BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD OF DIRECTORS MEETING

September 11, 2020

Correspondence and media coverage of interest between August 12, 2020 and September 9, 2020

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Source: CalMatters
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Source: The Ticker
Article: Climate Change May Bring Unexpected Benefits To San Francisco Bay-Delta

Date: September 4, 2020
Source: Yuba Net
Article: Climate change could deliver more sediment and pollution to the San Francisco Bay-Delta

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FOR IMMEDIATE RELEASE
August 13, 2020

Celebrated Artist Walter Kitundu Awarded Public Art Commission for New Alameda Creek Watershed Center Honoring the people, ecology and history of the Alameda Creek Watershed

San Francisco, CA—Artist, musician, and educator Walter Kitundu has been selected by the San Francisco Arts Commission (SFAC) and San Francisco Public Utilities Commission (SFPUC) to create a multimedia public art installation for the SFPUC's new Alameda Creek Watershed Center in Sunol.

Spanning 660 square miles, the Alameda Creek Watershed is a dynamic landscape with significant environmental, cultural and historical sites, and home to many distinct Ohlone tribes. Located one mile from downtown Sunol, on a site that is the aboriginal homeland of the Muwekma Ohlone Tribe of the San Francisco Bay Area, the Alameda Creek Watershed Center's mission is to educate the public about the Watershed, the SFPUC's regional water system, and the history and heritage of the Muwekma Ohlone people through interpretive and interactive exhibits. The nearby Sunol Water Temple, a 1910 beaux arts landmark, marks the confluence of three sources of water flowing into Sunol Valley.

"At the Arts Commission, we acknowledge that we occupy traditional and unceded ancestral lands of the Yelamu/Aramai Ramaytush Ohlone-speaking tribal groups of San Francisco, as well as the present-day Muwekma Ohlone Tribe of the San Francisco Bay Area, and that our work should support and amplify contemporary Indigenous voices and help reclaim space for Native culture," said Acting Director of Cultural Affairs Rebekah Krell. "It has been wonderful to work in close partnership with the SFPUC, Muwekma Ohlone Tribe, and members of the Sunol community to develop a public art project and artist selection process that sensitively and respectfully honors the deep cultural and environmental significance of this site."

Kitundu was chosen by an Artist Review Panel comprised of Bay Area arts professionals and representatives of the SFPUC, SFAC, Muwekma Ohlone Tribe, and the Sunol community. Titled Ruupaywa, after the Ohlone Chochenyo word for "the eagle," Kitundu's proposal pays tribute to the history of the Muwekma Ohlone people while recognizing their continued presence and power. Taking the form of a Golden Eagle, a significant figure in the Muwekma Ohlone creation

story, the sculpture will be sited at the entrance of the Center's gardens,16 miles from one of the most significant Golden Eagle breeding areas in the world. The sculpture floats in a protective posture facing Mt. Diablo to the north, with its wings wrapped around 3 benches oriented according to the cardinal directions. Constructed of painted steel tubing with colorful glass insets depicting images gathered collectively with members of the Tribe and Sunol communities during Kitundu's artist-led "Watershed Walks", the sculpture will provide a place for reflection, remembrance and visioning.

"The leadership and enrolled tribal members of the Muwekma Ohlone Tribe of the San Francisco Bay Area greatly appreciate being in a close working partnership with the SFPUC, and involved in the process of selecting the artist for this significant community-based educational project," said Vice Chairwoman of the Muwekma Ohlone Tribal Council, Monica V. Arellano. "Our People have inhabited the greater Sunol/Pleasanton/Livermore/Niles region for thousands of years, and over the centuries our Tribal Elders had, and continue to, instill in all of us the responsibility of protecting our sacred lands, traditional beliefs, and honoring our ancestral heritage sites where our ancestors were buried throughout these San Francisco Bay Area lands. It is our opinion that Mr. Walter Kitundu represents the best qualities of an artist tasked with creating a public art piece that honors the history, heritage, culture and language of our Muwekma Ohlone People and our traditions. His sensitivity and understanding of our People's connection to these lands is a key reason we support Mr. Kitundu as the appropriate choice as the artist for this project."

"I'm thrilled to be selected to work alongside the Muwekma Ohlone People and those who are connected to this Watershed to create an artwork that upholds and addresses the significance of this land," said Walter Kitundu. "This is sacred ground. The cultural, ecological, and historical threads run deep and they touch every aspect of this process. It means the world to me to be entrusted with this project and I know we will create a powerful and memorable work of art for all who encounter it."

In addition to his sculpture, Kitundu's proposal includes a sound installation that will be subtlety integrated into the Center's gardens. Responding to a desire communicated by the Tribe to assert their continued presence and survival despite centuries of erasure and oppression, the sound component will be composed entirely from the voices of Tribe members that have been translated into the songs and calls of the Watershed. Integrated with and woven into the Watershed's existing aural landscape, the recordings will be played through small weatherproof speakers situated in 8-10 discrete locations throughout the gardens. For Kitundu, the sound installation will be an audio treasure hunt for those wanting to learn about the wildlife of the Watershed, and is offered to the tribe as a repository of language and a document of multigenerational community expression.
"We are honored to work with an artist as respected and revered as Walter Kitundu," said SFPUC General Manager Harlan L. Kelly, Jr. "Not only has Walter designed an art installation that looks visually striking, he has managed to do so in a way that captures the importance of this site to the Muwekma Ohlone Tribe. We look forward to the date when this wonderful interactive art piece is completed."

A recipient of the prestigious MacArthur Fellowship in 2008 – commonly referred to as the "Genius Grant" – Kitundu's work often draws inspiration from the natural world. His sculptures,

sound installations, compositions, and public artworks have been exhibited internationally. Kitundu, currently living in Chicago, lived for many years in the San Francisco Bay Area, during which he held artist residencies at the Exploratorium, Montalvo Art Center and the Headlands Center for the Arts. In 2011, Kitundu completed a large interactive public artwork at San Francisco International Airport which was named by Americans for the Arts as one of the best public artworks in the United States.

The Alameda Creek Watershed Center, planned in partnership with the residents of Sunol and the Muwekma Ohlone Tribe, will be a gathering place for youth and adults to gain an understanding and appreciation for the natural and cultural history of the Alameda Creek Watershed, including its natural resources and its role as part of the SFPUC's regional water supply system. Planned for the Center are indoor and outdoor features including an exhibit hall, a community room, an informal botanical garden, a Watershed discovery lab and trail, and a picnic area.

The artwork at the Alameda Creek Watershed Center is funded through the San Francisco Public Utilities Commission's compliance with the City and County of San Francisco's Art Enrichment Ordinance, which was enacted in 1969 to provide a guaranteed funding mechanism for the acquisition of artwork for new public facilities and civic spaces. The Ordinance ensures that two percent of the gross construction cost of civic buildings, transportation improvement projects, new parks, and other above-ground structures be allocated for public art.

SFAC values access for all to high quality arts experiences, using arts as a vehicle for positive social change and prosperity. As part of the agency's mission to be inclusive of environmental and community interests, the SFPUC partners with SFAC, local artists and residents to create public art that recognizes and celebrates the people, values, and history of the communities it serves.

The Alameda Creek Watershed includes lands in both Alameda and Santa Clara counties, and contains two SFPUC reservoirs – the San Antonio Reservoir to the north and the Calaveras Reservoir to the south. The Calaveras Reservoir is the largest of the SFPUC's five local reservoirs, which collectively account for 15 percent of the agency's total water supply. The Hetch Hetchy Reservoir provides roughly 85 percent of the SFPUC's water supply.

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, residents, 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.

About the San Francisco Arts Commission
The San Francisco Arts Commission (SFAC) is the City agency that champions the arts as essential to daily life by investing in a vibrant arts community, enlivening the urban environment and shaping innovative cultural policy. The SFAC envisions a San Francisco where the

transformative power of art is critical to strengthening neighborhoods, building infrastructure and fostering positive social change. We believe the arts create inspiring personal experiences, illuminate the human condition, and offer meaningful ways to engage with each other and the world around us. We imagine a vibrant San Francisco where creativity, prosperity and progress go hand in hand. We advance artists' ideas to improve the quality of life for everyone through a united cultural sector whose contributions are vital and valued. Learn more at: www.sfartscommission.org.

