575), the State of California's water quality standards and the lack of integrated new water storage, the CVP and the SWP's operations have changed dramatically over the last forty years and are heavily litigated.[18]

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[11] USBR, Central Valley Project, Water Quantities for Delivery 2023. https://www.usbr.gov/mp/cvp-water/docs/cvp-water-quantities-for-delivery-2023.pdf

[12] CDWR "CDFW Issues Permit to DWR for Long-Term Operations of the State Water Project", March 31, 2020. https://water.ca.gov/News/News-Releases/2020/March-20/CDFW-Issues-Permit-to-DWR-for-Long-Term-Operations

[13] CDWR, "DWR Moves to Strengthen Protections for Fish, Improve Real-Time Management of State Water Project" November 21, 2019. https://water.ca.gov/News/News-Releases/2019/November/Long-Term-Operations-of-State-Water-Project

[14] USBR, *Record-setting winter leaves Central Valley Project well-positioned at start of 2024 water year*, October 3, 2023. https://www.usbr.gov/newsroom/news-release/4649

[15] USBR, Central Valley Project, Summary of Water Supply Allocations. https://www.usbr.gov/mp/cvo/vungvari/water_allocations_historical.pdf

[16] *Supra* at 15.

[17] *Supra* at 12.

[18] CRS, *Central Valley Project: Issues and Legislation*, June 26, 2024. https://crsreports.congress.gov/product/pdf/R/R45342

Regulatory Impacts: Federal Actions

Endangered Species Act Implementation: In February 2021, the Biden-Harris administration initiated a review of the BiOps for the CVP and SWP that the FWS and the NMFS issued during the Trump administration.[19] On September 30, 2021, Reclamation restarted the ESA consultation process for the operations of the CVP.[20] Shortly thereafter, in a litigation joint status report to the courts, the Biden-Harris administration and the State of California submitted an interim operations plan (IOP) for the 2021–2022 water year, while the reinitiated consultation continued at the federal level.[21] Under the IOP, the Biden-Harris administration would complete a new set of biological opinions to oversee the CVP. It also included changes to the Shasta Reservoir's operations to provide temperature control downstream of the reservoir, new spring outflow requirements, and changes to CVP water exports.[22]

The IOP raised concerns with several parties who noted that they had requested, but had not received, modeling and other technical information underlying the IOP. On October 20, 2021, a federal district court granted the request to implement the IOP and stay the litigation. Since then, the court has issued a revised IOP. In December 2023, the federal and state parties requested that the court extend the IOP again, with certain adjustments from the IOP Extension, until either December 20, 2024, or until the new record of decision (ROD) is issued—whichever comes first.

Combined NMFS/USFWS LTO Biological Opinion Schedule
Subject to change

Milestone	NMFS Completion Date	FWS Completion Date	Note
WIIN Act Coordination Meeting #1	April 29, 2024		Describe BiOp schedule and status update
WIIN Act Coordination Meeting #2	July 4th week	June 24th week	Overview of draft BiOp structure for WIIN review
Draft BiOp	July 26, 2024	June 28, 2024	First draft for Peer/WIIN/Stakeholder Review
WIIN Act Review	August 12, 2024	July 15, 2024	2 week WIIN act review
Peer Review	August 30, 2024	July 29, 2024	1 month Independent Peer Review
WIIN Act Coordination Meeting #3	3rd week of August		Post Review Meeting with PWAs
Final Biological Opinion	December 6, 2024	October 15, 2024	Finalize and Rollout. Assumes No J/Adverse Mod

Figure 1 Bureau of Reclamation BiOp Timeline | Source: Politico

National Environmental Policy Act: On July 26, 2024, Reclamation released its Long-Term Operation of the Central Valley Project and State Water Project Draft Environmental Impact Statement.[23] The draft document includes four proposed alternatives to the no-action alternative that would establish different objectives for storage, release, and diversion of water. The alternatives would lead to varying levels of downstream flow, water supply, and power generation depending on water-year type and season. Reclamation's preferred alternative has been characterized as providing "less water [to farms and communities] as agencies store more water in Shasta Reservoir as temperature control for fish."[24]

Regulatory Impacts: State Actions

California sets water quality standards and issues permits for the discharge of pollutants in compliance with the federal Clean Water Act (CWA) enacted in 1972. Through the Porter-Cologne Act (a state law), California implements federal CWA

[19] USBR, *California Republican Delegation Urges Biden Administration to Ensure Continued California Water Supply*, February 21, 2021. https://valadao.house.gov/news/documentsingle.aspx?DocumentID=69

[20] USBR, Letter to USFWS and NMFS re-initiating Section 7 Consultation under ESA, September 30, 2021. https://www.usbr.gov/mp/bdo/lto/ltr-reinitiation-2021-09-30.pdf

[21] October 14, 2021, Joint Status Report, Pac. Coast Fed'n of Fishermen's Ass'n v. Raimondo, No. 1:20-cv-00431, at 1-2 (E.D. Cal. Oct. 14, 2021).

[22] *Id.*

[23] USBR, Reclamation seeks comments on proposed changes to Central Valley Project operation, July 26, 2024. https://www.usbr.gov/newsroom/news-release/4915

[24] Souza, Christine. "Water operations long-term plan could limit supply" Ag Alert. August 7, 2024. https://www.agalert.com/california-ag-news/archives/august-7-2024/water-operations-long-term-plan-could-limit-supply/.

requirements and authorizes the State Water Resources Control Board (State Water Board) to adopt water quality control plans, or basin plans.[25] The CVP and the SWP affect water quality in the Bay Delta depending on how much freshwater the projects release into the area as "unimpaired flows," affecting area salinity levels in the Bady Delta.

The first Water Quality Control Plan for the Bay-Delta (Bay-Delta Plan) was issued by the State Water Board in 1978. Since then, the plan has had three substantive updates—in 1991, 1995, and 2006. The plans have generally required the SWP and CVP to meet specific water quality and flow objectives in the Delta to maintain desired salinity levels for in-Delta diversions. These objectives often affect the amount and timing of water available to be pumped or exported from the Delta, thus at times reducing Delta exports to CVP and SWP water users south of the Delta. The Bay-Delta Plan is currently implemented through the State Water Board's Decision 1641 (or D-1641). Issued in 1999, D-1641 placed responsibility for plan implementation on the state's largest two water rights holders, Reclamation and the California Department of Water Resources (DWR).[26] Pumping restrictions to meet state-set water quality levels—particularly to address increases in salinity levels—can be significant.

Updates to the 2006 Bay-Delta Plan are carried out in two processes: one for the San Joaquin River and Southern Delta, and the other for the Sacramento River and tributaries north of the Delta. In December 2018, the State Water Board adopted amendments to the 2006 Bay-Delta Plan that established flow objectives and revised salinity objectives for the Lower San Joaquin River and Southern Delta.[27]

The San Joaquin portion of the amendments to the Bay-Delta Plan requires additional flows to the ocean from the San Joaquin River and its tributaries. Under the proposal, the unimpaired flow requirement for the San Joaquin River is approximately 40 percent (within a range of 30–50 percent); average unimpaired flows currently range from 21 to 40 percent.[28] The state estimates that the amendments would reduce water available for human use from the San Joaquin River and its tributaries by 7 to 23 percent, depending on the water year type, and could reduce water supplies by as much as 38 percent during critically dry years.[29] The state is also updating flow requirements on the Sacramento River and its tributaries, but a detailed plan has yet to be finalized. The conditions in the Bay-Delta Plan Update would be implemented through water rights conditions imposed by the State Water Board.

According to the state, the Bay-Delta Plan Update establishes a "starting point" for increased river flows but also makes allowances for reduced flow requirements on tributaries where stakeholders have reached so-called "voluntary agreements" to pursue both flow and non-flow measures, such as habitat restoration projects and funding.[30] Negotiations to finalize these agreements have been ongoing and involve the state and federal governments and numerous stakeholders. According to the State Water Board, if water users do not enter "voluntary agreements" to implement the plan update, the board could eventually require their implementation, such as promulgating regulations and conditioning of water rights.[31]

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[25] Cal. Water Code § 13160.

[26] California Environmental Protection Agency, State Water Resources Control Board, "Revised Water Right Decision 1641," March 15, 2000, https://www.waterboards.ca.gov/waterrights/board_decisions/adopted_orders/decisions/d1600_d1649/wrd1641_1999dec29.pdf

[27] California State Water Board, Adoption of Amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary and Final Substitute Environmental Document, Resolution No. 2018-0059, December 12, 2018. https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/2018_sed/

[28] California Water Boards, "State Water Board Seeks Public Comment on Final Draft Bay-Delta Plan Update for the Lower San Joaquin River and Southern Delta," July 6, 2018, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/Bay-Delta_Plan_Update_Press_Release.pdf

[29] California Water Boards, "Summary of Proposed Amendments to the Bay-Delta Water Quality Control Plan," July 6, 2018, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/sed/lsjr_sdwq_summary_070618.pdf.

[30] California Water Boards, "State Water Board Adopts Bay-Delta Plan Update," press release, December 12, 2018, https://www.waterboards.ca.gov/press_room/press_releases/2018/pr121218_bay-delta_plan_update.pdf.

[31] California Water Boards, "July 2018 Framework."

Reclamation and its contractors would likely play critical roles in implementing any update to the Bay-Delta Plan, as they do in implementing the current Bay-Delta Plan under D-1641. However, the proposed Bay-Delta Plan Update has generated controversy. In a July 2018 letter to the State Water Board, the Commissioner of Reclamation opposed the Board's amendments to the standards for the San Joaquin River, arguing that meeting them would necessitate decreased water in storage at New Melones Reservoir of approximately 315,000 AF per year (a higher amount than what was estimated by the State Water Board). At the time, Reclamation asserted that such a change would contradict the CVP prioritization scheme established by Congress.[32] Reclamation also noted that these changes "will likely result in diminished power generation and recreational opportunities at New Melones, as well."[33]

Sedimentation

A 2016 report by the DWR states that sediment can be positive in some instances and harmful in others. The reports states that excessive sediment buildup in rivers and streams can lead to negative environmental impacts, including "degraded wildlife habitat . . . impaired fish spawning substrates, reduced survival of juvenile fish, and smothered bottom dwelling plants and animals."[34] Excessive sedimentation can also lead to "reduced hydraulic capacity of stream and flood channels, causing an increase in flood crests and flood damage"[35] and "decreased useful lifetime of a reservoir, as a result of reduced storage capacity."[36]

Opportunities to Improve Access to Water Resources in California

Infrastructure

California does not have enough storage capacity to capture water during big storm events and keep it for future use. As such, Congress enacted the Water Infrastructure Improvements for the Nation (WIIN) Act (P.L. 114-322) which included several CVP-related sections and authorized funding for construction of new federal and nonfederal water storage projects. These projects include:

Sites Reservoir Storage Project: Sites Reservoir, a proposed off-stream storage facility northwest of Sacramento, California, could improve California's water storage capabilities. The project's origins date back to the 1960s, but it is anticipated to be operational around 2030.[37] While this project has had several starts and stops, it has been continuously studied since the early 2000s.[38] The Final Environmental Impact Report/Environmental Impact Statement was released in November 2023.[39] The National Environmental Policy Act (NEPA) requirement to analyze project alternatives has been a leading factor delaying this project. Under NEPA, Reclamation and the State of California investigated 52 different project alternatives for Sites Reservoir.[40] According to the Sites Project Authority, had the project been constructed before the 2023 atmospheric rivers "Sites Reservoir could have diverted and captured 250,000 acre-feet of water as a result of the January

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[32] Letter from Brenda Burman, Commissioner, Bureau of Reclamation, DOI, to Felicia Marcus, Chair, State Water Resources Control Board, July 27, 2018, https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments_lsjr_finalsed/Brenda_Burman_BOR.pdf.

[33] *Id.*

[34] CDWR. *A Resource Management Strategy of the California Water Plan*. July 29, 2016. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/California-Water-Plan/Docs/RMS/2016/25_Sediment_Mgt_July2016.pdf

[35] *Id.*

[36] *Id.*

[37] In the 1960s, Reclamation evaluated construction of a 1.2 million-acre-foot Sites Reservoir. California Department of Water Resources (DWR). Bulletin 76-81: State Water Project—Status of Water Conservation and Water Supply Augmentation Plans. 1981. https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments102612/desjardins/bulletin76-81.pdf

[38] DWR received authorization to study Sites Reservoir in 1996 under State of California Proposition 204, The Safe, Clean, Reliable Water Supply Act. The Bureau of Reclamation was authorized by Congress through the California Bay-Delta Program (CALFED, Public Law 108-361, Water Supply, Reliability, and Environmental Improvement Act).

[39] Sites Reservoir Environmental Review, 2023–2024 Sites Reservoir Test Pits, Fault Studies, and Quarry Studies. https://sitesproject.org/environmental-review/

[40] Testimony of Thad Bettner, General Manager, Glenn-Colusa Irrigation District before the Natural Resources Committee, February 7, 2012. https://www.govinfo.gov/content/pkg/CHRG-112hhrg72805/pdf/CHRG-112hhrg72805.pdf

storms if the reservoir was operational, and an additional potential 244,000 acre-feet of water as a result of the February-March storms."[41]

B.F. Sisk Dam Raise and Reservoir Expansion: The B.F. Sisk Dam in Merced County, California, is the largest off-stream water storage facility in the United States and can hold up to 2 million AF of water at capacity.[42] The dam was completed in 1967 as a component of the CVP.[43] In August 2020, Reclamation provided Congress with the B.F. Sisk Dam Safety of Dams Modification Report in an effort to alleviate water supply challenges during dry years and as part of the Safety of Dams program.[44] The report addressed two major concerns: upgrading the structure's stability in case of a seismic event and raising the dam's crest by 10 feet to increase the reservoir's maximum storage capacity.[45] Reclamation anticipates that the total cost of this project will be $1.1 billion (2021 price level) and that it will be completed in 2032. Upon completion, the reservoir will be capable of storing an additional 130,000 AF of water.[46]

Shasta Dam and Reservoir Enlargement Project: Under the Trump administration, Reclamation released its Final Supplemental Environmental Impact Statement on raising Shasta Dam by 18.5 feet. This would have provided an additional 634,000 AF of stored water to increase anadromous (salmon) fish survival and water supply reliability while providing for flood control, water quality, hydropower generation, and recreation opportunities.[47] This project has faced repeated opposition by Democratic Members of Congress[48] and has been ignored by the Biden-Harris administration.

Los Vaqueros Reservoir Phase 2 Expansion: The proposed expansion of Los Vaqueros Reservoir would increase the reservoir's capacity up to 275,000 AF from 160,000 AF. In 2020, Reclamation found the expansion project to be feasible.[49] However, the Biden-Harris administration has yet to finalize the Record of Decision for this project, as many of the necessary permits are incomplete.

Other Infrastructure

Folsom South Canal Extension Project: The Folsom South Canal was planned to be constructed in five reaches for a total length of 68.8 miles. However, only the first two reaches have ever been built, with a total length of 26.7 miles. The canal originates at Nimbus Dam, on the American River, in Sacramento County, and extends southward. As originally planned, it would terminate about 20 miles southeast of the city of Stockton. This concrete-lined canal has a capacity of 3,500 cubic feet per second for the first two reaches. There are ongoing preliminary discussions regarding a potential Folsom South Canal Extension Project that would extend the canal from its current terminus near Clay Station to the Delta region. Reclamation has not yet conducted any appraisal or feasibility studies.

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[41] Sites, Press Release: *New Analysis Finds 2023 Storms Would Have Yielded Water for Up to 2.4 Million People, Farms, and Businesses if Sites Reservoir Were Operational Today*, March 16, 2023. https://sitesproject.org/wp-content/uploads/2023/03/Sites-News-Release_March-Storm-Diversion-Data_FINAL-3.16.2023.pdf

[42] California Great-Basin. Bureau of Reclamation. 10/5/2023. https://usbr.gov/mp/sod/projects/sisk/index.html

[43] *Id*.

[44] USBR, B.F. Sisk Dam Safety of Dams Modification Report, December 2019. https://www.usbr.gov/mp/sod/projects/sisk/docs/sisk-mod-summary.pdf

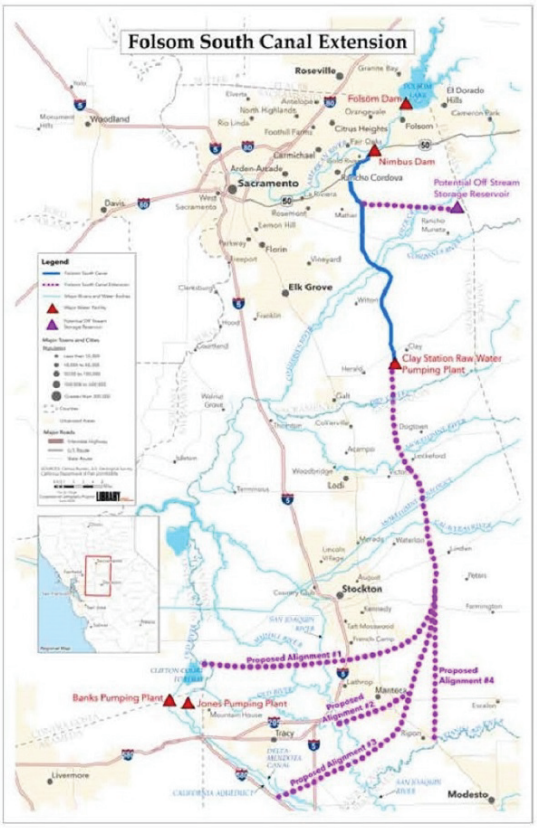
[45] *Id*.

[46] *Biden-Harris Administration and San Luis & Delta-Mendota Water Authority Approve Plan for B.F. Sisk Dam Project, Advancing Water Supply Reliability and Public Safety in California's Central Valley*. Department of the Interior. 10/20/2023. https://www.doi.gov/pressreleases/biden-harris-administration-and-san-luis-delta-mendota-water-authority-approve-plan-bf

[47] USBR, Final Supplemental Environmental Impact Statement, *Shasta Lake Water Resources Investigation*. https://www.usbr.gov/mp/nepa/includes/documentShow.php?Doc_ID=47404

[48] Los Angeles Times. White House pushes for dam project at odds over Shasta Dam. https://enewspaper.latimes.com/infinity/article_share.aspx?guid=1e05c229-bb1f-4c50-b235-ee2de459f017

[49] USBR, Reclamation and Contra Costa Water District advance plan to increase water reliability, February 28, 2020. https://www.usbr.gov/newsroom/newsroomold/newsrelease/detail.cfm?RecordID=69643



Congressional Work

In July 2024, the Committee on Natural Resources held a hearing on a Discussion Draft of the "ESA Amendments Act of 2024." This legislation would reauthorize and amend the ESA by incentivizing recovery, providing regulatory clarity, and rolling back red tape put in place by the Biden-Harris administration. This bill contains several reforms that are critical to the future of the Central Valley Project, including providing a consistent definition of environmental baseline and ensuring the Services (FWS and NMFS) do not force project proponents (water users in the case of the CVP) to mitigate the impact of projects on listed species through the ESA Section 7 process. More information on the Discussion Draft and the hearing can be seen here.

The Committee has also passed H.R. 7408, the "America's Wildlife Habitat Conservation Act (AWHCA)," which contains essential reforms to the ESA and investments in state wildlife conservation programs. Specifically, the bill would authorize $320 million in funding to state and tribal wildlife agencies to conserve habitat for at-risk species. In addition, the AWHCA would protect private landowners investing in species conservation from punitive critical habitat designations and give states more significant regulatory opportunities to manage listed species. This two-pronged approach provides the resources and regulatory incentives for states and private landowners to invest in wildlife conservation to conserve habitat and prevent species from being listed. More information on the AWHCA can be seen here.

Additionally, the Committee passed H.R. 215, the WATER for California Act, which would amend and extend the WIIN Act's CVP operational authorities through 2033 and require that Reclamation operate the project pursuant to the 2019 BiOps.

The bill would also reauthorize the WIIN Act's storage authorities through the end of 2028 (most of these authorities expired in late 2021).

Harnessing New Technology: Snowpack Measurements

Snowpack plays a vital role in keeping California's reservoirs full. Winter and spring snowpack typically melt gradually throughout the year, flowing into and refilling reservoirs. During most years, the maximum snow-water equivalent[50] (SWE) in the Sierra Nevada denotes the annual peak of surface water resources. SWE is a key index for forecasting stream and river flow timing and amount and for a wide variety of water management decisions. Typically, these measurements are done manually by inserting a tube through the entire depth of the overlaying snow cover. However, new technologies have been developed to provide more accurate measurements.

For example, in 2012, the Turlock Irrigation District (TID) partnered with NASA to fly an airplane with light detection and ranging (LiDAR) technology over its entire watershed, taking millions of points of measurement to give a complete picture of the snowpack. The use of this technology has allowed TID to manage its reservoirs better, saving water from being unnecessarily released due to poor models.

In December 2020, Congress authorized the Snow Water Supply Forecast Program (P.L. 116-260, Sec. 1111) to enhance snow monitoring and subsequent water supply forecasts. Under this program, Reclamation provides cost-share on a competitive basis for a broad range of participants to conduct snow monitoring and water supply forecasting projects.

[50] Snow Water Equivalent is the amount of liquid water equivalent of a volume of snow

OVERSIGHT FIELD HEARING ON WATER ABUNDANCE: OPPORTUNITIES AND CHALLENGES IN CALIFORNIA

Friday, September 6, 2024

U.S. House of Representatives

Subcommittee on Water, Wildlife and Fisheries

Committee on Natural Resources

Santa Nella, California

The Subcommittee met, pursuant to notice, at 10:30 a.m. at the Hotel Mission De Oro, Santa Nella, California, Hon. Cliff Bentz [Chairman of the Subcommittee] presiding.

Present: Representatives Bentz, McClintock, LaMalfa, and Duarte.

Also present: Representatives Fong and Valadao.

Mr. BENTZ. The Subcommittee on Water, Wildlife and Fisheries will come to order.

To begin today's hearing I want to recognize the Los Banos American Legion Post 166 to post the colors, and we will have the Honor Guard leader lead us in the Pledge of Allegiance. Please rise.

[The Pledge of Allegiance was made.]

Mr. BENTZ. Without objection, the Chair is authorized to declare a recess of the Subcommittee at any time.

Good morning, everyone. I want to welcome our witnesses, Members, and our guests in the audience to today's hearing. The Subcommittee is meeting today in Santa Nella, California for an oversight field hearing entitled, "Water Abundance: Opportunities and Challenges in California."

By way of introduction, I am Cliff Bentz, the Chairman of the Subcommittee on Water, Wildlife and Fisheries. I represent the 2nd District of Oregon.

I am grateful to be joined today by several Members who represent this region. Therefore, I ask unanimous consent that the gentlemen from California, Mr. Valadao and Mr. Fong, be allowed to participate in today's hearing.

Without objection, so ordered.

I also ask unanimous consent that all other Members' opening statements be made part of the hearing record if they are submitted in accordance with Committee Rule 3(o).

Without objection, so ordered.

Thank you, and again welcome. I will now recognize myself for an opening statement.

STATEMENT OF THE HON. CLIFF BENTZ, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. BENTZ. I want to begin by thanking Congressman Duarte, Congressman Valadao, and the WWF staff for their work in arranging and structuring this hearing, and the House recording studio for their excellent work in setting up our sound and communications systems.

And just so you know, those of you who want to let your neighbors or friends know by texting how to watch this online, you would go to NaturalResources.House.gov and click on the yellow banner at the top of the webpage. This is being streamed live, as I speak.

I also want to thank the San Luis, Delta-Mendota, and Friant water authorities for providing us with the aerial tour this morning, and thank the pilots for their excellent flying us about. And finally, I want to thank the Hotel Mission De Oro for the hospitality it has shown all of us.

