



Meeting Minutes

Meeting of the California Water Commission
Wednesday, February 15, 2023
State of California Resources Building
715 P Street, First Floor Auditorium
Sacramento, CA 95814
Beginning at 9:30 a.m.

1. Call to Order

Chair Matt Swanson called the meeting to order at 9:28 a.m.

2. Roll Call

Commissioners Arthur, Bland, Curtin, Gallagher, Makler, Matsumoto, Solorio, Steiner, and Swanson were present, constituting a quorum.

3. Closed Session

The Commission did not hold a closed session.

4. Approval January 18, 2023 Meeting Minutes

Commissioner Solorio motioned to approve the January 18, 2023, meeting minutes. Commissioner Bland seconded motion. All Commissioners voted to approve the minutes.

5. Executive Officer's Report

Executive Officer (EO) Joe Yun said Commission staff was meeting later that day with Department of Water Resources (DWR) Tribal Liaison Anecita Augustinez to discuss edits to the Commission's draft Tribal Representative Comment Policy. The Drought Working Group had its second meeting on February 2. Administrative Agency staff are working on the Water Storage Investment Program (WSIP) Contracts for the Administration of Public Benefits (CAPBs) template, and he anticipates having a CAPB template Q&A session in early March, and Harvest Water's CAPB should come before the Commission at the March meeting. He asked the Commission if they would like a standing WSIP agenda item at each monthly meeting. Commissioners agreed that was a good idea.

6. Commission Member Report

Commissioner Matsumoto said she took part in the Drought Working Group meeting on February 2. Commissioner Bland said he spoke with the Consul General from The Netherlands, who feel they have the water supply issue down to a science, and requested an audience with the Commission to talk about their experiences and water management plans.

7. Public Testimony

There was no public testimony.

8. Consideration of Evidence in Support of Resolutions of Necessity for the Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (Big Notch Project) – Batch E, Step 1

On December 20, 2022, DWR notified the Commission of its intent to seek Resolutions of Necessity (RONs) for the Big Notch Project (BNP) in furtherance of a potential eminent domain action against the properties listed below. DWR cannot commence an eminent domain proceeding unless the Commission first adopts a RON.

Commission Legal Counsel Holly Stout explained the difference between the process at this meeting and next month's meeting. There will be no action to adopt RONS at this meeting.

Liz Vasquez, Environmental Program Manager I from DWR's Division of Integrated Science and Engineering, presented an overview of the BNP, including its goals and impacts on the State Water Project (SWP) operations. The BNP will enhance floodplain rearing habitat and fish passage in the Yolo Bypass and is required for the long-term coordinated operations of the SWP and Central Valley Project (CVP) compliance by the 2019 National Marine Fisheries Service Biological Opinion and the 2020 California Department of Fish and Wildlife (CDFW) Incidental Take Permit. The Fremont Weir diverts flood water into the Yolo Bypass and disconnects the Sacramento River and the floodplain during fish migration periods. The proposed BNP includes excavated channels and a gated headworks that reintroduce the connection for fisheries purposes. The operation period is from November 1 to March 15.

Rachel Taylor, from DWR's Office of General Counsel, presented information regarding the specific properties listed on the agenda and how those properties are necessary to meet the goals of the BNP, and updated the Commission about the efforts DWR has made to work with the landowners. DWR is seeking flowage easements for the purpose of fish passage as required mitigation for the long-term operations of the SWP, and has authority under Water Code to acquire property rights required and necessary for the operation of the SWP. California Code requires DWR to obtain a RON from the Commission, as the appropriate governing body. The four findings to be made by the Commission are that the public interest and necessity require the proposed project, the proposed project is planned or located in the manner that will be most compatible with the greatest public good and the least private injury, the property described in the resolution is necessary for the proposed project, and that either the offer required been made to the owner or owners of record, or the offer has not been made because the owner cannot be located with reasonable diligence.

8A. Westlands Water District. DWR is seeking a 346.1-acre easement. The land is currently used for agricultural land and open space.

Commissioner Bland asked if there was a specific timeline that the landowner must accept an offer. Ms. Taylor said no, the BNP has an operation date of November 2023, which dictates the timeline for the RONS, but does not dictate a timeline for negotiations.