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BUREAU OF RECLAMATION

NEWS RELEASE

For Release: Aug. 12, 2020
Contact: Mary Lee Knecht, 916-978-5100, mknecht@usbr.gov

Trump Administration advances plan to increase water reliability in Bay Area and Central Valley

Los Vaqueros Reservoir Expansion Project would increase storage capacity by more than 100,000 acre-feet, add new conveyance facilities

SACRAMENTO, Calif. – The Bureau of Reclamation has released the Final Feasibility Report, which documents potential costs and benefits of the Los Vaqueros Reservoir Expansion Project. As part of a continuing effort to increase storage capability throughout California, Reclamation and the Contra Costa Water District worked together on Phase 2 of the project to increase the capacity from 160,000 acre-feet up to 275,000 acre-feet and adding new conveyance facilities.

In October 2018, President Trump issued the Memorandum on Promoting the Reliable Supply and Delivery of Water in the West. Reclamation, together with its partners, is acting on that call and taking action to improve water supply reliability throughout the state.

“We are pleased to partner with CCWD on this smart expansion project that would create additional storage capacity in an existing footprint,” **said Commissioner Brenda Burman**. “This is a win-win for the Bay Area and the Central Valley Project.”

This expansion could provide increased water supply reliability and operational flexibility to the Central Valley Project. In addition, the expansion would deliver water supplies to various Bay Area municipal and industrial water providers, as well as federally-recognized wildlife refuge areas and irrigation districts in the San Joaquin Valley.

“This is a significant milestone for the Los Vaqueros Reservoir Expansion Project and project partners,” **said CCWD Board President Lisa Borba**. “We are grateful for our partnership with Reclamation as we move forward to make this important investment in water storage a reality.”

“As a potential beneficiary of the expanded storage and improved conveyance facilities, the Del Puerto Water District commends both Reclamation and CCWD’s efforts to bring LVRE to this important milestone, **said Del Puerto Water District General Manager Anthea Hansen**. Water infrastructure, especially expanded storage capacity and improved connectivity between different regions of our state, are foremost on the minds of water managers in California. I am truly impressed with the excellent work of the CCWD team and look forward to hopefully being a part of this much-needed project, not only for my region but for the health and prosperity of our wonderful state.”

The LVE is a joint investigation between Reclamation and CCWD authorized by Congress in 2003. The objectives of the expansion are to develop water supplies for environmental water management, increase water supply reliability for water providers within the San Francisco Bay Area, and improve the quality of water deliveries to municipal and industrial customers. The Final Feasibility Report was transmitted to Congress on August 11.

The Final Feasibility Report is available on Reclamation’s website at https://www.usbr.gov/mp/vaqueros/. For additional information contact Kellye Kennedy, Bureau of Reclamation, at 916-978-5067 (TTY 800-877-8339).

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Adapting To The ‘New Normal' In A Post-COVID Water Sector
Water Online | September 5, 2020 | Pete Antoniewicz

Beyond all the health-related impacts of the coronavirus pandemic — masks, social distancing, work from home scheduling, etc. — there have been some ripple effects to the daily operations and related employment conditions for water-treatment personnel. This synopsis of experiences provides perspective and outlines some opportunities and approaches for water-industry professionals to adopt if they have not already done so as part of the post-COVID ‘new normal’.

Major Utility Challenges

According to a series of surveys conducted by AWWA, the concerns of respondents evolved over the first few months of the crisis. Changes in water consumption patterns, especially decreases in the commercial sector, started to affect utility revenue flow. After three months, ongoing concerns fell into three main areas of water-utility operations:

- Revenue/Financial Status. Only 14 percent of survey respondents reported adverse effects on revenue, budgets, or spending by March 16. By mid-June, however, 22 percent of respondents were experiencing revenue shortfalls, 45 percent were making spending adjustments, and another 31 percent anticipated spending adjustments in their near future. Despite the financial challenges, a majority of responding utilities were still offering customer assistance, with 85 percent suspending shutoffs and 62 percent eliminating late payment fees, both down slightly from earlier in the year.

- Personnel. Absenteeism was a major anticipated concern early in the crisis, expressed by 75 percent of respondents to the March 16 survey. By mid-June that concern had shrunk to an immediate concern for only 5 percent of respondents with only an additional 2 percent thinking it could become an issue in the future. In that same timeframe, however, 55 percent of respondents were reporting workforce hiring freezes, 16 percent reported pay cuts or wage freezes, and 8 percent reported laying off or furloughing employees.

  The bottom line is that water operators and water utilities will need to stay as resilient as they typically are through storms, droughts, aging-infrastructure challenges, and more. This article by AWWA Career Zone columnist and human resources/personnel specialist Stuart Karasik recaps the situation very well.

- Personal Protection Equipment (PPE). Industry concerns about access to PPE were evident right from the start of the crisis, with 73 percent of respondents having an immediate or anticipated concern over sourcing protective masks, gloves, and other PPE supplies. That continued through June to some degree, with utilities reporting inventory and supply chain issues with multiple items — with N95 masks or elastomeric respirators representing the largest deficiency with 27 percent of respondents reporting that they were out of stock and unable to replenish.

Time-Sensitive Certification Requirements

Even those water-utility workers who avoided the layoffs, furloughs, or hiring freezes affecting the industry were not out of the woods, however. That is because another challenge influenced

by the lockdown was the loss of access to in-person training for renewal of operator certifications.

Different states approached that problem in different ways. For example, multiple states have modified their requirements to permit operators to substitute online training instead of in-person training to satisfy operator certification renewal. Others have promised to work with individuals who were not able to complete training requirements before their deadline, on the condition that they would complete their required hours when in-person training sessions resume. Each operator needs to check with his or her state licensing body for details.

Coping With The Financial Impacts Of The Crisis

This white paper prepared for AWWA and the Association of Metropolitan Water Agencies (AMWA) characterized many of the financial impacts of the coronavirus crisis as a baseline for water-utility planning. The focus of the effort was primarily to inform community-water-system managers about an estimated $13.9-billion financial impact from reduced consumption and revenue, slower customer growth, delinquent payments, operational policy changes, employee expenses, and deferred rate increases. The Pacific Institute, a global water think tank, has also outlined how those changes in demand and their ripple effects can impact municipal water suppliers. With the sheer scope of projected financial impacts, certain influences on operator work requirements and compensation opportunities might be unavoidable for many water-treatment operations.

Finding The Right Local Focus

It is well documented that the coronavirus pandemic has not impacted all geographic regions equally. Utility size can also be a factor in the scope of the challenge. Smaller utilities already coping with normal financial or personnel demands can struggle when new hardships are imposed on them by the threat of COVID-19. Here is a cross-section of industry resources utilities can use to gain perspective on their challenges and their options for dealing with them.

- This special U.S. EPA webpage offers links to general information drinking water utilities can use to answer consumer questions, as well as specific assistance guidelines and resources for water utilities and tribal water utilities.
- This guidance document from the California Water Boards offers suggestions to mitigate impacts of the coronavirus crisis on community water systems — from staffing and supervision to financial considerations, consumables, and communications.
- Utilities can also benefit from tangible assistance available through nearby associates in their state by learning more about the Water and Wastewater Agency Response Networks (WARN).
- This metropolitan utility’s website provides a lot for water-treatment operations to think about, including a focus on communicating response efforts to residential and commercial water users.
- Finally, this consultant’s website outlines a variety of additional considerations for utilities facing new challenges due to the impacts of the coronavirus crisis.

# # #

In a California landscape defined — and divided — by water, a single issue unites the people who live here: digging in against the tunnel

San Francisco Chronicle Special | September 2, 2010 | Kurtis Alexander

Click here for electronic version

Photographs and videos by SANTIAGO MEJIA

WALNUT GROVE, Sacramento County — In spring and summer, when the skies are warm and the shadows thin, California's snowy Sierra Nevada and southern Cascades unleash billions of gallons of fresh water each day, a melted bounty that nourishes the state's mightiest rivers before converging slowly on the Sacramento-San Joaquin River Delta.