This Congressional Subcommittee is here in California's Central Valley for a number of reasons: first and foremost, to remind everyone in this great United States of the almost unbelievable scale and importance of the farming activities that occur annually in this wonderful valley; second, to describe the unforgivable damage that political, rather than scientific, water management is wreaking upon not only those who take the annual risks to raise our food, but also on those who have to pay ever more for groceries at our grocery stores; third, to call out the incredible and irreplaceable value to all of us of the Central Valley's water delivery, water storage, and water application systems, and infrastructure that has taken close to 150 years and billions upon billions of dollars to construct; and finally, to share concepts and ideas that will solve, rather than make worse, the problems that a warmer climate and ever more demands on our water resources will surely bring upon us.

A quick and certainly not all-inclusive snapshot of what water has allowed this Central Valley to do, we will, of course, hear more about this later today. First, grow 25 percent of our nation's food supply. And much of this 25 percent is the very type of produce that the most progressive of Americans found in every blue state would tell us we should be eating more of every day.

This valley generates $17 billion, at least in agricultural value, each year. It is home to 252 different varieties of crops. It allows at least 35,000 independent businesses, sometimes referred to as "farms," to exist and flourish. It creates 300,000 to 400,000 employment opportunities each and every year. And this water is stored and delivered through an existing infrastructure that does not have to be replaced, but it does have to be maintained.

And I hope that we will hear testimony today that focuses upon the truly dangerous disconnect between our nation and the world's absolute need for food security, on the one hand, and the environmentalists' misguided and foolish goal of returning to a time when there were not 8.2 billion people on this planet, all of whom need to be fed. Just how far back in time do those who want to and do take out things like dams and water away from farmers want all of us to go?

This morning some of us had the opportunity to fly over much of the 20,000 square miles that holds the California Central Valley Project. The tour took 2 hours. We did not see the entire project, but we saw a lot of it. We started near the Friant Dam, went over the New Melones Dam, the Delta pumping facilities, and followed the Delta-Mendota Canal and California Aqueduct over to Del Puerto Canyon Reservoir. Finally, we saw the San Luis Reservoir, just a few minutes from here. What an astounding, astounding collection of infrastructure.

A final point. As you can see, there are three empty chairs. The Committee invited the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the National Oceanic and Atmospheric Administration to testify today. The Biden-Harris administration, however, has chosen not to participate. These are the same agencies that claim there has been an unprecedented display of openness as they push forward new biological opinions for the so-called "coordinated operations" of the CBP and state water project, yet they cannot find the time to participate in a congressional hearing in this wonderful community to discuss these important issues.

It is unacceptable that Federal agencies that manage the operations of this impressive and irreplaceable Federal project, sometimes in ways that negatively impact communities represented right here today, are blatantly ignoring congressional oversight. Nonetheless, it is my hope that the conversations we will have today will highlight the opportunities for the Central Valley and focus on solutions, rather than picking winners or losers in water access or relying on science that only supports a preferred, preordained policy decision.

I want to once again thank our witnesses for being here today, and I look forward to this important discussion.

I will now recognize John Duarte for a statement.

STATEMENT OF THE HON. JOHN DUARTE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. DUARTE. Well, first of all, a good friend in Congress, Chairman Cliff Bentz from up in Oregon, grew up in a cattle ranching family, serves a rural district, is a recovering water attorney himself.

[Laughter.]

Mr. DUARTE. So, I couldn't be happier than to have you here with the hearing today. And my colleagues from throughout the Valley, look at your Central Valley conference. Look who is representing you in Congress today. And I couldn't be happier than to have each one of you here today, side by side, fighting for water, fighting for common sense.

But the implications of this hearing go far beyond the Central Valley. We see the crux of it right here. We see the parched fields. We will hear today about the strained communities, the human health issues of turning our South Valley into a thermal dust bowl. We will hear today about many of the opportunities to correct this. We have projects. We have the South Folsom Canal project we will talk about, a very low impact environmental project that could lead to tremendous relief of our water scarcity.

We are going to talk about dredging. We are going to talk about how we operate our Bureau of Reclamation dams. We wish they were here to talk about it with us, but they are not. So, we are going to have a discussion, regardless. We are going to talk about dredging of the delta, dredging of the rivers.

And then we are going to talk about endangered species accountability. Some high level notes. In the far chart, you can see there we have gone from blue to deep red way down at the bottom there in the far orange bars, and we cannot count an additional salmon, we cannot count an additional smelt, we cannot count any recovery of the target species in the delta or rivers of California.

But nonetheless, we can count up parched, previously irrigated landscapes in our urban areas. We can count up parched farming landscapes throughout the valley here. We can count up the lack of water being delivered to our wetland estuaries and our true biodiversity opportunities here in California across the board. And we can look at our subsiding soils, our subsiding freeways, infrastructure, and canals because we are overdrafting our aquifers, all to not recover the stated species. And we are going to hear about some endangered species outcomes also, as well as improved methods for operating our dams.

This isn't just a Central Valley problem. Water scarcity in California and water scarcity in the arid West, the Bureau of Reclamation was formed in the 1930s to address this, is causing intolerable housing costs throughout the western United States. If you are in Phoenix, if you are in LA, if you are in San Francisco, if you are anywhere in the arid West, west of the Rockies, you are seeing your housing costs go through the roof. Families are suffering higher food costs, higher farming costs.

Now, we can relate this easily. A really wise creator put the largest precipitation bank in the world, the Pacific Ocean, right off the largest watershed in the world. That is the Sierra Nevada mountains. And below it put the largest, most fertile valley in the world with a Mediterranean climate. This should have been the Western Hemisphere's Garden of Eden. And it has been; we flew over a great deal of it today. But it is not doing everything it can do. And only the misguided environmental extremists and the politics of Washington, DC and California could screw up this setting and hurt what it should be helping, with no positive outcomes whatsoever.

So, we are going to take that to task today. But our spirit is one of collective failure. We just pledged the flag. These are all results of our constitutional government. We have been told that agriculture over the years, if we are not at the table, we are on the table. We have to come to the table, make a compromise. We have to help solve these problems. We are a large water user, so the solution lies with us and our cooperation. And we have cooperated on down the steps over there. But we still haven't solved the problems, and we are still being come to for more and more water without any remote accountability of what ends that water taken off of our farms and out of our communities delivers.

So, we are going to have a discussion today about accountability, about policy, and about the impacts not only on the farms, but also throughout our communities and throughout the arid West, where

home prices are too high, power is too expensive, and the loss of jobs is creating an affordability crisis that many families cannot pilot through right now. So, thank you very much again to all of the participants and all of you who took time out of your day today to attend this hearing. These are important issues. There is nothing more important. Every advanced society we talk about in the world, every historic society we talk about in the world found a way to harness its water resources, from Egypt, to the Aztecs, to the Nile River, to America and previously California. So, we are going to get back to that spirit and see if we can improve humanity through common sense. It shouldn't be novel.

Thank you, Mr. Chairman.

Mr. BENTZ. Thank you and thank you for inviting us to your wonderful community.

I will now introduce our witnesses: Mr. Jason Phillips, Chief Executive Officer of the Friant Water Authority; Ms. Allison Febbo, General Manager of Westlands Water district; Ms. Ronda Lucas, attorney for Lucas Law; Mr. William Bourdeau, founder and CEO of Bourdeau Farms; Mr. John Herrick, the General Counsel and Manager of the South Delta Water Agency; and Mr. Josh Weimer, Director of External Affairs of the Turlock Irrigation District.

Let me remind the witnesses that under Committee Rules, you must limit your oral statements to 5 minutes, but your entire statement will appear in the hearing record.

We use timing lights. When you begin, the light will turn green. When you have 1 minute remaining, the light will turn yellow. At the end of 5 minutes, the light will turn red, and I will ask you to please complete your statement.

I will also allow all witnesses to testify before Member questioning.

I now recognize Mr. Phillips for 5 minutes.

STATEMENT OF JASON PHILLIPS, CHIEF EXECUTIVE OFFICER, FRIANT WATER AUTHORITY, LINDSAY, CALIFORNIA

Mr. PHILLIPS. Thank you, Chairman Bentz and members of the Subcommittee. I am Jason Phillips, CEO of the Friant Water Authority.

Friant operates and maintains the Friant-Kern Canal, and advocates on behalf of the Friant Division and East Side communities. Thank you again for holding this timely and important field hearing.

Regulatory decisions and legislative inaction are forcing us towards water scarcity away from water abundance. Starting in the early 1900s, unelected officials began to force change to how water is managed in California, and not for the better. And it just keeps getting worse. These decisions have been taking water away from farms and communities in increasing quantities, yet have made no discernible change to help in the decline of species populations.

I want you to consider this. Unelected officials at regulatory agencies are delegated the responsibility for being the final decision makers on one of the most significant public policy issues we face in the state of California, and that is how to best allocate the state's limited water resources. I will give you a quick example.

The 2019 biological opinion that was done, it was on the bar chart up there toward the far right. Under the Trump administration was the first time in the last three decades that a regulatory change would have improved the reliability of our project. Unfortunately, that 2019 biological opinion was litigated by environmental groups and the state of California. And instead of defending the work that was done, one of the first acts of the current Federal Administration in 2021 was to scrap the work and start over.

The new biological opinion will continue the trend of the past several decades, and take an overly conservative approach to ESA compliance, and further reduce the ability to deliver contract water. All of these reductions in surface water deliveries have a ripple effect through the management of water in the San Joaquin Valley. For example, increased reliance on groundwater overdraft now has exacerbated the impacts to drinking water systems and land subsidence, causing damage to Friant-Kern Canal, the Delta-Mendota Canal, and California Aqueduct, and has compromised their ability to now deliver surface water to where it needs to go.

If a pattern of using environmental regulations to continually reduce or eliminate the ability to deliver contract water doesn't change, we will never really be able to declare the drought over. Even if we get another good winter next year or even a series of good winters, we will not be able to declare the drought over. The time is overdue to have additional congressional oversight, direction, and accountability in how the water system in California is regulated. Taking the approach of conserving our way to sustainability will most certainly create a zero sum game of moving water from agriculture to other demands, and within the next decade it will result in the largest reduction of productive farmland this country has seen in more than a generation.

Legislative changes, including to the Endangered Species Act, are desperately needed. Any future reallocations of water resources to meet environmental goals must be approved by elected members that the public elects to represent them.

Infrastructure solutions are also important. I want to address that. Investments to improve and develop new infrastructure are also essential. For example, restoring the Friant-Kern Canal and Delta-Mendota Canal in California. Aqueduct capacities are essential to be able to deliver our project water. We talk a lot about additional surface water and groundwater storage, and it must remain a priority, no doubt.

But to be clear, without regulatory reform to stop the uncontrolled, unending taking of California's water supplies and pursuit of the proven failed approach to recover endangered species, there is no amount of new infrastructure, recycling efficiency, or any other form of water supply development that can bring us to a place of abundance. It is literally impossible. Without this reform, the only plausible outcome will be a level of farmland retirement in the next decade that we have not seen in our lifetimes.

So, to conclude, we stand prepared to work with the Subcommittee and the Federal and state administrations to put common sense back into the equation regarding the effective management of our water resources. I believe Friant is particularly well

positioned to provide technical, policy, and legal input to decision makers at all levels of our government.

And I want to again thank the Subcommittee for traveling to the Valley to hold this critical hearing and for the opportunity to testify. And I look forward to working with you all soon. Thank you.

[The prepared statement of Mr. Phillips follows:]

PREPARED STATEMENT OF JASON PHILLIPS, CHIEF EXECUTIVE OFFICER, FRIANT WATER AUTHORITY

Chairman Bentz and Members of the Subcommittee:

My name is Jason Phillips, and I am the Chief Executive Officer of the Friant Water Authority in California's San Joaquin Valley. The Friant Water Authority (Authority or Friant) is a public agency formed under California law in part to operate and maintain the Friant-Kern Canal, a component of the Central Valley Project (CVP) owned by the Bureau of Reclamation (Reclamation). In addition to that responsibility, the Authority also advocates on behalf of the Friant Division and eastside communities for sound public policy on water management and operations.

Thank you for holding this timely and important field hearing and for the opportunity to appear before the subcommittee today. The title of this hearing couldn't be more apt. Year after year, regulatory decisions and legislative inaction in California are forcing us toward water scarcity over water abundance. This was again demonstrated recently when, after a devastating years-long drought, we had two wet winters that caused flooding in many parts of the San Joaquin Valley. This wet cycle should have ensured water abundance for our farms and communities regardless of what the next years bring us. But instead, many south of the Delta water users will only receive 50% of their supplies this year and we know one dry year will result in worse cuts for many. The inability to capitalize on our wet years to carry us through inevitable dry years, as our systems were designed, is a result of overly conservative and ineffective restrictions and regulations, along with decades of resistance to building new storage and other infrastructure in our state.

I look forward to the discussion about how to reverse this trend.

Background on the Friant Division

The 152-mile-long Friant-Kern Canal and the 36-mile-long Madera Canal, together with Friant Dam and Millerton Lake on the San Joaquin River, form the Friant Division of the Central Valley Project. On average, the canals deliver 1.2 million acre-feet of irrigation water annually to more than 15,000 farms on over one million acres of the most productive farmland in the world. Friant Division deliveries also are vital to meeting the domestic water needs of many small communities in the San Joaquin Valley, as well as larger metropolitan areas, including the City of Fresno—California's fifth-largest city.

The Friant Division was designed and is operated as a conjunctive use project to convey surface water for direct beneficial uses, such as irrigation and municipal supplies, and to recharge groundwater basins in the southern San Joaquin Valley. The ability to move significant water through the Friant Division's canals in wetter years to store in groundwater recharge basins is critically important for the project to work as intended, and these operations sustain the primary source of drinking water for nearly all cities, towns, and rural communities on the Valley's East side.

What is at Stake

Working on a daily basis with the over 15,000 family farms and growers in the Friant Division, the simple reality is that operating a farm and growing food for our nation continues to be more and more difficult every year. While there are many contributing factors that add to the complexity of feeding America, the sad truth is that some of these—like a reliable water supply—are factors we can control. Yet for reasons I can't fully fathom, many elected officials and policy makers choose to stand in the way.

We must continue to focus on the critical importance of maintaining our country's food security and locally sourced foods. The multiple-year drought we have faced here in California and in many parts of the West—coupled with other domestic and global developments—has already affected the availability and price of food for many Americans. Rising food prices and global hunger are linked to the war across parts of the world, extreme climate events like the Western U.S. drought, and other global stressors.

Managing water for multiple benefits has long been a top goal for water managers across the West. For many years, a primary purpose of Bureau of Reclamation projects was to capture mountain snowmelt, store it, and distribute it during the long, dry summer months of the West, primarily to irrigated lands that produced food and fiber. Generations ago, our leaders had the wisdom and vision to plan, design and construct a water delivery system meant to level out the variability in California's hydrology by capturing and storing water in the wet years for use in the dry years. And for many years, this system worked. But over the past few decades, due to decisions to prevent the ability of the system to function as designed, our world-class water system is now failing us.

Decades of Decisions that Reduce Abundance

Over the past 30 years, unelected and largely unaccountable State and federal regulatory agencies have taken a flawed approach to implementing existing environmental laws. The result is ever increasing requirements on our water projects that have redirected water away from the Valley in an attempt to aid a subset of fish populations dependent on the Sacramento-San Joaquin River Delta (Delta) that are struggling.

The hydrology in the Central Valley of California has always experienced extended periods of both very wet years and severe drought years. For most of the past century, the state and federal water projects, the State Water Project (SWP) and CVP respectively, were operated in a sensible and responsible manner that would ensure 100% deliveries of contracted supplies even through extended drought periods. Even following the passage of the federal and state Endangered Species Acts (ESA) and the Central Valley Project Improvement Act (CVPIA), communities and industries who rely on the SWP and CVP could expect a water supply allocation sufficient to ensure safe drinking water and irrigation needs. But that is not the case anymore. The same projects that could deliver 100% supplies every year, can no longer do that even in years with plenty of rain and snow, meaning that the average has become severe cuts to water supply the cities and farms depend on.

Starting in the early 1990's, the interpretation of state and federal laws, regulations, lawsuits, and decisions by unelected officials, began to force change to how water is managed in California, and not for the better. As each year has passed, these changes have only gotten worse. This is not hyperbole and is the reason why you often hear the term or see billboards or social media posts deriding the "man-made drought". The result is broken system that is not working for people or species and, as discussed further below, is causing cascading impacts to San Joaquin Valley communities.

Even in years with incredible hydrology, like those we have been blessed with over the last two years, a lack of new or expanded water storage facilities results in excess water released to the ocean, often causing floods and wreaking havoc on our communities, bridges and roads on its way. Making matters worse, a significant portion of the water that we do store in reservoirs in wet years is forced to be released to comply with operating requirements not specifically required by law. Had we collectively taken the bold steps to capture more of this water whether in new facilities, expanded facilities, or in aquifers underground, and had legislatures not allowed the release of so much water after being captured, not only would we be experiencing less flood damage, but we would prevent damaging water delivery reductions in future dry years.

These decisions have been taking water away from farms and communities in increasing quantities yet have made no discernable change to help the decline in species populations. Regulatory actions over the last 30 years have also impacted native species and migratory birds dependent on the Pacific Flyway and important habitat provided by agriculture. But these decisions continue to be undertaken, in many instances, because unelected officials at regulatory agencies are delegated the responsibility for being the final decisionmakers on one of the most significant public policy issue we face in the state of California: how to best allocate the state's limited water resources.

Pending Biological Opinion: An Additional Step in the Wrong Direction

The 2019 Biological Opinion (BiOp) for Long-term Operation of the CVP and SWP was the first time in the last three decades that a regulatory change would have improved the reliability of CVP and SWP water deliveries. Career scientists at federal agencies made a good faith effort to revise restrictions that are not working, and develop options that would increase flexibility in operations, broaden the suite of solutions needed for species recovery, and still comply with ESA protection.

Unfortunately, the 2019 BiOp was litigated by the State of California and environmental groups, and instead of defending the work that was done, one of the first

acts of the current federal administration in 2021 was to scrap the work done and start over by reinitiating consultation with fisheries agencies and openly admitting to reconciling operations with California Endangered Species Act requirements. We are concerned that the new BiOp will continue the trend of the past several decades and take an overly conservative approach to ESA compliance and further reduce the ability of the CVP and SWP to deliver contract water. A preliminary review of the new BiOp and new proposed constraints on the long-term operation of the CVP and SWP validate our concerns. Specifically, we anticipate that the new plan will not only maintain old restrictions that we know can be removed or relaxed, but it will further restrict the ability of Reclamation to use storage in Shasta Reservoir, the largest reservoir in the CVP and a critical facility needed to meet contract deliveries. These requirements will cost the CVP about 400 TAF on average per year—cuts that will again fall on agricultural water users and disadvantaged communities.

Root Causes of California's Water Challenges

Many of the worst impacts to water supply reliability are the result of an almost dogmatic approach to implementing the Endangered Species Act and other regulations that is focused on increasing flows and using Reclamation projects in California and other Western states by the federal government to "mitigate" the impacts of a changing climate and declining species rather than wholistically addressing species needs.

By using the ESA as the regulatory "hammer" focused on addressing a single species and targeted acutely on water releases from federal projects, regulators continually fail to address many of the underlying needs for species viability and recovery. Time after time we see the institution of requirements that pit the demand of one listed species against another, fail to address many of the known constraints to species recovery such as habitat restoration, and focus on a singular or small set of factors (such as temperature) that is not necessarily a good indicator of species survival. This type of failed species management will continue to severely limit flexibility in water management and produce plans that are bound to fail species.

Additionally, the current approach to implementing the ESA creates an unending loop of restrictions and uncertainty that makes investing time and money in solutions that would mitigate impacts difficult for water districts and the farmers and communities they serve. In many instances, policy seems to have the intended purpose of ensuring federal programs can continue indefinitely rather than make progress that allow relaxation of restrictions—an issue that is reinforced and perpetuated by the fact that species are virtually never delisted.

Lacking infrastructure is another root cause of our water challenges in California. The insufficient storage in California has been discussed for many years and was reinforced in recent years when millions of acre-feet of water that could have been stored to provide drought resilience was lost to the ocean. Additionally, restoration of conveyance capacity and development of new conveyance is needed to enable increased groundwater storage and efficient movement of water to where it is needed.

Impacts of Reduced Deliveries

Decisions made by policy makers and federal agency staff have major real-world impacts, both direct and indirect.

First and foremost, the perpetual man-made drought that the San Joaquin Valley faces reduce the affordability of water and comes at a cost to society overall. Increasingly, reduced water availability is causing disruptions in drinking water supplies with the impacts disproportionately falling to communities that are the least able to afford replacement supplies and increasing costs for those that can pay to mitigate lost supply. There is also significant expense to complying with the increased regulatory burden and engaging in the never-ending cycle of shifting policies and regulations.

The costs of reduced water delivery do not stop with those communities directly impacted, however. Food and fiber produced in the San Joaquin Valley and enabled by a reliable water supply feed the world. Simply put, bad water policy reduces the reliability of irrigation supplies or increases water prices is driving some farms to cease operation, weakening the ability of the U.S. to produce affordable fresh fruits, nuts and vegetables for itself, and impacting thousands of jobs and billions of dollars in economic activity.

Reductions in surface water delivery also have ripple effects for water management in the San Joaquin valley. For example, increased reliance on groundwater overdraft has exacerbated impacts to drinking water systems and land subsidence, causing damage to the Friant-Kern Canal, Delta-Mendota Canal, and California

Aqueduct and compromised their ability to deliver water in the San Joaquin Valley and Southern California. The southern third of the Friant-Kern Canal has lost 60% of its capacity, which translates to 100,000–300,000 acre-feet of water per year that doesn't flow to farms and communities.

Additionally, by reducing the canal's ability to deliver water to aquifers in the south Valley, the conveyance constriction will also worsen existing water supply and water quality problems in the more than 55 rural and disadvantaged communities within the Friant Division service area, all of which are almost entirely reliant on groundwater wells for their water supplies.

Thankfully, the first major fix of the Middle Reach of the Friant-Kern canal was finalized this year, and future repairs to this and other reaches of the Canal are being planned, but time is still of the essence as recent hydrologic conditions offer significant opportunities to replenish groundwater supplies and allow us to prepare for future water supply challenges.

Opportunities to Correct Course

Regulatory Solutions

It is important to note that no new major environmental laws specific to California water have been enacted by Congress in over 30 years. The last major law passed by Congress that reduced water delivery capability and received any public debate at all was the Central Valley Project Improvement Act (CVPIA). Enactment of the CVPIA was a major change in the way the CVP was operated, and although it caused significant impacts at a tremendous cost, at least it was a public process that included a lot of thought, debate, negotiation, and ultimately approval by the Congress.

Today, the operations of the CVP and SWP are restricted by federal and state agencies and their unelected government officials who continually add new regulatory requirements and reduce the ability of our vast water management system to deliver water.

If the pattern of using environmental regulations to continually reduce or eliminate the ability to deliver water contracted through the CVP and SWP to people and farms in California, we will never really be able to declare the drought over, even if we get another good winter next year, or even a series of wet years.

The time has come to have additional congressional oversight, direction, and accountability in how the water system in California is regulated. Taking the approach of conserving our way to sustainability will most certainly create a zero-sum game of moving water from agriculture to other demands, and within the next decade result in the largest reduction of productive farmland this country has seen in more than a generation.

Bold, common-sense action is needed now to avoid a crisis. The current patchwork of laws enacted to solve this problem and avoid a crisis are not working. Without additional action by Congress, failure is guaranteed, and California's environment and economy will never be what it once was or what people expect it to be.

Current laws guiding water decisions, enacted decades ago, have been interpreted to almost unilaterally allow for an unrestricted amount of water to be reallocated from current beneficial uses to a continued, frivolous attempt to turn the trajectory of a small subset of endangered species. I have to believe that this is not what any past or even the current congress intended. It is way past time for those elected to represent the people of the state to provide fresh direction that is clear on how to interpret environmental regulations and who the final decision-makers should be on these multi-generational choices on how to prioritize our water resources, and provide the tools needed to be successful. Water managers need to be provided with the laws and resources necessary to plan for the future so that when the next big water year is upon us, we can capture and store for later the water that is currently causing such damage to our communities.