Commissioner Curtin asked if any analysis has been done on groundwater recharge on this project, and is it a good recharge area in general. Ms. Vasquez said it would not change overall the water dynamics in the bypass. Major flooding events and over-topping drive the recharge. Any additional recharge would be minor, and it is not an objective of the project.

Commissioner Arthur asked for a general update on DWR's communication with landowners and easement holders since the November meeting, and have any conservation holders carried out their compatibility evaluations. Ms. Vasquez said some are in negotiations with legal counsel, some have asked for engineering backgrounds, a handful of parcels are close to closing, and one group has changed hands. They have been in contact with the new owners. They anticipate having the USFWS compatibility evaluation within four months.

8B. Sacramento-Yolo Port District. DWR is seeking a 3.43-acre easement.

8C. The Pacific Telephone and Telegraph Company. DWR is seeking a 16.94-acre easement. The land is currently used for agricultural purposes. AT&T has easement interests on multiple properties and is working with the Attorney General's office to consolidate their complaints.

8D. Yolo Shortline Railroad Company. DWR is seeking a 43.26-acre easement. The land is currently used as an operating railroad corridor. A letter submitted by Sierra Northern Railway's counsel relates to separate litigation involving the operation of the Yolo Bypass for flood management, not part of the RON, which only seeks easement for the BNP.

Public comment by Mike Hart, CEO of the Sierra Railroad Company (SRC), who asked the Commission to reject the RON, saying SRC's 1.5-mile wooden trestle is the most impacted party for all plans for the Yolo Bypass, as high-water events already overtop the trestle, wood debris and floating logs get caught on it, and it acts as a filter for all of the Yolo Bypass. Other than actions of eminent domain, SRC has not received communication of any sort from DWR, who refuse to engage in discussions about ways to mitigate the harm already done to the trestle. The proposed resolution fails on all counts. The proposed RON seeks a broader easement covering more SRC land. The earlier eminent domain action did not reference this; therefore, it does not meet the requirement and should be dismissed. DWR has not made an offer in connection with the new RON, nor has it specified how much water is being sought to flow in addition to the already unapproved trespassing water on SRC property. The proposed taking undermines the property's function as part of an operating railroad serving the public. There is no evidence the additional flows are compatible with its public use as a railroad. DWR should be talking to SRC in good faith instead of running off to court. There is an opportunity to find compatible uses and resolve the problem of the existing flow before considering additional water flow.

Vice-chair Steiner asked Ms. Taylor to address the caller's comment. Ms. Taylor said the Yolo Bypass is a managed floodplain under the Sacramento River Flood Control Project authorized by Congress in 1867 and opened in 1916. SRC has filed a quiet title action in Superior Court being conducted with the Attorney General's office in direct negotiations with Mr. Hart's counsel. DWR is not seeking easements for flood purposes; this is strictly for fish passage.

8E. M.G. and D. Kleary 2015 Trust, et al. DWR is seeking a 44.744-acre easement. The land is currently used for duck hunting, recreation, and conservation land. U.S. Fish & Wildlife Service holds a conservation easement.

8F. Union Pacific Railroad Company. DWR is seeking a 155.2-acre easement. Union Pacific is doing an engineering assessment before entering negotiations with DWR.

8G. Conaway Preservation Group, LLC. DWR is seeking a 4,389.46-acre easement. The land is currently used for field crops part of the year, and migratory and aquatic habitat. California Waterfowl Association holds a conservation easement.

Commissioner Matsumoto asked about the conservation easement requiring approval from the Wildlife Conservation Board (WCB). Ms. Taylor said WCB needs to make their own findings of compatibility. DWR is coordinating directly with their attorneys and will follow their process.

9. State Water Project Briefings: Maintaining Operational Flexibility

The Commission heard the first State Water Project (SWP) briefing of 2023, on how DWR is working to maintain operational flexibility of the SWP, including dealing with drought and flood at the same time, the limiting factors to system flexibility, and the challenges faced by operators that reduce its flexibility.

Assistant Deputy Director of the State Water Project John Yarbrough outlined the SWP priorities for the year, which include updating the strategic plan, enhancing their risk management process, and having the resources in place to implement the plan. Water supply management will continue to be a priority. The water contracts amended to extend to 2085 will be implemented this year. The legislative requirement to be carbon free by 2035 will require a substantial amount of accelerated renewable energy procurements. Dam safety projects, asset management, and maintenance management will all help to improve system reliability.