People across the Bay Area and California rely on the bounty of water in the Sacramento-San Joaquin River Delta. But so do locals who live and work in one of the state's most extraordinary places. This occasional series explores how climate change, drought and California's unrelenting thirst have pushed this region to the brink and reignited the state's water wars.

Chronicle staff writer Kurtis Alexander, and staff photographers Santiago Mejia and Carlos Avila Gonzalez have spent months exploring the delta, uncovering its stories, speaking to hundreds of residents about what the future might hold. Several Chronicle editors, graphic artists and website developers are also contributing to the series.

Here, across a sun-baked plain of rickety towns and sprawling countryside, the cool water winds through streams and sloughs. It fills irrigation ditches that feed cornfields and vineyards. It flows through shallow bays flanked by wooden fishing piers and riverside homes. Finally, it's pumped off to the sinks and showers of two-thirds of Californians, many giving little thought to where the water came from — and just how vulnerable the supply has become.

The delta is an unlikely frontier, and an even more improbable battleground. So close to the Bay Area, but apart. Hidden beyond freeways and tucked beneath the wide open of the Central Valley. Vital to the future, yet wrapped in the past.

This sleepy place, though, is waking, reluctantly and resoundingly, jolted by the state's modern-day demand for water. Those who live here, where family farms span generations and a postman still delivers mail by boat, fear that looming changes could wipe out this singular slice of California and turn their figurative backwater into a literal one.

The stakes could hardly be higher. Gov. Gavin Newsom, like governors before him, wants to overhaul how water moves through the delta. He's proposing a 30-mile tunnel that would streamline the delivery of water from the Sacramento River, a bid to halt the ongoing devastation of the delta's wetlands and wildlife while ensuring its flows continue to provide for the rest of the state.

The pressures of climate change on water supplies have only increased the urgency to act. And the coronavirus pandemic and months of shelter-in-place orders haven't slowed the planning. A tense situation is unfolding even as California's attention is elsewhere.

Follow the roads through the delta and you'll see the signs and stickers, on pickup trucks and bars, at cattle ranches and trailer parks, and next to bridges and boatyards: "No tunnel. Save our delta."

The starkness of the choice laid out in the slogan is deliberate. Residents here not only see the project as a water grab, but worry the central force in their lives and livelihoods — the movement of fresh water — could be lost as the tunnel allows Silicon Valley, Southern California and the San Joaquin Valley's vast agricultural industry to satisfy their thirst. President Trump's insistence on shipping more water to big farms to the south has only added to the anxiety.

"The tunnel just isn't good for the delta," said Mark Morais, 70, owner of Giusti's, a popular roadhouse serving pasta and steaks on checkerboard tablecloths in Walnut Grove, about 30 miles south of Sacramento. "If you divert the water, you're going to have less for us."

The communities in the region, which spreads across about 1,100 square miles in parts of five counties, rarely speak with one voice. Local farmers see these watery reaches as meant for agriculture. Those casting for bass and stripers prioritize fish. Boaters want open water. Longtime residents and recent retirees want to sip a cold drink along the waterside and gaze out at their share of California paradise.

But when it comes to what outsiders want, delta residents are united in opposition.

"Nobody wants the tunnel," said Morais, donning an apron as a mix of hungry locals arrived from the rivers and fields for lunch. The restaurant, which has opened for limited dining during the pandemic, has both a boat landing and gravel parking lot to accommodate them. "All the people who live and work here need the water."

Already the battle is under way. State officials announced early this year that they were beginning prep work for the massive underground pipeline, a redesign of past plans that called for dual tunnels or a canal. The signs in opposition have since emerged, joining banners and bumper stickers left over from previous fights, reminders of the region's unlikely victories over former Gov. Jerry Brown, both last decade and in the 1980s when he first was governor, and Gov. Arnold Schwarzenegger a decade ago.

The tunnel, as much as anything, is the very symbol of the state's never-ending water wars.

But what can and should be done in the delta remains to be seen. Even if a tunnel isn't the best path forward, the issues the project seeks to solve are real. Water supplies are overextended, salt water threatens to invade from the ocean and fabled salmon runs are on the verge of extinction. Agreeing on an alternative fix isn't easy.

Stopping the tunnel is one thing. Saving the delta is another.

The delta was once a giant inland marsh. California's early pioneers found grizzly bears, antelope and elk. They beat back bugs, navigated skies thick with waterfowl and bottomed out their boats in knee-deep, twisting channels that seemed to lead everywhere and nowhere. But this once-unspoiled estuary, fed by the Sacramento and San Joaquin rivers and their many tributaries and long the realm of the native Miwok people, has changed with time, money and ambition.

"Nobody wants the tunnel. All the people who live and work here need the water."

MARK MORAIS, RESTAURATEUR

The discovery of gold introduced an age of steamboats and ferries. River towns sprang up. Salmon canneries opened. An immigrant workforce, largely from China, drained and diked the wetlands to allow for farming.

With the 20th century came the need to sustain California's exploding population. The federal and state governments built huge pumping stations at the delta's southern end, near Tracy in San Joaquin County, and began sending water as far as Los Angeles through an unparalleled network of aqueducts and canals. Upstream of the delta, reservoirs were constructed and much of the natural inflow was channeled elsewhere.

Today, this system of conveyance remains one of the world's most formidable waterworks. The facilities, operated in tandem by state and federal authorities, cater to dozens of water agencies that serve more than 27 million people, including residents of the East Bay and Santa Clara County. They also provide for the countless farms along Interstate 5 that grow much of the nation's fruits, nuts and vegetables.

People gather at the Brentwood Community Center in February for a meeting on the state's proposed water tunnel, before the pandemic's shelter-in-place directives.

But California's thirst has proved unrelenting, and the climate challenges of more heat, less snow, worsening droughts and increasingly fickle river flows have squeezed supplies throughout the West.

The demands have caught up with the delta. Not only has overpumping choked the supply here, creating a vacuum that invites salt water from San Francisco Bay and drying up habitat for wildlife, but the region's infrastructure is crumbling.

The levees that support 700 miles of waterways — essentially, thick mounds of soil, rock and sand — have seen the wear of several decades or more. Some give out periodically, flooding a road or a farm. A widespread levee failure, perhaps caused by an earthquake or the strain of rising seas, could submerge more land or even whole communities and disrupt water deliveries statewide.

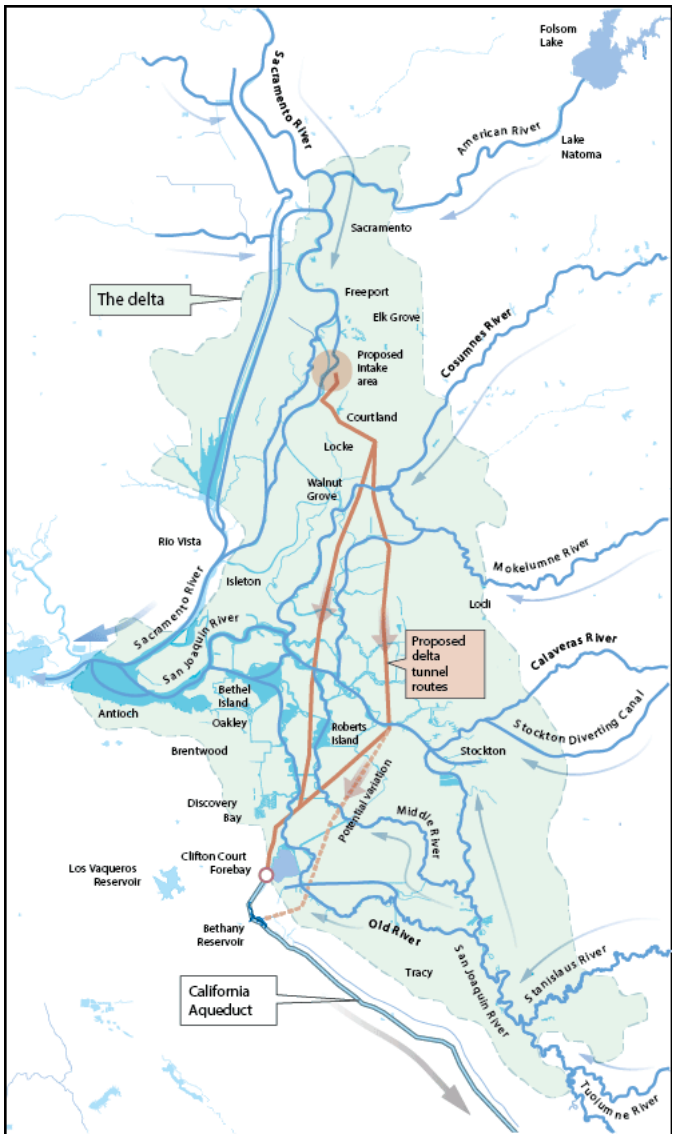
Newsom's solution is the tunnel. The project, expected to cost about $17 billion, would pull water directly from the Sacramento River, on the north end of the delta, and carry it 30 miles to the pumps in the south. Two routes are under consideration, plus an alternative leg in the southern delta that would run to a newly proposed pumping plant.