Several specific changes would greatly improve the regulatory landscape for water users. First, it is imperative that agencies improve transparency and accountability in developing and implementing regulations, including adhering Section 4004 of the WIIN act as it continues work on the BiOp that is currently under review. Requiring the use of adaptive management with accountability is another strategy that would help ensure regulations are actually achieving their purpose, maximizing species benefits while minimizing impacts to water operations and other activities. Indeed, collaborative decision-making and adaptive management based on documented science and objective criteria have served as the basis for success in many basins where effective recovery programs are improving species populations and enable water development and operations. This approach needs to be taken in California.

Legislative changes including Endangered Species Act reforms to clarify area of frequent implementation disagreements and other issues, along passage of the FISH Act to address perpetuation of single species management decisions, are also important to begin to change the punitive regulatory posture many federal agencies currently take.

Lastly, finding workable solutions to all pending regulatory actions and ensuring that all of the various regulatory regimes impacting Delta operations are aligned and not additive to each other is critical to ensure water users don't continue to face "death by a thousand cuts." This includes the pending revisions to the 2019 BiOps, Agreements to Support Healthy Rivers and Landscapes in California, and continuation of the San Joaquin River Restoration Program.

We stand prepared to work with the Subcommittee and the federal and state administrations to put common sense back into the equation regarding effective management of our water resources. I believe Friant is particularly well positioned to provide technical, policy, and legal input to decisionmakers at all levels of government.

Infrastructure Solutions

Combined with the regulatory certainty created by the actions discussed above, investments to improve and develop new infrastructure are also essential to restore water abundance in California. A major component of this effort requires restoring conveyance capacity of the Friant-Kern and Delta-Mendota Canals and the California Aqueduct that have been impacted by subsidence. Restoration of these foundational pieces of infrastructure will ensure that water can be efficiently moved across the region, and combined with increased groundwater storage, will increase opportunities to capture floodwater when available for use during dry years. New conveyance facilities are also needed, including potentially new conveyance systems in the San Joaquin Valley and extending the Folsom South Canal, both of which could allow more water to be delivered in wet years making water users less reliant on existing water sources in times of drought.

Additional surface and groundwater storage must also remain a major priority. Completing expansion of San Luis and Los Vaqueros Reservoirs, development of Del Puerto and Sites Reservoirs and other new storage projects, and improved use of technology to maximize storage behind existing dams would all improve the water supply situation in California. There are also opportunities for increased groundwater storage facilities, regulating and small surface storage facilities, and other similar facilities that would expand overall storage capacity for the State. Friant also supports continued evaluation of raising Shasta Dam as a means to ensure viability of fisheries reliant on cold water, while protecting irrigation supplies.

Additionally, our conventional method of monitoring snowpack is in great need of improvement, and funding at a Federal level is significantly lacking as it's mostly been left to local entities and the State. Friant is supportive of legislation to authorize the coordinated collection, management, and dissemination of precise and accurate surveying and mapping of snowpack that will benefit local water agencies, and State and Federal water operators.

Development of needed infrastructure and monitoring will improve water security for the Valley by increasing supplies, diversifying available water sources, and implementing the Sustainable Groundwater Management Act in a fashion that is sustainable to irrigated agriculture.

To be clear, without regulatory reform to stop the uncontrolled, unending taking of California's water supplies in pursuit of the proven failed approach to recover endangered species, there is no amount of new infrastructure, recycling, efficiency, or any other form of water supply development that can bring us to a place of abundance. Without this reform, the only plausible outcome will be a level of farmland retirement in the next decade we have not seen in our lifetimes.

Conclusion

I again thank the Subcommittee for traveling to the Valley to hold this critical hearing and for the opportunity to testify. The rigid and severely constrained management of the CVP over the last 30 years is not working for our communities or the environment, and the calls for an ever-increasing amount of water being diverted from cities and farms to provide additional flows out of the Delta need to be reversed.

We need to be asking how we can bring balance back to our system and increase available water for all needs in all years. I hope that this hearing will be the start of moving toward some normalcy for CVP and other Western water project operations. I look forward to continuing working with the Subcommittee and the many stakeholders in the Valley on these issues and would be happy to answer any questions.

Mr. BENTZ. Thank you. I now recognize Ms. Febbo for 5 minutes.

STATEMENT OF ALLISON FEBBO, GENERAL MANAGER, WESTLANDS WATER DISTRICT, FRESNO, CALIFORNIA

Ms. FEBBO. Good morning, Chairman Bentz and members of the Subcommittee, and thank you for having me here to testify. I am honored to testify on behalf of Westlands Water District, as General Manager of the water district.

I am here to convey a message of urgency. The growers within our district are facing a crisis from an unreliable water supply, which continues to erode in both certainty and in volumes. When our growers are in crisis, the members of our communities that support agriculture are also in crisis. Westlands is the largest agricultural water district in the United States by irrigable acres at 620,000 acres, approximately.

We are located in the west side of Fresno and Kings Counties. We have some of the most fertile soils in the world, and we can grow around 60 crops. Some of those can't be grown anywhere else in the world. The crops we produce have a value of over $2 billion and generate more than $4.7 billion in farm-related economic activity. We support over 35,000 jobs and benefit local, traditionally underserved communities in the San Joaquin Valley.

The lifeblood of our district and the way that we are able to generate this agriculture is our CVP water supply contract. With acknowledgment of the value of our water resources, we take stewardship of our water resources seriously. We are highly efficient with a fully underground distribution system. We are fully metered above ground and below ground, and we have meters on all our surface water wells with high efficiency drip irrigation systems.

The crisis we are facing is the continual erosion of our water supply from the Bureau of Reclamation and the Bureau of Reclamation's lack of ability to deliver our supply due to both changing hydrology due to a changing climate, compounded with the myriad complex and often incongruent regulations. This has led to an average of over 220,000 acres of land in Westlands fallowed on an average basis.

The changing climate leads to drier and longer periods of drought and then wetter and faster wet periods, and those serve as a challenge to the efficiency and effectiveness of the Central Valley Project, which was designed for a historical climate condition. Our infrastructure desperately needs improvements and maintenance, including additional capacity and storage to manage our resources effectively.

Compounding our infrastructure challenges are challenges with the regulations that Jason was just referring to. We are almost 50 years into regulations in the Delta that began with Water Rate Decision D 1485 and continued through CVPIA, updates to the

State Bay Delta Water Quality Control Plan for compliance with the Clean Water Act, and biological opinions to ensure compliance with the Endangered Species Act. Not only have these regulations lacked any resulting benefits, but the layers of regulations involved several different regulating agencies at both state and Federal levels, leading to confusion and a lack of nimbleness and flexibility when applying those regulations.

This year is a perfect example, where our allocation in a fairly normal, good hydrologic year started at a 15 percent allocation for our agricultural communities, and was only increased to 50 percent in June, long after cropping decisions had been made. The bureaucracy of implementing these regulations led to confusion and slow and unclear decision-making. I believe no one entity is to blame, but I also believe that this is indicative of a broken water supply system that must be fixed urgently.

We have opportunities to make improvements now. We are currently updating our biological opinions and water quality control plan, and have the opportunity now to make decision-making processes more flexible, adaptable, transparent, and, most importantly, effective. We have opportunities to invest in infrastructure improvements to provide more flexible infrastructure, including adding conveyance, groundwater storage, below groundwater storage. All of these investments are daunting. It seems every project has a $1 billion price tag or more. So, we are going to need partnerships and help investing in this infrastructure.

Finally, we have opportunities for legislative leadership to ensure the long-term viability of agriculture in Westlands Water District and the Central Valley. Now is the time to take action.

And I look forward to working with you in the future, and thank you for coming to the Central Valley to learn about our district and our area, and the importance of agriculture here.

[The prepared statement of Ms. Febbo follows:]

PREPARED STATEMENT OF ALLISON FEBBO, GENERAL MANAGER, WESTLANDS WATER DISTRICT

Good afternoon, Chairman Bentz, Ranking Member Huffman, and members of the Subcommittee. It is a great privilege to appear before you.

My name is Allison Febbo, and I bring over 25 years of expertise and leadership in California Central Valley water supply operations and conflict management to the Subcommittee. I presently serve as General Manager of Westlands Water District (Westlands). Additionally, I hold several key leadership positions, including as board member to the San Luis & Delta-Mendota Water Authority, and as an advisory committee member to the Family Farm Alliance. I am dedicated to public service as well as the farms, farmworkers, and communities that rely on water supply exports from the Sacramento-San Joaquin Delta for their livelihoods.

Today, I am honored to testify as the General Manager of Westlands Water District.

Westlands and its farmers know first-hand the value of water and the importance of water conservation. Those instrumental in the formation of the Westlands are responsible for its existing water conveyance system, which is comprised entirely of efficient, pressurized and buried pipeline (approximately 1,100 miles of pipe). Over time, Westlands and its farmers continued to invest in this sophisticated system. All surface water diversions are metered, and Westlands is just completing its efforts to install meters on all groundwater wells. In many of the fields within Westlands, farmers employ highly efficient and technically advanced surface and subsurface drip irrigation or micro-sprinklers. The result of these investments is that farmers achieve some of the highest water use efficiencies in the world.

Farmers in Westlands are also incredibly productive, in large part due to the specific soils found in our service area. They grow approximately 60 different high-

quality, nutritious crops under some of the highest environmental standards in the world—producing crops with a value of $2 billion and generating more than $4.7 billion in farm related economic activity each year, supporting nearly 35,000 jobs, and benefiting local communities in the San Joaquin Valley and across the state. Westlands' ability to grow food and provide economic benefits is completely dependent on the federal Central Valley Project.

Challenges

While there are abundant opportunities to assist with California's water supply challenges, I must first spend some time discussing the challenges which include the evolving influence of changes in climate, changes in the regulatory environment at both the Federal and State levels, and constraints on our infrastructure. First let me discuss climate change. California has experienced several record breaking dry hydrologic years in the past several decades, as well as shifts in the accumulation and melt of snowpack that are symptomatic of a changing climate. These changes affect the performance of water supply infrastructure, such as dams, pump stations, and canals which were designed to operate under the climate conditions when constructed. Perhaps even more challenging, these changes in temperature and hydrology are adding new stressors to species that are adapted to historical conditions, and which are already tremendously stressed by the compounded changes of a modern, developed State of California.

A second challenge comes from the regulatory environment, which has several components including the way the laws are organized and how various agencies are charged with implementing the laws. Most frustrating perhaps are the incongruencies between the laws, agencies, and critical challenges facing endangered species.

The most significant Federal laws include the Endangered Species Act (ESA, although notably California has its own approach—CESA), and the Clean Water Act (enforcement of which has been delegated to the State under the auspices of the California State Water Resource Control Board's Water Quality Control Plan). Enforcement of these laws has been delegated among several State and Federal regulatory agencies, each with overlapping authorities and missions. These authorities, separately and in combination, do not address the key constraints to species recovery—as demonstrated by the lack of recovery or even conservation despite the high cost to California's water supply over the past three decades. The result is a disorganized and convoluted regulatory system which often confuses roles, hampers communications, and frustrates innovation and nimbleness.

Westlands recognizes the urgency to act to support conservation and recovery of California's endangered species. We acknowledge the State-led efforts to go beyond conservation and attain recovery, and do not believe this goal inherently conflicts with a reliable water supply for Delta exporters. However, this year has produced several examples of where the current regulatory framework for environmental compliance decision-making has prevented nimble action, at a high cost to water supply. Further, the Central Valley Project and State Water Project have long been the simplest to assign regulatory burdens, leaving many sources of stress on listed species unaddressed, likely resulting in an outsized cost to the two Projects because of the comparative ease of prescribing mitigation requirements for them. The proposed solution to this was included in the Water Infrastructure Improvements for the Nation (WIIN) Act, which requires more clarity on how specific mitigation measures prescribed by regulatory agencies relate to actions of storing and delivering water supply.

For the past several decades, updates to achieve ESA compliance have gradually reduced the reliability of water supply exports from the Sacramento-San Joaquin Delta, which are the foundational water supply for Westlands. Environmental review to ensure compliance with all these laws are currently underway, with scheduled completion dates at the end of this calendar year. For the past several months, Westlands and water agencies throughout the State have been reviewing upwards of 23,000 pages of documents explaining the proposed plans for the operation of the Central Valley and State Water projects (Projects) and their anticipated effects on endangered species, consistent with Federal and State Endangered Species acts and the State's Water Quality Control Plan update.

Obviously, these environmental compliance processes are slow, tedious, and burdensome. They are also limited in that they are required to focus on the discretionary operations of the two Projects and have no mechanism to address uncertainty. These limitations can be frustrating in dealing with a species that is declining rapidly in the face of climate change and a host of other stressors that go beyond operation of the Projects. Further complications exist in the incomplete understanding that we have of the species, environment, and cumulative effects on

the species. A critical outcome of this situation, from the perspective of Westlands and other water users, is that these laborious environmental compliance processes still result in: (a) a constant erosion of water supply reliability, (b) an unabated decline of the species, perhaps because the sacrifices in water supply are ineffectual, (c) lack of clear connections between species decline and Project operations in the context of all other stressors such as climate change and oceanic conditions, and (d) a complete inability to move swiftly to tailor operations to the benefit of both water supply and fisheries recovery.

Opportunities

This leads me to the opportunities, which include improvements to the governance of fisheries recovery efforts, investments in infrastructure, and legislative assistance to safeguard the agricultural productivity of California for the nation and the world.

At present, Westlands is working with other Public Water Agencies to build in mechanisms to address uncertainty, to better govern water supply decision making, to clarify where water supply management is affecting species relative to all other stressors, and to monitor and improve actions taken to mitigate for those effects. The pathway to this is through robust adaptive management, which is an intended part of both the ESA compliance proposal for two Projects as well as for Healthy Rivers and Landscapes (formerly the Voluntary Agreements) that are proposed for compliance with the State's Water Quality Control Plan and the Clean Water Act.

If properly formulated, these "adaptive management" programs could provide a pathway to address uncertainty while also providing clarity on the success or lack of success from actions made with the intent to recover species and/or fully address impacts of the Projects. Adaptive management may also provide a pathway to modify efforts that are shown to be ineffective toward something more effective for both the species of concern and water supplies. The success of this will hinge on the commitment of agencies to use open and transparent information, dedication to critical review of actions taken with the intent to improve upon them for multiple purposes, and commitment to objective and transparent decision-making processes. Our experience from this year demonstrates that there is room to improve here: requests by Westlands and other water users for information on decisions made this Spring went entirely ignored. Another key to success in this area will come from our inclusion in the process—from information gathering to decision making—such that we can proactively assist where agencies may be less nimble. Westlands has valuable resources to offer and intends to be a part of the solution.

As a last note on transparency. Reclamation's current proposed action for ESA compliance includes several, seemingly voluntary actions to benefit species and prevent a jeopardy determination. While described as voluntary measures in the proposed action, they are not clearly tied to effects of a specific project, stated species, or specific state or federal legal requirements. It is Westland's opinion that, as these actions are clearly being included to avoid a jeopardy determination by the Federal resource agencies, they ought to be considered as such. Under a standard process, if a Federal action results in a jeopardy determination, the resources agencies have the option to craft Reasonable and Prudent Alternatives that avoid or manage the causes of jeopardy. As is evident in the title of the alternative, being "Multi Agency Consensus", the process has resulted in the action agency including voluntary reductions as part of the proposed action. Section 4004 of the WIIN Act requires that any such Reasonable and Prudent Alternatives have a burden of proof and explanation offered to the affected water agencies that is higher than what is being provided under the current document. There may not be sufficient authority for Reclamation to take this approach and ignore the requirements placed by the WIIN Act on Reasonable and Prudent Alternatives.

Separate from governance improvements, infrastructure investments are needed to deal with changes in climate and water needs for the environment. Public investments at all levels are needed to restore existing conveyance systems that are the backbone of California's water supply. A broad array of efforts are required to repair and maintain conveyance facilities including addressing capacity constraints through subsidence corrections and dredging to restore natural conveyances. The Sacramento-San Joaquin Delta is an example where these actions can have multiple benefits (e.g., flood control, habitat restoration, fisheries survivorship, and water supply improvements).

New infrastructure is also required to adapt to climate change and the related changing needs from our current infrastructure. Moving high volumes of water when available and reducing water diversions during periods of high stress on aquatic species requires additional conveyance capacity and storage throughout the State. I'm proud to report that Westlands has made significant investments already

in groundwater storage development within its own boundaries, with significant assistance by the Bureau of Reclamation and the State of California.

Additional investments are needed to further guard against drought in the future. Westlands is exploring long term water supply portfolio enhancements through collaborations and partnerships with other South of Delta diverters, such as Friant Water Authority and coastal municipalities. Water supply diversification could play an important role for agricultural communities.

I've been talking about solutions, and I'll end on one challenge that likely requires leadership to protect the long-term viability of agriculture, which is affordability. Unfortunately, most of the effective solutions being conceived for California's water supply issues cost a billion dollars or more—and that includes the maintenance projects. Further, the pathway to funding these projects is based on an investor-pays framework that challenges participation by agriculture, even for the maintenance of infrastructure that has been fully paid for by the agricultural water users. Urban areas have a far more reliable source of revenue compared with agriculture, which relies on revenues from crops that must compete on a global marketplace. We need help with a solution for funding water supply reliability enhancements that maintain crop diversity at home, where we grow the crops safely and with protections for our labor. Just this week, a USDA study was released and reported that food scarcity was on the rise. As food prices rise, more communities, including the ones that harvest our domestic food supplies, suffer from food scarcity. The burden of additional costs to maintain existing infrastructure is unlikely to help agriculture, national food security, or the disadvantaged communities that rely upon agriculture.

Conclusion

I thank you again for coming to the San Joaquin Valley to learn first-hand about the challenges we are facing, and the opportunity to share our thoughts with the Committee. I look forward to working collaboratively to find long-sought solutions for recovery of endangered species, security and reliability for California water supply, and preservation of California agriculture that supports our local communities and our Nation's food supply and security.

Mr. BENTZ. Thank you. I now recognize Ms. Lucas for 5 minutes.

STATEMENT OF RONDA LUCAS, ATTORNEY, LUCAS LAW, HILMAR, CALIFORNIA

Ms. LUCAS. Good morning, Chairman Bentz, Congressman Duarte, and esteemed members of the Committee. Thank you for providing me with the opportunity to testify on the opportunities and challenges in California concerning water abundance. My name is Ronda Lucas, and I am an attorney with decades of experience in California water and environmental issues. This career path, while rewarding, frankly, was not the one I envisioned.

First and foremost, I am a farmer's daughter, granddaughter, and great granddaughter, and I wanted nothing more than to return home to the Sacramento Valley and farm alongside three generations of my family. You see, more than a century ago, my great grandparents immigrated to California and became laborers on a small dairy. Through hard work they were able to buy that dairy and began writing their American Dream.

As regulations in the dairy industry began to squeeze dairies out of existence, we converted our family farm to growing other crops. Over time, my grandfather and then father were able to expand our land and ensure future generations would be able to continue farming. However, reality interfered in the form of numerous fish listings under the Endangered Species Act in the early through mid-1990s, resulting in our water being shut off, and altering my dream and career path. Rather than coming home to farm, I traded a tractor for a law degree in the hope of making change.

Sadly, I am not unique or special. My story is the story of too many in this country whose history, dreams, heritage, and livelihoods have been built around a life calling, only to have these legacies threatened unnecessarily by unelected bureaucrats who choose water scarcity and permanent drought conditions that wreak havoc but produce little to no actual improvements to fish populations or the environment.

Less than a decade ago, the area we are in today and you all traveled to was brought to its knees because bureaucrats chose to use biological opinions to impose drought conditions. The nightly news was filled with stories of food banks being inundated with hard-working families who faced unemployment, poverty, and hunger. As the crops died and the land dried up, the instances of asthma, particularly for the children and the elderly, exploded. Instances of domestic violence, petty crime, divorce, depression, anxiety, and suicide also increased.

The water flowed not into the fields and communities to sustain life, but out to the ocean on the off chance it might somehow increase fish populations. By choosing regulatory drought in the name of ESA without care of consequence, more than crops died. People died. Dreams died. Communities died. And hope died. And the fish did not improve demonstrably.

Last week, I dropped my youngest off to college. And sadly, the same listed species that altered my dream are still being used a generation later as an excuse to impose water shortages on communities without foreseeable recovery or any measurable benefit to either the communities or the environment.

The people on the Columbia River basin are living it right now. More than 40 years. Over 9 billion Federal tax dollars expended. Devastation upon communities. And the salmon and steelhead are no closer to recovery.

As we approach the 51st birthday of the Federal Endangered Species Act, one thing is perfectly clear: this well-intentioned Act is failing miserably. In achieving Congress' main objective, instead of recovering species it is destroying our communities and threatening our nation's food supply. By any reasonable measure, the government has failed to achieve Congress' goals.

Albert Einstein once observed, "God doesn't play dice with the universe." If we continue allowing bureaucrats to play dice with the universe under the guise of ESA, who is going to feed, clothe, and house our next generation? We must have science, we must have accountability, and we must have accountable, demonstrable, and measurable recovery goals. Thank you.

[The prepared statement of Ms. Lucas follows:]

PREPARED STATEMENT OF RONDA LUCAS, WATER AND ENVIRONMENTAL ATTORNEY

Good morning, Chairman Bentz, Ranking Member Huffman, Congressman Duarte, and esteemed members of the Committee. Thank you for providing me with the opportunity to testify on the opportunities and challenges in California concerning water abundance. My name is Ronda Lucas, and I am an attorney with decades of experience in California water and environmental issues. This career path, while rewarding, frankly, was not the one I envisioned. First and foremost, I am a California farmer's daughter, granddaughter and great-grandaughter who wanted to return home from college and work alongside three generations of my family farming in California's Sacramento Valley.

You see, more than a century ago, my great-grandparents emigrated to California and began as laborers on a small dairy. Through hard work, they were able to buy that dairy and begin writing their American dream. As regulations in the dairy industry began to squeeze dairies out of existence, we converted our family farm to growing other crops and sold the cows. Over time, my grandfather and then father were able to expand our land to ensure my siblings, my cousins and future generations would be able to continue farming. However, reality interfered in the form of numerous fish listings under the Endangered Species Act ("ESA") spanning the early to mid-1990s resulting in our water being shut off and altering my dream and career path.

Rather than coming home to farm alongside my dad, grandfather and countless other cousins, in order to ensure our farm and my hometown, like hundreds if not thousands of other farms, ranches, and entire communities might have a hope of continuing, I traded a tractor for a law degree. I could do more learning the law than farming the land to ensure my farm, my family, my friends and neighbors and my small rural community would have sufficient water to survive.

Sadly, I am not unique or special. My story is the story of too many in this country whose history, dreams, heritage and livelihoods have been built around a life calling only to have these legacies threatened unnecessarily by unelected bureaucrats who choose water scarcity and permanent drought conditions that wreak havoc but produce little to no actual improvements to fish populations or the environment. Last week, I dropped my youngest off to college and, sadly, those same fish are still being used as an excuse to impose water shortages on communities throughout this state and nation without foreseeable recovery or any measurable benefit to either the communities or the environment.

We must do better. We must use science to focus on actual recovery of these fish and all listed species so that neither my children nor any other future generations are prevented from feeding and clothing America or pursuing their American dream.

On Dec. 28, 1973, Congress passed, and President Nixon signed, with little fanfare, legislation that was intended to protect imperiled species from becoming extinct. At the time, neither Congress nor the general public understood that this relatively simple concept would spark the third rail of American politics. As we approach the 51st birthday of the federal Endangered Species Act, one thing is perfectly clear—this well-intentioned act is failing miserably in achieving Congress' main objective of recovering species. Unfortunately, very little is being done to fix this quagmire because extreme political agendas and lifestyle demagoguery are more important to special interest groups and bureaucratic power centers than environmental restoration and saving species.

Today, many measure success under the ESA in terms of the number of species listed. This defies common sense. If society has so depleted a species it is on the verge of extinction, we have failed miserably. The 1973 Congress recognized this and placed emphasis on recovering species rather than on listing species. The listing process is merely the first step. The true work begins when we collectively work toward improving species' status to the point they are no longer in danger. But, as the ESA is currently implemented, the bureaucrats have neither the time, incentive, nor other resources to get beyond this first step and actually recovery and therefore remove species from the ESA. The perverse incentive currently in place in the ESA for bureaucracies is listing equals power and recovery equals a loss of power and control.