Vice-chair Steiner asked if there are still parties that have not signed the amended contracts, and what happens if they do not reach an agreement. She was told that four of the 29 contractors have not yet signed, but they are confident they will all be signed by January 2024. Any that do not sign the amended contract would not be under contract past 2035.

Commissioner Matsumoto asked if there was a plan to offset power from the hydroelectric facilities, and was told there is not a plan to retire those sources. Those will continue to be maintained and utilized through the life of the project. They are not looking to replace their existing hydroelectric assets with some other form of generation.

Commissioner Makler asked if the amended contracts have a performing mechanism for capital expenditure beyond operation and maintenance recovery. He was told the initial concept that the costs of the project are recovered from the contractors stays the same.

Commissioner Curtin asked how large of an energy gap will they have to overcome to reach the 2035 goal, will the future of energy produced by the big hydroelectric projects be at risk during certain times, and is DWR considering solar panels for conveyance facilities. He was told the gap is roughly 50 percent. The way the system is designed, when they are moving water, they are generating energy, so there is a nice correlation between usage and energy generation. This helps keep the gap more stable than it would otherwise be. They are funding a pilot project to look at solar panels on smaller canals.

Commissioner Makler asked how many gigawatts of decarbonized energy they would need to procure to meet the 2035 mandate and was told around three gigawatts of decarbonized sources.

Commissioner Arthur asked if there was consideration in the contract amendments to renegotiate to adapt to climate change and create more flexibility. She was told that the amendment was focused on the time extension and cost recovery.

Mr. Yarbrough talked about the operational flexibility designed into the SWP. Precipitation and snowmelt from the Feather River Basin are captured in Lake Oroville, routed by the rivers through the Delta, pulled out and stored in San Luis Reservoir or distributed to the south. Oroville's different outlet facilities and pump storage generation provide a lot of flexibility in temperatures and flows downstream.

Chair Swanson asked if there was snowmelt to fill the reservoirs, and was told we still need some more wet weather. We are getting close to the flood reservation level.

Commissioner Gallagher asked if Oroville is using Forecast Informed Reservoir Operations (FIRO), and was told no, they are currently working with the U.S. Army Corps to approve the forecasting and put it through their Water Control Manual process, which is the rulebook that determines when you need to release water from a reservoir. Once the manual is updated, they would be able to operationalize FIRO. Lake Folsom and Lake Mendocino currently use FIRO.

Commissioner Arthur asked what is different at Lake Oroville now compared to 2017, and was told the robustness of the features are substantially greater. The gated spillway structure has thicker walls with more extensive reinforcement. The epoxy coating is more corrosion resistant. The emergency spillway is now a concrete weir with stepped buttresses of roller compacted concrete. They are doing a handful of studies with the Federal Energy Regulatory Commission to validate the capacity of the structures, which should be completed in a few years.

Commissioner Makler said the spillway repair effort was a success in addressing an emergency circumstance and getting it back online in a timely manner. Mr. Yarbrough said it was done in two years, when a comparable spillway project at Folsom Lake took a decade to complete.

Mr. Yarbrough said the Delta has less flexibility because they are balancing water supply and ecosystem needs. The construction of the Banks Pumping Plant, with lots of little pumps, allows them to fine tune the amount of pumping. Within the regulatory guidelines there is room for adaptive management. Because of the constraints in the Delta, once water moves south, San Luis Reservoir becomes valuable because it allows them to decouple demand from what they are able to operate with in the Delta. There is extra capacity in the California Aqueduct, which lets them pump during times of day when energy prices are favorable and throttle back when prices are high. Having storage at the check structures gives them flexibility in operations.

Commissioner Curtin asked if they had more percolating capabilities and groundwater recharge south of the Delta, would it add flexibility upstream at Oroville, and was told yes, they are talking to the state water contractors about additional storage opportunities.

Commissioner Bland asked if a state water contractor consumes more than their SWP allotment, does that skew their numbers, and was told the contractors do not have the option to take more than they are provided.

Commissioner Makler asked about the latent capacity value the SWP provides to the electric system, and is there a vehicle for the SWP to be compensated for the capacity value from the electric customers. He was told that there are some vehicles, but there is room for more.