State officials believe the tunnel, whichever path it takes, would make water exports less susceptible to levee breaks as well as saltwater contamination. At the same time, they say, moving water to the pumping stations through a tunnel will make it easier for the pumps to draw water, limiting the ecological damage that their suction can cause. At times, the pumps near Tracy run so hard they reverse river flows and drag fish into their lethal turbines.

But as state officials move ahead with the proposal, they know they'll have to contend with the roughly half million residents fanned out across the region and surrounding cities who see the delta as more than just a plumbing project.

"I hope to reduce the skepticism over time," said Carrie Buckman, environmental program manager for the California Department of Water Resources, who has helped host public meetings to talk about the tunnel and explain its benefits.

Like with any venture that reorders nature's rhythms, however, there could be unintended consequences. That's left space for plenty of interpretation of what the future might hold.



State officials are proposing a 30-mile tunnel to expedite flows to the pumping stations in the southern delta. The route has yet to be finalized. John Blanchard

Farmers in the delta are perhaps the most forceful opponents of the tunnel, if not for their grit then for their numbers.

More than two-thirds of the region is devoted to agriculture. Farmland stretches in every direction, ribbons of green and gold spilling to the horizon. Tractors crawl through fields, crop dusters traverse the skies and fruit stands dot the two-lane roads.

While the coronavirus outbreak initially shook up the agricultural sector, as consumers shifted what and where they ate and growers scrambled to adjust, life on the farm doesn't look much different. The most visible change may be the fieldworkers in face masks.

About $1 billion worth of crops are produced in the delta annually, according to Jeff Michael, a professor of public policy at the University of the Pacific in Stockton and an expert on the region's economy. It's a yield much smaller than in ag counties to the south but still about 2% of California's total harvest. Another $600 million is generated in food processing and manufacturing. Close to 16,000 people work in the industry, Michael says.

Among the growers worried about the tunnel is Virginia Hemly Chhabra, 48, who traces her family's farm to the Gold Rush. Six generations ago, or so the story goes, Chhabra's ancestors sailed over their property, before the levees were built, on their way to Sacramento. One family member was bound for the Mother Lode, where his dreams of an easy fortune were soon dashed, while another returned to the delta, reclaimed the land and planted pear trees.

Today, the Greene & Hemly pear and apple business spans nearly 1,000 acres around the community of Courtland, just north of Walnut Grove. Chhabra manages the packing operation, her brother, Matthew Hemly, 44, oversees the trees and their father, Doug Hemly, 75, who used to run the place, advises.

"The family joke is that dad must have pissed someone off," Hemly Chhabra said, noting that their orchards are in an area where the state has proposed building an intake for the tunnel.

The family fears they'll have to surrender some of their land to the state, as do several growers in the northern delta, where the tunnel entrance is planned. State officials are still narrowing the list of possible sites for two 75- to 150-acre intake plants.

Even if Hemly Chhabra doesn't lose a chunk of property, the community here would likely see more than a decade of construction. Every day, big rigs and barges would travel narrow roads and snaking river channels even as state officials have pledged to limit traffic. Using old railroads to haul materials is one idea. Still, the work is not something Hemly Chhabra thinks her business, or others that move goods in and out, could weather.

"We've had that uncomfortable, stomach-churning family conversation," said Hemly Chhabra, as she walked in her work garb of jeans, light sweatshirt and sneakers alongside a levee that holds back the Sacramento River. "Do we sell? Do we relocate? How do we handle this?"

For now, they're staying put — to fight.

Farming in the delta is done on what technically are islands, small tracts of land pried from the wetlands. Many of the islands have sunk into the decomposing tule marsh and now sit below

sea level, some as much as 25 feet beneath the water held back by the levees. From the front seat of a pickup on a shoulderless levee road, it makes for dizzying optics.

The peat-rich soil supports more than 100 crops. Historically, farmers have planted corn, alfalfa and wheat, as well as specialty asparagus and tree fruits, and these remain staples. But higher-value almond orchards and vineyards are increasingly taking hold. Small wineries now line roads in the north, and a shuttered sugar beet refinery has become a destination tasting house for delta-grown Chenin Blanc and Petite Sirah.

On his farm on Roberts Island, in the southern delta about an hour's drive from the grapes and pears near Courtland, Jerry Robinson sticks mostly to alfalfa and tomatoes. He planted some cucumbers recently, after the demand for canned tomatoes slipped as restaurants closed during the pandemic. Robinson's issue with the tunnel, like many in the outskirts of Stockton and Tracy, is that it might take his water. Growers here, like the large farms in the San Joaquin Valley, also rely on the delta's supply.

At 77, the soft-spoken farmer, whose leathered face hides behind a ball cap and sunglasses, has already seen his share of water shrink. He and his neighbors irrigate their farms with what they pump from the Middle River, a long way from the hardy gush of the Sacramento River and at the mercy of the lazy San Joaquin. The Middle River's flow also suffers from the pull of the nearby pumping stations.

While most farmers in the area have what are known as senior water rights, which allow them to draw all the water here they need, the rejiggering of the delta and the pressure to export doesn't always leave them much. The waterways in the southern delta are shallower and warmer than those to the north. They sometimes fill with silt.

"If everybody was pumping right now, this channel would be dry," Robinson said, looking out the window of his Chevy Silverado at the Middle River.

State officials say farmers shouldn't react to plans for a tunnel by worrying about losing water. The project isn't designed to increase water shipments out of the delta, just make them more reliable in the face of problems with the levees, salt water and pumps.

One of the main arguments for the tunnel is the frequency at which the pumping stations have to be throttled back because of the risk of killing fish. If water can be tunneled straight to the pumps, the pumping stations wouldn't have to work as hard, eliminating the threat to fish and allowing them to run for longer periods and ship the intended supply.

Only during wet times, when there's plenty of water for growers in the delta, would exports increase, officials say. With the tunnel's proposed capacity of about 6,000 cubic feet of water per second, less than half of what the pumping stations can push out, the pumps would

continue to draw from the delta's above-ground flows as well, although the tunnel would offer the added flexibility of capturing water farther north when less was available near the pumps.

State and federal rules requiring adequate water for fish and for countering salinity would keep tunnel draws in check, at least theoretically.

Like many delta farmers, Robinson and his brother, Mike Robinson, 73, don't trust that the state will show restraint. They've seen water regulations in the delta change. Drought conditions and the wavering politics of Washington and Sacramento have led to new rules, affecting salinity standards and endangered species protections, among other things. The result, often, is more water pumped out.

"If that tunnel is in place, it's going to be full all the time," Mike said. "You've got the fox in charge of the henhouse."

Only after the tunnel is operating will it be known for sure if the Robinsons and other growers get the water they need, or if their worst fears unfold.

What is certain in California's zero-sum world of water is that the demands of faraway cities and farms aren't going to let up. South of the delta, in the near desert-dry San Joaquin Valley, the highway billboards already speak of a government-caused drought and urge politicians to ramp up the pumping stations.

"Things could be a little more fair," said Bert Sagardia, 77, who grows almonds near Interstate 5 in Fresno County and is among the last in line for delta water, owing to lesser water rights. As a result, he's been able to plant only about half his crop in recent years.