Instead of trying to achieve the true purpose of the Act, certain sectors of society spend their resources suing the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries and obtaining millions in tax-payer payouts in the form of "attorneys' fees" that are then used to continue the litigation cycle. In the end, species are listed, not based on the best available scientific information, but based on a court order or settlement agreement. This is not productive and runs counter to Congress's intent that government's actions under the ESA be guided by and based upon science. The National Academy of Sciences, in the early 2000s brought this problem into clear focus when it commented on the "need to reconcile the ESA's legal framework with its scientific foundations."

The ESA requires the government to make decisions regarding species in accordance with very strict deadlines. The ESA also requires the government to make its decisions based on the "best commercial and scientific data available." This structure does not allow the time necessary to make decisions guided by true science. According to the National Academy of Sciences, this creates a situation where the government can make decisions under the ESA that "satisfy the demands of the ESA with an analysis that would not satisfy the demands of scientific review for publication or other peer-reviewed processes common in modern science."

As we mark the ESA's half century of existence, hopefully the time has finally come to have an honest discussion. Leading the discussion, Congress needs to decide which is more important-having decisions based on true scientific processes, or having decisions based on arbitrary deadlines. The last 50 years have taught us we cannot have both.

Unfortunately, because the ESA is now more about political posturing than protecting and preserving species, any attempt to require true scientific processes in decision making and to shift the government's emphasis to recovering species will be met with strong resistance. Never mind we are not saving species as the Act is currently implemented. We are merely listing them. In 50 years, more than 1,700 species have been listed and less than 2% have been recovered.

As Albert Einstein noted, "[w]e cannot solve our problems with the same thinking we used when we created them." Yet, in the ESA context, this approach is exactly what we have been doing, and with dire consequences to both people and species. In the Columbia River Basin, due to the listing of several species of salmon and steelhead under the ESA, for decades bureaucrats have enacted numerous changes and resulting decreases in available water and energy in the name of ESA requirements ostensibly to "recover" the "wild" salmon and steelhead. Nearly 4 decades and more than $9 billion dollars have been invested in federal (taxpayer) monies in this effort. Energy production was not allowed, and water was sent out to the ocean unused, with very real costs to the individuals, businesses and communities in the Columbia River Basin and beyond. Drought and rolling blackouts, increased energy costs, loss of jobs and increase in daily stress in the families and communities directly impacted are just some examples. In 2023, a study was finally undertaken to measure the results of this costly undertaking.[1] The study observed the impact of the restoration efforts "remains poorly understood; many observers, including the federal courts, have long been concerned by the lack of evidence of recovery."[2] "Despite several decades of federal agency actions in response to these requirements, many observers including local and state governments, community groups, and stakeholders, have been stymied by the paucity of evidence of improvements in fish populations despite these actions and high levels of expenditures."[3] For more than forty years, the efforts continued without study, without accountability, without attempting a different approach in spite of this "paucity of evidence" and in the face of real, devastating impacts to people, communities, and other environments. In 2023, the salmon and steelhead are no closer to recovery, but the study concluded, '[t]he aim of our study has been to look for evidence of the return on investment for the $9 billion restoration spending in the C[olumbia] R[iver] B[asin] over the last four decades. . . . [W]e find no empirical evidence of an increase in wild fish abundance associated with restoration spending."[4] In spite of these facts, we are continuing these failed policies, removing dams, ignoring consequences to people, and allowing bureaucrats to impose water and electricity shortages while wasting billions in our tax dollars with zero benefit.

In this area, we have a similar experience. Less than a decade ago, this area was brought to its knees because bureaucrats decided to use biological opinions to impose drought conditions. The nightly news was filled with stories of food banks being inundated with families simply trying to get enough to eat because every facet of life was facing poverty, unemployment, and scarcity. The instances of asthma, particularly for children and the elderly, and other respiratory illnesses exploded as the water disappeared. The regulatory drought imposed in the name of ESA created numerous violations of the Clean Air Act, and more importantly, children, the old and the young all suffered with some requiring hospitalization. Instances of domestic violence, petty crime, divorce, depression, anxiety and in some dire instances suicide increased. As the water flowed not into the fields and communities to sustain life, but out to the ocean on the off chance it might somehow improve salmon and steelhead, employment died, dreams died, communities died, and hope died. And, the fish **did not** demonstrably improve. We cannot repeat our past mistakes. We cannot doom ourselves to our failed history by allowing bureaucrats to choose the imposition of water scarcity. Local governments, scientists, the communities where we all live and work and the environments where these species reside all deserve Congress and the government to choose water abundance.

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[1] William Jaeger, Mark Scheuerell, *Return(s) on investment: Restoration spending in the Columbia River Basin and increased abundance of salmon and steelhead*, (July 28, 2023), https://doi.org/10.1371/journal.pone.0289246).

[2] *Id*. at abstract.

[3] *Id*. at 3.

[4] *Id*. at 10.

By any reasonable measure, the government has failed to achieve Congress' goal. Albert Einstein also observed "God doesn't play dice with the universe." Bureaucrats should not either. Rather than waste another half century and hundreds of billions of dollars while decimating lives, neighborhoods, communities and species, Congress must exhibit true leadership and recover the ESA from its current political quagmire. America deserves an ESA similar to the one Congress envisioned 51 years ago-an ESA based on common sense, guided by true science and protective of those species that truly warrant protection. America also needs to measure success by the number of species recovered rather than the number of species listed.

Mr. BENTZ. Thank you. I now recognize Mr. Bourdeau for 5 minutes.

STATEMENT OF WILLIAM BOURDEAU, FOUNDER AND CEO, BOURDEAU FARMS LLC, COALINGA, CALIFORNIA

Mr. BOURDEAU. Good morning, Chairman Bentz and distinguished members of the Subcommittee. My name is William Bourdeau. I am a farmer on the west side of the San Joaquin Valley, a United States Marine Corps veteran, a water district director, a former Coalinga City Council member, and concerned citizen. I am here today to address the critical challenges posed by current water management practices, not just on California farms but on the broader community and nation.

This issue transcends agriculture. It affects families, public health, and the American dream. Agriculture is more than just an industry in the San Joaquin Valley. It is the lifeblood of our communities, providing jobs, supporting local businesses, and sustaining families. The Bureau of Reclamation's delays and overly conservative approach to water allocations this year have had far-reaching and devastating consequences.

Despite historic rainfall and snowpack, the Bureau's allocation announcements failed to account for the abundance issuing a minimal allocation that did not reflect the actual conditions. By the time a modest increase was announced, it was too late for growers to adjust their plans for the year. These delays impact not just farms, but the entire agricultural supply chain, including buyers and processors who need a reliable water supply forecast to secure their operations.

For example, garlic packers plant from September to October for harvest the following year, and tomato processors finalize commitments by January for the upcoming summer. When water announcements are delayed until March or later, these stakeholders cannot adjust, resulting in lost contracts, idle equipment, and job losses. The ripple effect extends throughout our community, threatening the stability of our local economies that depend on agriculture.

The impact of inadequate water supply extends far beyond the fields. It hits our communities at their core. As farmers struggle, local economies suffer. The reduction in agricultural activity means fewer jobs and less income circulating in the community, which directly affects local businesses, schools, and public services. We are seeing increased respiratory illnesses due to poor air quality, exacerbated by the dust from fallowed fields and the lack of healthy crops that would otherwise clean the air. This places

additional strain on already overburdened healthcare facilities, stretching communities' resources to their limits.

As public safety budgets shrink and essential community services are cut, the social fabric of our communities begin to fray. Families who work the land face financial uncertainty, leading to stress, deteriorating mental health, and loss of hope. This collapse of communities is not just an economic issue, it is a human crisis.

The erosion of the American dream is felt most acutely by those who have worked hard to achieve it, only to see it slipping away due to factors beyond their control. The scarcity of water caused by mismanagement is not just a problem for farmers, it is a problem for everyone. When farmers cannot produce at full capacity, the supply of domestic-grown food decreases, leading to higher food prices for all Americans. This man-made water scarcity artificially inflates the cost of basic food items, disproportionately affecting low-income families and the most vulnerable members of our society. It forces consumers to pay more at the grocery store, compounding financial stress on households already struggling with inflation and uncertainty.

Moreover, the increased dependence on imported food due to reduced domestic production is not only a threat to our national security, but also undermines self-sufficiency. It makes us vulnerable to global supply chain disruptions and external market forces, further driving up prices and decreasing the affordability of fresh, nutritious food for American families.

The reality is that we have the potential for water abundance. Proper management and transparent, timely water allocations could provide ample supply to support our agricultural needs and sustain our communities. The Bureau of Reclamation must be held accountable for ensuring that water allocations are based on accurate, up-to-date data on precipitation, snowpack, and storage levels, rather than defaulting to overly conservative approaches that hurt those who depend on this vital resource.

We must move away from the narrative of scarcity towards a vision of abundance, where the need for farmers, communities, and consumers are met through thoughtful and proactive water management. This is not just about securing water for crops. It is about securing a future where families can thrive, communities can grow, and the American dream remains within reach for all.

In closing, I urge this Committee to recognize the challenges we face with water management are not just about agriculture. They are about people, communities, and our collective future. We need a commitment to responsible water management that ensures a reliable and abundant supply for all who depend on it. We have the resources and the opportunity to turn this around, to restore hope and opportunity for the San Joaquin Valley and beyond.

Thank you for the opportunity to testify today, and I look forward to working together to protect our farms, our communities, and the American dream. Thank you.

[The prepared statement of Mr. Bourdeau follows:]

PREPARED STATEMENT OF WILLIAM BOURDEAU, DIRECTOR, WESTLANDS WATER DISTRICT AND FARMER, SAN JOAQUIN VALLEY

Good morning, Chairman, Ranking Member, and distinguished members of the subcommittee. My name is William Bourdeau. I am a farmer on the Westside of the San Joaquin Valley, a United States Marine Corps veteran, a Water District Director, a former Coalinga City Council member, and concerned citizen. I am here today to address the critical challenges posed by current water management practices, not just on California farmers, but on the broader community and nation. This issue transcends agriculture—it affects families, public health, and the American dream.

Agriculture is more than just an industry in the San Joaquin Valley; it is the lifeblood of our communities, providing jobs, supporting local businesses, and sustaining families. The Bureau of Reclamation's delays and overly conservative approach to water allocations this year have had far-reaching and devastating consequences. Despite historic rainfall and snowpack the Bureau's allocation announcements failed to account for this abundance, issuing a minimal allocation that did not reflect the actual conditions. By the time a modest increase was announced, it was too late for growers to adjust their plans for the year.

These delays impact not just farmers, but the entire agricultural supply chain, including buyers and processors who need reliable water supply forecasts to secure their operations. For example, garlic packers plant from September to October for harvest the following year, and tomato processors finalize commitments by January for the upcoming summer. When water announcements are delayed until March or later, these stakeholders cannot adjust, resulting in lost contracts, idle equipment, and job losses. The ripple effect extends throughout our communities, threatening the stability of local economies that depend on agriculture.

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As public safety budgets shrink and essential community services are cut, the social fabric of our communities begins to fray. Families who work the land face financial uncertainty, leading to stress, deteriorating mental health, and a loss of hope. This collapse of community is not just an economic issue—it's a human crisis. The erosion of the American dream is felt most acutely by those who have worked hard to achieve it, only to see it slipping away due to factors beyond their control.

The scarcity of water caused by mismanagement is not just a problem for farmers—it's a problem for everyone. When farms cannot produce at full capacity, the supply of domestically grown food decreases, leading to higher food prices for all Americans. This man-made water scarcity artificially inflates the cost of basic food items, disproportionately affecting low-income families and the most vulnerable members of our society. It forces consumers to pay more at the grocery store, compounding financial stress on households already struggling with inflation and economic uncertainty.

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We must move away from the narrative of scarcity and toward a vision of abundance, where the needs of farmers, communities, and consumers are met through thoughtful and proactive water management. This is not just about securing water for crops—it's about securing a future where families can thrive, communities can grow, and the American dream remains within reach for all.

In closing, I urge this committee to recognize that the challenges we face with water management are not just about agriculture—they are about people, commu-

nities, and our collective future. We need a commitment to responsible water management that ensures a reliable and abundant supply for all who depend on it. We have the resources and the opportunity to turn this around, to restore hope and opportunity to the San Joaquin Valley and beyond. Thank you for the opportunity to testify today, and I look forward to working together to protect our farms, our communities, and the American dream.

Thank you.

Mr. BENTZ. Thank you. I now recognize Mr. Herrick for 5 minutes.

STATEMENT OF JOHN HERRICK, GENERAL COUNSEL AND MANAGER, SOUTH DELTA WATER AGENCY, LODI, CALIFORNIA

Mr. HERRICK. Thank you, Mr. Chair and Committee members. I appreciate your attendance here and your interest in the problems we are facing. My name is John Herrick. I am counsel and manager of South Delta Water Agency.

Sadly, I have been doing this for 30 years, and we are facing the exact same problems that we faced when I started.

Just as a little background, my father was in Ag. his whole life, and his last job was as a manager of a 20,000-acre farm west of Bakersfield. So, I think I have a sort of unique perspective of both the Delta interest and the export interest.

But I am here today to discuss the problem we are dealing with in the South Delta, which is the degradation of the system to the point where there is going to be a catastrophe and the system won't work anymore.

We used to think that high flows in wet years would move most of the silt out of the system and slowly move it towards the bay and the ocean. About 20 years ago, 10 years ago, we started noticing that that wasn't the case. And I think we have reached a tipping point whereby now all of the silt that comes down the San Joaquin River stays in the South Delta. And that became apparent in 1998 when I got a call from one of the farmers, and he said, "John, there is no water in Old River." Old River is one of our main channels.

And I said, "Well, there is water in Old River."

And he says, "No, there is no water in Old River." So, I went out there and looked at it, and the channel was virtually dry. There were about 2 inches of water across the channel from where his diversion was. There was a little hole of water around his diversion point, and the water was flowing from that over to the other side of the channel. The channel was dry.

That started my re-emphasis of my efforts for the South Delta. And the examples I have given you in my testimony, I will go through quickly here. One of them deals with Doughty Cut. I am not trying to test anybody's knowledge of the delta's geography. Doughty Cut is one of the channels through which the tidal flows move upstream and, of course, moving upstream then fill the rest of the channels with the water that comes in.

Doughty Cut has gone from a place where we noticed a sandbar to a place where we now see an island blocking the channel. The bathymetry that we have done over the past few years shows that it is no longer 8 feet deep. It is 1 to 2 feet deep in some places.

That is a huge difference in the volume of water that moves up on the tide, and the issue comes home because Pescadero Reclamation District's source of water is fed by that Doughty Cut. And this last summer, they had extreme low water levels in their channel because the amount of water on the tide is one-tenth of what it used to be.

So, rather than operating at full operation, which they should normally be able to do in the Delta, they sometimes were at 33 percent of their diversion needs. This was during the time when we had those record heat waves when we had temperatures up to 113 in the area. As you can imagine, the farmers were screaming at the manager there, and they were yelling at me about there is no water in the channels. Well, there is no answer to that. So, we tried to get through that, and they are still trying.

The second example is Middle River, which, again, is one of our main channels. And for 20 years, we have been noticing the silt slowly building up. And there are diversions along Middle River that can't always operate. Sometimes they operate at half capacity, but that wears out the pumps. Sometimes they can't operate. Last November, I got a video from one of the farmers who was trying to operate a place called Undying Road over Middle River. His pump is there. And he sent me the video, and it showed a channel that was not 30 feet wide and 4 to 6 feet deep. It showed a channel that was 3 feet wide and 6 inches deep. That means there was virtually no water in that channel. It looked like a public sewer drain. It was nowhere near a river.

Now, off of Middle River, approximately, I don't know, 20,000 acres of farmland, Pescadero from Doughty Cut is about 6,500 acres of farmland. Those are just two of the areas. So, we are facing a degradation of the system that will prevent water from flowing, no matter whether it is tidal water, downstream flow of the Sacramento River water, transfer water going from other places, it creates a huge problem.

To bring it home in numbers, there is a project currently going on in the San Joaquin River, just upstream of our part of the delta, it is still in the delta, and the engineers for that project noticed that last year 250,000 cubic yards of silt accumulated in that one spot. Now turn that into the whole delta area, and you can see that millions of cubic yards of additional silt ended up there.

The last thing I want to say is the analysis of all the programs that we are trying to do are done with computer models. And I have given you an example there where the computer model thinks the channels look like they did 20 years ago, and they don't look like that now, which means the analyses we are using for all of our planning and all of our projects are wrong.

With that, I look forward to working with you in the future, and I hope we can find the effort and the money to do things the right way because, as the previous people have said, we have gained no ground on improving the situation in the last generation or two. No ground. Thank you very much.

[The prepared statement of Mr. Herrick follows:]

PREPARED STATEMENT OF JOHN HERRICK, COUNSEL AND GENERAL MANAGER, SOUTH DELTA WATER AGENCY

I, John Herrick, Esq., declare as follows: I am and have been counsel and general manager of the South Delta Water Agency since 1998. The Agency was created by statute in 1972 to protect the water quantity and quality in the channels of the southern Sacramento-San Joaquin Delta for the beneficial use of the water on the surrounding lands. We are also empowered to assist in flood control, water rights and other related issues which pertain to the protection and use of the beneficial uses of the water.

The channels of the southern Delta convey waters form the various tributaries to the Delta pursuant to inflow, tidal action and extractions of water from small individual pumps all the way to large pumps of the Federal Central Valley Project and the State Water Project. The volume of the water in the channels is the supply for plant and animal wildlife, local agriculture and export needs (which include agricultural, municipal and industrial uses). The later includes part of the supply for over 25 million Californians.

In the past, we assumed that in years of high flow, silt that naturally builds up in the channels would be moved further downstream and eventually into the San Francisco Bay and Pacific Ocean. Of course that process might not always adequately maintain channel capacity, but it was thought to at least minimize any need for dredging.

Approximately 10 years ago we noticed that after a high flow year the silt in some areas had increased and not been moved downstream. Since that time we have monitored the overall silt in our channels. We now conclude that a tipping point was reached and now every year, more silt accumulates in the area regardless of the water year type.

For example in a channel known as Doughty Cut, we have monitored a location that has progressed from an open channel, to one with a sand bar, to the sand bar now an island.

The impacts from this accumulation of silt are not just significant but approaching catastrophic. I have attached a map and some pictures to highlight three locations. The first is the Doughty Cut mentioned above. That channel is the main route for tidal water to move upstream and enter Tom Paine Slough. Thus, it is the supply for the (approximately) 6500 acres of farmland dependent on it for agricultural use. Given the silt in Doughty Cut, Tom Paine Slough no longer fills on the incoming tide. The result is that from July through early August of this year, the district which pumps water onto the 6500 acres was only able to provide 38–77% of the water needed by the crops. You may recall that time period was an extremely hot spell, if not the worst on record. The first picture shows the Slough nearly empty during that hot spell. Farming cannot survive if its water supply is curtailed or shut off during the growing season.

The second area designated on the map where the Undine Road bridge crosses Middle River. Middle River is one of the four main channels in our area. We have watched the silt build up in this channel for at least 20 years now to the point where many diversions cannot operate at full capacity or simply cannot operate. The pictures of this location show that on November 20, 2023 the channel was about 3 feet across and about 6 inches deep. "Normally" is it 30 yards across and 4–6 feet deep. With the pictures is a color-coded Figure showing the build up of silt just from 2023.

The last area is on the San Joaquin River, where a local project is monitoring the configuration of the River. Per the engineers involved, that one area alone saw an increase of 250,000 cubic yards of silt from the high flows in 2023. This means of course that the greater southern Delta area received millions of cubic years of silt in 2023 alone. As the silt builds up, the channels become more shallow and the volume of water decreases. One can only speculate as to how long it will be until some areas simply cannot divert from the surrounding channels.

The last graphic I've attached is cross-section of Undine Road at Middle River. It shows what the DSM2 model (the model used to evaluate changes in Delta conditions and to project impacts from changes to those conditions) end gauges "think" existed at this location on November 20, 2023, and what actually existed according to our (very) recent bathymetry. As you can see, the model thinks there is over 2½ feet of depth and 50 feet of width, when in reality the channel less than a foot. Such a disconnect in what actually exists from what the "accepted" analysis shows exists means that any and all in-Delta evaluations are both wrong and unreliable.

The degradation of the southern Delta channels will eventually destroy local agriculture, radically impact the ability to export water to areas of shortage, impair

native fisheries and result in a shallow, marshy swamp of hot, stagnant water with a net increase in water lost to consumptive use.

Maintaining the channels, as was always anticipated, will preserve flood conveyance capacity, protect agriculture, protect exports, fight invasive plant species, and restore cool water channels needed for endangered fish species.

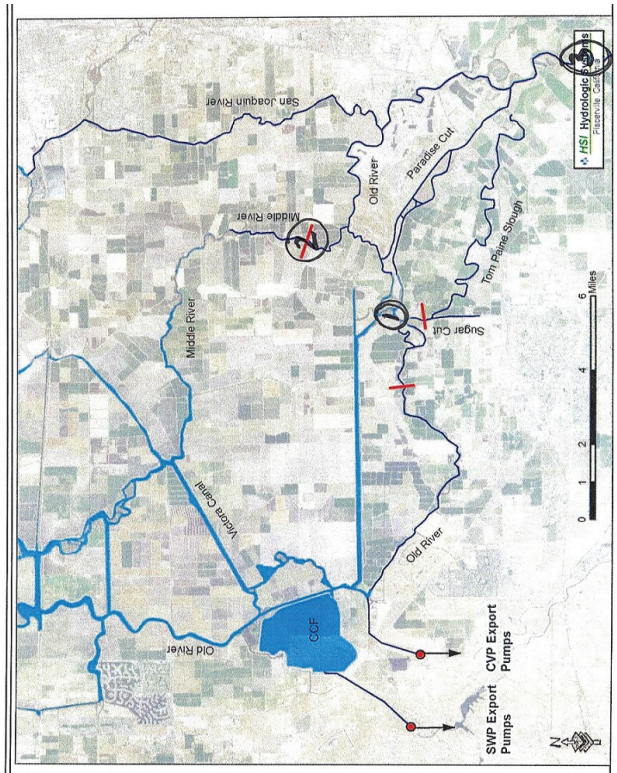
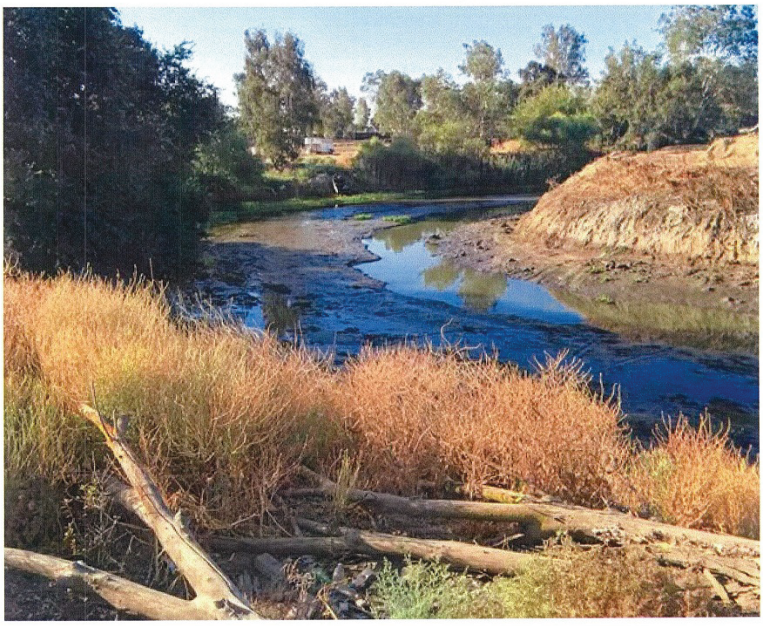


Figure 1 Export Analysis Comparison Locations.

