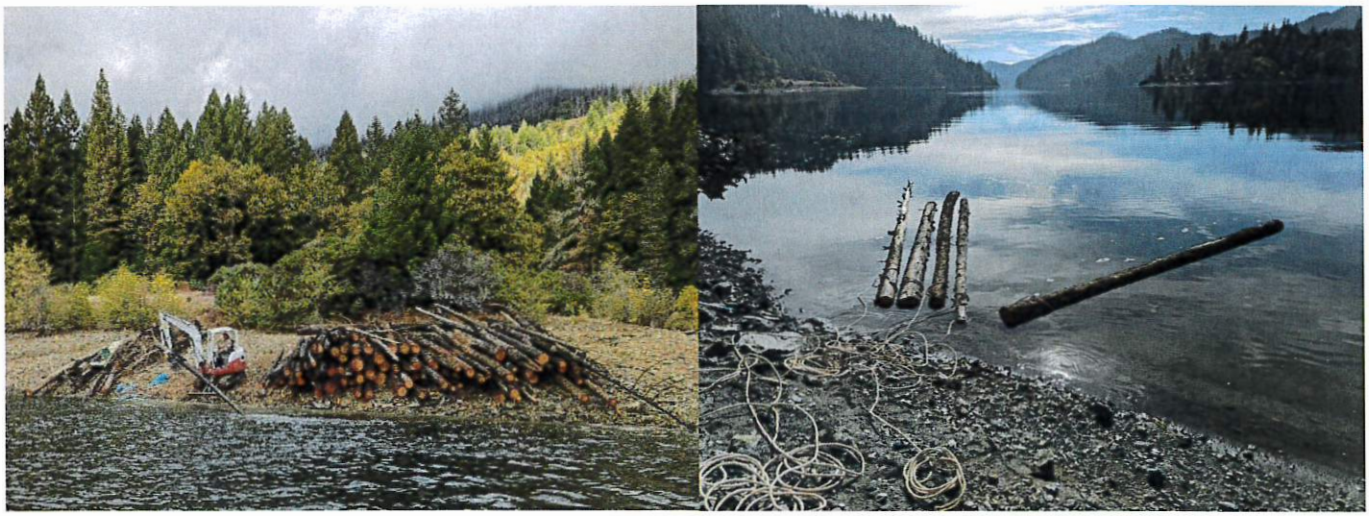
HUMBOLDT BAY MUNICIPAL WATER DISTRICT

Board of Directors Meeting

November 10, 2022



Ruth Lake Woody Debris Removal – Fall 2022

Humboldt Bay Municipal Water District 828 7th Street, Eureka

Agenda for Regular Meeting of the Board of Directors
November 10th, 2022
Meeting Start Time: 9:00 AM

District Mission

Reliably deliver high-quality drinking water to the communities and customers we serve in the greater Humboldt Bay Area at a reasonable cost. Reliably deliver untreated water to our wholesale industrial customer(s) at a reasonable cost. Protect the long-term water supply and water quality interests of the District in the Mad River watershed.

****

COVID-19 Notice

The Board room at 828 7th street will be open to the public at reduced capacity to accommodate social distancing. An online option will also be available.

Members of the public may join the meeting online at:

https://us02web.zoom.us/j/86710296323?pwd=MjZldGxRa08wZ0FWOHJrUlNhZnFLQT09

Or participate by phone: 1-669-900-9128 Enter meeting ID: 867 1029 6323 **Enter password:** 484138

If you are participating via phone and would like to comment, please press *9 to raise your hand.

How to Submit Public Comment: Members of the public may provide public comments via email until 5 pm the day before the Board Meeting by sending comments to office@hbmwd.com. Email comments must identify the agenda item in the subject line of the email. Written comments may also be mailed to 828 7th Street, Eureka, CA 95501. Written comments should identify the agenda item number. These comments will be read during the meeting. Comments received after the deadline will be included in the record but not read during the meeting. If participating in the meeting, public comments will also be received during the meeting.

Time Set Items:

8.2	**McNamara & Peepe**	**9:15 AM**
10.2	**Audit Committee**	**10:00 AM**
10.1	**Engineering**	**11:00 AM**
8.3	**CLOSED SESSION – Anticipated Litigation (DTSC)**	**11:30 AM**
9.2	**CLOSED SESSION – Active Litigation (Van Duzen)**	**1:30 PM**

The Board will take a scheduled lunch break from 12:00 pm to 1:30 pm.

1. **ROLL CALL**

2. **FLAG SALUTE**

3. **ACCEPT AGENDA**

4. **PUBLIC COMMENT**

   Members of the public are invited to address the Board on items not listed on the agenda that are within the scope and jurisdiction of the District. At the discretion of the President, comments may be limited to three minutes per person. The public will be allowed to address items that are on the agenda at the time the Board takes up that item. Under the Brown Act, the Board may not take action on any item that does not appear on the agenda.

5. MINUTES

5.1 Minutes of the October 13, 2022 Regular Board Meeting* — discuss and possibly approve

6. CONSENT AGENDA - *These matters are routine in nature and are usually approved by a combined single vote unless an item is pulled for discussion*

6.1 Media articles of local/water interest (Articles A – P)* — possibly approve

7. CORRESPONDENCE

7.1 Letter from HBMWD: RE: **Mad River August Complex Restoration Project #60286** to US Forest Service* — discuss

7.2 Email from Ruth Lake Leaseholders Association: RE: Liability Insurance Limits* — discuss

7.3 Annie & Mary Trail Connectivity Project – Initial Study / MND comment period* — discuss

8. CONTINUING BUSINESS

8.1 Water Resource Planning - status report on water use options under consideration*

- a. Local Sales
  - i. Nordic Aquafarms — discuss
  - ii. Trinidad Rancheria Mainline Extension* — discuss
- b. Transport- *DWR's Current Reservoir Conditions as of October 24, 2022** — discuss
- c. Instream Flow: Draft Narrative Summary for Petition for Change *— discuss

8.2 McNamara & Peepe; site visit November 4th — discuss **(Time set 9:15 AM)**

8.3 Quagga Grant 2020-21; Final Report* — discuss

8.4 Shoreline Debris Removal Update (FEMA Project)* —discuss

8.5 Sample Contract for Fire Fuels Reduction & Defensible Space Project* – discuss

9. NEW BUSINESS

No new business

10. REPORTS (from STAFF)

10.1 Legal

a. **CLOSED SESSION** — Conference with Legal Counsel – – Anticipated Litigation: Initiation of litigation pursuant to paragraph (4) of subdivision (d) of § 54956.9 (DTSC) **(Time set 11:30 AM)**

b. **CLOSED SESSION** — Conference with Legal Counsel – Existing Litigation: Initiation of litigation pursuant to paragraph (1) of subdivision (d) of § 54956.9 (Van Duzen) Case # CV2201489 **(Time set 1:30PM)**

10.2**Engineering (Time set 11:00 AM)**

a. 12 kV Switchgear Relocation ($858,332 District match) — status report
b. Collector Mainline Redundancy Project Grant Extension — status report
c. TRF Generator Project ($517,819 District match) RFI* — status report
d. Matthews Dam Advance Assistance Seismic Stability Project RFI* — status report
e. Collector 2 Rehabilitation Project CEQA – Notice of Exemption –* — possible approval
f. Status report re: other engineering work in progress

10.3**Financial**

a. Audit Committee Report out and recommendation — discuss **(Time set 10:00 AM)**
b. FY 202-21 Audit* — discuss and possibly approve
c. September 2022 Financial Statement & Vendor Detail Report* — discuss and possibly approve

10.4**Operations**

a. Monthly report on projects and operations* — discuss

11. MANAGEMENT

11.1 Current Reservoir Conditions: DWR* — discuss

11.2 NCRP: Vision for North Coast Resilience* — discuss

12. DIRECTOR REPORTS & DISCUSSION

12.1 General - comments or reports from Directors

a. "Highline Lake is officially 'infested' with invasive zebra mussels CPW confirms state's first known population"* — discuss

12.2 ACWA

a. Director report out, if any
b. Coalition Letter to California Resources Board to "Commercially Available"* — discuss
c. Comment Letter to California Air Resources Board RE: Local Government Fleet* — discuss
d. State Water Board Adopts Water Loss Regulation*— discuss
e. Letter to ACWA Public Water Agency Members – ACWA's 2023 Membership Dues* — discuss

12.3 **ACWA – JPIA**

a. Director report out, if any
b. Important Information about the 2022/23 ACWA JPIA Liability Program Renewal*— discuss
c. CWIF Board of Directors Meeting* — discuss

12.4 Organizations on which HBMWD Serves

a. RCEA October News and Updates* — status report
b. RCEA Board of Directors Draft Meeting Minutes 09-22-22* — status report
c. RREDC Special Meeting of Loan Committee Agenda 10-24-22* — status report

ADJOURNMENT

ADA compliance statement: In compliance with the Americans with Disability Act, if you need special assistance to participate in this meeting, please contact the District office at (707) 443-5018. Notification 48 hours prior to the meeting will enable the District to make reasonable arrangements to ensure accessibility to this meeting. (Posted and mailed November 4th, 2022.)

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
828 7th Street, Eureka

Minutes for Meeting of Board of Directors
October 13, 2022

District Mission

Reliably deliver high quality drinking water to the communities and customers we serve in the greater Humboldt Bay Area at a reasonable cost. Reliably deliver untreated water to our wholesale industrial customer(s) at a reasonable cost. Protect the long-term water supply and water quality interests of the District in the Mad River watershed.

****

A. **ROLL CALL**

President Woo called the meeting to order at 9:00 AM. Director Rupp conducted the roll call. Directors Fuller, Latt, Lindberg, Rupp, and Woo were present. General Manager John Friedenbach, Superintendent Dale Davidsen, Business Manager Chris Harris, and Interim Board Secretary Angela Smart were present. Legal Counsel Ryan Plotz, District Engineer Nathan Stevens, and new employee Zachery Bunke also attended for a portion of the meeting.

B. **FLAG SALUTE**

President Woo led the flag salute.

C. **ACCEPT AGENDA**

Agenda was accepted as written on motion by Director Lindberg, seconded by Director Rupp, the Board voted 5-0 to approve the agenda.

D. **MINUTES**

On motion by Director Rupp, seconded by Director Fuller, the Board voted 5-0 to approve the Minutes of the September 8, 2022, Regular Meeting with edits requested.

On motion by Director Latt, seconded by Director Lindberg, the Board voted 4-0 to approve the Minutes of the September 22, 2022, Special Meeting. President Woo abstained per absence.

On motion by Director Fuller, seconded by Director Lindberg, the Board voted 4-0 to approve the Minutes of the September 23, 2022, Joint Board Meeting with RLCSD. Director Rupp abstained per absence.

E. **PUBLIC COMMENT**

Elaine Weinreb (via Zoom) recently attended a City of Blue Lake Community Meeting in which a INCREASE in water rates was discussed. Elaine was curious if the raise was due to HBMWD WHOLESALE WATER RATES. Mr. Friedenbach stated that he is not intimately familiar with their rate analysis, as the District did not participate directly in their rate study. HBMWD has a 5-year rate plan with municipal customers. HBMWD's wholesale water rate this current fiscal year increased by 2.9%. Typically, the cost of wholesale water makes up between 25% to 33% of the total water cost. He pointed out that 2.9% of 33% is not a significant indicator for any rate hikes that Blue Lake might be proposing to their customers.

Kelley Lincoln (via Zoom) asked about information regarding the potential for a Cascadia earthquake event with regards to what could be done to secure the Dam. Mr. Friedenbach directed her to agenda item 10.1d under Reports; Engineering entitled *Matthews Dam Advance Assistance Seismic Stability Project* that includes Geotech study and analyses for potential impacts of a Cascadia event on the Matthews Dam. The District has applied for grant funding to analyze the potential affects.

F. **CONSENT AGENDA**

On motion by Director Rupp, seconded by Director Lindberg, the Board voted 5-0 to approve the Consent Agenda.

G. CORRESPONDENCE

Letter from HBMWD: RE: Cease and Desist Demand for Lease Lot #39e

Mr. Friedenbach sent a letter to the Ruth Lake Lease Lot holders of lot #39e requesting that the grading that was taking place without a permit stop. An application for grading was approved five years ago, but approvals are only authorized for 12 months from the approval date. Mr. Davidsen and Mr. Raschein worked together to assess the situation. After communication with the contractor, they determined that the best course of action would be to allow the contractor to mitigate the potential erosion threat caused by the unapproved grading. Mr. Davidsen sent a letter outlining the prevention steps he thought were prudent for a mutually beneficial solution. Staff will continue to assess the situation for the next action steps and signs for possible intervention, including contacting the Regional Water Quality Control Board as suggested by Director Fuller.

Letter from Department of Parks and Recreation: RE: Boat Launching Facility grant funding opportunity

Mr. Friedenbach received information from the Department of Boating and Waterways notifying staff of grants for Boat Launch improvements. This information was forwarded to Ms. Canale of RLCSD to facilitate RLCSD attaining funds that may assist with repairing/upgrading their boat launching facilities at low or no cost.

Letter from HBMWD to Humboldt County: RE: Eureka Ready Mix

Mr. Friedenbach sent follow-up correspondence to Desmond Johnston with the Humboldt County Planning and Building Department regarding the 15-year application by Eureka Ready Mix for a Conditional Use Permit extension. Mr. Friedenbach informed Mr. Johnston that Eureka Ready Mix agreed to reimburse the cost to the District for one of the eight annual river cross section surveys in the amount of $1,275.

H. CONTINUING BUSINESS

Water Resource Planning

Local Sales

Nordic Aquafarms

The County Planning Commission approved Nordic's Coastal Development Permit. Two environmental organizations and the Humboldt Fishermen's Marketing Association filed an appeal on August 17 with the Board of Supervisors. The appeal was discussed and subsequently denied during a meeting on September 28. Nordic Aquafarms contacted Mr. Friedenbach and provided him with a draft of their response regarding the reference of HBMWD's HCP. He found their response to be satisfactory. Director Fuller expressed the importance of transparency and accuracy when discussing our ability to provide the water required, affirming that we can more than adequately fulfill their needs.

Trinidad Rancheria Mainline Extension

Mr. Friedenbach sent a letter to CalTrans regarding the Little River Trail Project, alerting them of the District's preliminary discussions when the project originated — requesting that a potential water line be attached to the highway 101 bridge across the Little River as part of the mainline extension to the Trinidad Rancheria. The trail project is currently only at 30% design, making the ability to include this addition reasonably simple. CalTrans did contact the Rancheria to recommend a process of requesting the attachment of the pipeline to the existing bridge and not connecting it to the trail project. Staff will keep the Board updated as more information is available.

Transport

A water rights permit application has been submitted for the Sites Reservoir. The news article (included in the Board Packet) states that processing time could take quite a while. Directors Rupp and Latt expressed concern about the viability of the partnership for water transfer. The District will continue to seek an entity with a sense of urgency and unity.

Instream Flow

Staff is expecting some graphs from GHD soon and anticipates incorporating it into the narrative and distributing it to the Board with time for review before the November Board meeting.

McNamara & Peepe

President Woo recused herself due to a conflict of interest and left the room.
Mr. Friedenbach shared a screenshot of the project document tracking from DTSC. There are no updates to communicate related to Royal Gold's development at the Glendale site.

CLOSED SESSION – Anticipated Litigation: Initiation of litigation pursuant to paragraph (4) of subdivision (d) of § 54956.9 (DTSC)

President Woo recused herself due to a conflict of interest and left the room. No public comment was received prior to entering the closed session. Closed session lasted from 11:34 to 12:26. Upon return from Closed session, Director Latt stated there was no reportable action.

I. NEW BUSINESS

Statewide General Election on November 8, 2022 Candidacy Results

The Board and staff congratulated Directors Rupp and Fuller, serving Divisions 4 and 5, respectively, for another 4-year term. Board members and staff expressed their continued support and pleasure to continue to serve alongside both of these dedicated members.

CLOSED SESSION - Conference with Legal Counsel – – Anticipated Litigation: Initiation of litigation pursuant to paragraph (4) of subdivision (d) of § 54956.9 (Van Duzen)

No public comment was received prior to entering the closed session. Closed session lasted from 1:38 to 1:54. Upon return from Closed session, President Woo stated there was no reportable action.

J. REPORTS (from Staff)

Engineering

12kV Switchgear Relocation ($858,332 District match)

Administrative items are still outstanding on this project. An arch flash electrical study that the switchgear manufacturer provided contained errors that are being revised. Mr. Stevens received an email this morning optimistically indicating progress. He added that the District is still holding the 5% retention funds until work is completed.

Collector Mainline Redundancy Project

The District applied for phase one Hazard Mitigation Grant funding for the project, which focuses on preliminary design and environmental studies. Mr. Friedenbach requested an extension from December 4, 2022 to December 4, 2023 because CalOES and FEMA changed the procurement requirements and process, which caused some missed windows for environmental and biological engineering services that needed to take place in the Spring of 2022 and now will need to be done in Spring of 2023.

TRF Generator Project ($517,819 District match)
Staff recently received another Request For Information (RFI) from CalOES asking for information. Mr. Friedenbach referred them back to the previous RFI submitted on April 28, 2022, for part of the request. Mr. Stevens remains optimistic that progress continues to move forward.

Matthews Dam Advance Assistance Seismic Stability Project
An RFI was received on October 12, 2022, from CalOES which requested a declaration of any previous cultural resources work done and whether the site was a registered historic structure. The reply is being currently created, neither of which is the case for this property.

Status report re: other engineering work in progress
Mr. Stevens mentioned that yesterday, October 12, the District exposed the existing 27" DW Line and 2-42" steel industrial lines out in Arcata Bottoms as part of the condition assessment of the domestic line. Staff was pleased that the thickness readings during the inspection were found SIMILAR to the 1966 outlined specifications.

Financial

September 2022 Financial Statement & Vendor Detail Report
Ms. Harris advised the Board that the current general account is $4.1 million, with various investments at $7.9 million. Funds allocated to specific projects (advanced charges) are currently $5.7 million. General reserves are at $2.2 million. The District received $320k in FEMA grant reimbursement on the 12kV project.

The District continues to experience billing delays with PG&E due to meter communication issues. Staff is still waiting to receive the revised PG&E bills.

On a motion by Director Rupp, seconded by Director Lindberg, the Board voted 5-0 to accept the September 2022 Financial statement and Vendor detail in the amount of $254,694.12.

CPI Update
Ms. Harris informed the Board that the Consumer Price Index (CPI) shows the current buying power of a dollar, measuring the average change over time in the prices paid by urban consumers for a market basket of consumer goods and services, rose 8.2 percent over the last 12 months. Ms. Harris regularly updates the Board on wage and cost of living information for their consideration.

Operations

Monthly report on Projects and Operations
Mr. Davidsen provided the September 2022 Operational Report. Ruth Hydro experienced two shutdowns: A PG&E planned event for 3 hours and 30 minutes, and a maintenance-scheduled computer repair created a total production loss of 400 KWh. Ruth Lake recorded 1.7" in rain for September.

In September, Mr. Davidsen attended the 2022 Cascadia/TsunamiCon and the joint meeting with RLCSD. Staff worked with CDFW and NMFS regarding Collector 4 ramp construction. Maintenance inspected and performed minor repairs on the CT reservoir and log boom. They joined Hartford Steam and Boiler for an on-site pressure vessel inspection. The main office is still awaiting the roofing contractor to schedule the new roof in anticipation of starting the solar project when the new roof is complete.

K. MANAGEMENT

Presentation to New Employee – Zachery Bunke

Zachery Bunke, a new Operations & Maintenance Technician was presented with a District jacket as is the custom in celebrating new employment with the Humboldt Bay Municipal Water District.

Dam Project Financing

Mr. Friedenbach shared a flyer from FERC regarding Army Corps of Engineer's financing program for critical infrastructure dams to demonstrate that funding opportunities are available. Directors and Staff conversed about potential steps and policies in place. Mr. Davidsen discussed the information received at the 2022 Cascadia/TsunamiCon regarding protocols that are currently in place and inspections performed in the event of varying levels of disaster. Director Latt mentioned the 54-page Dam Failure Contingency Plan on the HBMWD.com website under Reports and Resources. Mr. Friedenbach said that the District Staff had discussed the EAP information with DSOD and FERC about the classification of the EAP documents as critical infrastructure with Homeland Security.

Flow Gage at Spillway

Mr. Friedenbach included a picture of the flow gauge painted on the Spillway, per the District's Dam Safety Surveillance Monitoring Plan (DSSMP). He pointed out that 20k CFS flow over the Spillway, a trigger point, is readily indicated on the graphic that will provide an obvious indication, perhaps before gauges alert the condition.

L. DIRECTOR REPORTS & DISCUSSION

General - comments or reports from Directors

Director Rupp encouraged staff to review the District's policies for: inclusion, equity, and diversity in both Staff and Board. He also offered assistance in creating policy and possibly forming a committee around the drafting of this type of policy.

Director Fuller expressed appreciation for the September lunch at Essex for Board members and staff. She appreciated the facilities tour and it was a good opportunity to connect with staff.

President Woo and Director Rupp commented on recent changes with Assembly bill 2449 regarding Brown Act teleconferencing requirements. Previously, if a Board member participated virtually, the Brown Act required you to post a director's location and the agenda within 24 or 72 hours (depending on the requirement), and the public was allowed to attend at that location. This new exception says that if an emergency type situation (medical conditions qualify) exists, the affected elected official can request, without divulging confidential medical information, they participate virtually in that meeting. As long as a quorum of the Board is physically present at the meeting at an adequately noticed, public location, the Board can vote to allow this individual to attend the meeting virtually.

M. ACWA

ACWA Legislative Summary

Mr. Friedenbach included in the Board Packet, a short synopsis of legislation that ACWA advocated for and against on behalf of water districts throughout the state of California. Director Rupp commented that the consensus given during the survey of membership highlighted the quality of representation that ACWA provides and how well it's regarded amongst it's member agencies throughout California.

Director report out

Director Rupp reported that he attended the ACWA Executive Board Meeting. He participated in the budget adoption, including a 4% dues increase. He also was present at the vote to form the ACWA Foundation and to file the Articles of Incorporation with the Secretary of State. He is excited to share the purposes and goals of the Foundation to promote diversity, equity, and inclusion within the water industry through grants, scholarships, and training with the unanimous support of ACWA.

N. **ACWA – JPIA**

Director report out, if any

Director Rupp attended the Finance and Audit committee meeting on September 28 & 29. They approved the 2021 audit.

The Liability Committee met and recommended an increase in the premium for liability insurance for the coming year beginning October 1 of 10%. In 2013-14 it was reduced 5%, in 2014-15 it went down 10%, in 2017-18 it went down 9%, so it's been decreasing steadily for some time now. Because of the hardening of the insurance industry in California, all insurance premiums have been going up and liability is no exception.

The Executive Committee elected Melanie McDonald as the new Chair, and David Drake as the Vice Chair.

The California Water Insurance Fund Board met, and voted to cover the first $5 million of liability that JPIA carries, which is their self-insured level.

The Board thanked Director Rupp for his continued service and involvement in these entities.

O. **ORGANIZATIONS ON WHICH HBMWD SERVE**

RCEA

President Woo noted that the Board Packet has the September 22, 2022 agenda and the August 25, 2022 Meeting Minutes.

RREDC

Director Latt spoke about the meeting on September 26. The program speakers were Dawn Arledge and Amanda Hickey from the California Center for Rural Policy and CalPoly Humboldt on "What a California Forward Community Economic Resiliency Fund Grant would mean for our Region." They are working on an economic development plan with the purpose to build a resilient equitable economy as California transitions to carbon neutrality and identifying key projects for state funding that are part of our economic development plan. The state has an influx of money available for the implementation of key items identified in different regions for divisions 1-13 composed of Humboldt, Del Norte, Mendocino, and Lake counties.

ADJOURNMENT

The meeting adjourned at 2:24 pm.

Attest:

Sheri Woo, President

J. Bruce Rupp, Secretary/Treasurer

How Does Wildfire Impact Wildlife and Forests?

Oct 11, 2022

Written By

Meghan Snow

Image Details

Seeing a forest recently burned in a wildfire can be jarring. Green is replaced by shades of gray. The land is quiet. The sunshine feels hotter. However, it's not long before the forest comes back to life.

"Wildlife is incredibly resilient," said Stephanie Eyes, a senior wildlife biologist for the U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office. "California has a long history with wildfire, and many species adapted to endure it."

Eyes has evaluated the impacts of wildfire on wildlife for more than a decade. Before joining the Service, she worked for Yosemite National Park, surveying the impacts of fire on California spotted owl. Today, she uses data collected on wildfires to determine the impact on habitat for endangered, threatened and at-risk species living in the Sierra Nevada.

Fires burn at different heat levels, can be large or small, and cause varying impacts on the land, wildlife, and nearby communities. Topography, the amount of dry vegetation present and weather factor into how large and damaging the fire becomes. Low-intensity

fires burn close to the ground, “cleaning” and thinning the forest by removing thick and flammable vegetation from the forest floor. High-severity fires burn with high heat, climb into and remove the tree canopy, and can scorch the soil and tree roots. At a large scale, high-severity fires can be incredibly damaging to wildlife and the ecosystem. Mosaic fires are a mix of mostly low-intensity fire with patches of high- and moderate-severity fire and some unburned forest. Wildlife can survive, and even thrive, in areas that experience mosaic fires.

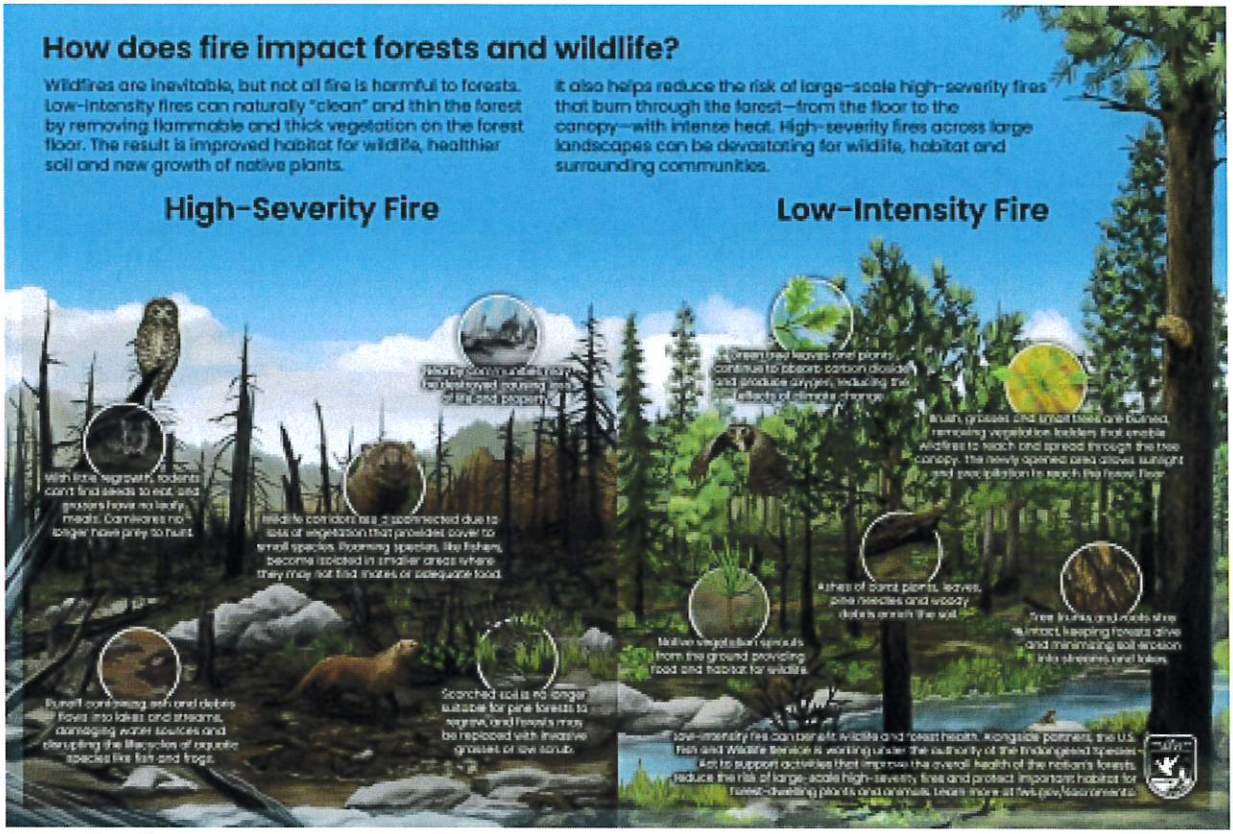


Image Details

When wildfires erupt, animals do their best to move out of the direct path of the flames while staying close to home if they can find safe refuge.

“Wildlife will move around their home area, avoiding the smoke and actively burning areas until it’s safe to return,” explained Eyes.

Image Details

Some animals, like frogs and rodents, don't move far. They'll retreat into deep underground burrows where they are protected from the heat. Fish and frogs will swim to the deepest parts of their stream or lake. If the fire is burning just a few feet high, birds and animals that can climb will sometimes go up into the branches and tree canopy to avoid the flames. Fishers may crawl into a tree cavity for protection. Other animals, like deer and bears, will move around the forest until the flames subside.

"When I was working in Yosemite, there was a female California spotted owl who weathered several wildfires. We were always concerned about her, but she would still be there, year-after-year," said Eyes.

But when a high-severity fire burns across a large landscape, it moves fast and climbs through the tree canopy. Wildlife has a more challenging time finding refuge from these flames.

"Wildlife have adapted to deal with smaller fires, and unfortunately, sometimes they can't escape these recent, big fires," said Eyes.

The Service listed the southern Sierra Nevada fisher in 2019 and the Sierra Nevada red fox in 2021, both as endangered species. High-severity wildfires were identified among the leading threats to the ongoing survival of both species due to loss of habitat and elimination of safe movement corridors. As climate change prolongs periods of drought, forests and the species that live there will continue to face the threat of large, high-severity wildfires.

Image Details

AFTER THE BURN

Over the past seven years, high-severity wildfires burned thousands of acres across California. Unprecedented drought mixed with mid-summer lightning storms ignited wildfires so large they created their own weather systems. While many areas burned severely, pockets of forest continue to thrive.

Nancy Kelly, a wildlife biologist for the U.S. Forest Service's Sequoia National Forest, has worked for more than 20 years surveying and studying wildlife habitat.

"The adaptability of wildlife continues to surprise me," said Kelly. "They can make do with what's left after a fire."

As a wildlife biologist, Kelly advises staff at Sequoia National Forest on ways to reduce the impact of management activities, such as prescribed burns and tree thinning projects, on endangered, threatened and at-risk species.

Image Details

“Initially, fire is a big deal. It changes how species interact with their habitat for a long time,” said Kelly. “But fire is a tool that nature has been using for eons to keep ecosystems intact.”

After low-intensity fires, grasses and ferns are the first to come back, aided by newly enriched soil from the ashes of burned leaves, plants, and woody debris, as well as sunlight that can now reach the forest floor. Trees are still alive and sprout new leaves during the next growing season. Their intact root systems prevent soil from eroding into nearby streams and lakes.

“We have seen populations of sensitive plants double after a fire because they like the open canopy,” said Kelly.

It doesn’t take long for wildlife to start using low-intensity burn areas. New grasses, ferns and fallen branches provide just enough coverage for mice and squirrels to feel safe as they scavenge for seeds dropped during the fire. Their presence attracts owls, fishers, foxes and other animals that take advantage of newly opened areas on the forest floor to spot prey. Tender grass shoots provide food for herbivores like deer and rabbits. Amphibians scramble back to their waterfront homes to feast on insects that have also returned.

Image Details

"We will see wildlife come back through the area as it cools back down," said Kelly. "They're curious like we are. They take advantage of the new growth and other food sources that are available after the burn."

Regrowth after a large-scale, high-severity fire looks different. Some of the soil is scorched to a degree that tree roots underneath the surface are burned, killing the tree. Ash from leaves and woody debris may take longer to breakdown and enrich the soil to a point that vegetation can sprout from the ground. Rain can often cause the soil to erode into nearby waterways. Muddy waters result in less clean water sources for animals to drink from and can also bury amphibian and fish eggs before they hatch.

"While these high-severity burn areas look like moonscapes, they are not completely devoid of life. It's just different life," explained Kelly.

Woodboring beetles start colonizing the freshly burnt trees. Woodpeckers move in to eat the beetles. The dead trees fall, their ash providing much needed nutrients to restore the soil.

"Unfortunately, in some of these large, high-severity burns, we're seeing more invasive grasses and weeds grow because they can survive in less ideal conditions," said Kelly. "These species can outcompete native grasses and plants for water and light."

One native plant, mountain white thorn, grows low to the ground when forest canopies are present. But after a high-severity fire, the shrub can regrow to heights over 6 feet. Their growth then blocks sunlight to tree seedlings sprouting from the ground, and the landscape can transition from forestland to scrubland.

Kelly explained that sometimes the animal life after a fire transitions, too.

"This year, we've seen red-tailed hawks and other grassland bird species because we have more open area now," she said. "Until trees come back, I expect that we'll continue to see these grassland and open area species in the mountains."

TO STAY OR GO

More than 100 years could pass before large trees return to the landscape after a high-severity fire, and some species can't survive without the forest canopy, even if they try.

"California spotted owls can find places to perch, but they can't find good places for nesting," said Eyes. "Just like us, if they don't have a roof over their heads, they'll leave."

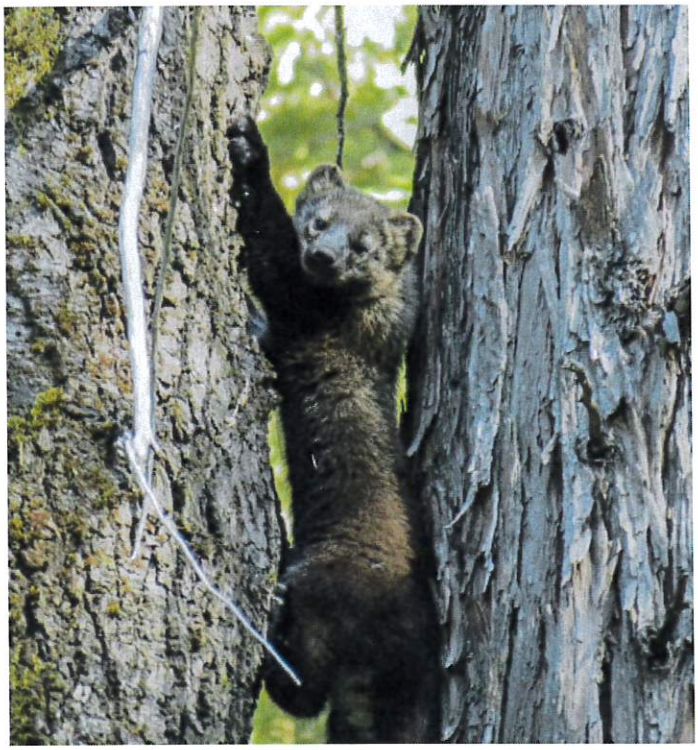


Image Details

Fishers also avoid the open landscapes, which leave them vulnerable to predators as they move between their dens and scavenging grounds. Fishers often travel miles looking for food, mates and good reproductive habitat, but high-severity wildfires can often cut off those safe travel corridors, restricting them to smaller and smaller ranges and reducing their chances of finding a mate and enough prey.

Luckily, agencies like the U.S. Forest Service, National Park Service and Bureau of Land Management work to restore habitat after large fires like these.

"If a prescribed burn can be used to reduce the risk of a high-severity fire or vegetation can be planted immediately after the fire, the wildlife will typically come back," said Eyes. The Sequoia National Forest conducts a variety of activities aimed at reducing the risk of large-scale, high-severity fire, such as prescribed burns, brush management projects and thinning overgrown groves of trees. Kelly works with biologists at the U.S. Fish and Wildlife Service to determine ways to minimize the impact on listed species in the area. While the projects cause some minor disruption while they're taking place, the period is usually short and much less disruptive and damaging than a high-severity fire.

Kelly and her team also support the restoration of burned landscapes by replanting native vegetation and trees on open slopes and near streams to reduce erosion and jump start the process of bringing the area back to life.

"The forests provide the food, water and shelter for wildlife, but they're also important to humans," said Kelly. "By taking care of the forests, we're also taking care of our air, water sources and communities."

Four Elements of a Healthy Forest

Oct 11, 2022

Written By

Cal Robinson – US Fish & Wildlife Service

When you close your eyes and think of a healthy forest, you may picture one that's thick with trees. But a healthy forest is complex, just like the plant and animal species that live there.

Rick Kuyper, Sierra-Cascades division supervisor in the U.S. Fish and Wildlife Service's Sacramento Fish and Wildlife Office, has visited many of California's forests. Kuyper and his team work alongside federal agencies, including the U.S. Forest Service and National Park Service, to recover listed species living in the Sierra Nevada.

"We work closely with public land management agencies and private landowners to ensure we have healthy forests for the species in the Sierras," said Kuyper. "Restoring and conserving good forest habitat is a key component to successfully recovering species like the southern Sierra Nevada fisher and Yosemite toad."

While the forests of California's Sierra Nevada may not look like the forests near you, there are some things all healthy forests have in common. Here are four features of healthy forests that you can look for on your next journey into the outdoors.

Healthy forests are rich with plant and animal life

Healthy forests have an abundance of species from every kingdom of life.

The biggest marker of any healthy ecosystem is biodiversity. That means that **there is a wide variety of species from all kingdoms of life**, whether that be plants, animals, fungi or microorganisms we can't see.

"We know forests are healthy when we see variety of young and old trees, many different tree species, shrubs, grasses and flowers," said Kuyper. "When forests are rich in plant life, they also tend to be rich in birds, insects, large carnivores and prey animals."

A biodiverse forest is a sign that nature's cycles, such as the food web, nutrient exchange in the soil and the water cycle, are working well. With these cycles in good working order, the forest is more resilient to disease and large, high-severity wildfires.

Healthy forests offer a variety of habitats

Healthy forests have many habitats and more biodiversity. In this snapshot from Lassen Volcanic National Park, different habitats can be seen in the stream, the grassy meadow, among the trees, and in the bare rock between trees in the higher elevations.

Different animals and plants need different forest features to thrive. Forest features change depending on elevation, climate and access to water. If you go exploring, you may find some of the following habitat types in the forest:

- old-growth areas with dense trees and vegetation that provide shade and cover for prey animals like fishers and martens
- open, grassy meadows where grazers can forage and pollinators can find flowers
- downed logs, snags and rocks that provide shelter for animals that seek cavities and burrows, including snakes and rodents
- areas with patchy tree cover so sun and rain can reach short plants, sprouts and the ground
- ponds, creeks, lakes and rivers where aquatic plants and animals such as frogs and beavers live
- green, moist areas around those water sources that include riparian areas and wetlands

"**The wildlife in a forest is going to be as diverse as the available habitats**. When you walk through a forest and find a meadow and pond surrounded by bushes and trees of different heights and species, there is going to be a bigger variety of animal species there than in a forest that's just a stand of trees that are all the same species and age," said Kuyper.

A healthy forest has trees of different sizes and ages

A healthy forest has many different tree species at different heights and ages.

While trees are adapted to the weather and conditions of their native range, climate change is putting more pressure on forests all the time, which is affecting how trees grow. **A healthy forest should have a mix of saplings and young trees among the old growth.** If there are no young trees, that's a sign that something in the forest is preventing new trees from sprouting such as poor soil conditions. If mature trees are dying, extended drought or disease could be the cause.

"Mature trees that are already stressed from drought succumb more easily to bark beetle infestations. When bark beetle populations reach high numbers, there aren't enough predators like woodpeckers and parasitic wasps to keep them in check," said Kuyper

Next time you're in the forest, see if you can spot both young and old trees of different trunk sizes.

Healthy forests have clean water

The shrubs on the shore of the Feather River in Plumas National Forest filter water before it enters the river.

Clean water is needed by all species to survive. **A healthy forest has plenty of trees, shrubs and grasses with robust root systems to control erosion.** When there aren't enough plants to hold the soil, rains can funnel too much dirt, ash and other debris into ponds, lakes and creeks, muddying the waters. Erosion is especially bad for aquatic species like frogs whose eggs can get buried by dirt. Water can also be impacted by conditions upstream like the dumping of human waste, garbage or chemicals.

Clean water in the forests is important for everyone, not just the animals and plants that live there. Forests in the mountains play an important part in providing people, fish and other wildlife downstream with clean drinking water.

"Mountain forests are often the starting point for the water we drink in cities. In most cases, the more pure and clean the water is upstream, the better the water that comes out of our tap," said Kuyper.

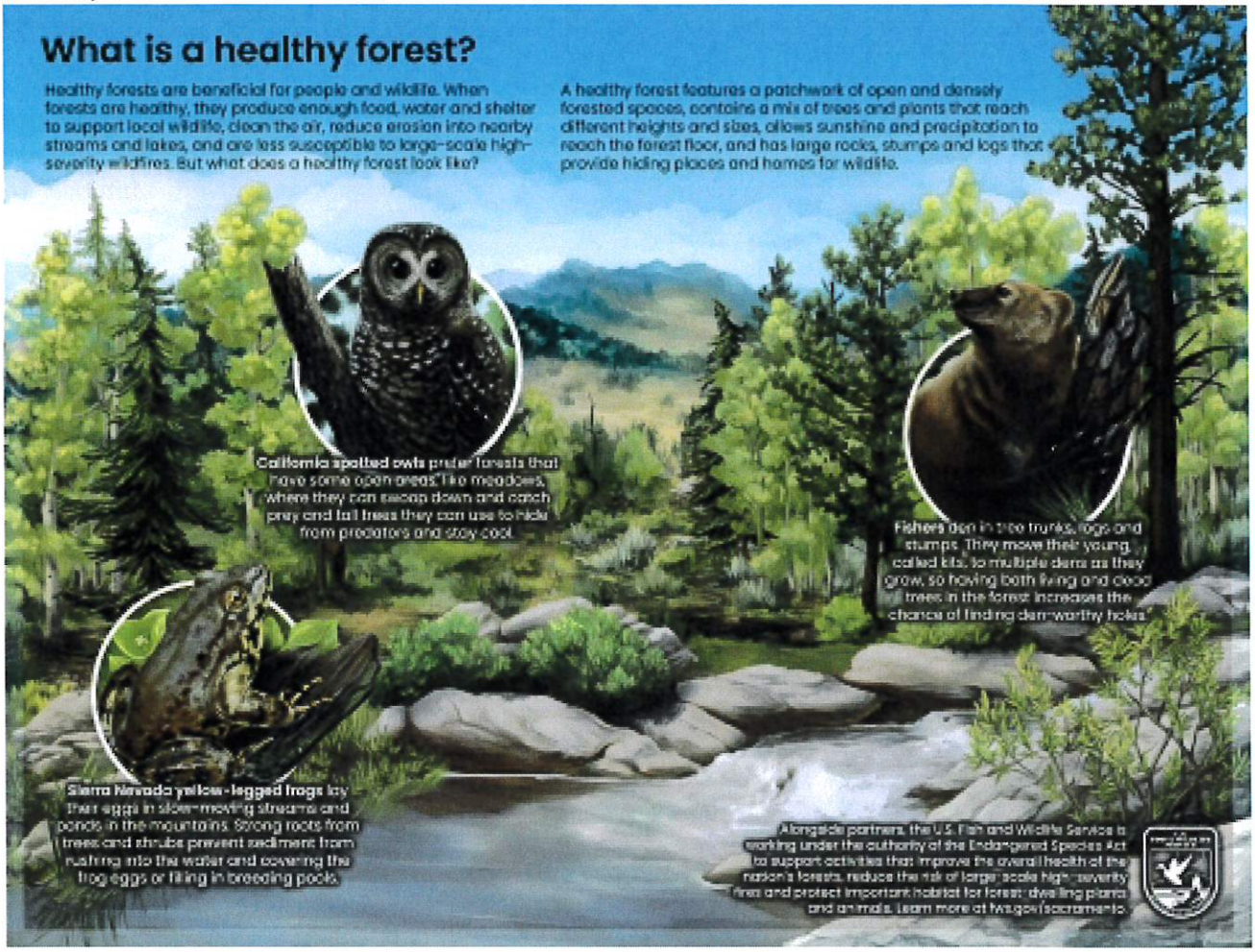
Do your part to keep our forests healthy

Wondering now how you can help forests near you? Here are a few tips!

1. When you recreate, follow the Seven Principles of Leave No Trace**:**

- **Plan Ahead and Prepare** – Bark beetles travel with firewood, so buy firewood where you plan to burn it. If you're traveling with livestock, make sure to feed them weed-free hay in the days leading up to the trip so that invasive plants aren't spread in their droppings.
- **Travel and Camp on Durable Surfaces** – Going off trail or camping over vegetation can cause erosion or damage fragile species.
- **Dispose of Waste Properly** – This includes pet waste! Be sure to pack it out as it can bring foreign parasites or bacteria to forest species. All kinds of litter, even food scraps, can cause health problems for animals.
- **Leave What You Find** – As a whole, it's best to leave things where you find them, as they might be part of an animal's home or an important food source.
- **Minimize Campfire Impacts** – Nine out of ten fires are human-caused. Be sure to check the fire conditions of where you're going, and avoid making fires on warm, windy days in particular. When there is wind and the vegetation is dry, fires can spread faster than you might imagine and are very hard to get under control.
- **Respect Wildlife** – approaching wildlife can cause stress to the animals or lethal accidents for the animal or you. Feeding animals encourages animals to associate food with humans, which can cause them to harass humans or lose their ability to get their own food. Animals that become too familiar with people often end up euthanized.
- **Be Considerate of Other Visitors** – By being considerate of other visitors, you're showing consideration to all of the species that live there too!

2. Learn more about how climate change **is impacting our forests and other ecosystems**. Find out what you can do to contribute toward a greener future. This could be things like joining a local volunteer group that plants trees, helping young people in your life grow their love of nature, and so much more.



CALIFORNIA Water Boards

Media Release

State Water Board approves $2.7 billion in financial assistance as California recognizes 10th anniversary of Human Right to Water

Oct. 12, 2022 **Contact:** Dimitri Stanich – Information Officer

SACRAMENTO –The State Water Resources Control Board has approved major spending plans for the 2022-23 fiscal year totaling $2.7 billion that prioritizes disadvantaged communities and water resiliency projects. The approvals come as California this month recognizes the 10th anniversary of adopting the nation's first Human Right to Water law.

The plans include financial assistance to address inadequate infrastructure, which is often a barrier for communities trying to create resilient water supplies. Leveraging historic investments by Gov. Gavin Newsom, the California Legislature and the Biden administration, the board is expanding its capacity for grant and loan forgiveness to maximize a generational opportunity to reinvest in California's outdated water infrastructure. Projected spending includes $609 million from recently appropriated federal dollars under the federal Bipartisan Infrastructure Law.

"Last week, joined by community advocates and partners, we reflected on how far we have come since California instituted the Human Right to Water in 2012," said Joaquin Esquivel, chair of the State Water Board. "Since then, hundreds of water systems are providing communities with reliable and affordable access to safe drinking water and sanitation. But there is still much more work to do, especially as drought and climate change compound contamination and supply issues for our most vulnerable communities."

After the Human Right to Water was passed, a series of actions gave the board the authority and mechanisms to implement the law: in 2014, the Department of Public Health's Drinking Water Program was transferred to the State Water Board; in 2016, SB 88 established the board's mandatory consolidation authority; and in 2019, the Governor signed SB 200, which led to the creation of the Safe and Affordable Funding for Equity and Resilience (SAFER) drinking water program. Through SAFER, the board finances both mandatory and voluntary consolidations.

"The Human Right to Water story is one of clear progress, thanks in large part to Gov. Newsom's leadership," said Yana Garcia, California's Secretary for Environmental Protection. "This historic milestone has enabled the state, together with water system

administrators and communities, to reduce the population served by failing water systems by 40%. As we prepare for a fourth year of drought, our continued commitment and advocacy to realize this human right is as urgent as ever."

Financial Assistance for Drinking Water and Wastewater Infrastructure

The board's Drinking Water and Clean Water State Revolving Fund programs account for the majority of its financial assistance for drinking water and wastewater infrastructure. Communities can apply for loans to construct or improve their systems at rates well below those commercially available. Disadvantaged communities also may be eligible for principal forgiveness or grants.

This fiscal year, federal funding is adding $475 million and $134 million to the Drinking Water and Clean Water funds, respectively, increasing the level of available grant money for disadvantaged communities.

Financing plans that the board adopted Oct. 3 prioritize the following amounts for loan forgiveness and grants:

- $765 million to build or upgrade water and wastewater infrastructure.
- $55 million to address emerging contaminants in drinking water, such as PFAS.
- $120 million to replace lead service lines and connectors.

Aside from loan forgiveness and grants, the board is projecting about $1.6 billion in SRF loans this year.

Financial Assistance for Safe and Affordable Drinking Water

Additionally, on Oct. 3, the board adopted its Safe and Affordable Drinking Water Fund Expenditure Plan, establishing its targeted priorities for distributing $130 million to assist sustainable drinking-water solutions in disadvantaged communities. Developed in consultation with a community advisory board, the plan prioritizes:

- Up to $60 million for county and regional programs providing support for state small water systems and domestic wells at risk of failure.
- Expanding technical assistance support.
- Investing in accelerated planning efforts for consolidations.
- Operation and maintenance support for systems with high affordability burdens.

The Safe and Affordable Fund complements the broader SAFER program to address funding gaps and expedite priority projects. Since the SAFER program launched in 2019, it has distributed 84% more grant funding to small, disadvantaged communities - totaling $700 million - than in the three years prior. Additionally, 80 consolidations have been completed and another 210 currently are in process.

The State Water Board's mission is to preserve, enhance and restore the quality of California's water resources and drinking water for the protection of the environment and public health, and to ensure proper resource allocation and efficient use for present and future generations

Water Boards

Media Release

The SAFER Program includes projects funded by the Safe and Affordable Drinking Water Fund, which is part of California Climate Investments, a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, and improving public health and the environment-particularly in disadvantaged communities.

San Juaquin Valley "The Sun"
10/14/22
Agriculture

National media kick off 'Running Out of Water' season with vignette of Valley community on the brink

ALEX TAVLIAN

California's devastating drought is bringing on a wave of familiar, if entirely unwelcome, misery to communities up and down the Golden State.

And, while literal floodgates are useless in these situations, the state's drought is opening the media floodgates to any angle on the subject.

Enter The Washington Post, with a portrait of the situation in the western Fresno County city of Coalinga:
"The residents of this sun-scorched city feel California's endless drought when the dust lifts off the brown hills and flings grit into their living rooms. They see it when they drive past almond trees being ripped from the ground for lack of

water and the new blinking sign at the corner of Elm and Cherry warning: "No watering front yard lawns.
The fire chief noticed it when he tested hydrants in August — a rare occurrence as Coalinga desperately seeks to conserve water — and the first one shot out a foot-long block of compacted dirt. The second one ejected like a can of Axe body spray.
The schools superintendent could only think drought on the first day of school when a 4-year-old fell onto unwatered turf, breaking an arm; or when the chain saws dropped three coastal redwoods outside Henry F. Bishop Elementary that had withered and died. Superintendent Lori Villanueva even lost a portion of her own right lung last year from a drought-aggravated illness, valley fever, that's caused by breathing soil fungus whipped up off the dry ground."
The story, admittedly, is familiar for small Valley communities. With water use failing to adjust to shrinking supplies, municipalities have tough choices: run out of water or buy water resources on the open market for sky-high prices.

Since the Post's initial missive on Coalinga, national media organs – desperate for any angle on faraway central California – have latched on.

Syndicated TV news wires, *Esquire*, Gizmodo, even CBS News, have put Coalinga on the map with intensive interviews from local officials.
It's not the first Valley community to endure brutal water realities.

Last year, residents in the Valley logistical lynchpin of Kettleman City confronted a similar reality when water resources began dwindling at the outset of the fourth quarter of 2021.
The only difference between the two communities? One relies on state-controlled water resources, the other Federal.

In Kettleman City's case, pleas to Sacramento regulators fell largely on deaf ears, forcing Kings County officials to intervene and soften the blow of exorbitant water costs to make up resources.
13 days into a new water year, only time and water regulators will tell whether Coalinga can secure resources without breaking the bank.

Some San Joaquin Valley towns pay hefty price to keep taps flowing

OCTOBER 15, 2022

• by Jesse Vad, SJV Water

The California Aqueduct hauls water south from the Sacramento-San Joaquin Delta to Los Angeles. This photo is looking south off of Lokern Road in western Kern County. CREDIT: Lois Henry

Motorist oasis looks to buy more water as hedge against another dry year

Kettleman City, a popular pitstop on Interstate 5 along the west side of the San Joaquin Valley, nearly went dry last year, similar to what other westside towns are now experiencing.

Unlike Coalinga, Avenal and Huron, which get water from the federal Central Valley Project, Kettleman City's supplies come from the State Water Project via the California Aqueduct.

Like the CVP, though, state water allocations have also been slashed during the ongoing drought.

Last year, Kettleman City officials were forced to purchase 235 acre feet of water from the Mojave Water Agency at $1,400 per acre foot. The Mojave district is a contractor on the SWP and serves high desert communities in San Bernardino County.

That deal carried Kettleman City through this year, but it may need more.

City officials are trying to get additional water from the Mojave district again, said Brian Skaggs, civil engineer and owner of Summers Engineering, the district engineer for Kettleman City.

"It's still kind of up in the air to see where we're at," said Skaggs.

Skaggs said staff are also working on rehabbing a well so Kettleman City won't have to rely wholly on state water anymore. The town used to operate two wells but they were contaminated with arsenic and benzene so the city switched to surface water.

For now, Kettleman City should make it through the year.

Come January 1, when the state decides on its initial water allocation for the next year, Kettleman City could be in trouble again.

"You never know," said Skaggs. "After the first it could be another issue."

– Jesse Vad, SJV Water

–California's crippling three-year drought is revealing the unique water vulnerabilities of small towns across the San Joaquin Valley.

And while the state has stepped in to help impoverished communities and residents whose wells have gone dry due to plummeting groundwater levels, the handful of towns on the valley's west side that rely on surface supplies are largely on their own.

Towns like Huron, Avenal, Coalinga and others may have to dig deep into their limited budgets to buy water at staggeringly high prices – in one case nearly 1,300% above the normal price.

The problem for these west valley towns is that they rely entirely on supplies from the federal Central Valley Project (CVP), which transports water in a 400-mile-long network of canals.

In February, the Bureau of Reclamation, which operates the CVP, cut allocations to most San Joaquin Valley irrigators to zero. A minimal amount of water the Bureau calls "health and safety" was made available for municipal needs.

But it's not enough.

PAYING THE PRICE

After only receiving 2,700 acre feet of it's full 10,000-acre-foot allocation this year, Coalinga, a city of 17,000 in west Fresno County, was set to run out of water by mid-November, said Adam Adkisson, Coalinga city councilman.

It needed another 700 acre feet to meet the bare minimum for its residents.

Adkisson said the city has made a deal to buy what it needs for the rest of this year but will spend more than $1,800 per acre foot, as opposed to the $130 per acre foot it pays normally. That's a 1,284% increase.

It's a last resort option that, at around $1.26 million, will hit the city's budget hard, he said.

Having to pay so much for basic needs during a crisis is something Adkisson can't wrap his head around.

"It's like in the hurricane in Florida. Can you imagine if they were normally selling bottled water for $2 and now they're selling it for $2,000 each, for a bottle of water?" said Adkisson. "That'd be criminal, illegal. So how is this not the same?"

Water prices change based on supply and demand with no control by the state, wrote a spokesperson for the California Department of Water Resources in an email. DWR has funding available through its Urban Community Drought Relief Program which Coalinga could apply for, the spokesperson added.

HOPING FOR A BUMP

Coalinga is not alone.

Less than 10 miles south sits Avenal, a city of about 13,000. Avenal is set to run out of water by late December, said Antony López, Avenal's city manager. Like Coalinga, Avenal relies entirely on surface water from the CVP.

The city's full allocation is 3,500 acre feet. This year, it received 2,000 acre feet. But Avenal needs a minimum 2,500 acre feet to make it through the year.

Avenal has been under drought conservation measures which has helped. But it's not enough to close the gap, said López. The Bureau has asked city officials to look for additional water from other CVP contractors, he said. But given the lack of water everywhere, it's possible Avenal may have to buy water on the open market, as Coalinga did.

"We've never had to do that before," said López.

In years past, the Bureau has bumped Avenal's allocation when it ran short, said López. He's holding out hope that will be the case again.

If that doesn't happen, the city will likely have to buy about 180 acre feet. López estimates that would probably cost upwards of $300,000. That money would come out of the city's water budget which totals $3 million.

Spending that money on supplies would delay upgrades to the city's water treatment plant and a new water pipeline.

"It's very frustrating," said López. "And at times it feels hopeless but I have faith that the wet years will come soon."

EXTREME CONSERVATION

Huron, a smaller city of about 7,000, sits just north of Avenal. Huron also relies entirely on CVP water but gets its supplies from Westlands Water District, the largest agricultural water district in the country which covers more than 600,000 acres on the west side of the valley from south of Firebaugh to just north of Kettleman City.

City officials thought Huron was short 200 acre feet until last week when they found out Westlands staff had accidentally excluded the water from Huron's allocation, said John Kunkel, interim city manager of Huron. That error has been corrected and Huron's actual allocation should get it through the year, added Kunkel.

The reason Huron isn't as bad off as its neighbors, Kunkel said, is because of extreme water conservation measures. The city prohibits all landscape watering, car washing and any water use beyond basic domestic needs. It's a strict plan.

And Kunkel said it's working. Residents are complying, which has saved enough water to get the city through the year.

"It's unfortunate when you drive through our town," said Kunkel. "Everybody's grass is dead and their landscape's dead. But that's the sacrifice they made because they know how dire it is."

Huron built a new municipal well for years like this. The well will help supplement the city's water so it doesn't have to rely entirely on diminished supplies from Westlands in drought years, said Kunkel.

But the well has been been sitting dormant, without power for six months because Pacific Gas & Electric hasn't turned it on.

Kunkel doesn't know why there's been such a long delay just to get power.

"We've tried calling people,' said Kunkel. "So far, we haven't gotten anything."

WIRED: SCIENCE

OCT 17, 2022 7:00 AM

If You Don't Already Live in a Sponge City, You Will Soon

Less pavement and more green spaces help absorb water instead of funneling it all away—a win-win for people and urban ecosystems.