Commissioner Solorio asked if there were plans to cover any facilities or utilize shade balls to avoid evaporation and was told that makes sense in some smaller reservoirs in higher places. The cost to cover and maintain the 400-mile canal would be too high.

Mr. Yarbrough said having storage in the south decouples the demand down south from the operations above, and provides emergency storage for extreme droughts. Subsidence in the aqueduct reduces capacity and restricts flexibility. As infrastructure gets older, the consequences of something not operating become more severe. Balancing water operations and power operations reduces flexibility. Initiatives to improve flexibility include the subsidence program, the Delta Conveyance Project, and asset maintenance management.

Commissioner Matsumoto asked about the subsidence problem, its impact on operations, the degree to which it constrains deliveries, and a timeline for how it is being addressed. She was told they are most constrained when they have a lot of water and need to maximize it. There is a financial impact to not running the aqueduct full. To fix it would be substantial, the estimates are around a billion dollars over 10 years for the full remediation of subsidence.

Commissioner Curtin asked if that timing coincides with SGMA's timeline, and was told their goal is 2024 and the SWP is looking for them to get some reduction in the near term.

Commissioner Gallagher asked if the end goal of flexibility is reliability, are we doing everything we can legally as a state to address the complexities in the Delta, and was told that there are efforts, such as the Incidental Take Permits, that have a lot of entities engaged. Not everybody is coming together, there are still a lot of conflicts because of the complexities.

Los Angeles County Works Deputy Director Keith Lilley explained how his department harvested and stored excess water during the January storms. A video provided an aerial assessment of L.A. County's dams and flood control facilities and how the storms impacted them. Climate change has led to more wildfires, which results in more sediment and debris flowing into reservoirs. Fewer, more intense storms, with long periods of drought in between increase the need to focus on infrastructure. Their major dams were built in the 1920s and 30s. The Water Resource Development Act gave the county the authority to modify the 31 debris basins built by the Corps of Engineers to not only serve their flood protection purpose but to also hold back and capture stormwater. They have invested roughly \$300 million over the last 20-30 years in upgrading electrical and mechanical control systems, and seismic safety requirements. L.A. County has captured more than 33 million gallons of stormwater for future use. L.A. County Flood Control District (LACFCD) owns and operates 14 major dams and reservoirs, and 189 debris basins, which hold back the sediment and debris, before flowing into 500 miles worth of channels that carry it to the ocean safely to prevent flooding. Some flow is diverted to 27 spreading grounds and percolation basins. Their flood control system performed exceptionally well during the storms. The region received more than 15 inches of rainfall since October 2022. L.A. County captured more than 143,000 acre-feet, or 46.6 billion gallons, an annual water supply for 1.1 million people. LACFCD dam operations are flexible, looking at incoming storms and real-time rainfall data. Their reservoirs are smaller than SWP facilities and can be drained rather quickly when needed. Excess water is sent to spreading grounds where it can percolate into the groundwater basins. L.A. gets about a third of its water supply from local groundwater. They have 27 spreading grounds on 2,500 acres, with 23,000 acre-feet of capacity, operational since the 1920s. They average 200,000 acre-feet per year of water recharged in these spreading facilities. They are still moving January stormwater into these spreading grounds. Sediment compromises their ability to balance water conservation and flood control capacities. One million cubic yards of sediment has come in from the January storms. The Safe, Clean Water Program captures, cleans, and reuses stormwater at a community scale. It will capture 56,900 acre-feet or 18.5 billion gallons a year, enough to serve 500,00 people for one year.

Commissioner Solorio asked how these numbers compare to dry years, and was told they might get 75 percent of normal rainfall but only 50 percent of normal stormwater capture.

Commissioner Makler asked about stormwater going through agricultural areas, and what programs or facilities address toxic or pollution control, and was told there are some legacy pollutants in their basins and there are efforts to clean some of them up. Regarding urban runoff pollution, they are required to meet numerical limits on bacteria, sediments, and metals before they reach the receiving water bodies. There is a required decentralized effort to capture it where you can before it gets into these channels.

10. Long-term Drought: Expert Panel on Drought Preparedness and Response Strategies

In support of Water Resilience Portfolio Action 26.3, the Commission heard a variety of policy perspectives and hands-on practitioner perspectives on implementation of drought preparedness and response strategies. Panelists were asked to address the following questions in their presentations: How do we protect communities and fish and wildlife from the impacts of drought? What kind of planning is needed to prepare for drought? Governance? What are the data gaps? How do we fill them? What role does public education, communication, and engagement play in drought preparedness and response? What policies and investments should the State make to best prepare for long-term drought?