TOM PAINE SLOUGH



UNDINE ROAD at MIDDLE RIVER SDWA 2

Figure 8 Middle River Upstream and Downstream of Undine Bridge

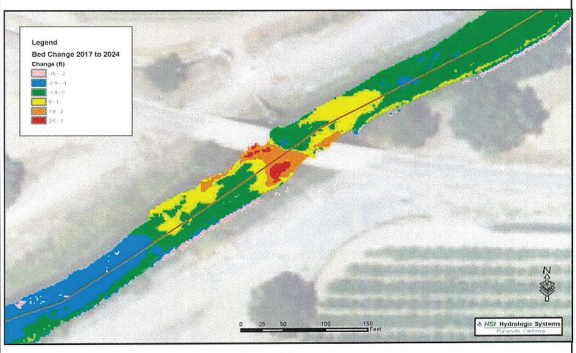


Figure 9 Middle River Siltation at Undine Bridge.

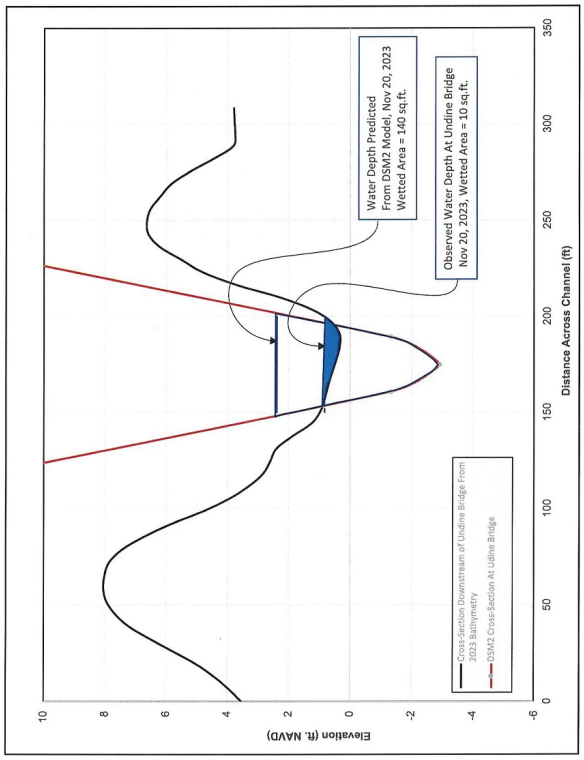


Figure 7 Channel Geometry at Undine Bridge, Middle River

Mr. BENTZ. Thank you. I now recognize Mr. Weimer for 5 minutes.

STATEMENT OF JOSH WEIMER, DIRECTOR OF EXTERNAL AFFAIRS, TURLOCK IRRIGATION DISTRICT, TURLOCK, CALIFORNIA

Mr. WEIMER. Good morning, Mr. Chairman and members of the Committee. My name is Josh Weimer with the Turlock Irrigation District. And thank you for the invitation to testify about TID's industry-leading reservoir and watershed management.

As a way of background, TID is the oldest irrigation district in the state of California, formed back in 1887, and we provide irrigation water to about 5,000 growers who irrigate 150,000 acres. And we also provide retail electricity to about a quarter million people. We are governed by a five-member, locally elected board of directors, and we are not part of the state or Federal water project. We are locally owned and locally operated. We get our water from the Tuolumne River. And along with our partners on the river, the Modesto Irrigation District, we have built a series of conveyance and storage projects on that river, most notably the Don Pedro Project.

Don Pedro is a 2 million acre-foot reservoir, and also provides 200 megawatts of carbon-free electricity for our customers. And Don Pedro is also the sole flood control responsible agency for the Tuolumne River. And over the course of our 137 years of operation, one theme has stayed consistent over the entire time, is that necessity has driven innovation. That was clearly the case during the formation of the district, when we brought irrigation water to the people from the construction of our first water project in 1893, and to entering the electric business 100 years ago.

And importantly, that necessity led to TID's investment and commitment to reservoir management and technology following the devastating floods across Northern California in 1997. In 1997, there was no detailed hydrological modeling, forecasting, or intelligence that allowed operators to mitigate impacts from flooding. We were completely reactionary. The Tuolumne River downstream of Don Pedro has a very limited channel capacity of 10,000 CFS. In 1997, the peak flow into Don Pedro was 180,000 CFS. We had no clue what weather was coming, and we had no idea that we needed to create space in the reservoir to prevent from downstream flooding.

Immediately following the flood, TID committed to never being in that situation again, and sought out the leading experts in hydrological analysis and research at Stanford to create a Tuolumne-specific hydrological operations model. HFAM is the first hourly and physically based hydrologic model to use for water operations in the state of California. Our model breaks down our watershed into over 800 land segments that factors in soil type, rock formations, tree density, and then we input precipitation, temperature, wind, and solar radiation for each land segment. All of those inputs then provide us with information on soil moisture, snowpack, and runoff in the watershed for each land segment.

HFAM is a central hub for our operations. And since that initial investment 25 years ago, we have dedicated annual resources to calibration and to building out that model to fine tune our operation. We have partnered with NASA on ASO snow surveys with scripts on atmospheric river research, and all of those new data sets are incorporated into the model and provide more accuracy, removing virtually all uncertainty in water operations.

2023 showed the full extent of advanced reservoir operations. We were coming out of the third driest 3 years in history, and preparing for the fourth year of a drought. But within the course of 24 hours, we went from drought planning to flood control releases. Don Pedro had 800,000 acre-feet of space available, and we knew with certainty because of our investments in technology that months down the road we would have more water than we could store, and we began making pre-flood releases with a reservoir that was half full.

While others were filling the reservoir to recover from the drought, we were able to pass hundreds of thousands of acre-feet before they started making flood releases, which reduced downstream flooding. The certainty from the modeling and forecasting allowed us to run at max channel capacity for 70 straight days, and it allowed us to pass 2 million acre-feet of water through Don Pedro without any downstream flooding.

And these flood releases also allowed our electric side of the house to offset over $20 million in natural gas purchases for our power plants by running more hydro because of this technology. These investments allow TID to maximize the current system that we have for water supply reliability, flood control, for groundwater recharge, hydro generation, and environmental purposes.

We believe that embracing new technology, especially technology that doesn't require any more concrete, is the first and the lowest hanging fruit for better reservoir operations. TID stands ready to work with other reservoir managers in California, whether that is Federal, state, or other entities, to provide lessons learned and key findings from our experiences.

Thank you for the invitation to testify in front of the Committee, and I look forward to your questions.

[The prepared statement of Mr. Weimer follows:]

PREPARED STATEMENT OF JOSH WEIMER, DIRECTOR OF EXTERNAL AFFAIRS, TURLOCK IRRIGATION DISTRICT

Chairman Bentz and Members of the Subcommittee:

My name is Josh Weimer, and I am the Director of External Affairs for Turlock Irrigation District (TID) in California's San Joaquin Valley. TID was the first publicly-owned irrigation district in the state of California. Today it is one of only four in California that also provides electric retail energy directly to homes, farms, and businesses. Organized under the Wright Act, the District operates under the provisions of the California Water Code as a special district. TID is governed by a five-member, locally-elected Board of Directors.

TID delivers irrigation water through over 250 miles of a gravity-fed canal system that irrigates approximately 150,000 acres of farmland. In addition, TID owns and operates an integrated and diverse electric generation, transmission and distribution system that provides power to a population of 240,000 within a 662 square-mile area. TID is one of eight Balancing Authorities in California and operates independently within the Western United States power grid. A Balancing Authority performs a balancing function in which customers' usage and resources are matched on a moment-by-moment basis.

Thank you for the invitation to testify today on TID's industry-leading reservoir and watershed management activities. Our watershed, run-off, and hydrology are changing and we must adapt how we operate our system to account for these changes. New and improved infrastructure are part of the solution, but embracing new technology, technology that doesn't require any additional concrete, is the first low hanging fruit that TID has focused on. Maximizing the District's current storage and diversion facilities and our unique ability to operate the system ourselves versus having state or federal parameters, allow us to adapt to the challenges facing California water supplies.

Through private, state and federal partnerships, TID has been able to pioneer the use of innovative technologies through its Airborne Snow Observatory (ASO) program and ForecastInformed Reservoir Operations (FIRO) program, both of which support the enhancement of TID's water management operations. These tools are then inputted into its own in-house hydrologic model. TID's Hydrocomp Forecasting and Analysis Model (HFAM) is one of the only hourly and physically based models used for water operations in the state of California. The combination of results from these programs have proven accurate within a 2 percent margin. As discussed further below, using these technologies and data increases drought resilience, improves flood protection for our communities, and proved invaluable when operating the Don Pedro Dam and Powerhouse during the 2023 water year.

TID Background

TID has historic water rights dating back to the early 1870's and most of the water it supplies to its growers is diverted from the Tuolumne River. TID partnered with the neighboring Modesto Irrigation District (MID) ("the Districts"), and built La Grange Dam in 1893 to divert water out of the river and into the Districts' respective canals. The Districts joined forces again in the 1920s to build the first Don Pedro Dam. With a small storage capacity of 289,000 acre-feet, the dam held only enough water to accommodate growers' irrigation needs for a single growing

season and generating carbon-free hydroelectric power for customers in the San Joaquin Valley of California. Don Pedro propelled TID to become a public power agency.

After numerous dry winters, the Districts decided to replace the original dam with a much larger one to store the water necessary to bridge multiple years of drought. The New Don Pedro Project was completed in 1971 and has storage capacity of 2,030,000 acre-feet, seven times larger than the original. TID is the majority-owner and operator of the Don Pedro Project, by virtue of the Districts' historic sharing agreement based on acreage served within each district, TID's share is 68.46%, while MID's share is 31.54%. The dam has many benefits that range from irrigation water storage, flood control, recreation, and environmental benefits, as well as power generation. The Don Pedro powerhouse has the capacity to provide a total of 203 MW of hydroelectric power.

Although TID operates Don Pedro as a water-first facility, the collaborative nature of TID's water and energy teams has provided the flexibility to maximize releases to generate hydropower and address the immediate needs of its customers' energy demands year-round. Don Pedro makes up approximately 20 percent of TID's energy portfolio, providing clean, carbon-free energy.

The Tuolumne River is TID and MID's primary source of water, replenished annually by the spring snowmelt in the 1,884 square-mile Tuolumne River watershed originating at Mt. Lyell in Yosemite National Park. Water for irrigation and hydroelectric power production is stored at the Don Pedro Reservoir about 50 miles east of Turlock in the Sierra Nevada foothills near the historic gold rush era town of La Grange. The average annual runoff is 1,893,042 acre-feet.

Necessity Has Driven Innovation

Over the course of TID's 137-year history, one principle has remained at the forefront, necessity drives innovation. Our community certainly understood this in 1887 when a vote of the people brought irrigation to the valley, and numerous times over the following decades when the District decided to build its own water system and take our communities' destiny into our own hands. Unprecedented metrological events 25 years ago were one of those key moments that set TID on a course of trailblazing reservoir management.

The massive flooding events across Northern California in early 1997 caught all reservoirs operators off guard. At the time, the technology and forecasting didn't exist to operate a river system. Rather, operators were reactionary and passive to what the inflow gages showed after the fact. The Tuolumne River channel below Don Pedro is very narrow and only able to pass 10,000 cfs without flooding in Modesto. The unique hydrology surrounding the 1997 events led to the opening of the control spillway gates for the first time since construction was completed in 1971. In flow into Don Pedro peaked at over 140,088 cfs with an hourly peak over 180,000 cfs which caused the elevation to rise so quickly that water ended going over the uncontrolled spillway.

These types of experiences were common during 1997, but what was uncommon was the response and action taken following the flooding. TID decided at that time that a lack of forecasting, situational intelligence, and specific Tuolumne River watershed modeling must be addressed to ensure safety and stewardship of the Tuolumne River and our downstream communities.

In 1998, TID knew what information was needed, and set out to find the experts to create a Tuolumne-specific model to inform reservoir operations. Almost 10 years prior, a TID employee took a two-week hydrology class taught by experts at Stanford University. During that time, he was introduced to Dr. Norm Crawford who had been researching hydrological simulation programing since he developed the Stanford Watershed Model in the 1960s. TID budgeted $200,000 in 1998, and sought out Dr. Crawford to develop a Tuolumne-specific model. As with all models, the initial development cost is only one portion of the overall investment. Annual development and calibration is what takes these tools from interesting models, to useful operational products, over the course of 25 years the average annual budget has been approximately $50,000.

HFAM

HFAM is a hydrologic simulation program that determines watershed conditions and reservoir inflow based on current and forecasted meteorology. The Tuolumne HFAM model runs hourly from a 93-year meteorological database and represents the watershed using 827 land segments, 133 stream channels, 8 irrigation canals and 13 lakes and reservoirs, incorporating physical factors (soil and vegetation types) and then bringing in inputs (precipitation, temperature, wind, solar radiation) which is all used to output information on soil moisture, snowpack and runoff

within the watershed. This advanced model offers a 16-day forecast to make informed decisions for flood control and water supply during dry years. Results have proven accurate within a 2 percent margin.

HFAM evolved from research at Stanford University in the 1960s (Stanford Watershed Model), and development continued in the 70s and 80s (Hydrological Simulation Program—FORTRAN) and to the present supported by numerous organizations and state and federal agencies.

HFAM includes Systematic Operation Analysis for Reservoirs (SOAR), reservoir operations code that maximizes the value of Don Pedro by balancing the competing use of the reservoir for flood control and for irrigation and hydropower water supply. SOAR can be used to analyze operations under current conditions or to assess impacts of climate change or the benefits of additional storage options such as additional reservoir storage, managed groundwater aquifer recharge, or connections with other reservoirs.

ASO

In 2012, TID has partnered with the NASA JPL and the United States Department of Agriculture (USDA) to bring snow survey measurement, runoff forecasting, and reservoir operations into the 21st century with the Airborne Snow Observatory (ASO) program.

ASO provides a precise measurement of depth and water content for every square meter of snow in the Tuolumne River watershed, and when combined with conventional snow surveys, provides a near-perfect picture of snow water content. The ASO technology measures snow depth and water content using an airplane-mounted light detection and ranging (LiDAR) technology instrument and an imaging spectrometer. The aircraft flies over and scans mountain basins to completely and accurately measure snowpack across the entire watershed.

California pioneered snow surveys in 1929 with a water supply forecasting program that relied on measurements of snow in select locations to estimate spring and summer runoff into reservoirs across the state. Conventional snow survey methods, although still valuable, have not been revisited until recently with NASA's ASO program. They rely heavily on professional judgment and extrapolation with a large margin of error because they use a minimal number of locations to estimate snowpack over tens of thousands of square-miles of watershed.

Having the ASO data that has been proven within 97 percent accurate enables TID to better manage operations, including the use of hydro generation at Don Pedro Power Plant, and benefits water supply, flood control, and environmental impacts.

The Tuolumne River Watershed is over 1,800 square-miles, but there are currently only 17 points of measurement in the entire watershed—equating to one site for every 88 miles. The points consist of remote measurement sites and snow pillows that measure the weight of snowpack and transfer that into a water equivalency.

Highly precise and accurate data from the ASO program can allow for better informed decisions with managing precious water supply. This data allows for earlier and larger groundwater recharge deliveries in wet years, avoid losses from overly conservative forecasts in dry years, more balance among competing demands at reservoirs during the refill season, and earlier and more confident decisions for allocation and managing environmental flows.

Scripps

Owning and operating its own water system has allowed TID water operators to proactively seek out new practices that it believes will benefit its customers and has given it more flexibility to test and refine its water operations. Years ago, TID's Chief Hydrologist discovered the great work that the Center for Western Weather and Water Extremes, Scripps Institution of Oceanography at UC San Diego was doing on atmospheric river research and started to incorporate that technology into TID's water operations.

Now known as the Forecast Informed Reservoir Operations (FIRO), this technology observes atmospheric rivers using a variety of methods including satellites, ocean tracking buoys and by using an aircraft to fly directly into an oncoming storm before landfall. Data turns into models which yield real-time data made available online, and reservoir operators throughout the West have the ability to use the data to inform their operations. Using this data has proven invaluable to TID operations, which has improved public safety, and provides tremendous value to our customers.

TID has become a founding member of Scripps' Water Affiliates Group and is excited to enhance its relationship with Scripps and continue using the latest technology to inform our water operations.

Results of Multi-decade Investments in Technology

Regardless of the water year type, drought or flood, TID continues to see the daily benefits of the investments made over the past 25 years.

In 2017, the wettest year on record for TID, ASO began providing images of every square-meter of the watershed. The Department of Water Resources (DWR) and California Nevada River Forecast Center (CNRFC) increased their snowpack runoff forecasts, which caused TID to increase the Tuolumne River to near-maximum channel capacity to accommodate the runoff. However, once TID received the ASO data, which showed less runoff than anticipated, we had the confidence to decrease releases from Don Pedro Reservoir.

The following year, in 2018, data allowed TID to get a deviation from the U.S. Army Corps of Engineers that saved approximately 150,000 acre-feet of water. The deviation allowed TID to encroach into the flood control space in Don Pedro and forgo vacating the water which the District would have historically been required to do to prepare for unexpected flooding. With the investment in modeling and real-time data collection, TID was able to show that the District knew exactly how much snow was in the watershed and that there was no precipitation coming in the 16 day forecast that would threaten public safety.

Importantly, the positive results of TID's advanced water operations has also served to prove the cost effectiveness of investments in technology and data, increased the confidence to use model outputs to make consequential decisions on reservoir operations, and drive planning for infrastructure development needed for the future.

2023 Advanced Reservoir Operations

The 2023 Water Year ended up as the third wettest year on record with 4,020,029 acre-feet of runoff, however it did not start off that way. At the end of December, the District was preparing for a 4th year of drought, but that changed over the course of one day. We went from drought planning to flood planning within the course of 24 hours. These are the realities of how water managers must be constantly ready for any conditions and they must possess the necessary tools and resources to be confident to take early action.

Coming off the third driest three-years on record, Don Pedro Reservoir was half full, with roughly 1 million acre-feet of storage space available. Most water operators in that situation decided to fill their reservoirs and then deal with any potential issues later. TID took a different approach.

Due to the snowpack measurements and the Scripps information, we were able to run over 100 simulations in HFAM that showed that months later there would be more water than we would be able to store. The decision was then made to start making pre-flood releases in early January with over 800,000 acre-feet of storage space available. Don Pedro has 340,000 acre-feet of flood control space, but we have started to operate the reservoir utilizing the entire storage capacity for flood control.

By starting excess releases in January, the Tuolumne was able to vacate water while river levels in the San Joaquin were low. Other water operators were holding on to all of the water, desperate to recover from 3 years of drought.

Over the course of the water year, even with a 10,000 cfs limit in the river, TID was able to pass over 2 million acre-feet of water through Don Pedro. The District held maximum channel releases for over 70 consecutive days. This is even more impressive when you know that the Tuolumne River has an uncontrolled creek, Dry Creek, which feeds into the main stem in the city of Modesto. Water released from Don Pedro takes 20 hours to arrive at the confluence of Dry Creek, this requires TID hydrologists to not only take into consideration the elevation of Don Pedro and inflows into the reservoir, but they must factor in local precipitation and adjust releases a day prior to that water arriving in Modesto where flood stage is measured.

At the same time, our Power team was facing historical hikes in natural gas prices, which would undoubtedly impact the cost to provide power to our electric customers. The early releases allowed us to not just evacuate water in a consistent manner to provide room for flood control, but to also maximize the use of that water as free fuel for hydro-generation. The hydropower generated created over $20 million offset of gas purchases.

Without TID's historic investment in modeling and the incorporation of technology and data in partnership with private, state and federal entities, it would have been very difficult for the TID Board to make such a consequential decision to release water before runoff was behind Don Pedro Dam.

Next Phase Investments

While the advancements TID has made in the last 25 years has been more significant than any watershed in the state, the District continues to lean into cutting-edge research and technology.

The District entered into a discussion with Cornell and DWR on a Climate Generator. This research was to develop a base line indication of the magnitude of climate change that one could expect. We already know that the hydrology is changing, the wet years are getting wetter more often and the dry years are getting drier for longer periods of time. So the question is what hydrology should we be planning to and this research is considered vital for our sensitivity analysis for planning and operations purposes.

Key Takeaway and Opportunities for Federal Action

TID's experience developing and implementing science and technology into its reservoir and watershed operations has paid dividends as discussed above, and there are opportunities to replicate this approach in other Basins in California and across the West. Several important lessons based on TID's program that are worth highlighting as other entities considering this approach include:

1. Infrastructure is still a critical backbone of water management. For TID, it is the combination of our models and use of day along with Don Pedro reservoir, our extensive distribution system, and other critical infrastructure that allow for these successes managing through droughts and floods. Technology will only take water management so far without robust infrastructure, and in fact, our knowledge of the watershed helps drive infrastructure decisions.
2. Making meaningful strides to be more precise in reservoir and watershed management requires a long-term dedication to investment and incremental improvement. TID's water management program did not happen overnight and it is important for decision makers to take an approach that gives these types of programs the time needed to test and work properly.

TID stands ready to work with other reservoir managers in California—whether federal, state, or other entities—to provide lessons learned and key findings from our experience. There are also opportunities for the federal government to improve and facilitate these types of actions. Increasing funding to help with ASO flights through the Bureau of Reclamation and other agencies, continued support for further improvements to FIRO, and greater certainty that federal regulators will incorporate modeling and studies into decision making—whether it be flood control regulation or other areas—would help advance efforts to maximize the benefits of existing reservoirs. Additionally, the Tuolumne River watershed is largely public land and ensuring proper management and wildfire risk reduction is increasingly important to mitigate impacts to reservoir and watershed management.

Conclusion

Thank you for the opportunity to testify in front of the committee and share TID's history and our commitment to watershed and reservoir management. TID takes our commitment to water supply, recreation, public safety and stewardship seriously.

The 2023 example is profound, but those results are a byproduct of 25 years' worth of investments. TID strongly encourages all organization and agencies that have responsibilities for reservoir and watershed management to lean into the lowest-hanging fruit to enhance water supply reliability.

Mr. BENTZ. Thank you. I thank the witnesses for their testimony, and I will now recognize Members for 5 minutes each for questions.

I am going to warn the panel. We are going to do two rounds of questions. So, just because you get through the first 5 minutes from each one of us, there will be another 5 minutes for each.

We are going to start with Congressman McClintock for 5 minutes.

Mr. MCCLINTOCK. Thank you, Mr. Chairman. As you know, I chaired this Subcommittee for several years, and what I learned in those years came down to this: droughts are nature's fault. They

happen. But water shortages are our fault. That is a deliberate choice that we made starting in the 1970s, when we imposed laws that made the construction of new reservoirs endlessly time-consuming and ultimately cost-prohibitive.

We are not going to solve our water shortages until we build more reservoirs, and we won't build more reservoirs until we fundamentally change these laws and the policymakers who are responsible for them.

Twice in this last decade, we have seen historic droughts followed by record rainfall. But because we don't have the capacity to store excess water from wet years, we suffer catastrophic shortages in dry ones. And now, as you have just testified, even in wet years farmers are being choked off of their water.

Mr. Phillips, you said this was a simple choice between scarcity and abundance. Who is responsible for that choice, and what do we do about it?

Mr. PHILLIPS. Thank you, Congressman McClintock, and thank you for the question.

I believe that the responsibility is back on Congress. And the reason I say that is because a sentence that was in my testimony that I wanted you to consider very carefully, that unelected officials at regulatory agencies have been delegated the responsibility for being the final decision-makers on how we allocate water resources, so they are continuing to do that. They are the ones building reservoirs by taking our existing ones like Shasta and building from the bottom up, dedicating all of the space to their purposes, and we can no longer use it for the existing purposes.

Mr. MCCLINTOCK. Well, don't forget, Shasta was built to 600 feet of elevation. It is designed to be 800 feet. That is missing 200 feet, which that generation left to our generation to fulfill, would mean another 9 million acre-feet of water storage on the Sacramento system.

Now, everybody thinks the Colorado is the great river in the United States. It is a pygmy compared to the Sacramento. The Sacramento's flow is almost twice as much. The difference is we store 60 million acre-feet on the Colorado, we store about 11 million acre-feet on the Sacramento, and we lose all of the rest of that to the ocean every year.