Los Angeles' Tujunga Spreading Grounds collect stormwater and let it percolate into the earth. Such "sponge city" projects are changing urbanites' relationship with water. COURTESY OF LOS ANGELES DEPARTMENT OF WATER AND POWER

LIKE ANYTHING ELSE, water is great in moderation—urbanites need it to survive, but downpours can flood streets and homes. And as you might have noticed, climate change isn't good at moderation. A warmer atmosphere holds more moisture, supercharging storms to dump more water quicker, which can overwhelm municipal sewer systems built for the climate of long ago. Thus you get the biblical flooding that's been drowning cities around the world, from Zhengzhou, China, to Seoul, South Korea, to Cologne, Germany, to New York City.

In response, urban planners are increasingly thinking of cities less as rain jackets—designed to whisk water away as fast as possible before it has a chance to accumulate—and more as sponges. By deploying thirsty green spaces and digging huge dirt bowls where water can gather and percolate into underlying aquifers, "sponge cities" are making rain an asset to be exploited instead of expelled.

"Where once there were forests and fields and wetlands that would soak up the rain, these have been paved over and replaced with surfaces that do not absorb rain," says Michael Kiparsky, director of the Wheeler Water Institute at the University of California, Berkeley. Those are hard materials like concrete sidewalks, asphalt roads, and roofs, which funnel runoff into gutters, storm drains, and sewers.

"The denser cities are developed, the more impervious surfaces are used, the worse the impacts of climate change are becoming," Kiparsky continues. "Once the capacity of these structures is exceeded, then water starts backing up, and its problems are exacerbated because of the lack of the natural absorbency of large areas of soil and vegetation."

Any good city planner knows the value of green spaces, but traditionally these have been used mainly for public enjoyment. Sponge city designers also use them as a tool for managing increasingly furious rainstorms. An inch of rain dumped over the course of an hour is more likely to overwhelm stormwater infrastructure than the same inch of water falling over 24 hours—a problem for places like in Pittsburgh, Pennsylvania, where storms have gotten significantly wetter over the past half century. "The long and short of it is: more intense and more frequent," says Tony Igwe, senior group manager of stormwater at the Pittsburgh Water and Sewer Authority, which is sponge-ifying the city. "There's a lot of work going on not just in Pittsburgh, but especially in the mid-Atlantic, to really look at those numbers in the next few years."

Installing permeable concrete in Pittsburgh

COURTESY OF PITTSBURGH WATER AND SEWER AUTHORITY

One of the ways Pittsburgh is tackling this new reality is with a more permeable surface (shown above) made of concrete bricks. The trick is that the small gaps between the blocks are filled with crushed stone, which allows water to trickle down between them. This kind of pavement can be deployed where greenery can't, like alleys and parking lanes.

But where greenery *can* go, Pittsburgh and other cities are also deploying the humble rain garden, a simple plot of vegetation on a property or roadside that captures water washed off the street. Yet another option is building what's called "vegetated swales": essentially ditches filled with grass and other plants that gather stormwater and help it seep into the ground. Engineers can further expand a

green space's water-absorbing powers with special modules that look like milk crates, which provide empty space underground for the rainwater to fill.

A swale collects stormwater in Pittsburgh's Hill District

COURTESY OF PITTSBURGH WATER AND SEWER AUTHORITY.

These techniques are helping Pittsburgh's Water and Sewer Authority tackle a challenge: Some soils absorb water better than others. "We have very clay-y soils, which are hard to infiltrate, so we have to specially design our green infrastructure to use what's called engineered soils," says Beth Dutton, senior project manager of stormwater at the agency. These soils have particular ratios of added materials like sand, which more readily absorb water than clay.

Topography matters, too. "We're also very prone to landslides in the Pittsburgh area, so that also limits where we can put our green infrastructure," Dutton says. That means siting rain gardens in fairly flat places where water is more likely to accumulate anyway.

Roadside greenery has the added benefit of filtering out pollutants like tire particles, which are actually microplastics loaded with toxicants that have been killing salmon in Washington state and inundating the San Francisco Bay. "Natural infrastructure like vegetated swales can not only slow down the hydrology—that is, reduce the speed with which this runoff accumulates in these natural systems—it can also actively clean the water," says Kiparsky.

For years, Los Angeles has been deploying specially designed green spaces on roadsides and along medians for a different reason: It doesn't have *enough* water. Climate change means that, like the East Coast, Southern California will see more intense storms, except they'll come less frequently. That means big dumps of water will become more valuable—and if the city can find a way to capture them, they can alleviate its dependence on water imported from Northern California and the Colorado River.

"Before, the city would see stormwater as a liability," says Art Castro, manager of watershed management at the Los Angeles Department of Water and Power. "It would be a hindrance, it would be

a flooding issue, it would create erosion. So 11, 12 years ago, we kind of had a paradigm shift, and we started looking more at it as an asset."

A median rain garden in Los Angeles

COURTESY OF LOS ANGELES DEPARTMENT OF WATER AND POWER

To that end, LA's new streetside green spaces feed underground water tanks for the city to tap into later. The water district also recently completed an enhancement of the 150-acre Tujunga Spreading Grounds (shown at the top of this story), giant basins that are on average 20 feet deep. The stormwater is piped in, then gradually seeps into the dirt, recharging local groundwater. The Los Angeles Department of Water and Power expects the spreading grounds to capture 16,000 acre-feet of rainwater a year, enough to nourish 64,000 households. ("Acre-feet" means the amount of water that would spread a foot deep over an acre of land.)

Of course, Los Angeles isn't exactly known for its abundance of open spaces, so it's not like the water district can build spreading grounds all over. Instead, city planners are getting creative about using the green spaces LA already has, experimenting with inflatable rubber dams that can funnel rainwater into concrete structures under existing parks. These containers have permeable bottoms that allow the water to drip through, preventing flooding in the surrounding community and capturing a precious resource.

There's also the matter of funding the construction and real estate expenses needed to realize a sponge city. A growing number of cities are starting to charge landowners for the costs of handling stormwater runoff. A water agency will use aerial imagery to map out all the impermeable surfaces across the city—if you've got a lot of it on your property, you're charged a higher fee for the stormwater you're expelling. Pittsburgh implemented such a fee in January, and in 2018 Los Angeles passed a measure that created a similar tax. That money goes toward retrofitting existing stormwater infrastructure and building spongy projects.

But making your yard—and a city—spongier should ultimately yield other benefits. A rain garden packed with native plants attracts pollinators like bees, which go on to help fertilize food-producing plants.

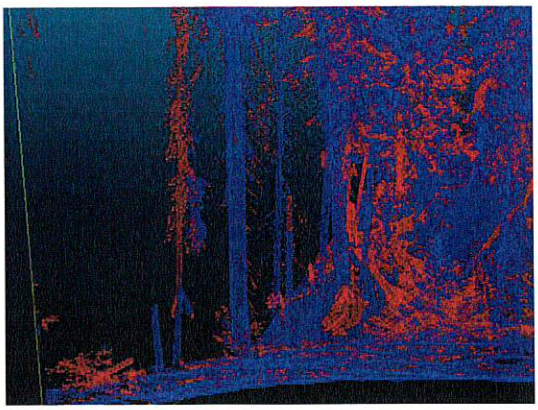
When it's hot, green spaces "sweat" that water back into the air, mitigating the heat island effect that keeps cities significantly warmer than surrounding rural areas. And by recharging groundwater instead of over-extracting it, cities can keep their underlying soil from sinking and collapsing like an empty plastic bottle, a phenomenon known as land subsidence.

"The most interesting part about natural infrastructure that's used to create sponge cities is the fact that it is a multi-benefit approach," says Kiparsky. "It does many, many things—and it does many things that traditional infrastructure simply can't do."

Neveda Today - Science & Technology | **October 21, 2022**

Big data modeling, forest fuels mapping aids in mitigating catastrophic wildfire risk

University of Nevada, Reno researchers team with CAL FIRE and California Air Resources Board



Ladder fuel loss from the 96,000-acre Ferguson Fire in the Sierra Nevada in 2018 is captured with LiDAR. Red indicates biomass that was consumed in the fire, blue indicates biomass that survived the fire.

Modeling and mapping fire-vulnerable forest vegetation across millions of acres in California, scientists at the University of Nevada, Reno are using a variety of new technologies with massive amounts of data and computational power. This research will help optimize fuel management to reduce fire risk, support carbon sequestration and improve water quality.

The research team, led by Jonathan Greenberg and Erin Hanan in the University's College of Agriculture, Biotechnology & Natural Resources, is working on a set of interrelated initiatives that are collectively called the "GigaFire Project." Their overarching goal is to understand, using remote sensing technology and process-based models, how vegetation and fuels are changing over large landscapes.

Greenberg and Hanan are researchers with the College's Experiment Station and Department of Natural Resources & Environmental Science. Their research will produce statewide and localized fuel maps that will help identify where fire risk is the greatest. They will also inform modeling scenarios designed to predict how management can mitigate fire risk while also promoting carbon retention and water security.

With $570,000 from the California Air Resources Board and nearly $1.8 million from CAL FIRE, the researchers are mapping surface and canopy fuels across the state using:

- multi-sensor remote sensing data with Landsat and Airborne LiDAR (LiDAR stands for Light Detecting And Ranging, and is a remote sensing method used to examine the three dimensional structure of vegetation);
- field-based sampling with terrestrial laser scanning and ground based photogrammetry (the use of photography in surveying and mapping to measure distances between objects) to calibrate and validate changes over time;
- machine learning; and

- cloud and high-performance computing to map surface fuel model types, canopy base height, and canopy bulk density across the state.

Lessening the severity of wildfires through enhanced ground and resource management is important. That's where the GigaFire team is making a difference with their recently funded research and collaboration with CAL FIRE and the California Air Resources Board. Part of the work is focusing on quantifying the first 2 meters of the forest's understory, as that is the most crucial for predicting fire behavior. Looking toward the future, the team is working to project carbon gains and losses under varying forest treatment scenarios.

These data will be used by the California Air Resources Board to develop new standardized inputs for their program. The GigaFire team aims to prototype an open, transparent and automated scientific modeling framework that can be updated as new data and algorithms become available for improved fuels mapping throughout California.

"We're using remote sensing and modeling to find all the fuels, especially ladder fuels," Associate Professor Greenberg said. "It will be a system that is updated regularly and automatically. It will be for the entire state of California, and a few parts of Nevada.

Other attempts at this modeling have been made. Greenberg and Hanan are improving upon that using big data and cloud computing with present and hindcast data since the 1980s for fuels management.

"Analyzing the amount and location of fuel accumulation allows us to understand the situations where you go from low-intensity ground fires, to high-intensity crown fires," he said. "Crown fires are the real danger – those are the wildfires where things blow up. Our department contributes to the science behind fuels management. When a fire does break out, and they will break out, you want to have already managed the fuels to minimize the risk of catastrophic wildfires."

Through their research, Greenberg and Hanan also work with land and resource managers who can target specific areas that need treatment, such as forest thinning, collection of material for pulp and controlled burns. Fuel treatments are often used to mitigate fire risk in forests where decades of suppression have increased fuel loading. However, forest density reductions can sometimes have unintended consequences for water quantity and quality, and such effects can be difficult to predict. Modeling work is aimed at understanding how fuels influence fire behavior and the effects of fire behavior on vegetation, soil and hydrological processes.

"We are using simulation models to determine when, where and under what circumstances fuel treatments can mitigate the risk of severe crown fire, maintain stable forest carbon, and promote water security for millions of residents across the West," said Assistant Professor Hanan, who leads the Fire & Dryland Ecosystems Lab and also leads the modeling portion of the GigaFire project.

"Models enable us to make predictions about complex responses to future climate and management scenarios that would not otherwise be possible with measurements alone," she said. "However, to be valid and to advance our scientific understanding, models need to be continually confronted with field data. This is where Greenberg's big data research is crucial."

Greenberg runs the University's Global Environmental Analysis and Remote Sensing Lab, known as GEARS, that is helping to transform the understanding of forest ground coverage with their research using LiDAR technology. LiDAR to examine the three dimensional structure of vegetation.

Before implementing LiDAR technology to map forests before and after fires, the only way to figure out how much ground cover was in a certain area was to deploy teams into the field – an expensive and time-consuming endeavor. However, with LiDAR the researchers can figure out down to the branch what burned and what didn't during a fire, helping them to better understand the ways in which fires move, and the best ways in which to reduce the chances of extremely severe forest fires.

All of this research requires gathering, moving and storing massive amounts of data. Some of the technology that helps to enable this research is done with Pronghorn, the University's high-performance computing system housed at Switch, the data storage center in northern Nevada. While the hardware is necessary for the success of the research, the critical technological piece that makes the difference is the human capital, the research-computing professionals who help the researchers scale their science by leveraging these technologies.

"Dr. Greenberg's wildfire project is a great example of how the University's research efforts are evolving with modern technologies in a very data-centric way," Scotty Strachen, director of cyberinfrastructure in the University's Office of Information Technology, said. "Being able to capture key data at scale, rapidly process and analyze it, and then distribute science-based information to decision-makers and the public requires a new way of thinking about networking, computing and data at the University.

"Our emerging research cyberinfrastructure team is facing this challenge head-on, and working with our scientists and campus leadership to evolve Nevada's capabilities to bring real solutions to real problems in real time."

Redheaded Blackbelt

BROKE, BUSTED, AND BEATEN: CUSTOMERS OF THE WCSD DEMAND ANSWERS IN HEATED MEETING

October 25, 2022 Lisa Music 2 comments

After an explosive meeting on October 22 of the Weott Community Services District (WCSD), many residents, staff, and the board walked away frustrated and unsure of the future of the WCSD. Tempers flared and voices were raised as confidence in the current WCSD board falters as the rural district finds itself in trouble after the unexpected death of their general manager/operator, Gary Neumann exacerbated issues that have been boiling below the surface of the quaint town situated between the Avenue of the Giants and the Redwood Highway.

Highlighting the issues that the WCSD face without a licensed operator and dwindling reserves, WCSD customers were given notice that the district is once again on a boil water notice; the second boil water notice since Gary Neumann's death at the end of August.

Currently, the board is operating with a board vacancy, with only one recent prospective candidate interested in filling the voluntary civic duty. Additionally, according to the Board Chairperson, Marcella Gauna, the district needs to hire at least three people to cover the duties that Gary had been handling on his own. Gary's widow, Julie Santibanez is the WCSD's Administrative Manager yet is overseeing the entirety of the district's operations with Interim Operator, Greg Teasley.

The short-staffed employees and board came under fire at their monthly meeting, just a day after the second boil water notice went into effect. The crowd, estimated to be between 30 and 50 residents of the small town that has 137 water service connections, voiced frustrations, sometimes loudly, about ongoing issues and what they see is the board's inability to address the issues brought to them.

One resident, Amber Allen, stated that she would be contacting the state water board first thing Monday to have the board removed and have the state take over. "We're going to have an appointed administrator …and do an audit and this will all begin on Monday," Amber stated. She said she'd be posting the contact information for residents to contact the State Water Resources Control Board on the post office bulletin board.

The Boil Water Notice / The Straw

The current boil water notice is in effect due to recent turbidity test results being outside of an allowable range determined by the state water board. Turbidity is the cloudiness or opaqueness of the water caused when particles of matter are suspended within the water sample. Due to the turbidity test results being outside allowable range, the WCSD issued a boil water notice on Friday, October 21st.

We spoke with board member Lou Iglesias about the boil water notice and the cause of the turbidity issues. Iglesias explained that several factors have accumulated to create the turbidity issue. WCSD is a gravity fed system from two springs on the west side of the Eel River. The water flows down the adjacent mountain, travelling under the river and up to the systems storage tanks on the east side of Highway 101.

The aging system is in need of serious infrastructure repair, often resulting in numerous leaks. One of the main lines has ruptured under the highway, making the efficacy of the gravity flow system in addition to the loss of water in the drought-ridden area. Due to the lack of gravity flow, the district has had to rely on pumps to get the water from the lower elevations to the upper elevations where the town's water supply is held.

According to Iglesias, the pumps have stirred up sediment causing the turbidity issue. Normally, coagulants are used to clarify water, clumping suspended matter together that is then caught in the systems filtration filters. However, the filters have to be backwashed due to the amount of sediment being caught in the filters, yet the district does not currently have enough water to backwash the filters; the district's water tanks are low due to the water leak.

Due to the location of the leak, the repair will be a big undertaking.

WCSD customers are advised to boil their water before use. The district has made bottled water available for those customers that need it.

Out of Compliance / The Rules

Public water districts are overseen by the State Water Resources Control Board. The state requires that public water districts have a certified licensed operator on staff. After Gary's unexpected death, the district was left without a licensed operator. Teasley stepped in to help the district out as a chlorine pump went out days after Gary's passing, initiating the boil water notice at the end of August, extending into September.

The district has been seeking a licensed operator to hire, speaking with neighboring districts, yet until now, they have yet to find a viable solution, thus remaining out of compliance with state requirements. The state as a whole has a shortage of licensed operators, something the water board is well aware of.

Barry Sutter, the regional supervisor for the SWRCB's Division of Drinking Water, wrote, "Small rural systems sometimes have a tough time finding a treatment operator with the right certification. It's especially difficult for drinking water systems that treat surface water, as in the case of the Weott system because a higher grade of certification is needed, requiring more expertise."

Regardless of the difficulty, the WCSD must find a licensed operator. In addition to speaking with neighboring districts and requesting help from the local Humboldt Workforce Coalition representative, the board contacted Dark Gulch Consulting, a firm in Fort Bragg. All three of those contacts bore fruition at the packed meeting on Saturday.

Leann Greene from Humboldt Workforce Coalition gave a short presentation to the board about the services HWC can provide in helping pair job seekers with employers as well as assistance with training programs and training cost reimbursement programs.

Dan Arreguin, the Chief Plant Operator for the Garberville Sanitary District was also in attendance and offered up his services as a licensed operator to train a candidate he had in mind for the WCSD.

Another option available to the district is to hire Dark Gulch Environmental Consulting who has licensed operators that could oversee the weekly testing to allow the WCSD to satisfy state requirements while a local operator is being trained and certified, similar to the offer Arreguin suggested.

The board addressed the need to publicly advertise for the employment vacancy, as was listed on the agenda, though it is unclear at this time if they'll be utilizing Dark Gulch, or assistance from Arreguin. Personnel discussions generally happen in closed session meetings.

The Finances / The Rub

Another issue facing the district is the lack of funds. Board member Allen Aitken, not present at Saturday's meeting due to illness, recently had to do the leg work to expedite the release of $20K from the WCSD savings account held by the county to cover expenses.

The district hasn't raised their rates in around 12 years Santibanez told us in a phone interview. Currently, the base rate for water and sewer is $102 a month.

For the month of September, the district's books show a deficit of nearly $17K. Part of that is due to the way payroll fell in addition to Julie being awarded Gary's September pay as a widow's benefit, resulting in a September recording of just over $18K in wages. According to Santibanez, monthly payroll usually averages around $7K.

Simply put, it is costing the district more money to run the system than they are collecting from their customers. The district's facing elevated operating costs as they have to repair and replace aging equipment as it fails, and lines bust. Additionally, the district has around $70K in outstanding customer debt, exacerbating the precarious financial position the district finds itself in.

Prior to COVID, Santibanez said the district had a fluctuating outstanding customer debt between $12K – $20K. Although the WCSD enrolled in the state's arrearage program that paid off debt incurred between specific times, Santibanez said that continuous non-payment on some accounts has kept the outstanding customer debt at around $70K. The arrearage program ended but the Low-Income Household Water Assistance Program (LIHWAP) will pay up to $2K per customer in past water bills for those that qualify. Santibanez said only a handful of customers have sought out help from the LIHWAP program but is planning on scheduling a date in November for a LIHWAP representative to come to Weott to assist in signing up residents with outstanding customer debt.

Some residents at the meeting questioned why the district had not shut off customers with outstanding account balances. A moratorium was in affect during the first two years of the COVID pandemic, restricting districts from disconnecting residential customers' utility services. Although the moratorium ended in February 2022, Senate Bill 998 which applies to water districts with 200 or more connections and those that accepted arrearage payments are required to offer payment plans to customers and prohibit disconnection before a bill is 60 days past due in addition to other stipulations.

Santibanez explained that there are customers with shutoff notices and some with payment plans where they are making monthly payments on their past debt in addition to their monthly service charges.

Compounding Issues / The Chaos

The lack of a licensed operator, an aging system, and the financial woes combined on Saturday afternoon into an explosive meeting where accusations were made, voices raised, and the gavel banged in an attempt to restore order on numerous occasions.

Without funds the district is hard-pressed to attract a licensed operator on their own, while paying a licensed operator to train a new operator so they may receive their certification will be costly.

The district's customers are already struggling to pay their existing bills and yet without a rate raise, the district will continue operating in the red. Customers at the meeting stated a lack of confidence in the financial reports Santibanez provided, questioning her on specific items, stating that until there's an audit and clear financial picture, the board should not raise the rates.

The lack of confidence extends to the water with customers concerned that a boil water notice is not enough and that their water is not safe for use at all.

In a phone interview today, Sarah Bradley, owner of Dark Gulch Environmental Consulting, stated that in her opinion, without a licensed operator and community concern about the water allegedly causing skin rashes, stomach issues, and even pet death, she'd be apt to place the district under a Do Not Use Notice.

Sarah stated that although her son and business partner had also run a turbidity test that came back out of range, they did not run any other water tests. Sarah agreed that the correct action for high turbidity is a Boil Water Notice.

Both Iglesias and Santibanez stated that although they do not have a licensed operator currently, they still do daily and monthly testing to ensure the safety of the water. At this point, the turbidity is the only test that showed a result out of state requirements and according to Santibanez, the most recent tests show the turbidity to be within the state requirements.

However, the boil water notice will remain in effect until the district can find a licensed operator in addition to meeting the state requirements.

Control

Amber Allen's statement that the state would be taking over the district by Monday was met with applause at Saturday's meeting. We reached out to Sutter, the regional supervisor for the SWRCB's Division of Drinking Water, about what that process would look like.

Sutter stated in an email response:

We've had a couple public water systems in Humboldt County that transferred ownership to a private company which is pretty straightforward from my point of view with respect to our permit process. We also had one system transfer from a private entity to a CSD. But, in my 22 years working with the Division of Drinking I'm not aware a single system that has gone into court ordered receivership in the five northern California counties that I've worked in.

If the district is transferred to a private owner or controlled by a court appointed receiver, there would be no elected board members. At this point that isn't happening.

What is occurring is a massive lack of confidence in the board and staff with a plethora of accusations swirling around the small community amplifying the distrust and frustration.

Iglesias, who at one point was shouting during the meeting, told us in a phone interview that he was out of line and regretted reacting to the myriad of accusations. He seemed deflated while stating that he joined the board to help his community but was unsure if the community wanted or appreciated his efforts at this point. The 69-year-old recognizes the problems and is attempting to find solutions as 1/4 of the board but is concerned that the stress of the dire situation may be too much.

Santibanez is also feeling stressed and attacked, admitting that she is "no accountant or bookkeeper" but is doing the best she can. She said that the books are in order, and she'll happily show them to any community member that wishes to see them. However, answering financial questions without her logs during a board meeting is not the appropriate place, she stated.

Iglesias and Santibanez both stated that they're willing and eager to have community input, Santibanez stating that customers can call her cell phone (707) 382-1944 to set up a time to go over the district's financials or customer bills.

Additionally, those wanting bottled water can also reach out to Julie on her cell phone. She said if she missed the call, to leave a message and she'd respond as soon as possible.

The next regular meeting of the WCSD board is scheduled for November 22nd at 7 p.m. located at the Community Center at 175 Lum Street in Weott.

This article is written by Lisa Music, a local freelance journalist.

California Department of Water Resources

Amid Climate-Driven Extremes in Weather, California Highlights the Importance of Preparing for Flooding, Even During Historic Drought

Published: Oct 24, 2022

DWR Director Karla Nemeth joins elected officials and regional leaders to celebrate the funding agreement for the Pajaro River Flood Risk Management Project.

SACRAMENTO, Calif. – The California Department of Water Resources (DWR) today commemorated the start of **Flood Preparedness Week, which runs October 22 through October 30**, by encouraging residents to prepare for flood season.

"While we are preparing for a fourth year of extreme drought, we still need to plan for swings between severely dry conditions and large storms and flooding," said DWR Director Karla Nemeth. "Just last year, December brought record-breaking precipitation to some parts of the state and was followed by the driest January, February, and March on record. That was a wake-up call for all Californians that we must prepare for both drought and flood conditions at the same time."

More than 7 million California residents are at risk of flooding, and many don't realize it. Flooding happens throughout the state, from rural communities to urban areas, at the base of hills and along the coast. Every California county has received a flood-related emergency declaration in the past 20 years. Flooding can also happen at any time of year and can still occur during drought.

Communities that are downslope of recent wildfires are also especially prone to flash floods and debris slides, and landscapes impacted by wildfires can take up to five years to recover. To prepare for flooding, all Californians should follow three basic steps:

- Be aware of your risk – know whether your home is downslope of a burn area; pay attention to weather forecasts; listen to local authorities.
- Be prepared – always have an emergency evacuation kit ready; be prepared to evacuate early; have a plan for where you will go in an emergency and what to do with your pets.
- Take action – subscribe to your local emergency providers to get updated information. Visit the National Weather Service webpage to get updated weather information for your community. If local authorities issue an evacuation order, do not delay, follow local guidelines for evacuation.

In response to the extreme climate conditions facing California, DWR awarded over $50.4 million to communities across the state for flood risk reduction projects and $26.5 million in funding from DWR's Coastal Watershed Flood Risk Reduction program. DWR Director Nemeth recently joined state and federal elected officials and local flood management officials to celebrate funding agreements for the

Pajaro River Flood Risk Management Project, a $397 million project that will increase flood protection and provide ecosystem enhancements, groundwater recharge, economic benefits, and recreation opportunities. DWR will continue to work with local communities across the state to provide support for multi-benefit projects that reduce community flood risk.

Later this week, DWR will join representatives from the Central Valley Flood Protection Board (CVFPB), the San Joaquin Area Flood Control Agency (SJAFCA), and the U.S. Army Corps of Engineers to tour the Smith Canal Gate Project and highlight the local-state-federal partnership to reduce flood risk for the Stockton metropolitan region. The project, for which DWR has committed $56 million, will provide 100-year flood protection for more than 8,500 properties in an economically disadvantaged area within the City of Stockton and is a critical part of the Lower San Joaquin River Project, a $1.4 billion effort to improve levees along the Calaveras and San Joaquin Rivers and build resilience to climate change impacts.

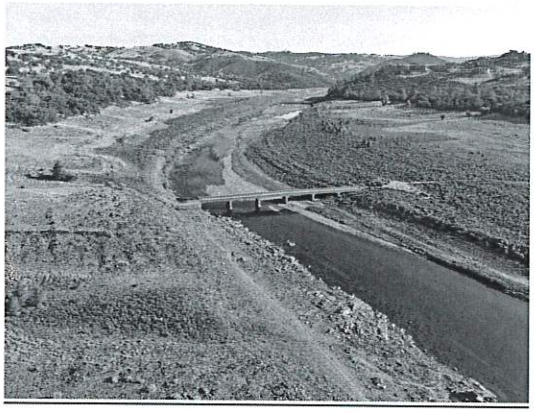
In the coming weeks, the CVFPB will adopt the 2022 Update to the Central Valley Flood Protection Plan, California's strategic blueprint to improve flood risk management in the Central Valley. Updated every five years, the CVFPP has guided over $4.1 billion in state investments and funding commitments.

As highlighted in Governor Newsom's "Water Supply Strategy for a Hotter, Drier Future," California is experiencing large swings between drought and flood, and due to climate change those swings could become more severe. Last week, DWR hosted a symposium to highlight the need to prepare the state for flooding even during a drought, gathering scientists, water policy experts, and members of communities impacted by drought and floods for a conversation about building climate resiliency, including in the state's water and flood management systems.

CSU San Marcos
Ask the Experts: Drought and Climate Change in California

October 25, 2022

By Brian Hiro



The effects of severe drought can be seen at Folsom Lake near Sacramento, where an old bridge that historically has been submerged under 40 feet of water is now exposed. Stock photo

California's water year begins every Oct. 1, and as this month started, the state put a distressing cap on the driest three-year period in its history.

Alarming signs of drought are everywhere, from the early loss of snowpack in the Sierra Nevada mountains to fields of crops lying fallow to mandates imposed by water agencies throughout California. And there's no end in sight: Initial forecasts are that the state could see a third straight year of La Niña conditions, in which desperately needed precipitation is scarce.

What sometimes feels like permanent drought is perhaps the most visible manifestation of the ravages of climate change on California, but there are plenty of others – heat waves, more frequent and intense wildfires, even (paradoxically, given the overall lack of rain) flooding.

To delve into this new normal, we turned to Tihomir Kostadinov and Elizabeth Ridder, two Cal State San Marcos geography professors. They specialize in different areas – Kostadinov in marine science and Ridder in human-environment relationships – but they both spend much of their time thinking about the effects of drought and climate change on the place they now call home.

Question: I've lived in the San Diego area for more than two decades, and in that time I've experienced many years of drought and other years where we got a lot of rain and snow to make up for previous shortfalls. But now, the sense I have is that drought is becoming kind of a permanent condition of life here. Do you have a similar sense of what we're facing?

 Elizabeth Ridder: Drought tends to be a temporary condition. And there are different ways of defining what we mean by drought and whether it's short-term or long-term – it can be short but very intense, or it can be prolonged and not quite as stressful on the ecosystem. It does seem that California, in general, is shifting toward changing precipitation type. In the Sierras, for example, the timing of precipitation is changing as well as the form, so instead of snowfall, more rainfall, which has knock-on effects later in the year. When rivers and ecosystems and people rely on that snowmelt, well, the water is already gone to the ocean.

We've had quite a few droughts; Mediterranean environments have them. But they are becoming slightly more severe. We had that one from 2015 to 2018 that was a 1,200-year record. So, yes, it's been dry before, but we're seeing it be dry more frequently. We're seeing it not just as meteorological drought, where there's a lack of precipitation, but also as an agricultural drought, where soil moisture is lost and has impacts on vegetation. And, of course, with California being really reliant on its agriculture, we're seeing a lot of politics around that change in water.

Tihomir Kostadinov: We're in what you might call a megadrought. This is the 22nd year of it, going back to 2000. The last two years were really bad, and this year is proving to be not good so far. It started off OK – the Sierra Nevada had some record snowfalls in December, then later during the normal times when it snows, we didn't get that much. So the snowpack was low at the end of the year and it was very erratic, which brings me to this: Variability is expected to increase with climate change – bringing both big droughts and big floods, and general variability of what's called the water cycle. Increases in climate extremes are the general pattern coming with climate change, and observations in the news lately are consistent with that.

ER: To that point about variability, Death Valley received almost all of its annual rainfall over a period of 48 hours in August. All the roads were washed out, a lot of the park was closed down. It doesn't get much rain, but when it gets it all at once, we see things like flash flooding that goes along with more intense thunderstorms and the soil not being able to soak it all up fast enough. Those kinds of disasters could be more frequent in the future.

Q: On that subject, there was a study released in August with dire predictions about a megaflood that could hit the entire state and cause unimaginable damage. Did you read about that?

 TK: Yes, and the chances of it are increasing. Something that occurs only once in 100 years normally, with climate change is expected to occur maybe once every 20 or 30 years. Instead of once in a human lifetime, it might occur three times and destroy properties, agricultural fields and other infrastructure. These are the atmospheric rivers that affect us in the winter, that can dump a lot of rain over a short period of time and the Scripps Institution of Oceanography has a special team that's studying just those. So yes, ironically, at the same time we're dealing with a megadrought, we might get a megaflood as well. Everything in the Earth system

is interconnected. That's what we teach in our classes – everything on our planet, including the human system and the economy, is interconnected with each other.

Q: Liz, you mentioned earlier the threat of drought to agriculture. I saw a story recently that, in terms of major crops, California is expecting 30% lower yields in the next year than even a couple of years ago. What will that mean long term? What will it do to the availability of food?

ER: As it gets warmer, plants aren't as efficient, just like people. They have these little pores on the underside of their leaves, and they shut those to prevent water loss. But that also means they can't cool off because it's that evaporation of water that helps cool down plants, similar to our evaporation of sweat. So they reach this threshold, and you start to see plants dropping leaves earlier than you would expect, because that internal water is not enough.

Our agricultural industry is $50 billion per year, and about 80% of our water is allocated to agriculture. When we're in droughts, they start to shunt water around our state in different ways, which diverts it from things like marshlands, other ecosystem services, maybe restoration sites. In terms of agriculture, California's economy is going to slow as we're experiencing water shortages, variable precipitation, lack of reliance on Sierra snowmelt. The citrus will probably stay, but we're going to have to start growing things that are less water intensive but also can handle the increased heat. When you're both limited by water and have increased temperatures, then there are some serious issues in terms of the vegetation.

Megadroughts and megafloods are going to have serious impacts on agriculture production and on people's livelihoods at the industry scale. But also, day to day, the jobs of agricultural workers are going to become riskier in terms of the conditions under which they work. There are health impacts to those sorts of changes as well.

Q: What do you think are some ways that Californians need to change to develop water resiliency in the face of persistent drought conditions?

ER: People hate it, but lawns. We spend a lot of money and a lot of time and effort maintaining these green fields. Grasses here don't grow like that. If you look around, the native grasses are brown and dry in the summertime. So using all that water to maintain lawns is wasteful. That said, households aren't the major user in our state. It's going to have to be at the industry, agricultural level in terms of how we reduce our water consumption.

TK: Humanity as a whole needs to learn not to waste things – water, energy and everything else really. I'm not an expert on agriculture. I can't tell you whether they can or how they will adapt to drought on the agricultural side. But in terms of households, we need to look at things like lawns and other ways to conserve water.

The other way to adapt would be desalination. Our area has a desalination plant, and we get a third of our water from it. But it has its own host of issues, which teaches us a lesson: There's no free lunch. Everything that we do on the scale that we want to do it to achieve the comfort that we want to achieve for eight to 10 billion people is going to be challenging, and it's going to have global effects. Something has to give, and maybe we have to give up some lifestyles. Just as an example, I'm from Europe and I miss certain foods, so I eat imported food, and a lot of it comes from somewhere half a world away. California has to reconsider all these exports that are water heavy. We grow a lot of alfalfa that is watered with California water, but it is exported somewhere else. That means exporting water in some sense as well. These things need to be reconsidered, just like everything else around climate change.

Q: I'm glad you mentioned desalination. For years, there has been a big push to build another one of those plants in Huntington Beach, but this summer the proposal was rejected. Do you think more of those facilities should be built in California?

TK: After several global events in the last two or three years, I saw how important it is to be independent locally, to the extent feasible and reasonable, with the basics, which include medicine and food and energy. My opinion is that it's better to produce your own medicine and food and have water locally, too. So unless we all want to move from here, I think we need to desalinate some water in Southern California and carefully assess how to deal with the salt that's left behind. The very salty water that is left is called brine, and that brine can wreak havoc on local ecosystems when it's released in large quantities. But in the larger scheme of things, this sounds like a solvable issue to me – you can probably figure out more easily what to do with this extra saltwater than what to do with the CO_2 in the atmosphere.

Plus, only certain areas of the planet will need desalination. Some areas will get wetter, actually. The outlook in Southern California is uncertain long term, until 2100. It probably will be drier, but predicting rainfall is much harder and less certain than temperatures.

Q: But however long this current drought lasts, it will have an end date?

ER: Based on how drought is defined, yes. We'll either have multiple years of precipitation or it will recharge groundwater or streams to counter the hydrological drought or the soil pores will again become saturated so then we're out of agricultural drought. It depends on which scale you're looking at. But at some point, we can say, 'OK, this drought is over because we've met whatever conditions that term it so.' That doesn't mean it's wetter; it just means that we've managed to go over that threshold of not being in lack of precipitation.

Going back to desalination, the other thing that we have in San Diego that I don't know if people know about is the Pure Water recycling system. I know it freaks people out, but it is sewage recycling. I got to tour the facility before the pandemic, and Pure Water has this crazy set of filters and different ways that they treat the water that it basically meets drinking water quality. But then they dump it back into one of our reservoirs, and it goes through the reservoir system. And then they treat it again before they send it out to people. That recycling can be improved. The water that comes out of your dishwasher, your tub, your kitchen sink – that all can be used to water other things, like your grass. The hard part is getting the permits that allow you to recycle this water on your own property. But it would be a great use, because not only is it watering your plants, it's helping keep that soil moisture and all those other hydrological functions up without just sending it down the sewer system. Yes, it eventually goes back to the ocean, but you can use it in multiple stages, which would reduce how much water we're using from the reservoirs and how much water we need to desalinate. So it lessens the stress on other systems.

TK: Everybody would like to drink mountain water instead of recycled water. But we need to learn how to recycle water more and perhaps capture more of it. Maybe we should have better dams to collect the local rains, from atmospheric rivers when they come by and other rainfall, instead of letting the water run out to the ocean and then worrying about how to desalinate it. Things in nature recycle, and the ecosystems provide these things for us. If we mess them up or we go to a place where they are not sufficient for our population, then we run into issues, a little bit like trying to send people to Mars.

Q: Tiho, what did you make of the recent report that the melting of the ice sheet in Greenland will cause almost a foot of sea level rise?

TK: I'm not a specialist in that area, but glacial science is very complicated. What's important to understand is that this issue has many nonlinearities, just like a lot of things in climate analysis. If, say, 100 tons of ice have melted over the last decade somewhere, it definitely does not mean that another 100 will melt over the next decade. There can be an explosive tipping point, and the system can rapidly accelerate its change. There are many factors involved. The thing that few people think about but is really critical for ice on our planet is that it affects how mirror-like our planet is, how reflective it is. The more ice and snow we have, the more reflective

the planet is, keeping it cooler than it otherwise would be. Once we start melting areas in Greenland or Antarctica, the whole planet is going to warm more on top of what it already is doing by virtue of the fact that ice is replaced by something darker. That's called the ice-albedo feedback. Albedo is the reflectivity of the planet, meaning how much of solar light that hits our planet is reflected back to space as a mirror and doesn't participate in the warming of the planet. Imagine Earth covered completely in a perfect mirror. Then it would not warm at all; it would be at absolute zero, like space. Instead, the planet is using 70% of the solar energy that falls on it; the rest is reflected.

Q: You're painting a pretty frightening picture of additional warming on top of the already dire warming.

TK: I was impressed and also a little bit scared when I learned about student climate anxiety. Our students get genuinely concerned and even depressed, I believe more so than I do. I think the planet as a whole is fine. It has had severe climates in the past multiple times; the dinosaurs lived in a very different climate than we do, and CO_2 then was much higher than what it is now. But when the planet has changed a lot, species have disappeared a lot. And in the end, the concern is about humans. The planet as a physical entity will be fine. Some species will survive, some will not, as it has always been that way in the past. But human suffering and the inequalities behind it are a big concern. For me, I'm more concerned about the effects on agriculture, probably because I like food a lot. In addition, there is of course the big concern of unnecessary animal suffering and species extinctions and biodiversity loss caused by the actions of humans.

ER: Tiho and I see a lot of environmental studies students who think about environmental problems a lot already. They're thinking about justice questions – who has access to what, who will be able to weather the storm or not, who has more capacity. Living in California, they already are seeing themselves as being priced out of a place, having to choose maybe between owning a home or having a family. On top of all the injustice issues, they're thinking about, "Is this all going to collapse around me? How are we going to feed 8 billion people on the planet? How do we address these inequalities?" Climate anxiety, justice issues – our students are really thinking hard about these things, how to address them and what kinds of decisions are coming at them in the next five to 10 years.

Q: I can only imagine because I feel that kind of anxiety, too. I assume you feel really sympathetic to what they're going through.

TK: It's more intense with them, which I understand better now that I've been here more years and I understand my students better. But at first, I was surprised that they seem more concerned about these things than I am as an environmental scientist who studies these things and is deeply concerned about them. But they are more directly anxious about it – which is good and bad at the same time.

Q: Good that they're conscious of the problem, but bad for their mental health, right?

TK: I have to think harder about what to tell them. Something along the lines of what I said earlier: The planet is fine, but we have to be concerned about human well-being and many other species. It's very hard to stay positive, but good changes are coming, even if it doesn't look like they're coming fast enough at this stage of affairs, the way I see it. For example, 30% to 40% of electricity in California is now made by renewables, and if we can move farther in that direction, that's a big win. Plus the news that only electric vehicles will be sold here starting in 2035, which is not that far away.

ER: I teach a climate change course, and I'm a little sarcastic and grim in general. I tell my students, "The planet will be fine until the sun burns out or the interior of the earth completely solidifies and stops rotating." In thinking about climate change or droughts, humans haven't been on the planet that long. We have huge capacity for change, huge capacity for innovation, for all kinds of generosity. Very few organisms have

engineered their environments to the degree that we have in such a short time and been so successful. The human footprint is everywhere. So I guess that makes me hopeful that, in such a short time, we've come to a certain place and we can look back and say, "Shoot, we did a bunch of stuff wrong, but what can we do moving forward is far more fascinating than thinking we just messed everything up."

In the past, technological changes and scientific endeavors really didn't put human inequities and justice questions at the center. But I think we're putting those at the center now, which will change a lot of different ways of organizing ourselves on the planet.

Q: What are some ways that climate change is affecting the landscape and vegetation of San Diego County?

ER: It's mostly in invasive species. Some of the vegetation here, like chaparral, generally has very shallow root systems. It can capture water quickly, even small amounts of water, should we have any rainfall. But when there is prolonged drought, those plants don't have a deep tap root to get into some of that deeper soil moisture or water resources. So they tend to die out and get replaced by things that can deal with that over time. It's mainly the transition from shrub lands to grass lands, and that increases fire vulnerability to have non-native grasses that are browning and helping carry fuel loads. Getting rid of invasive species can do a lot of fire hardening.

Q: Let's say you were appointed U.S. climate czar for a day. What's the first thing you would do?

TK: I know it's not very popular to say this, but it would be something like a nationwide ban on leaf blowers, for example. First, because I hate them; they're completely useless machines. Second, because their kind of engine is worse than many cars because cars have a lot of cleaning systems. Leaf blowers are very dirty and very sound-polluting, though at least the electrical ones are much better. That's a small thing. A bigger one is everyone driving more efficient cars or switching to electric, like is happening in California but nationwide. Or some kind of regulation that existing power plants have to capture their CO_2 in some way, even if it costs more and we as a nation absorb the cost. But I don't know if there's one silver bullet.

ER: I would upgrade our transportation system. Funding things like high-speed trains is expensive, but it's more expensive to do nothing in the long run. You might think, "How can we afford all that?" We can't afford not to. You'd need a really savvy PR individual to convince people that the cost of delaying is much greater than the cost of making our communities the communities we want. Lots of us want public transportation, lots of us want cleaner air and water, lots of us want these societal goods. Is it going to be expensive? Yeah. Does it mean some of us might have to change? Oh yeah.

TK: Inertia is a huge problem. How can we change existing infrastructure? It's very, very difficult and costly and hard to convince people to do things. And of course, we all enjoy the positive sides of suburbia. But sometimes I wish there was a place I could walk out and get a snack.

OCTOBER 25, 2022 BY Water Finance & Management STAFF

Fitch report: Drought could eventually pressure some California water agencies

According to a new report from Fitch Ratings, drought conditions across California have not triggered rating changes thus far for water agencies, although some agencies could be susceptible to rating pressure over time.

Despite its second, severe, multi-year drought in a decade worsened by the Colorado River drought, Fitch says California utilities are well-positioned to take on more debt to finance water reliability or other resiliency projects. The main reasons are low leverage, robust liquidity and, according to Shannon Groff, director at Fitch, history on their side.

"California utilities successfully weathered a similar set of circumstances during the 2012-2016 drought by increasing rates, changing rate structures to capture higher fixed costs and prioritizing water reliability projects," says Groff.

That said, the capacity for additional debt is not unlimited. Over time, Fitch says, California utilities will lose cushion necessary to take on added debt if rate pressures and affordability concerns begin to limit revenue defensibility, and skyrocketing water supply costs increase operating risk.

"As the need for more debt to implement necessary capital projects grows, ratings could be pressured", says Groff. "This may leave agencies with already high rates that rely on imported water for a large portion of their water supply particularly susceptible to negative rating actions."

The full report "Drought Augurs Risks for California Water Agencies" is available at 'fitchratings.com.'

CALIFORNIA

(Mel Melcon / Los Angeles Times)

BY DORANY PINEDA STAFF WRITER

OCT. 24, 2022 5 AM PT

As drought drives prices higher, millions of Californians struggle to pay for water

Approximately 13 million Californians living in low-income households bear the brunt of higher water costs.

Several months ago, Rosario Rodriguez faced a financial dilemma that has become all too common for millions of drought-weary Californians — either pay the electric bill, which had skyrocketed to about $300 during a scorching summer in western Fresno County, or pay the $220 combined water, sewer and trash bill.

"Our water is expensive, even though we can't drink it because it's contaminated," Rodriguez said in Spanish.

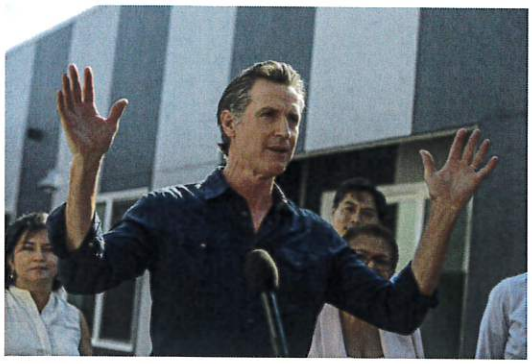
In the end, Rodriguez opted not to pay the electric bill from May to July, knowing she could get help from the Fresno Economic Opportunities Commission, a local nonprofit. No such assistance that she knew of was available for water, however.

For a family of four living off $25,000 a year, a water bill of more than $200 a month is an economic burden. Now, with 1 in 10 California households falling into arrears on water payments, calls are mounting for the state to step in and help.

"If we had a water discount, we'd have a little extra money for food or to buy our daughters clothes, shoes and other things they need for school," said Rodriguez, whose family rents a home in the rural, unincorporated community of El Porvenir.

The Rodriguez family is among an estimated 13 million Californians living in low-income households who bear the brunt of soaring water costs, experts say.

Although the state has declared that all residents have a right to clean, safe and affordable drinking water, officials have yet to make good on that promise.



Most recently, Gov. Gavin Newsom vetoed Senate Bill 222, legislation that would have required all California community water and wastewater systems to offer rate assistance to residential water customers.

In his veto letter, Newsom said that while safe and affordable drinking water was a top priority of this administration, the program lacked a source of funding. "Signing this policy would result in significant General Fund pressures in the billions of dollars to continuously provide such assistance," he said.

The veto came as a blow to water affordability advocates, who say the governor had vastly overestimated the cost of the program.

"This is both an environmental and racial justice issue," said Michael Claiborne, directing attorney for the Leadership Counsel for Justice and Accountability. "The state has said a lot of good things in terms of commitment to addressing environmental and racial justice, but I think this is another example where we, as a state, have fallen short and need to do more."

Across the state, water utility prices are escalating faster than other "big ticket" items such as college tuition or medical costs, according to David Mitchell, an economist specializing in water.

"Cost containment is going to become an important issue for the sector in the coming years" as climate change worsens drought and water scarcity, he said.

The price of water on the Nasdaq Veles California Water Index, which is used primarily for agriculture, hit $1,028.86 for an acre-foot on Oct. 20 — a roughly 40% increase since the start of the year. An acre-foot of water, or approximately 326,000 gallons, is enough to supply three Southern California households for a year.

Mitchell said there are short- and long-term factors contributing to rising water costs.

Long-term factors include the replacement of aging infrastructure, new treatment standards, and investments in insurance, projects and storage as hedges against drought.

In the short term, however, drought restrictions play a significant role. When water use drops, urban water utilities — which mostly have fixed costs — earn less revenue. They adjust their rates to recover that revenue, either during or after the drought.

"So it's not right now a pretty picture," Mitchell said.

As rates climb statewide, water affordability will only become a bigger challenge for many Californians.

Adjusting for inflation, the average family was paying 45% more per month for water in 2015 than in 2007, according to a 2020 report by the California State Water Resources Control Board. It's a financial burden that disproportionately affects low-income and Black, Latino, Indigenous and other households of color.

A recent survey on the COVID-19 financial impact on water systems and customers found that 12% of California households were behind on their water bills, with an average debt of $500 per household. Statewide, Californians owe $1 billion; of that, $600 million was specifically for drinking water. The debt was most acute in Los Angeles.

Elizabeth Hicks, a Willowbrook resident, fell behind on her water bills a few years ago. She had lost her job as a banker and was making $300 a month sitting on the board of directors of her local water district. She received financial assistance from the city, and a couple of years later had bounced back.

Although her monthly water bill now is fixed at $67.84, Hicks is starting to worry again as water prices continue to rise — not only for herself and her husband, but also for her community.

Willowbrook and Compton, its southeastern neighbor, have some of L.A. County's worst affordability challenges — and a history of receiving discolored, contaminated water.

"It's a disadvantaged community," Hicks said. "We have senior citizens and certain individuals that cannot afford to pay their bill. ... I don't want to see my community go more into debt."

Kelsey Hinton, communications director for the Community Water Center, said that "with everything getting more expensive because of inflation, because of COVID, because of the status quo right now, that is only going to increase as we continue moving forward."

Average water bills vary considerably across the state, with water systems reliant on groundwater tending to have lower rates, while smaller ones usually have higher costs because system investments are pricier.

Every month, families like Rodriguez's must choose between bills to pay and are left wondering whether they'll have enough money left over for other household expenses and needs like prescriptions, child care or school supplies.

Though state programs exist that offer ongoing support for other utilities and essentials (CalFresh and the California Alternate Rates for Energy, for example), the California Water and Wastewater Arrearage Payment Program, enacted in response to the pandemic, and the Low Income Household Water Assistance Program offer only one-time funding assistance for indebted households.

"So even if their debt gets wiped out today, there's nothing available to keep you from accruing more debt in the future," Hinton said.

Even then, water companies must choose to participate in the arrearage programs; those who don't exclude their customers from financial aid. But not everyone who can benefit from these programs has access to them. People without legal status are often left out.

Lauren Ahkiam, director of the Water Justice L.A. Campaign, said households that have their water shut off because they can't afford the bill are vulnerable to larger problems: liens can be put on their homes or children can be taken away if there's no running water in the household.

"Even if the water bill isn't the largest portion of someone's expenses, the way that it can trigger public health concerns for folks or snowball into other impacts to a family that's already struggling, that's really concerning to us as well," she said.

Although water affordability concerns are part of the larger issue of poverty, advocates said that legislation like SB 222 would mitigate the financial burden of rising water prices.

"The evidence is overwhelming of the need," said Gregory Pierce, co-director of the Luskin Center for Innovation at UCLA. Even if the bill lacked funding, signing it would have been an important step "to get the work started," he said.

But state Sen. Bill Dodd (D-Napa), who introduced SB 222, said he wasn't surprised it was rejected, given Newsom's history of vetoing bills without a funding source.

"It was one of those bills that me and my fellow legislators passed through both houses that didn't have funding attached, and we were hoping to get funding attached, but at the 11th hour, with other needs, that funding melted away," he said.

Dodd and a coalition of affordable water advocates said the governor's office overestimated the program's annual cost.

The water board's report estimated the program would have cost approximately $200 million a year, not the billions referenced in the veto letter.

Even so, many water agencies opposed the legislation, expressing concerns over the program's proposed enrollment process.

Cindy Tuck, deputy executive director for government relations for the Assn. of California Water Agencies, which represents more than 460 public water companies, said the way the program divided state and local

responsibilities "would drive up administrative costs unnecessarily and waste money that could be going to help low-income households."

As the state works to create more resilient water systems, experts said the issue would only get worse, and that delaying solutions would put more people at risk of losing access to water.

ACWA, Dodd and affordable water advocates said they would continue to work closely next year with the governor's office and the state water board to find funding for a long-term water assistance program.

"The writing's on the wall," Pierce said. "Water prices are going up for the next several decades, so we need some assistance program in place like we have in so many other sectors. Water is pretty much the first service that the government can and should provide."

California Special Districts Association
Districts Stronger Together

2022 HIGHLIGHTS

INVESTMENT OPTIONS FOR SPECIAL DISTRICTS

NEW CSDA MEMBER PROGRAM LAUNCHED: CALIFORNIA CLASS INVESTMENT OPTIONS FOR SPECIAL DISTRICTS

California CLASS provides special districts and other public agencies with a convenient method for investing in high-quality, short-to-medium-term securities carefully chosen to provide for safety and liquidity while still maximizing interest earnings. California CLASS provides districts with a comprehensive, professionally managed approach to investing, a dedicated client service team, and a user-friendly and secure online transaction portal. Learn more: www.californiaclass.com

CHARTING OUR PATH FORWARD

A LOOK AHEAD – CSDA'S PATH FORWARD

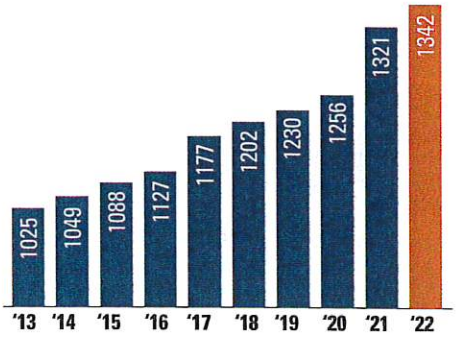
The CSDA Board of Directors met for a strategic planning session to develop priorities and updates to the existing CSDA Strategic Plan. The CSDA Board of Directors approved the 2023-2025 CSDA Strategic Plan on September 16, 2022.

A few common themes of the plan:

- Continued Growth in Membership
- Focus on Member Engagement
- Leader in Content & Resources
- Prioritize Advocacy for All Types of Districts – Quality over Quantity
- Continue Progress & Growth in National Efforts

MEMBERSHIP GROWTH

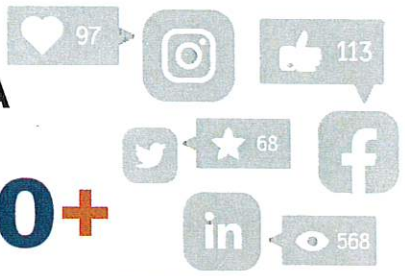
CSDA membership numbers continue to grow, with more than 70 new organizations joining our ranks in 2022.



MEMBERSHIP

70+ JOINED CSDA IN 2022

SOCIAL MEDIA REACH
68,000+



18
CSDA BOARD MEMBERS BRINGING LOCAL PERSPECTIVES
from across the state to your association

DEDICATED STAFF
in Sacramento and throughout CA serving members of all types and sizes
29

NEWLY REVISED BROWN ACT COMPLIANCE MANUAL

25
CSDA Affiliated Chapters

BUSINESS AFFILIATES

Diamond Level
- California CLASS
- CSDA Finance Corporation
- Special District Risk Management Authority

Platinum Level
- Atkinson, Andelson, Loya, Ruud & Romo
- Best Best & Krieger LLP
- Liebert Cassidy Whitmore
- Richards Watson Gershon
- Umpqua Bank

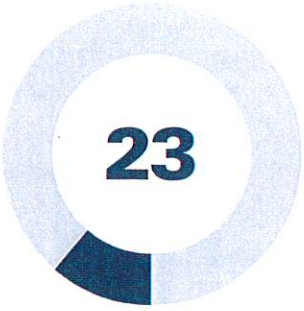
LEGISLATIVE ADVOCACY

2021-2022 Legislative Session

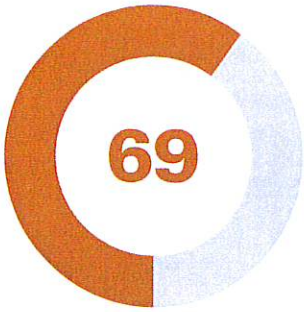
5,129
Reviewed State Bills

1,498
Adopted positiond on State Bills

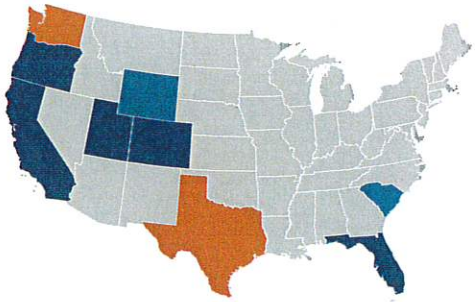
224
Directly Lobbied on State Bills



Of the 101 bills opposed by CSDA, only 23 have become law.



Of the 123 bills supported by CSDA, 69 became law.



NSDC
NATIONAL SPECIAL DISTRICTS COALITION

Key:
- Founding Members (CA, OR, UT, CO, FL)
- New Members (WY, SC)
- Associate Members (WA, TX)

Founding Member of
National Special Districts Coalition
- CSDA extends NSDC resources and benefits to all CSDA members
- Adopted positions on 23 Federal Bills
- Produced a national report investigating community gaps in fire suppression infrastructure, after engaging with a 24-member working group from nine states
- Fielded 78 requests through the NSDC "Project Idea Portal" facilitated by CSDA endorsed affiliate, The Ferguson Group, and shared access to funding opportunities

2022 ACCOMPLISHMENTS: THE VOICE OF SPECIAL DISTRICTS

Cyber Security Legislation:
- Avoided unnecessary reporting & data handling mandates
- Allowed new efficient technologies
- Advocated for resources and improved information sharing

Blocked CEQA expansion that could negatively impact critical projects

Local Revenue:
- Prevented diversion of millions of dollars in property tax revenues away from special districts.
- Protected impact fee revenues critical to special district infrastructure
- Led special district response to proposed statewide ballot initiative that could devastate local revenues and services

Brown Act:
- Guidance on emergency remote meetings
- Supported allowances for Board Member remote meetings
- Protected orderly meetings that avoid administrative delays

Stood against efforts to limit the local control of leases and impose severe new penalties related to surplus land decisions

LEGAL

REPRESENTING SPECIAL DISTRICTS IN THE COURTS

CSDA seeks positive legal outcomes for special districts by filing amicus curiae (or "friend-of-the court") briefs in cases of interest that could impact special districts' governance or operations.

12

Actively tracked 12 cases in the Courts of Appeal and California Supreme Court involving legal issues affecting special districts.

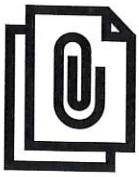
Issues addressed in CSDA amicus briefs include:

- California Public Records Act
- Special Benefit Assessments
- Rate-setting under Proposition 218
- Employer Liability Insurance

Learn more online at: www.csda.net/advocate/legal-advocacy.

Filed four (4) briefs on behalf of special districts as of September 2022, with another 2 pending for filing by year end.