EO Yun said the panel of experts were selected because they encapsulate diverse thinking and experiences. Each is an important voice in this conversation. On some topics they will have a good degree of agreement, on others their viewpoints may diverge. All of them have valid perspectives that represent others around the larger proverbial table. Future panels will cover the topics of wildfire, drought linkages, and desalination. The first of two editions of Impact Magazine guest edited by Assistant Executive Officer (AEO) Laura Jensen is available for free online. The next edition will be out in March. The drought working group report out is being rescheduled to the April Commission meeting. DWR's Drought Resilience Interagency and Partners Collaborative is not the same as the working group, though they are complementary.

Heather Cooley, Director of Research at the Pacific Institute, talked about solutions for building water resilience in California, saying the past 22 years in the Southwestern U.S. have been the driest in 1,200 years. There is a fundamental shift to a hotter and drier climate that will also include longer, more intense droughts, and will require us to change how we use and manage water. Water resiliency is the ability of water systems to function so that nature and people – including those on the frontlines and disproportionately impacted – thrive under shocks, stresses, and change. It is important that efforts on water resilience build on a foundation of water sustainability and security. Three fundamental shifts are needed to enhance water resilience: rethink water demand, supply, and management. We must shift away from a notion of an abundance of water, and dramatically expand our efforts to reduce waste and inefficiency. Replace old appliances and fixtures, replace grass, build denser developments, and fix leaks in water delivery systems. Agriculture must play a role with less water intensive crops. We must move away from reliance on surface and groundwater and look to new sources of supply, such as recycling and reuse, captured urban runoff, and desalination. We need to embrace a more integrated approach to management; expand our definition of infrastructure to include watersheds, upland forests, and downstream wetlands; and embrace new technology to get better data more quickly. California has experienced a dramatic decoupling of water use and growth over the past 40 years, due to a greater uptick in water efficient devices in agriculture and urban areas. We need more climate appropriate plants, denser development, and structural changes in our economy. Innovative urban strategies that could reduce drought impacts and build long-term water resilience include water efficiency, water reuse, and stormwater capture.

Dr. Jeffrey Mount, Senior Fellow at the Public Policy Institute of California, described what it would take to protect species. We are surrounded by native species that are drought-adapted through a variety of strategies, including avoidance, resistance, and recovery. Some ways we are working against natural drought resilience is the disconnection of our watersheds, loss of flow variability, degradation of water quality, introduction of non-native species, and loss of genetic diversity. The environment is treated as a regulatory constraint, not a management priority. How do you shift the environment to become a priority? Managing for ecosystem condition rather than for listed species integrates human uses, emphasizes multiple benefits, produces greater net benefits, and reduces water conflict. The three legs of the water management stool are urban, agriculture, and environment. If one leg goes out, the other two fall. Start treating the environment like a partner by granting it assets. An ecosystem water budget is a defined quantity of water in a watershed that can be flexibly managed in response to changing conditions. Have it function like a senior water right. The focus should be on habitat, not water. The pairing of water with physical habitat is the most efficient use of water set aside for the environment. Suggestions to rebuild resilience include making the environment a priority, not a constraint; thinking about ecosystem-based management; granting assets to the environment; pairing functional flows with structural habitat; making plans that have priorities; and having difficult discussions about the future viability of species.

Commissioner Makler asked why there is not a discussion about price transparency. There is tremendous variability in urban water pricing. Pricing is a tool for achieving efficiency. Tier pricing and budget-based pricing has been used in the urban sector. Water is unaffordable for a growing number of Californians. He said Dr. Mount's proposal is quite radical and is changing the paradigm. Dr. Mount said we allocate large amounts of water to the environment through minimum instream flow and water quality standards. Package that water up to make more efficient use of it. The radical part is to stop focusing on specific life stages of specific species and shift over to thinking about broad ecosystem function.

