#### BAY AREA WATER SUPPLY AND CONSERVATION AGENCY BOARD OF DIRECTORS MEETING

#### February 5, 2021

Correspondence and media coverage of interest between January 26, 2021 and February 4, 2021

#### Correspondence

From:	San Francisco Public Utilities Commission
Date:	February 2, 2021
Subject	Press Release: Work Set to Proceed on Mountain Tunnel Improvements Project
From:	Steve Ritchie, SFPUC Asst. General Manager, Water
To:	SFPUC Wholesale Water Customers
Date:	February 1, 2021
Re:	Initial Water Supply Availability Estimate
From:	Los Vaqueros Reservoir Expansion Project – Monthly Report
Date:	January 29, 2021

#### Media Coverage

#### Water Supply Conditions:

Date:	January 31, 2021
Source:	Times Herald
Article:	How the atmospheric river storm affected California's water supply

Date:	January 28, 2021
Source:	AgNet West
Article:	Storm Update: 20 Percent Jump in Snowpack Already

Date:	January 27, 2021
Source:	DWR
Article:	Water year 2021: How Are We Doing?

Date:	January 27, 2021
Source:	KTVU Fox 2
Article:	Will the storm move the drought needle?

#### Water Supply Management:

Date:	January 27, 2021
Source:	Mercury News
Article:	1.6 million California households face water shutoffs

#### February 10, 2021 – Agenda Item #7E

#### Water Policy:

Date:	February 3, 2021
Source:	San Francisco Examiner
Article:	Salmon dwindling while SFPUC fiddling
Date:	February 1, 2021
Source:	KQED Science
Article:	California Environmental Officials Switch to Offense as Biden Takes Charge
Date:	February 1, 2021
Source:	CalMatters
Article:	Water markets in California can reduce the costs of drought
Date:	January 26, 2021
Source:	Modesto Bee
Article:	Advocates for fish, and canoeing, win a round in debate over Tuolumne River flows
Date:	January 26, 2021
Source:	San Francisco Chonicle
Article:	San Francisco: Save the river you drink from

#### Water Infrastructure:

Date:	February 4, 2021
Source:	The Union Democrat
Article:	From Tuolumne County to SF

Date:	January 28, 2021
Source:	The Independent
Article:	State Water Agency Seeks Input from Local Groups on Infrastructure Projects

Date:	January 26, 2021
Source:	Escalon Times
Article:	Plans Call For Raising Los Vaqueros Reservoir Dam Height

Date:	January 26, 2021
Source:	Maven Conferences and Seminars
Article:	Water Association of Kern County: DWR Director Karla Nemeth Gives an Update on the Delta Conveyance Project



NEWS RELEASE SFPUC Contact: Will Reisman 415-551-4346 wreisman@sfwater.org

#### FOR IMMEDIATE RELEASE

February 2, 2020

#### Work Set to Proceed on Mountain Tunnel Improvements Project

Project will upgrade 95-year-old tunnel to help improve reliability and quality of regional water system

San Francisco, CA – The San Francisco Public Utilities Commission (SFPUC) is set to start construction work on the Mountain Tunnel Improvements Project, a multi-year effort to upgrade and rehabilitate a critical component of the SFPUC Regional Water System that serves 2.7 million customers in the Bay Area.

"The water we provide our customers passes through miles of pipelines and tunnels before it reaches taps in the San Francisco Bay Area," said SFPUC Acting General Manager Michael Carlin. "Portions of this system are aging. Initiatives like the Mountain Tunnel Improvement Project help ensure that our water is delivered safely, reliably and efficiently."

Located in the Sierra Nevada foothills, Mountain Tunnel is a 19-mile-long water tunnel (which includes eight unlined miles through granite, and 11 miles lined with concrete) that has been serving the regional water system since 1925. The tunnel transmits Hetch Hetchy Reservoir drinking water from Kirkwood Powerhouse, where it generates hydropower, to Priest Reservoir downstream. Water flows entirely by gravity through this tunnel, a key part of the system that spans from Yosemite National Park to the San Francisco Bay Area.

While Mountain Tunnel continues to serve the system well, it is over 90 years old and in need of rehabilitation. Recent inspections have shown deterioration in the tunnel lining, diminishing its ability to reliably transport water while increasing the need for maintenance.

Work on the tunnel will include:

- Removal of debris that has settled on the floor of the tunnel and is impeding hydraulic flow.
- Repair and grouting of defects in the 11 miles of existing tunnel lining.
- Installation of approximately 5,000 feet of concrete paving to unlined portions of the tunnel.
- Construction of a new downstream tunnel entry to facilitate future inspections and maintenance.

- Construction of a 750-foot bypass tunnel segment to reduce water infiltration at a key location.
- Addition of a new Flow Control Facility to increase operational flexibility and improve control of pressure functions.
- Access road and slope stabilization safety improvements and other related work.

Construction is slated to be finished at the end of 2026. When it is completed, the Mountain Tunnel will have improved water quality, restored hydraulic flow capacity, worker safety improvements, and an extended service life.

The Mountain Tunnel Improvements Project is a key element of the SFPUC's Hetchy Capital Improvement Program. While the agency is nearly finished with its multigenerational Water System Improvement Program, the SFPUC continues to maintain and upgrade its water system through projects carried out under the Capital Program. In addition to the Mountain Tunnel Improvement Project, the Capital Program includes plans to improve numerous water transmission, hydroelectric generation and power transmission facilities.

About the San Francisco Public Utilities Commission

The San Francisco Public Utilities Commission (SFPUC) is a department of the City and County of San Francisco. It delivers drinking water to 2.7 million people in the San Francisco Bay Area, collects and treats wastewater for the City and County of San Francisco, and generates clean power for municipal buildings, residential customers, and businesses. Our mission is to provide our customers with high quality, efficient and reliable water, power, and sewer services in a manner that values environmental and community interests and sustains the resources entrusted to our care. Learn more at www.sfwater.org.

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TO:	SFPUC Wholesale Customers
FROM:	Steven R. Ritchie, Assistant General Manager, Water
DATE:	February 1, 2021
RE:	Initial Water Supply Availability Estimate
-	

This memo provides the initial water supply availability estimate for this year and the current hydrologic conditions.

The current Water Year has thus far has been relatively dry with only one sizable storm. As the charts below show, both the Hetch Hetchy watershed and the local watersheds are experiencing below normal precipitation to date. The most recent storm of last week brought the local watersheds precipitation from 18% to 29% average-to-date and Hetch Hetchy precipitation from 36% to 61% of average to-date. While the first snow survey has not been completed yet, the lower elevation snow sensors are showing the snowpack to be below median for this time of the year.



Bay Area 7-station Precipitation Index as of January 31, 2021

London N. Breed Mayor

Sophie Maxwell President

> Anson Moran Vice President

> Tim Paulson Commissioner

> Ed Harrington Commissioner

Michael Carlin Acting General Manager



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





Hetch Hetchy Precipitation as of January 31, 2021



#### Upcountry Snowpack as of January 31, 2021



Despite the low precipitation to date, reservoir storages are just shy of where they typically are this time of year.

	Storage as of:		1-Feb-2021		
Reservoir	Current Storage <sup>1,2,3</sup> (AF)	Maximum Storage <sup>3,4</sup> (AF)	Available Capacity (AF)	Percent of Maximum Storage	Normal Percent of Maximum Storage <sup>5</sup>
Tuolumne System					
Hetch Hetchy	196,900	340,830	143,930	57.8%	64.6%
Cherry	192,300	268,810	76,510	71.5%	-
Eleanor	9,788	21,495	11,707	45.5%	-
Water Bank	549,790	570,000	20,210	96.5%	98.4%
Total Tuolumne Storage	948,778	1,201,135	252,357	79.0%	+
Local System					
Calaveras	58,575	96,670	38,095	60.6%	-
San Antonio	44,558	53,266	8,708	83.7%	-
Crystal Springs	52,179	58,309	6,130	89.5%	÷
San Andreas	16,440	19,027	2,587	86.4%	-
Pilarcitos	1,727	3,030	1,303	57.0%	-
Total Local Storage	173,479	230,302	56,823	75.3%	-
Total System Storage	1,122,257	1,431,437	309,180	78.4%	79.5%
Total without water bank	572,467	861,437	288,970	66.5%	-

<sup>1</sup> Upcountry storage is the date's 8AM storage value taken from USGS data

<sup>2</sup> Water bank storage reported by HHWP for 01/31/2021

<sup>3</sup> Local storage is the date's 8AM storage value taken from USGS data

<sup>4</sup> Hetch Hetchy maximum storage is with drum gates deactivated. Cherry and Eleanor maximum storages are with flashboards out. All maximum storages taken from rating curve

<sup>5</sup>The ratio of median storage for this day over maximum storage capacity. Median storage for this day is based on historical storage data from years 1982 - 2014

The current forecast for the coming months has a high confidence of continuing below normal conditions. At this time, the SFPUC is not making any requests for water demand reductions but will be monitoring the water supply conditions carefully in the coming months. As always, the SFPUC urges its customers to continue to advance its water conservation efforts to retain as much water in storage as possible to prepare us for continued dry conditions. The SFPUC will provide an update of the water supply conditions at the February 18<sup>th</sup> Annual Wholesale Customer Meeting. Another update on water supply availability will be provided on March 1st with a final water supply availability memo issued in early April following the last snow survey of the year.



#### JANUARY 29, 2021

#### **UPCOMING ACTIVITIES**

February 2 – Legal Work Group meeting

February (TBD) – Virtual GM meeting

February - June (TBD) – Virtual Washington D.C. meetings

February 24 – Urban Water Management Plan Coordination meeting

## UPCOMING LAP BOARD COORDINATION

February 4 – SLDMWA Board meeting

February 9 – Tentative BBID Board meeting

TBD – Valley Water Storage Committee

#### ADDITIONAL PROJECT INFO

https://www.ccwater.com/lvstudies

https://www.usbr.gov/mp/vaqueros/

https://cwc.ca.gov/Water-Storage/WSIP-Project-Review-Portal/All-Projects/Los-Vaqueros-Reservoir-Expansion-Project

#### **MONTHLY REPORT**

#### FUNDING

On January 20, 2021 the California Water Commission (CWC) authorized changes to maximum conditional awards for all seven projects funded through the Water Storage Investment Program (WSIP). The 2.5 percent inflation adjustment for the Project increased WSIP funding by \$11,475,000 such that the maximum conditional award increased from \$459,000,000 to \$470,475,000.

CCWD is working with Reclamation to develop an assistance agreement for a portion of this funding that will be administered by the District. Future federal funding requests may include the remainder of the full federal share of 25 percent of the total project cost. A schedule for upcoming briefings in Washington D.C. is being developed. General Managers and senior staff of the Local Agency Partners (LAPs) will be invited to participate in the briefings.

The following chart provides an overview of the MPA expenditures, in-kind services, funds received, outstanding receivable, and cash on hand as of January 22, 2021.



#### JPA FORMATION

The Legal Work Group is scheduled to meet February 2, 2021 to review the Los Vaqueros Reservoir Joint Exercise of Powers (JPA) Agreement. The target date for JPA formation is Spring 2021.

#### **CCWD AND EBMUD USAGE FEES**

Version 5.0 of the proforma financial model is in the process of being updated to incorporate the updated EBMUD usage fees, updated cost estimates, and updated operations modeling. A final version of the letter of intent will be sent to the partners next week and will be executed prior to JPA formation.