He's open to the construction of a tunnel.

"We're always portrayed as the bad guy, the farmers down here," Sagardia said. "They say we're taking too much water, but it takes a lot of water to produce food."

Back along the Sacramento River, Can Nguyen, 65, runs a bait shop where "Stop the Tunnel" stickers have sat on a counter, on and off, since Schwarzenegger was governor.

The compact man with short, dark hair, a native of Vietnam, who stays healthy chasing striped bass, bought the store in Isleton two decades ago. Few people visit Isleton, once a bustling Asian community that today still has the weathered remnants of opium dens, boarding houses and a tong. Even fewer people buy bait here, and sales could slip further if the tunnel is built.

"In the last 15 years we've lost a lot of fishing spots because of the (low) water," Nguyen said, standing inside Bob's Bait next to his tanks of live mudsuckers and bloodworms. "If they pump more water out, I don't know what will happen."

Fishing is at the fore of the delta's roughly $300 million-a-year recreation economy, which employs about 3,000 people, according to figures from Michael at the University of the Pacific. The coronavirus pandemic appears to have had little impact on leisure activities. Many have been taking to the water as a way of keeping their distance from others.

Can Nguyen has owned Bob's Bait Shop in Isleton for two decades.

In Isleton, a community of about 850, the crayfish was long the pride of the riverfront. The small crustacean's sweet meat was once celebrated with an annual crawdad festival, harking back to when the town's early residents made spicy seafood boils with the small shellfish.

Chinese and Japanese laborers were among the first to settle here, coming for jobs building the levees and tilling the land. While much of the town burned in the 1920s, and the descendants of the founding families are largely gone, the past is fixed in the architecture, the small, ramshackle homes with pressed tin siding and two-story brick businesses with slanted roofs and parapets.

Up the road, the community of Locke, said to be the only Chinatown in America built by and for Chinese, similarly reflects its roots. Neither of the two towns escaped the hardship that rural America has seen in recent decades, and in both, just as many storefronts sit empty as full. Farming and fishing remain at their core.

Today, anglers in the area cast lines from rock jetties and sandy shores, catching catfish or bluegill. Fishing guides motor up muddy sloughs in search of trophy sturgeon that can be 6 feet long and a half-century old. On weekends, some communities in the delta host professional bass fishing tournaments, occasionally broadcast on national television.

Several of the large, native fish, including chinook salmon and steelhead trout, have struggled with the changes in the delta and are much harder to come by today. Same for the signature delta smelt, considered an indicator of the estuary's broader health and a political football in water policy debates. Commercial fishing in the region is all but gone.

The ocean-going chinook that migrate through the delta in the fall to spawn still support a commercial fishery at sea. But it's a fraction of what it was. In some years, fewer than 100,000 fish make the migration, compared to millions historically. The $17 million of salmon dock sales

in California in 2019, a decent year by modern standards, represented only a third of the fish that were caught during good years a few decades ago.

Fishing groups have blasted local farmers, among others, for the declines. They point to the irrigation water pumped out of low-flowing rivers and the dirty runoff left behind.

However, when it comes to the proposed tunnel, anglers stand with the growers in opposition.

“You better believe we’re part of the stop-the-tunnel campaign,” said Noah Oppenheim, executive director of Pacific Coast Federation of Fishermen’s Associations in San Francisco, the largest trade group for commercial fishermen on the West Coast.

At the bait shop, Nguyen doesn’t worry much about whether the tunnel project eats into his profit. He studied computer science at Chico State University in his late 20s and, until recently, was working part-time building circuit boards for a virtual reality initiative at Facebook. He splits his week between jobs in San Jose and Isleton. It’s the fishing that interests him.

“That’s why I’m here,” Nguyen said. “I’m a fisherman, and I enjoy being a fisherman.”

The waterfront homes of Discovery Bay offer residents easy access to boating, swimming, jet skiing and other water activities.

In the southwest corner of the delta, the farms and old river towns give way to something sleeker and shinier, the planned community of Discovery Bay. The homes here are new and large. There are palm trees and swimming pools. Safeway and Starbucks are a short drive away.

But in the handsome, manicured yards of the tidy development, the signs are the same: “No tunnel.” The residents who sought out this distinct suburbia of flip flops and golf shirts fear that the tunnel project will hurt the rivers and sloughs that splash against their shoreline, the thing that brought them here.

“I didn’t like this place when I first saw it. It looked too much like Silicon Valley,” said Discovery Bay resident Jan McCleery, 70, who went from skeptic to Citizen of the Year in the town of 16,000. “I just had to view it from the water.”

The houses here nestle up to neatly engineered coves and sport private docks and boat lifts. Yachts, Jet Skis and speed boats, at anchor, sit at the door of the delta’s waterways. The town’s slogan is apt: “Live where you play.”

Even during the pandemic’s shelter-in-place directives, or perhaps because of them, the area’s Ski Beach has remained a haven of good times. Crowds in bikinis and swim trunks carry on along the water, drawing an occasional reminder from the sheriff’s boat patrol about social distancing.

Development on the edges of the delta has been steady over the years. Much of it has pushed in from the Bay Area, with subdivisions continuing to fill out Discovery Bay, and nearby Oakley and Brentwood. The bulk of the delta’s population lives in such outlying areas, where people are less dependent on the region’s natural resources and more likely to commute for work or join the ranks of a growing service sector.

The urbanization hasn’t come without controversy. The new houses and strip malls are inevitably displacing farmland and fish habitat. One project, Delta Coves, a 500-home marina community and private club being built on Bethel Island, took four decades to win approval.

But homeowners on the delta’s more populated flanks share the concern of their rural neighbors that if the tunnel is built, water supplies and water quality will diminish.

“My kids and grandkids swim here,” said McCleery, as she sat on the shaded deck behind her home, tanned and fit from an active retirement on the water. “We don’t want this project.”

Nearby, Frank Morgan, 59, has concerns about algal blooms. He used to run Captain Morgan’s party cruises and sightseeing trips out of Discovery Bay, and got his tour boat stuck in algae a time or two. He worries that low flows caused by water being tunneled out would mean more unsightly green blotches.

“There are times when it looks like a salad out here,” he said on his back deck, peering out at a clear bay that could pass for a sunny Florida lagoon. “You let the water stagnate and you have huge problems. You got to keep flushing it out.”

To the north, where the Mokelumne River meets the San Joaquin, Walt Roughton, 72, lives in an old 42-foot cabin boat a long way from the big homes of Discovery Bay — by choice.

The retired appliance repairman wanted a life on the water in part because of the lower costs of living in the delta. A house in some areas can be bought for much less than $500,000 and a

boat is even cheaper. Moreover, Roughton likes the solitude. He doesn't want to see the place developed, not with neighborhoods, not with a tunnel.

"No noise, no people. It's paradise," he said through his bushy gray beard, sitting on a folding chair and smoking a cigarette on the back of his live-aboard cruiser not far from Isleton. "You're looking at nothing but nature."

"There's just nothing like the delta. Leave things the way they are. We just screw it up when we go out and try to fix things."

WALT ROUGHTON, RETIRED APPLIANCE REPAIRMAN

His slip at the Riverboat Marina, one of scores of places to moor in the delta, is next to a wooded area where at least two dozen egrets nest. Their clucks and squawks echoed across the lagoon. For Roughton and others, nature's perseverance is a spectator sport.

In addition to about 50 types of fish that swim in the waters, the region is home to more than 700 species of plants and animals, though many were introduced by humans. Sandhill cranes, snow geese and pintail ducks join the egrets at certain times of the year. Muskrats and river otters splash about. An occasional wild boar swims by.

Dozens of parks and patches of public land line the delta's shores, drawing birders, hikers and hunters. The outdoorsy types are among 10 million people or so who visit the region annually. Most of the private land at the core of the delta also remains undeveloped and off-limits to building, a reflection of local and state policies designed to protect the natural order that remains.

The hands of fisherman Mike Guzzardo as he releases a striped bass into the river, blue skies in the background

Discovery Bay resident and fisherman Mike Guzzardo releases a striped bass back into the Middle River east of Bacon Island in San Joaquin County.