4



PROFESSIONAL DEVELOPMENT

821 attendees
84 exhibitors

Largest total Annual Conference & Exhibitor Showcase attendance ever

35

In-Person and Virtual Workshops

36

New webinars offered in 2022

7,300+

Trained (live + on-demand)

85

On-Demand Webinars available

3,400+

Viewers

Conferences

7

THE MALIBUE TIMES

MALIBU LIFE

Malibu Couple makes water from thin air

By Jimy Tallal

October 29, 2022

Laura Doss-Hertz's and David Hertz's company Skysource produces fresh drinking water via a novel source: air. Photo courtesy Nikola Bradonjic.

With climate change accelerating, drought is becoming the norm in the west as our rivers, aquifers, and reservoirs dry up; we need not only to take water conservation seriously, but to start looking at alternative sources of water. The mobile water generator being developed by David Hertz and Laura Doss-Hertz's Skysource company produces fresh drinking water via a novel source: air.

David and Laura split their time between the western hills of Malibu on a property called Xanabu and their Paradise Cove mobile home park "surf shack." Both are lifelong surfers. David is a third-generation Malibu native — his grandfather and father built the western town at Paramount Ranch (which is now being rebuilt after the Woolsey Fire).

He's also a well-known architect in the local area with 40 years of experience building sustainable and fire-resilient buildings. "Buildings that give back more than they take," as he explains it. He designed the famous 747 Wing House in Malibu using the wings of an out-of-commission 747 airplane to "address radical reuse and repurposing." He also designed the recently completed Natural Resource Defense Council (NRDC) facility in Santa Monica.

David's invention, the WEDEW (Wood to Energy Deployable Emergency Water) is a mobile self-contained system that generates fresh drinking water from the air. It does this by converting wood (or any biomass like grass, walnut and pistachio shells, dead trees, or brush) through a process known as "biomass gasification." The plant material fed into the system is superheated into water vapor, which is then condensed into drinking water.

The system's smaller unit can consume as much as 50 pounds of plant materials per hour and the larger unit over 2,000 pounds per hour.

Two other byproducts useful to humans are also generated in the process: electrical power and "biochar" (charred plant material that can be used as fertilizer, compost, a water filter, or even graphene).

The entire system, made up of one-quarter-size shipping containers, includes not only the water pod, but options for a battery storage pod, an indoor growing pod, and a refrigeration module. It all fits into a single 40-foot transport container.

A WEDEW unit generates enough electricity to power at 25 kilowatt hours a large house or a small community, and recharges phones and other electronics, in addition to producing 2,000 liters of drinking water every 24 hours at a cost of two cents a liter. As a comparison, customers paying Tier 3 rates to the LA Department of Power & Water now pay about one-quarter cent per liter. So, water from air costs only a fraction more than city water, but significantly less than bottled water (which averages from $1 to $3 per liter). But after a disaster or during a drought or water shortage, it appears to be a good viable alternative to not having any water at all.

Hertz envisions multiple WEDEW units being set up side-by-side in what he calls "Community Climate Resilience Hubs," where "they're in a steady state of self-reliance, but in the event of a disaster or drought, can be rapidly deployed to other locations ... These will be particularly beneficial in the developing world where competition for resources, especially water, is a threat multiplier with increasing climate change."

In addition, the biomass gasification process can run 24/7, unlike solar power, and occupies a much smaller area than solar panels. And because biomass fuel is available almost everywhere for free from the leftovers of crop harvesting, forest thinning, brush clearing and natural disasters; it's cheaper, more sustainable and less harmful to the environment than using diesel generators to power the process.

In 2020, WEDEW and the World Food Program formed a partnership to bring the water generator to a refugee camp in Uganda as well as several communities in Tanzania. The invention has also won a number of prestigious awards over the past four years: this year, the White House Millennium Council gave it the Cooper Hewitt — Smithsonian Design Museum National Design Award. In previous years, it won the *Time* magazine Best Inventions of 2020, the 2019 Fast Company World Changing Ideas Award, the 2018 World Technology Network World Technology Award, and the 2018 Water Abundance XPRIZE, winning $1.5 million and beating out over 100 teams from 27 countries.

The Resilience Lab, based in Venice Beach, evolved from David's architectural firm and the couple's company, Skysource. The Skysource team is made up of a group of architects, engineers, entrepreneurs, university students, and nonprofits, all dedicated to fresh water. Hertz recently created The Resilience Fund with two general partners, investing in emerging climate technologies; and has also formed the nonprofit Resilience Foundation to deploy the WEDEW to communities in need.

"The WEDEW is currently deployed in select rural sites in California on a case study and pilot plant basis, and funded mainly by grants from agencies like the California Energy Commission and Cal Fire," Hertz wrote in an email. "It's in an advanced stage of product development. The next step is to test on a larger scale for rapid deployment in a disaster... But we're still seeking additional funding for advancing the technology and deployment."

The proposed business model for the project is to offer WEDEW as a [word missing] , partnering with local nonprofits in an area, to avoid making a community pay upfront for it. Another possible business model is to simply sell the water and power that's generated for a small profit, which could be shared with the community and/or investors.

Wine Enthusiast Magazine
October 31, 2022
BEVERAGE INDUSTRY ENTHUSIAST

Wineries Embrace Worms in the Fight to Conserve Water

BY MELANIE HAIKEN


GETTY IMAGES

Laura Díaz Muñoz, winemaker and general manager at Ehlers Estate in Napa Valley, is passionate about worms. They factor deeply into the notable focus on sustainability at Ehlers, a 130-year-old, certified-organic, family-owned property. It all begins with water.

"We're installing a new water treatment system that uses worms to process the wastewater, and I'm really excited about it," Díaz Muñoz says. "It will allow us to treat all the wastewater we use in our facility without chemicals and produce water that's clean enough to irrigate the vineyards and the landscaping."

Indeed, Diaz Munoz is one of many winemakers and growers in California and throughout the West who are discovering that worms make a surprisingly effective ally in the quest to buttress winery operations against climate change.

At Ehlers, the unusual process comes courtesy of Chilean environmental engineering startup Biofiltro, a pioneer of vermifiltration—aka worm-based biofiltration—in the form of the company's patented Biodynamic Aerobic System (BIDA). Harnessing the digestive power of millions or even billions of earthworms together with beneficial microbes, the system removes up to 99% of contaminants without the need for chemicals, Biofiltro claims.

Feeding on the grape skins, seeds, sugars and other organic compounds in winery gray water, the worms generate nutrient-dense worm castings, a rich source of fertilizer. Best of all, the worms work their magic in a matter of hours with little energy required, unlike the most common rival system, aerobic filtration ponds, which typically draw power from the electric grid to pump and circulate the water.

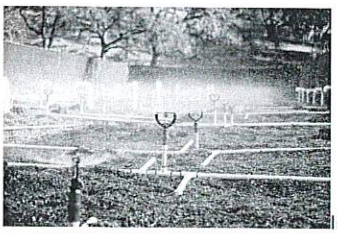


IMAGE COURTESY OF BIOFILTRO

Looking Toward the Future

With all but one of the past 11 years classified as drought years, and with 2020 and 2021 on record as the second-driest two year-period in California since record-keeping began in 1895, it's no wonder that concerns about water are top of mind for growers. After all, vines aren't the only things that need

water. The entirety of the wine production process is water intensive. Water footprint studies show that it can take as much as 120 liters of water to produce just one glass of wine.

At Ehlers, Díaz Muñoz believes the BIDA system will be a key component of the winery's strategy for coping with drought and rising temperatures, as well as efforts to serve the growing number of visitors who come to savor the winery's vintages in the high-ceilinged stone tasting room.

"Water is the number one resource that we need to be concerned about, that's for sure, and we want to make sure that the water that goes back into the soil is the best quality possible," Díaz Muñoz says.

"It's not just about farming, there's the social aspect of being a good steward of the land and member of the community. At the end of the day, we're pumping groundwater and we all need to do our share to conserve it and make sure it lasts."

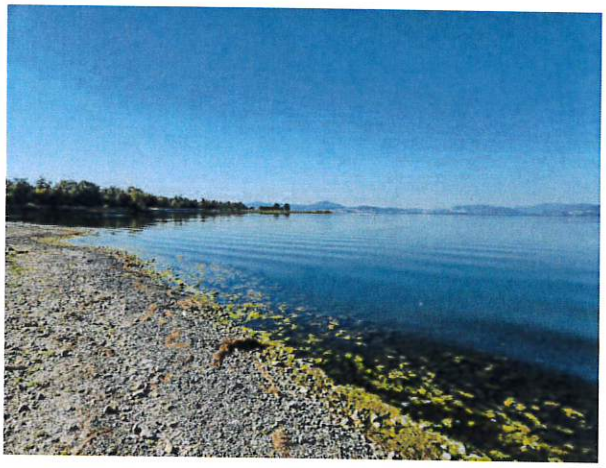
Lady of the Lake: About algae
ANGELA DE PALMA-DOW

16 OCTOBER 2022

Dear Lady of the Lake,

The lake is always green and there is so much algae, it's everywhere. We are visiting another lake this weekend, will there be algae there too? How do we find out?

— Asking about algae



Dear Asking,

Thank you for asking this question, it's timely and very important! There is also a lot of confusion around "algae" and what is commonly mistaken for algae. What you are probably concerned about is actually cyanobacteria. However, what you are noticing about your lake happens every summer, and not just in Clear Lake, but in other places around the state, around the Country, and around the world.

Now it's important to recognize that algae is not cyanobacteria, and cyanobacteria is not algae. They may look similar to us standing on the beach or a boat, but they actually originate in different biological kingdoms. Cyanobacteria are as different to green algae as a mushroom is to a horse — they are not similar at all! They just happen to inhabit the same space — water.

Cyanobacteria belong in the Bacteria/Monera kingdom and green algae, or phytoplankton, belong in the protozoa kingdom.

For more information on the biological kingdoms and why algae and cyanobacteria are separated into different kingdoms, I recommend the Wikipedia page on Kingdoms. This page really does a good job discussing what is classified in each kingdom and some of the history of classification.

Before we go on, let's review a few things.

Clear Lake is full of life, so it's important for us to understand all that lives in the lake for us to understand what we are concerned about and what potential solutions are, and what their impacts might be on all things in the lake.

One: aquatic plants (or macrophytes) grow in the water, some are rooted in the lake sediments at the bottom and some are not rooted, and are free-floating.

Two: Green algae are microscopic plants (sometimes called phytoplankton) that are the primary fish food in the lake. Clear Lake is very green - that is from the green algae and that is why we have a world class fishery and people come from all over to catch record-sized fish living in the lake. The phytoplankton, or green algae is why Clear Lake is called "A Living Lake" as the productive green algae can sustain abundant life. In contrast, Lake Tahoe does not produce that much green algae because it is cold and dark, and does not have a work class fishery or as much life as Clear Lake.

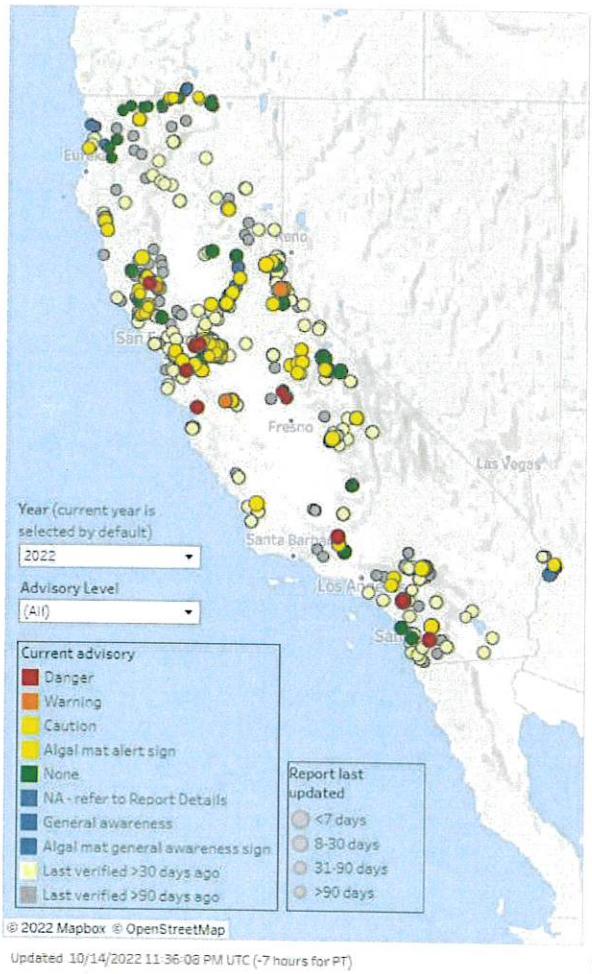


Figure: Map of cyanobacteria blooms (i.e. HABs) voluntarily reported to the State of California HABs Monitoring Network. The map is interactive and allows users to select advisory level filters to identify if water bodies of interest are currently experiencing a concerning bloom event.

For more information on Algae in Clear Lake, visit the "County of Lake Algae in Clear Lake" webpage.

Three: Cyanobacteria, which are sometimes called blue-green algae, are not really algae, but bacteria

that live in the water alongside green algae. Cyanobacteria is also the culprit behind the "Harmful Algal Blooms, or HABs" colloquial. Cyanobacteria is NOT a preferred food source for fish. Sometimes when cyanobacteria populations grow in great numbers (called blooms) they can produce toxins that can cause public health hazards (hence their reference as Harmful Algal Blooms or HABs).

For more information about cyanobacteria, visit the "County of Lake Cyanobacteria" webpage.

So when someone states that they want to get rid of all the algae, that is usually not what they mean. The green algae is really, really important for our lake's food web. It's the base of the food web and if it was all removed, we would see the collapse of the entire food web. From fish, otters, to birds, to all the living things that depend on green algae feeding fish. We would also see the elimination of our world class fishery.

Macrophytes, algae, and cyanobacteria all conduct photosynthesis, meaning they turn sunlight energy and carbon in the air into both oxygen and food energy or starch to grow. For macrophytes, algae, and cyanobacteria, the three main nutrients they rely on for growth are carbon, nitrogen and phosphorus.

Carbon and nitrogen are very abundant in the atmosphere and water, carbon in the form of CO2 and nitrogen in the form of N2 (gas) and any animal or plant waste or breakdown product in the water.

Phosphorus is least common, therefore phosphorus is the main driver of growth, because it's normally least available, so it's what limits growth of macrophytes, algae, and cyanobacteria. It's not surprising that in Clear Lake, there is abundant light, warm temperature, and plentiful food nutrients. When the lake has excess phosphorus, we get excess growth of plants, algae, and cyanobacteria.

For more detailed information about Cyanobacteria in Clear Lake, refer to my first Lake of the Lake column from July 11,2021, "Concerned about Cyanobacteria in Soda Bay."

For Clear Lake, there is a comprehensive cyanobacteria monitoring program managed by Big Valley EPA and other tribal partners. They have a website with most recent monitoring data posted. They sample about 20 sites every two weeks in the summer and every month in the winter. Results are also posted on the Facebook page called "Clear Lake Water Quality". Red pins mean DANGER levels have been found and it's recommended to not go into the water in that area. Orange pins mean WARNING, and yellow mean CAUTION. Green pins mean no cyanobacteria toxins have been detected in the sampled water from that area.

Cyanobacteria is not just a Clear Lake problem

As conditions around the country and the world change, cyanobacteria blooms are becoming more prevalent. Monitoring and reporting is also more widespread across the state and country. For example, here in California HABS data can be reported and shared on the My Water Quality HABS portal as part of the California Water Quality Monitoring Council.

On the California HABs portal is a link to a HAB Incident Reports Map, which provides data on voluntarily reported blooms in California. The data may include reports under investigation and/or confirmed incidents of HABs, but it's a good visual to see what conditions are in water bodies in different parts of

the state.

This site also provides a satellite freshwater HABmap <https://fhab.sfei.org/> tool developed by San Francisco Estuary Institute (SFEI). This map displays estimated amounts of cyanobacteria in large water bodies calculated from satellite imagery. The map includes approximately 250 water bodies in California large enough to be detected by the satellite. It is designed as a screening level analysis tool to indicate past 10-day aggregate conditions.

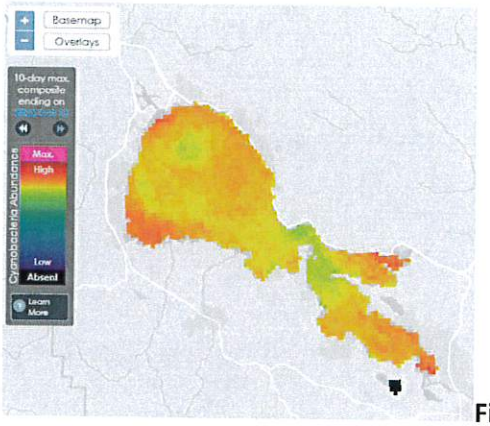


Fig. San Francisco Estuary Institute developed a satellite tool that compiles 10-day bloom abundance in freshwater bodies throughout the state of California. Website is https://fhab.sfei.org.

By exploring these tools, it becomes evident, and quite obvious, that cyanobacteria issues extend beyond Clear Lake, and are now becoming more frequent in other water bodies throughout the state.

The use of these tools in making informed decisions when recreating on or in freshwater is invaluable. Before planning a water excursion, you can see what current bloom conditions are in a lake of interest, and can use that knowledge to stay safe while enjoying the lake.

Cyanobacteria and HABS beyond California

Just this summer around the country, for example, there have been numerous reports of lakes or beaches closing due to harmful blooms. Here are a few examples from states like Colorado, New York, Michigan and Nebraska. This summer, lake monitoring revealed harmful cyanobacteria bloom conditions across the Country, further demonstrating that cyanobacteria is a serious issue that extends beyond Clear Lake and requires both state and national focus and attention.

Here are few:

A drinking water reservoir in Colorado was closed due to cyanobacteria bloom in August.

Ulster waterways had to issue warnings to the public after cyanobacteria bloom occurred.

In Michigan, throughout July and August, numerous lakes were reported and confirmed to have cyanobacteria blooms.

And as recently in September, in Nebraska, five lakes were under a health alertafter testing confirmed cyanobacteria abundance above health triggers.

Therefore, it's important to be aware of conditions when visiting any freshwater water body, whether it's located close to you or miles from home. Much like when you visit the ocean, you look for signs warning of rip currents, tides, or dangerous marine wildlife. When visiting freshwaters, keep aware of any posted signage.

Cyanobacteria blooms don't always impact entire lakes or streams, and there can be areas that are less concerning, however you might have to spend a little time doing some research to find the monitoring data online from a local or state source. Every year more and more states are conducting monitoring and providing public health information so everyone can stay safe while enjoying their favorite lake, near or far.

— Sincerely Lady of the Lake

The CDC is a great resource for learning more about potential health impacts of cyanobacteria, what to look for, and how to protect you, your kids, and pets, when recreating in freshwaters.

Angela De Palma-Dow is a limnologist (limnology = study of fresh inland waters) who lives and works in Lake County. Born in Northern California, she has a Master of Science from Michigan State University. She is a Certified Lake Manager from the North American Lake Management Society, or NALMS, and she is the current president/chair of the California chapter of the Society for Freshwater Science. She can be reached at LadyoftheClearLake@gmail.com.

McKinleyville renews search for self-enlightenment

November 03, 2022

Jack Durham
Mad River Union

MCSD MICROGRID This new solar array powers the McKinleyville Community Services District's Wastewater Treatment Plant, located near Hiller Park. Photo via MCSD website

MCKINLEYVILLE – McKinleyville leaders want more information and more input into decisions that affect the unincorporated community.

This was made clear during the first-ever joint meeting of the McKinleyville Community Services District (MCSD) Board of Directors and the McKinleyville Municipal Advisory Committee (McKMAC) on Oct. 26. Fifth District Supervisor Steve Madrone, who represents Humboldt County's largest unincorporated town, described the meeting as a "momentous occasion."

It was an opportunity for the two entities to discuss their roles and responsibilities in helping shape the town's destiny in the absence of a traditional city government.

They also discussed numerous upcoming projects, including the creation of a McKinleyville Community Forest, a BMX track, a giant water tank and the replacement of sewer and water lines under Central Avenue. They also received an update on the status of the draft plan for the McKinleyville Town Center.

'Re-initiate the culture'

One the issues McKinleyville grapples with is not having information about county projects taking place in town.

An example was the road widening project this past summer on Central Avenue between Bartow and Bella Vista roads. The project closed down half of McKinleyville's main thoroughfare for months, resulting in traffic delays.

The project caught many residents off guard, with no warning that the southbound traffic would be diverted to School Road.

In order to keep the community better informed, the McKMAC recently sent a letter to the Board of Supervisors requesting that the McKMAC receive monthly updates from Public Works and the Planning Department about projects in town.

McKMAC member Greg Orsini, who is also a MCSD director, said that the McKMAC used to receive those updates, but that ended when the pandemic started.

"I think that COVID really put a monkey wrench in the works," Orsini said. "A lot of those balls got dropped."

The McKMAC and the MCSD need to "re-initiate the culture" of county departments consulting with McKinleyville when projects are in their conceptual stages, Orsini said.

MCSD Director Dennis Mayo agreed, noting that the town should be consulted well before something is placed on the agenda of the Board of Supervisors. "We need to be at the beginning," Mayo said.

A seat at the table

As an unincorporated community, McKinleyville is also at a disadvantage when it comes to representation on the Humboldt County Association of Governments (HCOEG), a joint powers authority that helps decide where money is spent for roads and other transportation projects.

All of the incorporated cities in Humboldt County, including Arcata, Trinidad, Blue Lake, Eureka, Ferndale and Fortuna, have a representative on HCAOG's board. The closest thing McKinleyville has to a representative is the county representative, which is a Humboldt County supervisor.

Third District Supervisor Mike Wilson is the county's current rep on HCAOG. Next year it will be Madrone.

Years ago, the MCSD lobbied HCOAG for a seat on the board, but was rejected. One of the reasons for the rejection is that the MCSD has no authority over roads.

Madrone said he would lobby on behalf of McKinleyville, but getting a seat on the board would be a challenge.

"It is a huge uphill battle,"Madrone said. "I will go to bat for you."

Town Center

One of the major projects that the McKMAC has been working on since 2019 is the creation of a McKinleyville Town Center plan.

McKMAC member Kevin Dreyer noted that the planning process has been delayed.

"We have definitely lost momentum on the town center project," Dreyer said.

Madrone responded "Momentum will pick up again real soon."

The amended text for the McKinleyville Town Center plan will be brought back before the McKMAC in a month or so, Madrone said. The Board of Supervisors has also approved $200,000 in funding to prepare an environmental impact report for the plan.

Community Forest

The MCSD is continuing its work on obtaining a McKinleyville Community Forest, a 553-acre stretch of land on the east side of town that extends from Murray Road to Hunts Drive.

The Trust for Public Land received a $3.8 million state grant to buy the property from Green Diamond and will ultimately transfer the property to the MCSD.

MCSD Manager Pat Kaspari said the MCSD is working on obtaining easements to access the property. There are two access points on Murray Road. The district is also exploring access routes on First Road and East Cochran Road.

Kaspari said the MCSD may obtain the forest sometime next year.

BMX track

A master plan is being created for a BMX track and park on 3.1 acres located near School Road and Washington Avenue.

That plan will come back before the MCSD for review and construction may take place at the end of 2023 or early 2024.

The park will include a BMX track, two pickle ball courts, a basketball court, a playground, parking lot and bathrooms.

Water tank

In the summer of 2023, the MCSD plans to build a 4.5-million-gallon water tank on Cochran Road on the south side of town. The $8 million project will be paid for with grant funds.

The tank will provide the town with additional water in the event that an earthquake or other disaster ruptures its supply line that crosses under the Mad River and connects to the Humboldt Bay Municipal Water District. The MCSD currently has enough storage to provide the town with water for about 2 1/2 days. With the new tank, the town will have five to seven days of storage.

Sewer & water lines

Next year, the MCSD will replace sewer and water lines on Central Avenue between Sutter and Hiller roads.

The sewer line is located along Central Avenue's northbound lane on the edge under the bicycle lane. The sewer pipes were installed in the 1970s and have a lifespan of about 50 years. They are deteriorating and could fail if they are not replaced.

The MCSD will use what's called a Cured-in-Place-Pipe (CIPP) lining method which allows the pipes to be relined without digging them up.

The water line runs down the second northbound lane. However, the existing water pipe will be kept where it is, with a new line placed in the center turn lane. This will require digging up the center turn lane to create a trench for the new water pipe.

"We're going to get a good dry run for road dieting," joked Orsini, referencing a controversial proposal to reduce traffic lanes in downtown McKinleyville.

Solar array

Kaspari also talked about the MCSD's 500 Kw solar array at its wastewater treatment plant near Hiller Park. The array includes 1,458 solar modules that power the entire treatment plant.

"We've been spinning the PG&E meter backwards for a couple of months," Kaspari said. "This is going to be a direct cost savings for the district."

The solar system was paid for with a $2.5 million grant and a $2.5 million loan.

The MCSD also has a 712 KWH Battery Energy Storage System that still needs to be hooked up. This will allow the plant to operate at night using power from the solar panels.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095
OFFICE 707-443-5018 ESSEX 707-822-2918
FAX 707-443-5731 707-822-8245
EMAIL OFFICE@HBMWD.COM
Website: www.hbmwd.com

BOARD OF DIRECTORS
SHERI WOO, PRESIDENT
NEAL LATT, VICE-PRESIDENT
J. BRUCE RUPP, SECRETARY-TREASURER
MICHELLE FULLER, DIRECTOR
DAVID LINDBERG, DIRECTOR

GENERAL MANAGER
JOHN FRIEDENBACH

October 14, 2022

Reviewing Officer: Jennifer Eberlien, Regional Forester
USDA Forest Service
Via Email: objections-pacificsouthwest-regional-office@usda.gov

RE: Mad River August Complex Restoration Project #60286
Kristen Lark, Mad River District Ranger
Mad River District

Dear Ms. Eberlien,

We are writing to express our objections to the above referenced project. We incorporate herein our previously submitted scoping comments made in our July 26, 2021 letter.

Ruth Lake is the source water for approximately 88,000 individuals in Humboldt County. As such, we have a vested interest in the management of the Upper Mad River Watershed which is the headwaters for our Ruth Lake reservoir. Our primary concerns are the negative water quality impact from soil erosion and sediment migration to the lake. The R. W. Matthews dam, which impounds Ruth Lake reservoir is classified as a High Hazard Dam by the Federal Energy Regulatory Commission. In addition to water quality, we are concerned about large woody debris from the wildfire and hazard trees causing a blockage of the dam spillway which could potentially result in over topping of the dam causing loss of life and detrimental impacts to the populations downstream of the dam.

Although we are generally supportive of the Mad River August Complex Project, we are concerned that the project is not moving quickly enough and is not extensive enough to protect the critical resources of the water quality and the dam. We therefore object to this project based on the lack of a timeline that delineates treatment implementations that will protect these critical resources. Additionally, we object to this project based on the proposed treatments. In particular, the proposed reforestation footprint is not being applied to a sufficiently large portion of the Forest Service lands within the Mad River Watershed to restore the hydrological headwaters conditions that existed prior to the August Complex wildfire. The reasons for these objections are that the current project will not adequately restore the ecological workings of the headwaters forest to restore high water quality and quantity that existed prior to the wildfire.

All of these concerns were raised in our project scoping letter dated July 26, 2021.

We respectfully propose the following remedies. We want the Forest Service to commit to expanding treatments to cover a larger effected land base within the Mad River Watershed and Headwaters in a timelier manner. We want the Forest Service to commit to the removal of hazard trees and large woody debris that threatens to enter the waterways and affect the security of the dam infrastructure. No tree removal was done by the Forest Service after the Baer Complex fires of 2015 in the Ruth area. And part of that area was fuel for the August Complex fire. Finally, we want the Forest Service to commit to the reforestation of affected land that will act to stabilize soil and mitigate sediment migration to the lake.

We appreciate the opportunity to comment on your project.

If you have any questions, please do not hesitate to contact us.

Respectfully,

John Friedenbach
General Manager

John Friedenbach

From: Ruth Lake Leaseholders <[redacted]@gmail.com>
Sent: Monday, October 31, 2022 2:16 PM
To: Ruth Lake; John Friedenbach; [redacted]
Cc:
Subject: Ruth Lake Leaseholders Liability Insurance Coverage

Ruth Lake Leaseholders Association

Ruth Lake Leaseholders Association
Jennifer Rich
Dave Saunderson
Jennifer Boak
[redacted]@gmail.com

October 31, 20022

Humboldt Bay Municipal Water District
PO Box 95, Eureka, CA, 95502-0095

Ruth Lake Community Services District
12200 Mad River Rd, Mad River, CA 95552

To whom it may concern,

In reference to the proposal of raising the leaseholders liability insurance coverage we'd like to convey our opinion on the matter to the boards of both Ruth Lake Community Services District and Humboldt Bay Municipal Water District.

As the current Ruth Lake Leaseholders Association Representatives we support an increase of up to $500,000 liability insurance coverage. While we understand insurance experts do recommend a minimum of $1 million in umbrella liability, we support that as a strong recommendation (many leaseholders already have that in place) however we don't support it as a requirement at this time.

Please don't hesitate to contact us with questions or comments.

We appreciate for all you do for the Leaseholders.

Regards,

Jennifer Rich
Dave Saunderson
Jennifer Boak

John Friedenbach

From: Environmental Services Department <eservices@cityofarcata.org>
Sent: Wednesday, November 02, 2022 11:01 AM
To: friedenbach@hbmwd.com
Subject: Arcata Annie & Mary Trail IS/MND circulation

Dear John,

Thank you very much for your involvement thus far in the City of Arcata's Arcata Annie & Mary Trail Connectivity Project. The City of Arcata intends to adopt a Mitigated Negative Declaration for the project described below and would like to specifically inform HBMWD.

The City of Arcata proposes to construct approximately 3.5-miles of Class I bike path with highway overpass and trailhead improvements through north Arcata and the unincorporated County. The Project is located along an inactive segment of railroad corridor within the Great Redwood Trail Agency right-of-way and properties held in fee, between Sunset Avenue and Humboldt Bay Municipal Water District's Park 1 on West End Road. The Project would provide a safe walking and biking route from the existing northern terminus of the Humboldt Bay Trail at the Arcata Skate Park to the Valley West neighborhood, the Aldergrove business park, and the Mad River. In addition to safety and connectivity improvements, the trail would provide opportunities for nature study and recreation.

An Initial Study/Mitigated Negative Declaration was prepared and is being circulated by the City of Arcata Environmental Services Department as Lead Agency. The City will accept comments on the Draft Initial Study-Mitigated Negative Declaration from November 2 until December 2, consistent with Section 15105 of the California Environmental Quality Act (CEQA).

The environmental document may be reviewed online at https://www.cityofarcata.org/831/Annie-Mary-Trail-Connectivity-Project or at the Environmental Services Department at Arcata City Hall, 736 "F" Street, Arcata, on weekdays between the hours of 9:00 a.m. and 5:00 p.m. Comments on the IS/MND can be submitted to the City by letter (for mail or hand delivery) to Environmental Services Department located at 736 F Street, Arcata, CA 95521 or email eservices@cityofarcata.org.

In addition, the City of Arcata's Parks and Recreation Committee will be discussing this project at their Wednesday, November 9th 6:00 p.m. meeting. The agenda for that meeting can be found at: http://arcataca.iqm2.com/Citizens/default.aspx. An Annie & Mary Trail Pop-up Event will be held on Thursday, December 1st from 10:00 a.m. to 2:00 p.m. at the Arcata Skate Park, located at 900 Sunset Avenue.

Thank you.

Environmental Services Department
City of Arcata
736 F Street
Arcata, CA 95521
Phone: (707) 822-8184
Fax: (707) 825-2116
www.cityofarcata.org
eservices@cityofarcata.org

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

To: Board of Directors

From: John Friedenbach

Date: November 10, 2022

Subject: Water Resource Planning (WRP) – Status Report

The purpose of this memo is to summarize recent activities and introduce next steps for discussion.

1) **Top-Tier Water Use Options**

a) **Local Sales**

i) Nordic Aquafarms – The project continues to move forward.

ii) Trinidad Rancheria mainline extension. The Rancheria submitted a letter to CalTrans requesting approval to place a waterline on the Highway 101 bridge crossing Little River.

b) **Transport**

See copy of DWR's Current Reservoir Conditions as of October 24, 2022.

c) **Instream Flow Dedication**

The committee reviewed the narrative for the project description. The draft narrative is attached for director review and comment.

office@hbmwd.com

From: Don Allan
Sent: Tuesday, October 18, 2022 6:44 PM
To: office@hbmwd.com
Subject: Little River Trail Project and Trinidad Rancheria water line extension

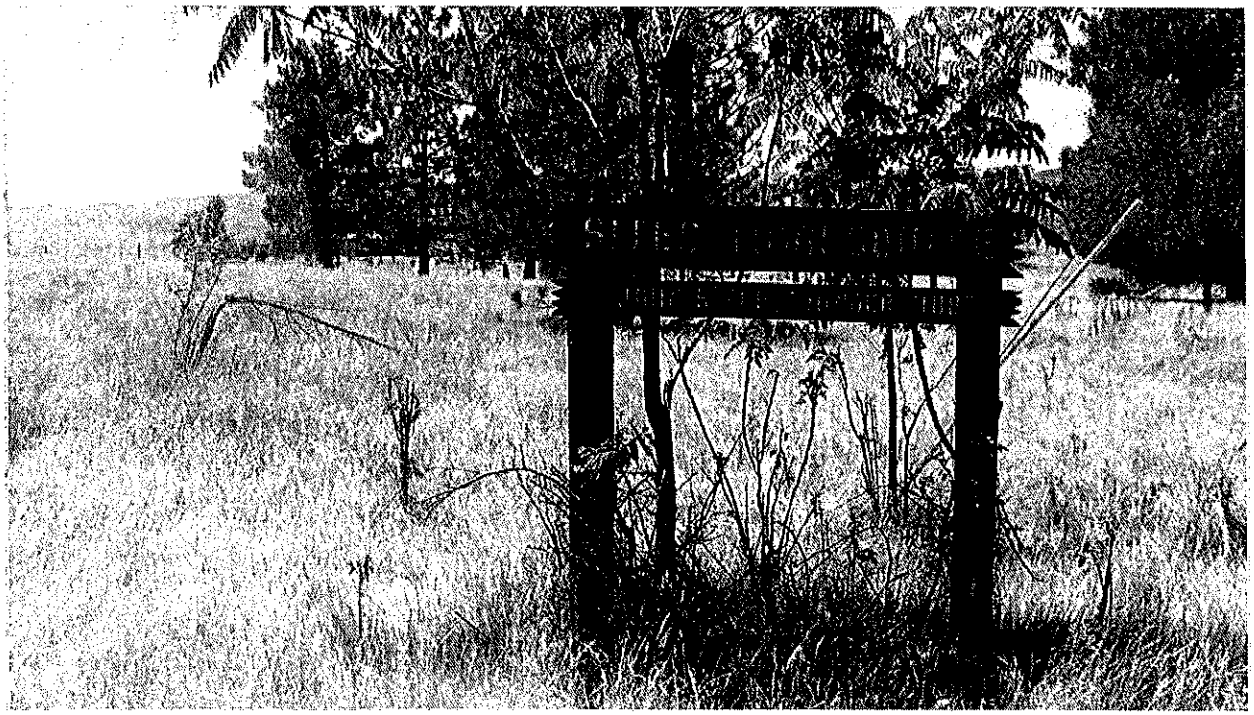
Please forward this email to the staff (manager John Friednbach) and board of the HBMWD.

I strongly oppose combining the Trinidad Rancheria water line project with the Little River Tail Project. I was a co-author of the Little River Trail Feasibility Study (RCAA 2014). I have been advocating for the completion of this section of the CA Coastal Trail for the past 20 years. I am also a board member of the Trinidad Coastal Land Trust and TCLT has been a strong advocate for the trail extension, including acquiring a 15-acre property along the trail corridor and the likely location of a trailhead at the south end of Scenic Drive. The trail will have universal support whereas the water pipeline is extremely controversial and will likely result in appeals and law suits that could cause years of delay. Combining two very different projects with totally different goals will not help the trail project and will in fact have a negative effect and will bog it down. The current planning is occurring under a State Coastal Conservancy grant to the Redwood Community Action Agency. The Conservancy recognized that providing funding for preliminary designs and permitting would expedite the completion of the design and permitting required for the project. Including the water line will negate that expedition. Please do not try to combine these two projects.

Don Allan,
Westhaven

KRCR ABC 7
Biden administration dedicates $30M for Sites Reservoir project

by Ashley Gardner
Monday, October 17th 2022



FILE - Dry grass surrounds a sign denoting the Sites Town Square on Friday, July 23, 2021 in Sites, Calif. The sign is one of the few remnants of the once bustling town anchored by a sandstone quarry. The town would be underwater as part of the planned Sites Reservoir. The reservoir would be used to store water during wet years for use during droughts and would be large enough to supply 1.5 million households each for one year. (AP Photo/Adam Beam)

REDDING, Calif. — A much-anticipated water storage project in northern California received a major financial commitment from the federal government Monday.

According to the Bureau of Reclamation, the Biden Administration has committed $30 million from the Bipartisan Infrastructure Law to the Sites Reservoir project.

The money will be used to pursue off stream storage capable for up to 1.5 million acre-feet of water in the Sacramento River system located in the Coast range mountains west of Maxwell, California. The reservoir would utilize new and existing facilities to move water into and out of the reservoir, with ultimate release to the Sacramento River system via

"In the wake of severe drought across the West, the Department is putting funding from President Biden's Bipartisan Infrastructure Law to work to expand access to clean, reliable water and mitigate the impacts of this crisis," said Secretary Deb Haaland. "Water is essential to every community – for feeding families, growing crops, powering agricultural businesses, and sustaining wildlife and our environment. Through the investments we are announcing today, we will advance water storage and conveyance supporting local water management agencies, farmers, families and wildlife"

The Bipartisan Infrastructure Law allocates $8.3 billion for Bureau of Reclamation water infrastructure projects over the next five years to advance drought resilience and expand access to clean water for families, farmers, and wildlife.

The funding for Sites is part of a $210 million investment by the administration in drought mitigation and resilience projects.

Narrative Summary for Humboldt Bay Municipal Water District Petition for Change

Introduction

The Humboldt Bay Municipal Water District (HBMWD or "the District") provides water on a wholesale basis to municipal and industrial customers in the Humboldt Bay area, and on a retail basis to a few hundred retail customers. Located in Humboldt County, the District's wholesale municipal customers include the cities of: Arcata, Blue Lake and Eureka; and the Humboldt, McKinleyville, Manila and Fieldbrook-Glendale Community Services Districts. Via the wholesale relationship, the District serves a population of approximately 90,000 in the greater Humboldt Bay area, or about 2/3 of the region's population.

The District's water system is comprised of a reservoir (Matthews Dam impounding Ruth Lake), a small hydro plant at Matthews Dam, and the natural Mad River channel that runs approximately 75 miles downstream to various facilities at Essex. At the Essex Facility, the District operates five Ranney wells that supply municipal and industrial customers, a turbidity reduction facility, a disinfection system, and a surface diversion station that historically provided untreated water to two pulp mills. One mill ceased operation and water demand in 1994, and the second mill ceased operation and its water demand in 2009. Since 2009, the District has been operating the hydro plant by releasing water as if the second mill was still operating. This has resulted in greater than natural flow in the summer in the 75 miles of river between Matthews Dam and Essex, which is permitted under the District's current water rights. "Natural flow" is defined in the District Habitat Conservation Plan (HCP) as: Essex diversions + flow below Essex, at USGS gage, + inflow into Ruth Lake at USGS Zenia gage – flow release at Matthews Dam flow gage.

The additional water benefits aquatic organisms and habitat in and along the river corridor downstream of the dam. These releases do not impact or affect any senior water rights holder, as determined by the District's Water Injury Analysis (Appendix B).

This Petition for Change is a request that the District be able to continue these releases by adding to its existing purposes of use for instream purposes of preserving or enhancing fish and wildlife resources. Without adding this purpose of use, the District could be required to cease releasing the additional water over and above its municipal and industrial demands (current beneficial uses), which would be detrimental to aquatic organisms and habitat.

The District currently holds three post-1914 appropriative water rights on the Mad River (Appendix A). They are:

- Permit No. 11714 issued on March 16, 1959, which provides storage of 100,000 acre-feet from about October 1 to April 30, diversion methods and uses, and a fish protection release schedule.
- Permit No. 11715 issued on March 16, 1959, which provides direct diversion of 200 cfs year round and 20,000 acre-feet to storage from about October 1 to April 30, diversion methods and uses, and a fish protection release schedule. Permit No. 18347 issued on September 25, 1981, which provides diversion and storage rates for operation of the 2-MW hydroelectric generation

facility at Matthews Dam.

On February 28, 2007, the State Water Board (dated February 28, 2007) approved a permit time extension from 2009 to 2029 (Appendix A). The order also reduced the amount of water subject to appropriation as follows:

- Permit 11714: Storage of 48,030 acre-feet from October 1 to April 30.
- Permit 11715: Direct diversion of 116 cfs year round and 20,000 acre-feet to storage from October 1 to April 30.
- Total annual diversion under Permits 11714 and 11715 not to exceed 132,020 acre-feet per year.

The bypass and minimum flow requirements in Permits 11714 and 11715 are incorporated into the District Habitat Conservation Plan. [INSERT BRIEF SUMMARY OF HCP]

In 1981, the Federal Energy Regulatory Commission (FERC) granted Exemption No. 3430 for the 2-MW hydroelectric plant at Matthews Dam. The District has a contract to sell "as available" energy and capacity to PG&E. The District does not operate the plant as an electric "peaking" facility, nor does the District "ramp" its flow releases (i.e., dramatically change flow in a short period of time in response to power needs). Power production is incidental to the District's water supply function.

The District's water supply infrastructure is described in greater detail here (Figure 1). Near the top of the Mad River watershed, the District operates a small reservoir (Ruth Lake, storage capacity 48,000 acre-ft), Matthews Dam, and a small 2-MW hydroelectric facility. The reservoir generally fills quickly each year, usually after the first two or three major storms in the fall. After it fills, the District generally releases water through the hydroelectric facility penstock and over the ungated spillway, and flow is described as "run of the river." Water continues to flow approximately 75 miles downstream to the Essex Facility, where the District operates five Ranney wells for municipal and industrial water use and a surface water diversion for industrial water use. Downstream of the Essex Facility, water flows approximately 9 miles to the Mad River estuary and Pacific Ocean. Essex is a point of re-diversion under Permits 11714 and 11715 and a point of direct diversion under Permit 11715.

During the late spring and throughout the summer, discharge over the spillway ceases and flows in the Mad River are from tributary contributions and releases from Ruth Lake through the hydro plant. The District releases water to meet its municipal and industrial demands, minimum flow environmental requirements, and to incidentally generate electricity.

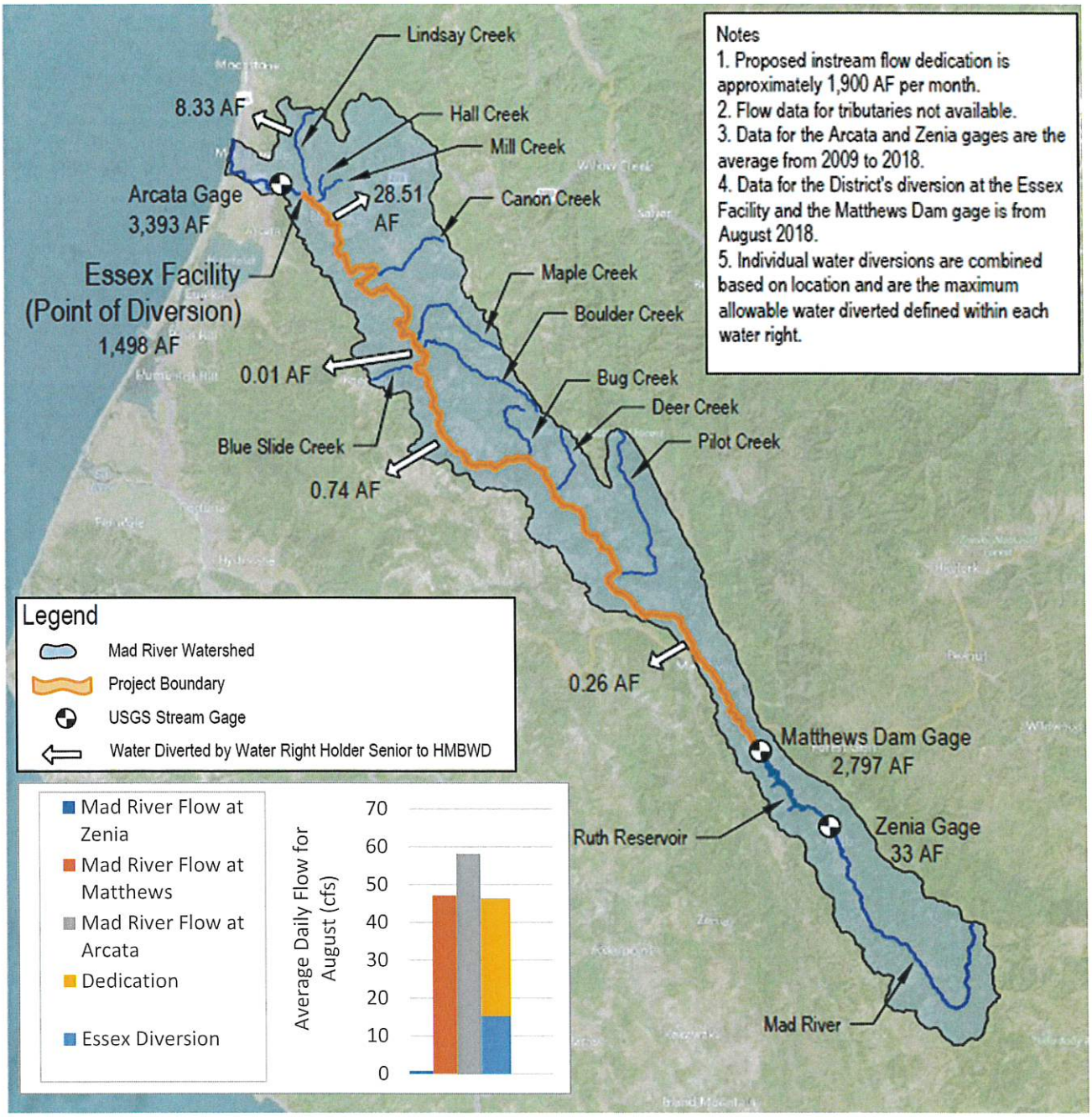


Figure 1. Water Diversions and Flow Measurements for the Proposed Dedication for the Month of August. Representative low river flow augmentation.

DRAFT

History of District Operations

When the District government and infrastructure were formed in the late 1950s and early 1960s, two pulp mills on the Samoa peninsula were the District's primary industrial customers, who required up to 65 million gallons per day (MGD). Since 2009, both pulp mills have closed and industrial demand is negligible. New industrial users are likely to re-develop the Samoa peninsula in the future, but their water use will be a fraction (likely no more than 20%) of the former pulp mills' demands.

Revenue from industrial water sales significantly decreased when the pulp mills closed. To address both the decrease in revenue and a potential loss of water rights due to lack of use, the District organized a public engagement process starting in 2008, to understand the public's views and desires related to water use. The engagement process continues to the present, and the public's views are consistent over time. The public supports three water use options: 1) local use by existing and new municipal customers, and new industrial customers, 2) transport outside of District boundaries to a public agency, and 3) instream flow releases for environmental benefit.

Cannabis cultivation in the Mad River watershed, which falls under the jurisdiction of both Humboldt and Trinity counties, has dramatically increased and become a public concern. Numerous illegal diversions of water have been documented by enforcement agencies and the District. In one case, District staff discovered an illegal cultivation operation that was diverting water directly from Ruth Lake. Numerous investigations have documented diversions from Mad River tributaries, but Humboldt and Trinity County enforcement agencies have limited resources that must be stretched to cover the Klamath, Trinity, and Eel River watersheds in addition to the Mad River basin.

Given the public's desire for instream flow releases for environmental benefit, the continuing threat of illegal diversions from cannabis cultivation, and the District's desire to continue environmentally beneficial releases, the District is pursuing a permanent water rights change in purpose of use under Water Code Section 1707. Given that our current permits and extension expire in 2029, we request a Long-Term Change Petition under Water Code Section 1707.

Purpose of the Project

The purpose of the Project is to:

- Improve summer rearing habitat for juvenile salmonids
- Improve spring mainstem shallow water river edge habitat for foothill yellow-legged frogs and salmonid fry
- Provide resilience for river biota to ameliorate the effects of climate change

The District's infrastructure and operations pose minimal environmental impacts compared to many large-scale dams in California. There are several reasons for this:

1. The total volume of water impounded at Ruth Lake represents a small fraction of the total runoff within the Mad River watershed because Matthews Dam is: a) located high in the watershed and b) relatively small compared to the size of the watershed and the total discharge of the watershed.
2. Ruth Lake is a fill-and-spill reservoir with an ungated spillway that generally fills early in the rainy season. This allows the river to experience the high flow winter hydrograph and associated geomorphic processes.
3. Tributaries downstream of Matthews Dam contribute significantly to the Mad River discharge.
4. Matthews Dam is upstream of a full barrier to salmon migration and a partial barrier for steelhead migration.
5. No out-of-basin transfers occur in the upper watershed, as happens on other North Coast rivers, for example, the Eel River to the Russian River or Trinity River to Sacramento River.
6. The hydroelectric facility at Matthews Dam does not operate on a power-peaking mode as do many other California dams.

Throughout the year, but particularly in the summer and early fall low flow periods, the District's flow releases substantially augment flows in the Mad River, compared to what otherwise would occur without the District's operations.

Proposed and Current Operations

Comparisons of the District's current and proposed water rights parameters are tabulated (Table 1). The District's bypass flow schedule as described in its Habitat Conservation Plan is provided in Table 2.

Table 1. Comparison of District's Current and Proposed Water Rights Parameters

Water Rights Parameter	Current	Proposed
Amount	• Permit No. 11714. Limited to what can be beneficially used • Permit No. 11715. Limited to what can be beneficially used • Permit No. 18347. Limited to what can be beneficially used	No changes proposed
Rate	• Permit No. 11714. Not to exceed 48,030 acre-ft per year to storage • Permit No. 11715. Not to exceed 116 cfs by direct diversion and 20,000 acre-ft per year to storage • Permit No. 18347. Not to exceed 1,000 cfs by direct diversion and 120,000 acre-ft per year by storage	No changes proposed

Water Rights Parameter	Current	Proposed
Season of diversion	• Permit No. 11714. From October 1 to about April 30 of the succeeding year • Permit No. 11715. Year-round for direct diversion and about October 1 of each year to April 30 of the succeeding year for storage. • Permit No. 18347. Year-round for direct diversion and October 1 of each year to April 30 of the succeeding year for storage.	No changes proposed
Authorized purposes and place of use	• Permit No. 11714. Municipal use within HBMWD boundaries according to schedule downstream of the Essex Facility[1] • Permit No. 11715. Same as 11714. • Permit No. 18347. Power generation	Add purpose of use to instream preservation or enhancement of fish and wildlife resources
Points of diversion	• Permit No. 11714. Diversion to storage at Matthews Dam; re-diversion at the Essex Facility • Permit No. 11715. Diversion to storage at Matthews Dam; direct diversion and re-diversion at the Essex Facility. • Permit No. 18347. Ruth Reservoir	No changes proposed
Priority	• Permit 11714. July 7, 1955 • Permit 11715. September 21, 1956 • Permit No. 18347. December 9, 1980 "subject to future upstream appropriations for consumptive use within the Mad River watershed"	No changes proposed
[1] See Table 2. Bypass Flows Schedule downstream of Essex Diversion.		

Table 2. Bypass Flow Schedule Downstream of the Essex Facility, Measured at the Arcata Gage.

Time Periods	Minimum Flow Downstream of Essex Diversion, cfs*
October 1 through October 15	30
October 16 through October 31	50
November 1 through June 30	75
July 1 through July 31	50
August 1 through August 31	40
September 1 through September 30	30

*Or natural flow, whichever is less. "Natural flow" is a calculated number based on the equation: Natural flow = (Essex diversion + flow below Essex + inflow into Ruth at Zenia) - flow release at Matthews Dam.

Water Availability for Instream Flow

The focus of water availability is during the late spring, summer, and early fall months, because it is during those months that the District's releases are a significant portion of the river's flow (Figures 2 and 3). During August and September, flows as measured above Matthews Dam at Zenia (blue bars in Figures 2 and 3) are very low, and the District's releases as measured at Matthews Dam (gray bars) are a significant portion of the flow at the Arcata gage (green bars), which demonstrates that the District augments flows for the benefit of the environment.

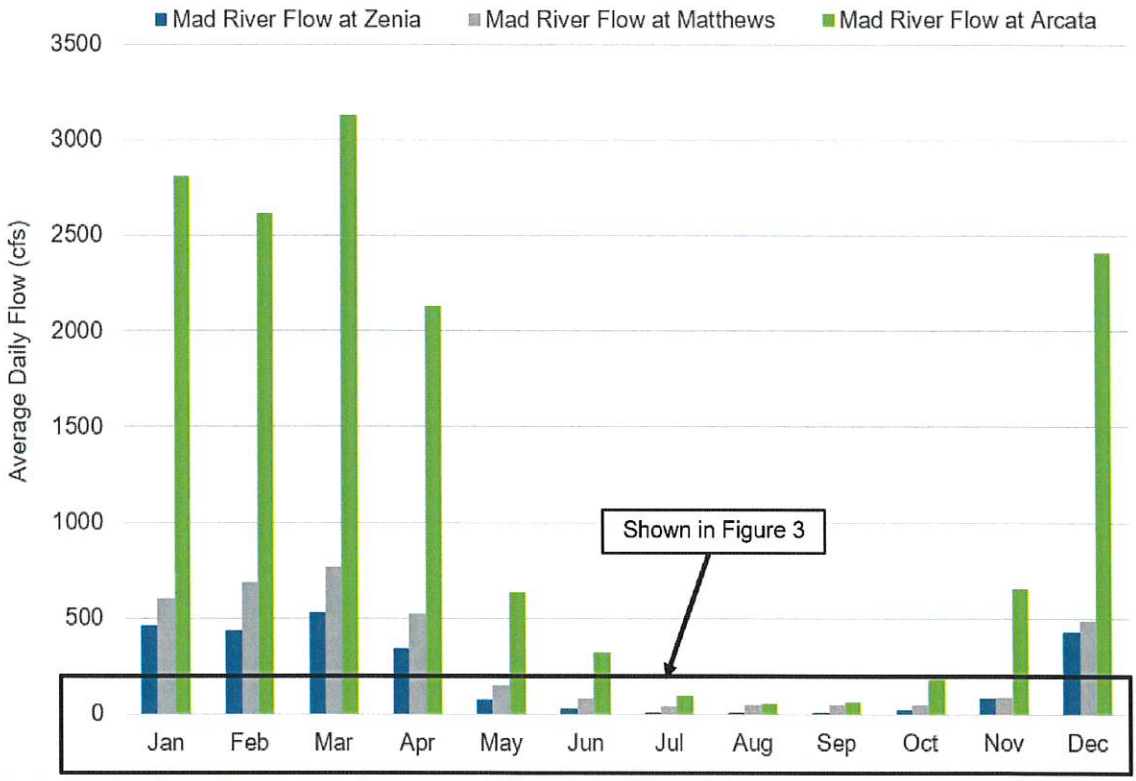


Figure 2. Mad River Flows at Indicated Locations.

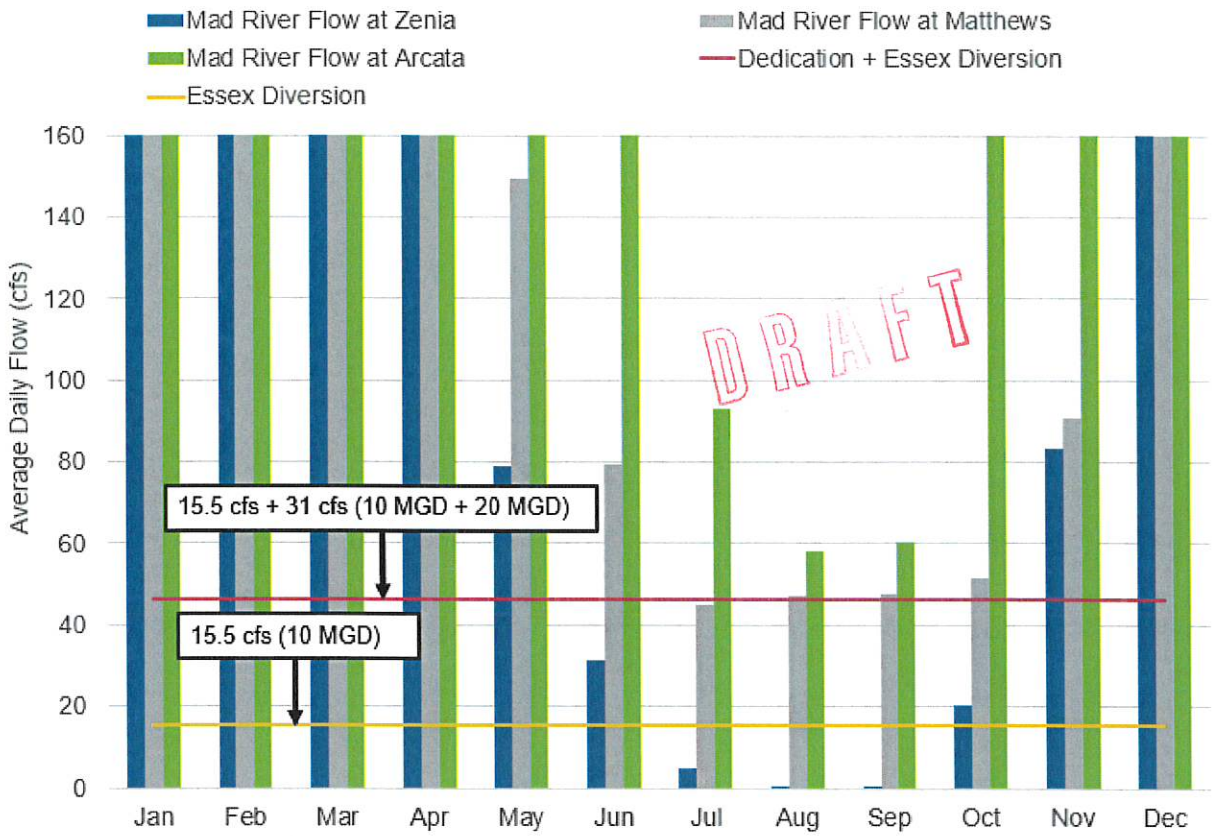


Figure 3. Mad River Flow (based on data from 2010 to 2019) at Indicated Locations with District's Diversion and proposed Dedication.