#### AG/URBAN WATER MANAGEMENT PLAN

CCWD and LAP staff are coordinating on updates to the 2020 Agricultural and Urban Water Management Plans. Coordination centers around inclusion of LVE in the plan updates and reduced reliance on the Delta.

#### PERMITTING

CCWD staff provided a briefing to the assigned California Department of Fish and Wildlife (CDFW) staff person and kicked off the coordination required for permitting. CDFW is initiating review of a pre-formal draft of the incidental take permit application. Permit application packages were submitted to the U.S. Army Corps of Engineers and the Central Valley Regional Water Quality Control Board on January 8.

CCWD staff are continuing discussions with the State Water Resources Control Board in preparation for modifications to CCWD's Los Vaqueros water rights as needed for future LVE operations.

#### **OTHER AGREEMENTS**

CCWD continues to coordinate with the California Department of Water Resources (DWR) and are in the process of executing the Memorandum of Understanding (MOU). The MOU provides a framework for future coordination and agreement development with DWR. A fully executed copy will be sent to the partners.

EBMUD and CCWD are developing a Backstop MOU for the potential provision of alternative conveyance through EBMUD facilities when the reservoir will be unavailable.

#### DESIGN

CCWD staff provided an update on the LVE Facilities to the CCWD Operations & Engineering Committee on January 13. Coordination with DWR continues on the Transfer-Bethany Pipeline, and a formal Request for Turn-in to the California Aqueduct at Bethany Reservoir has been submitted to initiate design efforts and DWR reviews. Work on Pumping Plant No. 1 Replacement preliminary design technical evaluations has continued, including additional surveying and hydraulic modeling. CCWD staff updated the final design scope of work and budget for the Assistance Agreement with Reclamation.

CCWD staff are preparing for two key dam design meetings in early February with the Division of Safety of Dams and the District's Technical Review Board to review the 50% Dam Design and the physical model results for the new emergency outlet. (This page was intentionally left blank)

#### How the atmospheric river storm affected California's water supply

Amid a dry winter, this week's heavy rains and snow made a difference, but the state is still below average

Times Herald | January 31, 2021 | Paul Rogers



Workers remove snow at Mammoth Mountain on Wednesday, after three feet of fresh snow fell overnight. (Peter Morning/Mammoth Mountain)

This week's big storm soaked the Bay Area. It brought blizzards of much-needed snow to the Sierra Nevada. It triggered evacuations in the Santa Cruz Mountains and wrecked Highway 1 in Big Sur.

The soaking system — the region's first atmospheric river storm of the winter — made an impressive dent in California's very dry winter. But precipitation totals are still behind historical averages, experts noted Friday. And the state's water picture, while improved, remains shaky with two months left to go in the winter season.

How much rain comes between now and the traditional end of the winter rainy season April 1 will determine whether there will be summer water restrictions and how moderate or ominous the wildfire season will be.

"We still have February and March," said Roger Gass, lead forecaster with the National Weather Service in Monterey. "But we're running out of months to make it up." In three days, the storm dumped 2 to 3 inches of rain on Bay Area cities — essentially doubling their rainfall totals so far this winter, from about 20% of the historic average to about 40%, depending on the location. It delivered 6 to 9 inches in the Santa Cruz Mountains and a staggering 16 inches in Big Sur.

"It definitely helped us get into a better situation," Gass said. "But it obviously doesn't make up for all the deficit. We wouldn't want one storm system to do that. We would have had widespread flooding."

The biggest beneficiary of the powerful system that swept down off the Gulf of Alaska late Tuesday night, blasting the Central Coast, was the Sierra Nevada. The source of one-third of California's water supply, the statewide Sierra snowpack was 40% of its historical average on Monday. By Friday morning it had jumped to 66%, after more than 6 feet of snow dumped from Yosemite to Lake Tahoe. Some places got more, with 9 feet of new snow at Mammoth Mountain ski resort and 7 feet at Kirkwood and Dodge Ridge.

Another storm is forecast for Monday. Most of the impact will be in the North Bay, where Sonoma County could receive 2 or 3 inches of rain. Bay Area cities are expected to receive less than 1 inch. But the National Weather Service says that storm should bring in 2 feet of new snow to the Sierra, likely pushing the snowpack there up to about 75% of normal. After that, however, the forecast calls for dry weather for the next two weeks.

"Hopefully it's not the only storm we get in February," said Chris Orrock a spokesman for the state Department of Water Resources in Sacramento.

Of note: This week's storm didn't fill reservoirs. Every winter, most areas need about 12 inches of rainfall before the ground is saturated enough to get large amounts of runoff into the reservoirs.

"The ground has been dry. It really absorbed a lot of the water," Orrock said. "The next storm might put a little more into the reservoirs and streams. But we're not seeing that yet."

Most of the state's largest reservoirs remain at low — although not dire — levels. The biggest, Shasta Lake near Redding, was 46% full Friday, or 69% of hits historical average for that date. The second largest, Oroville, in Butte County, was 35% full, or 54% of its historical average. Some were in better shape. Lake Don Pedro, east of Modesto, was 68% full, or 99% of normal.

California's water system is complicated. But it is based on a fundamental truth: Three-quarters of the rain and snow falls in the north, and three-quarters of the people live in the south. Rain is important all over the state. But from a water supply perspective, big winter storms in the north are most important, to fill up the massive reservoirs that provide water to millions of people and farmers in the summer.

Even with this week's storms, the "eight station index," a key measure of precipitation at eight watersheds from Shasta Lake across the Northern Sierra, stood Friday at just 51% of its historic average since Oct. 1.

Bay Area water agencies are watching closely.

The rains added about 5,000 acre feet — enough water for 50,000 people in a year — to the 10 reservoirs run by the Santa Clara Valley Water District in San Jose. Not counting Anderson Reservoir, which is drained for earthquake repairs, the reservoirs were 29% full on Friday, or 61% of normal for this time of year. The district has more than two years' supply in its underground aquifers, however.

"The water supply situation is not bad. It's acceptable," said Bassam Kassab, water supply manager for the district, which serves 2 million people. "But people should always conserve. We have a semi-arid climate in California, and we never know when we are going into another drought."

The staff at East Bay Municipal Utility District, which provides water to 1.4 million people in Alameda and Contra Costa counties, will re-start meetings of its drought planning committee in February. The district's seven reservoirs were 72% full on Friday.

"We are definitely in a wait-and-see mode," said spokeswoman Andrea Pook. "We need more of these storms."

Last year was dry across Northern California. Rainfall levels were half of normal in most cities. The Sierra snowpack last April 1 was just 54% of normal. A series of freak lightning storms in August sparked the worst fires in recorded state history, burning 4.2 million acres, destroying 10,488 structures and killing 33 people.

With this winter off to another slow start, 95% of California was in at least a "moderate drought" on Thursday, according to the U.S. Drought Monitor, a weekly report from the National Oceanic and Atmospheric Administration, the U.S. Department of Agriculture and the University of Nebraska. Those numbers are expected to improve somewhat next week.

Will there be water restrictions this summer?

"My crystal ball is not working today," Pook said. "We don't really know what's going to happen in the next couple of months. We are getting prepared in case we have to go in that direction. Ask me in April." (This page was intentionally left blank)

#### Storm Update: 20 Percent Jump in Snowpack Already

AgNet West | January 28, 2021

UPDATE: As of 01-29-21 the statewide snow water equivalent is 66 percent of normal for this date.

The recent storms passing over the state have bolstered California's snowpack totals with more to come.

On Sunday, January 24, California's snow water equivalent readings were just 38 percent of the historical average of that date. Both the Northern and Central Sierras were above 40 percent of normal but the Southern Sierra region was at a paltry 23 percent of normal. Those numbers reflect what has been a dry winter overall for the state. April 1 is the date that analysts compare to for season totals when the snowpack is usually at its peak. As of January 24, the statewide snow water equivalent was just 21 percent of the April 1 average.

However, earlier this month Chief of DWR's Snow Surveys and Water Supply Forecasting Section Sean de Guzman noted that, "It's not uncommon for the bulk of our Sierra snowpack to come from just a handful of winter storms." Multiple storm fronts have moved through the west since Monday, January 25. As of Thursday, January 28, the current systems have increased the statewide snow water equivalent from 38 percent to 58 percent of average for the date. They have also increased the percent of the April 1 average from 21 percent to 34 percent. All Sierra mountain regions are seeing an increase with the Northern Sierras now at 58 percent of normal, Central Sierras at 62 percent of normal, and Southern Sierras up to 45 percent of normal.

The National Weather Service has issued various flood warnings as well as winter storm warnings to much of the state. The much-needed rain and snow are expected to dry up over the weekend. However, meteorologists are tracking another front coming in early next week that should continue to add to snowpack totals.

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#### Water Year 2021: How Are We Doing?

DWR | January 27, 2021 | Jeanine Jones, DWR Interstate Resources Manager

\*\*\*This is part 2 in a series of articles DWR is publishing about California's 2021 water year and dry conditions.

We are now past the halfway mark in California's normally wettest winter months, and the wet season to date has been anything but. Most of the state has received less than half of its average annual precipitation to date. Coming after a very dry Water Year 2020 these conditions are concerning. More precipitation will certainly occur in February and March, but will it be enough to erase the state's large deficit?

As discussed in the first article of this series, the ability to accurately predict precipitation beyond the time horizon of a two-week weather model run is very limited and much research work remains to be done to improve longer-term forecasting.

The winter to date has been looking uncomfortably reminiscent of Water Year 2014, the third year of California's most severe drought since the 1920s to 30s. The two most hydrologically challenging years of the 2012-16 drought – 2014 and 2015 – were also California's second-warmest and warmest years in a record of more than 120 years.

Calendar year 2020 was California's third-warmest.

Natural flow data for the major Sierra Nevada rivers are now tracking near those of 2014 and 2015, although this would improve if precipitation picks up. (Natural flows are values of streamflow calculated by adjusting measured streamflow values to remove the effects of diversion and reservoir operations. Natural flow data are important for water rights administration, especially during drought.)

Soon, DWR will be providing a new web tool to allow at-a-glance comparison of present water year natural flows to those of 2014-15. While we still have reason to hope that this water year will do better than 2014 or 2015, the odds of recovering from our dry start to a normal year are low.

Statewide reservoir storage is beginning to show the impacts of dry conditions, particularly in some important Northern California reservoirs such as Shasta Lake and Lake Oroville. The Colorado River Basin, an important supply for Southern California, is in the midst of a long-term drought with Lakes Mead and Powell both being at less than half of capacity. The Colorado River has historically been a highly reliable supply for Southern California, and California water contractors will receive a full supply from the river this year. However, the basin's long-term drought conditions increase the risk of a first-ever shortage in future years.

California's frozen reservoir, snowpack in the Cascade Range and Sierra Nevada, is also lagging, particularly in the southern Sierra. With only about two months remaining until the typical peak of maximum snowpack accumulation at about April 1, snow water equivalent is running about half of average.

Although we cannot predict how much precipitation California will receive in the remainder of the wet season, it is time to assume that California's Water Year 2021 will wind up dry and it will be important to plan accordingly. Looking further ahead, we must also think about preparing for the possibility of a dry Water Year 2022.