Roughton, who learned to love the water when he lived on Hawaii's Big Island, worries that the region's wilds will suffer if the tunnel goes forward.

"There's just nothing like the delta," he said. "Leave things the way they are. We just screw it up when we go out and try to fix things."

Environmental groups with an interest in the region, most with offices in Sacramento or San Francisco, share Roughton's sentiment. They fear that even small changes here, affecting how sediment moves and how warm the water gets, for example, will ripple through a food chain that begins with smelt and salmon and extends far beyond the delta to bears and bald eagles inland and seals and killer whales at sea.

The organizations have brought money and political connections to past battles here, fighting suburban sprawl, nonnative sport fish and agricultural pollutants. Now they're onboard with farmers, fishermen, boaters and residents against the tunnel.

"You're not going to have the flow-through you need to keep the delta healthy," said Kathryn Phillips, director of California's chapter of the Sierra Club, one of the groups leading the opposition.

"If the delta is anything," she added, "it's a unifying force for unlikely allies."

As in previous tunnel wars, those allies want California to develop new sources of water elsewhere, instead of relying on the delta. More desalination, more water recycling and more stormwater capture in other parts of the state, they argue, are modern fixes that are becoming increasingly viable and would eliminate the need for a tunnel. The region could then keep more of its flows.

"We'll always have to share some water," said Barbara Barrigan-Parrilla, executive director and cofounder of the 15-year-old Stockton-based Restore the Delta, which has done as much as any group to advocate for the area. "We also need (other communities) to build every sustainable water project that can help."

Opponents of the project have begun pleading their case to state officials, who hope to start tunnel construction in five years. The state still needs to develop a detailed project plan and complete a required environmental review. It also needs to get buy-in from the water agencies that receive delta water, which will have to pay for the tunnel at whatever the final cost.

While the economic fallout of the coronavirus has bruised the budgets of many water agencies, the tunnel expense is intended to be spread widely and incrementally, easing the burden. Most of the bill will ultimately fall statewide on households and farms in the form of higher water rates. The tunnel is expected to take 13 years to build.

But even if tunnel opponents got their way and more water were to remain in the delta, the larger supply alone wouldn't address the region's many issues.

Taking on deteriorating levees, fish-killing pumps, saltwater intrusion and disappearing wildlife requires greater action. And winning agreement on how to proceed on such matters, each with different stakes for different communities, wouldn't be easy. Alliances that the tunnel has formed could fray.

Peter Moyle, a biologist at UC Davis who has long studied the area, said that those with the "No tunnel. Save our delta" signs have to come up with a viable alternative for the region.

"They need to figure out what the vision is," he said. "It's just not clear what saving the delta means, except maybe keeping the status quo."

And the status quo almost certainly ensures the continuing decline of California's most important waterscape.

# # #

Commentary

It’s time to re-envision the California water system

Ag Alert | September 2, 2020 | Justin Fredrickson

Recent years have brought a taste of extreme weather and the destructive power in nature that's always just around the corner here in California.

At the same time, numerous crises have highlighted our many vulnerabilities: drought, new groundwater restrictions, endless stumbling blocks in the way of system repairs and upgrades, regulatory restrictions to protect declining fish, and elusive voluntary agreements in lieu of "unimpaired flow" standards for the Sacramento-San Joaquin Delta from the state water board that would be ineffective and would cripple regional economies.

And yet, in recent times, we've seen progress on at least a few major water infrastructure projects.

Work is proceeding apace on storage projects partially funded through the Proposition 1 water bond, including Sites Reservoir, expansion of Los Vaqueros and Pacheco reservoirs, a south Sacramento County recycled water and conjunctive use project, and others. Local groundwater sustainability agencies are planning for groundwater recharge projects; fixes are proposed to restore sinking San Joaquin Valley canals; additional south-of-delta wet-period storage is proposed in the form of a San Luis Reservoir expansion and potential Del Puerto Canyon Reservoir—and, last but not least, is a proposed 18.5-foot raise of Shasta Dam to create an average of some 634,000 acre-feet a year.

But all of this is likely not nearly enough.

Recent research looking at projected global temperature increases and large-scale oceanic and atmospheric processes contains alarming news for California water and flood planners. According to this emerging science, intense precipitation and flooding from "pineapple express"-style winter storms could both shift eastwardly landward and intensify by up to 40% by the latter half of the century.

Never mind the big flood years still in recent memory: 2017, 1997, 1995 and 1986. According to the experts, between now and 2060, the chances of a repetition of the legendary Great Flood of 1862—an event formerly classified as a once in 500- to 1,000-year "mega-flood"—are as high as 50%.

Pretty clearly, it would take far less than an 1862-sized flood to overwhelm our existing flood and reservoir system. With the full force of an 1862 or even larger event, think of the 2017 Oroville spillway failure on steroids—just everywhere at once. Add it all up and the proverbial writing on the wall is clear: Our existing infrastructure is woefully unequal to the task.

This is not a matter of floods and failing infrastructure alone. It's a story of alternating drought and flood, of fire, of disappearing snowpack (our state's largest reservoir by far), of strained aquifers, of bursting dams and levees in wet years and empty rivers and reservoirs in dry ones.

This is also not just about water supply, public safety, cities, agriculture or the economy. In fact, fish and rivers in our densely populated, heavily modified state depend as much on reservoir storage and water releases as any other use.

The 20th-century engineers who crisscrossed the state and built the now aging, once world-class system we have inherited had extraordinary vision and foresight. But they didn't foresee the ever-growing environmental and ecosystem demands of recent decades, the Sustainable Groundwater Management Act, a population of 40 million and counting, or the kind of extreme weather patterns already notably afflicting our state.

The challenge for our generation? We must re-envision, modify and adjust the system, knowing what we know today.

To adapt successfully, our vision and foresight must be every bit as big and bold as that of our forebears. We face challenges just too big for tweaks and half-measures.

We're also going to have to get out of our corners and understand this is a threat to us all. As much as we might like to, we can't just vote each other off the island. Really and truly, to borrow a phrase from Gov. Gavin Newsom, we do need to move beyond the "old binaries" of agricultural vs. urban, the environment vs. the economy and so on.

We can continue to lurch from catastrophe to catastrophe, and from unheeded wakeup call to unheeded wakeup call. We can downgrade our expectations—the bigger the challenge, the smaller the solution. But is this really the way of our fabled Golden State?

Whether we rise to the challenge or not, history and hard physical realities are sure to bring enormous change. Effective fixes will take decades at best. Waiting until it's too late is not wise, and the price of failure is simply too great to calculate. A fundamental shift in thinking is imperative. The time to wake up and step up is now.

# # #

Guest Commentary

Gov. Newsom must clarify his Delta tunnel plan

CalMatters | August 25, 2020 | Bruce Babbitt, Special to CalMatters

Photo by Gary Reed for CalMatters

Gov. Gavin Newsom recently released his Water Resilience Plan, a platform of 142 proposals gathered from state agencies to manage and improve California's water future.

The big ticket items are two infrastructure projects: the Delta conveyance tunnel and Sites Reservoir, alongside the Sacramento River.

Each project is designed to deliver large amounts of water from the Sacramento-San Joaquin Delta to Southern California. However, neither Newsom nor the project sponsors are prepared to say just how much more water.

How much water to export from the Delta has divided California, north and south, for generations. The subject is so toxic that our political leaders routinely sidestep the question by suggesting that unnamed experts will eventually provide an answer – not now but sometime in the distant future – after projects are built.

This political culture of deferral, intended to finesse controversy, has only heightened the level of mistrust and contention. In the absence of comprehensive plans, exports are currently ramped up and down in response to arbitrary deals concocted in response to shifting political winds, followed by endless litigation.

The Delta conveyance tunnel, once again on the drawing board, is undergoing yet another regulatory process that will extend for several more years, and illustrates the problem.

The current tunnel proposal from the governor is designed to export more that 4 million acre feet of water per year from the Delta – about equal to the total consumption of all the cities in Southern California.