Commissioner Gallagher asked what happens when you invest in ecosystems and that species fails. Dr. Mount said Delta smelt are functionally extinct. We have built an entire water operation system to try and maintain habitat for that specific species. Now what? The Delta as an ecosystem is starving to death, and is driving a lot of species into trouble. Let's take the body of water we are going to allocate to the environment, and do the best job we can to manage it to meet an array of ecosystem functions.

Commissioner Arthur told Dr. Mount she loves the framework of priority versus constraint, but does not understand how that system would reduce conflict. He said the San Joaquin River Restoration Program set a percentage of the unimpaired inflows as an environmental water budget, and designated someone to manage that percentage. Biologically it is not working that great, but politically it is working very well. The water user community knows that amount of water is going to the environment this year, and that has reduced conflict. Commissioner Arthur said it sounds like driving species to extinction would reduce the conflict.

Chair Swanson said we are talking about the potential extinction of species. Fifty percent of species in threat of extinction are not even listed. What species are already here, where did they come from, what can survive, and what has cultural history? Agriculture has the same conversation. Can and should everything be grown everywhere? Is unproductive agricultural land worth putting water on? What can we do to create the best environment that exists for whatever species we have? Dr. Mount said one of the criticisms of environmental management is the inability to set priorities. We do not have the resources to make everything better everywhere, but where can we do the best job to reduce risk broadly.

Commissioner Arthur said priority setting should be broad, where water goes across all sectors, but what she is hearing is what species should we just let die. Dr. Mount said that in the process of doing this, we must have uncomfortable conversations.

Commissioner Curtin said that though the law tells us we cannot allow a species to go extinct, Mother Nature tells us we are not going to be able to stop it. We need to re-engineer what we have done here. We will never get it back to what it was.

Commissioner Gallagher said the WSIP projects are a good opportunity for new water to be available. Dr. Mount agreed this might be the case.

The Commission took a one-hour lunch.

James Sarmiento, Executive Director of Cultural Resources for the Shingle Springs Band of Miwok Indians, said there are 110 federally recognized tribes in California, and 60 non-recognized tribes. California has the largest population of native communities. There is a real difference between aboriginal territories and modern tribal lands, due in part to past and modern colonization practices by state and federal governments. His Tribe lived at the Sacramento River and were relocated to the El Dorado County hills. Cultural resources can be physical and non-physical. Twenty-five attendees from 20 Tribes were engaged in the Commission's small group discussions about drought, held over four meetings in November 2022. Key points that came out of it were to engage Tribes early and throughout a process, recognize that no two Tribes are the same, and a Tribe's historic knowledge is vast, in some case stretching back centuries. Participants provided diverse perspectives on how drought is defined and considered by Tribes. Drought is part of life; it can be anticipated. Tribes know how to cope under natural conditions, but current droughts are different. Drought is political. Drought impacts and tipping points are very space specific and often extend beyond their land and their control. Impacts include impaired natural resources, less abundant traditional food, and an increase in human/wildlife conflict. Responses include community outreach, storing food, managing forests, building new storage, and engagement at the local level. Tribes are concerned they are not being involved early enough or being listened to. Traditional ecological knowledge (TEK) should be led by Tribes for their areas. Each Tribe may have a different level of willingness to share TEK. Tribes view water as life sustaining. The Delta is the heart of the area, and it is sick. The Commission is committed to Tribal representation on its drought working

groups and expert panels, the dissemination of information about its drought work, and an open-door policy to provide feedback on its drought work via various mechanisms.

Elizabeth Salomone, General Manager of the Mendocino County Russian River Flood Control and Water Conservation Improvement District and Association of California Water Agencies Region 1 Board Member, provided a rural perspective on extended drought. The governing boards of rural water districts are often made up of farmers and business owners trying to keep things going in their community based on their past experiences. Systems for water storage, conveyance, treatment, and use were all built on historical weather patterns that no longer exist. They require extensive maintenance. The buffers nature provided, like undeveloped floodplains, have been stripped of their ability to function. There is a crippling lack of resources to address these shortcomings and outpace climate change. Now is the time for bold policy and investment strategies. Water is a natural resource, what if we stop trying to manage it to make it work for us? The holistic approach is to be in relationship with natural resources and manage the human impact on the natural world. We need to connect people to the ecosystem, wildlife to habitat, and agencies and stakeholders to one another. We must look for aligned interests. Survival for many communities will require working together. Collaboration should honor indigenous expertise, explore unconventional partnerships, diversify our knowledge base, and be creative, integrative, and open minded. Desperation drives solutions. Initiatives like FIRO and the Voluntary Water Sharing Program have come out of the Upper Russian River Watershed. Both demonstrated the power of regional collaboration. The Russian River Water Forum has wide-ranging stakeholder composition with a focus on local solutions to urgent water reliability issues that will broaden to include long-term regional water resiliency. Infrastructure and nature-based solutions are both huge components of resiliency. It is not an either/or, it is a both. Regulatory constraints are an issue. There is inequity in the water rights system that cannot be ignored and must be modernized. Funding is difficult to navigate for small water organizations.