NOAA Regional Climate Centers

Map showing percent of average precipitation in the Western United States. (NOAA Regional Climate Centers)

#### Will the storm move the drought needle?

KTVU Fox 2 | January 27, 2021 | Debora Villalon

What the rain means for drought conditions

It may be too soon to tell if the current rain storm can inch out a drought. Water officials say the atmospheric river is bringing much-needed moisture.

SAN FRANCISCO - Bay Area water agencies, starved for snow and rain, are encouraged by this week's storm system.

But managers say it's too early to say if it will have a lasting impact.

"This storm has made a very nice difference, we're not out of the woods, but it's a nice difference," said Steve Ritchie, Assistant General Manager for Water Enterprise for the San Francisco Public Utilities Commission.

"Every year we'd like to get about 6 big storms, atmospheric rivers, so this is the first one".

Ritchie notes, every year is different, with the last two abnormally dry and 2021 beginning that way too.

"If you'd asked me how we were doing last week, I would have not been a very happy camper," admitted Ritchie.

He compares precipitation thus far to 1977, a historically dry year, and snowpack akin to 2015, one of the worst on record.

But all it took was a powerful and sustained system to slide south over the region to change the outlook.

"We are probably going to end up above average for the month of January because of the last four days of the month here," said Ritchie.

The year starts October 1 for water agencies monitoring supplies.

December's snow survey- first of the season- showed the Sierra snowpack was less than half what it would be in an average year.

The snowpack provides about one-third of the state's water needs, melting in the spring and filling reservoirs.

"This is a good storm and to turn our numbers around, we really need a couple of good storms," said Andrea Pook, spokesperson for the East Bay Municipal Utility District.

The next two months are traditionally the region's wettest, although February 2020 was a bust, bone-dry.

"The storm that we're seeing right now is a nice cold storm which is exactly what we want," said Pook.

"We're still definitely shy of where we want to be but hopeful January is going bring us at least a normal month, or close to normal."

On Mt. Tamalpais in Marin County, visitors enjoyed the sight and sound of rushing water in every direction Wednesday.

"I actually like being our here in the rain," said hiker Christine Anderson, "because there is hardly anyone else out here!"

The system of reservoirs on Mt. Tam supply central Marin communities with water service.

The lakes were at 56% of capacity pre-storm, but in 48 hours the watershed received almost 3 inches of rain, a boost to supplies and spirits.

"It wasn't the torrential downpour everyone was expecting, but I'm glad it's raining because we need it," said hiker Carly Ball.

Drought maps show persistent dryness across the United States, with California no exception, and Bay Area counties ranked as having "severe" or "extreme" conditions.

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Debora Villalon is a reporter for KTVU. Email Debora at debora.villalon@foxtv.com and follow her on Twitter@DeboraKTVU

#### 1.6 million California households face water shutoffs

Mercury News | January 27, 2021 | Jackie Botts

The first thing Deborah Bell-Holt does each morning is check whether water still flows from her bathroom faucet.

It always does, thanks to an April executive order from Gov. Gavin Newsom banning water disconnections during the pandemic. But that didn't stop her utility debt from snowballing to nearly \$15,000.

"They say you're safe," said the 67-yearold retired nurse, who manages finances for her household of twelve in South Los Angeles. "But you see that bill. How is that supposed to make you feel? You're scared to death."



Deborah Bell-Holt stands outside of her home in Jefferson Park near Downtown Los Angeles on Jan. 21, 2021. Having fallen deeper into utilities debt as she took in family and friends during the pandemic, Bell-Holt fears her water will be shut off. (Shae Hammond for CalMatters)

At least 1.6 million California households, or one in eight, have water debt. Like Bell-Holt, they could face shutoffs when Newsom ends the state of emergency.

The unpaid water bills total \$1 billion, according to new data from the State Water Resources Control Board. That may dwarf statewide rental debt, which the nonpartisan Legislative Analyst's Office pegged at \$400 million.

Californian's water debt crisis, which Newsom called a "critical issue" on Monday, represents another pandemic ripple effect that jeopardizes basic human needs in the face of disaster: a shelter from the virus, safe water to drink and wash hands.

"Water to us is the most basic form of PPE," said Jonathan Nelson, policy director for the nonprofit Community Water Center.

Water debt and potential shutoffs weigh most heavily on low-income communities of color, who suffer disproportionately from job loss and coronavirus itself. Meanwhile, unpaid bills threaten smaller water systems serving rural, poor areas.

Though Congress approved federal assistance in December for water bills, the \$60 million to \$70 million destined for California is no match.

"Don't panic, but be very worried," said Darrin Polhemus, deputy director of the water board's Division of Drinking Water, at last week's board meeting before revealing the estimates, which are based on a representative survey of 559 water systems in November.

#### Where Californians can't pay their water bills

Bell-Holt and her husband, a disabled U.S. Army Master Sergeant, live on fixed incomes. For several years, Bell-Holt hasn't kept up with the soaring cost of water, electricity, sewage and trash pick-up for their rented Victorian in Jefferson Park. Water comprises the biggest, fastest-growing chunk, Bell-Holt said. By February, she owed the Los Angeles Department of Water and Power about \$8,000.

Then the pandemic hit. Bell-Holt's household swelled from five to 12, as she took in laid-off children, several friends and her toddler grandson. Monthly utilities swelled to over \$2,000.

That meant trade-offs. She stayed current on the \$2,700 rent. As before, she sent regular but partial utility payments: \$500 here, \$1,000 there. She used December stimulus payments to shrink the debt by \$2,000.

Bell-Holt lives in the epicenter of California's water debt crisis. While average debt is \$500, at least 155,000 households — mostly in Los Angeles — owe over \$1,000.

In her ZIP code, nearly half of households have water debt. Of those, one fifth owe more than \$1,000.

"I understand the utility companies have to make improvements but I understand that the little people are paying it," she said. "People who are bunching up together all at home, trying to make it work."

Poorer areas and areas with more Black and Hispanic residents have more widespread debt, higher average debt, and a higher portion of households owing over \$1,000.

Water debt hotspots also pepper the Central Valley. In Delano, a majority Latino grape-growing hub of Kern County, about one in five households — over 2,200 — owe water bills.

"The cost of water is on the mind of almost all residents," said Mayor Bryan Osorio, adding that Delano repeatedly hiked rates to cover infrastructure upgrades over the past decade.

Early on, Osorio lobbied to waive water late fees. By December, that had cost the city \$371,500.

Other pockets of water debt include the farmworking city of Santa Maria along the Central Coast, the Sacramento suburb of Rancho Cordova, and the Northern California lakeside town of Clearlake.

#### The 'stress cracks' in state water system

As a California Assembly member, Bill Dodd represented Clearlake, where a third experience poverty. Across his district, tiny and struggling water systems regularly raised rates for their rural, poor customers.

He heard from constituents whose \$300 water bills ate up much of their social security checks. The number of people who couldn't afford water "was just unbelievable," said Dodd, now a senator representing the North Bay.

In 2012, California declared the human right to safe, clean, affordable and accessible drinking water. In 2015, Dodd championed legislation to study what it would take to create a statewide water bill assistance program.

The water board's resulting 2020 report illustrated a dire situation.

Californians get water through a chaotic patchwork of around 2,900 community water systems. Cities operate some, private utilities others. Some depend on water pumped from underground, others on rain and snow. Thousands serve a few hundred residents. Some serve millions.

As California's water infrastructure ages and federal funding shrinks, hundreds of systems don't keep contaminants below state and federal limits. Some deliver water polluted by hazardous chemicals from wildfires, others by "forever chemicals." One million Californians lack access to clean water.

To cover upgrades, water systems raise rates. The average Californian paid 45% more for drinking water in 2015 than in 2007.

Unlike other utilities, California offers no statewide water bill assistance. Fewer than half of Californians get water from a system that offers any. Most smaller systems can't afford to. Those that do provide limited help to few people, like San Francisco, where just 4.5% of eligible customers get aid.

The result: less than 20% of low-income households receive any assistance and water disconnections plagued Californians long before coronavirus. At least 500,000 people experienced shutoffs in 2019, the water board estimates.

"We were already very concerned," said board chair E. Joaquin Esquivel, but the pandemic has "further unearthed the stress cracks."

#### Will water systems survive the debt?

The mounting debt could imperil water quality too. About 130 systems mostly serving lowincome areas may require emergency assistance by May, the water board estimates. Nearly 60 may need it sooner. California's \$130 million per year Safe and Affordable Drinking Water fund could help bail them out, but the water debt "dwarfs" it, Esquivel said. In theory, this kind of revenue loss could eventually erode water quality if systems cut treatment.

That's not something happening now and the state would step in if necessary, Polhemus said.

Still, another state board member Laurel Firestone warned that panicking water systems have chosen financial survival over customer health before. The city of Flint, Michigan switched drinking water supplies to save money in 2014, leading to mass lead contamination of majority Black residents. The same year, Detroit aggressively shut off residents' water as a debt collection tactic as the city went bankrupt.

#### **Possible solutions**

Sen. Dodd has introduced two bills to avoid the pending shutoff crisis.

Under SB 223, water systems must provide repayment plans of at least 12 months, waive disconnection and reconnection fees for low-income households, and wait until a customer is four months late and owes over \$400 to shut off water, among other protections.

SB 222 would set up the water affordability assistance program Dodd envisioned in 2015. A big hurdle remains, though: it identifies no funding.

Eventually Dodd hopes to build consensus for using state funds. For now, the program could start with private donations and federal funds as President Joe Biden has proposed \$5 billion in utility bill aid.

But Bell-Holt, who along with her husband tested positive for the coronavirus last week, isn't holding her breath for assistance. The city offered a payment plan only if she first pays \$8,000 — money she doesn't have.

So Bell-Holt will keep checking the faucet each morning and nagging her children to shorten showers. Despite Newsom's shutoff moratorium, her heart will keep racing on instinct when she spots a white truck on her block. She'll wonder: is it finally time to start filling buckets with water before the city disconnects her pipes?

# # #

This article is part of the California Divide, a collaboration among newsrooms examining income inequality and economic survival in California.

#### Salmon dwindling while SFPUC fiddling

Decreasing numbers in Tuolumne demand science-based solutions San Francisco Examiner | February 3, 2021 | Robyn Purchia



A drop in salmon in salmon in the Tuolumne River in 2020 is cause for concern. (Shutterstock

While wetter streets and a greener White House may offer San Franciscans some hope for the future, the situation remains dire for salmon in the Tuolumne River. At the end of the 2020 spawning season, just over 1,000 salmon passed through the weir at the Tuolumne River — the source of the City's Hetch Hetchy Reservoir in Yosemite National Park.

"The numbers are pretty pathetic," Peter Drekmeier with the Tuolumne River Trust told me. "Historically, well over 100,000 salmon spawned in the Tuolumne."

Drops in salmon populations have wide-reaching impacts on the environment, local economy and San Francisco's culture. The City used to have wet, winter salmon openings, where hundreds of fishermen and thousands of anglers caught fish that were "biting like dogs." In September 1989, The Examiner launched the "Big Fish Club," a service to highlight readers' prize catches. Collins Jones caught a 40-pound salmon.