Tunnel proponents say they do not expect to operate the tunnel at capacity, and it would be in use mainly to draw from the periodic storms that send more water through the Delta out to San Francisco Bay.

But how much would that be? The usual answer is: we will leave that to the experts.

Tunnel skeptics contend that the history of water projects shows that infrastructure will eventually be used to full capacity, notwithstanding contemporary environmental regulations. They point out how the Trump administration has increased exports to the Central Valley by manipulating regulations, subverting scientific findings and pressuring federal officials to meet its demands.

The case for building the tunnel at the south end of the Delta and Sites Reservoir northwest of Sacramento would be a lot more persuasive if the proponents would forthrightly come to grips with this issue of how much water ought to be available for export and then support a fair and enduring division of Delta water.

What is needed is a “Grand Bargain” in which all the parties achieve a consensus, confirmed in legislation, to apportion Delta water between exports and an adequate ecological flow to San Francisco Bay.

Can it be done? Stakeholders, inured to generations of contention and litigation, may say no. However, the California Dream is still alive, waiting for our leaders to raise their expectations and go to work for a fair settlement.

# # #

Guest Commentary

Despite unprecedented times, natural resources should remain important to the Legislature

CalMatters | August 28, 2020 | Pablo Garza

As if a global pandemic was not enough, the tumultuous legislative session comes to a close as much of the state is on fire. Understandably, lawmakers had already significantly pared down their legislative packages to focus on a response to COVID-19. And, then last week many important bills on environmental justice and natural resources stalled.

More on two important pieces of unfinished business later. Despite the disappointment related to bills that will not make it across the finish line this year, we should take a pause and be grateful that California's natural resource programs and agencies avoided draconian cuts in the final state budget approved in June. It's understandable that fact has not received much attention amid the global pandemic, but it is no less remarkable given how these programs have fared in previous economic downturns.

Recall that when Gov. Gavin Newsom unveiled his initial 2020-21 budget in January, the state was projected to have a nearly $6 billion general fund surplus. Newsom proposed augmenting a number of important natural resources programs, including additional staff for sustainable groundwater management, improved vegetation data and even a new state park.

At that time, none of us realized a global pandemic and economic shutdown were lurking on the horizon. When Newsom released his revised budget in May, the state faced an estimated $54 billion deficit, and everyone switched from expanding programs to bracing for inevitable cuts.

Notably, several key programs to enhance our environment, improve public health and make California more resilient to climate change remained intact and even received slight funding increases in the final 2020-21 budget, underscoring their long-term importance even during the pandemic. These include:

- $9 million to help the state to stay on track implementing the Sustainable Groundwater Management Act. This funding will expand Department of Water Resources staff to review tens of thousands of pages of groundwater sustainability plans and provide technical assistance to local agencies to ensure we have enough groundwater for agriculture, communities and wildlife for generations to come.

- Nearly $50 million and 10 staff positions for projects to address poor air quality and habitat restoration around the Salton Sea and pollution in the sea and the New River.
- $360,000 to establish an assistant secretary for environmental justice and an assistant secretary for tribal affairs at the California Natural Resources Agency. Part of Newsom's January budget, these positions will help embed environmental justice into natural resource management.

- $33 million in cuts to the Department of Fish and Wildlife were avoided. Much appreciation to Defenders of Wildlife for spearheading the effort to resist these cuts, which would have undermined a key department that is already chronically underfunded.

The Legislature postponed approving the 2020-21 Greenhouse Gas Reduction Fund Expenditure Plan as part of the budget enacted in June because of uncertainty about revenue from California's cap-and-trade auctions, the source of money for the fund.

State lawmakers were expected to finalize a Greenhouse Gas Reduction Fund plan by the end of August. However, the poor performance of May's auction had put a damper on that effort. The just-released results from the August auction were more promising – roughly $474 million in revenue – so a plan may still come together. Even if it does though, there are still unanswered questions about how the state will pay for critical programs that rely on the Greenhouse Gas Reduction Fund over the longer term. This includes a new program approved last year to provide safe and affordable drinking water to approximately 1 million California's who lack this fundamental human right. Ideally, this and other public health programs would not rely on a revenue stream that is supposed to wane over time as greenhouse gas emissions go down.

Moreover, Newsom listed safe and affordable drinking water as his No. 1 priority in his recently finalized California Water Resilience Portfolio. Newsom and legislators should uphold their commitment to safe and affordable drinking water and ensure the cap-and-trade auction funds go to this top priority.

In other disappointing news, an important conservation bill by Assemblymember Ash Kalra, a Democrat from San Jose, stalled last week. Assembly Bill 3030 sets a goal of protecting 30% of California's land, waters and oceans by 2030. If we reach this goal, California will improve open space access for communities of color and stave off extinctions of our diverse wildlife species. Hopefully, dialogue with opponents of the bill will occur this fall and we will be able to move this important policy forward in 2021.

Despite the uncertainty around AB 3030 and safe and affordable drinking water, it is heartening that during unprecedented crises, California leaders still managed to approve some policies and funding that address environmental injustices, protect our natural resources and build climate change resilience. It is proof that we can deal with crises while staying on track as an environmental leader.

# # #

AWWA adopts five-year strategic path forward
AWWA | August 27, 2020

AWWA Core Principles

After more than a year of research, discussion and consultation with a broad spectrum of the water sector, the Board of Directors of the American Water Works Association (AWWA) on Aug. 18 unanimously approved a new strategic plan that envisions “a better world through better water” and seeks to advance diversity and inclusion and strengthen public trust.

AWWA’s new 2025 Strategic Plan was developed by a committee of representatives from sections, councils, service providers, manufacturers and the AWWA board and staff, chaired by Past President David Rager.

The committee consulted with experts in areas including utilities, research, science, academics, young professionals, and the diverse communities served by the water sector.


David Rager

“If you don’t spend some time thinking about where your organization wants to be in five years and the steps you need to take to get there, you can end up anywhere,” said Rager (pictured right). “It was a fun challenge to go through a process that incorporated hundreds of individuals. Bringing together their thoughts, insights and wisdom to guide the Association’s strategic plan was extremely valuable.”

The updated plan enables the AWWA Board to set direction, ensure resources and provide oversight for the next five years, as well as define AWWA’s significant role in supporting water professionals around the world and strengthen its collaboration with AWWA sections to provide benefits to members.

“AWWA has always paid attention to its relationship with sections and continues to value that partnership as we work together to enhance the ways we serve our members,” Rager said. “We also recognize that AWWA is the largest water association in the world, and water professionals all around the globe turn to us for information and knowledge -- such as our standards and best practices -- to help guide them in their operations.”

The plan reinforces the Association’s four strategic goals that guide AWWA staff and volunteer efforts. All were carried forward from the 2016 plan and include:

- Member Engagement and Development
- Organizational Stewardship
- Knowledge Creation & Exchange
- Water Policy & Leadership

“These are exactly the strategic objectives we need to guide us through the current challenges we’re seeing in public health and the economy, and those that will be with us in the future,” said Melissa Elliott (pictured right), AWWA president.


Melissa Elliott

In addition, the 2025 plan expands AWWA’s list of core principles from five to seven. The two new principles are:

- Strengthen Public Trust
- Advance Access to Safe Water Globally

The new plan also adds emphasis to an AWWA principle that has been carried forward by several past presidents – Foster Diversity and Inclusion – by changing it to:

- Advance Diversity and Inclusion

The remaining principles in the 2025 plan, brought forward from the 2016 plan, are:

- Protect Public Health
- Safeguard the Environment
- Share Best Practices
- Inspire Innovation

AWWA’s vision continues as, “A better world through better water.” The mission, which describes how the Association will work toward that vision, has been updated to, “Providing solutions to effectively manage water, the world’s most vital resource.”

“The AWWA volunteers on the planning committee delivered on their strategic vision by truly defining a path for the future,” Elliott added. “Our AWWA Board is ready to dig in and continue efforts to adapt and improve so we can provide our members what they need from us going forward.”

AWWA’s incoming president, Chi Ho Sham (pictured right), participated on the Strategic Planning Committee as chair of the Technical & Educational Council. “I was amazed but not surprised by the committee members’ thoughtfulness and passion during the process,” he said. “We listened to each other and the many experts who provided input, which made the plan more impactful to the water sector and the communities we serve.”