The flow volume requested to be permanently dedicated is 1,900 AF per month (31 cfs, 20 MGD), based on monthly average daily flows. The approximate flow that the District diverts (yellow line in Figure 3) is the volume of water that would be released from Matthews Dam without the instream flow dedication. The red line indicates the sum of the water requested to be put to instream use for fish and wildlife plus the needs of the municipal and industrial users; the lines reflect uniform average monthly volumes based on water available for appropriation under the District's water rights, not measured values. During the dry season (July through September), the red line and gray bar are approximately equal, which suggests that all of the water released by the District from Ruth Reservoir has been previously stored by the District and would be either consumptively used or used for instream purposes for fish and wildlife resources.

Sufficient water availability is based on modeling of four consecutive years of drought conditions. Availability was considered for municipal demands, foreseeable future industrial demands, instream flows for environmental benefit, and senior water rights holders (see section below, "Consumptive Use and Injury Analysis" for meeting senior water rights holders uses).

Based on the original design studies that determined the size of Ruth Lake reservoir and industrial and municipal demands, there is sufficient water available for the proposed instream flow dedication. Several studies were completed that assessed the District's water source and its reliability. Bechtel Corporation was retained in the 1950s to perform various water supply studies and to complete the

design and specifications for the original water system. During this time, Bechtel completed a detailed operations study of the reservoir storage to determine the safe yield of the original project pursuant to the downstream diversion requirements in the District's water rights permits. The study was done based on a 75 MGD average annual diversion rate at the Essex Facility. Existing prior water rights downstream of Ruth Reservoir were incorporated into the study. Bechtel confirmed the safe yield of the reservoir to be 75 MGD assuming the driest period of record they studied (1923-1924). These hydrological conditions were supported by subsequent studies completed by DWR, the U.S. Army Corps of Engineers, Bechtel Corporation, and Winzler & Kelly Engineering.

More recent analyses of historical data support the original design studies. From the District's historical data, on average, Ruth Lake storage volume on October 1st is approximately 31,000 AF, or 64% of its 48,030 AF capacity. Most rainfall in the area occurs between November and April. In every year but one since 1969, rainfall was sufficient to fill the reservoir to capacity; the reservoir did not fill to capacity in 1977. The average reservoir volume at the end of the rainy season on May 1st is approximately 47,700 AF. This storage allows the District to supplement low summer flows until the rains begin again in the fall. Reservoir storage levels that could signal the start of conservation measures are likely to occur after two consecutive winter seasons with severely reduced rainfall and runoff (below 50% of normal), which has not happened in the history of the District.

After the 1976/77 drought years of record (which was the only declared water emergency in the history of the District), Winzler & Kelly re-evaluated the safe yield of the reservoir to be 67 MGD. The most recent study, included in the District's current Urban Water Management Plan, evaluated the most recent drought, which occurred from 2013 to 2015. A Rippl mass diagram was used to assess the maximum constant draft rate that could be achieved over the course of drought. The Rippl diagram showed that a maximum constant draft rate of 36.5 MGD could be achieved based on the mass budget.

Under current operations, during the summer and early fall months (typically July 1 to October 1), the District releases water from Ruth Lake for three reasons: 1) to run one turbine of the hydroelectric facility, 2) to supply water for diversion at the Essex Facility for municipal and industrial uses, and 3) to provide required bypass flows. Currently, industrial uses are minimal but recent interest in developments on the Samoa peninsula could increase industrial water demand again. In the District's history, its maximum water demand was 75 MGD year-round from the two pulp mills and its municipal customers.

Between 2009 (when the last pulp mill closed) and 2018, average daily flows during the summer at the Arcata gage have been highly variable but have always been greater than 33 cfs. During this time, the District's Habitat Conservation Plan (HBMWD 2006) minimum flow requirements have always been met. If future industrial demands increase, the District will release more water during the summer to meet the demands of the industrial and municipal customers and the minimum flow requirements, if necessary.

The requested additional purpose of use will not change the volume or timing of releases under these current operations. It will also not change the place of consumptive use because the District will continue to put water under Permits 11714 and 11715 to municipal use at the downstream Essex point of diversion. Similarly, the requested change will not increase the amount of water the District is

entitled to use under its water rights.

Consumptive Use and Injury Analysis

Using extremely conservative assumptions, there is no injury to senior water rights users resulting from the District's proposed instream flow dedication (Appendix B, GHD 2020 Water Rights Injury Analysis). There is also no impact to water rights holders that are junior to the District.

To assess potential effects to other legal users, an injury/impact analysis was performed. Flow data were very limited for the 75-mile project reach (Figure 1), so a comparison of known values was used to assess injury/impact.

Values used in this analysis included measured flow rates entering and exiting Ruth Reservoir (at Zenia and Matthews Dam gages, respectively) and downstream of the Essex Facility (at the Arcata gage), maximum allowable diversion rates for legal water users, and the District's measured diversion rates. Locations of the three gages and the District's diversion are shown in Figure 1. All other points of diversion (i.e., legal water users) are individually shown in Appendix B, and are combined based on proximity as indicated on Figure 1.

Water users in the Mad River watershed were listed, and data sources that characterize their water rights and usage were reviewed. Water users were categorized into these general groups:

- Legal water rights holders. Data were available through the State Water Resources Control Board Electronic Water Rights Information Management System (eWRIMS). Water right holders were identified as senior or junior to the District's water rights.
- Humboldt Bay Municipal Water District. Data were available through District records.
- Cannabis cultivation operations. In May 2014, the California Department of Fish and Wildlife used high resolution imagery to digitize cannabis cultivation sites and to estimate their water use. However, their analysis did not distinguish between legal and illegal cultivation sites. Legal cultivators who have applied for water rights are included in the eWRIMS database. In this injury/impact analysis, no attempt has been made to estimate water use of illegal cannabis operations, and we assume that illegal operations will become fewer in the future due to increased law enforcement.

Since 2009, when the last pulp mill closed, to 2018, a comparison of flows indicates that minimum summer flows at the USGS Arcata gage were always greater than the maximum demand of senior water rights holders according to eWRIMS and actual diversions by the District (Tables 3 and 4, Figure 4), even when applying very conservative assumptions. When minimum flows are less than the proposed dedication together with the District's diversion at Essex and all senior and junior water right demand combined, the proposed instream water dedication will support water levels and water quality between Mathews Dam and Essex in order to prevent injury to senior and junior right holders to the extent that was is available for them to divert pursuant to their priority of right. Therefore, no water rights holders will experience injury or impact from the District's diversions, and there is sufficient flow for minimum bypass flows required by the District's 2006 Habitat Conservation Plan.

Throughout the year, but especially in August, there is no injury/impact to senior water rights holders or all water rights holders resulting from the District's diversions. In Tables 3 and 4, the actual volume of water diverted by the District is used to demonstrate current conditions. Figure 4 displays the data graphically in a chart. Actual amounts of water diverted by other water rights holders were not available so maximum diversion rates included in their water rights were used as a conservative assumption that reflects the worst-case scenario.

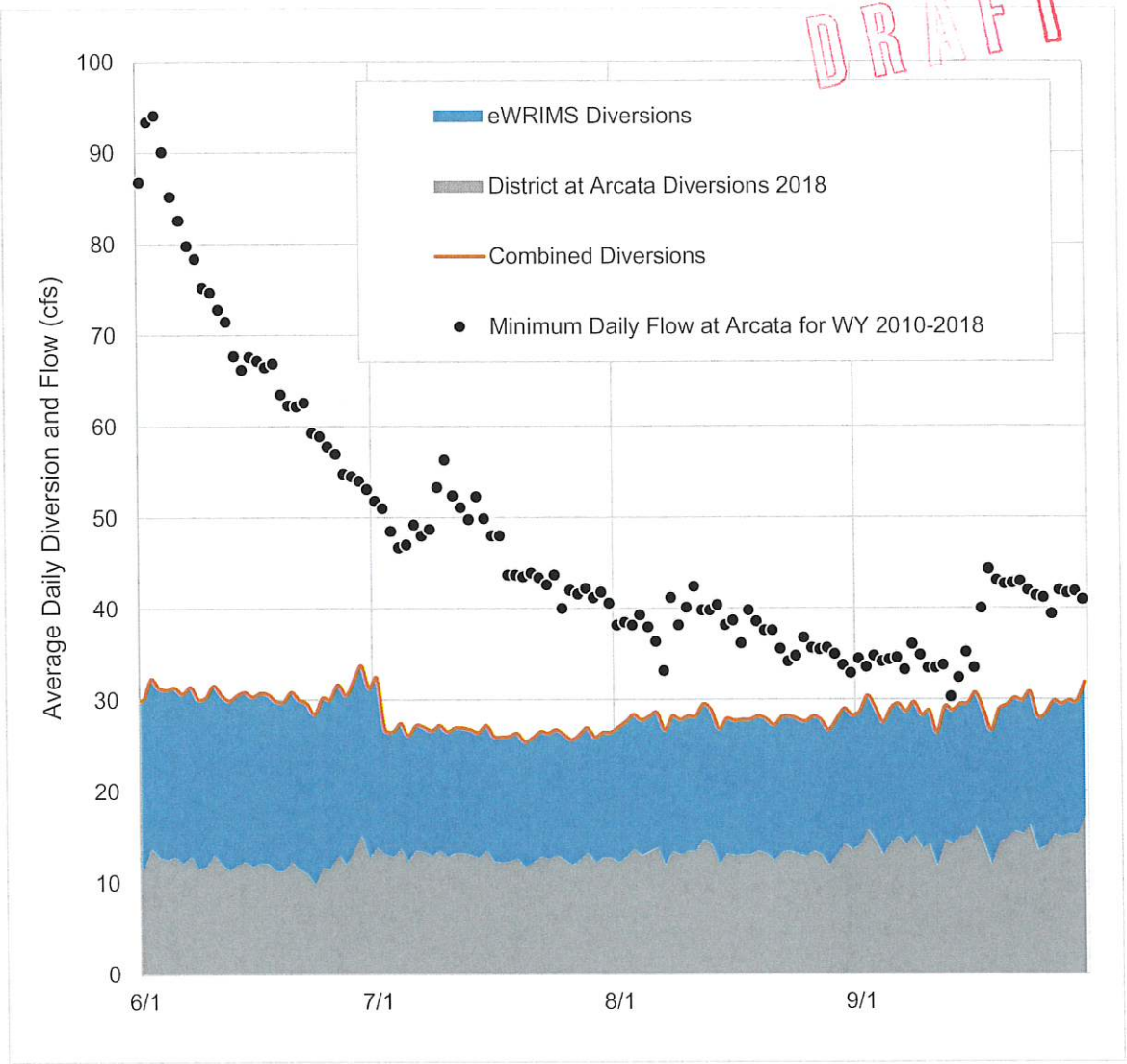
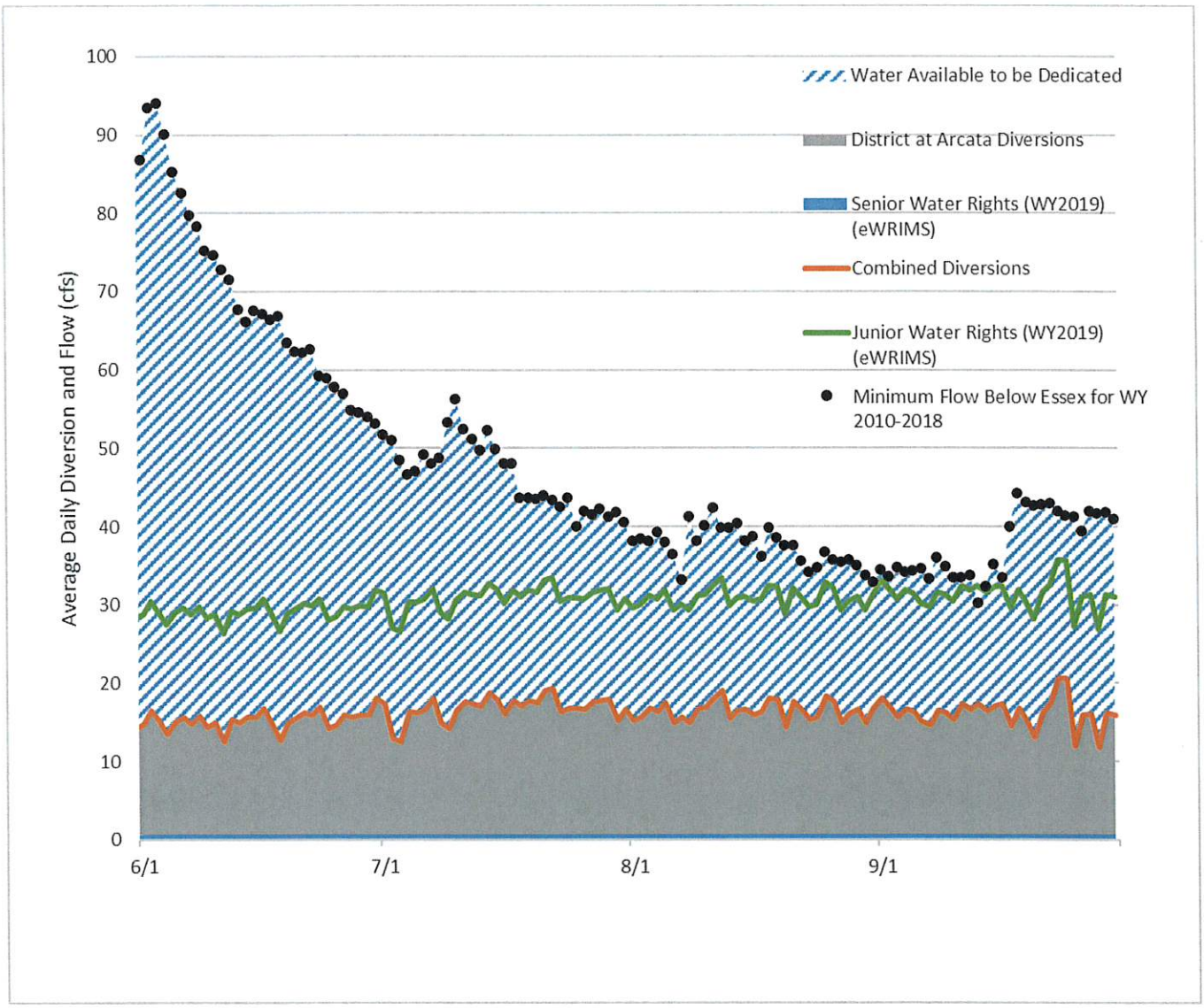


Figure 4. Daily diversion rates and instream flow comparison (cfs).


Average Daily Diversion and Flow (cfs)
100
90
80
70
60
50
40
30
20
10
0
6/1
7/1
8/1
9/1
Water Available to be Dedicated
District at Arcata Diversions
Senior Water Rights (WY2019) (eWRIMS)
Combined Diversions
Junior Water Rights (WY2019) (eWRIMS)
Minimum Flow Below Essex for WY 2010-2018

Here is the text for the figure.

For the discussion of determining available water to be dedicated to in stream flow several factors were evaluated. These factors included the amount of the District re-diverted water at Essex, other water diversions within the basin between Ruth Lake and the Essex diversion, and stream flow contributions from tributaries within the reach. The comparison of these factors is challenging because data and values presented represent flow from different locations along the river/reach, various calculation methods, and time periods. Flows for the Districts re-diversions were based on average daily production rates as recorded by the District and are likely a good representation of current and near future District water re-diversions. The calculation of other Water Right Diversions was based on the permitted water rights for other diverters within the basin. The diversion rates for these other water rights are reported in different units of measure for the individual water right holder. Some are based on a yearly total volume diverted, while others are based upon a daily diversion rate. Some water rights limit the time of year that the diversion may be made. For this analysis, the Other water Right Diversions was tabulated as a monthly sum volume of diversion and represents the maximum amount of water diversion allowed from all water rights within the basin associated with the flows in the Mad River. This included surface diversion from the Mad River, contributing tributaries, and groundwater wells under the influence of surface waters. The estimate of Other Water Right Diversion is a conservative estimate in that it is the maximum amount allowable for diversion. It is an unmeasured and unknown quantity. It also does not account for any unpermitted diversions or permitted diversions that extract more than the permitted value. The Minimum Flow Below Essex was based upon daily stream flow measurements from the USGS stream flow gage near the 299-highway bridge, which is just downstream of the District's Essex re-diversion location. The values reported are the lowest daily flow for each day, as recorded over an eight-year period. This period included water years that ranged from critically dry to above normal.

The amount of water available to be dedicated for instream flow is estimated as the difference between the measured flows in the river and the combined water diversions. The graphic below shows the Districts re-diversion at Arcata (Essex) in gray. The Other water Rights diversions is shown solid blue. The orange line depicts the combined diversions. The black dots indicate the lowest recorded daily flow from the eight-year period. The difference between that lowest recorded daily flow and the sum of the diversions is the water available to be dedicated for instream flow and is shown in light blue stripes.

Table 3. Monthly diversion rates for the District (HBMWD) and water rights holders senior to the District and indicated flow rates (cfs).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Senior Water Rights Holders	0.02	0.02	0.02	0.02	0.50	0.64	0.64	0.64	0.64	0.02	0.02	0.02
HBMWD	12.1	12.7	12.2	12.4	13.1	14.6	16.1	15.7	15.0	13.5	12.8	12.2
Total	12.1	12.7	12.2	12.4	13.6	15.2	16.7	16.4	15.6	13.6	12.8	12.2
Flow at Arcata Gage	2,808	2,449	3,365	2,089	600	320	93	58	61	198	718	2,581
HCP Flow Requirements at Arcata Gage	75	75	75	75	75	75	50	40	30	50	75	75
HCP Flow Requirement Met?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4. Monthly diversion rates for the District and all water rights holders and indicated flow rates (cfs).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
All Water Rights Holders	17	18	19	14	15	15	15	15	16	15	15	16
HBMWD	12.1	12.7	12.2	12.4	13.1	14.6	16.1	15.7	15.0	13.5	12.8	12.2
Total	29.1	30.5	30.8	26.1	27.9	29.2	30.9	30.8	30.8	28.7	28.3	28.4
Flow at Arcata Gage	2,808	2,449	3,365	2,089	600	320	93	58	61	198	718	2,581
HCP Flow Requirements at Arcata Gage	75	75	75	75	75	75	50	40	30	50	75	75
HCP Flow Requirement Met?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes:

Proposed dedication (20 MGD) = 31 cfs

HCP Flow = Flow requirements in the District's Habitat Conservation Plan (HCP). If a single month had two different minimum flows, the higher of the two is shown.

Water Rights Holders = The total flow rate assumed to be diverted by water right holders listed in the State Water Board's database.

Senior Water Right Holders = The total flow rate assumed to be diverted by all water right holders that are senior to the District.

HBMWD = Actual average flow diverted by the District, may vary from their water rights

Total = The sum of Water Right Holders and HBMWD.

Flow at Arcata Gage = Average monthly flow rate at the Arcata gage for 2010 – 2018.

Several limitations in the data are detailed (Appendix B), but very conservative assumptions were applied in every case. Two key conservative assumptions were:

1. Many of the diversion rates in the eWRIMS database are maximum rates that the water rights holder could divert. It is likely that their diversion is less than maximum, however we assumed they divert their maximum flow.
2. Flow data from the Arcata gage is downstream of the Essex Facility, where the District diverts water for industrial and municipal use. Due to the paucity of data sources, we elected to use the Arcata gage data in the water mass balance, even though it reflects the District's diversions. In essence, the District's diversions are counted twice in the water mass balance.

Other assumptions include negligible seepage based on the Mad River's bedrock confinement, and negligible evaporation. The importance of these water losses is likely more than offset by the water contributions from named but ungaged tributaries such as the North Fork of the Mad River, Pilot Creek, Bug Creek and Lindsay Creek.

Water Quality Considerations of the Petition

The North Coast Regional Water Quality Control Board has listed the Mad River as impaired for sediment, turbidity, and temperature under Section 303(d) of the California Clean Water Act, and water quality is an important consideration in the conservation of salmonids and other special-status species.

The major sources of sediment and turbidity in the Mad River are from landslides and surface erosion associated with roads, timber harvest, and other disturbance within the watershed; most of this disturbance occurs in the watershed downstream of Matthews Dam, which is approximately 76% of the basin area (Stillwater Sciences and RCAA 2010). The District's operations and release pattern will not significantly change under this Petition for Change so the proposed instream use would have no effect on sediment and turbidity in the middle and lower reaches of the Mad River, but the dam does hold back sediment immediately below the dam.

Ruth Reservoir has a seasonal effect on water temperature in the river downstream of Matthews Dam (Appendix C). During warmer months, because the intake for the discharge outlet is deep (approximately 132 feet below crest elevation), water temperatures downstream of the outlet are cool, ranging from 48.4°F in May 2018 to 61.2°F degrees in October 2018. The cool water source at the outlet affects water temperatures in the 7.5 miles downstream of Matthews Dam (at the sensor at Highway 36). However, stream temperature equilibrates with air temperature by the next downstream temperature sensor, 38.6 miles downstream from the Dam (at RM 41.6) (Figure 5). Temperature sensors from RM 41.6 to the downstream-most sensor on the mainstem at the Mad River Boat Launch (RM 3.1) are affected by ambient air temperatures, which cool closer to the coast due to the influence of the Pacific Ocean, as well as localized cooler water inputs from specific tributaries in the lower Mad River.

The main benefits of releases from Matthews Dam primarily occur in the first 10 miles of so downstream of the dam. These benefits increase habitat quality and quantity for salmonids (e.g., juvenile steelhead and resident rainbow trout) and yellow-legged frogs in spring and summer, and water quality (e.g., cooler water temperatures) in the upper reach in summer. Releases from Matthews Dam increase habitat in the Mad River primarily by providing higher discharge in the summer months than inflow into Ruth Reservoir. This higher discharge results in increased holding habitat for adult summer steelhead downstream of Pilot Creek, improved shallow river edge water rearing habitat for juvenile salmonids in the mainstem, expanded habitat for egg and juvenile life stages of yellow-legged frogs, and resilience to

climate change.

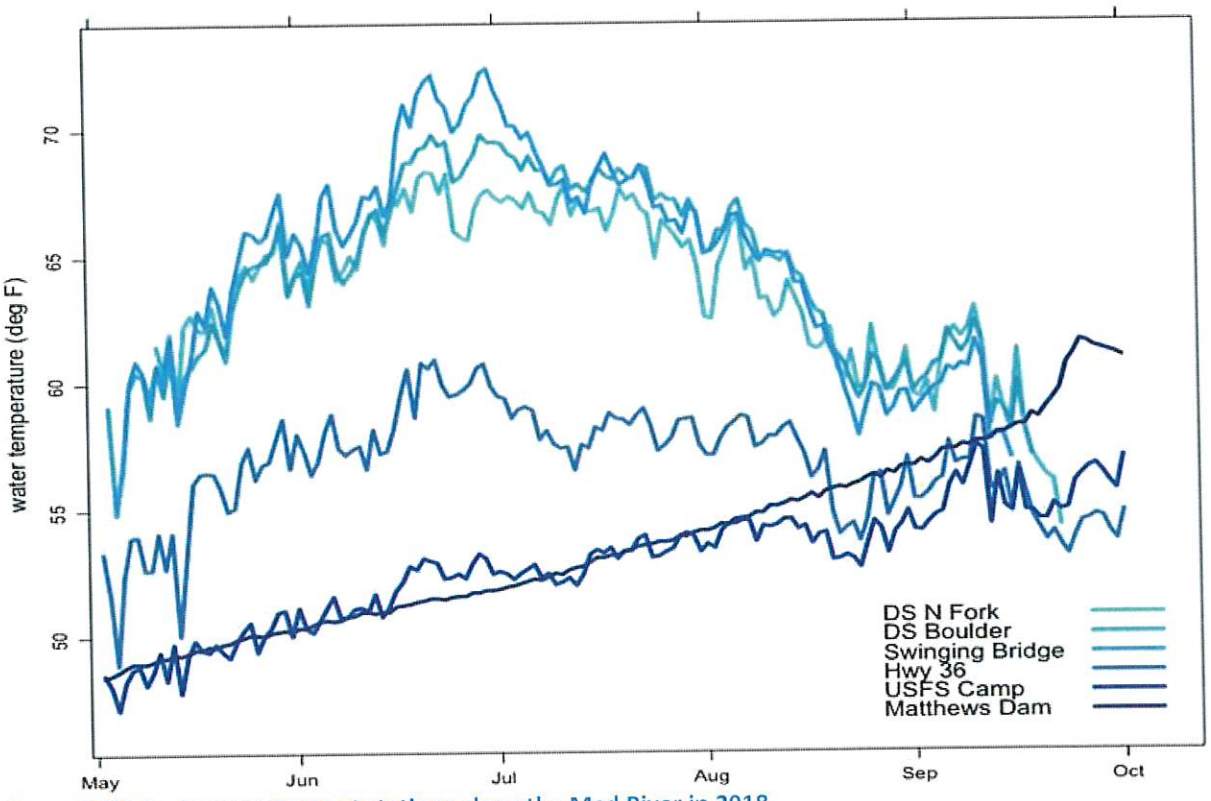


Figure 5. Water temperatures at stations along the Mad River in 2018.
Lower Reach of the Mad River (DS N Fork [RM 13.7], DS Boulder [RM 32.6]) and the Middle Reach (Swinging Bridge [RM 41.6]) had similar temperatures. Note: Here, daily values only, distinctly warmer than those recorded from the Upper Reach (Hwy 36 [RM 72.7], USFS Camp [RM 77.0], Matthews Dam [RM 80.2]). Matthews Dam=MRDam, USFS Camp=MRUSFSCamp, Hwy 36=MRHWY36, Swinging Bridge=MRSwingB, DS Boulder=MRDSBoulder, DS N Fork=MRDSNF.

The District's releases from Matthews Dam have resulted in additional instream flow in the mainstem Mad River between the dam and estuary, particularly between June and October. Without these releases, the aquatic habitat that many fish and amphibians rely on would be significantly diminished. In the upper Mad River, between Matthews Dam and Pilot Creek, District releases are the source of inflow to the mainstem and provide important shallow river edge water habitat for early life stages of steelhead and foothill yellow-legged frogs. Less of this important habitat would be available if releases from Matthews Dam were to be decreased.

Releases of bottom water from Matthews Dam (RM 80) currently results in water temperatures that are below 60°F (the preferred temperature zone for juvenile steelhead rearing during the summer and early fall months) downstream to Hwy 36 (RM 72.7). If releases were decreased, a consequence could be less habitat available with preferred temperatures because decreased volume and depth of water would equilibrate more quickly with air temperature.

Over the last 60 years, the releases from Matthews Dam have resulted in higher summer and fall flows in the lower river. These higher flows have allowed for the mouth of the river to remain open to the ocean year-round, which has enabled Chinook salmon, coho salmon, and steelhead to enter the river in the fall unencumbered by the presence of a barrier beach. Reduced flows could result in seasonal development of a barrier beach bar that would block upstream migration of anadromous salmonids until fall and winter runoff conditions are high enough to breach the bar. Given that Chinook salmon begin their upstream spawning migration and enter the Mad River in late August or early September, a barrier beach could delay or eventually eliminate the early part of the run.

The lower Mad River provides habitat for juvenile steelhead and coho salmon rearing during the summer months. Augmented flows increase the amount of suitable habitat for these species during the summer and fall months. Reduced flows would decrease the amount of available habitat and increase the potential for density-related effects.

Actions and Approvals Requested of the State Water Board

The District requests that the SWRCB process a change petition under Water Code section 1707 that would dedicate a release of approximately 31 cfs (as described above in Figure 3) for the purpose of enhancing the fishery and aquatic/riparian ecosystem of the Mad River. This change would take effect upon approval by the SWRCB and would be a permanent change to the District's water rights.

Findings Needed for 1707 Change Petition

Will the change initiate a new water right or increase the amount of water the District is entitled to use? No, the District's water right Permits 11714 and 11715 currently allow for releases of previously stored water at Matthews Dam to meet the requested 31 cfs use of water for instream purposes.
Will the change injure or unreasonably affect any legal water user? No, there is sufficient flow in the Mad River between Matthews Dam and the ocean to meet the diversion demand of other legal users of water.
Does the change petition address CEQA requirements? In progress
Will the change have any adverse effects on public trust resources? No, the requested change will improve aquatic habitat between Matthews Dam to the Essex facility.
Is the change in the public interest? Yes, the instream use will benefit fish and wildlife resources and allow for diversion of water by other users in the project area.

Project Map

A project map is included as Figure 1. This map includes:

- ✓ A delineation of the project site
- ✓ All known diversions within the vicinity of the project
- ✓ Identification of HBMWD's existing point of diversion
- ✓ Delineation of the stream habitat that the change petition intends to address

References

GHD. 2020. Water Rights Injury Analysis. Memo to Humboldt Bay Municipal Water District Reference No. 11185389. Dated February 25, 2020.

Stillwater Sciences and RCAA (Redwood Community Action Agency). 2010. Mad River watershed assessment. June 2010. Final report. Prepared for Redwood Community Action Agency, Eureka, California.

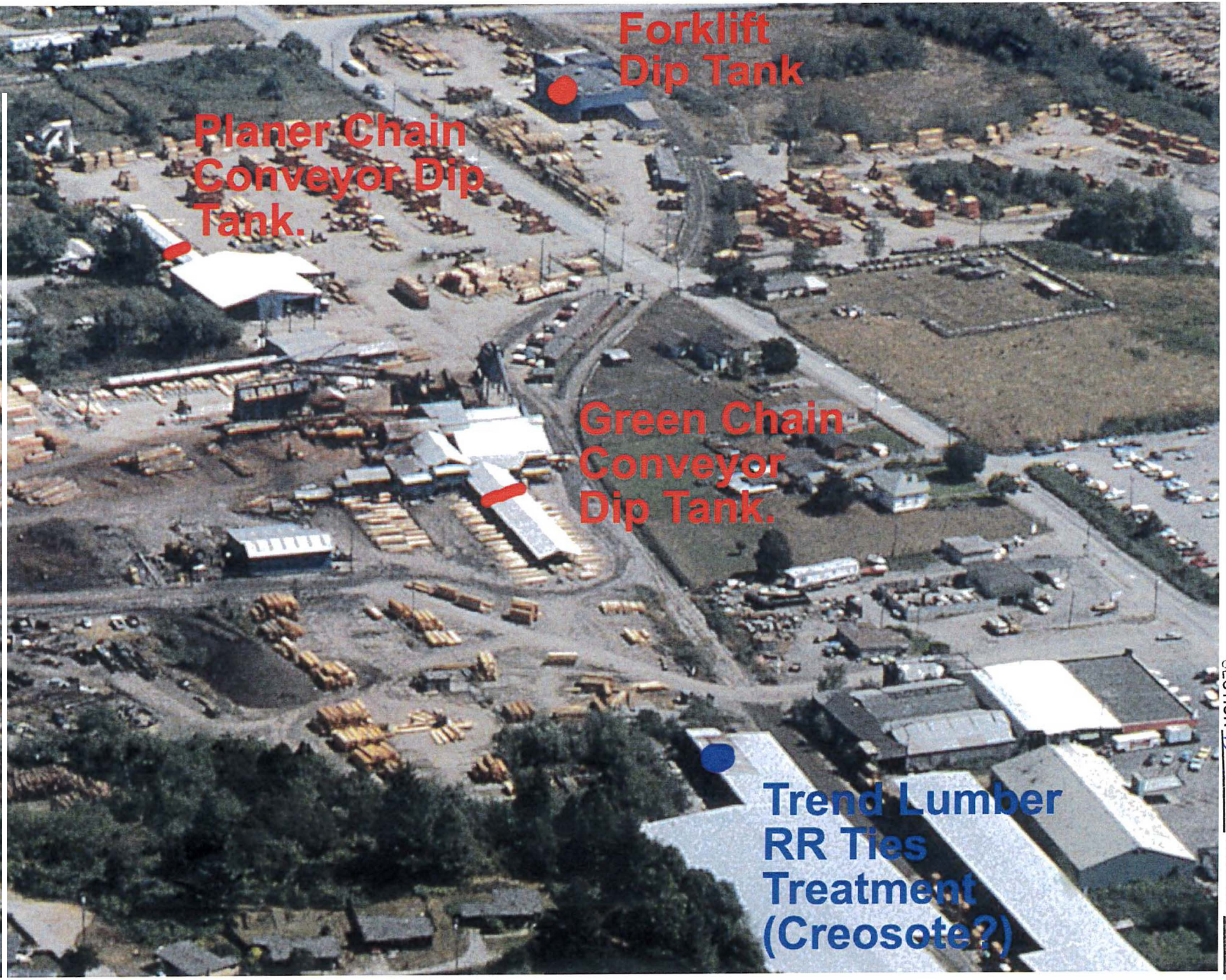
APPENDIX A. HBMWD Water Rights Permits

APPENDIX B. Injury Analysis Report

APPENDIX C. Temperature and DO Modeling Report

Agenda
Former McNamara and Peepe Site
Agency Stakeholders Site Visit
November 4, 2022

1. Arrive at site at 9am
    a. Park to the left of entrance gate behind Murphy's Market off of Glendale Drive
    b. Meet and Greet
    c. Sign-In Sheet
    d. Health & Safety
2. Purpose of Site Visit
    a. The purpose of the site visit will be to gain a better understanding of the layout of the site and stormwater conveyance system on- and off-site.
3. Areas of Interest
    a. Former green chain area
    b. Production well
    c. Monitoring wells (on-site and off-site)
    d. Stormwater channels or culverts (on-site and off-site)
    e. Private well
    f. Banks of Hall Creek and Mad River
4. DTSC
    a. Provide an update on site activities and on future work to be carried out (e.g., monitoring well installation, CSM, etc.).



SECTION 8-2 PAGE NO. 2

FINAL PROJECT REPORT

California State Parks Division of Boating and Waterways
Quagga and Zebra Mussel Infestation Prevention Grant Program

Division of Boating and Waterways Agreement No: C19Q0805
Report: Final / Progress Report 8
Reporting Period: 10/19/20 – 10/18/22
Submission Date: 10-7-2022

Boulders and Inspection Supplies

Grantee: Humboldt Bay Municipal Water District
Address: PO Box 95
City, State, Zip Code: Eureka, CA 95502-0095
Contact Name: John Friedenbach or Sherrie Sobol
Telephone No: 707-443-5018
Email Address: friedenbach@hbmwd.com or sobol@hbmwd.com

Task Number	Title of the Task	Total Percent Task Completed
1.	Purchase and place boulders at targeted locations to prevent unauthorized lake access	*100%*
2.	Purchase Prevention Plan/Inspection Supplies: Inspection stickers, electronic key cards, boat to trailer bands	*100%*
3.	Prepare and draft final reports including project performance, success (or not), lessons learned, comparison of projected versus actual costs and any next steps	*100%*

FINAL PROJECT REPORT

California State Parks Division of Boating and Waterways

Quagga and Zebra Mussel Infestation Prevention Grant Program

Description of Work Completed during the Reporting Period

Task # 1 and Title: Purchase and place boulders at targeted locations to prevent unauthorized access

Boulders have been ordered and delivered and placed.

Deliverables: Invoices and photos of boulders

Task # 2 and Title: Purchase Prevention Plan/Inspection Supplies: Inspection stickers, electronic key cards, boat to trailer bands

This task was completed and reported on Progress Report #2.

Deliverables: Photos of purchased supplies and purchase invoices.

Task # 3 and Title: Prepare and draft final reports including project performance, success (or not), lessons learned, comparison of projected versus actual costs

This is the final report. All work is complete.

Deliverables: Final Report

FINAL PROJECT REPORT

California State Parks Division of Boating and Waterways
Quagga and Zebra Mussel Infestation Prevention Grant Program

FINAL PROJECT REPORT.

a. Include GPS coordinates of the reservoir(s) and the Project site/location if more specific than the reservoir(s) location(s).

The coordinates for Ruth Lake Reservoir are 40.3386° N, 123.4063° W

b. Provide Early-Detection Mussel Monitoring Data using the methods and frequency specific to the reservoir(s) risk of establishment (See Exhibit A, Section A (5)).

See Attached monitoring data. Note: 2 substrates are missing. We will be meeting with Kristin Hubbard of CDFW (the new Aquatic Invasive Species Biologist for CDFW's Northern Region, replacing Breck McAlexander) within the next month to discuss replacing the substrates and location for placement.

c. Describe Project performance including; benefits, successes, and shortcomings. Document environmental changes and results of the Project. As appropriate include;
1) results such as inspections, decontamination to lower the risk of a QZ mussel introduction 2) document public knowledge and acceptance of the Prevention Program, 3) estimate and summarize the amount of inspections, surveys, decontamination etc. 4) document any potential infestation as a result of the implementation of measures, and 5) improvement in the prevention of introduction.

1)The 2021 Quagga Inspection Summary is attached showing the results of the inspection process. One boat was denied entry for standing water. 2) Quagga surveys are provided to visitors and show the level of understanding regarding the Prevention Plan and related inspections process as well as general understanding of these aquatic invasive species. 3) 1600 Watercraft inspections were conducted in 2021. 4) There are currently no potential infestations as a result of our stringent prevention measures in place. 5) Improvement in the prevention of introduction of Quagga/ Zebra is done via inspections and blockage of unauthorized access to Ruth Reservoir.

d. Identify lessons learned in carrying-out the Project. Describe what worked and what did not work, and how similar efforts could be utilized within the Project area, as well as other reservoirs.

We learned the size of boulders needed to be effective (those that can't be moved by a winch and vehicle). These larger boulders are also less likely to deteriorate so quickly as previous boulders. Additionally, we underestimated the costs of the boulders and did not have enough to complete the project. We have received

FINAL PROJECT REPORT

additional grant funding for the 21/22 cycle and will be using some of those funds to purchase the additional five boulders needed to complete the project. We also learned that not enough time was allocated for admin to compile and prepare final report.

e. Describe the Project's funding. Include the projected cost and actual cost of the Project, how much of the grant funds were spent, and how much funding was put into the Project from other sources. Identify funding sources that have been "leveraged" by the Project and plans for funding future activities.

Projected cost for supplies was $3,700. Total supplies costs were $3,764.92. All funds for this task were spent. We feel this was budgeted very well.

Projected costs for boulders was $20,000. We focused on Old Ruth for this grant due to its remoteness and high risk for uncontrolled access. We underbudgeted for the boulders needed. All funds for this task were spent. Total costs were $26,345.00. We will be "leveraging" funds from the DBW C21 grant to cover the difference. There are other areas around the lake that require boulders and/or bollards to prevent unauthorized access and we have received additional grant funding from DBW to assist with those project areas.

Projected costs for administrative staff time to compile and prepare draft/final reports was $300. This was grossly underestimated. Actual costs are approximately $700.

f. Identify planned or potential follow-up activities, such as any additional activities necessary to achieve prevention and protection of the reservoir from a QZ mussel introduction.

We have already identified other areas around the lake which now have potential unauthorized access points due to the wildfires (trees, shrubs and structures no longer block access as they have burned or been removed). We have received additional grant funding to place boulders/bollards at these areas and we will continue to evaluate needs and effectiveness of implementation measures.

g. A list of the tasks and deliverables as outlined in the Scope of Work and Table of Deliverables.

Tasks

Task 1.0 Purchase and place boulders at targeted locations to prevent unauthorized lake access

- *1.1 Confirm location of boulder placement and number of boulders needed*
- *1.2 Purchase boulders*
- *1.3 Remove deteriorated/small boulders where necessary*
- *1.4 Place new boulders at pre-determined locations to prevent unauthorized lake access*

Deliverable: Photos of the boulders blocking unauthorized lake access; purchase invoices

Task 2.0 Purchase Prevention Plan/Inspection Supplies

- *2.1 Purchase inspection stickers*
- *2.2 Purchase electronic key cards for boat launch access*
- *2.3 Purchase boat to trailer bands*

Deliverable: Photos of the purchased supplies; purchase invoices

FINAL PROJECT REPORT

Tasks (continued)

Task 3.0 Prepare draft and final reports including project performance, success (or not), lessons learned, comparison of projected costs versus actual costs and any next steps

3.1 Prepare and submit draft report with applicable attachments
3.2 Prepare and submit final report after receiving and incorporating feedback on draft report

Deliverable: Final Project Report

h. Any additional information that is deemed appropriate by the Grantee or DBW.

We appreciate the grant opportunities to strengthen our Prevention Plan and keep aquatic invasive species such as quagga and zebra mussels out of our reservoir which is the source water for 94,000 residents in Humboldt County.

i. Report all mussel preventative measures/activities in the managed reservoir including, but not limited to: installation of equipment, construction, inspection program, education and monitoring activities.

The District enforces inspections of watercraft prior to entering Ruth Lake. Legal lake access is only permitted once watercraft have passed inspection. A sticker is provided for the watercraft signifying a passed inspection. A key card is then provided allowing access to the lake via an electronic gate.

Signs are located throughout the Ruth Lake area educating visitors to the damage the quagga/zebra mussels could do should they enter our reservoir. Visitors are also provided with surveys regarding quagga/zebra mussels.

Substrates are monitored on a regular basis for veligers or adult mussels. The information is provided to California Department of Fish and Wildlife.

j. If DBW is funding inspection/decontamination activities, then ramp monitor contact data must be included.

See attached inspection data. Note: 2 substrates are missing. We will be meeting with Kristin Hubbard of CDFW (the new Aquatic Invasive Species Biologist for CDFW's Northern Region, replacing Breck McAlexander) within the next month to discuss replacing the substrates and location for placement.

FINAL PROJECT REPORT

k. Describe the extent of outreach that has been conducted and if there are plans to further promote the results of the Project to achieve additional implementation. Include lessons learned from survey results. Include the approved Survey Plan and Survey results as well as the three required outreach events and thecorresponding completed Outreach and Education Event Report for each.

The three major outreach events in 2021 were:
May 2021 Southern Trinity Volunteer Fire Dept. Bass Tournament and Ruth Lake Free Kids Fishing Derby- This was cancelled and outreach was substituted with Quagga Mussel surveys sent to Ruth Lake Leaseholders. Surveys were previously submitted on 11/5/21. Results show that the majority are aware of the issue and that signs around Ruth Lake Reservoir are an effective communication tool.

June 2021 Fortuna Volunteer Fire Dept. Annual Bass Tournament- the event included 45 people. All were familiar with the Prevention Plan and impacts of Quagga/Zebra mussels and the need for inspections of watercraft.

August 2021 Ruth Lake Summer Festival -CANCELLED DUE TO RESURGENCE OF COVID

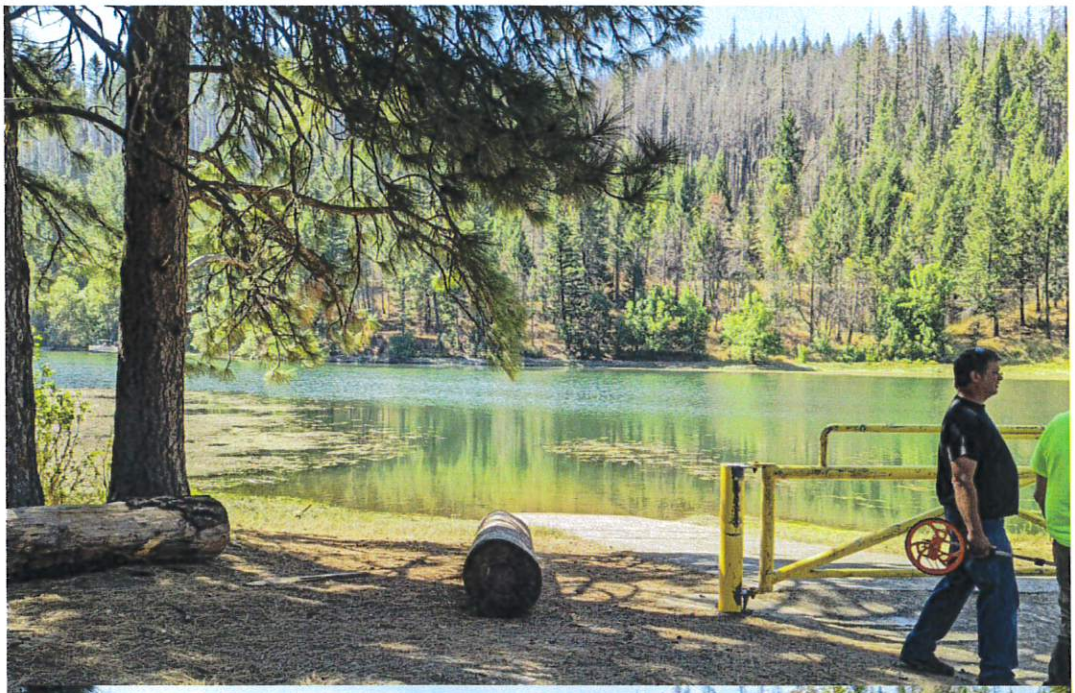
FINAL PROJECT REPORT

I. Include appropriate before and after photos and graphics, as appropriate.

Above is photo of existing signage at Old Ruth
Signage is also on our website at: https://www.hbmwd.com/ruth-lake

FINAL PROJECT REPORT

Task 1



Log barrier was to prevent unauthorized access. Someone just moved the log and it is now accessible for vehicles.

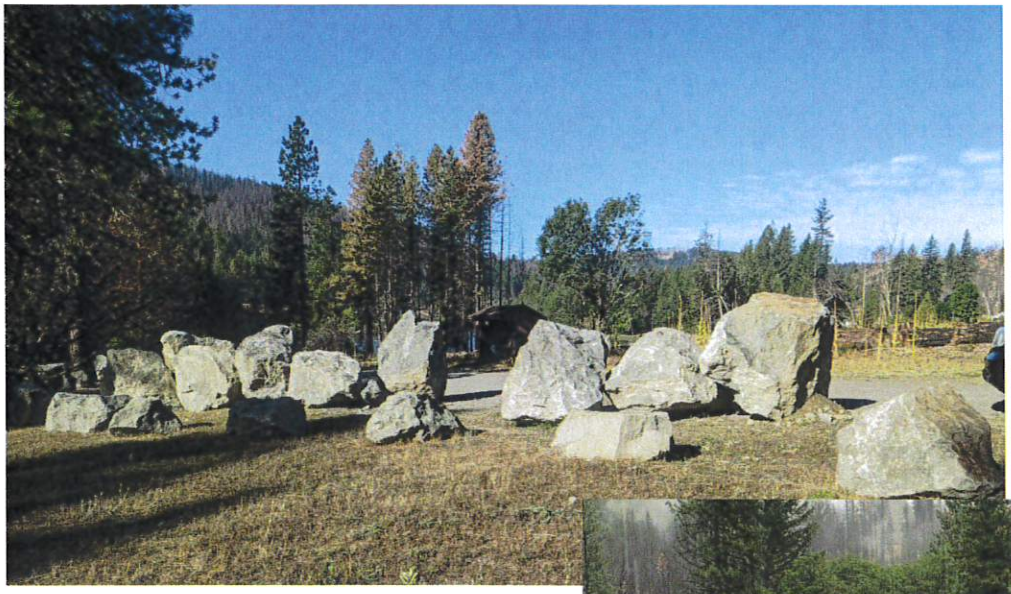
FINAL PROJECT REPORT

Task 1

One solution is to install larger boulders to limit access.

FINAL PROJECT REPORT

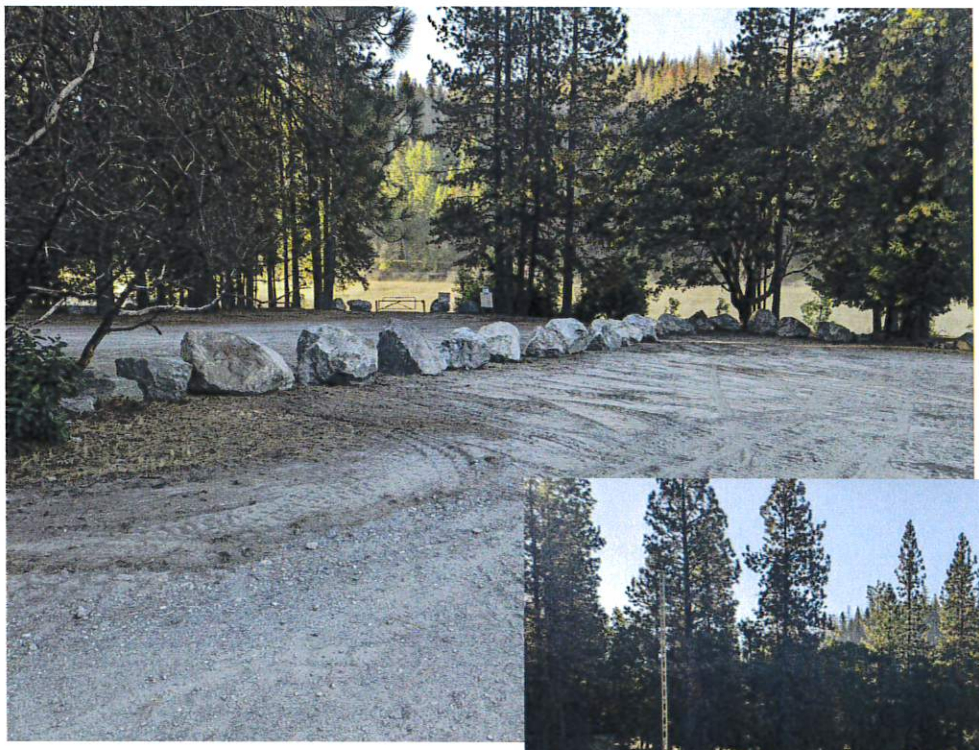
Task 1



Large Boulders at Old Ruth before final placement

FINAL PROJECT REPORT

Task 1



Boulders in place at Old Ruth to prevent unauthorized lake access (final placement)

FINAL PROJECT REPORT

Task 1

FINAL PROJECT REPORT

Task 2

Photos of Prevention Plan supplies such as inspection stickers, key cards and boat to trailer bands were previously provided with Progress Report #2.

Humboldt Bay Municipal Water District

To: Board of Directors

From: Chris Harris

Date: November 10, 2022

Re: Shoreline Debris Removal Update (FEMA Project)

Background

Several months ago the District received FEMA funding from the August Wildfire Complex Disaster for the removal of accumulated shoreline debris. The funding of this project was based on FEMA's decision:

> *"As a direct result of Severe Wild Fires occurring during the incident period of 8-14-2020 to 8-22-2020 the event caused devastation of trees and vegetation in the upper Mad River Watershed, including both District and USFS property, creating increased floating debris into the main domestic water supply of Humboldt County."*

Excessive shoreline debris has the potential for making it's way downstream into the log boom and depending on the quantity and size, possibly overwhelming the log boom and blocking the spillway. A blockage of the spillway could lead to potential dam failure.

Current

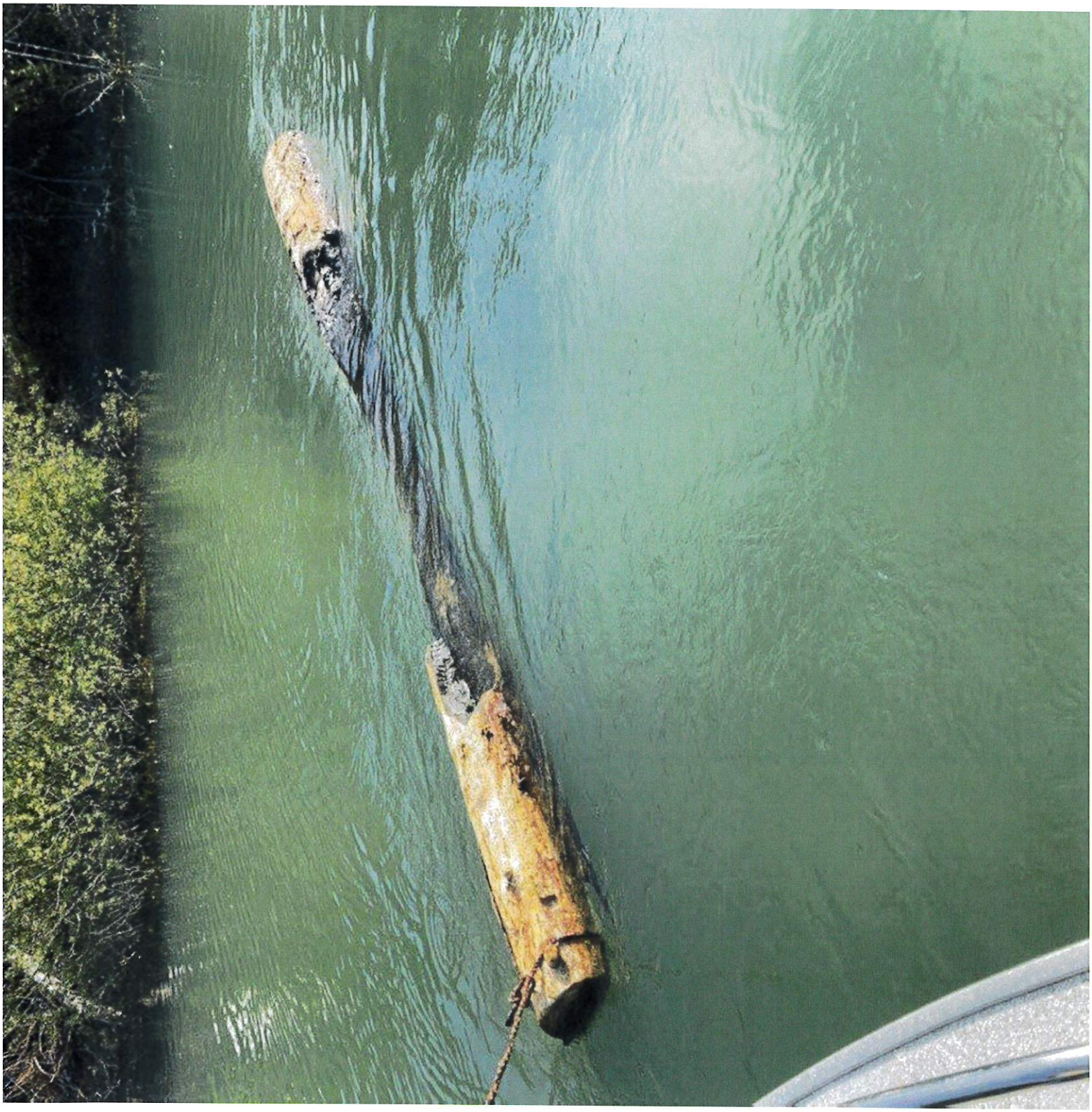
This is an update for the Directors since this project has been delayed due to increased lake levels as the District attempts to retain as much water in the reservoir as feasible due to the ongoing drought conditions.

This month, the District was able to use SMART Workforce labor, a local contractor, and District staff to begin removing the debris. The work is very labor intensive and cumbersome, but progress is being made. It is anticipated the project will be completed by the end of December, but may be delayed due to weather.

Attachments

Photo's of debris removal in progress

SECTION 5.4 PAGE NO. 2



SECTION B.4 PAGE NO. 4

SECTION 8.4 PAGE NO. 15

Humboldt Bay Municipal Water District

To: Board of Directors

From: Chris Harris

Date: November 10, 2022

Re: Sample Contract for Fire Fuels Reduction & Defensible Space Project

Background

The District was awarded $500,000 by CalFire for Fuels Reduction in the Ruth area. The District will use these funds on District property that was *not* impacted by the August Complex Wildfire. District staff published a *Request for Proposal* (RFP) on October 14, 2022 to receive bids for this project. Due to the size of the RFP (49 pages), staff has included the Background and General RFP Summary and Location of Project sections of the RFP. The entire RFP is available on the District website.

Current

A sample contract is attached for review and discussion by the Board. Next month, staff will provide a complete report on the bid submittals received for the RFP and request the Directors award the contract(s).

Attachments

1. Sample Contract for Fuels Reduction/Defensible Space Creation Project
2. Section One (Background and General RFP Summary) and Section Two (Location of Project)

Contractors Agreement

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, EUREKA CA 95501-1114

Telephone (707) 443-5018 - FAX (707) 443-5731

Some of the important terms of this agreement are printed on Page 2. For your protection, make sure that you read and understand all provisions before signing. The terms on Page 2 are incorporated in this document and will constitute a part of the agreement between the parties when signed.

To: _____ **Date:** _____

_____

_____ **Agreement No.** _____

_____ **Project No.** _____

The undersigned Contractor offers to furnish the following:

1 Completion of Fire Fuels Reduction (FFR) and Defensible Space Creation (DSC) as bid and awarded (see attached bid submittal)
2 Scope of work as described in the RFP for Ruth Area Fire Fuel Reduction and Defensible Space Creation (RFP) (Section Three, and Appendix C), attached.
3 Contractor is responsible for following all definitions and terms as provided in RFP (attached).
4 Coordinate and schedule work with Adam Jager at 707-497-9578 or ajager@hbmwd.com
5 Invoicing and Payment shall be as defined in RFP, pages 11-12
6 Insurance certificates required naming HBMWD additionally insured on separate rider.

Contract Price, Not to exceed _____ ☐ **Public Works project - subject to prevailing wage**

CSLB License Number: _____

Completion Date: _____ **DIR Registration Number:** _____

Instructions: Sign and return original. Upon acceptance by the Humboldt Bay Municipal Water District, a copy will be signed by its authorized representative and promptly returned to you. Insert below, the name(s) of your authorized representative(s).