These celebrations are unfamiliar in today's city, and it's hard not to feel that the San Francisco Public Utilities Commission's water policies are partially to blame. Californians are significantly reducing or eliminating dependence on river water. But the SFPUC continues to side with agricultural users to fight limitations on the water it takes from the Tuolumne.

To support its position that San Francisco can continue to take river water and protect salmon, staff is presenting a study developed by the Modesto and Turlock Irrigation Districts this Friday, Feb. 5. The study is based on modeling federal officials questioned and salmon advocates labeled "junk science."

"The SFPUC is one of the biggest obstacles to protecting the San Francisco Bay and the fishing industry," John McManus of the Golden Gate Salmon Association told me. "They're on a river that's diverted up to 90 percent in some years and they cling to false studies finding that fish don't need water."

Last August, an independent third-party review by the National Marine Fisheries Service identified concerns with the Districts' study and noted — boldly — that substantial spring flow increases would best protect Chinook salmon from extinction. It contradicted the Trump Administration's promises to California agricultural users of a "magnificent amount, a massive amount of water."

Unsurprisingly, the Central Valley Irrigation Districts struck back calling the report "ill informed," and "possibly biased." The SFPUC appears to support the Districts' claims.

"Our plan is based on significant scientific study and discussion specific to the Tuolumne River, which demonstrates that fisheries improvements can be achieved through a well-planned combination of flow and non-flow measures, producing improved habitat and rearing conditions," an SFPUC spokesperson told me.

It's hard to understand why the agency continues to rely on a questionable study and a water system developed over 100 years ago. It contradicts The City's recognition of science-based climate policies, and its reputation as an environmental leader. It could undercut other efforts, such as a legislative push by Bay Area members of Congress to restore the region's water quality and help endangered species.

It also sets San Francisco behind other California counties and cities. For example, the Orange County Water District is developing the world's largest water reuse project that will supply drinking water to 1 million people in 2023. The city of Santa Monica is also working to eliminate its dependence from imported Sierra Nevada and Colorado River water completely by 2023.

While San Francisco has reuse programs in place, The City should announce a goal to end its long and unsustainable relationship with the Tuolumne River too. At the very least, the SFPUC should adopt state and federal Tuolumne River flow recommendations.

New agency leaders may help move recalcitrant staff in a better direction. In December, Mayor London Breed appointed Newsha Ajami, director of Urban Water Policy at Stanford University's

Water in the West program. This laudable appointment is strengthened by the environmental dedication of new Commissioner Ed Harrington and could be bolstered by a new, yet-unnamed general manager.

The minuscule number of salmon counted at the Tuolumne River weir is heartbreaking. San Francisco should do everything in its power to address this environmental, economic and cultural loss. It would be great to see The Examiner revive "The Big Fish Club."

#### ###

Robyn Purchia is an environmental attorney, environmental blogger and environmental activist who hikes, gardens and tree hugs in her spare time. She is a guest opinion columnist and her point of view is not necessarily that of the Examiner. Check her out at robynpurchia.com. (This page was intentionally left blank)

#### California Environmental Officials Switch to Offense as Biden Takes Charge

KQED Science | February 1, 2021

Sacramento, at least, is excited about Washington's new climate direction.

Jared Blumenfeld and Wade Crowfoot head California's environmental protection and natural resources agencies, respectively. Last week, they discussed with KQED's Kevin Stark what the change from the Trump to Biden administrations might mean for California.

Blumenfeld says he and other California environmental leaders are "euphoric" about a flurry of Biden administration executive orders resetting U.S. climate policy and tearing up the environmental agenda of the Trump administration.

"We're coming out of a hellish period in American environmental politics," Blumenfeld said. "That euphoria really is based on the fact that the president is taking immediate action, and climate change is one of his top four priorities with equity and the pandemic and the economy."

The heads of California's natural resources and environmental protection agencies discuss climate policy, wildfire mitigation, fracking, and cap-and-trade in the context of the new president.

Biden has placed a temporary hold on new oil and gas leasing on federal lands, stating that his administration will seek to cut emissions from fossil fuels while doubling energy production from offshore wind turbines.

His order to U.S. agencies to review fuel efficiency standards will be one of the most impactful changes for California, initiating a bureaucratic process that Blumenfeld hopes will establish a set of federal cleaner car rules that match California's agreement with major auto manufacturers.

The president's order to triple protected land and waterways across the country should also infuse the U.S. Forest Service and the Bureau of Land Management with badly needed funds. Crowfoot says he hopes Biden will use the money to rapidly increase prescribed burns and other ecologically driven fire-mitigation measures across the nearly 19 million acres of federal forest land in California.

"It's a new day of partnership between the state and federal government protecting our communities and natural places from catastrophic wildfire," Crowfoot said. "I'm convinced we have good partners on the ground in the federal agencies in California, but they've been starved for resources from Washington, D.C., and we're hopeful that's going to change."

The following excerpts from the conversation have been edited for length and clarity.

Newsom recently asked Biden to reissue the state's waiver to set its own clean car rules, which was rescinded by the Trump administration. Do you expect Biden will grant the waiver?

Blumenfeld: The president has talked to the governor explicitly about this issue, and it's very top of mind for us to resolve, simply because it's such a big part of California's greenhouse gas emissions.

California received special authorization more than 50 years ago, when the Clean Air Act was first created and signed into law, by of all people President Nixon. And the reason for that is L.A. smog was so bad that we knew we needed standards that went further than the rest of the nation. That's continued year in, year out, as 50% of the state's emissions are coming from the transportation sector. If we have any chance of getting rid of our dependency on fossil fuels, which we have to in the climate battle, we need to reduce demand. And that demand comes from vehicles. The Trump administration put on hold anything that California wanted to do. We sued them and that's still working its way through the courts. But now we can leapfrog all that kind of ridiculousness and go right to working with the federal government.

We have to have standards for new cars between now and 2026 because the Trump administration diluted those. And then [the federal government] needs to align with California's goal of all new vehicles by 2035 being zero emission. This isn't a choice at this point.

## Will California's agreement with the car companies to abide by tougher standards on tailpipe emissions than Trump wanted be the foundation for a new federal standard?

Blumenfeld: We had Obama standards that harmonized California and the rest of the federal government. Trump then blew those up. We now need to come back to the table and work out what those national standards are. And we were really thrilled that folks like Ford and Honda and BMW and VW said, "We're going to sign an agreement with California that no matter what the Trump administration says, we're going to have national standards for the parts of the country that may not even care about this issue; we're going to still give them cars that meet the California standards." That's what's in place. We're hoping that GM, Toyota, Chrysler and others will join us with that framework and move forward together with the Biden administration, to come out with one standard. A lot of the people who helped construct that are now in the Biden administration. We look forward to collaborating to solve this.

## Secretary Crowfoot, you said you want partnerships between states and the federal government on forest management and wildfire mitigation. What would be your top priority for this?

Crowfoot: In California, our federal agencies own and manage 57% of our forests. We are not going to make a dent protecting California against catastrophic wildfire without scaled-up funding and priority from the federal government. And I think President Biden and Vice President Harris have made it very clear that they're going to be much more proactive partners than the last administration.

The top priority is to fund the U.S. Forest Service to actually do proactive forest resilience work. In recent decades, most of the Forest Service funding has been raided every year for fire response, [leaving] less and less on actually doing things like prescribed burns and ecologically sensitive treatments in the forest. And so we have to ensure that the federal government actually funds these federal agencies to get in there and do the ecologically based forest-health work that is needed, or else we're just going to spend more and more responding. Federal funding will be an important indication of the new administration's priority to help California combat wildfires.

## Newsom has called on legislators to develop legislation banning new fracking permits, but no proposal has yet emerged. Is the Newsom administration working on this?

Crowfoot: This fall, the governor made clear that he does not see a future for fracking in California. And he explained that he would support legislation to phase it out. It's our understanding that legislative members are developing a proposal to phase out fracking in California. And we look forward to talking to them and working with them ultimately to meet the vision that the governor set forth this fall.

## Advocates are calling on the governor to set a date to phase out fossil fuels. Will that be part of any proposal that emerges?

Crowfoot: Fossil fuel extraction in California was at its height in 1986, and it's been reduced every year for the last few decades. At this point, we produce about 40% of that peak use. At the same time, our consumers use over 600 million barrels of oil each year in the form of gasoline to power cars and trucks.

It is critical that we reduce our reliance and ultimately eliminate our reliance on fossil fuels. If no other barrel of oil came out of the ground in California but we don't change our habits, we'll simply be importing more oil from other parts of the world. We need to reduce and ultimately eliminate our demand if we're going to meet the climate challenge.

We've been clear that as we phase out our demand for fossil fuels, we will phase out the supply in our state. We anticipate this will happen in coming years, as we march toward the 2045 carbon neutrality goal. I do anticipate that there will be a clear trajectory for the phasing out of both demand and supply.

# Secretary Blumenfeld, in a letter to state senators you said the opportunity to revisit the cap-and-trade program, which has been criticized by the environmental justice community, exists as part of updating CARB's Scoping Plan. How would you like to see cap-and-trade changed?

Blumenfeld: The cap-and-trade program is a market-based mechanism that basically does two things. Year after year, the amount of carbon that can exist under the cap goes down — that's how you reduce greenhouse gas emissions. The second part is the trading of allowances in a

market system, so that there's an actual price on carbon; a lot of people talk nationally about the importance of putting a price on carbon.

There are two criticisms of cap-and-trade. One is that there's an overreliance on [the allowance] mechanism. So moving forward we need to do more regulation and less market-based. The second valid critique is related to environmental justice, where you're living in low-income communities of color and say, "Well, someone shouldn't be allowed to pay to emit more pollution in my community." We're going to look at both in terms of how we get to our 2030 targets. Then we have a state goal of getting to carbon neutrality by 2045; cap-and-trade will play a role but we all anticipate it will play a slightly smaller role than we originally thought. And we need to make sure that those equity concerns are brought to the forefront.

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#### Water markets in California can reduce the costs of drought CalMatters | February 1, 2021 | Ellen Hanak, Guest Commentary



California's increasingly volatile warming climate is making droughts more intense, and complicating water management. A just-launched commodity futures market for the state's water provides a new tool for farmers, municipalities and other interested parties to ensure against water price shocks arising from drought-fueled shortages.

Taking a Wall Street approach to an essential natural resource has prompted both fear and hype. Will California experience a new Gold Rush in water? Will speculation boost the cost of water? Perhaps both the fear and the hype are unwarranted.

To address the fear: this new market doesn't allow hoarding or moving water out of the state. In fact, it doesn't involve real water at all. It's strictly a financial tool that allows participants to bet on the future price of water in California. Water users can lock in a price they are willing to pay. And although this market will also be open to investors, their involvement won't change the amount of water that's available in California or the price at which it's ultimately sold. Crucially, the futures market won't disrupt protections already in place to ensure actual water trades are done responsibly.

As for the hype, this new tool won't alter the facts of California's essential water challenges. The promise it brings is in helping water users manage the financial risk of droughts. Those who guess correctly about dry years and rising prices can then sell their shares for more than they paid and use the profits to buy actual water at those higher prices. In dry years, this market could also enable farmers who locked in a lower price to use their profits to cover some of the costs of fallowing farmland – like a type of weather insurance. Participants can also lose money in years when the rains

are better and water ends up being cheaper than expected – like paying for insurance but not making a claim.