In 1959, the legislature passed the Burns-Porter Act. That included a water bond of $1.75 billion. You do the inflation adjustment, that is about $19 billion in today's money. And with that $19 billion in today's money, we built 10 storage dams, 11 ancillary dams that store 7 million acre-feet of water that generate 3,000 megawatts of hydroelectricity. And with what was left over we built the California Aqueduct.

Since 2000, California voters have approved $27 billion in water bonds, all promising to enhance California's water supply. And, in fact, there is another $10 billion bond on the November ballot. Yet, not a single major reservoir has been built in California since the New Melones in 1979. So, we face a situation where one of the most water-abundant regions of our country suffers chronic water shortages, even in years of record rainfall.

Mr. Weimer, it should be obvious that this crisis isn't a shortage of water or, for that matter, a shortage of money. So, what is it?

Mr. WEIMER. From TID's perspective, it is a lack of investment in technologies and up-to-date science and data to drive water operations.

Mr. MCCLINTOCK. Well, it is more than that, though. I mean, it is a lack of will to build new storage, is it not?

We don't lack new storage. Just as I said, just completing Shasta to its design elevation is 9 million acre-feet of additional water. Finishing the Auburn Dam, for which we cut the footings a generation ago, would be another 2.1 million acre-feet of water. Would that not solve our water shortages if we had the will to use that water for the benefit of the human population?

Mr. WEIMER. We definitely need the will to build more storage and to capture the water when it is available. And that is something that, at the local level, being locally owned and operated, that we are able——

Mr. MCCLINTOCK. Mr. Bourdeau, you are a farmer. Surface water storage is the cheapest possible way to produce water. Desalination remains by far the most expensive way. Yet, the left is actually tearing down existing dams, dumping that water into the ocean, and then telling us we are just going to have to pay $3,000 an acre-foot or more so that we can reclaim a little bit of the water from the ocean that we have just dumped into it. Does that make any sense to you?

Mr. BOURDEAU. Well, it might if you live in a metropolitan area on the coast, but farmers in my region need surface deliveries.

Mr. MCCLINTOCK. What would $3,000 per acre-foot of water do to your operation?

Mr. BOURDEAU. You would go out of business.

Mr. MCCLINTOCK. And let me ask you this. If we are raising the costs of farmers, what does that do to the cost of groceries?

Mr. BOURDEAU. They skyrocket. And not just by the cost of our water, but all the underlying costs of doing business here in the state of California.

Mr. MCCLINTOCK. Thank you.

Mr. BENTZ. Thank you. I recognize Congressman LaMalfa for 5 minutes.

Mr. LAMALFA. Thank you, Mr. Chairman. I appreciate this gathering here, and being able to delve into such an important topic that has been truly under-emphasized in our legislative efforts, not from the people in this room, but in Congress, as well as what is going on up in Sacramento.

I represent the 1st District of California, the top of the state. I am adjacent to Mr. Bentz, who is across the border from me up there. We have a lot in common, one aspect is the Klamath River and the upper Klamath Lake.

That lake was enhanced by what is known as the Klamath Project, there is much more additional water that was made available by that project, and the hydroelectric dams further downstream have made clean hydroelectric power available, Mr. McClintock was referring to that a moment ago, everybody wants CO_2-free power, right? And those dams right now are being removed to the detriment of the actual habitat and the fish population they claim to be saving.

The devastation caused by the release of an estimated 20 million cubic yards of silt up and down that river with the four dams that were removed, they are pretty much all out now. You should see the photographs and the videos of the water going down that stream. You should see the other data there, such as a person I know is taking samples each day of that water and water quality. The water is running about 70, 71, 72 degrees, which is a lot hotter than salmon want, and you can't even see through it there. It looks like one of those health drinks my wife makes for me for breakfast in the morning sometimes. You know that dark green? It is awful. Yet, here we go.

[Laughter.]

Mr. LAMALFA. The drink is good. Don't let that get back up north.

[Laughter.]

Mr. LAMALFA. But here we are: bad science informing a bad outcome. So, I want to especially commend what Ms. Lucas was saying. A very compelling, first-hand testimony you made on what that feels like to you, what it is for you here. And I wanted to just throw the question out here, though. When I have in my neighborhood the Shasta Dam, Lake Oroville, a combined 8 million acre-feet of storage, the proposed Sites Reservoir, which is moving along. I like to joke, I guess, that the Great Lakes were formed by glaciers. Well, this project is moving along at a glacial pace, too. It has been talked about for 50 years. Another 1.5 million acre-feet available if we could build that.

Mr. Phillips, I appreciated your comments, and Ms. Febbo, as well. Storage like Sites and Shasta. We are talking about Delta tunnels and all these things. I mean, just talk about the expansion of supply, what that means, and how the equation starts working better for all of us up and down Sacramento Valley and San Joaquin Valley.

First, Mr. Phillips.

Mr. PHILLIPS. Thank you, yes. More storage. When we have years like 2023, and flows going everywhere, we need places to put the water. And Sites would be one of those places. Raising Shasta would be helpful. And there are a lot of good storage projects.

I think what I would want you all in the audience to be aware of from my perspective, not quite as long as Mr. Herrick, but 24 years is it is clear to me that if we have unelected officials having unending amounts of ability to take water, they will take it from Sites, they will take it from—whatever we build, it will go. We have to stop that and build the projects. But if we don't feel like just building these projects is going to get us to the garden spot, if we don't fix the way regulatory changes are made——

Mr. LAMALFA. Well, I am appalled at how San Luis Reservoir was operated this year. Last year, it was full, and I am rooting for you just as hard down here to fill that, even though I can't get any of the water as far north. We need this all to happen.

And I thank you for mentioning the Shasta Dam raised another 630,000 acre-feet just for a quick and dirty 18-foot raise, not the whole 200 Tom was talking about.

Ms. Febbo, talk about that a little bit, too, please, and then some of the bit we were discussing earlier with Fish and Wildlife, for example.

Ms. FEBBO. Sure. I agree with Jason that regulations and infrastructure both need to be modified. I do believe that adding storage does create more flexibility for the system, and allows more flexible water management, which results in more water supplies so we have more knobs to turn, basically.

San Luis Reservoir this year has been extremely frustrating in terms of its operation. The San Luis Reservoir was originally intended to be a fill-and-spill reservoir, or not fill-and-spill, it is fill-and-drain. So, you fill in the winter, and then in the summer, when the demands are high, you drain that reservoir and bring it down as far as you can. And this year, we are looking out and we are seeing it at above 400,000 acre-feet, which is a couple of hundred thousand acre-feet higher than it needs to be at this point. So, we see that really as a waste of water that could have been allocated. And if by chance next year is wet, that will just be spilled out into the ocean.

Mr. LAMALFA. All right, thank you. I had better withdraw.

I yield back, Mr. Chairman.

Mr. BENTZ. The Chair recognizes Mr. Valadao for 5 minutes.

Mr. VALADAO. Thank you, Chairman.

Thank you, Congressman Duarte, for hosting this. I really appreciate the opportunity to talk about this. Obviously, water is something that is vital for all of us here across the Valley.

I am going to direct this question first to Ms. Febbo, but I want everyone else to follow up if they have anything they want to add to it.

We are all familiar with the Administration's decision to override the biological opinions established in 2019, the ones that were started under President Obama and finished under President Trump. I recently led the California Republican delegation in a letter to the U.S. Bureau of Reclamation denouncing their latest draft of the new biological opinions, as they seem to prioritize the needs of a couple specific species above all else, above our communities, above our farmers, and even above our other environmental and wildlife impacts. Do you and your stakeholders have concerns with the new draft BiOps?

And if so, what concerns you the most?

Ms. FEBBO. We absolutely have concerns with the new draft biological opinions. When you see the squeeze of regulation chart that is over there, you can see that the 2018/2019 BiOps actually resulted in an increase in water supply, the first in decades, a small amount but it is a baby step. And we believe and the agencies at that time believed that that was the best available science and an operation that did not result in jeopardy of fish species.

So, when there was an effort to modify those and reopen up the consultation of the biological opinions, we were really concerned about why you would need to do that when there were just recently biological opinions developed on best available science with the non-jeopardy opinion.

We are reviewing the new biological opinions. It is a confusing mess of 23,000 pages of information that we are trying to review

between the opinions and the environmental documentation. There are a lot of questions about how the operations are actually going to work and how they fit together. And really, at this point, we don't have a clear picture of what those opinions are concluding or what they are offering out.

Mr. VALADAO. I don't know if Mr. Phillips or Mr. Bourdeau or any of the others——

Mr. PHILLIPS. I would add that they were overturned for political reasons, and they were also overturned because they could be. And we should just take note that they will continue to redo in the future, every few years. Unless it changes and they are not able to do that, they will continue to do that.

Mr. BOURDEAU. I am very concerned. And something as important as this shouldn't be used as a political pawn. Also, it shouldn't be rushed just to get done before the next Administration. So, it is the height of mismanagement and inappropriate use of their power.

And what is really the big tragedy is I don't think it is going to help the environment.

Ms. LUCAS. I echo all of the comments my fellow speakers have had, and would like to add that, from a legal perspective, it is an absolute travesty. The science is really political science. And, unfortunately, the way the Endangered Species Act is currently being implemented, the law requires best available science, but the agencies, the unelected bureaucrats, get to dictate what that science is, and that is driving all of our problems.

Congress implemented the Data Quality Act many years ago, and it has been virtually ignored. It sets true standards for what science is. It requires economic benefit analysis, and it gets us out of this political science volleyball that is leading to the devastation and doing no good for the species.

Water is too scarce to waste, but the unelected bureaucrats get to waste it every day on the hope that maybe another generation from now we might see recovery. But if not, that is OK, we will just get more water.

Mr. VALADAO. All right, and I think that was important to mention because Mr. Phillips, you mentioned in your talking points about the amount of fish that have been saved. Have there been any?

And with this fish, how many acres are we losing, potentially, with these species that haven't recovered?

You mentioned that there is a farmland requirement as retirement, possibly. Any idea what that number of acreage could be?

Mr. PHILLIPS. The amount of water, just if you look at the chart over there on the west side, from 100 percent to where we are today, it is well over a million acre-feet per year. And that is not to take into account the rest of California. It is millions of acre-feet. The trajectory of the salmon are going down. Other species that are extinct are going down. So, it is hard to say that it is benefiting.

Mr. VALADAO. So, there is no evidence to even support that species have recovered with all the economic damage that has been done.

Mr. PHILLIPS. None. And we are probably well over a million acres of farmland that will have to be retired when we lose our groundwater.

Mr. VALADAO. I appreciate it and I yield back, Chairman.

Mr. BENTZ. Thank you. And I was negligent in failing to recognize the Merced County Sheriff enforcement team who is here today. I just want to mention that in some of my meetings up in Oregon we had, shall we say, need for folks to step in from the law enforcement side of things and to remove protesters from a previous town hall meeting. So, it is great to have Lieutenant Ray Framstad here, Sergeant Chris Chilton, and Sniper Deputy Savi Sohal, and I just want to thank them for their presence today. Would you all give them a round of applause, please.

[Applause.]

Mr. BENTZ. Thank you. And with that, Congressman Duarte, you are recognized for 5 minutes.

Mr. DUARTE. Thank you, Mr. Chairman, and thank the panelists here, a real dream team here of good friends, a lot of you, and people I have come to respect immensely.

Economically, California has a $33.5 trillion economy. And if we took 1 percent of 1 year's GDP for California alone, you would have a $3.3 trillion economy. You would have $33 billion to spend on water. It is not absurd; we are spending 100-and-some billion dollars on high-speed rail. So, for 1 percent of 1 year's GDP, I imagine we could have the infrastructure needed for water abundance. But some things don't require infrastructure, they just require common sense.

I am going to go down the line here, give you each about 30 seconds, whatever you need. Tell me, where would you find some part of that 2 million acre-feet of water that we need in California for farms, for homes, for business, for grassland estuaries, or for the ecological systems here on Earth? Not out in the ocean, it doesn't do us much good out there.

And I am going to start with this end of the table, because that end of the table has been picked on a lot today. So, Mr. Weimer, please.

Mr. WEIMER. Yes, you would find it first by utilizing the best technology out there to operate your reservoir system. Water is too scarce of a resource for us to be operating off of tools from the 1950s. We have the technology available for us to maximize and optimize the water resources within the existing footprint. Obviously, technology only gets you so far, and we need new storage and conveyance to be able to take advantage of the flashy systems. And that is why TID and MID filed for flood water rights 2 years ago to try to capture that water when it is available.

But utilizing technology for best reservoir management is the lowest hanging fruit for the entire state.

Mr. DUARTE. Let me push for an estimation on your part. If we applied the same technologies and management systems to the Bureau of Reclamation and Army Corps of Engineers-operated reservoirs statewide, how many 100,000 million acre-feet of water could we achieve on an annual basis?

Mr. WEIMER. It is hard to give a number. But to give an example, in 2018, by utilizing this technology, we were able to capture 150,000 acre-feet that normally would have had to be released due to an outdated flood control manual. If you apply that to the

significant water systems that the people on this panel deal with, you would expect to see such a large savings.

Mr. DUARTE. So, a 2 million acre-foot reservoir was able to improve its operations for an additional 150,000 acre-feet——

Mr. WEIMER. In just that year. And we have seen benefits from this technology in every year, whether it is wet or dry.

Mr. DUARTE. Thank you.

Mr. Herrick, tell me about dredging. Not just in the Delta, but some estimation of what dredging could be done in California to allow better flood control, better river flows, better delta flows, and more efficient water use and scope, what the impact of that might be.

Mr. HERRICK. Well, starting with the last part of that, the scope would be tremendous. Silt isn't just building up in the South Delta. It is building up in every reservoir. It is building up in Clifton Court Forebay, which is the state project's forebay for getting water. It is building up in all the rivers.

And when you decrease the amount of volume in the channels, you impair everything that you are doing. You have less flood control capabilities, you have less transport of water, you have less dilution of water. It is just a monumental impairment that is slowly destroying parts of our system, and our system depends upon the movement of water.

So, I can't put a number on it. But there are tens of millions of cubic yards of silt that need to be removed or we are not going to be able to deliver water anywhere, not just the South Delta going out of business, which is likely, but——

Mr. DUARTE. OK, if you are not going to give me numbers, we are going to move on.

[Laughter.]

Mr. DUARTE. I realize that is a tough load.

Mr. Bordeaux?

Mr. BOURDEAU. Well, we are trying. It is not because of water supply initially—we are trying to raise San Luis Reservoir for safety of dams purposes. But because of that we are trying to raise it modestly. And I do believe in the user pay system. Some of the Congressmen up here believe in that strongly, and so do I.

But when we have to move Highway 152 for safety purposes and the raise is about half a billion dollars, just to move the highway to make transportation safer. And I don't think that should be on the backs of farmers that are trying to feed the nation. And our margins are very thin, and it makes it cost prohibitive.

Mr. DUARTE. OK, that is the most expensive water.

Ronda, tell me where the cheapest water is.

Ms. LUCAS. In my opinion, the cheapest water is going back to the basics, as your chart illustrated. We had a good water system. And when it was built we recognized, because for time immemorial, at least in California, I apologize, Chairman Bentz, I don't know the rest of the Western United States as well, but at least in California we have a cycle of drought and flood.

It is feast or famine in this state, and it has not much to do with global warming. We built a system that, much like our household finances, we knew in some years we would get a bonus. So, we would take a portion of that bonus and we put it in savings,

because in other years we might have crop failure, and we would have to rely on that savings to get us through.

When you look at your chart, Congressman Duarte, when we were at 100 percent we were OK. What changed? Unelected bureaucrats got to repurpose the state water project, the Central Valley project. Frankly, Don Pedro and every other water management system.

Go back to common sense, and go back to the basics of why we created this water. We can have both. We need to stop letting unelected bureaucrats choose scarcity.

Mr. DUARTE. Thank you. And right before I yield back, I will thank all of you for bringing this back to Congress, because I totally agree it is our job.

I yield back, Mr. Chairman.

Mr. BENTZ. Thank you. The Chair recognizes Congressman Fong for 5 minutes.

Mr. FONG. Thank you, Mr. Chairman.

And thank you, Congressman Duarte, for pulling us all together. I want to get right into it. Maybe I will start with Mr. Phillips and go down if anyone has additional comments.

But I am very concerned. And I am disappointed, of course, that the National Oceanic and Atmospheric Administration is not here. But they have a Fall X2 proposal that has the potential to create even more stringent roadblocks for agricultural and municipal water users. So, Mr. Phillips, can you speak to the effect that this Fall X2 proposal will have on your irrigation district and to others, and what this may mean for water users?

And then the second question is, is there a better way to adaptively manage flows without sacrificing water allocations to our nation's most productive agricultural region?

Mr. PHILLIPS. Sure. I will address Fall X2, which is a fishery agency proposal to take the savings that was talked about and put it out to the ocean. And in this particular time, there has been an abundant amount of science that has shown that this Fall X2, which, if we had more time, I would get into the details, but it is not necessary. In fact, the scientists even agree. But now the regulators are tying themselves in knots on, OK, how do we undo it?

And 10,000 to 15,000 acre-feet a day right now are leaving our system, our storage reservoirs, out to the ocean. We could use it next year, but for the fact that they are not able yet, they are trying to figure out how to put a stop to this regulation that they imposed and Congress never had a say in ever.

Mr. FONG. Ms. Febbo?

Ms. FEBBO. Yes, I will add that the cost could be up to 300,000 acre-feet if it is implemented and we have a dry fall.

To me, it is about being able to adaptively manage. But not only that, to show that the regulatory agencies are willing to adaptively manage. We are looking at the reconsultation again, and we have the fishery agencies and the project operating agencies saying that they will adaptively manage. And this is a perfect example when we actually have the science that is saying this may not be beneficial.

So, this is the time where we need to come together, and we need to decide and have the courage to be able to say we are going to

try something different, and we are going to adaptively manage, and we are going to learn from this.

Mr. FONG. Any other comments? Yes, Ms. Lucas.

Ms. LUCAS. NMFS' proposal for Fall X2 is not based on science.

When X2 first came out, it was a concept. It was a hypothesis. And we tested for years, trying to release water to move X2, which is the distance where the tidal inundation comes from the Golden Gate Bridge into the Delta. Mr. Herrick's comments about inundation and sedimentation, that water has to get down through the Delta, through all of those channels. So, when you layer the science on top of the actual real-world situation in the Delta, where the channels are impassable, it is an absolute waste of water and there is no way we can achieve the objective.

Let's hold the unelected bureaucrats to the same standards that we, the farmers and the agencies, are held to when it comes to science, when it comes to hypotheses, and when it comes to results. And it would fail miserably and never get out of the gate.

Mr. FONG. Mr. Herrick?

Mr. HERRICK. Yes. Everybody is being polite here.

[Laughter.]

Mr. HERRICK. We have witnessed this for the past 30, 40 years, that the theory of how to recover fisheries species is wrong. Now, I can't solve a fishery problem. I think everybody here would like fish and rivers, right? We would all like that. The people who are making the regulations have destroyed the fisheries. Let's be honest about that. Nothing they have done has recovered a species. Everything gets worse.

So, whatever the answer is, and I am not a fishery guy, and I don't advocate for fisheries, what we are doing isn't it. And anybody that has been a participant in the various hearings, which I have been in too many times, you can see that the regulatory people, no offense to them, I know a lot of them and they don't care what anybody else says. You don't have any impact on them when you show them something and they go, oh, all right, and then they do what they were going to do anyway. Until that system is broken down and rebuilt, we are not going to solve it.

Mr. FONG. I want to let you answer that question too, but I want to add a second question to you. You have talked about the use of new technology, ASO, FIRO. Why do you believe that the state and Federal regulators are not taking into account this valuable information into developing solutions?

Mr. WEIMER. I think that the state and Federal Government are starting to see the benefits of this and starting to slowly move towards that direction of implementing some of this in their watersheds.

However, what we can definitely say is that using site-specific science to inform regulations is clearly the best way to go. And we have been re-licensing the Don Pedro project for 15 years. We have spent $35 million on 50 site-specific science to inform how we should operate the system, and it is very clear that a combination of flow and non-flow measures will provide the healthier ecosystem that we all want to see.

It is abundantly clear through our work that that is the way that we should move forward. And we shouldn't be utilizing regulations

or flow standards that were, frankly, developed for the Columbia River on the Tuolumne River.

Mr. FONG. Thank you, I yield back.

Mr. BOURDEAU. I have a quick example of some adaptive management and reconsultation that could have improved the situation dramatically. The steelhead this year were abundant. And because of that they were ramping down the pumps. And as they did, it didn't improve the situation. So, if they could have went and said, "You know what, the fish are abundant. Why would we throttle back the pumps? It is not impacting the fish, let's move some water," but they took an overly conservative approach that impacted our water supply dramatically.

Mr. FONG. Thank you.

Mr. BENTZ. Mr. Phillips, you have worked for the Bureau of Reclamation. This is your opportunity to be candid with all of us and tell us what you would change.

[Laughter.]

Mr. BENTZ. First, no one is going to know about it. I mean, it is just us.

[Laughter.]

Mr. PHILLIPS. Well, I don't know if I would characterize what I would change, but when I have been area manager or deputy regional director in the past, my philosophy is the Bureau of Reclamation would not exist but for its responsibility to deliver water to its customers in its full amount. And every single day of their job should be spent trying to do that and not take on the responsibility of other agencies.

So, I guess, simply put, that is the way I would look at it.

Mr. BENTZ. Obviously, I have had occasion up in Oregon to deal with the Bureau on many, many occasions, and it looks as though they are caught in a fairly difficult position, fighting their way through NMFS, U.S. Fish, and others. How would you recommend that that be resolved? I have heard a bunch of solutions, but what is yours?

Mr. PHILLIPS. Well, I think you have to find the level within the administrations that are willing to find solutions. And a lot of times what I found in Klamath, it is not always there in the basin. And make sure that you hold people accountable, and hold the regulatory agencies accountable, and work it up the chain.

But the job at the Bureau should be to advocate to maximize the water deliveries to the project.

Mr. BENTZ. I found that accountability is awkward when you are in Congress. Perhaps it works better if you are president. But if we Congress folk can write a blistering letter, and this gentleman to my left is very, very good at that, and I mean it.

Mr. MCCLINTOCK. It is therapy.

Mr. BENTZ. Yes, but I am not sure how effective that is, other than the therapy part. I am going to shift from you to Ms. Lucas, because you have mentioned several times about the politicalization of the buyout process. I agree completely with you.

How would you fix it? And don't resort to vote for someone else than somebody blue for president. Tell me your thoughts.

Ms. LUCAS. I do believe that there are opportunities. First and foremost, we had a major victory. "We," I would say everybody in

the United States with the Loper Bright decision that is carving out what nerds like me call Chevron deference. So, that is a start.

Mr. BENTZ. I am going to interrupt because we are running out of time, but I am extremely interested in your answer. It seemed to me that the reversal of Chevron was the full employment act for lawyers and, more to the point, Federal judges.

How is it that we are going to be the better for the system, now that it is not agencies but instead courts?

Ms. LUCAS. The reality is if Congress could mandate and tie some appropriations to it, you control the purse strings, and again, look at the Data Quality Act, the science used will be the same, regardless of its source. Because what we have now is the agencies we represent invest millions of dollars in science and we submit it through the section 7 biological opinion, section 7 consultation process. And they can just ignore it with impunity and then adopt their own science that really isn't science and doesn't meet the same rigors as ours. And they get away with it because the judge had to defer to them. They were the experts.

So, getting rid of Chevron deference will help that. But what can you do? You can ensure that the section 7 consultation process cannot turn into a never-ending informality with rope a dope, he said/she said, where the bureaucrats get to be both judge, jury, and executioner. There needs to be independence, and the standards that are applied to the agency, whether it is their science or their decisions, should be the same standards and rules we get to live by. And that will level the playing field. Because we know how to save these fish and keep water abundant. They are just ignoring it.

Mr. BENTZ. I am glad we have another round of questions because this deserves more discussion.