David W. Pedersen, P.E., General Manager of the Las Virgenes Municipal Water District (LVMWD), gave a perspective from a retail water agency that largely serves an urban area. They are a member agency of the Metropolitan Water District of Southern California (MWD) and among the most severely impacted during the current statewide drought because they lack a local water supply and are reliant on water imported from the SWP. Some ways to diversify your water supply portfolio include potable and non-potable water recycling, stormwater capture, managed groundwater, and desalination. The Pure Water project for Las Virgenes-Triunfo will take excess wastewater currently discharged, treat it, and augment the drinking water reservoir. It will produce 20 percent of the local water supply. To make conservation a way of life, they are working to change the customer's relationship with water. A water budget lets their customers know the right amount of water to be using for their home and property. Advanced metering gives customers real-time feedback on water usage. Their messaging focuses on climate-appropriate, drought tolerant landscaping, with incentives for landscape transformation. It is important to strengthen the water shortage contingency plan, which balances supply and demand. Climate change is making droughts more frequent, severe, and pervasive. 20th-century infrastructure will increasingly be strained to meet needs. Significant

investments are needed at the local, regional, and state level. Collaboration and partnerships will be key to making it happen. The building blocks of collaboration are open communication, shared challenge, and mutual benefit.

Tom Butler, Vice President of the Sutter Basin Corporation, is a fourth-generation farmer from southern Yolo County. His family farm specializes in medium-grain “sushi” rice. He sees the connection between abundant wildlife and thriving communities from his farm every day. In 2022 the California rice industry grew 250,000 acres of rice, less than half of what the state typically grows. The reduction was not equally spread across the valley due to different water supply cuts. His farms 4,100 acres of rice was reduced to 400. Unprecedented cuts to senior water rights from the Sacramento River footprint reduced growers in Colusa and Glenn counties to zero. The effect on wildlife that rely on the rice fields has been devastating. More than 230 species of wildlife are known to use rice fields throughout the year. In the fall thousands of ducks and geese use winter-flooded rice fields as a place to feed and rest. This is the remaining habitat for seven to 10 million ducks and geese that migrate here each year and rely on winter-flooded rice for 60 percent of their diet. The Central Valley Joint Venture has called for a minimum of 350,000 acres of rice flooded each year, which translate to 450,000 acres of rice panted each year just to meet habitat needs for migratory birds. No rice means less opportunity for salmon. Scientists have been working to capitalize on the zooplankton that grows because of the leftover rice waste matter, water, and sunlight. Zooplankton is food for juvenile salmon. Scientists and conservation groups, in conjunction with rice farmers, have been studying ways to get that food back into the river when the small fish are present. Studies like these illustrate the ingenuity and resourcefulness of the agricultural footprint in California. You cannot separate the crops in California from the habitat they provide. Farms like his also support local communities. When agriculturw has a drought, so do the rice growers, driers, mills, crop dusters, and every small business in town, where nearly everyone’s job is connected in some way to agriculture. An insurance program for businesses that support agriculture is critical and much needed.

Public comment from Nancy Blastos, who said conservation is the way to lead California back to water security. At last week’s MWD meeting they talked about offering rebates for reuse of grey water and to renters who conserve water, holding cities accountable for not conserving, and the need to update current infrastructure. She commented on the fact that desalination is harmful to the environment, and that hopefully we can catch repurposed water, use desert plants for home landscaping, and motivate citizens to understand how catastrophic the drought is. We are never going to have a lot of water again. The tunnel will ruin the Central Valley structure.

Public comment from Donna Miranda-Begay, Tubatulabal Cultural Practitioner, who said she participated in the Commission’s outreach to Tribes and wondered about next steps following the November working group meetings. She encouraged Commissioners to attend the California Tribal Water Summit in April. Water is fluid and there are many partnerships in water planning.