While this new tool may help manage the financial risk of droughts, the more important work ahead is to strengthen the state's actual water market. Water trading has been an important management tool for several decades – helping cities, farms and environmental water managers meet evolving demands in our variable climate. Trading still makes up a relatively small share of total water use – about 4%. Yet it brings much-needed flexibility to California's system of water rights, which determines how much water is allocated and where it is used.

The rights to use water in California were allocated decades ago, when the region had far fewer people and a very different economy. This first-come, first-served approach is simply too rigid to ensure that water is available to meet the most essential needs – especially during droughts. By compensating those with long-standing water rights for moving water to activities and places where the lack of water will be more costly, trading encourages partnerships and cooperation in the sustainable management of this vital resource.

Expanding trading can help California adapt to growing water scarcity. For example, we found that expanded trading could reduce the costs of ending excess groundwater use by about 60% in the San Joaquin Valley, protecting jobs for thousands of low-income families while ensuring that groundwater remains available for future generations.

Improving the fundamentals of the actual water market will require a combination of smarter regulation and infrastructure investments.

Smart regulation can facilitate flexibility while providing essential protections. Trading is subject to regulatory oversight because moving water from one place to another can harm other water users and the environment. But right now, the approval process is fragmented and inconsistent, with different rules for different types of water rights and agencies. A top priority is improving information about how much can be safely traded in different places. In addition, developing transparent water trading platforms is key to building buy-in for new types of groundwater trading in farming regions.

Smart infrastructure is about identifying cost-effective improvements in storage and conveyance networks to make it easier to move water between buyers and sellers. This matters not only during droughts, but also during wetter years, so that parties can bank water for each other in underground aquifers to prepare for future droughts.

Water trading can help manage growing water scarcity in ways that benefit the economy and the environment. Most importantly, trading encourages cooperative solutions, which are essential for addressing the challenges of adapting to the changing climate.

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Ellen Hanak has also written about three lessons for California's water funding challenges in today's recession and Gov. Newsom's water framework is imperfect but necessary.

Advocates for fish, and canoeing, win a round in debate over Tuolumne River flows Modesto Bee | January 26, 2021 | John Holland



Marta Garcia, right, prepares to canoe on the Tuolumne ever with her children Monica Delgado, 8, and Ismael Delgado, 7, at Legion Park in Modesto, Calif., Thursday, August 1, 2019. ANDY ALFARO AALFARO @MODBEE.COM

A federal agency has ruled that the state can continue to seek higher flows on the Tuolumne River than planned by the Modesto and Turlock irrigation districts.

The Jan. 19 ruling drew cheers from environmental and fishing groups that have long sought larger releases from Don Pedro Reservoir into the lower river.

MID and TID vowed to appeal the ruling within the required 30 days. It involves a pending license from the Federal Energy Regulatory Commission to operate Don Pedro for up to 50 more years.

The districts contend that the higher releases would take too much water from their customers. Don Pedro supplies about 210,000 acres of farmland and a treatment plant that supplements the city of Modesto's wells. A plant under construction could do the same for Turlock and Ceres by 2023.

The Tuolumne River Trust points out that about 80% of this waterway is already diverted by the districts and for use in part of the Bay Area.

The group supports the proposal from the State Water Resources Control Board. Its key element is to have the river carry at least 40% of the natural flow from February to May, when young salmon are preparing to swim out to sea.

Summer river levels would be much lower than spring but still enough to support canoes and other non-motorized craft in dry years. This last stretch of the Tuolumne runs 52 miles from La Grange, past Waterford, Modesto, Ceres and other riverside locales.

"The FERC ruling was a big victory for us because it keeps the state involved," said Peter Drekmeier, policy director for the trust, in a phone interview.

#### LICENSE PROCESS IS A DECADE OLD

MID and TID applied in 2011 for a license to replace the one that led to the completion of Don Pedro in 1971. The process involves detailed study of the effects on fish, recreation and other issues.

Last July, FERC agreed to the districts' proposal to boost Don Pedro releases at a volume much less than sought by the state board and environmentalists.

The districts argue that non-flow measures, such as restoring floodplains and spawning gravel, would better serve fish than simply releasing huge amounts of water.

They also note how the upcoming treatment plant will benefit salmon. The diversion for irrigation takes place at La Grange. The plant will be fed by water drawn out near the Geer Road bridge, allowing it to remain in the river for another 25 miles.

#### STATE HAS INTEREST IN OTHER RIVERS

The state board seeks higher Tuolumne flows as part of a process than also would increase them on the lower Stanislaus, Merced and San Joaquin rivers.

FERC's latest ruling was on the districts' argument that the state board had not acted in time to affect the license. The federal body voted 5-0 to let the state continue to press its conditions on Don Pedro.

"We're disappointed in FERC's decision ...," the districts said in a joint statement to The Modesto Bee, "but it only strengthens our resolve and determination to secure a license that balances water supply reliability for our community with scientifically based enhancements to the ecosystem."

The state board reaffirmed its plan on Jan. 15, despite earlier suggestions that it would seek voluntary agreements with users of the Tuolumne and other rivers. Those are still possible.

#### A FOUNDATION FOR FOOD PROCESSING

MID and TID have support from allies who see Don Pedro as a foundation of the area's vast food-processing sector. The districts also get cheap hydropower, but it is a small percentage of the total supply for their 220,000 or so electricity customers.

In an average year, MID and TID use about 917,500 acre-feet of water from the Tuolumne, according to FERC records.

The districts have little trouble meeting the current river flow requirements in average or wet years. In especially wet 2017, for example, they released 166,364 acre-feet from Don Pedro to aid downstream salmon from fall to spring.

The state board seeks 259,091 acre-feet of releases in wet years, reducing the districts' ability to carry over storage to the next year.

Dry years provide less water for both people and fish. In 2015, for example, the districts delivered only about 40% of the accustomed amount to their customers. Only 11,091 acre-feet was released to help salmon develop.

The state board seeks 116,364 acre-feet for this purpose in dry years. This would not be required in a second consecutive year of drought.

The California Sportfishing Protection Alliance welcomed the latest ruling in a blog post. It noted the state board's finding that increased summer flows would help keep the water cool for fish and repel water hyacinth, a non-native plant that can impede boating and fish movement.

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#### San Francisco: Save the river you drink from

San Francisco Chronicle | January 26, 2021 | Kate Poole and John McManus



Tom Stienstra/Richard DeGraffenreid / Special to The Chronicle

San Francisco rightly prides itself on being an environmental leader. Given this deep commitment to protecting the environment, the city's water agency — the San Francisco Public Utilities Commission — should be a leader in smart, sustainable water policy. Unfortunately, that has not been the case. But Mayor London Breed now has a once-in-a-decade chance to turn the SFPUC in a new direction by appointing a progressive, visionary new general manager who reflects the city's values.

San Francisco's Bay-Delta ecosystem and the Central Valley rivers that feed it are in steep decline, suffering from unsustainable freshwater diversions and habitat destruction. The city gets its water from one of these rivers, the Tuolumne, which flows from Yosemite National Park to the bay.

Of all of the major rivers in the Bay-Delta watershed, San Francisco's Tuolumne is among the worst off. Eighty percent of the Tuolumne's flow is routinely diverted, and more than 90% in the worst years, leaving only a trickle in the river for fish and other wildlife in most years. Unsurprisingly, native fish on the Tuolumne have all but disappeared, including the salmon runs

that sustain fishing industry jobs from Morro Bay to Fisherman's Wharf and into Oregon. For San Franciscans, it is not acceptable that our river is among the most damaged in the state, undermining our credibility as an environmental leader.

The science is clear that the Tuolumne and its native fish and wildlife will never recover without leaving more water in the river. Other water agencies around the state have shown how San Francisco can thrive while taking less water from the Tuolumne by investing in smart, 21st century water tools like water recycling — tools that also improve our adaptation to climate change and resilience to drought, while protecting wildlife. But here again, the SFPUC lags far behind.

Instead of leading efforts to restore the Tuolumne River, for years, the SFPUC joined forces with the Trump administration and anti-environmental Central Valley agricultural water districts to oppose strengthening environmental protections. Even now, the SFPUC failed to object while their partners urged the Trump administration, on its final day in office, to block stronger requirements for the Tuolumne River proposed and supported by the state of California. Recently, the acting general manager of the SFPUC threatened to seek special treatment from Gov. Gavin Newsom's office if the state moves forward with modest updates of wholly inadequate 25-year-old environmental protections.

San Franciscans have always supported doing our part to protect the environment. It is disgraceful that a city agency acts in our name to promote policies that wipe out our native salmon runs, kill the river that supplies us with drinking water, and undermine the fishing industry that created Fisherman's Wharf. It is even more disturbing that the SFPUC stood idly by while its partners urged the Trump administration to block environmental protections for fish and wildlife in the river and downstream waters.

The SFPUC can and should do more to protect the bay, our salmon industry and the jobs and communities it supports. Breed must lead this charge by appointing a reform-minded general manager to replace recently indicted Harlan Kelly. This position should be held by a leader who reflects San Francisco's values, including protecting the environment, adhering to science and the law in supporting more balanced diversions for the Tuolumne and the Bay-Delta, and investing in new, climate-resilient water supply tools.

In short, instead of partnering with the Trump administration and anti-environmental forces in the Central Valley, it's about time that the SFPUC partners with its own community. We stand ready to work with that new leader.

#### ###

Kate Poole is the water lead for the Natural Resources Defense Council in San Francisco. John McManus is president of the Golden State Salmon Association.

#### From Tuolumne County to SF

Hetch Hetchy Water & Power plans five-year, \$140M Mountain Tunnel project The Union Democrat | February 4, 2021 | Guy McCarthy

Provided A view inside the 19-mile Mountaintunnel in January 2017. (above and left).the Mountaintunnel, one of two Hetch Hetchy tunnels intuolumne County, was first completed in 1925. The City and County of San Francisco are planning a five-year \$140 million project to upgrade the tunnel beginning in January 2022.

The City and County of San Francisco and the San Francisco Public Utilities Commission are planning a five-year \$140 million project beginning next year to repair, rehabilitate and upgrade the 19-milelong Mountain Tunnel, a key component of the Hetch Hetchy Water System that takes water from Tuolumne County and sends it to San Francisco.

The San Francisco Public Utilities Commission, which is a part of the City and County of San Francisco, owns and operates Hetch Hetchy Water and Power. The system is named for the former Hetch Hetchy Valley, which is now underwater in



/ San Francisco Public Utilities Commission

Hetch Hetchy Reservoir, held back by the O'shaughnessy Dam that impounds the Tuolumne River inside Yosemite National Park. The system also includes the company town of Moccasin.

The tunnel, completed in 1925 and operational since that time, is one of two Hetch Hetchy tunnels in Tuolumne County. Below O'shaughnessy Dam, the 11-mile-long Canyon Tunnel is bored entirely through granite and carries water to a junction called Early Intake, where water from Cherry and Eleanor reservoirs intersects with tunneled water from Hetch Hetchy and the Tuolumne River.

Beginning at Early Intake, the Mountain Tunnel is a 14-foot-diameter water tunnel with eight miles bored through granite and 11 miles lined with concrete. It stretches underground from Kirkwood Powerhouse on the Tuolumne River, below and downstream from Preston Falls, the Yosemite National Park boundary, and O'shaughnessy Dam, to Priest Reservoir, near Priest Station Cafe, above Moccasin and the giant penstocks that send Hetch Hetchy water downhill to Moccasin.