The obvious observation from all of us watching the taking away of the water from the farmer and moving it to other uses is who pays. And my question to you, I guess, Ms. Febbo, would be are the environmental organizations in some fashion paying for the water they have taken from you when it comes to O&M?

[Laughter.]

Mr. BENTZ. I am sure they are writing a check somewhere, right?

Ms. FEBBO. No. Absolutely not.

Mr. BENTZ. Should they?

Ms. FEBBO. I believe so, yes.

Mr. BENTZ. My time is up, but there is another go-around, so we will start with you to my left, Mr. McClintock. Five minutes.

Mr. MCCLINTOCK. Thank you.

Mr. Herrick, first, I think you were absolutely right that the environmentalists have devastated the environment of our rivers, and, I might add, of our forests as well. Just look at what they have done at the Klamath. One farmer up there recently observed that there is not a single living creature left in the Klamath River in the wake of the dam destruction up there. He said there are no fish, no turtles, no nothing. It is dead.

And then, in severe droughts they routinely require pulse flows, releases of huge amounts of cold water for the sake of the fish. A salmon biologist told me no salmon in its right mind is going to enter a river in a drought. The water is too warm and there is not enough of it. So, by doing these huge cold water releases in the

middle of a drought, you are tricking the salmon into doing something their own survival instinct is begging them not to do, and it never ends well for them.

In fact, dams protect riparian habitats from the environmental ravages of both droughts and floods. And as my colleagues pointed out, we have squandered hundreds of billions of dollars making the environmental situation worse without doing a damn thing to maintain the fish populations.

Is there anything else you would like to add to that observation you made?

Mr. HERRICK. Well, I would just agree with it. And, again, I am not a fish advocate, but I have been in all the hearings for the state board for the Bay-Delta programs, and it is a virtually useless process if one side is not attackable.

Mr. MCCLINTOCK. Well, they are ideological zealots.

Mr. HERRICK. They are.

Mr. MCCLINTOCK. They pay no attention to the public, they pay no attention to the science. They are following a weird kind of religion that has no foundation in science, no foundation in reality, but it makes them feel good for some reason. And certainly, that is true of the State Board.

And that is where, Ms. Lucas, I need to push back a little on one observation you made. You keep mentioning "unelected bureaucrats" being at the heart of the problem. I don't think that is the heart of the problem. We need to remember that every one of those unelected bureaucrats are either appointed by or hired by elected officials who are supposed to be accountable to us. The problem is we don't hold them accountable.

The State Water Resources Control Board is entirely appointed by Governor Newsom. So really, this is a nature versus Newsom debate. And the fault is not with nature. Right now, the State Water Resources Control Board is considering this draconian reduction in water distributed to residential customers. You are about to have an awful lot of company.

The only way they are going to, even in flood years it doesn't matter. The reality of the situation, this is something that makes them feel good. And the only way I can think of for a water agency to do that is to levy cost prohibitive fines or to jack up the price of water to the point where it is unaffordable in a state that already bears one of the heaviest costs of water in the country, despite the fact we are one of the most water-rich regions of the country.

So, I guess I have to get back to a simple point, and that is the fault, dear Brutus, is not in our stars but in ourselves, that we are underlings. We, the voters, have allowed this to happen. As I said, this is not nature's fault. This is a choice that we made when we elected these imbeciles. Any thoughts?

[Laughter.]

Ms. LUCAS. Right. Without agreeing to some of your personal observations, I would say you make a very valid point. These unelected bureaucrats are accountable to somebody. And with respect to the water board, it is Governor Newsom. And with respect to those in charge of National Marine Fisheries Service under

NOAA and U.S. Fish and Wildlife Service, it is currently the Biden-Harris administration. You are 100 percent correct.

I would say, combining two observations from both you and Chairman Bentz, who bears the cost of this? Every single one of us, and we just don't realize it.

The one thing that we at this table and all of our agencies could do is a much better job of simply being honest with our customer base.

Mr. Herrick, you and I have sat in many water board hearings over the years, and it is a unique group. But the general public does not know that in passing this regulation, you are not going to have water tomorrow or the next day. You can't turn on the tap.

You mentioned the unimpaired flow regime, what the water board is currently considering for the Bay-Delta Water Quality Control plan under the guise of Clean Water Act compliance, by the way. That could remove up to 50 percent of the water supply in the cities in the Bay area. They don't even know it.

Mr. MCCLINTOCK. But the point is we can change that, all of us together, the moment we summon the political will to do so.

Thank you. My time has expired.

Ms. LUCAS. I concur. And solving the political will involves educating those people so that they know this isn't a free political vote. These people are choosing to cut off your water; are you OK with that?

Mr. BENTZ. Thank you.

Mr. LaMalfa, you are recognized for 5 minutes.

Mr. LAMALFA. Thank you again, Chairman Bentz. I really love this conversation. And we have to get down to the reality of it here. And we have people making decisions that don't seem to understand. Or if they do, they don't care about our economy, where our food is going to come from. And it needs to come from this place right here.

If you watch much of C-SPAN during the congressional speech time, I am frequently up there with a poster outlining the crops that are grown in California that the United States relies on, 90 to 99 percent of about 25 different crops. There is more than that, but that is all that fits on my board of things that are grown in this state. And if they are not grown here, they are not grown elsewhere in this country, they have to be imported.

Take your tomatoes. I tried to talk to New Yorkers about that because they understand pasta and pizza, right? I am Italian, I can say that. But if they are not grown here, they are going to have to get their tomatoes from Chile or someplace like that, and that is not good. So, I am trying to make, in my messaging, whatever that is worth to all Americans that are watching, why California water is important to them.

David just reminded me here a minute ago in the so-called infrastructure bill they had a specific prohibition in there for funding for razing Shasta Dam. Why are they doing that? Why would they be so obtuse as to say, "Oh, we just don't want to do that," and under the Trump administration we were actually up there—I was visiting with them one day, they were taking core samples of what that raze would look like and what it was going to take infrastructure-wise.

So, Ms. Lucas, again, I really appreciate your candidness on this, and I wanted to get back with you.

And also, Mr. Weimer, let me do you first on that, on the forecasting. It is called FIRO, right? Were you referring to that a minute ago?

Mr. WEIMER. FIRO, yes, sir.

Mr. LAMALFA. OK, because right now the Army Corps is using 50-year-old manuals to determine what the water level should be, and have had them in committee 2 or 3 years ago, "How are we doing on getting the FIRO integrated?"

Like, "Oh, we are still 3 or 4 more years away from getting that." What the hell are you guys doing? Don't you see the urgency of this water supply and being able to better manage our reservoirs? Because we are leaving water basically on the table when we are having to go, "Oh, we better not let the water out until April 1," right, when they could be looking at long-term forecasting, using FIRO, and say, "We could probably crowd another 150,000 acre-feet into Lake Oroville, maybe another 200,000 into Shasta, and get that much farther in the year."

I am constantly harassing the guys at DWR and BOR, you guys are letting the lakes fill, because we are going to need it. And they are reluctantly, I think, trying to do things that way. But would you emphasize that a little bit more, Mr. Weimer, on this long-term forecasting, and what is Army Corps' delay, et cetera?

Mr. WEIMER. Yes, thank you for the question, Congressman.

It definitely is something that they are hearing, your comments. They are hearing the examples from the Tuolumne and the Sonoma, they are seeing what can be done utilizing Forecast Informed Reservoir Operations when you have the flexibility at the local level to then operate that system. We didn't have to go through 5 years of study plans. We found this information and started to operate it based off of that.

But the Army Corps, they have 500 dams that they have to do. They are utilizing some of this technology. But what they are doing at the local level, the Sacramento office, they are seeing and agreeing with the technology we are doing and allowing us to operate with this new technology. They understand that. And I think the more examples that we can show at the local level when we own and operate our system, we are showing the rest of the country how the potential of operating systems utilizing new technology.

So, I think, from our perspective, we are continuing to share and advocate for the utilization of FIRO and for snow surveys to better inform how they operate their entire system.

Mr. LAMALFA. And save more water.

Mr. WEIMER. Exactly.

Mr. LAMALFA. Ms. Lucas, again, you were talking about using science. I can't see any science going on in the Klamath River they have just destroyed. It is now brown and massive amounts of silt. Heaven knows if you are a constructor, or farmer, or miner and you get a little bit of silt in the river, they come after you. They are actually using excavators to dump silt into the river. That is inexplicable to me. They were scooping it out, putting it in the river on the Klamath because they want to nourish the river of silt. It is unbelievable.

So, talk a little bit more, like, who are the biological opinionators that are making these opinions?

And then you talk like that they are discarding that information when it is presented to them.

Ms. LUCAS. As it is currently implemented, there is a long process that gives us a biological opinion, or an incidental take statement, or a jeopardy finding. Each section under the Act has a similar process, but it all lies with field staff at either the National Marine Fisheries Service if you are dealing with anadromous salmonids and steelhead listings, or the U.S. Fish and Wildlife Service for terrestrial and basically all other fisheries or all other species.

At the local level, sometimes at a field staff level, the agencies decide. Right now, the way the Act is being interpreted and played out, the National Marine Fisheries Service, U.S. Fish and Wildlife Service, their staff decides what science they are going to listen to, what science they are going to accept and what they are going to disregard, what the biological baseline looks like. And that is critical, right?

What is the baseline that we are looking at? What is the universe? And they get to arbitrarily set it. And what they have done by doing that has codified and made permanent all of those reductions. That is our new starting point because we have codified the baseline and we can't go below that, we need more, which is why, Congressman McClintock, building more storage is fabulous and needed, but if we don't fix that baseline and we don't fundamentally change who gets to decide what is a take, what is needed for recovery, then they are just going to take that. So, it is field staff within these agencies that nobody bothers to get down to their level and hold them accountable, and they are protected civil servants.

Mr. LAMALFA. And they don't stand for election every 2 years.

Thank you, Mr. Chairman, I yield back.

Mr. BENTZ. Thank you.

Mr. Valadao, you are recognized for 5 minutes.

Mr. VALADAO. Thank you, Mr. Chairman. I want to thank you again for doing this. I know you have been to California a number of times here in the Valley, and I am a firm believer in a government closest to the people is the most effective, and this is our opportunity. So, I think this is a great opportunity for us to have this.

There are three open spots here on the dais, and I really wish those folks would have taken some time to be here. I think it is important, again, for them also to be closer to the people and listen to the things that have been said.

This question is a question I would have liked to ask Commissioner Touton, but I will leave it open to all here. When the Bureau of Reclamation is announcing annual allocations to the system south of the Delta, what goes behind these decisions to slowly increase allocation 5 to 10 percent at a time?

When we were coming out of the drought in 2018, allocations eventually got up to 50 percent, despite reservoirs higher than those of 2018, we are still stuck at 50 percent. Why so arbitrary?

And I don't want to spend a lot of time on that, because I do have some follow-up on that, as well. Does anyone want to address that quickly?

Ms. Febbo?

Ms. FEBBO. Yes. I would say that the reason that we started with such a low allocation and it took a while to get to a higher allocation is really these regulations that we have been talking about, and the level of uncertainty and unclarity in how those decisions are made.

When they are making an allocation, they assume the worst. So, they are looking forward and they are assuming that all the regulations are going to be the most restrictive, and they just move forward that way.

To me, the solution is really trying to deal with that uncertainty and giving some balance to we don't know if this is going to work, so is it worth this much water?

Mr. VALADAO. And I think Ms. Lucas talked a little bit about this, but if we were not living under all these regulations that have had such an impact on how we divert water, our current amount of infrastructure we have in place today, Shasta and all the different reservoirs that are built today, how would that stack up to our needs as farmers, cities, and the whole population of California? Would we have enough water for the majority of what we do today?

Mr. PHILLIPS. Well, I will answer that we would have all been at 100 percent of our contract allocations probably in January or February.

Mr. VALADAO. And that includes some cities that also get water off the system.

Mr. PHILLIPS. A lot of cities.

Now, I do believe that we have additional needs in the state, and we have additional projects, and we need to store more wet water. But in terms of the contract water, we would have been at 100 percent in January.

Mr. VALADAO. Not just Friant. Every water district?

Mr. PHILLIPS. Friant, the west side, north of Delta, the state water project, Southern California.

Mr. VALADAO. And that comes back to the point that Mr. LaMalfa brought up that we were talking a little bit about, and I know it has been mentioned a lot. Shasta is an 18-foot expansion. Sites Reservoir has been mentioned. That project has been in talks for as long as I have been alive and I think pretty much everyone on this panel has been alive. It continues to drag out.

So, the fact that an infrastructure bill is celebrated and dollar amounts are thrown around, it is frustrating because Shasta was excluded. It was something even some of my Democrat colleagues that I think possibly could have been supportive, they act like they didn't know that that was specific. But in my water bill we do bring that back in.

But another thing that was brought up that needs to be talked about is permitting reform. And the fact that it takes that long to build a project, the fact that they have been talking about Sites Reservoir for 60 or 70 years and it still hasn't broken ground, the fact that it took 30 years to expand a simple little reservoir by 10

feet down in Tulare County is frustrating. And I feel like if we were to say that Sites was a football stadium or maybe high-speed rail, they would expedite a lot of the permitting processes.

But when it comes to actually something as vital as water for our communities, and it is so frustrating because I have people all across my district showing me pictures, telling me stories about how they have run out of water and no ability to deliver on that. And it is something so simple, where we know we have enough infrastructure today. But if we want to take care of the environment, why not work with some of the rules so we could expand those resources and grow our storage and be able to provide for all and actually help?

And then the last point is to Mr. Bourdeau, the farmer on the panel. When they are telling us at the last minute how much water you are going to have, do you just go down to the farm supply store and pick up whatever seed is available, and everyone is planting the same thing? I mean, you work ground all the same for every single different commodity, right? Is that how it works? Do you want to explain that a little bit?

Mr. BOURDEAU. No, it is very difficult. Planning and certainty in any business is absolutely critical. And in order to have somebody want to do business with you, you have to have reliability. And they can't say, well, let's grow this year, but what about next year? Because a lot of these people have contracts that they need to fill year in and year out. And when you become unreliable, you are no longer even considered.

And many of these crops take a considerable amount of planning and preparation. So, you can't just flip a switch and say, OK, now they gave us water, let's farm.

Mr. VALADAO. And I assume that affects people who work on farms and communities around those farms, everything from businesses to restaurants to anyone that survives in those communities.

Mr. BOURDEAU. Absolutely. We try to keep people that work on our farms here year round so there is continuity in the communities and things of that nature. But when you have so much uncertainty in terms of your water supply because you can't farm without water. So, yes, it impacts that. It impacts the school districts. It impacts jobs and opportunities. It impacts the American dream.

Mr. VALADAO. All right. Well, I appreciate it.

Thank you, and I yield back.

Mr. BENTZ. Mr. Duarte, you are recognized for 5 minutes.

Mr. DUARTE. Thank you, Mr. Chairman.

OK, one of the poster boards we have over here is a poster board out of my office, which depicts the Folsom South Canal extension. Folsom South Canal comes out of Folsom Reservoir. It travels 27 miles south to the middle of nowhere, well, somewhere for someone, and terminates at 100 feet wide. It has the potential to carry 7,000 acre-feet a day of water from Folsom. It also crosses the Cosumnes, the San Andreas, the Mokelumne, and comes very, very close to the Stanislaus River, where it could pick up water at each of those crossings. We estimate the flood flows from Folsom alone,

we have calculations, actually between 200,000 and 500,000 acre-feet in normal to wet years.

Mr. Phillips, you worked with the Bureau of Reclamation. What flexibility would a simple 50-mile extension of a canal add to the system in terms of south of Delta deliveries?

Mr. PHILLIPS. Congressman, it would help with the South Delta from what I am looking at here, in terms of the water quality, which helps all of our operations. And I commend you for your creativity in looking at different options.

And per our discussions earlier, the critical stakeholders that could probably be supporters of this as well that we should be reaching out to and make this work.

Mr. DUARTE. Thank you.

Ms. Febbo, you are always looking for water. What do you think? Would this help you?

Ms. FEBBO. This was a unique idea to me when we discussed it, but I think that this could be a very good way to get water that can't currently be captured because Folsom Reservoir is small compared to its watershed. To be able to capture that water and bring it down, get the conveyance of that water outside of the natural rivers into a channel that we can actually bring it straight down to one of these areas here, it would definitely provide a more reliable water supply without having the issues in the Delta that we are facing and all of these regulations that we are talking about.

Mr. DUARTE. Thank you.

Ms. Lucas, tell me what they are going to say and how we are going to apply the Data Quality Act to push back and make sure that common-sense solutions can actually get built, in your estimation.

Ms. LUCAS. That is such an easy question, Congressman, thank you.

I am sure that this will be called the second coming of the devil, and will lead to the precipitous decimation of every species we have ever cared about, and the end of the environmental movement in California from our opponents. And the reason I say that with a degree of certainty is because that is what they say about everything.

Mr. DUARTE. Yes.

Ms. LUCAS. The fish have been on the precipice of extinction for 30-plus years, and we turned over the management to them, and they haven't gotten any better, but they claim that they are succeeding.

The Endangered Species Act is approaching its 51st birthday, and in those 51 years we have listed 1,700 species. We have recovered less than 2 percent, and that includes the species that were listed in error but they still get counted credit for recovery.

Mr. DUARTE. Let me ask you a question. Another piece of legislation is reaching its 50th birthday here. It is the Clean Water Act. We had a wonderful hearing in the Natural Resources Committee, where we heard from some algae specialists that many municipalities around the Delta and Bay are still dumping non-tertiary treated effluent into the Delta, causing red algae blooms and killing fish by the scores and thousands. Is that, by your information, actually happening?

And Mr. Herrick, you know something about these things. Are we still dumping non-tertiary treated effluent into the Delta?

Mr. HERRICK. Without identifying anybody, I believe we still are, yes.

[Laughter.]

Mr. DUARTE. And that causes algal blooms that gets in fishes' gills and kills them by the scores.

Mr. HERRICK. And excuse me for bringing it home, as the South Delta gets shallower and warmer, the problem gets even worse because of that, yes.

Mr. DUARTE. Would that be some low-hanging fruit if we actually wanted to cure species extinction would be not to flood the Delta with untreated nutrients and cause algal blooms that get in fish gills and kill them?

Mr. HERRICK. Yes. I know plenty of people that would thank you for that.

Mr. DUARTE. And the Clean Water Act was, as I understand it intimately, biblically in some sense, was to control point source pollution discharges into jurisdictional waters of the United States, was it not?

Mr. HERRICK. If I may, I am a believer in negative feedback. So, until somebody starts, excuse the expression, humiliating the people that are making these bad decisions and not applying the rules correctly, it is not going to change. It is the same political will issue, but there has to be focused public awareness of how poorly the system is being run by regulators.

Mr. DUARTE. Would it be fair to say that we are using the Delta for a toilet, so we are flushing it like a toilet with our Ag. water?

Mr. HERRICK. Yes.

Mr. DUARTE. Thank you. I will yield back.

Mr. LAMALFA. Good one.

Mr. BENTZ. Mr. Fong, you are recognized for 5 minutes.

Mr. FONG. Thank you, Mr. Chairman. I want to focus on something that hasn't come up yet, and that is the issue of subsidence.

Mr. Phillips, clearly you and I have had a number of conversations about the fact that our water infrastructure across the state is aging, creating capacity and conveyance limitations across the Valley. The Friant-Kern Canal certainly has significant issues of subsidence that is impacting its integrity. What are the major barriers to using proactive versus reactive tools in our arsenal to combat subsidence, which is threatening our ability to transport water throughout the Valley?

Mr. PHILLIPS. Thank you, Congressman, and the major tool we need to be able to use is to get people who are overdrafting groundwater, get them surface water so that they can continue to farm without causing the subsidence. And the barriers to that are the same regulations that we are talking about because there are a lot of coalitions of water agencies and Ag. agencies that are willing, through the San Joaquin River Water blueprint, to develop options for infrastructure to get the surface water in. And the barriers are just the ability to get these projects through without having them so regulated.

Mr. FONG. Thank you.

Mr. BOURDEAU. Congressman, I would like to add some historical perspective on this subject.

Mr. FONG. Yes, absolutely.

Mr. BOURDEAU. We were overdrafting the aquifer in, I don't know when it started, but maybe the 1930s. And they were farming out here on the west side of the Valley when we first figured out how to drill the wells and were able to start farming, and we created subsidence. So, the projects were built to deal with this. And these pioneering individuals actually got things done, built these projects and solved the problem. And now that we are not using the system as it was intended, we have subsidence again.

Ms. LUCAS. May I jump in really quick?

Mr. FONG. Oh, yes, absolutely.

Ms. LUCAS. One other to exacerbate the problem. The very agency, the California State Water Resources Control Board, who is supposed to be the keeper of our water here in California, is actually contributing to subsidence. They passed the California Bay Delta Water Quality Control Plan for the Tuolumne, Stanislaus, and Merced Rivers. We call it the SED or the unimpaired flow. It takes 30 to 50 percent of our water off the table. And in their environmental analysis, to ensure that they didn't have to worry about the impacts to the Bay area's water supply, they adopted the conclusion that it would just be made up with groundwater pumping, and that sigma was too speculative.

So, when it behooves them, they can just ignore their own regulations and create problems, which gets to Mr. Bourdeau's point.

Mr. HERRICK. If I may, real quick?

Mr. FONG. Absolutely.

Mr. HERRICK. Just to bring a bad example, as part of those hearings that were just referred to. I met with a member of the State Water Resources Control Board and went over the faulty science being used on one aspect. And the response from the State Water Resources Control Board member to me was, "John, I can't go against staff. They will think I don't trust them."

And I tried to tell that person that was their job, as an appointed official, to make sure things were done right. And the answer was, "I can't do that because the system has to move on like it is." It is a congenital flaw in the system that nobody wants to do the right thing, they want to keep going where they are.

Mr. FONG. Let me follow up on that. It actually is a good bridge to my next question. And, of course, anyone can jump in after your answer, Mr. Herrick.

Certainly, we have seen a pattern emerge with the biological opinions and other regulations that is pushing to hold environmental water use as a priority over municipal and agricultural applications. And the fact that we have three empty chairs here is clearly an indication to me on this question, but I would like to at least get a real-time analysis from you.

What has been the engagement from the Bureau of Reclamation, the Fish and Wildlife Service, from NOAA, with the water districts, with the agriculture community, with local elected officials when it comes to, for example, the 2024 biological opinions? Has there been any balanced engagement, or has it been just them using the hammer against you guys?

Mr. HERRICK. I will be very brief because my issues are more discrete than the broader panel here. In my dealings with the Bureau of Reclamation, they are singularly uninterested in any sort of interaction. I have a meeting coming up with the regional director soon, so he is supposed to have a different attitude. In the past, they do not want to meet, they do not want to participate. They are not interested in what you want, period. It is not a maybe. I have the state begging me to try to get the Bureau to work with them on joint things. The Bureau is a huge part of the problem, period.

Ms. FEBBO. Does anyone else want to chime in? It is going to be therapeutic, just like Mr.——

[Laughter.]

Mr. PHILLIPS. Well, when I was with the Bureau they were very collaborative, Mr. Congressman.

[Laughter.]

Mr. PHILLIPS. I think the one thing I would add to that, though, is I believe the Bureau has been very collaborative within its contractors. But the transparency that we need, which is not built into the system, is to have more publicly debated what they are proposing to do, both the Bureau, "We are changing our operations"; the Fish and Wildlife, "We are imposing new requirements on Shasta"; NMFS, "We are requiring these new regulations."

That is why I think there should be a moratorium on any new regulations on a project that has already been regulated, unless it is approved by Congress. Use all the science you want, Fish and Wildlife. Put it together. That is what we pay you to do. But it is the electeds that need to say yes, we agree with you, or no, we are not willing to reallocate more water.

Mr. FONG. Thank you.

Anyone else?

Mr. BOURDEAU. I will add that I don't think they understand the impact to the people that they are regulating, and I wish they would show up in places like this and see what devastation their bad decisions are making.

Ms. FEBBO. And they tend to treat the stakeholders who are actually the contract holders as if we are members of the public or the same as other stakeholders that are not the direct contract holders, and that makes it really difficult for the people who really know the system, the farmers who are actually farming, the people who are actually using this water and know the hydrology to be able to provide input. They are very closed to getting input from us separately from anything that they get from the public.