Accepted: Humboldt Bay Municipal Water District

By: _____

Title General Manager

Other Authorized Representative(s)

Adam Jager

Chris Harris

Contractor: _____

(Business name)

By: _____

Title _____

Other Authorized Representative(s)

_____

_____

_____

Contractor or supplier (Contractor), agrees with the Humboldt Bay Municipal Water District that:

a) To the fullest extent permitted by law, Contractor will defend, indemnify and hold harmless the Humboldt Bay Municipal Water District its directors, officers, employees, or authorized volunteers from all claims and demands of all persons arising out of the performance of the work or the furnishing of materials; including but not limited to, claims by the Contractor or Contractor's employees for damages to persons or property except for the sole negligence or willful misconduct or active negligence of the Humboldt Bay Municipal Water District, its directors, officers, employees, or authorized volunteers.

b) By his/her signature hereunder, Contractor certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing the performance of the work of this agreement. Contractor and sub-contractors will keep workers' compensation insurance for their employees in effect during all work covered by this agreement.

c) Contractor hereby certifies that it is registered with the State of California Department of Industrial Relations to: 1) bid on a public works project or 2) work on a public works project. Contractor shall provide proof of its valid registration as a condition of being awarded its contract with District. Contractor further agrees that it is responsible for any and all fines associated with non-registration or lapse in registration.

d) Contractor will file with the Humboldt Bay Municipal Water District before beginning work, certificates of insurance and policy endorsements satisfactory to the Humboldt Bay Municipal Water District evidencing general liability coverage, of not less than $1,000,000 per occurrence ($2,000,000 general and products-completed operations aggregate (if used)) for bodily injury, personal injury and property damage; auto liability of at least $1,000,000 for bodily injury and property damage each accident limit; workers' compensation (statutory limits) and employer's liability ($1,000,000) (if applicable); requiring 30 days (10 days for non-payment of premium) notice of cancellation to the Humboldt Bay Municipal Water District. Such insurance shall be primary and any insurance, self-insurance or other coverage maintained by the Humboldt Bay Municipal Water District, its directors, officers, employees, or authorized volunteers shall not contribute to it. The general liability coverage shall give the, Humboldt Bay Municipal Water District its directors, officers, employees, and authorized volunteers insured status using ISO endorsement CG2010, CG2033, or equivalent. Coverage is to be placed with a carrier with an A.M. Best rating of no less than A-:VII, or equivalent, or as otherwise approved by the Humboldt Bay Municipal Water District. In the event that the Contractor employs other contractors (sub-contractors) as part of the work covered by this agreement, it shall be the Contractor's responsibility to require and confirm that each sub-contractor meets the minimum insurance requirements specified above.

e) If any of the required coverages expire during the term of this agreement, the Contractor shall deliver the renewal certificate(s) including the general liability additional insured endorsement to the Humboldt Bay Municipal Water District at least ten (10) days prior to the expiration date.

f) Contractor shall not accept direction or orders from any person other than the General Manager or the person(s) whose name(s) is (are) inserted on Page 1 as "other authorized representatives."

g) Payment, unless otherwise specified on Page 1, is to be 30 days after acceptance by the. Humboldt Bay Municipal Water District

h) Permits required by governmental authorities will be obtained at Contractor's expense, and Contractor will comply with local, state and federal regulations and statutes including, but not limited to the Cal/OSHA requirements.

i) Any change in the scope of the work to be done, method of performance, nature of materials or price thereof, or to any other matter materially affecting the performance or nature of the work will not be paid for or accepted unless such change, addition or deletion is approved in advance, in writing by a supplemental agreement executed by the Humboldt Bay Municipal Water District. Contractor's "authorized representative(s)" has (have) the authority to execute such written change for Contractor.

j) Contractor shall at all times be an independent contractor of the District. Nothing in this Agreement shall operate or be interpreted to transform the Contractor into an employee, agent, or legal representative of the District in any capacity whatsoever. District shall not assume any liability for the withholding or payment of any federal, state or local taxes in connection with its payments to Contractor for the Services. Contractor shall be responsible for the payment of all wages, payroll taxes, fringe benefits and any other expenses that may become owing to or on behalf of all persons employed by Contractor in providing the Services. Prior to commencing the Services, Contractor shall provide the District with a duly executed IRS Form W 9 and provide Contractor's Employer Identification Number or Social Security Number, as applicable.
It is expressly agreed by the parties that Contractor shall exercise independent judgment, discretion and expertise in performing the Services and that the District's control over Contractor is limited to determining the order or amount of Services to be performed by Contractor, but not the manner in which the Services are performed. Contractor warrants and represents the following:

(a) Contractor has specialized, skill, knowledge and experience providing the Services, and that it is engaged in the same or similar activities for others and that the District is not Contractor's sole client or customer.

(b) Contractor represents that it is engaged in an independent calling and has complied with all local, state, and federal laws regarding business permits and licenses that may be required to carry out the independent calling and to perform the Services.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

RUTH AREA

FIRE FUEL REDUCTION & DEFENSIBLE SPACE PROJECT

REQUEST FOR PROPOSAL (RFP)

DEADLINE FOR SUBMISSION OF PROPOSALS IS: WEDNESDAY, NOVEMBER 16, 2022

PROPOSALS MAY BE SUBMITTED VIA US MAIL OR VIA EMAIL

828 7th Street, Eureka, CA 95501 or HARRIS@HBMWD.COM

SECTION ONE: BACKGROUND AND GENERAL RFP SUMMARY

The August Complex Wildfire of 2020 heavily impacted the area surrounding Ruth Lake Reservoir (Lake), located in Southern Trinity County, California. Along with the destruction of over 1,600 acres of trees and vegetation on property owned by Humboldt Bay Municipal Water District (HBMWD, District), the wildfire destroyed residences, summer cabins and various infrastructure. Areas remaining unburnt after the August Complex Wildfire continue to pose a considerable threat for another severe wildfire due to the existence of overgrown and excessive vegetation; the lack of established defensible space around some structures; and numerous dead, diseased, and dying trees.

The ***Ruth Area Fire Fuel Reduction and Defensible Space Project*** (Project) will focus solely on property owned by the District that was NOT burned by the August Complex Wildfire. This project will help increase fire safety in the Ruth Lake community by reducing fire hazard through the creation of defensible space around structures and the removal of excess fire fuels in the wildland urban interface around Ruth Lake. These fire fuel management activities will reduce the volume of flammable vegetation in the area thereby reducing the chance for wildfire spread into communities around the Lake or for a fire within the communities to spread to adjacent wildlands. Removal of overgrown and excessive shrubs and brush along designated roadways will also provide safer ingress/egress for fire crews to aid in firefighting efforts, improve visibility, and reduce heat exposure for evacuating residents in the event of an approaching wildfire.

Priories for this current and possible future CalFire Fuels Reduction Funding are as follows:

1. **Fire Fuels Reduction (FFR) and Defensible Space Creation (DSC) on unburnt District lands leased to others (Current Project)**
2. *Fire Fuels Reduction by removal of trees left by previous logging activity (Future Proposed Project)*
3. *Fire Fuels Reduction and Defensible Space Creation on District lands not leased to others (Future Proposed Project)*

Humboldt Bay Municipal Water District is soliciting bid proposals from qualified and licensed tree services, forestry contractors, as well as licensed timber operators (LTO). Tree Service contractors should be duly registered and licensed with either a C61/D49 (Tree Service) or C27-D49 (Landscaping Service) issued by the State of California. Services must meet all applicable State and/or Local regulations. Proof of licensing will be required.

The specific locations (Phases) designated for treatment are outlined in detail in *Section Two: Location of Project; M*aps of the main phases are included in *Appendix A: Location - Phase Maps*; Maps of the sub-phases and lease lots are included in *Appendix B: Location – Sub-Phase and Lease Lot Maps*; The work to be completed is outlined in *Section Three: Scope of Work*; and further detailed in *Appendix C: FFR and DSC Requirements.*

Interested contractors are invited to submit bid proposal packets in accordance with the requirements of this Request for Proposals (RFP), outlined in *Section Five: Proposal Package Requirements.* Proposals must be submitted by the deadline via email to Chris Harris, Business Manager at harris@hbmwd.com. You will receive an email confirmation of receipt. Alternatively, hard copies of the proposal may be mailed via USPS to Humboldt Bay Municipal Water District, ATTN: Chris Harris, 828 7th Street, Eureka, CA 95501 (you will not receive confirmation of receipt). Proposals received after the deadline will not be considered.

HBMWD reserves the right to reject any or all Bid Proposals, to waive any informality, minor technical defect, or irregularity in Bid Proposals, and to accept or reject any items of a Bid Proposal. HBMWD, at its discretion, may reject as incomplete any bid which is in any way conditional, includes exceptions, alterations, or omissions, or includes reservations to the Bid Proposal Form, drawings, specifications, or other contract documents. HBMWD reserves the right to reject any and all bids. HBMWD will reject bids from any contractor for whom there is documented evidence of project schedule delays and cost overruns and/or documented inability to meet project performance requirements. Based on available funding, the District reserves the right NOT to complete all phases and/or sub-phases of the project. The District reserves the right to award multiple contracts for different sub-phases for this Project.

SECTION TWO: LOCATION OF PROJECT

This Project is located in Southern Trinity County, California on unburned property owned by Humboldt Bay Municipal Water District in areas surrounding Ruth Lake Reservoir. HBMWD and CalFire have determined three (3) specific phases which have been further divided into nine (9) sub-phases to receive treatment for FFR and DSC. Maps of the three (3) main Phases are provided in Appendix A. Maps of the nine (9) sub-phases and lease lots are provided in Appendix B. *All maps are approximate and for general reference only.*

Each sub-phase includes identified priority lease lots (owned by the District, but leased to others) with various leasehold improvements and structures (owned by the leaseholder). The standards to be applied for each phase/sub-phase are the same, but the work required within the different sub-phases at individual lease lot properties may be different. For example, some lease lots have shared driveways requiring substantial FFR ingress/egress improvement while some lease lots have individual, short driveways which do not require FFR ingress/egress improvement.

Prior to bidding contractors are **required** to attend scheduled site visits with a District Representative to best fully understand the scope of work within each sub-phase and on each lease lot, as well as the ingress/egress improvement expected for each sub-phase. Since many lease lots are behind locked gates, accessibility prior to the project being awarded is limited. Trees to be treated are clearly marked with paint. Ribbons have been used to designate ingress/egress improvement priorities. Sample pictures of marked trees, ribbon placement, etc. are provided in Appendix G. Site visits are coordinated by District Representative ***Adam Jager (707) 497-9578.*** Entering a lease lot without permission is prohibited.

Phase 1 is located on APN 018-490-011-000 and includes unburnt areas on the Lower Mad River Road, south of the R.W. Matthews Dam to south of Ruth Lake Marina. This phase includes FFR and DSC for seventeen (17) different lease lots (some with shared driveways)

situated on approximately seven (7) acres. There are approximately forty-six (46) various structures located on these lease lots that may/may not require DSC. Phase 1 also includes approximately 1 mile of ingress/egress improvement.

Sub-Phase 1A includes lease lots 2, 3, 4, 6, 7, 8, 9

Sub-Phase 1B includes lease lots 10, 10a, 10c, 10d, 10e

Sub-Phase 1C includes lease lots 11a, 11b, 12, 13

Sub-Phase 1D includes lease lot 15

Phase 2 is located on APN 020-320-002-000 and includes unburnt areas on the Ruth-Zenia Road, east of Hetton Cove. This phase includes FFR and DSC for four (4) different lease lots situated on approximately two (2) acres. There are approximately nine (9) various structures located on these lease lots which may/may not require DSC. Phase 2 also includes approximately 1,000' of ingress/egress improvement.

Sub-Phase 2A includes lease lots 101, 102, 101f, 101g

Phase 3 is located on APN 020-100-032-000 and includes unburnt areas near the rodeo grounds, south of Ruth-Zenia Road, and west of the Mad River. This phase includes FFR and DSC for eighteen (18) different lease lots situated on approximately eight (8) acres. There are approximately fifty-six (56) various structures located on these lease lots which may/may not require DSC. Phase 3 also includes over 2,500' of ingress/egress improvement.

Sub-Phase 3A includes Yokuts Road for substantial ingress/egress improvement

Sub-Phase 3B includes lease lots 114h, 114i, 114j, 114n, 115, and 115a

Sub-Phase 3C includes lease lots 114d, 114e, 114e1, 114e2, 114f, 114g

Sub-Phase 3D includes lease lots 114a, 114b, 114c, 114k, 114l, 114m

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095
OFFICE 707-443-5018 ESSEX 707-822-2918
FAX 707-443-5731 707-822-8245
EMAIL OFFICE@HBMWD.COM
Website: www.hbmwd.com

BOARD OF DIRECTORS
SHERI WOO, PRESIDENT
NEAL LATT, VICE-PRESIDENT
J. BRUCE RUPP, SECRETARY-TREASURER
MICHELLE FULLER, DIRECTOR
DAVID LINDBERG, DIRECTOR

GENERAL MANAGER
JOHN FRIEDENBACH

October 7, 2022

Joan Kimsey
Hazard Mitigation Grants Specialist, Coastal Unit
Cal OES
Via email: ContractorJoan.Kimsey@CalOES.ca.gov

RE: DR-4558-PA0389
HBMWD Turbidity Reduction facility Power Resiliency Project Grant Application
RFI Dated October 5, 2022

Dear Joan:

The following information is provided in response to the above referenced Request For Information (RFI) dated October 5, 2022. A copy of which is attached for reference.

1. **Environmental & Historic Preservation (EHP):**
   For site photo B-3, gravel has already been installed on the site as part of the grading and site preparation. We need confirmation from the applicant, has the boring test been completed for Phase 1?

Response:. *No. The borings have not been completed.*

As stated in our grant application Scope of Work: …Please note: as shown in 05 Maps Figures 1 and 2, a portion of the project area is currently wooded. However, prior to start of this project, this area will be cleared as part of a 3-acre timber harvest conversion project. No HMG funds will be use for this 3-acre conversion, and the 3-acre conversion is scheduled to proceed regardless of this project. The excavation and grading associated with this project will occur within previously disturbed areas that are part of the existing HBMWD Essex facilities…."

As communicated in our April 28, 2022 RFI response: "The proposed geotechnical investigation will consist of the installation of two to three geotechnical borings to approximately 20 feet deep within the footprint of the new generator and fuel tank as shown on the drawings and figures submitted with the grant application. All the geotechnical borings will be in locations that have been previously disturbed as a result of a separate three-acre forest conversion project that was recently completed by the District…."

The light ½ inch of gravel was placed in the former log deck landing for the 3 acre conversion to minimize erosion from the site. This will not impact the 20 foot deep borings proposed in the HMG grant application. The proposed soil borings are to determine the subsurface soil stability and will be utilized in the engineering design for the footings and foundations for the generator and associated fuel tank.

As previously communicated, the District acknowledges and affirms that costs associated with grading and preparing the site as indicated in the previously provided photos were incurred prior to any grant award and are therefore, not eligible for grant reimbursement. The District also acknowledges and affirms that the costs for the attached Cultural Resources Report may not be eligible for reimbursement by FEMA under the Power Resiliency project.

We appreciate the opportunity to provide supplemental information to our application. If you have any additional questions or need any additional information, please do not hesitate to contact us.

Respectfully,

John Friedenbach
General Manager

Cc: Nathan Stevens, GHD

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

828 SEVENTH STREET, PO BOX 95 • EUREKA, CALIFORNIA 95502-0095
OFFICE 707-443-5018 ESSEX 707-822-2918
FAX 707-443-5731 707-822-8245
EMAIL OFFICE@HBMWD.COM
Website: www.hbmwd.com

BOARD OF DIRECTORS
SHERI WOO, PRESIDENT
NEAL LATT, VICE-PRESIDENT
J. BRUCE RUPP, SECRETARY-TREASURER
MICHELLE FULLER, DIRECTOR
DAVID LINDBERG, DIRECTOR

GENERAL MANAGER
JOHN FRIEDENBACH

October 18, 2022

Joan Kimsey
Hazard Mitigation Grants Specialist, Coastal Unit
Cal OES
Via email: Joan.Kimsey@caloes.ca.gov

RE: DR4569 PA0538
HBMWD Dam Advance Assistance Project Grant Application
RFI Dated October 12, 2022

Dear Joan:

The following information is provided in response to the above referenced Request For Information (RFI) dated October 12, 2022. A copy of which is attached for reference.

1. **Are there any previous cultural resource management documents for the project area, including results of previous records searches? If so, please provide those documents and/or search results.**

   Response: *The District has received previous cultural resource records search documents for re-forestation projects that we are conducting around Ruth Lake. These confidential documents have been sent directly to Lisa Holm, Environmental Protection Specialist / Archaeologist Environmental & Historic Preservation, at FEMA. In addition, you should note that the location of the dam, which is the project site for our Advance Assistance grant application, underwent heavy construction activities during the late 1950's and early 1960's, so it is nearly 100% certain that there are no existing cultural resources located at the location for our grant application activities.*

2. **The RFI Response from HBMWD, dated 04/27/22, states that the dam is not a designated historic property, nor does it meet the criteria for being added to the historic property register. Furthermore, the dam is not within a designated historic district. Does the District have reports or records to support this statement? Was a formal evaluation made by an architectural historian regarding the historic significance of the dam?**

   Response: *The District consulted a local archaeologist and historian who has a M.A. degree in Cultural Resource Management and Archaeology and over 40 years of experience working on the North Coast of California, including the completion over 1,000 cultural resources project in Humboldt, Trinity, Siskiyou, Sonoma, Mendocino, and Del Norte Counties. The response to these questions in the previous RFI response dated 04/27/22 was based on the information obtained during this consultation. No written reports were generated from this consultation.*

We appreciate the opportunity to provide supplemental information to our application. If you have any additional questions or need any additional information, please do not hesitate to contact us.

Respectfully,
John Friedenbach
General Manager

Cc: Nathan Stevens, GHD

John Friedenbach

From: Kimsey, Joan (Contractor)@CalOES.ca.gov <ContractorJoan.Kimsey@CalOES.ca.gov>
Sent: Wednesday, October 12, 2022 1:51 PM
To: 'friedenbach@hbmwd.com'; 'nathan.stevens@ghd.com'
Cc: Telfer, Michele@CalOES
Subject: DR4569 PA0538 Humboldt Bay Municipal Water District - HBMWD Matthews Dam Advance Assistance - FEMA EHP RFI

Hello John,

Cal OES has received the following Request for Information from FEMA regarding DR4569-538-08R Humboldt Bay MWD Matthews Dam Advance Assistance:

Please provide the following information for EHP review:

1. Are there any previous cultural resource management documents for the project area, including results of previous records searches? If so, please provide those documents and/or search results. *This will be used to evaluate potential impacts to cultural resources.*

2. The RFI Response from HBMWD, dated 04/27/22, states that the dam is not a designated historic property, nor does it meet the criteria for being added to the historic property register. Furthermore, the dam is not within a designated historic district. Does the District have reports or records to support this statement? Was a formal evaluation made by an architectural historian regarding the historic significance of the dam? *This will be used to evaluate potential impacts to historically aged built resources.*

Please provide the RFI responses to Cal OES no later than **Wednesday, October 19, 2022.** If you believe you will need additional time to respond to the RFI, please let me know ASAP and I will request an extension from FEMA.

Please let me know if you have any other questions or concerns.

Thank You,

Joan Kimsey
Grant Specialist –Coastal Unit
Hazard Mitigation Grants Division
Recovery - Hazard Mitigation Assistance Branch
California Governor's Office of Emergency Services
Cal OES
GOVERNOR'S OFFICE OF EMERGENCY SERVICES
Mobile: (916) 712-0667
contractorJoan.Kimsey@caloes.ca.gov

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Humboldt
825 5th Street, 5th Floor
Eureka, CA 95501

From: (Public Agency): Humboldt Bay Municipal Water District
PO Box 95
Eureka, CA, 95502
(Address)

Project Title: Collector 2 Rehabilitation Project

Project Applicant: Humboldt Bay Municipal Water District

Project Location - Specific:
7270 West End Rd. Collector 2 Lat: 40.907534°, Long: -124.048158°

Project Location - City: Essex (near Arcata) Project Location - County: Humboldt

Description of Nature, Purpose and Beneficiaries of Project:
See attachment.

Name of Public Agency Approving Project: Humboldt Bay Municipal Water District

Name of Person or Agency Carrying Out Project: Humboldt Bay Municipal Water District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: 15301 (b), 15302 (c)
- ☐ Statutory Exemptions. State code number:

Reasons why project is exempt:
See attachment.

Lead Agency
Contact Person: John Friedenbach, General Manager Area Code/Telephone/Extension: 707-443-5018

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ▪ Yes No

Signature: _____ Date: _____ Title: General Manager

▪ Signed by Lead Agency Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

Notice of Exemption

Description, Nature, Purpose, and Beneficiaries of Project:
HBMWD owns and operates four Ranney Collectors in or adjacent to the Mad River between Arcata and Blue Lake, California, along the Highway 299 and West End Road corridor. These collectors are the source for HBMWD's potable water system that delivers drinking water to the Cities of Arcata, Blue Lake and Eureka, as well as the Fieldbrook-Glendale, Humboldt, Manila, and McKinleyville Community Services Districts and portions of the Samoa Peninsula. The beneficiaries include all of the Humboldt County residents that receive their potable water from these agencies , approximately 88,000 people. The collector wells consist of concrete caissons that extend downward approximately 80 feet underground. Near the bottom of the caissons, there are 12-inch screened laterals that extend horizontally outward from the caisson. Water flows through these laterals into the caisson and is then pumped from the caisson into the water system for treatment and distribution. Due to the aging of these collectors, and the rusting of the original steel lateral material, HBMWD has conducted a systematic approach to the assessment and planning for their refurbishment. New stainless steel screened laterals were installed in the District's Collector 3 in 2012 and Collector 1 in 2016.

The Collector 2 Rehabilitation Project will include the installation of up to four new laterals at Collector 2 that will effectively replace the existing laterals in the collector. The construction process consists of the placement of a large hydraulic ram into the concrete caisson, which projects the new laterals out horizontally into the surrounding gravel matrix. The valves on the existing laterals are closed and the caisson is dewatered. Holes are then cored through the walls of the caisson at the locations of the proposed laterals, which will be located just above the existing laterals at a depth of approximately 75 feet below ground surface. The hydraulic ram is then lowered into the caisson and a steel carrier pipe with a "cutting head" is pushed out into the gravels. The cutting head consists of a bullet shaped steel cutter with holes in it. As the cutting head is pushed out into the gravels, flushed gravels are washed back through the head and the carrier pipe, back into the caisson, where they are pumped out to the surface. Occasionally, water is pumped through the cutting head to facilitate this flushing. When the carrier pipe reaches the length desired, in this case approximately 150 feet, the projection of the carrier pipe is halted, and stainless steel wire wrapped screen is inserted through the carrier pipe to the end. The carrier pipe is then withdrawn and removed, leaving the well screen behind. The well screen is then developed like a typical groundwater well, by pumping and surging the screen to settle the gravels around the well screen and remove the fines. Development can also consist of the use of nitrogen gas which is expressed at pressure into the matrix to settle the gravels and remove the fines. A valve is then placed on the end of the screen, the core is sealed, and the collector is placed back into service. Almost all of this work is conducted within the caisson, well below the existing ground surface and river bed and would not impact the river or river channel.

Water flows into the caisson and is immediately pumped out during this construction. A temporary percolation pond will be constructed at the District's Park 1 near the collector, and dirty water will be piped to that pond for percolation/disposal. The pond will be backfilled upon project completion. The collector will fill with clean water overnight, and that clean water will be pumped down at the beginning of every workday and out to the District's Pump Station 6 forebay at the Mad River.

Notice of Exemption

Reasons why project is exempt: Project activities described within a Class I (15301) Categorical Exemption for existing facilities must involve negligible or no expansion of the existing use, other than as allowable within the Class 1 definition, and includes activities such as, but not limited to "restoration or rehabilitation of deteriorated or damaged facilities or mechanical equipment to meet current standards of public health and safety." The proposed project proposes replacement lateral lines, to replace existing lines that have degraded in quality over time, and replace drinking water capacity as previously provided by the older laterals when they were fully functioning. Each lateral is proposed to be 150 feet in length, with 140 feet of stainless steel screen, for a total of 750 feet of replacement laterals with a total of 700 feet of effective screen (to replace the existing 756 feet of screened laterals). There is no increase in length of lateral screening, and although the modern screens are more efficient than the previous screens, the new screens will not substantially increase capacity beyond what was previously provided when old laterals were fully functioning. The proposed project fits within the description of the Class 1 (15301) Categorical Exemption.

Project activities described within a Class 2 (15302) Categorical Exemption include replacement or reconstruction of existing utility systems and/or facilities with substantially the same purpose and capacity as the structure replaced. The proposed project proposes replacement lateral lines to replace existing lines that have degraded in quality over time and replace drinking water capacity as previously provided by the older laterals when they were fully functioning. The proposed project fits within the description of the Class 2 (15302) Categorical Exemption.

The proposed project entails no exceptions to categorical exemptions.

Humboldt Bay Municipal Water District

To: Board of Directors

From: Chris Harris

Date: November 10, 2022

Re: Draft Audit for the year ended June 30, 2021 (FY20/21)

Discussion

For the audit of fiscal year 2020/21, staff again worked with Michael O'Conner from R. J. Ricciardi, Inc., located in San Rafael, California. Staff was once more very appreciative of the support and assistance received from Mr. O'Conner and his staff for this audit year. The District was not required to complete a "Single Audit" for FY2020/21, but it is anticipated it will be required for FY2021/22.

The FY20/21 audit was successful and there were no audit findings – this is considered a "clean opinion." As noted on page at the bottom of page 2 of the Board of Directors and Management Report, there were four adjustments (journal entries) that were added by the audit team. One adjustment is an "audit only" adjustment to balance equity accounts and the other three are related to the GASB 75 (OPEB) Report, which staff was aware had not previously been posted based on timing. The adjustments included the following:

- AJE #1 – *Record Immaterial Equity Reconciliation Adjustment*
- AJE #2 – *Update total OPEB Liability per GASB 75 Report*
- AJE #3 – *Update Deferred Outflow of Resources per GASB 75 Report*
- AJE #4 – *Record Deferred Inflows per GASB 75 Report*

Review

The Audit Committee is scheduled to meet with Mr. O'Conner via Zoom on Tuesday, November 8th. Any changes, questions, or suggestions that arise from this meeting will be brought to the full Board during the November 10th Board Meeting.

Mr. O'Conner will also be attending the Board Meeting on November 10th via Zoom and will address any additional questions and comments.

Recommendation

- Staff recommends the Board follow the Audit Committee's recommendation.

Attachments

DRAFT - Board of Directors and Management Report FYE 6/30/2021
DRAFT – Audit Report FYE 6/30/2021

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

BOARD OF DIRECTORS & MANAGEMENT REPORT

For the Year Ended
JUNE 30, 2021

TABLE OF CONTENTS

Board of Directors
Humboldt Bay Municipal Water District
Eureka, California

In planning and performing our audit of the basic financial statements of Humboldt Bay Municipal Water District for the fiscal year ended June 30, 2021, in accordance with auditing standards generally accepted in the United States of America, we considered its internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing our opinion on the basic financial statements, but not for the purpose of expressing an opinion on the effectiveness of its internal control. Accordingly, we do not express an opinion on the effectiveness of Humboldt Bay Municipal Water District's internal control.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or a combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or a combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

Our consideration of internal control was for the limited purpose described in the first paragraph and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses, as defined above. We did not identify any deficiencies in internal control that we consider to be material weaknesses, as defined above.

During our audit, we noted certain matters involving internal controls and other operational matters that are presented for your consideration in this report. We will review the status of these comments during our next audit engagement. Our comments and recommendations, all of which have been discussed with appropriate members of management, are not intended to be all-inclusive, but rather represent those matters that we considered worthy of your consideration. Our comments and recommendations are submitted as constructive suggestions to assist you in strengthening controls and procedures; they are not intended to reflect on the honesty or integrity of any employee. We will be pleased to discuss these comments in further detail at your convenience, to perform any additional study of these matters, or to assist Humboldt Bay Municipal Water District in implementing the recommendations.

This report is intended solely for the information and use of the management and Board of Directors of Humboldt Bay Municipal Water District and is not intended to be, and should not be, used by anyone other than these specified parties.

We thank Humboldt Bay Municipal Water District's staff for its cooperation during our audit.

R.J. Ricciardi, Inc.
Certified Public Accountants

San Rafael, California

To the Board of Directors
Humboldt Bay Municipal Water District
Eureka, California

We have audited the financial statements of Humboldt Bay Municipal Water District for the year ended June 30, 2021. Professional standards require that we provide you with the following information related to our audit.

Our Responsibility under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated May 25, 2022, our responsibility, as described by professional standards, is to plan and perform our audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement and are fairly presented in accordance with U.S. generally accepted accounting principles. Because an audit is designed to provide reasonable, but not absolute assurance and because we did not perform a detailed examination of all transactions, there is a risk that material misstatements may exist and not be detected by us.

As part of our audit, we considered the internal control of Humboldt Bay Municipal Water District. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

Qualitative Aspects of Accounting Practices
Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by Humboldt Bay Municipal Water District are described in Note 1 to the financial statements. No new accounting policies were adopted, and the application of existing policies was not changed during the year. We noted no transactions entered into by Humboldt Bay Municipal Water District during the year for which there is a lack of authoritative guidance or consensus. There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected. We evaluated the key factors and assumptions used to develop the accounting estimates in determining that they are reasonable in relation to the financial statements taken as a whole. The most sensitive estimates affecting the financial statements were:

- Accrual and disclosure of compensated absences.
- Capital asset lives and depreciation expense.
- Pension plan and post employment health benefits actuarial valuations.
- Fair value of investments and financial instruments.

Difficulties Encountered in Performing the Audit
We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements
Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. Management has corrected all such misstatements. The four audit adjustments detected as a result of audit procedures and corrected by management were material to the financial statements taken as a whole.

Disagreements with Management
For purposes of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations
We have requested certain representations from management that are included in the management representation letter dated XX/XX/XX.

Management Consultations with Other Independent Accountants
In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to Humboldt Bay Municipal Water District's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues
We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as Humboldt Bay Municipal Water District's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters
We applied certain limited procedures to the Management's Discussion and Analysis, Schedule of the Proportionate Share of Net Pension Liability (Asset), the Schedule of Contributions, Schedule of Change in the Net OPEB Liability and Related Ratios, and the Schedule of Humboldt Bay Municipal Water District's Contributions – OPEB, which is required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

This report is intended solely for the information and use of management and Board of Directors of Humboldt Bay Municipal Water District and is not intended to be, and should not be, used by anyone other than these specified parties.

Humboldt Bay Municipal Water District
BOARD OF DIRECTORS & MANAGEMENT REPORT
For the Year Ended June 30, 2021

Current Year Observations

There were no current year observations.

Prior Years Observations

1) Equity Accounts

Observation:

Humboldt Bay Municipal Water District has gone through an accounting software conversion. Equity accounts carried forward to the new software did not agree with the prior year audit amounts. We also noted entries being made to the equity accounts during the year. These differences may be attributable to the addition of the more robust software, allowing the District to report in more detail than the previous software.

Recommendation:

We recommended Humboldt Bay Municipal Water District reconcile and analyze their equity accounts to ensure amounts agree with the prior year ending amounts.

Conclusion:

There was a $32,000 entry required to reconcile the July 1, 2020, beginning fund equity balance.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

EUREKA, CALIFORNIA

BASIC FINANCIAL STATEMENTS

JUNE 30, 2021

TABLE OF CONTENTS

INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Humboldt Bay Municipal Water District
Eureka, California

Report on the Financial Statements
We have audited the accompanying financial statements of the business-type activities and the major fund of Humboldt Bay Municipal Water District, as of and for the year ended June 30, 2021, and the related notes to the financial statements, which collectively comprise Humboldt Bay Municipal Water District's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements
Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility
Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the State Controller's Minimum Audit Requirements and Reporting Guidelines for California Special Districts. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to Humboldt Bay Municipal Water District's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Humboldt Bay Municipal Water District's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Opinions
In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities and the major fund of Humboldt Bay Municipal Water District, as of June 30, 2021, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Report on Summarized Comparative Information

We have previously audited Humboldt Bay Municipal Water District's June 30, 2020 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated December 9, 2021. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2020, is consistent, in all material respects, with the audited financial statements from which it has been derived.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis (pages 3-11) and the required supplementary information (page 35-38), as listed in the table of contents, be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

R. J. Ricciardi, Inc.
Certified Public Accountants

San Rafael, California
October 21, 2022

Humboldt Bay Municipal Water District
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
For the Year Ended June 30, 2021

The purpose of this section of the financial statements is to present management's discussion and analysis of the Humboldt Bay Municipal Water District's (District) financial performance during the fiscal year that ended on June 30, 2021. We recommend that readers review this in conjunction with the remainder of the financial statements.

INTRODUCTION AND BACKGROUND

We would first like to provide a brief overview of the District and the customers served which will provide a context for the financial statements and the discussion which follows.

The Regional Water System:
The District was formed in 1956 pursuant to the Municipal Water District Act of the California Water Code. The District completed construction of the regional water system in 1961, and service commenced to the Cities of Eureka and Arcata and two pulp mills on the Samoa Peninsula. Since the initial construction, a number of additions and improvements to the regional system have been made, and additional wholesale customers have joined the regional system. Since inception, this regional water system has efficiently and reliably served the municipal and industrial water needs of customers in the Humboldt Bay region.

The regional water system includes the following components: R.W. Matthews Dam (which forms Ruth Lake) and the Gosselin Power House, in Trinity County; and the following facilities in Humboldt County: 1) diversion works on the Mad River northeast of Arcata capable of supplying 75 million gallons per day, 2) treatment facilities, including the Lloyd L. Hecathorn Turbidity Reduction Facility, 3) over 35 miles of pipeline infrastructure around the Humboldt Bay area to deliver water to the wholesale customers, and 4) extensive communication and control systems to operate and control the regional system including the John R. Winzler Operations and Control Center.

Customers Served and Associated Wholesale Water Contracts:
The District supplies treated domestic water to seven municipal agencies on a wholesale basis. The municipalities served by the District are the Cities of: Arcata, Blue Lake and Eureka, and the Community Services Districts of: Fieldbrook/Glendale, Humboldt, Manila and McKinleyville. Via the wholesale relationship, the District serves water to an estimated residential population of 94,000 (approximately 65% of the entire County), and to numerous businesses, industries and educational institutions.

The District provides retail water service to about 200 customers who reside outside the service territory of other water purveyors, but are located in close proximity to District facilities. Approximately 100 of these customers are located on the Samoa Peninsula. The local residents are in the process of forming the Peninsula Community Services District to perform water, sewer, fire protection, parks and recreation services. Once formed and operational, the District retail customers located within that jurisdictional boundaries will cease being retail customers of the District. The financial impact to the District has not been analyzed. There is no definitive date to transition these District retail customers to the Peninsula CSD. However, it is expected to occur within the next two to three years.

The District also has facilities to supply untreated water to customers on the Samoa Peninsula. The District was serving one wholesale industrial customer (pulp mill) until it ceased operations on October 15, 2008. Recently there is renewed interest in the industrial raw water that the District is able to supply to the Samoa Peninsula. Currently, Nordic Aquafarms project CDP has been approved by the Humboldt County Planning Commission, and is working it's way through the appeal and public comment process. Nordic is anticipating finalization in 2022 and then will begin developing land-based aquaculture on the Peninsula. In addition to Nordic, there are also several other entities involving aqua culture that are currently considering siting on the Samoa Peninsula due in part to the availability of the raw water from the District. The District is participating on the Samoa Peninsula Infrastructure Workgroup with other public agencies to explore the most beneficial mechanism for obtaining funding to improve infrastructure on the Samoa Peninsula for economic development improvements and the betterment of the community members who live there and the economy of Humboldt County.

Ultimately, this increased economic and water dependent activity on the Samoa Peninsula is expected to revitalize the District's industrial water system albeit at a much lower consumption rate than experienced by the former pulp mills.

The District has long-term contracts in place with each of its seven wholesale municipal customers. These 20-year contracts were amended in early 2017 and have an effective date of July 1, 2017. These contracts will be in place until June 30, 2037, with an opportunity to extend for another ten years.

These contracts define the terms and conditions by which the District provides water service to its customers. The contracts specify that all operating, maintenance and capital costs associated with the regional water system are paid for by the wholesale customers. The contracts also specify the manner in which these costs are allocated among the wholesale customers. Furthermore, they specify that most revenues received by the District, other than those associated with wholesale water sales, are credited back to the wholesale customers, and thus offset the costs that the wholesale customers otherwise pay. Examples of such revenues which are credited back to the wholesale customers include the District's share of 1% property taxes, a portion of power sales from the hydro-electric facility, interest income, revenues associated with retail water service, and other miscellaneous revenues.

A summary of the current cost allocation provisions of the wholesale contract is as follows:

Type of Cost	Municipal Customers' Cost Share	Industrial Customer(s) Cost Share
Debt Service for Turbidity Reduction Facility	100%	0%
Operation, Maintenance and Capital Expenditures associated with drinking water treatment facilities (i.e., facilities associated with providing safe drinking water in accordance with federal and state requirements).	100%	0%
Operation, Maintenance and Capital Expenditures associated with all other aspects of the regional water supply, pumping and distribution system (other than power for pumping water). *Change in % due to pulp mill closure.	55% increased to 100% effective April 1, 2009*	45% decreased to 0% effective April 1, 2009*
Power Costs for Pumping Water	In proportion to actual power use.	n/a

Additionally, the wholesale contracts provide that "Additions to Reserves" may be charged to the wholesale customers should the District need to replenish its General Reserve level. In FY2017-18, FY2018-19, FY2019-20, and FY2020-21, the charges for additions to reserves to the wholesale customers was $350,000.

OVERVIEW OF THE FINANCIAL STATEMENTS

This discussion and analysis is intended to serve as an introduction to the District's basic financial statements. The District's basic financial statements are comprised of several components: a) the Statements of Net Position, b) the Statements of Revenues, Expenses, and Changes in Net Position, and c) the Statements of Cash Flows. These financial statements present the District's financial position on an enterprise fund basis. An enterprise fund accounts for goods or services which are provided to outside parties – in the District's case, this is wholesale and retail water service.

BASIC FINANCIAL STATEMENTS

The financial statements are designed to provide readers with a broad overview of the District's finances, in a manner like a private-sector business. These statements offer short- and long-term financial information about District activities.

The Statement of Net Position includes all of the District's assets and liabilities and provides information about the nature and amounts of investments in resources (assets) and the obligations to District creditors (liabilities). It also provides the basis for evaluating the capital structure of the District and assessing the liquidity and financial flexibility of the District.

All of the current year's revenues and expenses are accounted for in the Statement of Revenues, Expenses, and Changes in Net Position. This statement measures the results of the District's operations over the past year and can be used to determine the District's general financial well-being and whether the District has recovered its costs through its water charges.

The final financial statement is the Statement of Cash Flows. The primary purpose of this statement is to provide information about the District's cash receipts and cash payments during the reporting period. The statement reports cash receipts, cash payments, and the changes in cash resulting from operations and investments. It also provides answers to such questions as where cash came from, what was cash used for, and what was the change in cash balance during the reporting period.

There may be minor rounding differences between the following tables and the financial statements.

FINANCIAL HIGHLIGHTS

- The District's net position was $31,226,980 as of June 30, 2021, an increase of $5,336,402 compared to June 30, 2020.
- Revenues were $12,741,456, an increase of $2,197,033 from FY 2019-20.
- Expenses were $7,448,132, a decrease of $540,321 from FY 2019-20.

SINGLE AUDIT ACT REPORT

The District was not subject to the Single Audit Act for FY2020-21. This is a separate audit that focuses specifically on Federal funding sources when an agency expends/receives funds in excess of $750,000 over the course of a fiscal year. The Single Audit focuses specifically on auditing the funds spent/received from the Federal Government – for Humboldt Bay Municipal Water District, this includes funds allocated by FEMA for Hazard Mitigation Grants.

DISCUSSION AND ANALYSIS

Our analysis of the District begins on page 12 of the financial statements. The Statements of Net Position present information on all of the District's assets and liabilities, with the difference between the two reported as net position. Over time, increases or decreases in net position may serve as a useful indicator of whether the financial position of the District is improving or deteriorating. A summary of the District's Condensed Statements of Net Position is presented in Table 1 below.

TABLE 1

CONDENSED STATEMENTS OF NET POSITION

			Change	
ASSETS	**FY 2020-2021**	**FY 2019-2020**	**$**	**%**
Current Assets	$8,750,885	$4,814,641	$3,936,244	81.76%
Restricted Cash & Investments	5,427,170	4,499,950	927,220	20.61%
Land, Property & Equipment (net Accum. Depr.)	26,193,527	28,316,486	(2,122,959)	-7.50%
Total Assets	$40,371,582	$37,631,077	$2,740,505	7.28%
Deferred Outflows of Resources	1,037,378	1,126,728	(89,350)	-7.93%
LIABILITIES				
Current Liabilities	1,702,995	3,785,902	2,082,907	-55.02%
Post-Retirement Health Benefits Obligation	3,011,345	4,351,625	(1,340,280)	-30.80%
Net Pension Liability	3,410,152	3,155,817	254,335	8.06%
Long-term Debt	744,151	1,448,383	(704,232)	-48.62%
Total Liabilities	8,868,643	12,741,727	3,873,084	-30.40%
Deferred Inflows of Resources	1,313,337	125,500	1,187,837	946.48%
NET POSITION				
Net Investment in Capital Assets	24,745,059	26,163,785	(1,418,726)	-5.42%
Restricted (for debt service)	310,891	181,836	129,055	70.97%
Restricted (for capital projects)	4,695,411	2,384,515	2,310,896	96.91%
Restricted (for credits to municipalities)	987,435	450,593	536,842	119.14%
Unrestricted	488,184	(3,290,151)	3,778,335	-114.84%
TOTAL NET POSITION	$31,226,980	$25,890,578	$5,336,402	20.61%

As can be seen from the table above, the net position as of June 30, 2021 was $31,226,980, an increase of $5,336,402 as compared to June 30, 2020. The majority of this change is due to increased advanced charges collected for the required District match for upcoming large grant funded projects.

The largest portion of the District's net position is its investment in capital assets called property and equipment (e.g., land, buildings, equipment, and water system infrastructure), less any related debt used to acquire those assets that is still outstanding. The District uses these capital assets to provide water services to its wholesale and retail customers, and consequently, these assets are not available for future spending. Although the District's investment in its capital assets is reported net of related debt, it should be noted that the resources needed to repay this debt must be provided from other sources, since the capital assets themselves cannot be used to satisfy these liabilities.

The Statements of Revenues, Expenses, and Changes in Net Position (page 13) present information showing how the District's net position changed during the most recent fiscal year. All changes in net position are reported as soon as the underlying event giving rise to the change occurs, regardless of the timing of related cash flows. Thus, revenues and expenses are reported in this statement for some items that will result in cash flows in future fiscal periods (e.g. uncollected taxes, or earned but unused vacation leave).

A summary of the District's Condensed Statements of Revenues, Expenses, and Changes in Net Position is presented in Table 2.

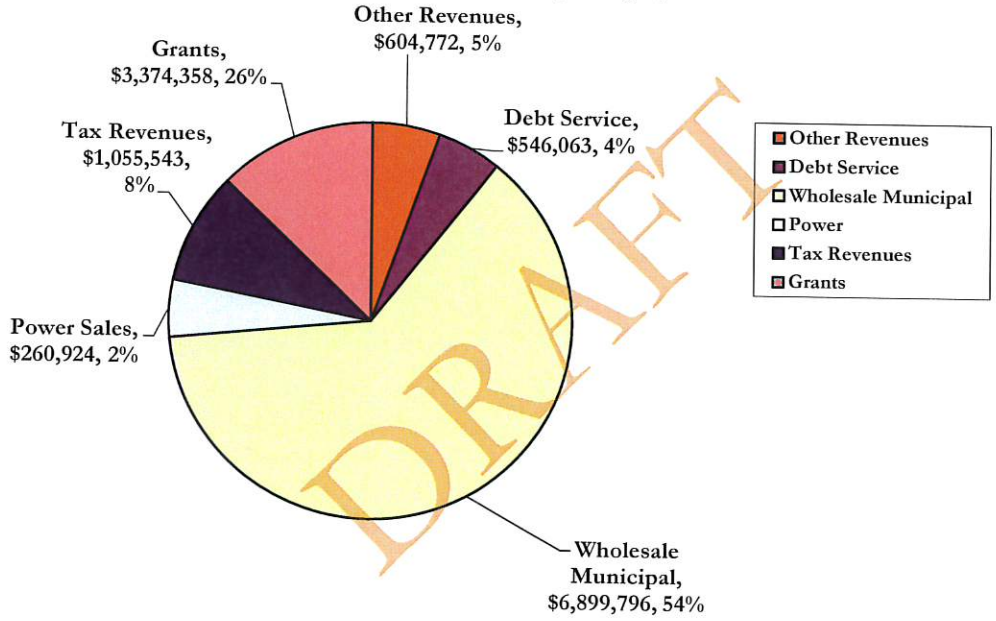
TABLE 2
CONDENSED STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION

	FY 2020-2021	FY 2019-2020	Change $	Change %
REVENUES				
***Operating:**				
Water Sales	$6,899,796	$6,867,099	$32,697	0.48%
Power Sales	260,924	349,052	(88,128)	-25.25%
SRF Debt Service Receipt	546,063	501,726	4,337	8.84%
Other Operating	573,721	411,713	162,008	39.35%
***Non-Operating:**				
Taxes	1,055,543	996,833	58,710	5.89%
Interest Income	31,051	78,556	(47,505)	-60.47%
Grant Revenues	3,374,358	1,339,444	2,034,914	151.92%
Total Revenues	12,741,456	10,544,423	2,197,033	20.84%
EXPENSES				
Operating expense	6,433,252	6,985,703	(552,451)	-7.91%
Non-operating expense	5,292	9,257	(3,965)	-42.83%
Depreciation	1,426,647	1,400,033	26,614	1.90%
Less Reimbursements	(417,059)	(406,540)	(10,519)	2.59%
Total Expenses	7,448,132	7,988,453	(540,321)	-6.79%
Capital Contributions	43,078	52,896	(9,818)	100%
Change in Net Position	5,336,402	2,608,866	2,727,536	104.55%
Beginning Net Position	25,890,578	23,281,712	2,608,866	11.21%
Ending Net Position	$31,226,980	$25,890,578	$5,336,402	20.61%

While the Statements of Net Position show the changes in financial position, the Statements of Revenues, Expenses, and Changes in Net Position explain the nature and source of these changes. As shown in Table 2, the change in net position increased by $5,336,402 compared to the prior year. The changes in revenues and expenses which contributed to this change in net position are reflected in the above line-item detail.

As a supplement to the Statements of Revenues, Expenses, and Changes in Net Position, Chart 1 presents operating, and non-operating revenues earned in FY 2020-21 by category along with the proportionate share of the total revenue each category represents. The total revenues reflected in Chart 1 are $12,741,456. The municipal customer receipts of $546,063 for repayment of the District's SRF Loan for the Turbidity Reduction Facility, which is further described in the subsequent Long-Term Debt section and the grant funding receipts of $3,374,358, are associated with repayment of long-term debt and special funding respectively and not current operations. The major fluctuations in revenues and expenses relate to the increased grant funding and related expenditures. The power revenue was again lower this year due to continuing drought conditions.

Chart 1 Revenues Received by Category for FY 2020-21



Total Revenues $12,741,456

PROPERTY AND EQUIPMENT

The District has invested approximately $69,674,918 in a broad range of infrastructure for the regional water system. Table 3 presents a summary of the District's property and equipment. The total decrease in the current year property and equipment in the amount of $2,122,959 is mostly attributable to the Water System depreciation.

TABLE 3
PROPERTY AND EQUIPMENT

	FY 2020-2021	FY 2019-2020	Change $	Change %
Buildings (includes land)	$4,668,599	$4,590,623	$77,976	1.70%
Equip - Auto/Mobile/Office/Radio/Tools	2,958,432	2,635,786	322,646	12.24%
Water System Infrastructure (excludes land)	62,047,887	61,879,363	168,524	0.27%
Total Property and Equipment	69,674,918	69,105,772	569,146	0.82%
Less Accumulated Depreciation	(45,129,402)	(43,753,607)	(1,375,795)	3.14%
Add Projects in Progress	1,648,011	2,964,321	(1,316,310)	-44.41%
Total Property & Equipment (net of depr)	$26,193,527	$28,316,486	($2,122,959)	-7.50%

LONG-TERM DEBT

At June 30, 2021 year-end, the District has two long-term notes payable outstanding for a total amount of $1,448,383. The first has an outstanding balance of $1,368,342. This is the SRF Loan used to finance the Turbidity Reduction Facility. The SRF loan carries no interest (i.e., zero percent), and has a repayment term of 20 years. The initial SRF loan balance at its inception in 2004 was $10,946,736. The debt service for the SRF Loan is paid in its entirety by the District's wholesale municipal customers in accordance with the wholesale water contracts (via Price Factor 1).

The second note payable has an outstanding balance of $80,041. This is the Water System Improvement Loan or U.S. Bank loan, used to finance various improvements to the water system consisting generally of well and pump improvements, and pipeline replacement. The U.S. Bank loan carries interest at 2.63% and has a repayment term of 10 years. The District makes semi-annual payments of $81,094 including principal and interest to U.S. Bank, for a resulting annual payment of $162,188. The Water System Improvement loan balance at its inception in 2011 was $1,418,000. The debt service for the Water System Improvement Loan is paid in its entirety by the District's wholesale municipal customers in accordance with the wholesale water contracts (via Price Factor 2).

DESCRIPTION OF CURRENTLY KNOWN FACTS OR CONDITIONS THAT MAY HAVE A SIGNIFICANT EFFECT ON THE FINANCIAL POSITION OR RESULTS OF OPERATIONS

Pulp Mill Closure

On October 15, 2008 (FY2008-09), the District's only industrial customer, Evergreen Pulp, shut down its pulp mill. The pulp mill was sold on February 6, 2009 to Samoa Acquisition Corporation (SAC). The District had an interim agreement with the new owner until April 30, 2009. The District shut off the water supply to the mill on May 1, 2009. This industrial property was acquired by the Humboldt Bay Harbor Recreation and Conservation District for development. The Humboldt Bay Harbor Recreation and Conservation District has worked with the Humboldt County Redevelopment Agency to market the viability of this property over the past years. Nordic Aquafarms is currently in the permitting process for the development of a land-based seafood production facility. This will allow the District to again begin selling raw industrial water to the Samoa Peninsula. The District continues to participate in the Samoa Peninsula Infrastructure Workgroup with other public agencies to explore the most beneficial mechanism for obtaining funding to improve infrastructure on the Samoa Peninsula for economic development improvements and the betterment of the community members who live there and the economy of Humboldt County.

Ultimately, this increased economic and water dependent activity on the Samoa Peninsula is expected to revitalize the District's industrial water system albeit at a much lower consumption rate than experienced by the former pulp mills. Although the quantities will be significantly less than prior pulp-mill usage, the District looks forward to utilizing its industrial water system that has been idle for almost 10-years.

While previous pulp mills had been paying 45% of the District's operation, maintenance, and capital expenditure costs associated with all aspects of the regional water supply except for the drinking water treatment facilities, (for 2008-09, the mill's contribution to the cost of the regional water system would have been approximately $1.1 million.), due to the significantly less raw water that is anticipated to be needed by the new operations, this contribution by new businesses is anticipated to be significantly less.

Under the terms of the District's Ordinance 16 contracts, costs were shifted to the remaining wholesale customers (seven municipal agencies) beginning April 1, 2009. Whereas the municipalities had previously been paying 55% of costs, currently they now pay 100%. This allocation percentage will be negotiated once new contracts are signed with Nordic Aquafarms and any other entities relocating/establishing on the Samoa Peninsula and purchasing raw water from the District.

Since the closure of the mill in 2009, the District has been diligent in searching for possible new customers or uses for the water that has been available. While there is current development interest activity on the Peninsula; it is anticipated to take several more years to complete infrastructure upgrades and construction.

Capital Improvement Program

The District has implemented a substantial capital improvement program (CIP) given the age of its infrastructure (50 years). Mechanisms to finance CIP projects include pursuing grant funding, issuing new long-term debt, and working with wholesale municipal customers to increase revenues through water rates.

The first completed large infrastructure project undertaken was the Ranney Collector #3 Rehabilitation project. For financing purposes this was bundled with the Techite Pipeline Replacement project. Total projected funding needs of $5,165,000 were met using a combination of Federal Emergency Management Agency (FEMA) grant funding, reserve funds, advance charges collected from the municipal customers, and bank loan.

The Emergency Intertie project was a multijurisdictional project led by the District. The project partners were: HBMWD, the City of Arcata, the City of Eureka and the McKinleyville Community Services District. This project installed new water transmission interconnections between the agencies to allow for water supply redundancy in the event of a supply line disruption. A State of California Department of Public Health Proposition 50 grant in the amount of $3,648,550 was received for this project. The construction was completed during FY2014-15 and the assets created via this construction project were transferred to the respective agencies in accordance with the terms and conditions of the Special Facilities Agreement (May 3, 2013).

The next significant infrastructure project was the replacement of the 1MG domestic reservoir roof. This tank has been in service for almost fifty years and was showing signs of stress and corrosion. This project replaced the entire roof and repainted the reservoir to extend its' life another 40-50 years. This project was completed in FY2017-18. Funding for this project was a combination of advance charges collected from the municipal customers and by the District through water rates.

The replacement of the District's pipeline that crosses over the Mad River to serve the City of Blue Lake and the Fieldbrook-Glendale Community Services District was the next large CIP project. While the project cost was estimated to be $3,573,000, the completed project total was $2,025,510. These funds were provided through the award of a State of California Department of Water Resources Proposition 84 grant via the North Coast Integrated Regional Water Management Plan in the amount of $700,000, as well as the receipt of a FEMA Hazard Mitigation grant in the amount of $2,679,750. This project was completed early FY2018-19.

The removal of the Surge Tower for the industrial line was completed in late FY 2018-19. This large tower had lost some of its structural integrity and it was feared that should the tower fall or collapse, due to its proximity to both the industrial and domestic water lines, significant damage and loss of service to municipal customers and their residents would occur. While this project was originally estimated to cost $960,000, due to a revision of the project upon realization that the tower did not need to be replaced only removed, the final cost for this project was $256,343 and was mostly (75%) funded by another FEMA Hazard Mitigation grant.

The relocation of the District's 12kV Switchgear Project has been a large multi-year CIP project and is expected to be completed late 2022. This project was mostly funded by a FEMA Hazard Mitigation Grant, with a final cost estimate of $3,433,328.

The District has been approved by FEMA for Phase 1 Hazard Mitigation funding for two other large CIP projects: Three Tank Seismic Retrofit (est. $5M) and Collector Mainline Redundancy Pipeline (est. $3M). Both projects are large, multi-year projects. Due to on-going supply chain issues and anticipated construction delays, completion dates are unknown at this time, but are estimated to be in 2025 and 2026.

CONTACTING THE DISTRICT'S FINANCIAL MANAGEMENT

The financial report is designed to provide our citizens, customers, and creditors with a general overview of the District's finances and to demonstrate the District's accountability for the money it receives. If you have a question about this report or need additional financial information, contact the Business Manager or General Manager at Humboldt Bay Municipal Water District, 828 Seventh Street, Eureka, California, 95501.

BASIC FINANCIAL STATEMENTS

Humboldt Bay Municipal Water District
STATEMENT OF NET POSITION
June 30, 2021
(With Comparative Totals for June 30, 2020)

ASSETS	2021	2020
Current assets:		
Cash and investments	$ 5,720,694	$ 4,250,708
Restricted cash and investments:	5,427,170	4,499,950
Total cash and investments	11,147,864	8,750,658
Accounts receivable	50,562	188,509
Interest receivable	-	-
Grants receivable	2,873,486	267,821
Inventory	59,540	61,536
Prepaid items	46,603	46,067
Total current assets	14,178,055	9,314,591
Capital assets:		
Non-depreciable assets	3,123,710	4,336,293
Depreciable assets (net of depreciation)	23,069,817	23,980,193
Total assets	40,371,582	37,631,077
DEFERRED OUTFLOWS		
Deferred outflows related to pensions	916,541	970,478
Deferred outflows related to OPEB	120,837	156,250
Total deferred outflows	1,037,378	1,126,728
LIABILITIES AND NET POSITION		
Current liabilities:		
Accounts payable	437,084	202,935
Compensated absences	407,970	374,188
Accrued expenses	153,624	2,504,461
Total current liabilities	998,678	3,081,584
Long-term liabilities:		
Due within one year	704,317	704,318
Due in more than one year	744,151	1,448,383
Other post-employment benefits	3,011,345	4,351,625
Net pension liability	3,410,152	3,155,817
Total long-term liabilities	7,869,965	9,660,143
Total liabilities	8,868,643	12,741,727
DEFERRED INFLOWS		
Deferred inflows related to pensions	44,636	125,500
Deferred inflows related to OPEB	1,268,701	-
	1,313,337	125,500
Net position:		
Invested in capital assets, net of related debt	24,745,059	26,163,785
Restricted for debt service	310,891	181,836
Restricted for capital projects	4,695,411	2,384,515
Restricted for credits to municipalities	987,435	450,593
Unrestricted	488,184	(3,290,151)
Total net position	$ 31,226,980	$ 25,890,578

The accompanying notes are an integral part of these financial statements.

Humboldt Bay Municipal Water District
STATEMENT OF REVENUES, EXPENSES AND
CHANGES IN NET POSITION
For the Year Ended June 30, 2021
(With Comparative Totals for the Year Ended June 30, 2020)

	2021	2020
Operating revenues:		
Municipal customer water sales	$ 6,662,289	$ 6,536,355
Retail customer water sales	337,430	440,549
Debt service receipts	546,063	501,726
Total water sales	7,545,782	7,478,630
Power sales	260,924	349,052
Other operating revenues	573,721	411,713
Total operating revenues	8,380,427	8,239,395
Operating expenses:		
Salaries and benefits	3,524,802	3,787,488
Employee retirement contributions	740,960	759,680
Power and pumping	873,153	815,901
Engineering	116,228	262,650
Materials and supplies	166,507	178,412
Repairs and maintenance	260,421	460,548
Auto and travel expenses	60,652	61,859
Insurance	90,450	73,825
Legal and accounting fees	36,862	90,964
Professional assistance	165,539	129,090
Tax and license	179,631	137,228
Training	62,172	51,399
Bad debt	-	-
Other operating expenses	155,875	176,659
Depreciation	1,426,647	1,400,033
Total operating expenses before reimbursements	7,859,899	8,385,736
Reimbursements for services and costs	(360,214)	(349,631)
Total operating expenses	7,499,685	8,036,105
Operating income (loss)	880,742	203,290
Non-operating revenues (expenses):		
Tax revenues	1,055,543	996,833
Grant revenues	3,374,358	1,339,444
Interest revenues	31,051	78,556
Interest expense	(5,292)	(9,257)
Total non-operating revenues (expenses)	4,455,660	2,405,576
Income (loss) before contributions	5,336,402	2,608,866
Capital contributions	-	-
Change in net position	5,336,402	2,608,866
Net position, beginning of period	25,890,578	22,584,473
Prior period adjustment	-	697,239
Net position, beginning of period restated	25,890,578	23,281,712
Net position, end of period	$ 31,226,980	$ 25,890,578

The accompanying notes are an integral part of these financial statements.