The contract for the next big tunnel project has been awarded to an infrastructure construction contractor called Michels Corporation, which is headquartered in Brownsville, Wisconsin. Work on the project is expected to begin in January 2022, with closures of 60 days to 100 days each year, and it's expected to be complete by December 2026.

Asked how many total new jobs the project will create, and how many jobs it will create in Tuolumne County, a spokesperson for the San Francisco Public Utilities Commission referred those questions

to Michels Corporation, which did not respond before deadline for this news report.

The \$140 million contract with Michels Corporation requires that 30% of the construction work hours, and half of the apprentice work hours, will be completed by local workers based on the City of San Francisco's hiring policy, Will Reisman with the San Francisco Public Utilities Commission said Wednesday.

Hetch Hetchy Water and Power, the San Francisco Public Utilities Commission, and the City and County of San Francisco define local workers in the context of the next project to include residents who live in the San Francisco Public Utilities Commission service territory, which includes the area where the work will take place, Reisman said.

The system serves about 3,500 Groveland Community Services District customers and 2.6 million people in the Bay Area, including all of San Francisco and San Mateo counties, and portions of Alameda and Santa Clara counties.

During shutdowns of the Mountain Tunnel, the Groveland Community Services District, which relies on Hetch Hetchy system water, has a treatment plant at Big Creek that can treat water from the Pine Mountain Lake reservoir, as well as another plant at the former mining settlement called Second Garrotte, which can treat water from Cherry or Priest reservoirs, Pete Kampa, GCSD general manager, said Wednesday.

Tunnel shutdowns "occur annually normally for a period of 30 to 60 days, with one coming up in just over a week" between Feb. 11 and 23, Kampa said.

"We have been informed that the annual tunnel shutdowns for 2022 and 2023 will be 60 days each, extending from January to March," he said. "In 2024 and 2025, we are planning for longer shutdowns of up to 120 days spanning December through March each year."

The district asks its customers to watch their water use during tunnel shutdowns, Kampa said.

John Gray, the retired Tuolumne County supervisor for District 4, used to represent a sprawling area that includes Hetch Hetchy Reservoir, more than half of Yosemite National Park, Groveland, Pine Mountain Lake, Big Oak Flat, Moccasin, Chinese Camp, Don Pedro Reservoir, Standard, East Sonora, The Junction and Curtis Creek Ranch.

Gray is 72 years old now, and his father worked for Hetch Hetchy starting in 1924 at age 14 as a water boy and then as a brakeman on the Hetch Hetchy Railroad. Hetch Hetchy projects over the decades served as catalysts, including high points and low points, in the Groveland and south Tuolumne County economies, affecting generations of boom-bust workers and some who stayed and became Tuolumne County residents, Gray said.

"At first they kept that railroad alive because they knew they would have to raise the dam," Gray said Wednesday in a phone interview. His father moved eventually up from brakeman to equipment operator, and part of his duties included chauffeuring dignitaries in modified buses on the Hetch Hetchy Railroad tracks. Gray said the railroad remained active until World War II, then Hetch Hetchy Water and Power had workers tear it up, and the scrap iron got used for the war effort.

"My father and my uncle had a contract to remove railroad ties in the 1950s," he said. "My father, he worked for the Hetch Hetchy system 27 years and he died at age 50. Many miners and ranchers worked for Hetch Hetchy. My great-uncles worked for them, and my grandfather drove wagons to make freight deliveries."

The history and economic fortunes of south Tuolumne County along Highway 120 — the ebbs and flows, the highs and lows, the peaks and valleys — reflected what was going on with Hetch Hetchy Water and Power over the course of a century, Gray said.

Work continued in the 1950s with construction of Cherry Dam, to catch more water for Hetch Hetchy at Cherry Reservoir, which impounds Cherry Creek on the edge of what is today designated as the Emigrant Wilderness.

Lots of Hetch Hetchy workers were miners who came from out-of-state, Gray said. Some stayed, and most of them moved on. There are some families that stayed on here in Tuolumne County.

Today, the company town of Moccasin is home to some of the best-paid workers in Tuolumne County, Gray said. He estimates there are 250 to 300 highly skilled workers based at Moccasin, including electricians, plumbers, carpenters, engineers, and hydrologists, who can make \$35 to \$40 an hour.

"It's one of the last company towns in California," he said. "The City of San Francisco owns all the housing there."

Over the decades, Gray said, he's seen Hetch Hetchy Water and Power do tunnel shutdowns "almost every year" so they can walk the tunnel and inspect it for cracks. Each year the shutdowns are normally for a short period of time.

"The sheer age of the tunnel means they need to do annual inspections," he said. "In my lifetime, it's just about a yearly event."

Steven Ritchie, assistant general manager of water enterprise with the San Francisco Public Utilities Commission, said Wednesday the next project is really big and really important for Hetch Hetchy Water and Power to ensure the nearly 100-year-old tunnel will last at least another century.

The San Francisco Public Utilities Commission just gave notice to Michels Corporation to proceed, so that they can prepare to start work on site.

Recent shutdowns of the tunnel included repairs on the tunnel lining, contact grouting tests, drilling holes, and pressurized grouting in early 2019, Ritchie said, and two years before that, a major inspection with interim repairs, and improved access at manhole entrances to the tunnel called adits for about two months in early 2017.

Longer shutdowns of the tunnel happen less frequently. The previous major shutdown before 2017 was in 2008, and before that it was in 1989, Ritchie said.

The project will include installation of a big valving system on the downstream end, to eliminate the need for draining Priest Reservoir each time Hetch Hetchy Water and Power shuts down the tunnel.

"Right now to go inside the tunnel we have to empty Priest Reservoir and empty the tunnel into Priest," Ritchie said. "It's a 14-foot diameter tunnel. With the valving system, we will not have to empty Priest Reservoir."

Hetch Hetchy Water and Power also wants to remove the giant bulkhead that seals up the tunnel with 40 nuts and bolts, Ritchie said. It's a big job to open the tunnel and close it again. The new valving system will make it easier to close the tunnel and allow easier access to the tunnel from Priest Reservoir. On dry ground above the reservoir, there are plans to install a new adit entrance into the tunnel, Ritchie said.

"I'm sure it will create new jobs," Ritchie said of the project, but how many jobs that will mean in Tuolumne County remains to be seen.

Hetch Hetchy Water and Power currently employs about 300 people in Tuolumne County at Moccasin, Hetch Hetchy Reservoir, Cherry Reservoir, and the South Fork Yard near the junction of Highway 120 and Cherry Lake Road, Ritchie said.

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#### State Water Agency Seeks Input from Local Groups on Infrastructure Projects

The Independent | January 28, 2021 | Tony Kukulich

REGIONAL —There is an adage in California that goes, "Whiskey is for drinking and water is for fighting over."

But instead of fighting, the California Water Commission (CWC) is looking for opportunities to hear from local agencies on water infrastructure projects.

The CWC recently wrapped up a series of public workshops intended to determine the opportunity for a state role in financing water conveyance projects that meet the challenges of a changing climate. A water conveyance project is one that moves water, either through natural waterways like creeks, rivers and streams, or through man-made structures, such as pipes, ditches or canals.

"The workshops are an acknowledgement that conveyance is an important part of our water system," said Laura Jensen, CWC assistant executive officer. "There's a need to think about what a state investment might look like to both improve what we have now, or repair what we have now to be more resilient to the changes that are happening now, and we expect to continue in a changing climate. We're trying to get a feel for what the priorities are in each region, but we're not looking to create a comprehensive list of projects."

Each of the four workshops focused on a different geographic region of the state. The Jan. 12 session concentrated on Northern California and was hosted by the Northern California Water Association (NCWA).

"Water suppliers in Northern California serve water for multiple benefits, including cities and rural communities, farms, fish, birds, wildlife and recreation," said David J. Guy, NCWA president. "The conveyance of water is important for climate and water resilience in this region. We encourage active participation in this workshop to explore how conveyance projects can best serve these various beneficial purposes into the future."

During discussions of California water conveyance projects, the Delta Conveyance Project (DCP) was the elephant in the room. Expected to cost \$22 billion and take 15 years to build, the DCP is the latest iteration of plans to draw water from the northern reaches of the Sacramento-San Joaquin River Delta. The water would then be conveyed into the Central Valley and Southern California as far as San Diego through the existing network of State Water Project canals. Under Gov. Jerry Brown, the project was referred to as WaterFix and consisted of a pair of 35-mile-long tunnels buried 150 feet underground through the heart of the Delta. Gov. Gavin Newsom scaled the project down to a single tunnel with the introduction of the Water Resilience Portfolio, and WaterFix became the DCP.

Despite the significance of the DCP, it was not a workshop topic. The California Department of Water Resources is the state's lead agency on the tunnel project and is managing the public process for that initiative. As such, DCP falls outside of CWC's purview.

Workshop participant Carol Mahoney, Zone 7 manager of integrated water resources, said the DCP has wide-ranging implications for her agency. But with it off the table for discussion, she focused on other projects that would improve water delivery resiliency for the Tri-Valley. One such project is the Transfer-Bethany Pipeline – an initiative spearheaded by the Contra Costa Water District that will connect Zone 7 with the Los Vaqueros Reservoir. It will provide redundancy in the Zone 7 infrastructure that does not exist today.

"For us, we talked about the idea of effectively getting water to the Livermore Valley when it's needed," Mahoney said. "That is our big concern, because 80% of our water does come through the Delta. That's our source. It's important to this valley to be able to move water here when it's needed. Those are the projects that are going to be most beneficial to Zone 7 outside of the Delta Conveyance Project."

Newsom's Water Resilience Portfolio served as the impetus for the workshops. Introduced in April 2019 and finalized in July 2020, the portfolio is the Newsom administration's blueprint for equipping California to cope with more extreme droughts and floods, rising temperatures, declining fish populations, and over-reliance on groundwater, among other water-related challenges.

According to the CWC, existing conveyance structures are aging and in need of repair. Additionally, climate change will require new and improved connections designed for different purposes than the state's historic infrastructure. The commission's objective is to learn about regional conveyance needs and priorities that align with the goals of the resilience portfolio.

"The end result of this will be a white paper with recommendations that goes out to state policymakers that may be used to craft bond language that looks at bond funding for investment in water infrastructure," Jensen said. "We are looking to make high-level suggestions about how to think about projects that come before the state – what kind of criteria do we use to evaluate them."

Jensen expects the commission's recommendations to be available for public comment later this spring

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#### Plans Call For Raising Los Vaqueros Reservoir Dam Height

Escalon Times | January 26, 2021 | Dennis Wyatt



The Los Vaqueros Reservoir holds 160,000 acre feet of water. DENNIS WYATT/209 Living Updated: Jan 26, 2021, 6:44 PM

The 160,000-acre reservoir seen from the crest of the Black Hills Trail from perhaps 1,000 feet above looks like a perfect place for nature to have created a lake.

Rolling hills spread out from a wide bowl in the Northern Diablo Range.

But nature did not create Los Vaqueros. The Contra Costa Water District did.

The reservoir traces its roots back to the devastating drought of 1977. That's when rising salinity levels triggered fresh water rationing to CCWD.