Mr. FONG. I appreciate it. I am out of time.

I yield back.

Mr. BENTZ. Thank you. I am just going to make a few comments, and probably not ask questions.

But one thing that would be hugely helpful would be someone putting together the numbers of how much money, how many jobs, how much was lost as a result of not having that water that you mentioned. It is one thing to say, "Well, we reduced by 30 percent." Well, what does that mean? You might want to supply us with the damage that flowed from not having the water. So, please get us in some fashion those numbers.

On the BiOp, we have been discussing, the staff and a bunch of us, a hearing on just how the BiOp process works so that we can bring to the nation's attention the politicalization of that process. There is zero doubt that it has been politicized, and I think we have all kinds of ammunition to use in that space, and we will use it.

We actually had that on the books, that hearing, and elected to have this one instead. And I am very happy we are having this hearing, very happy to be here, but we will we will be turning our attention to how the BiOp doesn't work right now, and I think we have a lot to say about that.

On the issue of aquifer recharge, that is hugely important to all of us here. It didn't come up much today. I think it should have, because I think it actually works. And I did go visit, I went into the confusion of the University of California Davis, and wandered about until I found the office of the professor from Germany who is doing all the work in this space, spent 2 hours talking to her about it about a year ago. Quite interesting, and we will be doing perhaps a hearing on that and perhaps not.

You should all know that many of the issues we discussed today on the Endangered Species Act are addressed in the cleverly labeled ESA Amendments Act. Not that cleverly labeled, but the point is it will be introduced this week. So, if you are interested in seeing some of the solutions that have been designed to try to address some of what we have been talking about, you can obtain a copy of that by contacting the Natural Resources Water Committee staff, and they would be happy to share it.

This has been a great hearing, a great opportunity to see your wonderful valley.

Congressman, thank you for your invitation.

And Congressman, thank you for your invitation.

And with that, I want to thank all of you for your testimony and the Members for their questions.

The members of the Committee may have some additional questions for the witnesses, and we will ask you to respond to these in writing. Under Committee Rule 3, members of the Committee must submit questions to the Subcommittee Clerk by 5 p.m. Eastern Time on Wednesday, September 11. The hearing record will be held open for 10 business days for these responses. If there is no further business, without objection, the Subcommittee stands adjourned.

[Whereupon, at 12:22 p.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

Statement for the Record

Bureau of Reclamation
U.S. Department of the Interior

Thank you for the opportunity to provide this Statement for the Record on opportunities and challenges in California. The Bureau of Reclamation's (Reclamation) statement will focus primarily on our management of the Central Valley Project in California and its role in delivering multiple benefits for the people of that state.

Reclamation appreciates the Subcommittee's interest in and attention to the challenge of providing water in California and we look forward to working with the Subcommittee and Congress on opportunities to address this challenge. Water management decisions are inherently challenging as we strive to balance providing water supply while protecting the environment. Reclamation is working to meet California's water needs by making investments in our water supply infrastructure while also adjusting our planning and water management operations. We recognize that while there may be differences on water management decisions, we aim to work with the Subcommittee on infrastructure investments that can help California capture more of the flood flows that are increasingly common with our changing climate and use that much-needed water during droughts, while making parallel investments in restoring fish populations and the environment.

The federal Central Valley Project (CVP) and the State Water Project (SWP) together provide water for over 25 million Californians, millions of acres of some of the most productive farmland in the world, and 19 federal, State of California (State), and local wildlife refuges along the Pacific Flyway. The projects reduce the risks of catastrophic flooding, buttress against severe drought, protect and restore habitat for many rare and unique species, supplement local water supplies for communities, produce low carbon hydroelectric power, maintain water quality in the Sacramento and San Joaquin Delta (Delta), and support important commercial and recreational fisheries.

Over the last decade, California and the West have endured recurring periods of drought, as well as environmental stressors that have negatively impacted fish and other sensitive species in the Delta. These drought conditions were exceptional, at least as compared to the historic record, with record-high temperatures and record-low levels of snowpack and precipitation. 2023 was a historically wet water year in parts of California, with a total state-wide annual precipitation of 33.56", 141% of average. The wet hydrologic conditions we experienced left most of the reservoirs throughout the State in good shape as we progressed to the 2024 water year. However, this year has seen average precipitation, with snow and rain at 90% of average in the Northern Sierra and 83% of average in the San Joaquin. Alternating cycles of drought and flood have affected the Delta and the State's water supply as a whole and are expected to become the new normal over the coming decades.

As these boom-bust weather patterns continue in California and throughout the West, the critical importance of resilient water supplies and modern water infrastructure both to the health of our families and the economic vitality of our communities becomes ever more apparent. The Department of the Interior and Reclamation are committed to working with our partners to modernize our water infrastructure, address drought resiliency, improve water supply reliability, foster climate change adaptation, and improve ecosystem health.

Through the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA), Reclamation is deploying nearly $13 billion across the West, supporting rehabilitation of aging infrastructure, completion of rural water projects, expansion of surface water storage, completion of Indian water rights settlements, and improved ecosystem restoration and drought resilience. Combined, these laws represent the largest investment in climate resilience in the nation's history and provide much-needed resources to enhance Western communities' preparedness for drought and climate change.

To date, Reclamation has selected 820 distinct projects from the IIJA and IRA, totaling more than $6.25 billion. More than $3.0 billion of that has been deployed in California. Reclamation is putting these resources to work in communities and on projects with the greatest impact. Examples include the creation of new or expanded storage at B.F. Sisk Dam/San Luis Reservoir in Merced County and Los Vaqueros Reservoir in Contra Costa County, and the new Sites Reservoir in Glenn and Colusa Counties.

We are committed to ensuring these investments deliver meaningful results. However, challenges remain. The dramatic and widespread effects of California's recent drought have challenged the ability of the Central Valley Project to sustain the benefits it was designed to deliver. The California of the 21st century is a much different and more complex place than when the CVP was constructed. Changing hydrologic conditions brought on by a warming climate is shifting the timing and intensity of spring runoff. Invasive species and habitat loss have amplified some of the CVP's negative effects on native species. The warmer temperatures are causing precipitation that used to fall as snow which melted in the spring to instead fall as rain which runs off immediately, often at a time when it can't be captured.

The CVP was designed around the expectation of a snowpack which would build over the winter and melt in the spring to maximize water supply throughout the summer. The shifting from snow to rain in the winter puts a greater pressure on the CVP's substantial but finite reservoir storage. Creeping sea level rise means more water releases are needed to push back salinity in the Sacramento-San Joaquin Bay-Delta, which provides critical water supply for the Bay Area as well as central and southern California. The operation of the Central Valley Project must be updated to continue to meet the needs of people and the environment. The alternative is more conflict and conditions that favor neither water users nor the environment. Responding to the challenge requires a planning strategy that anticipates worst-case scenarios without compromising the many benefits of the Central Valley Project.

In order to consider ways to better meet those goals and achieve a coordinated operations plan, Reclamation reinitiated consultation on the Long-Term Operation of the CVP and SWP in September 2021. The consideration of options follows a transparent, participatory, and science-driven process for the development of alternatives and an analysis of environmental impacts. Since consultation was reinitiated, Reclamation has been meeting with agencies and interested parties to work together to consider revised operations of dams, powerplants, and related facilities of the CVP and SWP. An unprecedented degree of transparency has gone into the process to date as Reclamation and its partners work through technical analyses and develop options for new operating rules. This includes monthly interested party meetings, quarterly public meetings, and numerous direct outreach efforts to relevant groups and individuals.

The proposed plan includes five alternatives reflecting a reasonable range of alternatives for the long-term operation of the Central Valley Project and Delta facilities of the State Water Project. The draft EIS was prepared in accordance with the National Environmental Policy Act and is now available for a 45-day public comment period that ends on September 9, 2024. There were five public meetings in August and one scheduled in September to provide an overview of the plan with opportunities for the general public to comment and ask questions. The aim is to have an executed Record of Decision by the end of the calendar year.

While the new Biological Opinions are being developed, Reclamation and California have been operating the CVP and SWP under a court-ordered interim operations plan (IOP). The 2024 IOP adopts several aspects of the Department of Water Resources Incidental Take Permit, including different Delta Smelt and Winter-run protections. Delta operations are therefore controlled at any time by the 2024 IOP conditions, the 2019 BO and/or water rights permit conditions under California State Water Board's Water Right Decision D-1641. There is a high level of uncertainty during the spring export period regarding which regulations will come into play as a result of hydrology, and to what degree those regulations might limit operations. The effects of these regulations on water supply are largely driven by Sacramento River and San Joaquin River conditions which are dependent on hydrology, reservoir management and pulse flow considerations on San Joaquin tributaries, among other factors.

As a result of these uncertain and variable conditions, initial South-of-Delta CVP water supply allocations in February 2024 were lower than anticipated due to below average precipitation totals at the time of the February 1st water supply forecast as well as large uncertainties in the expected spring regulations. Subsequent increases in March (15% to 35%), April (35% to 40%), and June (40% to 50%) were limited due to long-term hydrology, real-time fishery conditions and regulatory constraints detailed in the IOP and 2019 Biological Opinions. All these factors combine to make it difficult to compare water years given the complicated nature of the CVP's and SWP's operational environment. Nevertheless, Reclamation, our federal partner agencies, and the State of California coordinate every day to optimize the benefits from these projects and the investments being made in them, and help shape the updated future regulatory requirements under which the projects operate.

Conclusion

The Department of the Interior and Reclamation understand the importance of the CVP to the many communities we serve. We are strongly committed to working closely with the Subcommittee on water supply and environmental protection needs. Reclamation is determined to incorporate the best available science into our investments in and decisions on the operation of the CVP for all its authorized purposes—for river regulation, improvement of navigation, and flood control; irrigation and domestic uses; fish and wildlife mitigation, protection, and restoration; power generation; and fish and wildlife enhancement. Reclamation must operate the CVP within a complex environment that serves multiple parties and interests and ensure the ability of State and federal agencies to balance these interests. With the CVP and all its other projects, Reclamation strives to collaborate with our partners using the best available science and the collective experience of a world-class team to make sustainable decisions that take into account dynamic and complex environments in which we operate.

QUESTIONS SUBMITTED FOR THE RECORD TO THE HON. CAMILLE TOUTON, COMMISSIONER, BUREAU OF RECLAMATION

The Honorable Camille Touton did not submit responses to the Committee by the appropriate deadline for inclusion in the printed record.

Questions Submitted by Representative Bentz

Question 1. This administration is in a rush to complete re-consultation on Delta operations. In fact, the schedule is to complete those re-consultations before we know how the Trinity system will be re-operated, which will no doubt have impacts on the Delta. Why rush to complete Delta operations re-consultation?

Question 2. The federal Central Valley Project provides a large percentage of California's water supply, while protecting public safety, and supporting environmental protection and restoration. Additionally, on average the CVP produces approximately 4,500 Gigawatt Hours of electricity each year, with approximately 30% of this energy being used to pump water throughout California for agricultural, municipal, and industrial uses. The remaining power is marketed to not for profit public power entities, who pay for 100% of CVP power related annual expenses as well as repayment of capital investments, including interest. These entities advance funding to the Western Area Power Administration and the Bureau of Reclamation for CVP operations and maintenance as well as required capital project investments, due to lack of appropriations. CVP preference power customers have limited ability to advance these funds, which are crucial to power system reliability and affordable electricity rates.

2a) Does Reclamation have a plan to deal with this issue?

2b) How could the committee support investment in these critical water and power facilities?

Question 3. The CVP hydropower resource is critical to sustaining grid reliability as the industry evolves toward lower carbon resources, and as the west transitions into more organized energy markets. It is also critical to maintain rate stability for electricity consumers, while supporting economical water deliveries for agricultural production and industrial development.

3a) As energy markets develop mechanisms to reduce carbon emissions, do you think that recognition of large hydropower as renewable and carbon-free would help support the energy transition and maintain affordable rates?

Statement for the Record

U.S. Fish and Wildlife Service

Introduction

The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to submit this statement for the record. A fundamental responsibility of the Service is the administration and enforcement of the laws passed by Congress, including the Endangered Species Act of 1973 (ESA). The Service uses the best available science and prioritizes transparency in our work as we fulfill our statutory responsibilities.

The Service is dedicated to the effective and efficient implementation of the ESA. This involves consultation with other agencies to evaluate the impacts of federal water development projects on federally listed threatened and endangered species. The Service also coordinates with other agencies regarding the conservation of wildlife and habitat on National Wildlife Refuge System lands and management of the National Fish Hatchery System to propagate fish and other aquatic species to carry out Tribal trust responsibilities and sustain wild populations, among other responsibilities. We deploy all of these efforts in our work to conserve fish, wildlife, plants, and their habitats across the nation.

California's Central Valley and the Klamath Basin

The Bureau of Reclamation's (Reclamation) Central Valley Project (CVP) and California's State Water Project (SWP) provide water to farms, wildlife, and communities throughout California. Reclamation consults with the Service on operations of the CVP and SWP through Section 7 of the ESA. The Service also works alongside the National Marine Fisheries Service (NMFS), the California Department of Fish and Wildlife (CDFW), and the California Department of Water Resources (DWR) for consultations on the CVP and SWP. The Service has been working closely with federal and state agencies on developing biological opinions using the best available science since Reclamation reinitiated consultation in October 2021.

In the Central Valley, the Service is working with federal and state partners to develop a supplementation program to reintroduce captively raised Delta smelt into the wild. To begin testing actions associated with supplementation, the Service, Reclamation, CDFW, DWR and others began an experimental release program. Approximately 189,000 marked Delta smelt have been released into the Delta over the last three winters. To capitalize on this success and prepare for the future supplementation, the Service, with the support of Reclamation, is leading the effort to build a new fish facility in the Bay Delta region. This facility would be used to produce significant numbers of Delta smelt for supplementation efforts, house a refugial population, and provide research opportunities for Delta smelt and other native fishes. The Service is also working with multiple partners to support Chinook salmon populations.

The Service believes the CVP can be operated in a way that meets the needs of the Central Valley's imperiled fish populations, while supporting California's farms and communities. Finding this balance takes an open, transparent, creative, and collaborative effort by all interested parties, including Tribes, agricultural producers, communities, and state and federal agencies. Ongoing collaborative efforts like the Floodplain Forward work in the Sacramento Valley and the Healthy Rivers and Landscapes discussions represent efforts to transform water conflicts into partnerships that optimize resource use for all interests.

The Service has also diligently sought collaborative solutions in the Klamath Basin, which has seen unprecedented water supply challenges that have a ripple effect on communities, Tribes, fish and wildlife, and the National Wildlife Refuge System. The Service is working closely with Tribes, local governments, farmers, federal partners, and local communities to meet the needs of species and national wildlife refuges while providing a sustainable water supply to Klamath Project irrigators.

Lost River and shortnose suckers remain highly imperiled, with juvenile recruitment in the wild remaining practically nonexistent, with fewer than 4,000 shortnose suckers remaining in Upper Klamath Lake, and with low spawning numbers in recent years suggesting the onset of senescence in the aging sucker populations of both species as they approach their maximum life expectancy. Klamath refuges also continue to suffer from prolonged drought, lack of consistent water supply, and management challenges that have resulted in reduced migratory bird populations across the refuge complex. However, the Service is making significant investments in addressing these issues.

The Service is investing $162 million over five years in Bipartisan Infrastructure Law (BIL) funding to restore the regional ecosystem, while also helping local economies. To date, the Service has allocated almost $90 million in BIL funding to support 41 projects driven by Tribes, partners and communities addressing local and regional needs. These wide-reaching conservation projects are helping build a more resilient Basin that can support the communities that call it home through a deeply collaborative, transparent, and stakeholder-informed process.

Additionally, Klamath Falls National Fish Hatchery is now fully funded with $30 million in BIL funds and construction continues, with an anticipated completion date in 2027. To date, the hatchery has released 70,000 suckers into Upper Klamath Lake, and, when completed, the facility will be able to produce 40,000 to 60,000 juvenile suckers every year. This hatchery will also employ state-of-the-art technology and design to ensure the hatchery itself is maximizing water efficiency to conserve water. The Service is also working closely with our partners at Reclamation, Basin Tribes, and farmers to ensure a water supply for refuges that also supports aquatic habitat for fish and waterfowl and resilient agriculture in the Upper Klamath Basin.

While this funding helps to address high-priority challenges, we recognize that the cost of Basinwide restoration will be much greater. The Service continues to support a unified approach for the coordinated restoration and recovery of the Klamath Basin.

In both the Klamath Basin and Central Valley, hydrology is expected to trend drier, which will impact and complicate consultation, restoration, and other long-term planning efforts. These challenges to our environment and communities must be addressed through collaborative partnerships and transparent processes among a wide variety of stakeholders who work together to develop holistic solutions. In the face of climate change-induced challenges to hydrology and the environment, the Service continues efforts to stabilize imperiled fish populations through the use of multiple tools, including habitat restoration, water operations actions and supplementation, and propagation programs.

California's Central Valley and the Klamath Basin are critical migration and over wintering areas in the Pacific Flyway. National wildlife refuges work with neighboring farms and ranches and state partners to create a network of habitat for migratory birds. This habitat, whether on a national wildlife refuge or on privately held lands, is dependent on sufficient water to create appropriate conditions. Partnerships like those seen in the Sacramento Valley between rice farmers and the Sacramento Valley National Wildlife Refuge Complex and in the Tule Lake area of the Klamath Basin are models for the important role agriculture plays in species conservation.

Conclusion

The Service is dedicated to continuing its work to develop innovative solutions that holistically address the ongoing challenges of species protection, drought, and human use. The Service looks forward to working within the Administration and with the Committee to ensure that federally listed aquatic species are managed as effectively, responsibly, and efficiently as possible under the ESA while working to find collaborative, holistic solutions that also support the water needs of Tribes, farmers, and communities.

Statement for the Record

National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Chairman Bentz, Ranking Member Huffman, and members of the Subcommittee, thank you for the opportunity to submit this written statement. The National Oceanic and Atmospheric Administration (NOAA) is responsible for the stewardship of the nation's living marine resources and their habitat. NOAA's National Marine Fisheries Service (NMFS) provides vital services for the nation: sustainable and productive fisheries, the recovery and conservation of protected species, and healthy ecosystems—backed by sound science and an ecosystem-based approach to management—all in support of a thriving, sustainable ocean economy. The resilience of our marine ecosystems and coastal communities, including inland communities connected by the large salmon-bearing rivers and streams of California's Central Valley, depends on healthy aquatic species, including protected species such as salmon, whales, sea turtles, and corals.

We appreciate the Committee's interest in this important and complex matter regarding water challenges and opportunities in California. NOAA has a vested interest in this topic, particularly with regard to the focal question about what water resource managers can do to better manage our systems and the importance of the Central Valley for food security, which includes commercially harvested salmon that recruit from Central Valley watersheds. NOAA recognizes the numerous and diverse interests at stake, and we are committed to working with our Federal and state fisheries co-managers, other state and Federal agencies, and a broad range of water users and environmental partners to develop long-term, durable water management solutions that consider the important interests and species that rely on Central Valley water.

NOAA's collaborative fishery conservation and management work in the Central Valley is guided by multiple congressional authorizations, including the Magnuson-Stevens Fishery Conservation and Management Act (MSA), enacted in 1976 and amended in 1996, 2007, and 2018, that authorize NMFS to further the conservation and enhancement of essential fish habitat in support of realizing the full potential of the Nation's fishery resources.

NOAA, along with the U.S. Fish & Wildlife Service (USFWS), also administers the Endangered Species Act (ESA). Since the 1990s, NOAA has listed four stocks of salmon, steelhead and sturgeon in the Central Valley as either threatened or endangered under the ESA, including endangered Sacramento River winter-run Chinook salmon, threatened Central Valley spring-run Chinook salmon, threatened California Central Valley steelhead, and the threatened Southern distinct population segment of North American green sturgeon. NOAA also listed Southern Resident Killer Whales (SRKW) as endangered in 2005, and we routinely consult on how large water projects affect this species. Available data suggest that, in some months, Central Valley Chinook salmon can constitute a measurable percentage of Chinook salmon that SRKW consume in coastal waters off California and Oregon. Conservation efforts under the ESA have prevented the species from going extinct, and when water is abundant, have resulted in status improvements in some years. Yet none of these listed stocks have been recovered to the point that they can be delisted and the fisheries cannot support viable commercial and recreational fishing operations without further significant status improvements.

It is important to note that prior to ESA listing decisions, many populations of salmon and steelhead had already disappeared from the Central Valley; impassable dams have blocked these fish from more than 90 percent of their historical habitat. The current abundance of naturally-produced salmon and steelhead in the Central Valley is historically low, and the continued existence of the species is inextricably tied to the presence and operation of water systems that fundamentally alter the ecosystem processes upon which they depend.

In October 2019, NOAA issued its latest biological opinion for the coordinated Long-term Operation of the Central Valley Project (CVP) and State Water Project (SWP), which has been the subject of litigation.

In January 2021, Executive Order 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis", required review of the biological opinions, which was conducted through a process that was underway with the State of California to reconcile matters related to (1) operation of Shasta Reservoir for Outflow and Cold-Water Pool Management, (2) delta operations for fish migration, recruitment, and survival, (3) incidental take coverage, (4) agency roles in decision making, and (5) adaptive management.

In September 2021, Reclamation requested reinitiation of ESA Section 7 and in March, 2022, the District Court remanded without vacatur the 2019 NOAA and USFWS biological opinions, stayed the cases, and ordered implementation of an Interim Operations Plan (IOP).

The state and Federal agency consultation teams have worked extensively to reconcile the five topics outlined above and develop a new proposed action for CVP and SWP operations and new biological opinions are expected to be completed by the end of the calendar year.

Throughout the consultation development, NOAA has leveraged partnerships with many of California's public water agencies and other interested parties by providing regular consultation updates at Water Infrastructure Improvements for the Nation (WIIN) Act coordination meetings and providing the opportunity to comment on the draft biological opinion as sections become available. Section 4004(a) of the WIIN Act requires the Secretary of Commerce to ensure "that any public water agency that contracts for the delivery of water from the CVP or the SWP that so requests shall [. . .] receive a copy of any draft biological opinion and have the opportunity to review that document and provide comment to the consulting agency through the action agency, which comments will be afforded due consideration during the consultation." We are currently in the process of reviewing and addressing the comments received from the most recent WIIN Act review.

We also have leveraged partnerships with the Sacramento River Settlement Contractors (SRSCs) to develop a new Shasta Reservoir Operations Framework that makes the management of California's largest reservoir more resilient to drought and the advancing challenges of a changing climate. Within this process, NOAA has worked with the SRSCs to develop a Winter-run Action Plan (WRAP) to improve the status of Sacramento River winter-run Chinook salmon. The ability to develop the Shasta Framework and the WRAP was enhanced by the Sacramento River Science Partnership, a voluntary science program established to address species and water management on the mainstem of the Sacramento River, and a model example of how water users and agencies can partner around complex scientific and water management issues in a collaborative setting.

A recent pilot effort to reintroduce Sacramento River winter-run Chinook salmon to the McCloud River above Shasta Dam has improved our understanding of how reintroduction can be used to mitigate for the impacts of water project operations when river conditions downstream from Shasta Reservoir are not as suitable for salmon growth and survival. Such reintroduction efforts are key actions identified in NOAA's 2014 recovery plan for the species, and the pilot effort has strengthened promising collaborations with the Winnemem Wintu Tribe and other state and Federal agencies to return extirpated Chinook salmon to the McCloud River.

Conclusion

NOAA is proud to continue to lead the world in conducting ocean and fisheries science, serving the Nation's coastal communities and industries, and ensuring responsible stewardship of our ocean and coastal resources. We are deeply engaged in complex water management, science, and species conservation initiatives in California, and we will continue to build and rely on partnerships with California's public water agencies and other interested parties to support management of Central Valley water resources. We value the opportunity to continue working with this Subcommittee on these important issues. Thank you, Members of the Subcommittee and your staff, for your work to support NOAA's mission.