Humboldt Bay Municipal Water District
STATEMENT OF CASH FLOWS
For the Year Ended June 30, 2021
(With Comparative Totals for the Year Ended June 30, 2020)

	2021	2020
Cash flows from operating activities:		
Receipts from customers	$ 8,878,588	$ 9,280,798
Payments to suppliers	(1,931,881)	(2,543,905)
Payments to employees	(6,391,575)	(1,723,466)
Net cash provided (used) by operating activities	555,132	5,013,427
Cash flows from non-capital financing activities:		
Taxes and assessments	1,055,543	996,833
Net cash provided (used) by non-capital financing activities	1,055,543	996,833
Cash flows from capital and related financing activities:		
Acquisition and construction of capital assets	696,312	(3,267,572)
Receipts of capital grants	768,693	1,141,623
Interest expense	(5,292)	(9,257)
Payment on current portion of bonds	(704,233)	(700,268)
Net cash provided (used) by capital and related financing activities	755,480	(2,835,474)
Cash flows from investing activities:		
Interest earned	31,051	78,556
Net cash provided by investing activities	31,051	78,556
Net increase (decrease) in cash and cash equivalents	2,397,206	3,253,342
Cash and cash equivalents - beginning of period	8,750,658	5,497,316
Cash and cash equivalents - end of period	$ 11,147,864	$ 8,750,658
Reconciliation of operating income (loss) to net cash provided (used in) operating activities:		
Operating income (loss)	$ 880,742	$ 203,290
Adjustments to reconcile operating income (loss) to net cash provided by operating activities:		
Depreciation	1,426,647	1,400,033
Prior period adjustment	-	697,239
Changes in certain assets and liabilities:		
Accounts receivable	137,947	(5,467)
Inventory	1,996	(8,617)
Prepaid items	(536)	(14,067)
Accounts payable	234,149	(82,686)
Accrued expenses	(2,350,837)	2,330,820
Compensated absences	33,782	19,850
Deferred outflows	89,350	63,578
Deferred inflows	1,187,837	7,846
Net pension liability	254,335	247,887
Other post-employment benefits	(1,340,280)	153,721
Net cash provided (used) by operating activities	$ 555,132	$ 5,013,427

The accompanying notes are an integral part of these financial statements.

Humboldt Bay Municipal Water District
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2021

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The financial statements of Humboldt Bay Municipal Water District (the District) have been prepared in conformity with generally accepted accounting principles (GAAP) as applied to government units. The Governmental Accounting Standards Board (GASB) is the accepted standard setting body for establishing governmental accounting and financial reporting principles.

This summary of significant accounting policies of the District is presented to assist in understanding the financial statements. The financial statements and notes are representations of management, who is responsible for their integrity and objectivity. These accounting policies have been consistently applied in the preparation of the financial statements.

A. Reporting Entity

The District has no oversight responsibility over any other governmental unit and is not included in any other governmental "reporting entity" as defined in GASB pronouncements. The Board of Directors are elected by the public and have the decision-making authority to levy taxes, the power to designate management, the ability to significantly influence operations, and the primary accountability for fiscal matters.

B. Nature of Activities

The District is a state-authorized special purpose government established to provide water services to the Humboldt Bay region. It was formed in 1956 under provisions of the Municipal Water District Act of 1911. The District provides retail water service to residential customers, and it contracts with seven municipal agencies for the purchase of treated domestic water for resale.

C. Basis of Presentation

The financial statements required by GASB Statement No. 34, *Basic Financial Statements - and Management's Discussion and Analysis - for State and Local Governments*, as amended by GASB Statement No. 63, include a statement of net position, a statement of revenues, expenses, and changes in net position, and a statement of cash flows.

The District utilizes an enterprise fund, which is a proprietary fund type. Proprietary funds are used to account for activities similar to those found in the private sector, where the determination of net income is necessary or useful to sound financial administration. Enterprise funds account for goods or services that are provided to outside parties. The District has elected to use the reporting model for special-purpose governments engaged only in business-type activities. In accordance with the business-type activities reporting model, the District prepares its statement of cash flows using the direct method.

D. Measurement Focus/Basis of Accounting

Measurement focus refers to what is being measured. Basis of accounting refers to the timing of the recognition of revenues and expenditures in the accounts and their reporting in the financial statements.

Proprietary fund types are accounted for on an economic resources measurement focus using the accrual basis of accounting in which revenues are recognized when earned and expenses are recognized when the related liabilities are incurred.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

D. Measurement Focus/Basis of Accounting (concluded)

The proprietary fund distinguishes operating revenues and expenses from non-operating items. Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations.

The principal operating revenues of the District are charges to customers for sales and services. Operating expenses for proprietary funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses. When both restricted and unrestricted resources are available for use, it is District practice to first use specifically designated restricted resources before unrestricted resources.

E. Allowance for Doubtful Accounts

The District evaluates the collectability of water sales and grants receivable in order to determine the allowance for doubtful accounts. As of June 30, 2021, the District determined that the various receivables are fully collectible and recorded $0 for the allowance for doubtful accounts. Based on historical experience, the District does not expect amounts to become uncollectible, however if they are, they will be charged to operations as a bad debt expense. The impact of any bad debt expense recorded in the future is expected to be immaterial to the financial statements.

F. Cash and Cash Equivalents

The District's cash and cash equivalents are considered to be cash on hand, demand deposits, and short-term investments with original maturities of three months or less from the date of acquisition.

G. Fair Value Hierarchy

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The District categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs - other than quoted prices included within level 1 - that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

The District's investment policy has been to invest idle cash in demand deposits, time deposits and the Humboldt County Treasurer's Investment Pool, CAL TRUST, and LAIF. Investments are reported at fair value. The County Pool is operated in accordance with applicable state laws and regulations, and the reported value of the District's investment in the County Pool is the same as the fair value of the pool shares.

Humboldt Bay Municipal Water District
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2021

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

G. Fair Value Hierarchy (concluded)

State statutes authorize the District to invest in obligations of the U.S. Treasury, Federal Agency obligations, commercial paper, the LAIF and other instruments. The Loan and Installment Agreement underlying the issuance of Loans and Installment Purchase Agreements authorize permitted investments consistent with the State of California Government Code but broader in scope than the District's usual investment practices.

The District accounts for cash equivalents in its various investment accounts at fair value. Fair value is the amount at which a financial instrument could be exchanged in a current transaction between willing parties.

H. Capital Assets

Capital assets are defined as assets with an initial cost of $5,000 and projects costing $5,000 or more. All capital assets are valued at historical cost or estimated historical cost if actual historical cost is not available. Assets that individually may be below threshold amounts are capitalized if collectively they are above the threshold amount.

Additions to and replacements of capital assets are recorded at original cost, which includes material, labor, overhead, and an allowance for the cost of funds used during construction, when significant. The costs of betterments or repairs that extend the life of a capital asset are added to capital accounts.

Depreciation of all exhaustible capital assets is charged as an expense against operations, with accumulated depreciation reflected in the statement of net position. Depreciation has been provided over the estimated useful lives using the straight-line method. The estimated useful lives are as follows:

Dam, pipeline, buildings, water collection system, South Bay extension, Fieldbrook extension, Blue Lake extension, Lindley extension, Essex diversion, hydro plant penstock and piping	40 Years
Pump station and related facilities	10 - 40 Years
Hydro plant turbine and generators	20 Years
Tools and shop equipment, office equipment, pipeline connections, and hydro switchgear and controls	10 Years
Radio communication system and computers	5 Years
Vehicles	5 - 10 Years
Supplemental construction - except valves	40 Years
Supplemental construction - valves	20 Years

I. Estimates

The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenditures/expenses during the reporting period. Actual results could differ from those estimates.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

J. Investments

The District's adopted investment policy seeks to promote the safety of principal, provide adequate liquidity for operational needs, earn market rates of return on investments consistent with liquidity needs and investment quality, and conform to legal requirements.

The District follows the authority governing investments for municipal governments set forth in the California Government Code, Sections 53601 through 53686. The Code authorizes the District to invest in obligations of the U.S. Treasury in the form of notes, bonds, bills or instruments for which the faith and credit of the United States are pledged for payment. The District may also invest in registered treasury notes, or bonds of the State of California and commercial paper of "prime" quality as defined by California Government Code Section 53635 and as rated by Standard and Poors Corporation or Moody's Commercial Paper Record.

The District's investment policy states that the District will structure its portfolio to meet cash requirements for ongoing operations thereby avoiding the need to sell securities prior to their maturity. The policy does not place formal limits on investment maturities.

K. Deferred Outflows and Inflows of Resources

Pursuant to GASB Statement 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*, and GASB Statement 65, *Items Previously Reported as Assets and Liabilities*, the District recognizes deferred outflows and inflows of resources.

In addition to assets, the statement of net position will sometimes report a separate section for deferred outflows of resources. A deferred outflow of resources is defined as a consumption of net position by the government that is applicable to a future reporting period. In addition to liabilities, the statement of net position will sometimes report a separate section for deferred inflows of resources. A deferred inflow of resources is defined as an acquisition of net position by the District that is applicable to a future reporting period.

L. Net Position

Net position represents the difference between assets and deferred outflows of resources less liabilities and deferred inflows of resources. The District reports three categories of net position, as follows:

Net investment in capital assets - consists of net capital assets reduced by outstanding balances of any related debt obligations and deferred inflows of resources attributable to the acquisition, construction, or improvement of those assets and increased by balances of deferred outflows of resources related to those assets.

Restricted net position - net position is considered restricted if its use is constrained to a particular purpose. Restrictions are imposed by creditors, grantors, laws, or regulations. The District has restricted net position for debt service, advance charges related to capital projects per contracts, and for revenue credits to the seven municipal customers per Ordinance 16.

Unrestricted net position - consists of all other net position that does not meet the definition of "net investment in capital assets" or "restricted net position" and is available for general use by the District. A net position of $488,184 exists at June 30, 2021.

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (concluded)

M. Property Taxes

The lien date for secured property taxes is March 1 of each year. Taxes are levied as of July 1 on all secured real property and are due and payable November 1 and February 1 of the following fiscal year. Humboldt County is responsible for assessing, collecting, and distributing property taxes in accordance with enabling legislation.

Since the passage of California Proposition 13, beginning with fiscal year 1978-79, taxes are based either on a 1% rate applied to the 1975-76 assessed value of the property, or on 1% of the sales price of the property on sales transactions and construction which occur after the 1975-76 assessment. Assessed values on properties (exclusive of increases related to sales transactions and improvements) can rise at a maximum of 2% per year. The amount collected by the County is distributed in accordance with State law to the various public agencies. Therefore, the District does not levy a specific tax rate but receives a share of the property tax revenue based on State formula. The District's tax rate is $1.00/$100 of assessed value, the maximum allowable under Proposition 13.

During fiscal year 1993-94, an alternate method of property tax allocation (the "Teeter Plan") was adopted by the County. Under this plan, the county auditor/controller distributes 100 percent of current secured taxes billed to taxing entities during the current year, whether collected or not. The District recognizes property tax revenues (including tax increment revenues) to the extent of each year's tax allocation received or to be received within 60 days after the end of each fiscal year.

N. Restricted Assets

Assets that are restricted as to withdrawal or use for other than current operations, for the liquidation of long-term debts or for expenditure in the acquisition or construction of capital assets are separately reported as restricted assets and not as current assets.

O. Pension

For purposes of measuring the net pension liability, deferred outflows and inflows of resources related to pensions and pension expense, information about the fiduciary net position of the District's California Public Employees' Retirement System (CalPERS) Plan (the "Plan") and additions to/deductions from the Plan's fiduciary net position have been determined on the same basis as they are reported by CalPERS. For this purpose, benefit payments (including refunds of employee contributions) are recognized when currently due and payable in accordance with the benefit terms. Investments are reported at fair value. CalPERS' audited financial statements are publically available reports that can be obtained.

NOTE 2 - CASH, CASH EQUIVALENTS AND INVESTMENT

Cash, cash equivalents, and investment at June 30, 2021, consist of the following:

	2021	2020
Cash:		
Demand accounts	$ 2,894,059	$ 2,585,905
State Treasurer's Pool (LAIF)	1,688	1,688
CalTrust	2,813,124	1,651,292
County investment pool	11,823	11,823
Total	$ 5,720,694	$ 4,250,708

	2021	2020
Restricted cash:		
U.S. Bank demand accounts	$ 747,604	$ 713,827
Public Agency Retirement Services	997,147	771,940
State Treasurer's Pool (LAIF)	441,819	438,094
CalTrust	2,341,624	2,114,984
County investment pool	898,976	461,105
Total	$ 5,427,170	$ 4,499,950

The U.S. Bank commercial checking account balances are carried at cost. One of the U.S. Bank money market accounts is restricted for servicing the Safe Drinking Water State Revolving Fund (SRF) loan (see Note 7). The District transfers $136,834 quarterly from a fund in the Humboldt County Treasurer's Investment Pool to the restricted U.S. Bank money market account. U.S. Bank, acting as a fiscal agent, administers the semiannual loan payments for a total annual payment of $547,337.

Restricted cash and cash equivalents include restrictions imposed by creditors, grantors, laws, regulations, and designations imposed by the Board of Directors. Restricted cash and cash equivalents in the Humboldt County Treasurer's Investment Pool are as follows:

	2021	2020
Restricted for debt service	$ 144,030	$ 10,994
Restricted for municipalities	754,946	450,111
Restricted for capital projects	-	-
Total restricted cash in County Pool	$ 898,976	$ 461,105

Custodial Credit Risk - Deposits:
Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover its deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of a counter-party (e.g., broker-dealer) to a transaction, a government will not be able to recover the value of its investment or collateral securities that are in the possession of another party.

California Law requires banks and savings and loan institutions to pledge government securities with a market value of 110% of the District's cash on deposit or first trust deed mortgage notes with a value of 150% of the deposit as collateral for these deposits. Under California Law this collateral is held in the District's name and places the District ahead of general creditors of the institution. The District has waived collateral requirements for the portion of deposits covered by federal depository insurance.

Humboldt Bay Municipal Water District
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2021

NOTE 2 - CASH, CASH EQUIVALENTS AND INVESTMENT (concluded)

All monies in the Humboldt County Treasurer's Pool are not evidenced by specific securities; and therefore, are not subject to custodial credit risk. The average number of days to maturity for investments in the County Pool is 644 days.

The following is a summary of the fair value hierarchy of the fair value of investments of the District as of June 30, 2021:

Investment Type	Level 1	Level 2	Exempt	Uncategorized	Total
Demand Accounts	$ -	$ -	$ 3,641,663	$ -	$ 3,641,663
State Treasurer's Pool (LAIF)	-	443,507	-	-	443,507
CalTrust	-	5,154,748	-	-	5,154,748
Public Agency Retirement Services	-	-	-	997,147	997,147
County investment pool	-	910,799	-	-	910,799
Total Investments	$ -	$ 6,509,054	$ 3,641,663	$ 997,147	$11,147,864

Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. The Humboldt County Treasurer's Pool and LAIF are classified in Level 2 of the fair value hierarchy and are valued using quoted prices for a non-active market portfolio at fiscal year-end. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by the custodian bank.

NOTE 3 - ACCOUNTS RECEIVABLE

Accounts receivable from customers at June 30, 2021, consist of the following:

Resale customers	
Pacific Gas & Electric	$ 38,513
Subtotal resale customers	38,513
Retiree health insurance	12,049
Total accounts receivable	$ 50,562

NOTE 4 - LAND

Land at June 30, 2021, consists of land and land rights of the Humboldt Bay Municipal Water District, including lands located in both Humboldt and Trinity Counties. There were no changes in land during the year ended June 30, 2021.

NOTE 5 - PROPERTY AND EQUIPMENT

Changes in property and equipment during the year ended June 30, 2021, are as follows:

	Balance at 07/01/20	Additions	Deletions	Balance at 6/30/21
Governmental Activities				
Capital assets, not being depreciated:				
Land	$ 1,371,972	$ -	$ -	$ 1,371,972
Construction in progress	3,015,844	1,200,186	2,464,292	1,751,738
Total capital assets, not being depreciated	4,387,816	1,200,186	2,464,292	3,123,710
Capital assets, being depreciated:				
Buildings and improvements	3,218,651	77,976	-	3,296,627
Equipment	2,584,263	321,294	50,852	2,854,705
Water System Infrastructure	45,760,293	68,077	-	45,828,370
Ruth Lake Infrastructure	10,764,172	100,447	-	10,864,619
Supplemental Development	5,354,898	-	-	5,354,898
Total capital assets, being depreciated	67,682,277	567,794	50,852	68,199,219
Total accumulated depreciation	(43,753,607)	(1,426,647)	(50,852)	(45,129,402)
Total capital assets being depr. - net	23,928,670	(858,853)	-	23,069,817
Capital assets - net	$ 28,316,486	$ 341,333	$ 2,464,292	$ 26,193,527

Total depreciation expense charged to operations for the year ended June 30, 2021, was $1,426,647. All capital assets are depreciable except land and projects in progress.

NOTE 6 - COMPENSATED ABSENCES

Compensated absences consist of estimates of future obligations relating to accumulated unpaid vacation and sick leave compensation. There are predetermined limits to the amount of vacation and sick leave hours that can be accumulated by an employee. The District will pay the employee at the end of each calendar year for any excess vacation time accumulated that year.

Upon retirement, an employee will receive compensation for unused accumulated vacation. The employee also has the option under the District's California Public Employees' Retirement System (CalPERS) contract to convert 100% of the unused sick leave accrual to CalPERS service credit, or to receive a 35% cash payment and convert the remainder to CalPERS service credit. However, if an employee with less than ten years of employment terminates or retires, the unused accumulated sick leave is not eligible for compensation or CalPERS service credit conversion. Compensated absences payable as of June 30, 2021 was $407,970.

NOTE 7 - LONG-TERM NOTES PAYABLE

The following is a summary of changes in long-term debt as of June 30, 2021:

	Balance at 07/01/20	Increase	Decrease	Balance at 6/30/21	Current
California Safe Drinking Water State Revolving Fund (SRF) Note	$ 1,915,679	$ -	$ 547,337	$ 1,368,342	$ 547,337
Water System Improvement Loan	237,022	-	156,981	80,041	80,041
Compensated absences	374,188	33,782	-	407,970	-
Net pension liability	3,155,817	254,335	-	3,410,152	
Other post-employment benefits	4,351,625	-	1,340,280	3,011,345	-
Total	$ 10,034,331	$ 288,117	$2,044,598	$ 8,277,850	$ 627,378

California Safe Drinking Water State Revolving Fund (SRF) Note

The District has a loan with the California Department of Water Resources (acting on behalf of the California Department of Health Services) under the provisions of the California SRF Law of 1997. The proceeds of the SRF loan were used to finance the construction of the Turbidity Reduction Facility. The loan, which matures in January of 2024, carries no interest and has a repayment term of 20 years. The District pays $547,337 annually in two semiannual payments. A U.S. Bank money market account is restricted for servicing the loan. The debt service for the loan is paid in its entirety by the District's municipal customers. Future debt service on the loan is:

Year Ending June 30	Principal	Interest	Total
2022	$ 547,337	$ -	$ 547,337
2023	547,337	-	547,337
2024	273,668	-	273,668
Total	$ 1,368,342	$ -	$ 1,368,342

Water System Improvement Loan

The District has a loan, which matures in September of 2021, with Municipal Finance Corporation (MFC) to finance various capital improvements to the water supply system. Under the ten-year installment sales agreement, the District is obligated to pay semiannual installment payments of principal and interest at the rate of 2.63% per annum on the unpaid principal balance. MFC assigned its rights to receive and enforce the payments under the agreement to U.S. Bank. The debt service for the loan is paid in its entirety by the District's municipal water customers. Future debt service on the loan is:

Year Ending June 30	Principal	Interest	Total
2022	$ 80,041	$ 1,053	$ 81,094
Total	$ 80,041	$ 1,053	$ 81,094

Net position restricted for debt service for the year ended June 30, 2021 was $310,891.

NOTE 8 - WHOLESALE WATER CONTRACTS

The District is primarily a wholesale water provider. The District's Ordinance 16 as amended in June 2006 and June 2016 establishes rates, charges, and conditions of service for water sales to the municipal water customers. The costs of constructing, operating, maintaining, repairing and replacing the water treatment facilities and maintaining reasonable reserves are allocated among the municipal customers.

NOTE 8 - WHOLESALE WATER CONTRACTS (continued)

The District has long-term contracts with its seven municipal wholesale customers governing wholesale rates, charges and conditions of service. These seven contracts were recently amended including a new twenty-year term with a ten-year renewal option. The new contracts were effective July 1, 2017 and include the following seven municipal wholesale customers:

- City of Arcata
- City of Blue Lake
- City of Eureka
- Fieldbrook-Glendale Community Services District
- Humboldt Community Services District
- McKinleyville Community Services District
- Manila Community Services District

The District lost its last large industrial customer in February 2009. Beginning April 1, 2009, all costs for the regional water system associated with operation, maintenance, and capital expenditure were shifted to the seven municipal customers. Whereas the municipalities had previously been paying 55% of costs, they currently pay 100%. The rate structure is based on "Price Factor" formulas which proportionally allocates the operating, maintenance and capital costs of the District to each of the wholesale customers. Municipal customers are billed monthly for water usage based on their share of such operating, maintenance and capital costs.

Most revenues received by the District, other than those associated with wholesale water sales, are credited back to the wholesale municipal customers. These revenues include property tax revenues, a portion of power sales, interest income, retail water service revenues and other miscellaneous revenues. The revenue credit is applied ratably on a monthly basis during the course of the year.

The seven wholesale municipal customers are initially billed based on the District's approved budget, with the costs spread out evenly across the fiscal year. At year-end, the budgeted costs are reconciled with actual costs. Any underpayments or overpayments are divided into even monthly installments and applied to the municipalities' billing during the course of the following year. As of June 30, 2021, the municipal customers overpaid $3,290 for operating, maintenance, and capital costs. Overpayments in the amount of $3,290 were credited to the municipalities' 2021/2022 billings. At June 30, 2021, total net position restricted for credits to the municipalities was $3,290.

The municipal water customers may be charged in advance in order to fund future capital projects. For the year ended June 30, 2021, the municipal customers had balances in advance charges of $4,480,410 for improvement projects.

Additions to the District's general reserves may be charged to the wholesale customers should the District need to replenish its general reserve level. For the year ended June 30, 2021, the District charged the wholesale customers $350,000.

During the fiscal year ended June 30, 2016, the contracts with the municipal customers were amended. The District's Ordinance 16 included a provision that limits capital expenditures. Based on the District's development and implementation of its Capital Improvement Plan (CIP), this limit was no longer practical. To address this and to reduce the need for large fluctuations in costs to the municipalities, the limit on capital expenditures was replaced with a quinquennial update for the Capital Improvement Plan beginning in 2017. This process includes providing a copy to the individual municipalities no later than February 28 for their use in their own budget planning, analysis and updates of water rates.

NOTE 8 - WHOLESALE WATER CONTRACTS (concluded)

An additional change with the amended contracts includes revising the schedule for the quinquennial revision of the Peak Rate Allocation to commence again on July 1, 2017 (to address revenue changes in 2016 in the Manila Community Services District).

NOTE 9 - DEFERRED COMPENSATION PLAN

The District offers its employees a deferred compensation plan created in accordance with the Internal Revenue Code Section 457. The plan, available to all District employees, permits them to defer a portion of their salary until future years. All amounts of compensation deferred under the plan, all property and rights purchased with those amounts, and all income attributable to those amounts, property or rights, are (until paid or made available to the employee or other beneficiary) placed in trust for the benefit of the participants or their beneficiaries, and are not the assets of the District.

Effective January 1, 2013, the District contributes $50 per month for each employee who is not currently participating in the deferred compensation program. The District will provide a contribution match of up to $100 per month for employees who are participating in the deferred compensation program.

The District has a fiduciary responsibility to the participating employees in administration of the plan, but is not liable for losses arising from depreciation or other declines in the value of the plan assets.

NOTE 10 - PENSION PLAN

A. General Information about the Pension Plan

Plan Description

All qualified permanent and probationary employees are eligible to participate in the Public Agency Cost Sharing Multiple-Employer Plan (Plan) administered by the California Public Employees' Retirement System (CalPERS). The Plan consists of individual rate plans (benefit tiers) within a safety risk pool (police and fire) and a miscellaneous risk pool (all others). Plan assets may be used to pay benefits for any employer rate plan of the safety and miscellaneous pools. Accordingly, rate plans within the safety or miscellaneous pools are not separate plans under GASB Statement No. 68. Individual employers may sponsor more than one rate plan in the miscellaneous or safety risk pools. The District sponsors two miscellaneous rate plans. Benefit provisions under the Plan are established by State statute and District resolution. CalPERS issues publicly available reports that include a full description of the pension plan regarding benefit provisions, assumptions, and membership information that can be found on the CalPERS website.

Benefits Provided

CalPERS provides service retirement and disability benefits, annual cost of living adjustments and death benefits to plan members, who must be public employees and beneficiaries. Benefits are based on years of credited service, equal to one year of full-time employment. Members with five years of total service are eligible to retire at age 50 with statutorily reduced benefits. All members are eligible for non-duty disability benefits after 10 years of service. The death benefit is one of the following: the Basic Death Benefit, the 1957 Survivor Benefit, or the Optional Settlement 2W Death Benefit. The cost-of-living adjustments for the Plan are applied as specified by the Public Employees' Retirement Law.

The rate plan provisions and benefits in effect at June 30, 2021, are summarized as follows:

NOTE 10 - PENSION PLAN (continued)

A. General Information about the Pension Plan (concluded)

	Miscellaneous 1st Tier	Miscellaneous PEPRA
Hire date	Prior to January 1, 2013	On or after January 1, 2013
Benefit formula	2% @ 55	2% @ 62
Benefit vesting schedule	5 years service	5 years service
Benefit payments	monthly for life	monthly for life
Retirement age	50 – 63	52 - 67
Monthly benefits, as a % of annual salary	1.426% to 2.418%	1.0% to 2.5%
Required employee contribution rates	7.000%	6.750%
Required employer contribution rates	10.484%	7.732%

Beginning in fiscal year 2016, CalPERS collects employer contributions for the Plan as a percentage of payroll for the normal cost portion as noted in the rates above and as a dollar amount for contributions toward the unfunded liability and side fund, if applicable. The dollar amounts are billed on a monthly basis. The District's required contribution for the unfunded liability was $208,516 for the fiscal year ended June 30, 2021.

Contributions

Section 20814(c) of the California Public Employees' Retirement Law (PERL) requires that the employer rates for all public employers are determined on an annual basis by the actuary and shall be effective on the July 1 following notice of a change in the rate. The total plan contributions are determined through CalPERS' annual actuarial valuation process. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by employees during the year, with an additional amount to finance any unfunded accrued liability. The District is required to contribute the difference between the actuarially determined rate and the contribution rate of employees. Employer contribution rates may change if plan contracts are amended. Payments made by the employer to satisfy contribution requirements that are identified by the pension plan terms as plan member contribution requirements are classified as plan member contributions.

The District's contributions to the plan recognized as a part of pension expense for the year ended June 30, 2021 were $475,220.

B. Pension Liabilities, Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions

As of June 30, 2021, the District reported a net pension liability for its proportionate share of the net pension liability of the Plan of $3,410,152.

The District's net pension liability for the Plan is measured as the proportionate share of the net pension liability. The net pension liability of the Plan is measured as of June 30, 2020, and the total pension liability for the Plan used to calculate the net pension liability was determined by an actuarial valuation as of June 30, 2018 rolled forward to June 30, 2020, using standard update procedures. The District's proportion of the net pension liability was based on a projection of the District's long-term share of contributions to the pension plans relative to the projected contributions of all participating employers, actuarially determined. The District's proportionate share of the net pension liability for the Plan as of June 30, 2019 and 2020 was as follows:

Proportion - June 30, 2019	0.0788%
Proportion - June 30, 2020	0.0808%
Change – Increase (Decrease)	0.0020%

NOTE 10 - PENSION PLAN (continued)

B. Pension Liabilities, Pension Expenses and Deferred Outflows/Inflows of Resources Related to Pensions (concluded)

For the year ended June 30, 2021, the District recognized pension expense of $754,301. At June 30, 2021, the District reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Pension contributions subsequent to the measurement date	$ 526,893	$ -
Changes in assumptions		24,323
Differences between actual and expected experience	175,735	-
Net differences between projected and actual earning on plan investments	101,304	-
Change in employer's proportion	86,543	-
Net differences between the employer's actual contributions and the employer's proportionate share of contributions	26,066	20,313
Total	$ 916,541	$ 44,636

$526,893 reported as deferred outflows of resources related to contributions subsequent to the measurement date will be recognized as a reduction of the net pension liability in the year ended June 30, 2022. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized as pension expense as follows:

Year Ended June 30	
2022	$ 91,636
2023	121,489
2024	83,300
2025	48,587
Thereafter	-

C. Actuarial Assumptions

The total pension liabilities in the June 30, 2019 actuarial valuations were determined using the following actuarial assumptions:

Valuation Date	June 30, 2019
Measurement Date	June 30, 2020
Actuarial Cost Method	Entry-Age Normal Cost Method
Actuarial Assumptions:	
Discount Rate	7.15%
Inflation	2.50%
Payroll Growth	2.75%
Projected Salary Increase	Varies by Entry Age and Service
Investment Rate of Return	7.15%(1)
Mortality	Derived from CalPERS Membership Data for all Funds(2)

(1) Net of pension plan investment expenses, including inflation.

(2) The mortality table was developed based on CalPERS specific data. The table includes 15 years of mortality improvements using Society of Actuaries Scale 90% of scale MP 2016.

NOTE 10 - PENSION PLAN (continued)

C. Actuarial Assumptions (concluded)

The underlying mortality assumptions and all other actuarial assumptions used in the June 30, 2017 valuation were based on the results of the December 2017 actuarial experience study for the period 1997 to 2015. Further details of the Experiences Study can be found on the CalPERS website.

D. Discount Rate

The discount rate used to measure the total pension liability was 7.15%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current member contribution rates and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class.

In determining the long-term expected rate of return, CalPERS took into account both short-term and long-term market return expectations as well as the expected PERF cash flows. Using historical returns on all the funds' asset classes, expected compound (geometric) returns were calculated over the short-term (first 10 years) and the long-term (11+ years) using a building-block approach. Using the expected nominal returns for both short-term and long-term, the present value of benefits was calculated for each fund. The expected rate of return was set by calculating the single equivalent expected return that arrived at the same present value of benefits for cash flows as the one calculated using both short-term and long-term returns. The expected rate of return was then set equivalent to the single equivalent rate calculated above and adjusted to account for assumed administrative expenses.

The expected real rates of return by asset class are as follows:

Asset Class[a]	New Strategic Allocation	Real Return Years 1-10[b]	Real Return Years 11+[c]
Global Equity	50.0%	4.80%	5.98%
Fixed Income	28.0%	1.00%	2.62%
Inflation Assets	0.0%	0.77%	1.81%
Private Equity	8.0%	6.30%	7.23%
Real Assets	13.0%	3.75%	4.93%
Liquidity	1.0%	0.00%	(0.92)%
Total	100.00%		

[a] In the CalPERS CAFR, Fixed Income is included in Global Debt Securities; Liquidity is included in Short-term Investments; Inflation Assets are included in both Global Equity Securities and Global Debt Securities.

[b] An expected inflation of 2.00% used for this period.

[c] An expected inflation of 2.92% used for this period.

NOTE 10 - PENSION PLAN (concluded)

D. Discount Rate (concluded)

Sensitivity of the Proportionate Share of the Net Pension Liability to Changes in the Discount Rate
The following presents the District's proportionate share of the net pension liability for the Plan, calculated using the discount rate for the Plan, as well as what the District's proportionate share of the net pension liability would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage point higher than the current rate:

Discount Rate -1%	Current Discount Rate	Discount Rate +1%
6.15%	7.15%	8.15%
$5,361,485	$3,410,152	$1,797,827

E. Pension Plan Fiduciary Net Position

Detailed information about the Plan's fiduciary net position is available in the separately issued CalPERS financial reports.

F. Payable to the Pension Plan

The District did not have an outstanding amount of contributions to the pension plan required for the year ended June 30, 2021.

G. Pension Rate Stabilization Program

Establishment of a Section 115 Irrevocable Trust (Pension Trust) for the purpose of assisting with stabilizing the unfunded CalPERS pension liability was approved by the Board of Directors in January 2018. This trust was funded in May 2018 with an initial deposit of $600,000. The Pension Trust, managed by Public Agency Retirement Services (PARS), is considered a "Pension Rate Stabilization Program," and is designed to prefund rising pension costs and address the District's net pension liability. The Pension Trust should help mitigate long-term pension investment volatility, while providing the District with increased local control of assets and investment flexibility to create a more actuarially sound pension plan. The District intends to make annual contributions to the trust.

NOTE 11 - OTHER POST-EMPLOYMENT BENEFITS

A. Plan Description

The District provides a defined benefit healthcare plan (the "Retiree Health Plan"). The District shoulders a certain percentage of eligible retirees' actual costs subject to a maximum of $640 per month. The duration of retiree benefits provided by the District depends on the date an employee was hired by the District. For all full-time regular employees hired by the District prior to July 8, 2004, the District will pay the medical costs premium during the life of a retiree subject to a maximum of $640 per month. For all full-time regular employees hired by the District after July 8, 2004, the District will pay 100% of the medical cost premium during retirement, subject to a maximum of $640 per month, for a maximum of 10 years or until the retiree reaches age 65, whichever comes first.

All health plan participants are on a group plan rate. In addition to the District's actual costs, the District is required to recognize an implicit subsidy since the District allows its retirees to participate in the plan. The difference between the group plan rate that the retiree must pay and the actual or estimated individually rated premium for the retiree is the implicit rate subsidy (because the retiree continues to participate in the group plan, an implicit rate subsidy exists on the part of the employer).

NOTE 11 - OTHER POST-EMPLOYMENT BENEFITS (continued)

B. Funding Policy

The District's Board of Directors will not be funding the plan in the current year but will follow a pay-as-you-go approach. The Board will review the funding requirements and policy annually.

Membership of the District as of the valuation date consisted of the following:

Active plan members	27
Inactive employees or beneficiaries currently receiving benefit payments	12
Total	39

Contribution
As of June 30, 2021, the District has accumulated $-0- in an irrevocable trust toward this liability.

C. Net OPEB Liability

The District's net OPEB liability was measured as of June 30, 2021, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation dated June 30, 2020.

D. Actuarial Assumptions

The total OPEB liability in the June 30, 2020 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified.

Discount rate	2.79%
Inflation	2.75%
Aggregate salary increases (individual salary increases based on CalPERS)	3.25%
Investment rate of return	2.79%
Mortality rates	Based on Muni 20 Year Rate Index
Healthcare cost trend rate	7.50% in the first 1 year, trending down to 5.0% over later years.

E. Discount Rate

The cash flows of the OPEB plan were projected to future years, assuming that the District will contribute an amount so that the assets always exceed expected benefits to retirees. Under that projection, the plan assets are projected to be adequate to pay all benefits to retirees in all future years, so the discount rate has been set equal to the long-term expected rate of return on investments, 2.79%.

The long-term expected rate of return on OPEB investments was determined using Muni 20 Year Rate Index expected long-term mean rate of return.

NOTE 11 - OTHER POST-EMPLOYMENT BENEFITS (continued)

F. Change in the Net OPEB Liability

	Total OPEB Liability June 30, 2020	Total OPEB Liability June 30, 2021
Service cost	$ 141,025	$ 149,761
Interest	118,649	118,022
Benefit payments, including refunds of employee contributions	(172,574)	(128,964)
Differences between expected and actual experience	-	(310,304)
Change in assumptions	66,621	(1,168,795)
Net change in total OPEB liability	153,721	(1,340,280)
Total OPEB liability – beginning of year	4,197,904	4,351,625
Total OPEB liability – end of year	$ 4,351,625	$ 3,011,345

G. Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The net OPEB Liability of the District, as well as what the District's net OPEB Liability would be if it were calculated using a discount rate that is one percentage point lower (1.18%) or one percentage point higher (3.18%) follows:

Plan's Net OPEB Liability/(Asset)		
Discount Rate - 1% (1.18%)	Current Discount Rate (2.18%)	Discount Rate + 1% (3.18%)
$ 3,321,131	$ 3,011,345	$ 2,744,042

The following presents the Net OPEB Liability (NOL) as well as what the NOL would be if it were calculated using healthcare cost trend rates that are 1-percentage-point higher or lower than the current healthcare cost trend rates, as of June 30, 2021.

Plan's Net OPEB Liability/(Asset)		
1% Decrease (4.00%)	Healthcare Cost Trend Rates (5.00%)	1% Increase (6.00%)
$ 2,666,654	$ 3,011,345	$ 3,422,712

H. OPEB Expense and Deferred Inflows of Resources Related to OPEB

For the fiscal year ended June 30, 2021, the District recognized OPEB expense of $92,798. On June 30, 2021, the District reported deferred inflows of resources from OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
OPEB contributions subsequent to measurement date	$ -	$ -
Differences between actual and expected experience	-	266,164
Changes in assumptions	120,837	1,002,537
Net differences between projected and actual earnings on OPEB plan investments	-	-
Change in employer's proportion and differences between the employer's contributions and the employer's proportionate share of contributions	-	-
Total	$ 120,837	$ 1,268,701

Humboldt Bay Municipal Water District
NOTES TO BASIC FINANCIAL STATEMENTS
For the Year Ended June 30, 2021

NOTE 11 - OTHER POST-EMPLOYMENT BENEFITS (concluded)

H. OPEB Expense and Deferred Inflows of Resources Related to OPEB (concluded)

$0 reported as deferred outflows of resources related to contributions subsequent to measurement date will be recognized as a reduction of the net OPEB liability in the year ended June 30, 2021.

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Fiscal Year Ended	
6/30/22	$ 35,413
6/30/23	35,413
6/30/24	35,413
6/30/25	15,683
Thereafter	5,685

Additional information relating to the District's Retiree Health Plan and required OPEB disclosures can be obtained from the District's publicly available Comprehensive Annual Financial Report that may be obtained by contacting the Business Manager or General Manager at Humboldt Bay Municipal Water District, 828 Seventh Street, Eureka, California 95502-0095.

NOTE 12 - RISK MANAGEMENT

The District is exposed to various risks of loss related to torts; theft of, damage to and destruction of assets; errors and omissions; injuries to employees; and natural disasters. The risk of loss is variable as to the deductible amount per occurrence. Liability losses up to $1 million and property losses up to $50,000, are covered through a pooled self-insurance program, administered by the Association of California Water Agencies - Joint Powers Insurance Authority (ACWA-JPIA). Through participation in ACWA-JPIA, the District is covered by commercial liability insurance for losses in excess of $1 million, up to an insured maximum of $60 million. Separately, the District insures for property damages in excess of the pooled limit of $1 million, with commercial insurance for losses up to $100 million.

The ACWA-JPIA began operations on October 1, 1979 and has continued without interruption since that time. The District is one of approximately two hundred and eighty-eight districts participating in the pool. The responsibilities of the ACWA-JPIA and the District are as follows:

Responsibilities of the ACWA-JPIA:

a. Provide insurance coverage as necessary.
b. Assist members in obtaining insurance coverage for risks not included within the coverage of the ACWA-JPIA.
c. Assist each member's designated risk manager with the implementation risk management function.
d. Provide loss prevention and safety consulting services to members as required.
e. Provide claims adjusting and subrogation services for claims covered by the ACWA-JPIA's joint protection programs.
f. Provide loss analysis and control in order to identify high exposure operations and to evaluate proper levels of self-retention and deductibles.
g. Review members' contracts to determine sufficiency of indemnity and insurance provisions when requested.
h. Conduct risk management audits to review the participation of each member in the programs.
i. The ACWA-JPIA shall have such other responsibilities as deemed necessary by the Board of Directors and Executive Committee (of the ACWA-JPIA).

NOTE 12 - RISK MANAGEMENT (concluded)

Responsibilities of the District:

a. The governing board of each member district shall appoint a representative and at least one alternate representative to the Board of Directors.
b. Each member shall appoint an employee of the member to be responsible for the risk management function within that member and serve as a liaison between the member and the ACWA-JPIA as to risk management.
c. Each member shall maintain an active safety officer and/or committee and shall consider all recommendations of the ACWA-JPIA concerning unsafe practices.
d. Each member shall maintain its own set of records, including a loss log, in all categories of risk covered by the joint protection program to ensure accuracy of the ACWA-JPIA's loss reporting system.
e. Each member shall pay its deposit premium and premium adjustments within thirty days of the invoice date.
f. Each member shall provide the ACWA-JPIA with such other information or assistance as may be necessary for the ACWA-JPIA to carry out the joint protection programs.
g. Each member shall cooperate with and assist the ACWA-JPIA, and any insurer of the ACWA-JPIA, in all matters and covered claims and will comply with all bylaws, rules and regulations adopted by the Board of Directors and Executive Committee of the ACWA-JPIA.

There have been no significant reductions in insurance coverage from the prior year. The amounts of settlements have not exceeded the insurance coverage in each of the past three fiscal years.

NOTE 13 - CONTINGENCIES

The District receives, on a cost-reimbursement basis, federal and state funds to carry out a variety of projects and studies. As a recipient of federal and state funds, the District is responsible for maintaining an internal control structure that ensures compliance with all laws and regulations related to these programs. All federal and state program expenditures are subject to financial and compliance audits by the awarding agency. Such audits could result in claims against the District for disallowed costs or noncompliance with contract provisions. No provision has been made for any liabilities which may arise from the noncompliance or questioned costs since the amounts, if any, cannot be determined at this time.

Coronavirus Pandemic

In December 2019, an outbreak of a novel strain of coronavirus (COVID-19) began to spread among various countries, including the United States. On March 11, 2020, the World Health Organization characterized COVID-19 as a pandemic. In addition, multiple jurisdictions in the U.S., including California, declared a state of emergency and issued shelter-in-place orders in response to the outbreak. Since all District staff are considered "essential", the immediate impact to the District's operations included restrictions on employees' work location, dividing the operations and maintenance staff into two separate and isolated teams and planning heightened sanitation awareness requirements on office staff. It is anticipated that the impacts from this pandemic will continue for some time. As of the report date, the financial impact of the coronavirus outbreak cannot be measured.

REQUIRED SUPPLEMENTARY INFORMATION

Humboldt Bay Municipal Water District
SCHEDULE OF THE PROPORTIONATE SHARE OF THE
NET PENSION LIABILITY (ASSET) MISCELLANEOUS
June 30, 2021
Last 7 years*

Measurement Date, June 30	2020	2019	2018	2017	2016	2015	2014
Proportion of the net pension liability	0.08080%	0.07880%	0.07720%	0.07640%	0.07490%	0.07300%	0.07880%
Proportion share of the net pension liability	$ 3,410,152	$ 3,155,817	$ 2,907,930	$ 3,011,029	$ 2,602,142	$ 2,002,310	$ 1,969,634
Covered - employee payroll	$ 2,156,138	$ 2,049,579	$ 1,963,789	$ 1,901,128	$ 1,730,351	$ 1,746,146	$ 1,692,541
Proportionate share of the net pension liability as percentage of covered-employee payroll	158.16%	153.97%	148.08%	158.38%	150.38%	114.67%	116.37%
Plan fiduciary net position as a percentage of the total pension liability	76.74%	77.37%	77.39%	75.66%	76.58%	80.90%	80.51%

NOTES TO SCHEDULE

Changes in Benefit Terms:
Changes of Assumptions - In December 2017, the CalPERS Board of Administration adopted new mortality assumptions for plans participating in Public Employees' Retirement Fund (PERF), the inflation assumption was reduced from 2.75 percent to 2.50 percent, and the assumptions for individual salary increases and overall payroll growth were reduced from 3.00 percent to 2.75 percent.

Changes in Assumptions:
None

* Schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Humboldt Bay Municipal Water District
SCHEDULE OF CONTRIBUTIONS - MISCELLANEOUS
June 30, 2021
Last 8 years*

	Miscellaneous Plan							
Fiscal Year Ending June 30	2021	2020	2019	2018	2017	2016	2015	2014
Contractually required contribution (actuarially determined)	$ 526,893	$ 475,220	$ 477,614	$ 434,427	$ 408,926	$ 386,697	$ 253,791	$ 229,022
Contributions in relation to the actuarially determined contributions	(526,893)	(475,220)	(477,614)	(434,427)	(408,926)	(386,697)	(253,791)	(229,022)
Contribution deficiency (excess)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Covered - employee payroll	$ 2,239,553	$ 2,156,138	$ 2,049,579	$ 1,963,789	$ 1,901,128	$ 1,730,351	$ 1,746,146	$ 1,692,541
Contributions as a percentage of covered-employee payroll	23.53%	22.04%	23.30%	22.12%	21.51%	22.35%	14.53%	13.53%

Notes to Schedule:

Benefit Changes:
There were no changes to benefit terms that applied to all members of the Public Agency Pool.

Changes of Assumptions:
There were no changes of assumptions.

* Schedule is intended to show information for ten years. Additional years will be displayed as they become available.

Humboldt Bay Municipal Water District
SCHEDULE OF CHANGE IN THE NET OPEB LIABILITY
AND RELATED RATIOS
For the Year Ended June 30, 2021

Total OPEB Liability	2021	2020	2019	2018
Service cost	$ 149,761	$ 141,025	$ 132,814	$ 122,984
Interest	118,022	118,649	119,775	122,441
Benefit payments, included refunds of employee contributions	(128,964)	(172,574)	(177,041)	(155,236)
Differences between expected and actual experience	(310,304)	-	-	-
Change in assumptions	(1,168,795)	66,621	64,777	100,904
Net change in total OPEB liability	(1,340,280)	153,721	140,325	191,093
Total OPEB liability - beginning of year	4,351,625	4,197,904	4,057,579	3,866,486
Total OPEB liability - end of year	$3,011,345	$4,351,625	$4,197,904	$4,057,579
Plan Fiduciary Net Position				
Net investment income	$ -	$ -	$ -	$ -
Contributions				
Employer	128,964	172,574	177,041	155,236
Benefit payments, included refunds of employee contributions	(128,964)	(172,574)	(177,041)	(155,236)
Implicit rate subsidy fulfilled	-	-	-	-
Administrative expense	-	-	-	-
Net change in plan fiduciary net position	-	-	-	-
Plan fiduciary net position - beginning of year	-	-	-	-
Plan fiduciary net position - end of year	$ -	$ -	$ -	$ -
District's net OPEB liability - end of year	$3,011,345	$4,351,625	$4,197,904	$4,057,579
Covered-employee payroll	$2,464,853	$2,183,531	$2,080,167	$2,073,759
Net OPEB liability as a percentage of covered-employee payroll	122.17%	199.29%	201.81%	195.66%

The schedules present information to illustrate changes in the District's changes in the net OPEB liability over a ten year period when the information is available.

Humboldt Bay Municipal Water District

REQUIRED SUPPLEMENTARY INFORMATION

SCHEDULE OF HUMBOLDT BAY MUNICIPAL WATER DISTRICT'S CONTRIBUTIONS - OPEB

June 30, 2021

	2021	2020	2019	2018
Actuarially determined contribution	$ 128,964	$ 172,574	$ 177,041	$ 155,236
Contributions in relation to the actuarially determined contribution	(128,964)	(172,574)	(177,041)	(155,236)
Contribution deficiency (excess)	$ -	$ -	$ -	$ -
Covered payroll	$ 2,464,853	$ 2,183,531	$ 2,080,167	$ 2,073,759
Contributions as a percentage of covered payroll	5.23%	7.90%	8.51%	7.49%

The schedules present information to illustrate changes in the District's contributions over a ten year period when the information is available.

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
STATEMENT OF FUND BALANCES - PAGE 1 OF 2

BANK ACCOUNT BALANCES AT MONTH-END	October 31, 2022	October 31, 2021
GENERAL ACCOUNTS		
1. US Bank - General Account	4,208,003.81	3,474,032.54
2. US Bank - Xpress BillPay/Electronic Payments Account	11,244.84	4,735.39
Subtotal	4,219,248.65	3,478,767.93
INVESTMENT & INTEREST BEARING ACCOUNTS		
3. US Bank - DWR/SRF Money Markey Accnt	303,408.28	303,374.59
4. US Bank - DWR/SRF Reserve CD Account	547,336.94	547,329.73
5. US Bank - PARS Investment Account	864,535.04	1,033,187.64
Contributions = $800,000 Earnings = $64,535		
6. L. A. I. F Account - MSRA Reserve Account	447,094.05	444,139.37
7. CalTRUST - Restricted Inv. Account (Medium Term)	1,329,638.18	1,329,638.18
8. CalTRUST - Unrestricted Inv. Account (Medium Term)	333,880.25	416,085.11
9. CalTRUST - DWFP Reserve Account (FedFund)	242,881.31	240,707.67
10. CalTRUST - ReMat Account (LEAF Fund)	1,121,815.91	853,779.53
11. CalTRUST - General Reserve Account (Short-Term)	2,373,598.03	2,381,870.25
Total CalTRUST Accounts	*5,401,813.68*	*5,222,080.74*
12. Humboldt County - SRF Loan Payment Account	280,861.90	52,804.75
13. Humboldt County - 1% Tax Account	(18,048.38)	-
14. Principle Investment Account	47,061.39	35,826.06
Subtotal	7,874,062.90	7,638,742.88
OTHER ACCOUNTS		
15. ReMat Deposit - Mellon Bank	27,000.00	27,000.00
16. Cash on Hand	650.00	650.00
Subtotal	27,650.00	27,650.00
TOTAL CASH	12,120,961.55	11,145,160.81

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
STATEMENT OF FUND BALANCES - PAGE 2 OF 2

SECTION 10.3C PAGE NO. 2

FUND BALANCES AT MONTH-END	October 31, 2022	October 31, 2021
RESTRICTED FUNDS - ENCUMBERED		
1. Prior-Year Price Factor 2 Rebate	(19,413.60)	(2,392.68)
2. Prior-Year Restricted AP Encumbrances	(428,404.00)	(339,962.00)
3. Advanced Charges - 12Kv Relocation	-	(821,879.67)
4. Advanced Charges - 3x Tank Seismic Retrofit	(1,256,440.67)	(1,056,440.67)
5. Advanced Charges - Cathodic Protection Project	(124,999.96)	(108,333.32)
6. Advanced Charges - Collector 2 Rebabilitation	(1,319,299.00)	(1,210,004.00)
7. Advanced Charges - On-Site Generation of Chlorine	(1,056,542.36)	(814,128.68)
8. Advanced Charges - Redundant Pipeline	(315,003.96)	(178,337.32)
9. Advanced Charges - TRF Emergency Generator	(375,000.00)	(325,000.00)
10. 3AC Collected Funds - TRF Emergency Generator	(312,858.62)	-
11. Advanced Funding - Community Power Resiliency	-	(215,000.00)
12. Advanced Funding - FEMA, Shoreline Debris Removal	(97,941.60)	-
13. Advanced Funding - August Complex-Ruth Paving	(112,456.22)	-
14. Advanced Charges - Assist. Spillway Seismic Grant	(23,333.32)	(8,333.32)
15. Advanced Funding - Eureka Cyber Security	(19,597.72)	-
16. Advanced Charges - Essex Facility Expansion	(105,400.00)	-
17. Advanced Charges - Capital Financing/Debt Service	(135,166.68)	-
Subtotal	(5,701,857.71)	(5,079,811.66)
RESTRICTED FUNDS - OTHER		
18. 1% Tax Credit to Muni's	18,048.38	-
19. DWR Reserve for SRF Payment	(303,408.28)	(303,374.59)
20. DWR Reserve for SRF Loan	(547,336.94)	(547,336.94)
21. Pension Trust Reserves	(864,535.04)	(1,033,187.64)
22. ReMat Deposit	(27,000.00)	(27,000.00)
23. HB Retail Capital Replacement Reserves	(143,654.74)	(94,235.44)
Subtotal	(1,867,886.62)	(2,005,134.61)
UNRESTRICTED FUNDS		
BOARD RESTRICTED		
24. MSRA Reserves	(447,094.05)	(444,139.37)
25. DWFP Reserves	(242,881.31)	(240,707.67)
26. ReMat Reserves	(1,121,815.91)	(853,779.53)
27. Paik-Nicely Development	(4,158.00)	(4,158.00)
28. Principle Investment Reserves	(47,061.39)	(35,826.06)
29. Northern Mainline Extension Study Prepayment	56.40	(3,464.73)
Subtotal	(1,862,954.26)	(1,582,075.36)
UNRESTRICTED RESERVES		
30. Accumulation for SRF Payment	(280,861.90)	(52,804.75)
31. Accumulation for Ranney/Techite Payment	-	58,645.40
32. General Fund Reserves	(2,407,401.06)	(2,489,612.27)
Subtotal	(2,688,262.96)	(2,478,139.18)
TOTAL NET POSITION	(12,120,961.55)	(11,145,160.81)

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
REVENUE REPORT
October 31, 2022

33%
Of Budget Year

A. REVENUE RETURNED TO CUSTOMERS VIA PF2

	MTD RECEIPTS	YTD RECEIPTS	PRIOR YEAR	BUDGET	% OF BUDGET
1. Humboldt Bay Retail Water Revenue	26,303	106,655	104,923	375,000	28%
General Revenue					
Interest	0	0	0	0	0%
FCSD Contract (Maint. & Operations)	15,828	73,156	97,576	225,000	33%
Power Sales (Net ReMat)	7,970	24,715	15,243	125,000	20%
Tax Receipts (1% Taxes)	0	0	0	975,000	0%
2. Miscellaneous Revenue*	18,971	38,156	0	50,000	76%
**Detail on following page*					
TOTAL PF2 REVENUE CREDITS	69,072	242,682	217,741	1,750,000	14%

B. DISTRICT REVENUE

	MTD RECEIPTS	YTD RECEIPTS	PRIOR YEAR	BUDGET	% OF BUDGET
3. Industrial Water Revenue					
Harbor District	0	200	0	0	0
Subtotal Industrial Water Revenue	0	200	0	0	0
4. Municipal Water Revenue					
City of Arcata	118,112	459,776	458,984	1,382,827	33%
City of Blue Lake	15,657	61,097	61,815	187,624	33%
City of Eureka	277,374	1,080,139	1,068,616	3,264,015	33%
Fieldbrook CSD	14,984	58,453	59,803	184,279	32%
Humboldt CSD	84,093	333,689	341,831	1,029,609	32%
Manila CSD	6,952	26,484	25,420	78,430	34%
McKinleyville CSD	97,467	377,026	374,222	1,131,105	33%
Subtotal Municipal Water Revenue	614,640	2,396,664	2,390,693	7,257,889	33%
TOTAL INDUSTRIAL & WHOLESALE REVENUE	614,640	2,396,864	2,390,693	7,257,889	33%
5. Power Sales					
Power Sales (ReMat Revenue)	17,261	49,447	31,164	300,000	16%
Interest (ReMat Revenue)	0	0	0	0	
TOTAL REMAT REVENUE	17,261	49,447	31,164	300,000	16%
6. Other Revenue and Grant Reimbursement					
HB Retail Capital Replacement Rev.	2,368	13,441	15,170		
FCSD Contract (Admin & Overhead)	8,529	41,699	35,327		
FEMA/CalOES Grant Revenue	0	320,048	37,036		
SWRCB In-Stream Flow Grant Revenue	0	0	9,024		
Quagga Grant (Pass-Through)	0	0	0		
Misc. Grant Revenue	0	986	986		
August Complex Fire Recovery	0	5,637	0		
Interest - Muni PF2 Retained	1,516	2,377	659		
Net Increase/(Decrease) Investment Accounts	(48,841)	(89,572)	(18,004)		
TOTAL OTHER/GRANT REVENUE	(36,428)	294,616	80,198		
GRAND TOTAL REVENUE	664,544	2,983,609	2,719,795	9,307,889	32%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
MISCELANEOUS REVENUE - DETAIL REPORT
October 31, 2022

B. MISCELLANEOUS RECEIPTS (RETURNED TO CUSTOMERS VIA PF2)

	MTD RECEIPTS	YTD RECEIPTS
Miscelaneous Revenue		
Dividend - Principal Life	342	684
Fees - Park Use	-	2,350
Rebate - CALCard	-	612
Refund - Diesel Fuel Tax	-	43
Refunds - Miscelaneous	-	6,588
Reimb - Blue Lake SCADA/Internet Monthly Fees	51	204
Reimb. - Copies & Postage	-	34
Reimb. - Gas	-	-
Reimb. - Misc. Employee	-	41
Reimb. - Telephone	-	-
UB - Water Processing Fees	30	90
UB - Hydrant Rental Deposit/Use	554	1,904
Sale of Scrap Metal/Equipment/Gravel	17,635	20,010
State Water Arrearages Administration Rev.	-	-
ACWA/JPIA HR LaBounty Safety Award	-	-
Ruth Area		
Lease - Don Bridge	-	-
Rent - Ruth Cabin	360	1,240
August Complex Wildfire FEMA Reimbursement	-	4,257
Ruth Annual Lessee Water Fees	-	100
TOTAL MISCELANEOUS REVENUE	18,971	38,156

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
ALL - MONTHLY EXPENDITURE REPORT - PAGE 1 OF 3
October 31, 2022

33%
Of Budget Year

SALARY AND EMPLOYEE BENEFIT EXPENDITURES (S. E. B.)