Chair Swanson said the Commission is working on a Tribal Representative Comment Policy that has been distributed to Tribes for their feedback.

Commissioner Curtin cited the dual-use law for human and environmental uses for water, and said Mr. Butler's presentation showed a third use – humans growing crops that benefit the environment. Mr. Butler said that, in Sacramento and Sutter counties, the water pumped from the rice fields ultimately ends up as a drinking water source.

Commissioner Makler congratulated AEO Jensen on guest editing the latest publication of Impact Magazine. He asked Mr. Pedersen if he had \$1 million, would he spend it on recycling, stormwater capture, managed groundwater, or desalination, and was told it really depends on where you are in California and what opportunities are available to you. His district focuses heavily on water recycling because they do not have the geology that supports stormwater capture and infiltration. Desalination offers promise as well.

Commissioner Bland asked Mr. Pedersen what percentage of that \$1 million would he use for ocean desalination and was told he would have a hard time saying what that number would be. He then asked if they are working on conservation in the form of low-flush toilets and low-flow showerheads, and are they seeing numbers of consumption go down. He was told that most homes already have low-flush toilets. Their focus has been on outdoor irrigation. Seventy percent of water usage is outdoors. They already capture and recycle all indoor water usage through their sanitation system. Modern irrigation controllers are based on weather data.

Commissioner Curtin asked if they have invested in underwater desalination pods and was told they have not yet invested but are learning about it and researching it.

Vice-chair Steiner asked if the use of pods avoid the intake issues that have plagued so many of the desalination projects in California and was told that is the concept: they do not have the ocean intake. The impingement zone is at a place in the water column where there is little life.

Heather Cooley said they have looked at the cost of various water supply and efficiency options in urban areas, and see efficiency as the most cost-effective and fastest strategy to implement.

Vice-chair Steiner said most agencies have been doing those cost-efficient rebates for so long it is hard to find anyone without a low-flow toilet. Agencies still believe conservation is the way of life but feel compelled to look for new supplies of water. Reuse is most adaptable for most agencies. Ms. Cooley said rebates do not work well for low-income households. There is also retrofit on resale ordinances and other policies that can be implemented. Vice-chair Steiner said most resistance comes from apartment complexes.

Commissioner Matsumoto said we have so much knowledge at the local level, and it is important to find how the state can help empower that more quickly during a drought. We can address the obstacles to funding in our report. A common thread is the impact to communities.

A lot of the solutions that were talked about are recreating natural processes. We focused a lot on the surface water aspect, but the groundwater piece is important.

Commissioner Solorio said there is a lot of opportunity for efficiency. He asked Mr. Butler why people think rice uses a lot of water, and was told that rice is water seeded. A flood head is established before the field is planted. There is a 10-day period before the rice emerges over the water, and so it looks like a vast inland sea. Rice does not use any more water than broccoli or spinach or oranges. He asked Mr. Pedersen about legal liabilities in asking people to not water their lawns, and was told while it was challenging, they did not get any litigation. They installed flow restrictors and physically restricted the amount of water for the most egregious water wasters. So far this year they have conserved 40 percent compared to 2020.

Commissioner Gallagher said the four state agencies at last month's meeting all said they would like to see more local involvement and education. Is the information getting lost between the state and local agencies? Ms. Salomone said they have a good working relationship with the State Water Board. There is a level of communication and education happening because the state is involved. We could go a step further and build regional teams with state representation. Mr. Butler said another big hurdle the state struggles with is they are a destination, with people constantly wanting to move to urban areas but do not have the education on the complicated way the state has to run its water conveyance. Everyone in California that runs a business is making a sacrifice to make this state run efficiently, because California does things differently. Being more vocal from an industry standpoint would help.

11. Consideration of Items for Next California Water Commission Meeting

The next meeting of the Water Commission is currently scheduled for Wednesday, March 15, 2023, when the Commission will consider RONS for the Big Notch Project landholdings presented today, receive an update on DWR grant programs, look at the Harvest Water Program contracts for the administration of public benefits, and welcome proponents of the Harvest Water Program as they provide a virtual tour of their project.

12. Adjourn

The Commission adjourned at 3:43 p.m.