Established in 1936, the CCWD serves nearly 550,000 people in Concord, Pleasant Hill, Walnut Creek, Clayton, Clyde, Pacheco, Port Costa, and Martinez.

The district takes water from the Sacramento-San Joaquin Delta at four locations including the Middle River and Old River on the San Joaquin.

The reservoir is an "off-line" storage facility much like the State Water Project's San Luis Reservoir below Pacheco Pass and west of Los Banos/Santa Nella and the proposed Sites Reservoir in Colusa County.

As an off-channel reservoir that means river channels are not blocked with dams. It is considered a much more environmentally friendly option for fish and the overall river ecological system.

Off-line reservoirs in California typically function as storage of excess water flow during weather years with higher precipitation. That means above average water flows that would normally be sent into the ocean are partially captured as hedge against drier years.

Los Vaqueros does that but at its heart it was conceived as a way to provide clean drinking without a high salinity content. Pumping water from the Delta during the summer and fall especially in times of below average precipitation can yield water that is too salty.

Salinity issues are one of the core objections communities dependent directly on the Delta for water as well as underground aquifers such as the ones that Tracy, Lathrop, Manteca, and, Stockton draw from. During the 1991 drought due to the lack of fresh water seeping into underground water tables to keep ocean salinity at bay, increased salt levels in water wells were detected as far east as Jack Tone Road.

Los Vaqueros Reservoir was completed in 1988. The original \$61 million, 192-foot dam required relocating Vasco Road by building 12.8 miles around the 19,300-acre watershed at a cost of \$27 million. The dam for the reservoir that originally held 100,000 acre feet was completed in February 1988 and completely filled 11 months later.

An expansion project started in 2010 and completed in 2012 raised the dam height 34 feet to 224 feet. It increased the storage capacity 60 percent to 160,000 square feet. It also expanded recreational uses and stepped up habitat protection. The surface covers 1,400 acres and has an elevation at capacity is 524 feet.

Los Vaqueros is also where the next significant increase in California reservoir storage could be in place by 2028.

The \$915 million project will raise the dam 55 feet to 273 feet. It would increase storage from 160,000 acre feet to 275,000 acre feet.

The project has the support of a number of environmental groups.

The expansion will also benefit 11 other water/irrigating districts serving cities from Santa Clara and Brentwood to San Francisco as those serving agriculture such as the San Luis Delta Mendota Water Authority and Byron Bethany Irrigation District.

It is designed over the course of a year to increase water supply reliability from 44,000 to 504,000 acre feet during dry periods. It also increased emergency environmental water supply critical to wildlife refuges south of the Delta from 50,000 to 790,000 acre feet. The project also will add emergency water supply storage for Bay Area agencies from 80,000 to 120,000 acre feet a year.

As designed it will further enhance recreation and wildfire protection in the Los Vaqueros watershed.

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## WATER ASSN OF KERN COUNTY: DWR DIRECTOR KARLA NEMETH GIVES AN UPDATE ON THE DELTA CONVEYANCE PROJECT

Maven Conferences and Seminars January 26, 2021

The Delta Conveyance Project is the Newsom Administration's plan to construct a tunnel and other facilities that would carry water from the Sacramento River to State Water Project facilities in the south Delta.

The Delta Conveyance Project has a long history, with its roots in efforts that began during the Schwarzenegger administration in the mid-2000s. Even so, the idea of conveying water around the Delta is not new; it was initially conceived as part of the master plan for the State Water Project but wasn't included in the initial construction due to cost considerations. In the 1980s, plans were begun to construct such a canal, but it was put to a statewide vote and soundly defeated. Over the years, building some sort of bypass around the Delta has continued to be discussed intermittently despite setbacks and strong opposition. The project still remains controversial today.

You can learn more about the Delta Conveyance Project and its predecessors by clicking here.

Kern County, the second-largest participant in the State Water Project with a contract for 982,730 acre-feet of water per year, recently voted to participate in the project. In January of 2021, the Water Association of Kern County hosted a webinar with Karla Nemeth, the Director of the Department of Water Resources. She gave an update on the Delta Conveyance Project, as well as touched on other efforts of interest to Kern County.

#### **BUILDING A WATER RESILIENT CALIFORNIA**

She began by noting that about 27 million Californians rely on the State Water Project for some portion of their water supply.

"That certainly goes hand in hand with lots of investments that local water districts make at the local level concerning groundwater management, water recycling, and conserving water," she said. "In the governor's water resilience portfolio, what he describes is that we need to integrate a reliable State Water Project, and the Delta conveyance project is needed to do that, with all these other investments that need to be made within a state, local and federal partnership. That policy goal is articulated in the governor's water resilience portfolio."

The Department has spent decades sorting out what to do with this fragile part of the water delivery system for the State Water project because about two-thirds of the project's water supply originates in the Sierra Nevada, and half of that water supply actually flows through the Delta, explained Ms. Nemeth.

There are 29 State Water Project contractors that contract with the Department of Water Resources for water. That water provides about 27 million people with at least a portion of their water, irrigates about 750,000 acres of agriculture, and supports California's \$5 trillion economy.

Many folks like to think about water in California as a big north to south battle, and we've always had that tension here, she said. "What's important to remember is that while most of the state's precipitation and snowfall is in that northern corner of the state, but it's really throughout California where the water is transported great distances. The State Water Project serves Californians in the North Bay and the South Bay of the Bay Area, in the Central Valley, and it provides almost half the water supply for folks on the Central Coast. It's about 30% for those in the Inland Empire, Southern California, and some of our desert communities. The graphic (upper right) shows exactly how geographically dispersed the water deliveries are, and that's yet another reason why securing the reliability of the State Water project is so very important."

In the context of the governor's water resilience portfolio, she noted that the State Water project integrates in an essential way with local projects such as local storage, recycled water projects, conservation efforts, and groundwater recharge. Water quality management is also critical; it's a very clean water source often blended with other local supplies to meet drinking water standards.

"So it's not just about supply; it's also about quality," said Ms. Nemeth.

#### **PROJECT HISTORY**

Governor Schwarzenegger in the mid-2000s resurfaced the need to construct improved conveyance in the Delta; that was done as part of a much broader conservation plan for both aquatic and terrestrial species. That planning effort was initially focused on a canal of 15,000 cubic feet per second, which is the size of the pumping facilities down in the south Delta, she said, noting that during that process, the Department of Water Resources started looking at a tunnel rather than a canal.

During Governor Brown's tenure, the focus was on two tunnels at 9000 cubic feet per second. There were three intakes in the north Delta with a tunnel alignment that went pretty much in a straight line south to the existing pumping plants.

"When governor Newsom was elected, he wanted to make sure that we were looking at a project that was affordable and the right size for the water users who would pay for it," she said. "He signaled his interest in a single tunnel project at 6000 cubic feet per second."

"In the course of preparing those environmental documents, we started to take a look at improved engineering that could help us address some issues upfront around constructability," she continued. "That investigation has led us to carry forward another alignment alternative for the tunnel, the one you see on the slide swinging to the east. That's important because we think it offers significant promise to reduce construction costs; constructing the tunnel through the central part of the Delta would require significant road rebuilding on some fairly fragile levees in conditions that were not well known. So, one of the important things about our latest round of work on this is getting that engineering done so that we can be prepared to make a very knowledgeable decision on the proposed project its alignment and have the benefit of that engineering information."

#### THE DELTA CONVEYANCE PROJECT PLANNING PROCESS

Ms. Nemeth reminded that 50% of the water supply moves through the Delta, which is a very delicate part of the system.

"The Delta is an estuary that over the decades has been dyked and drained," she said. "The water is moved through a levee system, some of which are more than 100 years old. In the Delta itself, there is an earthquake risk; several faults around the Delta are expected to have seismic activity in the next 20 years. Climate change is also putting significant pressure on the Delta ... the Delta is one of those places where we anticipate a significant amount of seawater intrusion as sea levels rise over time. Finally, knowing that we are heading into a hydrologic pattern that is more extreme, meaning we have deeper, longer droughts that are punctuated with big rain events coming through, the fragility of the Delta, as it exists is, is increasing over time."

Ms. Nemeth noted that the state has been working on a Delta conveyance project for California in one way or another for about 40 years. When the State Water Project was first constructed, it was envisioned that there would be a canal around the Delta, but it was never built.

"Over time, some of the challenges that were anticipated have come to bear, so some of the conflicts that we have between operating the pumps in the south Delta and the presence of important native fish species," she said. "We understood that 40 years ago, and sure enough, it has come to pass."

"Another challenge there is when we do have these large storm events, there are periods when we're not able to deliver that water because of attracting fish into the pumps. So we very much need to adjust that physical dynamic, and the Delta Conveyance Project is one way to do that."

The purpose of the Delta conveyance project is to make the State Water Project more reliable by enabling it to operate in a more fish-friendly way with the added point of diversion, but also over the long-term, to protect the State Water Project against earthquakes, sea level rise, and the extreme storm events that are anticipated with climate change.

There are three facets to the current planning efforts:

Regulatory processes: These processes include the preparation of environmental documents per the California Environmental Quality Act (or CEQA) and the National Environmental Policy Act (or NEPA); there is also compliance and permitting under the Endangered Species Act and the Clean Water Act; and water rights proceeding for the added point of diversion at the State Water Board.

"The Delta Conveyance Project also needs to be compliant with the Delta plan, which was part of the Delta Reform Act passed in 2009 that articulated the coequal goals in the Delta, meaning water supply liability and ecosystem restoration needed to be operating in parity as we make decisions in the Delta," Ms. Nemeth said. "Those two things need to happen in the context of really acknowledging the Delta as a place; it's the home to many legacy communities in California, and it's part of an important recreational industry in the Delta."

Community benefits: "The Department is working with folks in the Delta to identify ways in which we could construct the project that would actually enhance the Delta and provide community benefits," she said.

Stakeholder engagement: "We are working on stakeholder engagement through a stakeholder engagement committee, and as well as tribal consultation. We're also working very intensely on environmental justice analysis and ensuring that the project protects those communities."

The Department has a four-tier planning process underway. They have completed initial outreach and scoping meetings. Currently, they are defining the project and working towards a draft environmental impact statement. They are defining different alternatives and developing various technical reports to articulate what a constructible project could look like based on the scoping information. Draft environmental documents are anticipated in the next year and a half, with completed documents following after that.

The Department is currently screening project alternatives. There is a no project alternative, as well as a no project alternative that also considers the local water supply projects that are currently being planned in the service area in the next 15 years to get a better understanding of what happens if they do not build the project, where would the investment go, Ms. Nemeth said.

They are also looking at various sizes of facilities from 3000 cubic feet per second up to about 7000 cubic feet per second. When the draft EIR is circulated for public review, it will include a full analysis of all the individual alternatives.

#### **PROJECT TIMELINES**

Ms. Nemeth then turned to project timelines. A draft environmental impact report is expected in 2022, with the completion of a final environmental document in late 2023. She noted that several permits interact with the environmental documents shown in the green bars at the bottom of the graphic. Those permits whose bars extend beyond the NEPA and CEQA documents require a completed document to move forward; this includes certifying consistency with the Delta Plan and the water rights proceeding from the State Water Board.