	Month-to-Date	Year-to-Date	Prior Year	Budget	% of Budget
Compensation					
1. Wages - Regular	201,635.18	768,903.55	732,977.21	2,619,326	34%
1a. COVID Essental Service Pay*	-	-	(28,080.79)	-	
2. Wages - Sick	9,835.36	30,608.67	20,502.55		
3. Wages - Vacation	18,984.44	87,437.16	65,623.31		
Subtotal	230,454.98	886,949.38	791,022.28	2,619,326	34%
4. Wages - Overtime	189.12	4,583.36	3,258.54	15,000	
5. Wages - Holiday (Worked)	-	1,845.67	1,738.40	15,850	
Subtotal	189.12	6,429.03	4,996.94	30,850	21%
6. Wages - Part-Time	4,754.16	17,779.55	4,748.55	114,455	16%
7. Wages - Shift Differential	988.93	3,802.17	3,420.64	11,000	35%
8. Wages - Standby	7,718.97	29,763.28	27,601.77	88,000	34%
9. Director Compensation	3,440.00	9,440.00	8,560.00	26,000	36%
10. Secretarial Fees	262.50	1,050.00	1,050.00	3,200	33%
11. Payroll Tax Expenses	18,406.77	71,348.05	66,091.54	222,144	32%
11a. COVID Ess. P/R Tax*	-	-	(2,148.18)	-	
Subtotal	35,571.33	133,183.05	111,472.50	464,799	29%
Employee Benefits					
12. Health, Life,& LTD Ins.	59,005.39	228,669.28	232,331.02	749,711	31%
13. Air Medical Insurance	65.00	1,820.00	1,889.00	1,885	97%
14. Retiree Medical Insurance	12,859.58	37,036.64	44,753.70	91,200	41%
14a. Retiree Medical Reimb.	*(5,209.04)*	*(13,830.06)*	(32,177.00)		
15. Employee Dental Insurance	3,080.60	11,927.16	11,375.27	41,261	29%
16. Employee Vision Insurance	668.16	2,579.84	2,410.53	7,573	34%
17. Employee EAP	85.68	331.01	309.13	1,116	30%
18. 457b District Contribution	2,825.00	8,069.04	10,575.00	31,800	25%
19. CalPERS Expenses	30,694.46	410,754.89	358,042.01	570,447	72%
20. Workers Comp Insurance	30,737.56	61,617.70	49,808.17	137,181	45%
Subtotal	134,812.39	748,975.50	679,316.83	1,632,174	46%
TOTAL S.E.B	401,027.82	1,775,536.96	1,586,808.55	4,747,149	37%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
MONTHLY EXPENDITURE REPORT - PAGE 2 OF 3
October 31, 2022

33%
Of Budget Year

SERVICE & SUPPLY EXPENDITURES (S & S)

	Month-to-Date	Year-to-Date	Prior Year	Budget	% of Budget
Operations & Maintenance					
1. Auto Maintenance	3,977.05	16,302.60	17,147.82	39,200	42%
2. Engineering	994.88	30,895.31	11,508.75	75,000	41%
3. Lab Expenses	6,455.00	8,750.00	3,378.00	13,000	67%
4. Maintenance & Repairs					
General	145.78	13,071.44	10,876.98	47,000	28%
TRF	5,441.95	8,302.37	4,735.72	17,000	49%
Subtotal	*5,587.73*	*21,373.81*	*15,612.70*	*64,000*	33%
5. Materials & Supplies					
General	7,996.08	21,767.90	21,600.16	42,000	52%
TRF	176.45	9,283.96	12,155.96	35,000	27%
Subtotal	*8,172.53*	*31,051.86*	*33,756.12*	*77,000*	40%
6. Radio Maintenance	753.26	2,450.54	2,215.60	8,500	29%
7. Ruth Lake License	-	-	1,500.00	1,500	0%
8. Safety Equip./Training					
General	1,248.06	6,181.01	6,827.21	22,000	28%
TRF	-	144.00	377.98	2,000	7%
Subtotal	*1,248.06*	*6,325.01*	*7,205.19*	*24,000*	26%
9. Tools & Equipment	-	976.63	1,984.12	5,000	20%
10. USGS Meter Station	-	8,220.00	-	9,000	91%
Operations Subtotal	*27,188.51*	*126,345.76*	*94,308.30*	*316,200*	40%
General & Administration					
11. Accounting Services	2,475.00	23,940.00	2,915.00	29,000	83%
12. Bad Debt Expense	-	-	-	-	0
13. Dues & Subscriptions	29,040.00	30,136.95	35,229.98	38,000	79%
14. IT & Software Maintenance	3,620.67	29,454.60	9,183.64	33,000	89%
15. Insurance	54,386.78	107,309.77	38,537.37	111,000	97%
16. Internet	936.14	3,711.17	3,725.81	10,000	37%
17. Legal Services	899.00	1,906.50	2,914.50	35,000	5%
18. Miscellaneous	1,529.10	4,355.28	1,623.74	10,000	44%
19. Office Building Maint.	1,352.82	7,976.52	4,847.45	15,000	53%
20. Office Expense	3,644.86	12,398.27	12,257.41	40,000	31%
21. Professional Services	-	4,208.98	4,246.00	20,000	21%
22. Property Tax	-	-	2,006.00	2,000	0%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
MONTHLY EXPENDITURE REPORT - PAGE 3 OF 3
October 31, 2022

33%
Of Budget Year

SERVICE & SUPPLY EXPENDITURES (con't)	Month-to-Date	Year-to-Date	Prior Year	Budget	% of Budget
23. Regulatory Agency Fees	-	5,729.28	21,184.78	190,500	3%
24. Ruth Lake Programs	-	-	-	5,000	0%
25. Safety Apparel	976.39	1,219.43	(31.00)	3,000	41%
26. Technical Training	-	101.36	1,529.36	14,000	1%
27. Telephone	1,246.02	5,409.63	10,717.26	40,000	14%
28. Travel & Conference	1,367.70	4,120.67	1,451.69	22,000	19%
Gen. & Admin. Subtotal	*101,474.48*	*241,978.41*	*152,338.99*	*617,500*	39%
TOTAL SERVICE & SUPPLY	*128,662.99*	*368,324.17*	*246,647.29*	*933,700.25*	39%
Power					
29. Essex - PG & E	-	-	331,048.83		
30. 2Mw Generator Fuel	-	-	-		
Subtotal Essex Pumping	-	-	331,048.83		
31. All other PG & E	5,482.18	29,059.46	23,750.31		
Subtotal All Power	*5,482.18*	*29,059.46*	*354,799.14*	907,000	3%
Total Service and Supplies incl. Power	134,145.17	397,383.63	601,446.43	1,840,700	22%

PROJECTS, FIXED ASSETS & CONSULTING SERVICES

	Month-to-Date	Year-to-Date	Budget	% of Budget
	126,705.00	719,690.00	19,840,575	4%

GRAND TOTAL EXPENSES	661,877.99	2,892,610.59	2,188,254.98	26,428,424	11%
32. Debt Service - SRF Loan	-	-	-	547,337	0%
TOTAL EXPENSES WITH DEBT SERVICE	662,625.49	2,899,949.03	2,192,250.78	26,975,761.21	
OTHER EXPENSES					
33. ReMat Consultant Exp.	747.50	7,338.44	3,995.80		
34. Capital Replacement Exp.	-	-	-		

HUMBOLDT BAY MUNICIPAL WATER DISTRICT

PROJECT PROGRESS REPORT

October 31, 2022

33% *Of Budget Year*

A. CAPITAL PROJECTS

GRANT FUNDED CAPITAL PROJECTS	MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
1 Grant - 12kV Switchgear Relocation *(3.4M - FEMA, Approved)*	1,403	182,607	723,991	25%
2 Grant - Collector 2 Rehabilitation *(Est. $1.6M - NCRP Prop 1 $600k, Approved)*	0	0	1,600,000	0%
3 Grant - 3x Tank Seismic Retro *(Est. $5.7M - FEMA, Phase 1 Approved)*	0	0	5,435,506	0%
4 Grant - Collector Mainline Redundancy Pipeline *(Treatment/Base Facility Project, Est. $3.1M - FEMA, Approved)*	0	0	3,100,000	0%
5 Grant - TRF Generator *(Treatment Facility Project, Est. $1.9M - FEMA, In Process)*	95	284	0	0%
5A Grant - Adv. Assistance Spillway Seismic	142	142	0	0%
TOTAL GRANT FUNDED CAPITAL PROJECTS	1,640	183,033	10,859,497	2%

NON-GRANT FUNDED CAPITAL PROJECTS				
6 Cathodic Protection Project	0	0	0	0
7 Underground Power to Collector 2 - Phase 3	0	0	250,000	0%
8 Mainline Valve Replacement Program	0	0	60,000	0%
9 Retaining Wall for Valve Access *(Treatment Facility Project)*	0	0	40,000	0%
10 Main Office Roof Replacement	303	303	69,000	0%
TOTAL NON-GRANT FUNDED CAPITAL PROJECTS	303	303	419,000	0%

B. EQUIPMENT AND FIXED ASSET PROJECTS

	MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
11 FY23 Replace ESSEX Administrative Computers	0	0	7,000	0%
12 FY23 Replace Control Computers	0	0	5,250	0%
13 Electrical PPE	308	1,055	6,000	18%
14 Essex Stand Alone Security and Fire Monitoring	0	0	1,750	0%
15 PBX Upgrade	0	0	3,000	0%
16 Upgrade Admin Routers	0	0	4,000	0%
18 Replace Bucket Truck (Unit 4)	0	0	127,000	0%
19 Electrical Shop Offices	0	0	31,750	0%
20 Fleet Back-Up Cameras	1,190	1,190	2,250	53%
21 Upgrade Admin Switches	0	0	10,500	0%
22 Handheld Lights	2,400	3,158	3,500	90%
23 Ergonomic Mop Basins *(Treatment Facility Project)*	0	0	2,000	0%
24 TRF EOC Office Furniture *(Treatment Facility Project)*	2,250	2,250	3,750	60%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
PROJECT PROGRESS REPORT - PAGE 2 OF 5
October 31, 2022

33% *Of Budget Year*

B. EQUIPMENT AND FIXED ASSET PROJECTS (con't)

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
25	FY22 Replace EUREKA Administrative Computers	0	0	3,800	0%
26	Hydro Plant PRV Internal Belzona Repairs	0	0	4,750	0%
27	Hydro Plant Neutral Overvoltage Relay	0	0	14,750	0%
28	Hydro Plant Wicket Gate & HBV Signal Upgrade	0	0	8,500	0%
29	Ruth Fire Response Trailer & Equipment	0	0	3,500	0%
30	Tesla Battery Project - TRF	233	931	0	0
30a	Articulating Arm for Vac Trailer	0	2,575	0	0
	TOTAL EQUIPMENT & FIXED ASSET PROJECTS	6,380	11,159	243,050	5%

C. MAINTENANCE PROJECTS

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
31	FY23 Pipeline Maintenance	184	389	4,000	10%
32	FY23 12 kV Electric System Maintenance	0	0	4,200	0%
33	FY23 Main Line Meter Flow Calibration	0	0	28,000	0%
34	FY23 Technical Support and Software Updates	1,422	1,422	31,500	5%
35	FY23 Generator Services	86	86	3,500	2%
36	FY23 Hazard & Diseased Tree Removal	0	0	8,000	0%
37	FY23 Cathodic Protection	569	569	1,500	38%
38	FY23 Maintenance Emergency Repairs	4,864	4,864	50,000	10%
39	FY23 Fleet Paint Repairs	3,444	3,444	5,000	69%
40	FY23 Power Pole/Line Inspection/Maintenance	0	15,853	17,500	91%
41	Truesdale to Samoa Booster Station Telemetry Radio	0	0	3,750	0%
42	Line Shed Alarm Upgrades	0	0	6,500	0%
43	Right-of-Way Clearing Under Cable Cars	0	0	5,000	0%
44	FY23 TRF Generator Service *(Treatment Facility Project)*	69	69	500	14%
45	FY23 TRF Limitorque Valve Retrofit Supplies *(Treatment Facility Project)*	0	0	14,500	0%
46	TRF Instrumentation Replacement *(Treatment Facility Project)*	0	22,772	24,750	92%
47	TRF Valve Network Upgrade (Phase 1 of 5) *(Treatment Facility Project)*	0	0	121,000	0%
48	TRF Plant Water System *(Treatment Facility Project)*	0	0	2,000	0%
49	FY23 Brush Abatement Ruth Hydro	0	0	6,500	0%
50	FY23 LTO Insurance	0	0	5,000	0%
51	FY23 Spillway Repairs	25	379	10,000	4%
52	Investigate/Repair Flip Bucket/Curtain Drain	0	0	105,000	0%
54	Ruth Security and Fire Control Panel	3,827	3,827	4,500	85%
55	Fire Disaster Recovery 2020	138	4,394	0	0
56	COVID-19 Pandemic Expenses	118	884	0	PAGE F-9

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
PROJECT PROGRESS REPORT - PAGE 3 OF 5
October 31, 2022

33% *Of Budget Year*

C. MAINTENANCE PROJECTS (con't)

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
57	Load Bank Hydro Plant Generator	0	0	2,000	0%
58	Main Office Parking Lot Sealing and Stripping	0	0	3,000	0%
	TOTAL MAINTENANCE PROJECTS	14,745	58,952	467,200	13%

D. PROFESSIONAL & CONSULTING SERVICES

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
59	Prof. Services for New Capital Debt	0	0	0	0
60	FY23 Crane Testing/Certification	0	0	10,000	0%
61	FY23 Chlorine System Maintenance	2,638	2,638	6,750	39%
62	FY23 Hydro Plant Annual Elec. Maint./Testing	0	0	4,000	0%
63	Above Ground 10,000 Gallon Fuel Tank Testing	0	0	5,400	0%
64	ATS Pro-IT Support	2,860	4,290	19,000	23%
65	FY23 Essex Mad River Cross-Sectional Survey	5,240	5,240	12,000	44%
66	FY23 GHD Review Essex Mad River Cross-Sectional	0	0	5,000	0%
67	FY23 Technical Training	0	0	27,000	0%
68	FY23 O & M Training	0	0	20,000	0%
69	FY23 Public Education Funds	0	125	5,000	3%
70	TRF Router Multi-Year Support	0	0	2,000	0%
71	Ruth Router Multi-Year Support	1,372	1,372	1,000	137%
72	Transformer Testing and Repair	0	0	7,500	0%
73	GIS / FIS Essex Area	0	0	12,000	0%
74	Salary Survey	0	0	15,000	0%
75	FY23 Mad River Regulatory Compliance Assistance	0	0	50,000	0%
76	FY23 Annual Sect. 115 Pension Trust Contribution	0	0	50,000	0%
77	FY23 Grant Applications Assistance	0	0	20,000	0%
78	Domestic Water for Nordic Aqua Farm	0	0	5,000	0%
79	Engineering Support - On-Site Hypochlorite	0	0	10,000	0%
80	Engineering Study-Replace 15-inch Peninsula Pipe	0	0	38,000	0%
81	Samoa Peninsula Coastal Development Permit	0	0	31,200	0%
82	Engineering Support for Essex Tesla Battery	0	0	7,500	0%
83	Engineering Support for TRF Tesla Battery Proj *(Treatment Facility Project)*	0	0	7,500	0%
84	Essex Control Building Expansion Plans/Specs	0	0	46,000	0%
86	FY23 FERC DSSMR	0	2	5,000	0%
86	FY23 FERC Chief Dam Safety Engineer	0	0	12,000	0%
87	FY23 Dam Spillway Wall Monument Survey	0	0	16,000	0%
88	GHD Review of Matthews Dam Spillway Wingwall	0	0	6,500	0%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
PROJECT PROGRESS REPORT - PAGE 4 OF 5
October 31, 2022

33% *Of Budget Year*

D. PROFESSIONAL & CONSULTING SERVICES (CON'T)

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
89	FY23 Spillway Repair, Dam Inspection & Reporting	254	254	5,000	5%
90	DSSMP Update	0	0	10,000	0%
91	Assist Assessments Spillway Drains, Flip Bucket	0	0	20,000	0%
92	GEI Tiltmeter Monitoring	0	0	12,000	0%
	TOTAL PROF/CONSULTING SERVICES	12,364	13,922	503,350	3%

E. INDUSTRIAL SYSTEM PROJECTS

93	Maintain Water Supply to Industrial Pump Station 6	0	0	13,250	0%
	TOTAL INDUSTRIAL SYSTEM PROJECTS	0	0	13,250	0%

F. CARRY-OVER PROJECTS FROM PRIOR YEAR

94	Replace Collector 4 Cable	0	0	2,000	0%
95	Line Shed #8	0	0	10,000	0%
	TOTAL CARRYOVER PROJECTS	0	0	12,000	0%

G. ADVANCED CHARGES & DEBIT SERVICE FUNDS COLLECTED

		MTD	YTD	BUDGET	% BUDGET
96	On-Site Generation of Chlorine *($1.2M - FY23, Treatment Facility Project)*	20,833	83,333	250,000	33%
97	Prof. Services for New Capital Debt	13,517	54,067	162,200	33%
	TOTAL ADVANCED CHARGES COLLECTED	34,350	137,400	412,200	33%

H. PROJECTS NOT CHARGED TO MUNICIPAL CUSTOMERS

		MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
98	On-Site Generation of Chlorine *($1.2M - FY23, Treatment Facility Project)*	4,851	38,683	0	0
99	Humboldt Bay Radio Read Meters *(Capital Replacement Funds)*	0	0	9,500	0%
100	Ruth Paving and Repairs *(Non-FEMA August Complex Wildfire Funds Collected)*	0	0	112,250	0%
101	Pump Station 6 Gravel Bar Work and Permitting *(ReMat Reserves)*	0	0	40,000	0%
102	Domestic Water System Cathodic Protection *(Collected Advance Charges)*	7,143	7,143	65,000	11%
103	Streambed Flow Enhancement Grant *(DWR Grant)*	2,592	5,710	457,755	1%
104	Quagga Grant Expenses *(Munltiple Grants)*	7,469	46,056	0	

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
PROJECT PROGRESS REPORT - PAGE 5 OF 5
October 31, 2022

33% *Of Budget Year*

H. PROJECTS NOT CHARGED TO MUNICIPAL CUSTOMERS (con't)

	MTD EXPENSES	YTD TOTAL	BUDGET	% OF BUDGET
105 Forestry Consultant *(NCRP Grant)*	0	0	14,638	0%
106 Clean-Out Industrial Water Tank *(ReMat Reserves)*	0	527	100,000	1%
107 CalFire Healthy Forest Grant *(CalFire Grant)*	27,000	33,323	5,000,000	1%
108 CalFire Fuels Reduction Program *(CalFire Funding)*	0	0	500,000	0%
TOTAL NOT CHARGED TO CUSTOMERS	49,055	131,440	6,299,143	2%

PROJECT PROGRESS REPORT SUMMARY OF ALL ACTIVITY

CUSTOMER CHARGES	MTD	YTD	BUDGET	% BUDGET
TOTAL NON-GRANT FUNDED CAPITAL PROJECTS	303	303	419,000	0%
Treatment Facility Portion	*0*	*0*		
TOTAL EQUIPMENT & FIXED ASSET PROJECTS	6,380	11,159	243,050	5%
Treatment Facility Portion	*2,250*	*2,250*		
TOTAL MAINTENANCE PROJECTS	14,745	58,952	467,200	13%
Treatment Facility Portion	*69*	*22,840*	*162,750*	
TOTAL PROF/CONSULTING SERVICES	12,364	13,922	503,350	3%
Treatment Facility Portion	*0*	*0*	*7,500*	
TOTAL INDUSTRIAL SYSTEM PROJECTS	0	0	13,250	0%
TOTAL CARRYOVER PROJECTS	0	0	12,000	0%
Treatment Facility Portion	*0*	*0*	*0*	
TOTAL ADVANCED CHARGES/DEBIT SERVICE	34,350	137,400	412,200	33%
Treatment Facility Portion	*$20,833*	*$83,333*	*$250,000*	
TOTAL CUSTOMER CHARGES	$68,142	$221,736	$2,070,050	11%

NON-CUSTOMER CHARGES (CURRENT FY)	MTD	YTD	BUDGET	% BUDGET
TOTAL GRANT FUNDED CAPITAL PROJECTS	1,640	183,033	10,859,497	2%
TOTAL NON-CUSTOMER CHARGES	49,055	131,440	6,299,143	2%
TOTAL USE OF ENCUMBERED FUNDS	7,867	183,481	611,885	30%
TOTAL NON-CUSTOMER CHARGES	$58,562	$497,954	$17,770,525	3%
GRAND TOTAL PROJECT BUDGET ACTIVITY	$126,705	$719,690	$19,840,575	4%

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
ENCUMBERED FUNDS RECONCILIATION REPORT
October 31, 2022

		MTD EXPENSES	YTD TOTAL	AMOUNT ENCUMBERED	REMAINING
	A. CAPITAL PROJECTS				
1E	Fiber Optic Link - Collector 2 (Phase 1)	0	0	28,500	28,500
2E	Power and Fiber Optic Link to Collector 2, Phase 2	0	0	44,000	44,000
3E	Line Shed #8	218	218	28,600	28,382
4E	Solar at Eureka Main Office	0	801	29,650	28,849
5E	TRF Line Shed 5 Ramp and Concrete Work	0	0	850	850
6E	Headquarters Remodel	0	542	30,000	29,458
	B. EQUIPMENT & FIXED ASSET PROJECTS				
7E	Penstock Ventilation System	0	0	2,525	2,525
8E	Collector Lube Oil Detection System	0	0	3,050	3,050
9E	Replace Unit 9	0	792	17,600	16,808
10E	TRF Chemical Building PLC Module Expansion	0	3,326	2,090	(1,236)
11E	Eureka Office Phone System	0	21,041	14,600	(6,441)
12E	Transformer at Hydro Plant	0	29,371	49,150	19,779
	C. MAINTENANCE PROJECTS				
13E	FY22 Brush Abatement Ruth Hydro	0	0	6,500	6,500
14E	Replace Collector 4 Cable	2,700	2,700	3,650	950
15E	Collector MCC Breaker & Door Switch Replacement	0	77,960	66,125	(11,835)
16E	Collector 1 Interior Painting	0	0	600	600
17E	FY22 Main Line Meter Flow Calibration	0	1,746	2,500	754
18E	Cyber Assessment	25	15,025	19,250	4,225
19E	Power Pole/Line Inspection/Maintenance	0	3,926	3,800	(126)
20E	Upgrade Microsoft Office - Essex	0	0	900	900
21E	Security Fencing Replacement - Essex & Samoa BPS	0	0	47,200	47,200
22E	Lighting Upgrades for Shop/Collectors/Line Sheds	0	0	8,150	8,150
23E	TRF Sludge Bed Gutter Replacement	0	888	8,175	7,287
	D. PROFESSIONAL & CONSULTING SERVICES				
24E	404 Permit Assistance	0	0	24,360	24,360
25E	Lease Lots Surveys	0	2,382	25,000	22,618
26E	GIS / FIS Ruth Area, Including Internship	0	0	5,000	5,000
27E	GIS Project at Ruth Lake (USFS)	0	0	7,500	7,500
28E	Ruth Vehicle Abatement	0	6,830	7,000	170
29E	ATS Pro-IT Support	0	1,430	1,430	0

HUMBOLDT BAY MUNICIPAL WATER DISTRICT
ENCUMBERED FUNDS RECONCILIATION REPORT (con't)
October 31, 2022

		MTD EXPENSES	YTD TOTAL	AMOUNT ENCUMBERED	REMAINING
D. PROFESSIONAL & CONSULTING SERVICES (con't)					
30E	Collector Arc Flash Study Update and Breaker Testi	0	9,529	20,000	10,471
31E	Collector 4 Restoration	0	0	5,000	5,000
32E	FY22 Crane Operator Re-Certification	0	0	1,000	1,000
33E	FY22 Backflow Tester Training	0	0	1,200	1,200
34E	Public Education Funds	0	(104)	1,500	1,604
35E	Mad River Watershed USFS Lidar	0	0	20,000	20,000
36E	Coastal CDP - GHD	4,540	4,540	18,155	13,615
37E	CAISO Meter Inspection Calibration	0	0	4,000	4,000
38E	FERC Part 12 - Independent Consultant & Engineer	77	77	42,840	42,763
39E	FERC Chief Dam Safety Engineer	307	461	10,435	9,975
	ENCUMBERED FUNDS TOTAL	7,867	183,481	611,885	428,404

Vendor Name	Date Paid	Description	Amount Paid
101 NETLINK			
101 NETLINK	10/03/2022	*Ruth Data Link/Internet*	190.00
Total 101 NETLINK:			190.00
ACWA			
ACWA	10/26/2022	*2023 Annual Dues*	20,230.00
Total ACWA:			20,230.00
ACWA/JPIA			
ACWA/JPIA	10/20/2022	*RETIREE MEDICAL*	7,975.26
ACWA/JPIA	10/20/2022	*COBRA Dental*	200.08
ACWA/JPIA	10/20/2022	*COBRA Vision*	92.80
ACWA/JPIA	10/20/2022	*COBRA Medical*	4,591.44
ACWA/JPIA	10/25/2022	*Workers Compensation July - Sept 2022*	30,737.56
ACWA/JPIA	10/26/2022	*Auto and General Liability Program*	51,600.00
ACWA/JPIA	10/26/2022	*Auto and General Liability Program*	2,786.78
ACWA/JPIA	10/26/2022	*Auto and General Liability Program*	18,128.92
Total ACWA/JPIA:			116,112.84
Advanced Security Systems			
Advanced Security Systems	10/07/2022	*Essex Alarm Monitoring*	196.50
Advanced Security Systems	10/26/2022	*Ruth Dam Fire Alarm*	3,827.01
Total Advanced Security Systems:			4,023.51
AirGas NCN			
AirGas NCN	10/26/2022	*Handheld Flashlights*	2,396.21
AirGas NCN	10/26/2022	*Eyewash station for IPA*	51.45
Total AirGas NCN:			2,447.66
Arcata Stationers			
Arcata Stationers	10/28/2022	*TRF EOC office furniture*	2,249.60
Total Arcata Stationers:			2,249.60
Asbury Environmental Services			
Asbury Environmental Services	10/11/2022	*Waste oil pickup for Ruth Hydro*	95.00
Total Asbury Environmental Services:			95.00
AT & T			
AT & T	10/26/2022	*Eureka/Essex Landline*	33.97
AT & T	10/26/2022	*Arcata/Essex LandLine*	33.97
AT & T	10/26/2022	*Eureka office*	143.45
AT & T	10/26/2022	*TRF*	26.81
AT & T	10/26/2022	*Essex office/Modem/Control Alarm System*	26.81
AT & T	10/19/2022	*Ruth HQ Long Distance*	8.53
AT & T	10/19/2022	*Eureka Office Long Distance*	7.22
Total AT & T:			280.76
AT&T Advertising Solutions			
AT&T Advertising Solutions	10/26/2022	*white page listing*	21.00

Vendor Name	Date Paid	Description	Amount Paid
Total AT&T Advertising Solutions:			21.00
ATS Communications			
ATS Communications	10/26/2022	*Essex Control and Admin Computers Support*	1,430.00
ATS Communications	10/07/2022	*PBX Annual Gold Seal Support*	1,421.94
ATS Communications	10/07/2022	*IT Support for Essex Admin Computers*	1,430.00
ATS Communications	10/26/2022	*Ruth Firewall Support Thru 3/31/2027*	1,372.23
Total ATS Communications:			5,654.17
Ben Boak			
Ben Boak	10/26/2022	*Excavator to move boulders*	2,750.00
Total Ben Boak:			2,750.00
Buckles-Smith			
Buckles-Smith	10/26/2022	*Power Monitor for OSG electrical install*	3,203.53
Total Buckles-Smith:			3,203.53
City of Eureka			
City of Eureka	10/07/2022	*Eureka office water/sewer*	101.64
Total City of Eureka:			101.64
Coastal Business Systems Inc.			
Coastal Business Systems Inc.	10/07/2022	*Essex copy/fax machine*	254.14
Coastal Business Systems Inc.	10/07/2022	*Eureka office copy and fax machine*	710.72
Total Coastal Business Systems Inc.:			964.86
Corey Borghino			
Corey Borghino	10/26/2022	*Eureka office Petty Cash - Office Supplies*	59.61
Corey Borghino	10/26/2022	*Eureka office Petty Cash - Maintenance*	12.75
Corey Borghino	10/26/2022	*Eureka office Petty Cash - Employee Recognition*	27.24
Corey Borghino	10/26/2022	*Eureka office Petty Cash - Ruth Lease Lot Letters*	15.70
Corey Borghino	10/26/2022	*Eureka Petty Cash - Fieldbrook Glendale CSD Postage Due*	.36
Corey Borghino	10/26/2022	*Eureka Petty Cash - Mail Essex Exams*	8.69
Total Corey Borghino:			124.35
CSDA			
CSDA	10/26/2022	*2023 Membership*	8,810.00
Total CSDA:			8,810.00
Dave Perkins			
Dave Perkins	10/03/2022	*auto mileage reimbursement*	145.50
Total Dave Perkins:			145.50
Dazey's Arcata			
Dazey's Arcata	10/26/2022	*Hay for reseeding at cathodic dig site rehab*	14.00
Total Dazey's Arcata:			14.00

Vendor Name	Date Paid	Description	Amount Paid
Downey Brand Attorneys LLP			
Downey Brand Attorneys LLP	10/26/2022	*Legal Fees Sept 2022 - Trinidad Rancheria Mainline Ext*	278.65
Downey Brand Attorneys LLP	10/26/2022	*Legal Fees Sept 2022 - Instream Flow Investigation*	2,080.00
Total Downey Brand Attorneys LLP:			2,358.65
Englund Marine Supply			
Englund Marine Supply	10/07/2022	*Purchase of rope for Ruth shoreline wood removal*	137.66
Total Englund Marine Supply:			137.66
Eureka Oxygen			
Eureka Oxygen	10/11/2022	*cylinder rental*	122.20
Total Eureka Oxygen:			122.20
Eureka Readymix			
Eureka Readymix	10/18/2022	*Ready Mix Concrete for transformer slab*	499.83
Total Eureka Readymix:			499.83
Express Employment Services			
Express Employment Services	10/07/2022	*Temp Exec/Assist/Board Sec 9/26-10/2/22*	1,483.20
Express Employment Services	10/13/2022	*Temp Exec Asst/Board Secretary through 10/9/22*	1,483.20
Express Employment Services	10/19/2022	*Temp Exec Asst/Board Sec thru 10/16/22*	1,483.20
Express Employment Services	10/26/2022	*Temp Exec Asst/Board Sec thru 10/23/2022*	1,483.20
Total Express Employment Services:			5,932.80
FEDEX			
FEDEX	10/28/2022	*Shipping Charges*	25.30
FEDEX	10/28/2022	*Ship annual flow test of Sperian rescue SCBA #2*	24.57
FEDEX	10/28/2022	*Large Envelope*	14.19
FEDEX	10/28/2022	*Return of defective Ruth Fortinate router*	12.50
FEDEX	10/28/2022	*Return of Versaview 6300P*	182.42
Total FEDEX:			258.98
Frontier Communications			
Frontier Communications	10/28/2022	*Ruth HQ*	56.04
Frontier Communications	10/28/2022	*Ruth Hydro/Ruth Dataline*	222.93
Total Frontier Communications:			278.97
GEI Consultants, Inc			
GEI Consultants, Inc	10/07/2022	*FERC Safety Inspection*	76.75
GEI Consultants, Inc	10/26/2022	*Consultation on flood inundation maps and spillway to-do items*	307.00
Total GEI Consultants, Inc:			383.75
Genesis Computer Systems, Inc			
Genesis Computer Systems, Inc	10/19/2022	*Essex Administrative Computer maintenance*	200.00
Total Genesis Computer Systems, Inc:			200.00
GHD			
GHD	10/26/2022	*General Engineering - DW Pipeline Direct Assessment*	7,142.50

Vendor Name	Date Paid	Description	Amount Paid
GHD	10/26/2022	*General Engineering - Eureka*	615.88
GHD	10/26/2022	*General Engineering - Instream Flow Grant*	511.75
GHD	10/26/2022	*General Engineering - OnSite Chlorine Generation*	521.14
GHD	10/26/2022	*General Engineering - TRF Generator -Grant*	94.76
GHD	10/26/2022	*General Engineering - Seismic Stability Grant*	142.13
GHD	10/26/2022	*General Engineering - Essex*	379.00
GHD	10/26/2022	*12KV Switchgear Replacement - Grant*	1,403.00
GHD	10/26/2022	*General Engineering - CDP for Samoa Peninsula ROW Phase 1*	4,539.88
Total GHD:			15,350.04
GR Sundberg, Inc			
GR Sundberg, Inc	10/26/2022	*Ramp Construction to access Collector 4*	3,600.00
GR Sundberg, Inc	10/26/2022	*Assisting with installing Collector 4 Cable Car replacement cabl*	2,700.00
Total GR Sundberg, Inc:			6,300.00
Harrington Industrial Plastics LLC			
Harrington Industrial Plastics LLC	10/07/2022	*TRF chemical system maintenance*	268.20
Total Harrington Industrial Plastics LLC:			268.20
Health Equity Inc			
Health Equity Inc	10/11/2022	*HSA Admin Fee 9 employees*	26.55
Health Equity Inc	10/11/2022	*HSA Admin Fee - 6 employees*	17.70
Health Equity Inc	10/20/2022	*District HSA Contributions- 1 employees*	214.03
Health Equity Inc	10/24/2022	*District HSA Contributions- 1 employees*	476.31
Total Health Equity Inc:			734.59
Hensel Hardware			
Hensel Hardware	10/28/2022	*TRF Electrical cord & Gong brush*	22.76
Hensel Hardware	10/28/2022	*Hardware for mounting new handheld light charging stations*	3.73
Hensel Hardware	10/28/2022	*TRF Supplies*	40.32
Total Hensel Hardware:			66.81
Henwood Associates, Inc			
Henwood Associates, Inc	10/03/2022	*Consultant Services Agreement- August 2022*	373.75
Total Henwood Associates, Inc:			373.75
Humboldt County Treasurer			
Humboldt County Treasurer	10/26/2022	*Fund No 3876 Account 800870*	45,611.43
Total Humboldt County Treasurer:			45,611.43
Humboldt Redwood Company, LLC			
Humboldt Redwood Company, LLC	10/26/2022	*Mt Pierce Lease site*	308.26
Total Humboldt Redwood Company, LLC:			308.26
Ian Ivey			
Ian Ivey	10/26/2022	*expense reimbursement for safety shoes*	336.69
Total Ian Ivey:			336.69

Vendor Name	Date Paid	Description	Amount Paid
Industrial Electric			
Industrial Electric	10/19/2022	*Onsite Generation of Chlorine*	283.25
Industrial Electric	10/19/2022	*TRF maintenance*	73.10
Total Industrial Electric:			356.35
Johnson's Mobile Rentals LLC			
Johnson's Mobile Rentals LLC	10/19/2022	*Temporary Fence for TRF Tesla Battery Project*	232.74
Total Johnson's Mobile Rentals LLC:			232.74
JTN Energy, LLC			
JTN Energy, LLC	10/03/2022	*Consultant Services Agreement - August 2022*	373.75
Total JTN Energy, LLC:			373.75
Keenan Supply			
Keenan Supply	10/11/2022	*Spare 12" BFV for TRF WWR Basin Wet Well*	4,186.09
Keenan Supply	10/26/2022	*Flex couplings for blow-off line repair*	22.99
Total Keenan Supply:			4,209.08
Matthews Paints, Inc.			
Matthews Paints, Inc.	10/26/2022	*pressure water hose replacement for ditch witch*	152.95
Total Matthews Paints, Inc.:			152.95
McMaster-Carr Supply			
McMaster-Carr Supply	10/07/2022	*Pressure gauges for Ruth Hydro*	45.87
Total McMaster-Carr Supply:			45.87
Mercer-Fraser Company			
Mercer-Fraser Company	10/26/2022	*Boulders delivered to Old Ruth Rd*	4,719.00
Total Mercer-Fraser Company:			4,719.00
Meyer Land Clearing, Inc			
Meyer Land Clearing, Inc	10/26/2022	*Land Maintenance*	27,000.00
Total Meyer Land Clearing, Inc:			27,000.00
Mission Linen			
Mission Linen	10/03/2022	*Uniform Rental*	138.45
Mission Linen	10/03/2022	*Uniform Rental*	109.75
Mission Linen	10/03/2022	*Uniform Rental*	138.45
Mission Linen	10/03/2022	*maintenance supplies*	64.34
Mission Linen	10/03/2022	*Uniform Rental*	122.10
Total Mission Linen:			573.09
Mitchell, Brisso, Delaney & Vrieze			
Mitchell, Brisso, Delaney & Vrieze	10/19/2022	*Legal Services- September 2022*	899.00
Total Mitchell, Brisso, Delaney & Vrieze:			899.00

Vendor Name	Date Paid	Description	Amount Paid
Napa Auto Parts			
Napa Auto Parts	10/28/2022	*Fleet Repairs & Maintenance*	31.93
Napa Auto Parts	10/28/2022	*Battery for Ditch Witch*	197.29
Napa Auto Parts	10/28/2022	*Unit 6 maintenance*	45.78
Napa Auto Parts	10/28/2022	*Unit 5 maintenance*	45.78
Napa Auto Parts	10/28/2022	*Paint Marker*	7.23
Napa Auto Parts	10/28/2022	*Fleet Repairs & Maintenance*	158.21
Napa Auto Parts	10/28/2022	*Generator Services*	85.93
Napa Auto Parts	10/28/2022	*TRF Generator Services*	68.93
Total Napa Auto Parts:			641.08
Nilsen Feed & Grain Co., Arcata			
Nilsen Feed & Grain Co., Arcata	10/26/2022	*Grass seed and hay for restoration of excavation site*	232.50
Total Nilsen Feed & Grain Co., Arcata:			232.50
North Coast Fabricators			
North Coast Fabricators	10/26/2022	*18 Ton crane service for replacement motor on collector 4*	1,264.00
Total North Coast Fabricators:			1,264.00
North Coast Laboratories			
North Coast Laboratories	10/11/2022	*lab tests - Fieldbrook-Glendale CSD*	95.00
North Coast Laboratories	10/11/2022	*lab tests - Humboldt Bay Retail*	95.00
North Coast Laboratories	10/11/2022	*lab tests - Humboldt Bay Retail*	285.00
North Coast Laboratories	10/11/2022	*lab tests - Humboldt Bay Retail*	50.00
North Coast Laboratories	10/11/2022	*lab tests - Fieldbrook-Glendale CSD*	95.00
North Coast Laboratories	10/11/2022	*lab tests - Humboldt Bay Retail*	95.00
North Coast Laboratories	10/28/2022	*lab tests - McNamara's Peepe Site*	5,550.00
North Coast Laboratories	10/11/2022	*lab tests - Fieldbrook-Glendale CSD*	95.00
North Coast Laboratories	10/11/2022	*lab tests - Humboldt Bay Retail*	95.00
Total North Coast Laboratories:			6,455.00
Northern California Safety Consortium			
Northern California Safety Consortium	10/07/2022	*monthly membership fee*	75.00
Total Northern California Safety Consortium:			75.00
Occu-Med, Ltd			
Occu-Med, Ltd	10/18/2022	*Pre-employment Physicals*	947.47
Total Occu-Med, Ltd:			947.47
Occupational Health Service of Mad River			
Occupational Health Service of Mad River	10/26/2022	*Annual Hearing and Respirator Exam*	201.25
Total Occupational Health Service of Mad River:			201.25
Optimum/Sudden Link			
Optimum/Sudden Link	10/04/2022	*Fieldbrook-Glendale CSD Internet*	323.61
Optimum/Sudden Link	10/07/2022	*Essex internet*	231.76
Optimum/Sudden Link	10/07/2022	*Essex Phones*	72.14
Optimum/Sudden Link	10/07/2022	*TRF Internet*	25.27
Optimum/Sudden Link	10/07/2022	*TRF Internet - Blue Lake SCADA Monitoring*	50.55
Optimum/Sudden Link	10/07/2022	*TRF Internet - Fieldbrook-Glendale CSD*	50.55

Vendor Name	Date Paid	Description	Amount Paid
Optimum/Sudden Link	10/18/2022	*Eureka Internet*	208.45
Total Optimum/Sudden Link:			962.33
Pacific Gas & Electric Co.			
Pacific Gas & Electric Co.	10/28/2022	*Ruth HQ*	77.41
Total Pacific Gas & Electric Co.:			77.41
Pacific Paper Co.			
Pacific Paper Co.	10/07/2022	*Eureka office supplies*	111.74
Pacific Paper Co.	10/28/2022	*Eureka office supplies*	97.35
Total Pacific Paper Co.:			209.09
Pierson Building Center			
Pierson Building Center	10/28/2022	*TRF turbidmeter replacements*	136.13
Total Pierson Building Center:			136.13
Pitney Bowes			
Pitney Bowes	10/18/2022	*refill postage*	500.00
Total Pitney Bowes:			500.00
Points West Surveying Co			
Points West Surveying Co	10/26/2022	*Mad river Cross Sections*	5,240.00
Total Points West Surveying Co:			5,240.00
Price Paige & Company			
Price Paige & Company	10/26/2022	*FY 22 GASB 68 Audit*	2,200.00
Price Paige & Company	10/26/2022	*FY 22 GASB 68 Audit*	275.00
Total Price Paige & Company:			2,475.00
Recology Arcata			
Recology Arcata	10/13/2022	*Essex Garbage/Recycling Service*	676.36
Total Recology Arcata:			676.36
Recology Humboldt County			
Recology Humboldt County	10/11/2022	*Eureka office garbage/recycling service*	95.55
Total Recology Humboldt County:			95.55
Salisbury Online			
Salisbury Online	10/26/2022	*Electrical PPE*	307.63
Total Salisbury Online:			307.63
SCBA Safety Check, Inc			
SCBA Safety Check, Inc	10/11/2022	*Fee for annual flow testing of Sperian #1 rescue SCBA*	93.59
SCBA Safety Check, Inc	10/19/2022	*Fee for annual flow testing of Sperian #2 rescue SCBA*	94.04
Total SCBA Safety Check, Inc:			187.63

Vendor Name	Date Paid	Description	Amount Paid
Sitestar Nationwide Internet			
Sitestar Nationwide Internet	10/11/2022	*Essex Internet - Nov 2022*	51.90
Total Sitestar Nationwide Internet:			51.90
Six Rivers Communications			
Six Rivers Communications	10/26/2022	*Esses Radio System Repair*	187.50
Total Six Rivers Communications:			187.50
Streamline			
Streamline	10/03/2022	*Website maintenance membership fee*	450.00
Total Streamline:			450.00
SWRCB-DWOCP			
SWRCB-DWOCP	10/18/2022	*T3 Certification Renewal - Zachery Bunke*	140.00
SWRCB-DWOCP	10/19/2022	*Water Distribution Exam Fee D1- Matthew P Davis*	50.00
SWRCB-DWOCP	10/19/2022	*Water Treatment T1 Exam Fee-Matthew P Davis*	50.00
Total SWRCB-DWOCP:			240.00
Telstar Instruments			
Telstar Instruments	10/26/2022	*Annual Chlorine System maintenance parts*	1,602.26
Telstar Instruments	10/26/2022	*Chlorine system maintenance*	1,035.48
Total Telstar Instruments:			2,637.74
Thatcher Company, Inc			
Thatcher Company, Inc	10/26/2022	*Bulk Chlorine Gas Tank*	4,527.47
Thatcher Company, Inc	10/26/2022	*deposit return - 1 CYL*	1,077.50-
Total Thatcher Company, Inc:			3,449.97
The Mill Yard			
The Mill Yard	10/28/2022	*PVC glue for TRF maint & repairs*	32.53
The Mill Yard	10/28/2022	*Eureka Office Roof Repair*	303.00
The Mill Yard	10/28/2022	*Lumber Supplies for Line Shed 8*	218.26
Total The Mill Yard:			553.79
Thrifty Supply			
Thrifty Supply	10/19/2022	*Teflon tape for inventory*	29.57
Thrifty Supply	10/19/2022	*TRF lab sump pump upgrades*	371.65
Thrifty Supply	10/26/2022	*6" Sewer Drain Pipe*	160.60
Total Thrifty Supply:			561.82
Trinity County General Services			
Trinity County General Services	10/26/2022	*Pickett Peak site lease*	257.50
Total Trinity County General Services:			257.50
Trinity County Solid Waste			
Trinity County Solid Waste	10/13/2022	*Ruth HQ dump fees*	46.83
Trinity County Solid Waste	10/13/2022	*Ruth Hydro dump fees*	46.83

Vendor Name	Date Paid	Description	Amount Paid
Total Trinity County Solid Waste:			93.66
U.S. Bank Corporate Payment System			
U.S. Bank Corporate Payment System	10/11/2022	*Ruth Dam Supplies*	254.13
U.S. Bank Corporate Payment System	10/11/2022	*Intuit Check Order*	770.15
U.S. Bank Corporate Payment System	10/11/2022	*UA Flight for Friedenbach to AWWA Conference*	592.70
U.S. Bank Corporate Payment System	10/11/2022	*New Employee District Jacket*	52.97
U.S. Bank Corporate Payment System	10/11/2022	*Safety Apparel*	976.39
U.S. Bank Corporate Payment System	10/11/2022	*RLCSD/HBMWD Joint Board Meeting*	554.39
U.S. Bank Corporate Payment System	10/11/2022	*Painting supplies for Ruth spillway staff gauge*	25.09
U.S. Bank Corporate Payment System	10/11/2022	*Credit amount paid by ck # 50817*	555.00-
U.S. Bank Corporate Payment System	10/11/2022	*OSG Transformer for On-site generation of Chlorine*	161.22
U.S. Bank Corporate Payment System	10/11/2022	*Employee Recognition*	95.62
U.S. Bank Corporate Payment System	10/11/2022	*Office Chairs for TRF Lab*	418.69
U.S. Bank Corporate Payment System	10/11/2022	*Lab Sample Supplies*	12.63
U.S. Bank Corporate Payment System	10/11/2022	*DI water*	23.95
U.S. Bank Corporate Payment System	10/11/2022	*Essex Supplies*	257.88
U.S. Bank Corporate Payment System	10/11/2022	*Smartsheet Subscription*	481.05
U.S. Bank Corporate Payment System	10/11/2022	*Spendwise Monthly Subscription - August 2022*	79.70
U.S. Bank Corporate Payment System	10/11/2022	*Harris personal expense - Reimbursed to District*	30.57
U.S. Bank Corporate Payment System	10/11/2022	*Employee Recognition*	127.23
U.S. Bank Corporate Payment System	10/11/2022	*COVID Tests - Eureka Office*	117.84
U.S. Bank Corporate Payment System	10/11/2022	*AirMed Renewals x 1*	65.00
U.S. Bank Corporate Payment System	10/11/2022	*Eureka Office Supplies*	30.35
U.S. Bank Corporate Payment System	10/11/2022	*HB Retail Customer Post Cards*	68.74
U.S. Bank Corporate Payment System	10/11/2022	*FBGD Retail Customer Post Cards*	174.73
U.S. Bank Corporate Payment System	10/11/2022	*Essex Office Supplies*	34.34
U.S. Bank Corporate Payment System	10/11/2022	*Fleet Back-up Camera*	306.36
U.S. Bank Corporate Payment System	10/11/2022	*Essex Office Supplies*	63.34
U.S. Bank Corporate Payment System	10/11/2022	*Essex Computer Supplies*	96.62
U.S. Bank Corporate Payment System	10/11/2022	*Essex Office Supplies*	182.03
U.S. Bank Corporate Payment System	10/11/2022	*#M Hard Hat*	24.03
U.S. Bank Corporate Payment System	10/11/2022	*Fleet Back-up Camera*	883.44
U.S. Bank Corporate Payment System	10/11/2022	*Travel/Conference - To Be Refunded*	775.00
Total U.S. Bank Corporate Payment System:			7,181.18
United Rentals, Inc			
United Rentals, Inc	10/26/2022	*Erosion control materials for cathodic pipe testing excavation sit*	322.45
Total United Rentals, Inc:			322.45
VALEO Networks			
VALEO Networks	10/07/2022	*Eureka office essential care service*	1,968.99
VALEO Networks	10/11/2022	*VMware Renewal Support and Subscription - 1 year*	215.56
Total VALEO Networks:			2,184.55
Valley Pacific Petroleum Servi, Inc			
Valley Pacific Petroleum Servi, Inc	10/11/2022	*Pumping & Control*	556.08
Valley Pacific Petroleum Servi, Inc	10/11/2022	*Water Quality*	556.08
Valley Pacific Petroleum Servi, Inc	10/11/2022	*Maintenance*	556.08
Valley Pacific Petroleum Servi, Inc	10/11/2022	*Humboldt Bay Retail*	144.56
Valley Pacific Petroleum Servi, Inc	10/11/2022	*Fieldbrook Glendale CSD*	411.50
Valley Pacific Petroleum Servi, Inc	10/13/2022	*Fuel Purchase for Ruth*	554.15
Valley Pacific Petroleum Servi, Inc	10/13/2022	*Fuel Purchase for Ruth Hydro*	554.15

Vendor Name	Date Paid	Description	Amount Paid
Valley Pacific Petroleum Servi, Inc	10/26/2022	*Eureka Office Generator Fuel*	545.88
Valley Pacific Petroleum Servi, Inc	10/26/2022	*Power for Pumping (2MW Generator)*	5,404.77
Valley Pacific Petroleum Servi, Inc	10/26/2022	*Essex Bulk Fuel*	2,774.78
Total Valley Pacific Petroleum Servi, Inc:			12,058.03
Verizon Wireless			
Verizon Wireless	10/13/2022	*General Manager*	40.45
Verizon Wireless	10/13/2022	*Ruth Area*	27.36
Verizon Wireless	10/13/2022	*Humboldt Bay Retail*	14.16
Verizon Wireless	10/13/2022	*Fieldbrook Glendale CSD*	40.30
Verizon Wireless	10/13/2022	*Operations 1*	.10
Verizon Wireless	10/13/2022	*Humboldt Bay IPAD*	9.88
Verizon Wireless	10/13/2022	*Fieldbrook Glendale CSD IPAD*	28.13
Verizon Wireless	10/13/2022	*Ruth Area*	21.45
Verizon Wireless	10/13/2022	*Ruth Hydro*	21.44
Total Verizon Wireless:			203.27
Watt's Cleaning Services			
Watt's Cleaning Services	10/04/2022	*Eureka Office Cleaning*	278.00
Total Watt's Cleaning Services:			278.00
Wes Green Landscaping			
Wes Green Landscaping	10/26/2022	*Debris Disposal Fee*	45.00
Total Wes Green Landscaping:			45.00
Wonder Bros. Auto Body			
Wonder Bros. Auto Body	10/26/2022	*Body and Paint Repairs for Unit #15*	2,270.46
Wonder Bros. Auto Body	10/26/2022	*Body and Paint Repairs for Unit #15*	1,173.64
Total Wonder Bros. Auto Body:			3,444.10
Grand Totals:			340,386.75

Memo to: HBMWD Board of Directors
From: Dale Davidsen, Superintendent
Date: November 2, 2022
Subject: Essex/Ruth October 2022 Operational Report

Upper Mad River, Ruth Lake, and Hydro Plant

1. Flow at Mad River above Ruth Reservoir (Zenia Bridge) averaged 5 cfs with a high of 6 cfs on October 2nd and a low of 3 cfs on October 16th

2. The conditions at Ruth Lake for October were as follows:
   The lake level on October 31st was 2642.38 feet which is:

   - 2.90 feet lower than September 30th, 2022
   - 12.30 feet lower than October 31st, 2021
   - 2.77 feet higher than the ten-year average
   - 11.62 feet below the spillway

3. Ruth Headquarters recorded 0.04 inches of rainfall for October

4. Ruth Hydro produced 151,600 KWh in October. There was 1 shut down: a PGE planned event for 7 hours and 50 minutes with 1,566 KWh lost production

5. The lake discharge averaged 46 cfs with a high of 48 cfs on October 22nd

Lower Mad River, Winzler Control, and TRF

6. The river at Winzler Control Center, for October, had an average flow of 47 cfs. The river flow was a high of 87 cfs on October 1st

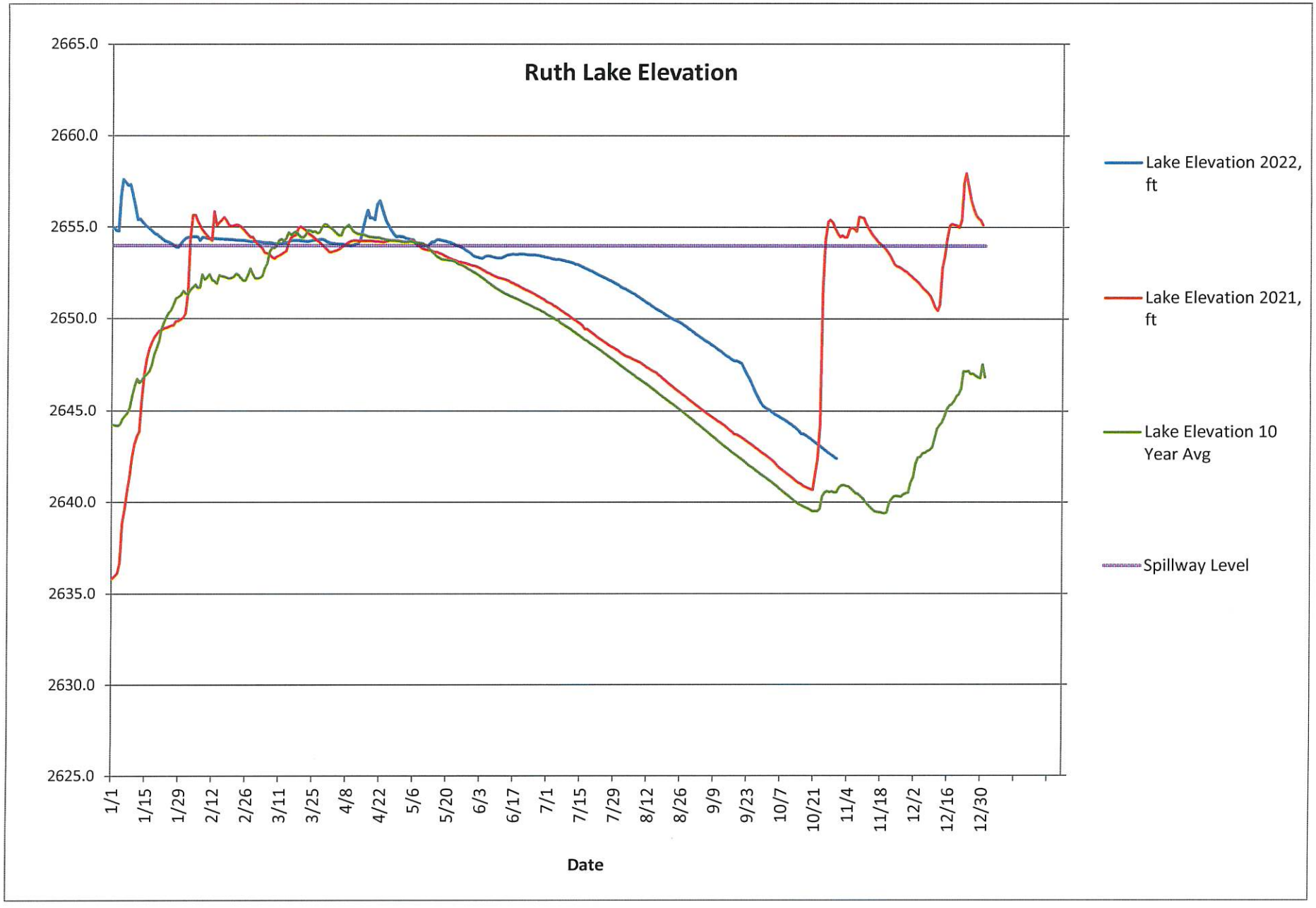
7. The domestic water conditions were as follows:

   a. The domestic water turbidity average was 0.11 NTU, which meets Public Health Secondary Standards
   b. As of October 31st, we pumped 234.407 MG at an average of 7.562 MGD
   c. The maximum metered daily municipal use was 7.702 MG on October 12th

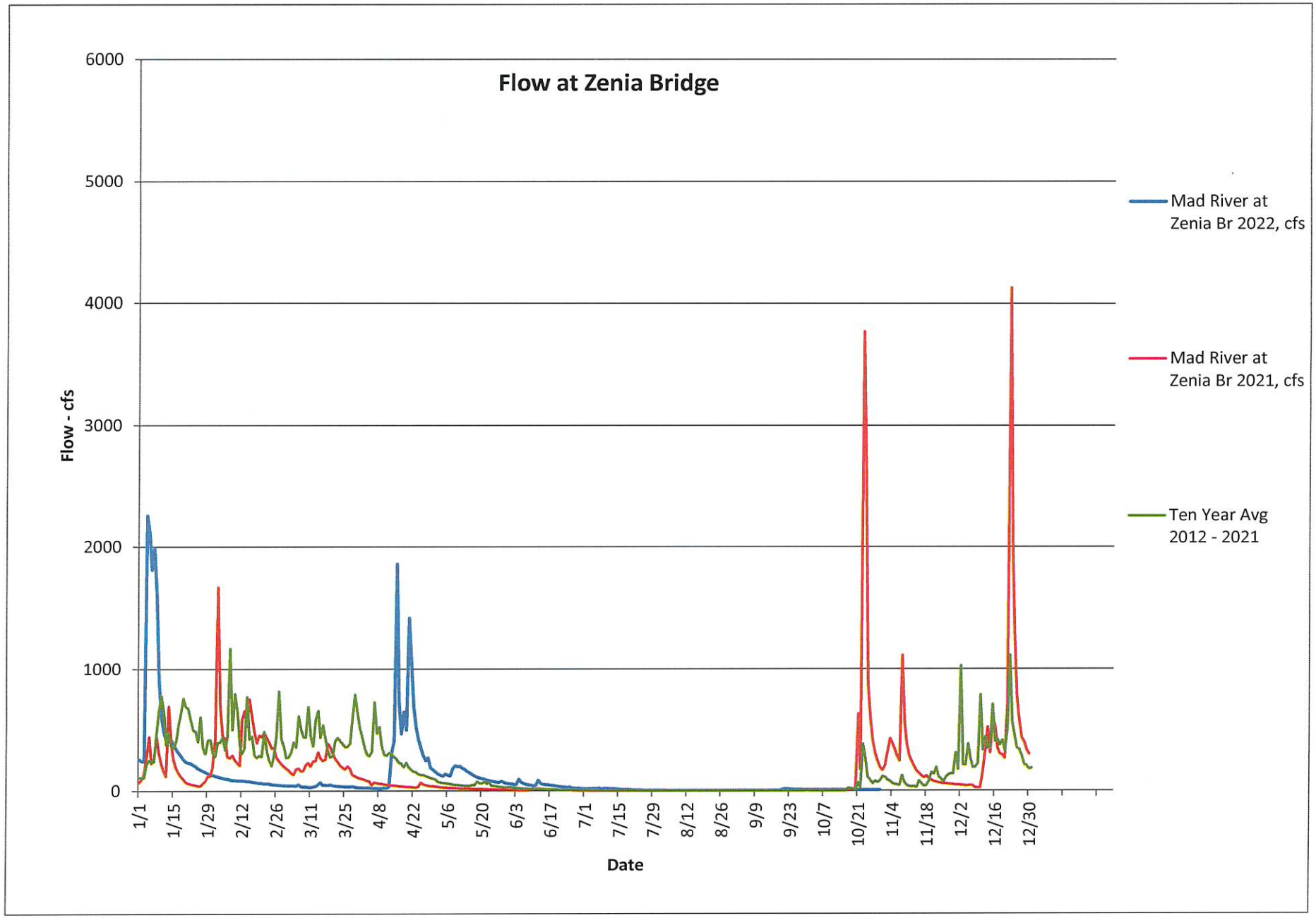
8. The TRF is online as of October 13th; conditions for October were as follows:

   a. Average monthly source water turbidity was 0.08 NTU
   b. Average monthly filtered water turbidity was 0.06 NTU
   c. Number of filter backwashes for the month was 19

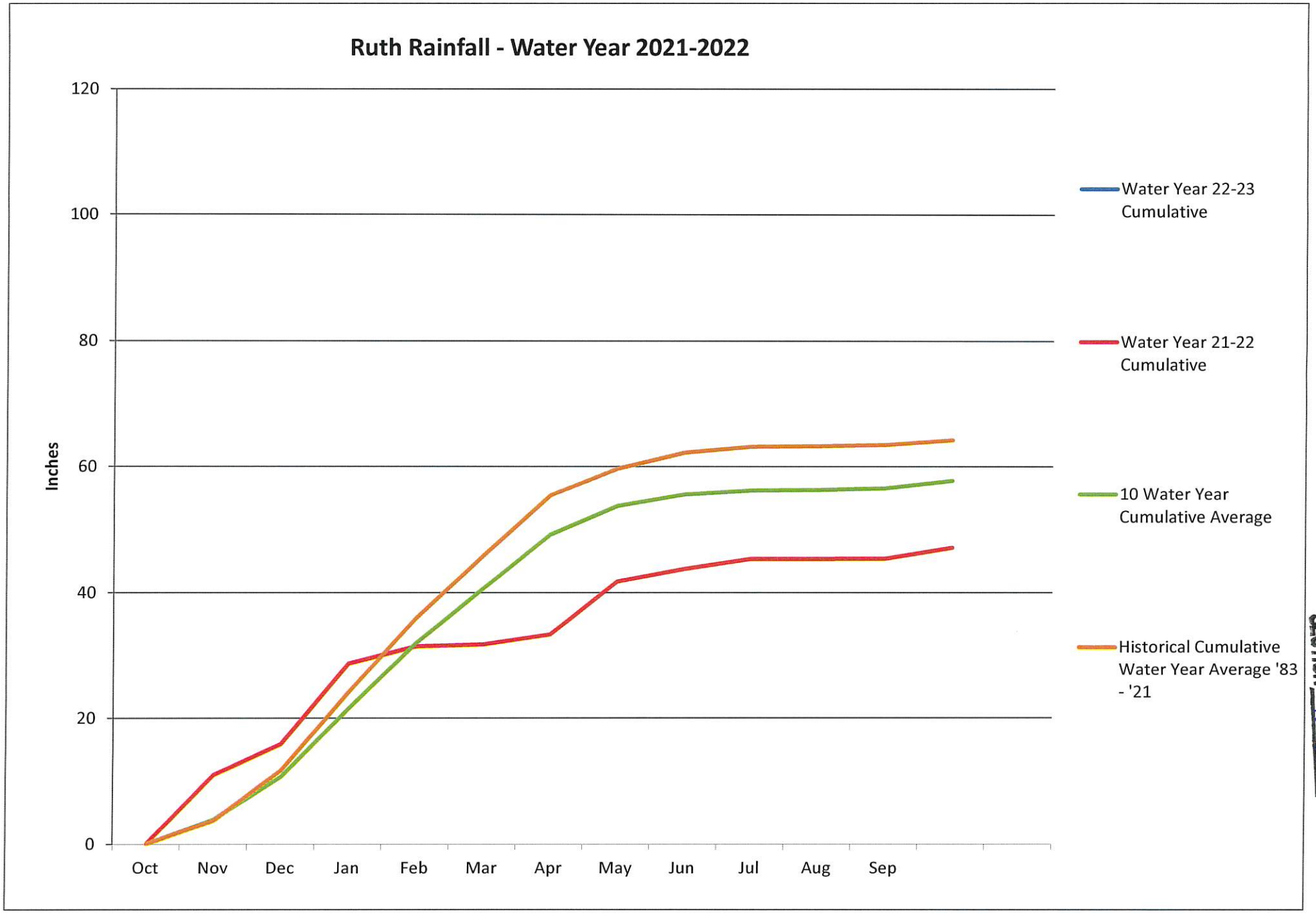
9. October 4th – 7th – Maintenance excavated for the pipeline cathodic assessment.
10. October 5th – Sequoia Construction set the 2 Tesla Mega packs at Essex.
11. October 6th – Pushed in crane pad at Collector 4.
12. October 10th – Operations started filling and disinfecting the TRF filters in prep to bring the plant back online.
13. October 11th – Maintenance replaced Collector 4 cable car, cable and removed a few hazard trees while the cable was down.
14. October 12th – GHD cathodic engineer was on-site to collect data for pipeline cathodic assessment.
15. October 13th
    a. North Coast Fab was on-site at Collector 4 to replace pump 4-1 motor.
    b. TRF put back online.
16. October 14th – Hartford Steam and Boiler did pressure vessel inspection at the Hydro plant.
17. October 17th – Safety training – First Aid, CPR at NCSC for 3 Essex staff.
18. October 24th -26th – Mario and I attended the AWWA Fall Conference in Sacramento.
19. October 26th – Safety meetings
    a. Trenching and Excavation.
    b. Scaffolding Safety.
20. October 27th
    a. SB 198 safety meeting.
    b. Lease lot 39E completed erosion control measures. Larry inspected.
21. October – 28th – John, Chris and I attended the NCSC virtual, Reasonable Suspicion training.
22. Current and Ongoing Projects
    a. Tesla battery bank projects
        i. TRF project is done, Commissioning soon, waiting for PG&E PTO.
        ii. Essex project coming together.
    b. OSHG – Working with the selected vendor for Equipment purchase.
    c. Collector 1 interior painting – In progress – Winter work, back burner for now.
    d. Line shed 8 – In progress.
    e. Main Office Solar project – Waiting for new roof. On contractor's schedule. Solar panels purchased.
    f. Routine annual equipment maintenance and services.