Chi Ho Sham

David LaFrance, AWWA Chief Executive Officer, said, “The extensive efforts of the Strategic Planning Committee – which began prior to the COVID-19 pandemic and public outcry to

address racial inequality – have culminated in an inspirational roadmap that addresses the right things at the right time.

“Armed with this plan and the diverse talents of the AWWA community, we will make important and meaningful advances on the vision of a better world through better water,” he added.

# # #

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Financial Report: Addressing Water Equity in a Time of Rising Costs
Water Finance & Management | August 25, 2020 | Josh Ellis & Dan Cooper

Even before COVID-19 hit our country, water affordability has been a growing concern. From 2010 to 2019, the price of water service increased by 57 percent in 30 major U.S. cities. Meanwhile, millions of Americans have their water shutoff every year due to an inability to pay their water bills. Although many communities have placed a moratorium on shutoffs during the pandemic, some have not, leaving people stuck at home without clean running water to drink or wash their hands.

Policy makers and practitioners alike are considering how to rebuild our water systems and policies to be more resilient in the face of the next shockwave. Tackling the intertwined issues of rising water rates and deferred water infrastructure maintenance is a top issue they're facing.

This issue is even more pressing for the Chicago region: The average water rate grew by almost 80 percent between 2008 and 2018, from an average of $4.05 per 1,000 gallons to $7.21 per 1,000 gallons, after adjusting for inflation. There are several reasons for this:

Our water infrastructure, built over a century ago, has aged and urgently needs repair and replacement.

Water utilities must play catch-up with years of deferred infrastructure investment, and often this means increasing water rates, which hits low-income customers the hardest.

Other cost drivers in the water industry include resource depletion, pollution, population growth/decline, rising input costs (e.g., energy, chemicals, labor), increasing regulatory burdens, and decreasing or no longer existing subsidies and grants from federal and state governments.

Unfortunately, while water costs have continued to rise, income growth – particularly working-class wages – has remained essentially stagnant while other household costs have grown. This scenario holds true even in municipalities where incomes are above average. Three-fourths of communities in the northeastern Illinois region have experienced water bill growth rates exceeding income growth rates over the past 10 years.

A New Way to Analyze Water Affordability

A new report released in February 2020 draws attention to the issue of water affordability, and outlines solutions for tackling growing water affordability challenge in northeastern Illinois. The report was produced by the Metropolitan Planning Council, in partnership with Elevate Energy and the Illinois Indiana Sea Grant.

A key finding of the report is that some of the older approaches for analyzing water affordability challenges have masked the impact of rising water rates and stagnant incomes experienced by our most vulnerable households. These new analyses indicate just how widespread it is for low-income households to be burdened by the cost of their water. Over half of Chicago region municipalities have at least one neighborhood where water is unaffordable for low-income households. The report also highlights the relationship between water burden, segregation, and income inequality. In fact, our report shows that half of the Chicago region's municipalities have at least one census tract where the lowest income earners are water burdened.

Improving Affordability Will Take a Range of Solutions

Workable solutions begin with recognizing the effect rising water service costs have on some households, and then implementing rate structures, policies and programs that alleviate the strain on customers who are unable to pay. However, since every community is unique, a one-size-fits-all water affordability solution does not exist. What's more, communities cannot go it alone. All levels of government (county, regional, state, federal) and non-governmental organizations also have roles to play.

Consider how we can begin to address water affordability in the midst of COVID-19. Utilities or municipalities can choose to place a moratorium on water shutoffs and reconnect service to those who have been previously shutoff. Together with nonprofit partners, they can distribute potable water to residents in need. County and state governments can begin to design more effective water rate and fee assistance programs for low-income households that cannot afford their bills. One of the chief causes of unaffordable water—deferred water maintenance—could be addressed through increased state and federal funding for water infrastructure improvements.

Because the issue of water affordability is so complex, we did not intend for our report to be exhaustive. Instead, it was designed to consider water affordability for the most vulnerable households, which exist in most municipalities across the region. It begins to analyze and explore the underlying causes of increasing water burden toward the goal of designing an

equitable water rate structure and effective water affordability programs. More research is needed to understand household-level trends, for example.

However, the report, along with an accompanying package of resources available on our website, represents an important first step in quantifying the extent of the problem in northeastern Illinois, and exploring strategies for tackling the growing affordability challenge. The need is urgent. Right now, people are staying home without clean, safe water for consumption and hygiene because they couldn't pay their bill. We must change this trajectory to protect public health and safety.

# # #

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Climate Change May Bring Unexpected Benefits To San Francisco Bay-Delta
The Ticker | September 9, 2020 | Linh Anh Cat

San Francisco South Bay tidelands and waterway tributaries at low tide. GETTY

The San Francisco Bay-Delta is literally threatened from all sides: rising sea levels from the ocean, disruptions to sediment supply from upstream, and within the Bay-Delta itself, development and other land use changes have left only a tiny fraction (5%) of marshland untouched.

Under climate change, coastal wetlands across the world, like the Bay-Delta, are disappearing. The rivers that feed coastal wetlands sediment which provide habitat for wildlife and form the structure of the ecosystem are transporting about a third less sediment, on average. Less sediment supply contributes to increased erosion of the ecosystem.

These delicate ecosystems provide several benefits to humans, such as protecting our shorelines, maintaining water quality, preventing damaging floods, and providing a peaceful place to recreate. In addition, they provide habitat for birds, fish, and other wildlife and play an important role in nutrient cycling, particularly carbon storage.

A recent study by scientists at the U.S. Geological Survey used historical streamflow and sediment data to calibrate models in order to predict what will happen to the Bay-Delta under varying levels of climate change.

In the future, California will continue to get about the same amount of rain, however, storms will be less frequent but more powerful. Therefore, streamflow will increase and the faster speed of the water will carry more sediment into the bay.

Rivers draining through the Sacramento Valley make their way to the Bay-Delta, and these waterways will likely experience higher peak streamflows. The new models projected that faster waters will carry 39 to 69 percent more sediment down to the Bay-Delta by 2100.

Unfortunately, the increased transport of sediment will bring a increased amount of pollutants. However, there are some silver linings to the projected sediment transport into the Bay-Delta:

Scientists think the higher sediment levels in the Bay-Delta will reduce impacts from sea level rise by raising the level of the Bay-Delta in concert with sea level rise, potentially reducing the amount of erosion exacerbated by rising oceans.

Turbidity, or how difficult it is to see through cloudy water, may increase, providing habitat for fish that can hide more easily from predators.

Ecosystems around the world face different challenges from climate change. While there are silver linings to the climate change impacts in the San Francisco Bay-Delta, this is not the case when we look at global climate change as a whole.

Understanding how local areas will experience climate change is key to effective natural resource management and to guide the best areas to invest our efforts in order to adapt to and mitigate climate change in our communities.

# # #

Climate change could deliver more sediment and pollution to the San Francisco Bay-Delta

Yuba Net | September 4, 2020 | American Geophysical Union

September 4, 2020 – Climate change could deliver more silt, sand and pollution to the San Francisco Bay-Delta, along with a mixed bag of other potential consequences and benefits, according to a new study in the AGU journal Water Resources Research, which publishes research articles and commentaries providing a broad understanding of the role of water in Earth's natural systems.

By running models of future climate change scenarios, researchers with the U.S. Geological Survey found that as air temperatures increase by 1.6 to 5.3 degrees Celsius by the end of the 21st century, with varying changes in rainfall, streams and rivers draining through the Sacramento Valley may see higher peak streamflows. Future storms will not necessarily bring more water overall, just more water during shorter time periods. Those higher streamflows will carry 39% to 69% more sediment down to the Bay-Delta by the end of the century, according to the researchers' models.

The study, published by AGU, a global organization supporting 130,000 Earth and space science enthusiasts and experts, concludes that one of the possible negative impacts of this change is that more pollution could be carried from the Sacramento Valley into the Bay-Delta. The researchers also found that there was an upside to the added sediment: It could help raise the Bay-Delta as sea level rises, and support wetland habitats and native species.

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