#### CONSTRUCTING AND PAYING FOR THE PROJECT

The public water agencies have established the Delta Conveyance Design and Construction Authority, a JPA, in anticipation of the facility's design and construction. Ms. Nemeth said the JPA is an important project delivery mechanism to get the public water agencies involved in managing the project timeline and budget. The public water agencies continue to work with their individual boards around funding and participation.

"So as we complete the environmental review process, and we have more detailed information, the public water agencies boards will move forward to make commitments around their ratepayer dollars for design and construction," she said. "Right now, we are simply in a planning phase. And I'm really enthused to report that we are almost 90% subscribed in the planning phase, meaning we have public water agencies that have expressed an interest in about 90% of the project. This is important because this is not a vote we had taken with the previous projects. And of course, Governor Newsom does want this project to be affordable for the local water agencies who would be paying for it."

#### THE 2020-21 WATER YEAR SO FAR ...

Ms.Nemeth then turned to the current water year. So far, the 2021 water year has not been great. She recalled that there was a little bit of early rain in the last water year, a dry January, followed by a historically dry February – the driest on record. Then in March, it was moderate in Northern California and rather wet in Southern California.

"I say this because these new hydrologic patterns really challenge how we make sure that we're preparing for the future and leaving water in Oroville in the event of another dry year," said Ms. Nemeth. "As you know, when we get into dry or even drought conditions is when we have successive dry years, and we really start to go through our storage. So it's always important that we're doing things as efficiently as possible. The ag sector in California is one of the most efficient in the country. And we're very proud of that. But as you can see, it is a very dry year so far. We have an initial allocation of 10%."

She noted there were indications of a pattern change around the end of January. "All of that means the better that we can get at long term forecasting, the easier it will be for all of us, not just the DWR, but local water agencies to plan for California's variable hydrology."

#### KERN COUNTY GRANTS

She concluded by noting that the Department of Water Resources does a lot of work supporting local water agencies on some of their needs through grant programs. There have been many successful grant applications from Kern County; the projects listed on the slide are only a smattering of the grants given in the recent past.

#### **QUESTIONS & ANSWERS**

## Question: With the change in the federal administration, do you see any changes as far as DWR's relationship and progress with the Delta conveyance plan?

"We have been talking to the incoming federal administration about their role in the Delta Conveyance Project," said Ms. Nemeth. "Right now, one of our challenges has been that the lead on the federal documents has been the Army Corps of Engineers, and we're very grateful for them for stepping up and performing that role. Still, it's unclear what the Bureau of Reclamation's role is. Of course, we need federal permits from National Marine Fisheries and the Fish and Wildlife Service. So I'm looking forward to working with the incoming administration to ensure that each of those [permit processes goes smoothly].

## Question: The GSPs have been submitted to the Department of Water Resources. And your staff has been reviewing them for adequacy. Are there any central issues rising to the surface based on those reviews?

"Yes, and I don't think any of them are going to come as a big surprise," said Ms. Nemeth. "I think part of our challenge will be the quality of the data, how to make decisions based on data, and the adequacy of what I'll just describe as Plan B. So if certain projects and programs don't work out as planned, how thoughtful or laid out are the other decisions that the GSAs will need to make to make sure that their plans are brought into balance."

"I do think that the interconnection between plans has been challenging, and that's not a huge surprise. Local control is paramount; I don't think SGMA would have passed the legislature if it didn't invest enormous responsibility with folks at the local levels to make decisions for how best to deal with their groundwater basin. That said, there are a lot of interconnected areas and interconnected basins ... DWR is starting to identify ways in which additional planning and hydrologic modeling can help us understand the interconnection of some of these groundwater basins."

"For instance, there's a lot of interest in groundwater recharge using floodwaters, which is great. But as we learn a little bit more about the soil types and so forth, it doesn't work everywhere. And so what does that mean for how we organize ourselves. So while the GSAs have done tremendous work at the local level to get their local plan together, it's my view that during implementation, these plans are going to get a little bit more connected regionally. We need to start thinking in those terms as well because a lot of the solution sets are going to require more regional collaboration amongst the plans themselves."

## Question: Has the Department of Water Resources done any studies on the impacts of SGMA?

"We have not done economic studies on SGMA. We're certainly reading the ones that the PPIC and Dr. David Sunding have put out. As we're looking at the plans and reviewing the plans, the ones that are a little bit more forward-thinking on demand management, we are starting to engage with some of those GSAs about economic impacts. We're working more broadly across state government. For example, in the Water Resilience Portfolio, Governor Newsom established a statewide Task Force on SGMA implementation that can deal with the impacts of SGMA implementation. It's much broader than simply DWR or the Water Resources Control Board as it really reaches into some of our business development and other arms, where we can provide economic assistance. So we are starting to get organized based on the plans. But no, DWR itself has not done its own economic analysis of SGMA implementation writ large."

## Question: You focused today on the Delta Conveyance Project for a good reason. Could you also tell us about other activities DWR is leading that are exciting to you? And how directly or indirectly they impact Kern County?

"There's a lot of cool things underway at the Department; some of it is in the forecasting world," said Ms. Nemeth. "DWR is very engaged with Scripps Institute in San Diego to do atmospheric river forecasting so that we can understand relative strength and landfall so that we can be better prepared for it. All of that work is done with investments in satellite technology, and it's going to improve our ability to forecast and create storage space when we know a big, big storm event is coming through. As we continue to develop that technology, it's going to have broad benefit throughout California and in Kern County as well."

"We are also working intently on a variety of granting programs. As you saw, we had a lot of Prop one grants. We also have a lot of SGMA related grants. The governor's budget included \$60 million in technical assistance and implementation grants that I think will be very useful for Kern County and folks who are engaged in that groundwater management."

"We are looking at State Water project reliability in more ways than just the Delta. One of those ways is working through an asset management plan. That plan includes dealing with subsidence along the California Aqueduct. The aqueduct has subsided; some was considered natural when the original aqueduct was designed and constructed, but it has subsided even further. And the challenge with that right now is when we have these big water years, like 2017, we're increasingly unable to move water during those peak flows. So that definitely gets our attention as a problem that very much needs to be fixed. Because we know that we're going to have these big storm events coming through California, and we very much want to be able to move water when we can."

"The other thing that I'm super excited about is the water transfer program we have. DWR with the public water agencies has completed what we call the water management tools contract amendment. Basically, it allows State Water contractors to enter into long term water transfers with their counterparts, which is a great tool for managing urban and agricultural needs. It's a great tool for water agencies to generate revenue to help fund local projects. It's really the next generation for California in terms of flexibility in how we move water. And we have provisions so that the work gets done in a very transparent way."

"Whenever we want more flexibility in how we govern and manage, the key to making that successful in the public's eye is making sure that we're transparent about the decisions we're making. So this means that, for example, in this year, which is shaping up to be very dry, we'll have significant work on the water transfer market to get water from places north of the Delta to south of the Delta. The water transfer tools would also allow for a longer-term transfer to happen amongst water districts south of the Delta, say from an urban agency to a Kern County Water Agency in ways that we could not do before. So I'm really excited about that flexibility. And we are continuing to improve the water transfer program that the Department administers."

"And finally, the State Water project has hired a chief financial manager, which was not a position that we have had in the past. What's important about this is that it acknowledges that the State Water project is a very extensive piece of aging infrastructure, and we need to reinvest in that. It's important to me that the State Water Project contractors have full confidence in the Department that we are solid on our financial management of all aspects of the State Water project. So that's a new position. And we're doing a lot of work with the State Water contractors to articulate the most efficient, cost-effective ways to ensure that we are protecting public safety, and we are providing for reliable, affordable water supplies."

#### Question: Will you please elaborate on the alternatives for the Delta Conveyance project?

"We're looking at multiple alternatives. So here's a way of thinking about it. There's the traditional no project alternative, which is what happens if we do nothing. Then we have a sub alternative that looks at the projects that water districts are building that rely on the Delta; if the Delta fix did not happen, if we did not do the tunnel, over time, you will see an erosion of available supplies that's primarily due to hydrology. ... So not only would folks need to continue to invest in their local supplies to deal with things like SGMA and other things, but they would also need to make up for a hole in their State Water Project deliveries that would be the result of relying on the pumps in the south Delta and the changing hydrology in California that would reduce State Water project deliveries. So that's one part of the alternatives."

"And then there are alternatives that are a little bit more traditional, which is single tunnel alternatives. So we're looking at 3000 CFS, I think we're looking at 4500, we're looking at 6000 CFS, and we're looking at 7000 CFS. We're looking at operational combinations with alternatives that are exclusively State Water Project and some that have a combination of Bureau of Reclamation participation. Reclamation has not indicated its willingness to participate in this project, and we do expect to reinvigorate those discussions with the incoming administration. But we certainly want to make sure that the State Water project has a project moving forward, that if the federal water contractors for one reason or another decided they did not want to invest, that we would still have a viable project to move forward. So that's the reason for carrying forward alternatives with multiple scenarios."

"We also have two different tunnel routes that we're taking a closer look at. One is the tunnel route through the central part of the Delta, which was the preferred project that was two tunnels under Governor Brown. Now, of course, we're looking at one tunnel. But we've also identified this route to the east that given its proximity to I-5, even if it's a little bit longer, it may turn out to be ultimately more constructible and therefore more affordable."

Question: Considering the amount of water that is currently flowing through the Delta and the State Water Board's lack of implementation and development of the two phases of the Bay-Delta Water Quality Control Plan, how is the state dealing with the reality that it's highly uncertain how much water will be available for the tunnel? "For what it's worth, I do think that State Water Board needs to start moving a little bit more quickly on phase two," said Ms. Nemeth. "We continue to work on what are called these voluntary watershed agreements with the Secretary of EPA and the Secretary for Natural Resources. We are putting together new approaches to flows for the environment, combined with physical restoration in the various tributaries that flow to the Delta. And what we want to be able to do is take this comprehensive agreement and bring it to the water board and have them examine it in the context of both phase one and phase two together."

"The ultimate goal is to have something acceptable to the Water Board that we can start to implement right away and that does more than simply provide flows for the environment. Because what we have realized over time that the degradation of the habitat in these watersheds and particularly when we have warming ambient conditions, that habitat becomes increasingly more important to keep water temperatures cooler and create appropriate spawning habitat; that very much needs to get done. And that will enable us to understand even more fully how the Delta Conveyance Project would be operated. We're working to make sure that those things happen in the right sequence and time so that we can answer the question based on the science as we understand it today. What does the Delta estuary need relative to the volume and timing of water? What does it need relative to physical restoration at the landscape scale for salmon and other species, and how that relates to water infrastructure projects, such as delta conveyance."

### Question: What are the implications of the virtual extinction of the Delta smelt to the operational restrictions in the Delta?

"... As a general matter, I would say that I don't see the extinction of delta smelt in the wild as having a significant effect on the regulatory environment that we need to operate in. And here's why. There are many threatened and endangered species in the Delta; we have longfin smelt, we have our salmon species. And we also have other requirements under the Clean Water Act and under the public trust doctrine to protect all beneficial uses of water. So it isn't simply that we lose one species, and we can suddenly move x increment of more water because we do manage the system holistically. In a sense, all of our permits are multiple species permits under state and federal endangered species laws. And then we certainly have the Clean Water Act, which is administered by the water board, which was part of the previous question, which is the water quality control plan, and that sets out regulations that are broader than Delta smelt."

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