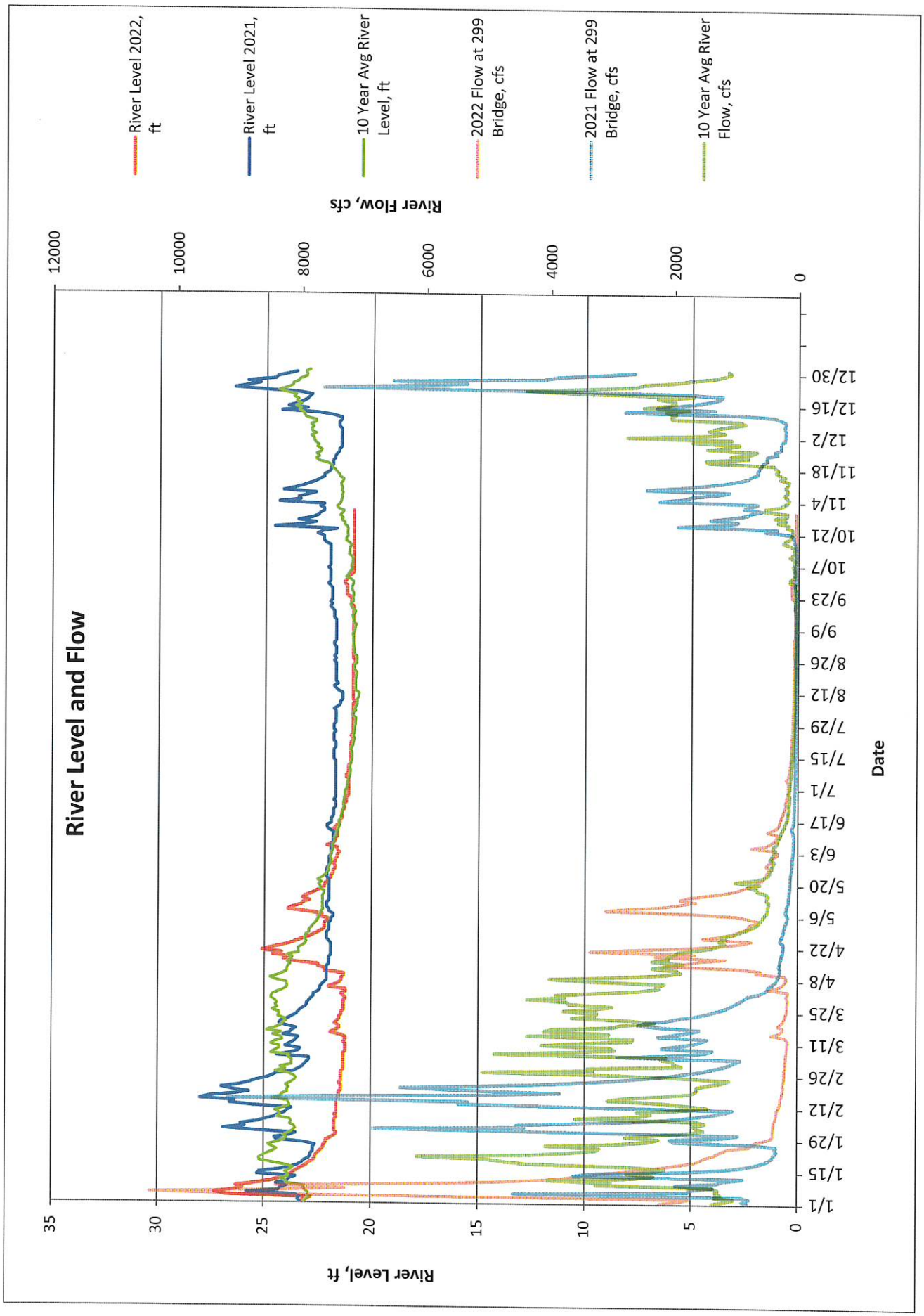
SECTION 10-4A PAGE NO. 3



SECTION 10.4a PAGE NO. 4



SECTION 10.4a PAGE NO. 5

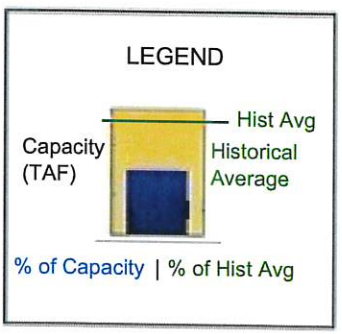

River Level and Flow
River Level, ft
River Flow, cfs
Date
River Level 2022, ft
River Level 2021, ft
10 Year Avg River Level, ft
2022 Flow at 299 Bridge, cfs
2021 Flow at 299 Bridge, cfs
10 Year Avg River Flow, cfs
35
30
25
20
15
10
5
0
12000
10000
8000
6000
4000
2000
0
1/1
1/15
1/29
2/12
2/26
3/11
3/25
4/8
4/22
5/6
5/20
6/3
6/17
7/1
7/15
7/29
8/12
8/26
9/9
9/23
10/7
10/21
11/4
11/18
12/2
12/16
12/30

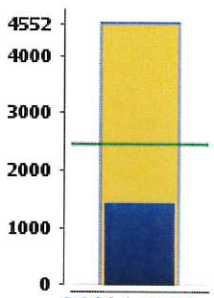
CURRENT RESERVOIR CONDITIONS

CALIFORNIA MAJOR WATER SUPPLY RESERVOIRS

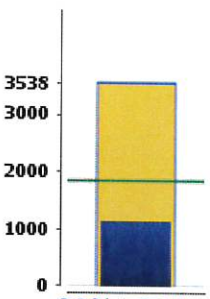
CURRENT CONDITIONS

Midnight - October 24, 2022

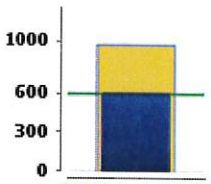




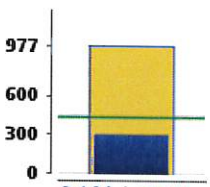
32% | 58%
Shasta



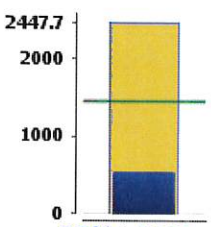
32% | 62%
Oroville



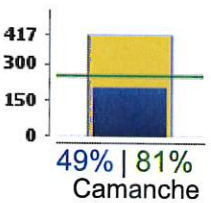
63% | 103%
New Bullards Bar



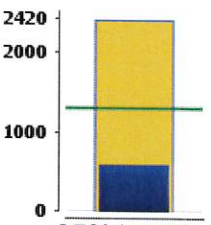
31% | 70%
Folsom



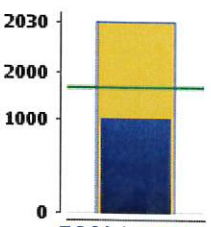
22% | 37%
Trinity



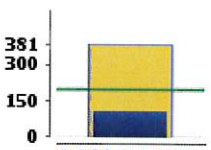
49% | 81%
Camanche



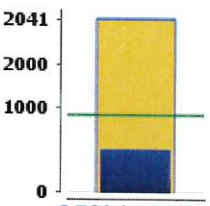
25% | 45%
New Melones



50% | 75%
Don Pedro

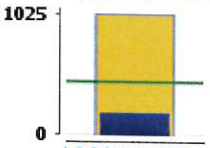


28% | 53%
Sonoma



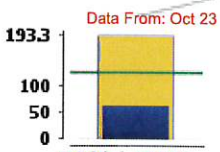
25% | 57%
San Luis

Data From: Oct 23



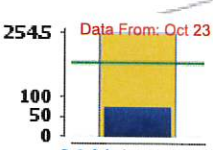
19% | 42%
McClure

Data From: Oct 23

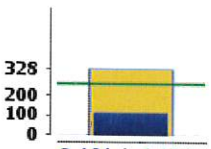


33% | 51%
Cachuma

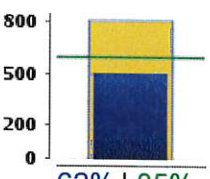
Data From: Oct 23



28% | 39%
Casitas

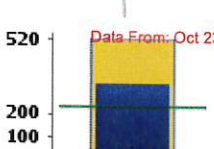


34% | 44%
Castaic

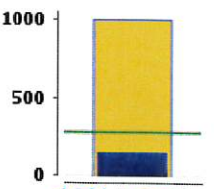


62% | 85%
Diamond Valley

Data From: Oct 23



63% | 142%
Millerton

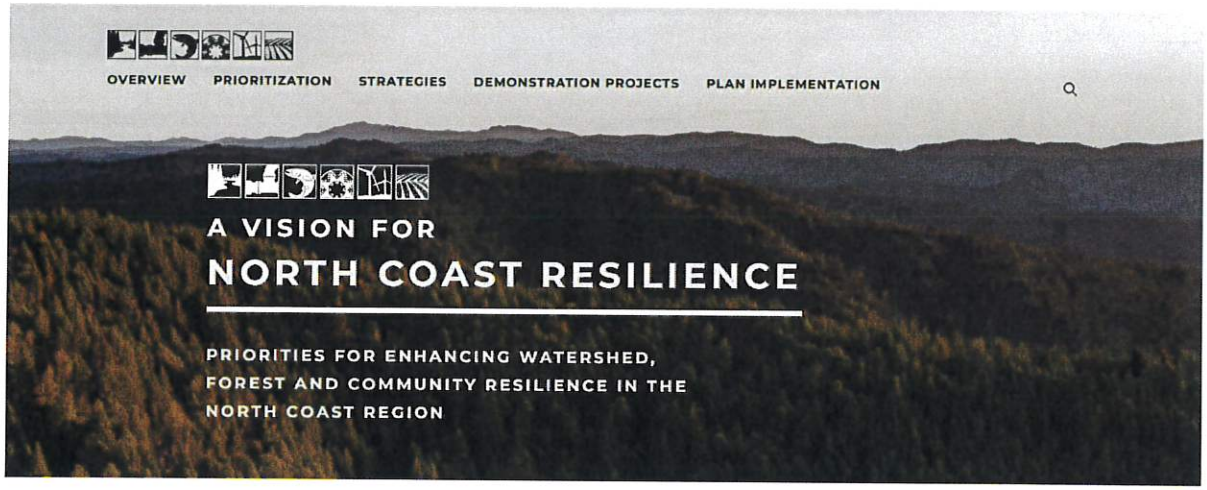


16% | 55%
Pine Flat

Updated 10/25/2022 09:48 AM

NORTH COAST RESOURCE PARTNERSHIP

North Coast Resource Partnership seeks community and partner input on draft Vision for North Coast Resilience



The North Coast Resource Partnership (NCRP) is pleased to release a draft plan entitled "**A Vision for North Coast Resilience: Priorities for Enhancing Watershed, Forest and Community Resilience in the North Coast Region**". This plan was made possible through the support and guidance of the California Department of Conservation Regional Forest and Fire Capacity Program, with funding from California Climate Investments. The draft was informed by hundreds of partners and technical experts in the North Coast Region and beyond, including North Coast Tribes, NGOs, RCDs, agencies, cities, counties, and private citizens and businesses. The plan aligns with and is guided by the objectives of the California Wildfire and Forest Resilience Task Force, as well as an array of Tribal, state and federal priorities for community and landscape resilience. The North Coast Resource Partnership Leadership Council – comprising appointees from the North Coast Region's Tribes and counties – provided oversight during the plan development process, ensuring that the priorities of their many constituents are reflected in the draft plan.

PUBLIC REVIEW PERIOD:
NOVEMBER 1 - 21, 2022

Send suggestions to: Karen Gaffney, NCRP
Call with questions: 707.433.7377

DRAFT PLAN LINK

https://rffc.eclipse-dev.com/

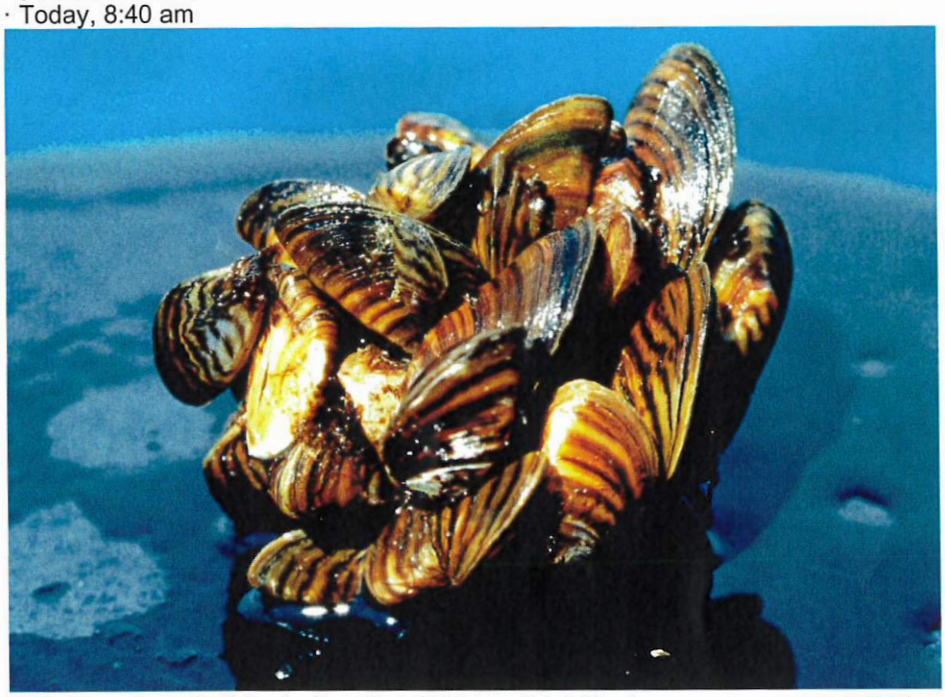
EMAIL COMMENTS

NCRP staff will integrate public comments into the draft planning process. The final draft plan will be considered for approval by the North Coast Resource Partnership Leadership Council at its meeting on December 9, via zoom. All are welcome at every NCRP meeting. Please sign up on the North Coast Resource Partnership website to receive meeting notifications and other information about the Partnership. The plan is adaptive in nature, and will continue to be updated with new information, priorities and projects.

Executive Summary Under Development

Highline Lake is officially 'infested' with invasive zebra mussels after CPW confirms state's first known population

By Paolo Zialcita
· Today, 8:40 am



*U.S. Department of Agriculture via AP*This undated file photo provided by the U.S. Department of Agriculture shows a group of zebra mussels.

Colorado Parks and Wildlife is evaluating next steps after identifying an established population of zebra mussels in Highline Lake State Park.

CPW has now changed the lake's classification from "suspect" to "infested." The designation is the first of its kind in Colorado related to the invasive species.

State biologists discovered a **single adult zebra mussel in the lake** during a routine invasive species sampling test in September. It was the first time the mussel's presence was detected in Colorado waters.

The small freshwater mussel is native to lakes in Russia and Ukraine, and the species can reproduce quickly. According to CPW's invasive species experts, the mussel is known for killing off native plankton that other species rely on for food. They are mostly commonly spread by boats moving between different bodies of water without proper cleaning.

Experts hope to contain the mussel to Highline Lake, but that will be difficult because it feeds into other bodies of water. Further spread could cause "millions of dollars in damages to water-based infrastructure, impact water quality and limit recreational opportunity."

"Unfortunately, given that Highline is an open water system — meaning that we have water coming in and water coming out — there really are no viable chemical solutions that we could use to eradicate the species from the reservoir," said Robert Walters, CPW's invasive species program manager, in September.

Boats are not allowed on the lake northeast of Grand Junction because it's closed for the season. Once the lake opens for recreational use, boats will likely require a professional inspection before exiting the park.

October 17, 2022 Comment letter submitted via electronic commenting system

Mr. Tony Brasil
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Craig Duehring
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Paul Arneja
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Proposed Advanced Clean Fleets Regulation Public Fleet Requirements regarding "Commercially Available"

The signatories to this letter appreciate the opportunity to provide public comments regarding the fundamental concept of 'commercially available' for medium and heavy-duty vehicles necessary to fulfill our fleets' water, wastewater, and electric utility responsibilities in the California Air Resources Board's (CARB) proposed Advanced Clean Fleets Regulation (Draft ACF) documents released on August 30, 2022. Our fleets provide essential public services that millions of Californians rely upon daily.

The undersigned Coalition requests that CARB formally define "Commercially Available" in the Draft ACF prior to requiring fleets to make future purchases of new medium- and heavy-duty vehicles starting as early as 2024. Without stakeholder and CARB agreement on what is commercially available, we have great concern that CARB will enforce new purchase requirements when in practice vehicles do not exist to perform our essential public service fleet operations. Progress and innovation are advancing in medium-and-heavy duty vehicle technologies, but infrastructure for and application of many vehicle configurations are still several years away from being commercially available.

As written, there is a disconnect between CARB staff's treatment of what is commercially available and what is needed to procure new vehicles that meet our fleets' needs. The Draft ACF suggests "commercially available" (Independent Statement of Reasons (ISOR) page 9, 70) equates to taking orders for vehicle models with at least one model delivered to a customer; and "that would meet most fleet needs" (ISOR page H-1-40 of Appendix H-1). We recommend that "commercially available" for a Zero Emission Vehicle (or Near Zero Emission Vehicle through 2035), as it pertains to the Draft ACF purchase requirements, include the following considerations:

- Available in sufficient supply to be purchased and received in acceptable time-frame comparable to available internal combustion emission vehicle (ICEV).
- Available in sufficient quantities to provide for a competitive bidding environment and avoid price manipulation by vehicle manufacturers and dealers.
- Available from multiple reputable vehicle manufacturers as a certified zero-emission powertrain.
- Meets required specifications (e.g. duty cycle duration, elevation, climate, emergency response conditions, off-road capabilities) and exists in practice.
- Sold for no more than 33% over retail price for ICEVs of the same vehicle configuration.

We appreciate the opportunity to comment on this very important rulemaking to provide input for our essential fleet operations. We look forward to earnest conversations with CARB staff as the Advanced Clean Fleets Regulation is finalized.

Respectfully submitted,

- Association of California Water Agencies
- California Municipal Utilities Association
- California Special District Association
- California State Association of Counties
- California Association of Sanitation Agencies
- League of California Cities
- Southern California Public Power Authority
- Northern California Power Agency
- Imperial Irrigation District
- Valley Center Municipal Water District
- San Juan Water District
- Truckee Donner Public Utilities District
- Tahoe City Public Utility District
- Rancho Water
- Otay Water District
- Helix Water District
- Sierra Lakes County Water District
- Placer County Water Agency
- San Luis & Delta-Mendota Water Authority

cc: The Honorable Liane Randolph, Chair, California Air Resources Board
The Honorable Sandra Berg, Vice Chair, California Air Resources Board
The Honorable E. Joaquin Esquivel, Chair, California State Water Resources Control Board
Dr. Steven Cliff, Executive Officer, California Air Resources Board
Mr. Craig Segall, Deputy Executive Office, California Air Resources Board
Dr. Sydney Vergis, Division Chief, Mobile Sources Division, California Air Resources Board

October 17, 2022

Comment letter submitted via electronic commenting system

Mr. Tony Brasil
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Craig Duehring
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Mr. Paul Arneja
Mobile Source Control Division
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Re: Association of California Water Agencies' Comments on Draft Regulatory Language for the Advanced Clean Fleets Regulation State and Local Government Agency Fleet Requirements

The Association of California Water Agencies (ACWA) appreciates the opportunity to provide public comments to the California Air Resources Board (CARB) in response to the recent Advanced Clean Fleets Initial Statement of Reasons and Draft State and Local Government Agency Fleet Requirements (Draft ACF). ACWA represents more than 460 public water agencies that collectively deliver approximately 90 percent of the water in California for domestic, agricultural, and industrial uses. We appreciate CARB staff's work to incorporate stakeholder input in the Draft ACF. We encourage CARB to continue to engage with stakeholders to finalize a regulation that accelerates the deployment of Zero Emission Vehicles (ZEVs) and Near-Zero Emission Vehicles (NZEVs) in a manner that is feasible and does not impose unintended consequences on public water and wastewater agencies' ability to provide essential services, including during emergencies. We appreciate past consideration of ACWA commentary on topics including clarification of backup vehicle mileage, designated low population county requirements to accommodate special districts in overlapping counties, early action credit for purchasing ZEVs before 2024, and clarification of the exemption process.

The Draft ACF must provide certainty to public water and wastewater agencies to make the necessary purchases of ZEVs (and NZEVs) while minimizing the potential for adverse impacts in maintaining essential public health and safety services and the delivery of safe and affordable

water during normal operations and extended emergency conditions. Public water and wastewater agencies are essential public service providers that possess fleet vehicles with unique needs that must be reflected in the Draft ACF to prevent dire consequences that could result if our fleets were to be unable to accomplish core functions. Enabling the appropriate exemptions is necessary to ensure that the Draft ACF advances the State's goals but does not enforce compliance where infeasible. Thus, we offer the following comments:

1. Focus the Draft ACF on ZEVs (and NZEVs) that are "commercially available" for purchase

1A. Define "commercially available" within the Draft ACF.

Determination of what is "commercially available" remains unaddressed in the Draft ACF, even though the term is used ten times within the Draft ACF to justify purchasing ZEVs. An appropriate and sufficient definition of "commercially available" is essential for deeming that available vehicle models can be expected to meet our fleets' needs and reasonable vehicle procurement standards. Without agreement on what is "commercially available," we have great concern that new purchase requirements will be enforced when, in fact, "commercially available" vehicles do not exist to perform our essential public service fleet operations that Californians rely upon daily. As currently written, there is a disconnect between CARB staff's treatment of what is commercially available and what public water and wastewater agencies require to procure new vehicles that meet our fleets' needs. Draft ACF language suggests "commercially available" (as seen on Independent Statement of Reasons (ISOR) page 9, 70) simply equates to manufacturers taking orders for vehicle models that have been produced with at least one model delivered to a customer. The ISOR (H-1-40 of Appendix H-1) states that "It is necessary to apply limitations to the exemption for when ZEVs are commercially available with rated energy capacities that would meet most fleet needs."

Public water and wastewater agencies must have fleet vehicles that assuredly meet our stringent requirements and perform specialized functions to avoid dire situations in which public water and wastewater agencies cannot complete essential services. Purchasing a commercially available ZEV (or NZEV) should be fundamentally like purchasing an Internal Combustion Engine Vehicle (ICEV). Buyers must have certainty that the vehicle model they are required to buy is available in sufficient quantity for competitive bid purchase and from numerous vendors (to avoid market manipulation), can achieve similar or superior standards to the previous ICEV model, and be bought at a reasonable price (no more than 33% over the price of an equivalent ICEV). We offer the considerations listed below to define "commercially available" as a standard to be used when requiring fleets to purchase ZEVs as posed in the Draft ACF.

We recommend that "commercially available" for a ZEV (or NZEV through 2035), as it pertains to the Draft ACF purchase requirements, be included in Section 2013 State and Local Government Fleet Applicability, Definitions, and General Requirements to include the following, crucial considerations on page A-1-4:

- Available in sufficient supply to be purchased and received in an acceptable timeframe comparable to available ICEV.
- Available in sufficient quantities to provide for a competitive bidding environment and avoid price manipulation by vehicle manufacturers and dealers.

- Available from multiple reputable vehicle manufacturers as a certified zero-emission powertrain.
- Meets required specifications (e.g. duty cycle duration, elevation, climate, emergency response conditions, off-road capabilities) and exists in practice.
- Sold for no more than 33% over retail price for ICEVs of the same vehicle configuration.

1B. Develop a ZEV Availability List to affirm commercial availability of ZEVs and replace the current ZEV Unavailability List approach.

ACWA restates its previous recommendation to publish, update, and rely on a ZEV Availability List to inform fleets of ZEV models that are commercially available for purchase in place of the proposed Unavailability List of eligible ICEVs that can be purchased upon regulation implementation. Reliance on a ZEV Availability List would result in a clearer process to determine that a ZEV is in fact commercially available, and is thus required for purchase by fleets making new vehicle purchases. The currently proposed ZEV Unavailability List approach adds additional steps and uncertainty for fleet managers in making their fleet vehicle purchase decisions. The ZEV Unavailability List would only list ICEVs that are deemed eligible to purchase without the reference point of a list complete list of commercially available ZEVs.

A ZEV Availability List, which identifies all available ZEV models by manufacturer and with specifications, would better enable public water and wastewater agency fleet managers to explore their purchase options than the proposed ZEV Unavailability List. Using a ZEV Availability List enables fleet managers to compare what is commercially available for required fleet vehicle specifications to replace older vehicles with ones that match or exceed the performance of the previous vehicle. When the fleet manager has affirmation that a ZEV that meets the public water or wastewater system's unique needs is commercially available, they have greater awareness of what to expect when developing a Request for Proposal. If a ZEV is identified as commercially available, the fleet manager knows that they must either purchase a ZEV and not an ICEV, or show in a compelling way via exemption request that the commercially available ZEV does not meet their needs. The burden of filing an exemption request is on the fleet manager either way, and a ZEV Availability List will better enable CARB staff to review exemption requests based on a working list of what is available instead of a flood of exemption requests that result in additional hours of research to review and approve/deny.

ACWA requests that CARB use and expand Appendix J of the materials released on August 30 as a starting point of a ZEV Availability List with the additional criteria listed in below. The existing document is an early starting point and understandably requires continued input. Building this list is a long-term solution and valuable resource to communicating with California's fleets about available ZEVs as CARB works towards 2045 to electrify fleets everywhere feasible. Consider the below criteria[1]:

- Towing Capacity
- 4 Wheel Drive

[1] The listed criteria were compiled by ACWA member agency fleet managers in response to a request from CARB staff to discuss what specifications are essential when purchasing a new ZEV.

- Battery Life and Replaceability
- Wheelbase
- Competitive Bidding Environment/Production Capacity
- Underneath a Cost Premium
- PTO Cycle standard
- Payload Standard
- 1:1 Replacement
- Battery Replacement(s) for Vehicle Lifetime
- Availability of Remote Diesel Generator Charging Equipment (DC Fast Charging)

1C. Revise the ZEV Unavailability Exemption to include the ZEV Availability List and incorporate a technical infeasibility pathway.

If a fleet manager can document that a commercially available ZEV (or NZEV) does not meet their fleet needs, the fleet should be allowed to receive an exemption to purchase an ICEV following submission of an exemption request to the CARB Executive Officer. Where ZEVs are unable to meet public fleets' unique characteristics, including operating extended hours, in all weather, elevation, off-roading, and natural disaster conditions, vehicles should be exempt from the regulation until CARB identifies the vehicle as commercially available.

The proposed edits below can simplify implementation of the exemption by reducing the burden of assessing unwarranted requests for exemption. Numerous class 2b and 3 vehicles, including pickups, vans, box trucks, buses, or tractors, are available to purchase, but are not capable of providing the necessary vehicle specifications to meet water agency fleet needs. The submitted exemption request, using the ZEV Availability List, and incorporating a technical infeasibility pathway, would: describe why a ZEV is not suitable for the fleet's needs or accessible to the fleet owner, show that an ICEV is available and can meet the fleet's needs, and provide supporting documentation. This concept is like the technical infeasibility exemption process employed in the South Coast Air Quality Management District's Rule 1196, which uses a Technical Infeasibility Certification.

ACWA offers the suggested edits seen below to include our recommendations in 1C as part of the ZEV Unavailability Exemption found on page A-1-17 of the Public Fleets Provisions.

A-1-17

(d) ZEV Unavailability Exemption. A fleet owner may apply for this exemption if no ZEV (or NZEV) is "commercially available" at the time of purchase to meet the fleet's needs, or if the commercially available ZEVs (NZEVs) do not meet their fleet's specifications. The Executive Officer will maintain a list of vehicle configurations that are ~~eligible~~ commercially available to purchase as ZEV (or NZEV) Vehicles. ~~ICE vehicles when ZEVs or NZEVs are not available on the CARB Advanced Clean Fleets webpage.~~ The list will include all "commercially available" ZEVs (or NZEVs) including criteria that affirms the ZEVs (or NZEVs) are commercially available. ~~available ICE vehicles with a GVWR greater than 14,000 lbs. and will not include pickup trucks, two-axle buses, box trucks, vans, or any tractors.~~ Fleet owners may replace existing ICE vehicles with newly purchased ICEV vehicles whenever there is no "commercially available" ZEV on the list without submitting an exemption request. Additionally, this exemption may be used if the fleet

owner can provide documentation to affirm that commercially available ZEV models do not meet their specific fleet vehicle needs such that compliance would result in significant decreased fleet operation productivity. To use the exemption, fleet owners must: (1) Verify the vehicle in the weight class and configuration being purchased or replaced to comply with the regulation is not listed on the CARB Advanced Clean Fleets webpage as commercially ~~un~~available; (2) If commercially available ZEVs (or NZEVs) do not meet the fleet's needs, the fleet owner will submit additional documentation describing how the commercially available ZEVs or NZEVs do not meet their specific needs, and (3~~2~~) Comply with the reporting and recordkeeping requirements of sections 2013.2(g) and 2013.3(e).

1D. Establish an Independent Committee to affirm ZEVs (and NZEVs) as commercially available.

CARB should put together a committee of experts to evaluate the availability of ZEV vehicles based on knowledge of the industry and buyers' needs to fulfill fleet operations, including essential public service providers like water suppliers. Navigating California's fleets towards ZEVs, where feasible, is a difficult task that should build off of industry expertise to confidently affirm which ZEVs (and NZEVs) are commercially available for purchase. Working through the process of determining which vehicles are available for purchase and are suitable for fleets required to purchase new ZEVs should be handled by this committee to affirm where ZEVs are feasible for purchase to balance achieving the goals of this regulation with the equally important goal of maintaining essential public services like access to water and wastewater treatment. This committee could meet annually to discuss oncoming models to affirm viability across fleet sectors.

2. Expand the Grid Interconnection Exemption to consider real world conditions

ACWA restates the recommendation that CARB further consider grid reliability as a core feasibility element in development of this regulation. Public water and wastewater agencies must be able to charge fleet vehicles, as needed, to prepare for planned operations, and respond to extended emergency events. The potential that public water and wastewater agencies may be unable to charge fleet vehicles is unacceptable as it puts at risks the ability to fulfill essential public health and safety responsibilities. It is unreasonable for public water and wastewater agencies, and public fleets more broadly, to be required to purchase ZEVs as early as 2024 without assurance of the necessary charging infrastructure and energy supply to maintain or improve existing operations. State goals to reduce greenhouse gas emissions are essential for public health, but cannot supersede Californians' access to water and wastewater services, which are just as essential for public health.

The recent weeklong California heat wave was a reminder that CARB must further consider grid reliability and the need to procure the necessary megawatts to supply the oncoming electricity demand increase. One of the first statewide requests made ahead of the heat wave was for all ZEV users to refrain from charging during peak hours because the Governor's Office and supporting state agencies knew that the grid could not support forecasted electric load during the peak hours of the heat wave. This heat event is one occurrence of high strain on the grid but is a warning of more events to come. The recent Hurricane Ian also resulted in large areas of Florida being without power for extended periods of time, which reminds us that a similar

scenario could arise in California should we face flooding or earthquake events, in which electric fleets would be unable to provide essential water and wastewater public services. Load-serving entities (LSEs) in California do not yet know how much power will be needed to support oncoming electricity demand and may not know until fleets are required to purchase ZEVs to enable LSEs to begin to forecast demand, and thus they will not be able to satisfy the demand until the necessary infrastructure (both charging, and transmission and distribution upgrades) is deployed. All told, LSEs may need multiple years to realistically satisfy the infrastructure and power demands of all oncoming ZEV fleet vehicles.

Therefore, we propose that CARB amend the existing Infrastructure Delay Exemption (on pages A-1-13 and A-1-16 of the State and Local Government Agency Fleet Requirements) to further consider and address the concerns we have stated below. ACWA's recommendations can be implemented by increasing the length of time allowed in the proposed exemption. Water and wastewater agencies have engaged their LSEs and received responses that it could take multiple years to install the necessary charging infrastructure. Whereas CARB currently proposes a maximum 12-month delay, we propose that additional delay be allowed if fleet managers cannot be assured by their electric utility that the necessary power has been procured to satisfy energy demand.

A-1-13

(3) Infrastructure Construction Delay Extension. Fleet owners are excused from ~~taking immediate delivery of ordered~~ ordering ZEVs ~~for one year~~ when determining compliance with section 2013(d) if the criteria described in section 2013.1(c) are met.

A-1-16

(c) Infrastructure Construction Delay Extension. A fleet owner may apply for this extension if they experience construction and/or power supply delays beyond their control on a project to purchase ZEVs and install ZEV charging or fueling stations. The Executive Officer will grant a single extension per project to delay ~~the~~ vehicle purchase ~~delivery for one year~~ if they determine the fleet owner satisfies the criteria for the delay, based on the information submitted below and the exercise of good engineering judgment.

3. Other considerations for Draft ACF Implementation

3A. Revise Order Cancellation requirements.

ACWA encourages CARB to take a broader approach to order cancellation to provide guidance for when a manufacturer cancels a fleet's purchase order. Taking additional steps to guide purchase orders is essential to ensure that public water and wastewater fleets are aware of how to navigate compliance when their purchase orders are rescinded beyond their control. Fleets should be enabled to pivot nimbly when their purchase orders are delayed or canceled (due to high demand or manufacturer problems) towards alternative purchases to keep fleets on the path to complying with the proposed ACF.

SECTION 12.2C PAGE NO. 7

3B. Reduce existing fleets reporting requirements to be an annual report submission

ACWA encourages reducing reporting requirements for ZEVs added to existing fleets to be an annual reporting requirement to remove higher administrative burdens on small public water and wastewater agencies. We offer this recommendation to account for the additional administrative requirement that may be passed on to already busy staff and to protect against mounting additional tasks that will need to be performed as noted in the above comments related to commercial availability and grid reliability. An annual report submission accounting for the changes to existing fleets will record the same desired information in fewer submissions to CARB, will provide a fuller picture of overall changes to existing fleets, and will result in reduced workload for public water and wastewater agencies as well as CARB staff.

4. Conclusion

We appreciate the opportunity to comment on this very important draft regulation. ACWA hopes to continue conversations with CARB staff to work through our submitted comments with additional detail in follow-up meetings with CARB Board Members and staff ahead of the Final Regulation. Please do not hesitate to contact me at nickb@acwa.com or (916) 441-4545, if you have any questions regarding ACWA's input. We look forward to future conversations with CARB staff, and CARB Board Members as the Draft ACF continues to be developed.

Sincerely,

Nicholas Blair

Nicholas Blair
Regulatory Advocate II
Association of California Water Agencies

cc: The Honorable Liane Randolph, Chair, California Air Resources Board
The Honorable Sandra Berg, Vice Chair, California Air Resources Board
The Honorable E. Joaquin Esquivel, Chair, California State Water Resources Control Board
Dr. Steven Cliff, Executive Officer, California Air Resources Board
Mr. Craig Segall, Deputy Executive Office, California Air Resources Board
Dr. Sydney Vergis, Division Chief, Mobile Sources Division, California Air Resources Board
Mr. Dave Eggerton, Executive Director, Association of California Water Agencies
Ms. Cindy Tuck, Deputy Executive Director for Government Relations, Association of California Water Agencies

ACWA

ACWA ADVISORY

REGULATORY | WATER LOSS
Oct. 19, 2022

State Water Board Adopts Water Loss Regulation

The State Water Resources Control Board today adopted the Water Loss Performance Standards for Urban Retail Water Suppliers regulation. The regulation, required by SB 555 (Wolk 2015), is the State Water Board's first adopted water use efficiency standard as part of a water budget-based approach for "Making Water Conservation a California Way of Life."

The regulation will require urban water suppliers to comply with an individualized volumetric water loss standard based on real loss by 2028. The volumetric standard is calculated using an economic model developed by the State Water Board as well as the suppliers' own unique data.

Default parameters in the economic model can be updated until July 1, 2023 to include supplier-specific information. **ACWA is encouraging suppliers to review their individual systems' water loss standards and submit agency specific inputs to the State Water Board as soon as possible.** The State Water Board has provided a guidance document to aid suppliers updating their default parameters. More information on the regulation is available on the State Water Board's website.

Through a coalition that includes the California Municipal Utilities Association, California Water Association, and CA-NV Section American Water Works Association, ACWA and its member agencies have worked collaboratively with the State Water Board to successfully advocate for significant policy and technical improvements in the final regulation that promote cost-effective and feasible standards.

Background

As part of the state's implementation of "Making Water Conservation a California Way of Life," the Department of Water Resources (DWR) in September released a memo that included recommendations for an outdoor water use efficiency standard, variances for

unique water uses, bonus incentives for potable reuse, and CII best management practices.

The State Water Board will evaluate DWR's recommendations through a formal rulemaking process to adopt water use objectives for urban retail suppliers, which will include additional analysis, engagement, and opportunity for public comment. The water use objectives are expected go into effect by Jan. 1, 2024.

Also related, Gov. Gavin Newsom last month signed SB 1157 (Herzberg) into law. The bill reduces the standard for indoor residential water use to 47 gallons per capita daily (gpcd) by 2025 and 42 gpcd by 2030.

Questions

For questions about the adopted regulation, please contact ACWA Regulatory Relations Manager Chelsea Haines.

ACWA
Association of California Water Agencies

Bringing Water Together

MEMORANDUM

TO: ACWA Public Water Agency Members

FROM: Dave Eggerton, Executive Director

DATE: October 6, 2022

SUBJECT: ACWA's 2023 Membership Dues

With inflation over 8% affecting every one of our member agencies and ACWA itself, it is a very challenging time to develop a budget that is both financially and organizationally responsible. Thanks to the hard work of ACWA's Finance Committee and Board of Directors, the Association is addressing these inflationary pressures in a manner that maintains the strength of the organization and valuable services we provide for our members while being responsive to the real fiscal challenges our members face during these economically uncertain times.

At its September meeting, the ACWA Board of Directors approved a two-year 2023-24 Budget that protects the financial and operational well-being of the Association while strengthening the long-term health of the organization by beginning to pay-down ACWA's unfunded CalPERS' pension liability. This effort, prioritized by the Board with the recent sale of the 910 K Street office, builds on the Association's recent success fully funding its retiree healthcare OPEB (other post-employment benefits) liability.

The budget also includes continued funding for the Association's most significant statewide public education campaign in many years, QuenchCA. Launched this year, QuenchCA is raising public awareness of the importance of investing in water infrastructure for the future of our people, economy, food supply and the environment. This program was created in response to the widespread call of our member agencies who have repeatedly emphasized the importance of educating the public on this critical issue facing our industry.

To accomplish these and other important goals for our members during this time of high inflation, every aspect of the budget was scrutinized in detail in developing a recommendation for the Board's consideration. The Board approved the budget based on the recommendation of the ACWA Finance Committee and following a thorough review of the Association's expenses and revenue. After much deliberation, the adopted two-year budget includes dues increases of 4% in 2023 and 3% in 2024.

With the Board's leadership in adopting the budget, I can assure you that ACWA staff will continue to deliver high-level, effective services for our members, including strong advocacy in Sacramento and Washington D.C., first-class conferences, timely information and communication tools, as well as many other important services.

As a reminder, ACWA's financial strategy is guided by our 2020-24 Five-Year Strategic Plan. The general approach of this strategy is to maintain modest dues increases each year to first pay off ACWA's unfunded OPEB liability for retiree healthcare by 2023 (which we achieved this year), then pay down ACWA's CalPERS unfunded liability, and avoid the need for any unplanned spikes in membership dues in the future. This budget keeps us on course to strengthen ACWA's long-term financial health.

ACWA's dues are based on the operations and maintenance (O&M) expenses for individual public agency members, which vary from year to year. If there was an increase or decrease in your agency's O&M expenses, the actual dollar increase associated with your agency's membership dues may vary based on that change. **If you have questions related to your agency's dues calculation, please contact ACWA Controller Dan Gumpert at (916) 669-2426 or dang@acwa.com.**

To view ACWA's full 2023 dues schedule, please visit www.acwa.com.

We value your participation in ACWA and thank you for your membership. ACWA's voice and influence is enhanced with each and every member. Your dues contribution allows ACWA to provide high-quality benefits and services, such as:

- A statewide voice on behalf of California water agencies on key state and federal legislative and regulatory water issues.
- Award-winning communications to support and advance the Association's legislative, regulatory, and policy agenda by reaching key audiences, such as the Legislature, the media and the public; and by helping water agencies with outreach at the local level.
- Participation in ACWA's grassroots Outreach Program, a vital tool for members to engage on key legislative and regulatory efforts.
- Exclusive cost-saving opportunities through ACWA JPIA insurance for liability, property workers compensation and employee benefits programs.
- Two major annual conferences, numerous topic-specific workshops, regional events, webinars and other professional development programs to help educate members and give them an opportunity to connect with each other.
- Opportunities to shape water policy by serving on ACWA's 13 committees and engaging locally through ACWA's 10 Regions.
- Access to ACWA's Preferred Provider Program, which offers a variety of value-added programs and services.

For more information on these services, as well as all of the benefits of continued ACWA membership, please visit www.acwa.com.

We thank you so much for your membership and look forward to your continued participation in 2023. **If you have questions about your ACWA membership, please contact ACWA's Member Services Manager Katie Dahl at (916) 669-2439 or katied@acwa.com.**

YOUR BEST PROTECTION

Important Information About The 2022/23 Liability Program Renewal

Date: October 2022

To: ACWA JPIA Liability Program Members

From: Walter "Andy" Sells, ACWA JPIA Chief Executive Officer

2022/23 Liability Program

1. Excess Renewal
2. Increase in Program Funding Requirements
3. Revised Memorandum of Coverage

1. Excess Renewal

The JPIA's Liability Program renews on October 1. While generally the commercial liability insurance market has seen a significant hardening for public entities, staff is pleased to have secured the JPIA a reinsurance/excess renewal with all incumbent carriers with rate increases ranging between 4.8% - 9.9% and will continue to offer coverage limits of up to $55M per occurrence.

JPIA's captive, the California Water Insurance Fund, reinsures the Program's primary layer (up to $5,000,000) and also the $10M excess of $10M layer in the coverage tower. Based on actuarial projections, funding for the $10M excess of $10M is approximately $2M. Quotes to transfer this risk to a commercial reinsurer were approximately $2.4M; thus the Liability Program Committee recommended, and the Executive Committee approved, continuing to use CWIF as the reinsurer for that layer, as well as the quotes for all other insured layers.

2. Increase in Program Funding Requirements

The Liability Program has enjoyed flat rate renewals for the past four program years. Additionally, the Liability Program has not raised rates in the past 15 years. This is an impressive feat, considering reported claims, number of claimants, and average cost per claim have all steadily (and in some years dramatically) increased over this same period. In light of increased costs and historical trends, validated by actuarial analyses, the Liability Program Committee recommended, and the Executive Committee approved, a 10% rate increase for the 2022/23 Program Year. Members can anticipate receiving invoices in the coming weeks.

3. Revised Memorandum of Coverage

Annually, the JPIA staff review the Memorandum of Liability Coverage (MOLC) for potential revisions which are then presented to the Liability Program and Executive Committees' for consideration of approval. The following changes have been approved for the MOLC for the 2022-23 Program Year:

Section I – Definitions – Claim(s): The definition of "Claim(s)" has been revised to include additional explanation for the triggering event for employment practices coverage. By identifying the triggering event as existing "upon first notice from the Civil Rights Department and/or Equal Opportunity Commission," members will obtain coverage earlier in the defense and investigation process.

Section I – Definitions – Occurrence: The definition of "Occurrence" with regard to bodily injury and property damage has been revised to more clearly define the triggering event for continuous or repeated exposure occurring over multiple policy periods. The language now mirrors the language in the Employment Practices Liability section (Section I, Occurrence 3.)

Section III – Limit of Liability: Language has been added to clarify intent. Coverage normally afforded to Program members is the greater of the primary layer (up to $5,000,000) or the total limits of coverage provided via additional purchased policies. This language change merely ensures the language in the MOLC mirrors existing process.

Section VI – Exclusions: Added a sublimit to coverage for claims for which the Program would be able to tender to a third party but for the lack of the existence of a written contract, of any kind, existing between the Member and that third party or the failure to include any risk transfer (indemnification) language in that written contract. The language here has been specifically worded to not exclude coverage entirely, but simply to limit coverage "to the policy limits of the other party…" Members who have a written contract in place and include any amount of indemnification language in that contract, would not be subject to this sublimit.

Section VII – Conditions: As per approval of the Program change by the Executive Committee at their September 28 meeting, the name of the "Small Claims Settlement Option" has been changed to "In-house Claims Resolution Option" and the deadline by which a claim must be settled has been revised to six (6) months, to match the Program document.

Coverage Schedule: This section has been revised to clearly delineate between self-insured, reinsured, and excess layers, reflect the new, lower sublimit for PFOS/PFAS, and clarify that the sublimits identified here are not exhaustive.

Crisis Management Coverage Addendum: This section is being removed. This section was added at a time when the coverage was being provided as a drop-down added coverage benefit by an excess carrier on the JPIA Program. That carrier is no longer providing coverage to the JPIA.

The red-lined version of the 2022-23 MOLC is attached for your reference.

We thank you for your time and attention to these matters, for your membership, and for your commitment to the JPIA.

CWIF

California Water Insurance Fund

CWIF Board of Directors Meeting

Virtual Meeting via Zoom

Thursday
October 26, 2022
8:30 AM

Board of Directors

Chair: J. Bruce Rupp, Humboldt Bay Municipal Water District

Vice-Chair: Andrew Morris, Santa Rosa Regional Resources Authority

Brent Andrewsen, Holland & Hart

Fred R. Bockmiller, Jr., Mesa Water District

Brent Hastey, Yuba Water Agency

Scott Quady, Calleguas Municipal Water District

Officers

President: Walter "Andy" Sells, ACWA JPIA

Vice-President: Robert Greenfield, ACWA JPIA

Secretary: Brent Andrewsen, Holland & Hart

Treasurer: David deBernardi, ACWA JPIA

CWIF

California Water Insurance Fund

CWIF exists for the sole purpose of advancing and supporting the insurance and risk management needs and insurance-related support programs of the ACWA JPIA.

CWIF Board of Directors' Meeting

AGENDA

Zoom Link
Meeting ID: 661 516 2566
Passcode: 1234
+1 669 900 6833 US (San Jose)

Thursday, October 26, 2022 – 8:30 AM

Presenter			Page #
Rupp	*	1. Approve the minutes of the September 29, 2022 meeting.	3
deBernardi	*	3. Review and possibly approve proposed Dividends.	5
Sells		4. Discuss availability for next meeting: There are no other CWIF meetings scheduled for 2022.	

ADJOURN

**Related items enclosed.*

CALIFORNIA WATER INSURANCE FUND

MINUTES OF THE BOARD OF DIRECTORS MEETING

SEPTEMBER 29, 2022

MINUTES of above referenced meeting of the Board of Directors of California Water Insurance Fund ("Company") held at 2100 Professional Drive, Roseville, CA 95661 and remote sites via Zoom on September 29, 2022 at 8:30 AM.

CONFIRMATION OF NOTICE AND QUORUM

The Vice-Chair of the Board confirms the notice of the meeting and announced there was a quorum.

CWIF BOARD OF DIRECTORS IN ATTENDANCE

VICE-CHAIR: J. Bruce Rupp, Humboldt Bay Municipal Water District
Brent Andrewsen, Holland & Hart
Fred Bockmiller, Mesa Water District
Brent Hastey, Yuba Water Agency
Andy Morris, Santa Rosa Regional Resources Authority
Scott Quady, Calleguas Municipal Water District

CWIF BOARD OF DIRECTORS ABSENT

None.

CWIF OFFICERS IN ATTENDANCE

PRESIDENT: Walter "Andy" Sells, JPIA Chief Executive Officer
VICE PRESIDENT: Robert Greenfield, JPIA General Counsel
SECRETARY: Brent Andrewsen, Holland & Hart
TREASURER: David deBernardi, JPIA Director of Finance

JPIA STAFF IN ATTENDANCE

Adrienne Beatty, Assistant Executive Officer
Chimene Camacho, Executive Assistant

OTHERS PRESENT

None.

KEY ITEMS DISCUSSED

- Appointment of CWIF Officers
- Election of new Chair and Vice-Chair
- Liability Program 2022-23 Reinsurance Agreement renewal

RESOLVED:
Approved the appointment of the CWIF Officers for the term October 1, 2022 to September 30, 2023: Andy Sells, President; Robert Greenfield, Vice-President; Brent Andrewsen, Secretary; and David deBernardi, Treasurer.

RESOLVED:
Approved the election of Chair Bruce Rupp and Vice-Chair Andrew Morris.

RESOLVED:
Approved the Reinsurance Agreement for the Liability Reinsurance Program for Policy Year 2022-23, as discussed.

ADJOURNMENT
There being no further business, Chair Rupp adjourned the meeting.

APPROVAL OF MINUTES
The Board reviewed and approved these minutes.

_____ _____

Brent Andrewsen
Company Secretary

Date

CWIF
Dividend Declaration
October 26, 2022

BACKGROUND
CWIF Board approved a dividend policy in September 2021.

CURRENT SITUATION
Under the CWIF dividend policy, realized investment income by CWIF results in a dividend. For fiscal year ended September 30, 2022, the total realized income was $3,747,820.

RECOMMENDATION
The Executive Team recommends the CWIF Board of Directors approve the Dividend Declaration of $3,747,820 for the fiscal year ended September 30, 2022.

Prepared by: David deBernardi, Director of Finance

Date Prepared: October 20, 2022

October 2022 News and Updates

from the Redwood Coast Energy Authority

Join us online

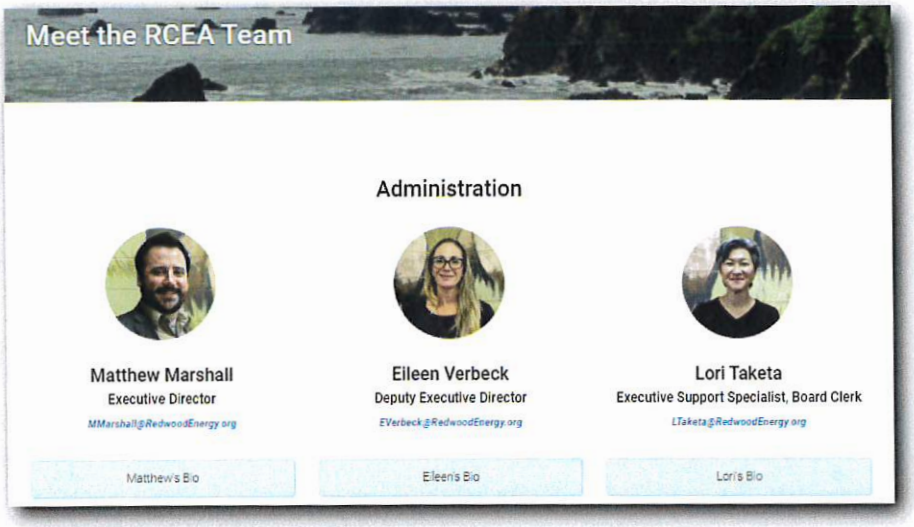
Community Choice Energy

Mid-Term Reliability Solicitation:

In August, the RCEA Board of Directors approved the launch of a solicitation for zero-emitting resources in response to the California Public Utilities Commission's Decision 21-06-035 to address the mid-term reliability (MTR) needs of the state's electric grid in 2023-2026. In response to its solicitation, RCEA did not receive any eligible offers that would meet its MTR procurement obligation. Staff are looking at alternatives to meet RCEA's procurement obligation, and plan to bring potential options to the Board ad hoc committee.

Fairhaven Energy Storage

The energy storage project at Fairhaven for which the Board approved a contract in June is moving forward. The site owner has removed stockpiled biomass to mitigate fire hazard risk. The project developer Broad Reach Power is working with PG&E on repowering the substation and has submitted final designs for needed modification of the site's grid interconnection.



New RCEA Staff page

We recently launched a page featuring the full RCEA team, including titles, bios, and contact information.

We also added a poster to our employment page illustrating the wide range of degrees our team holds. We created it for a Cal Poly Humboldt Sustainability Practitioners Mixer, to encourage diverse students to consider joining RCEA or to pursue a career in energy.

WE ARE HIRING!

Current Employment Opportunities at RCEA

- **Manager/Senior Manager - Demand Side Management Programs**

See our website for details

Rebate totals to date

EV Charging Equipment RCEA REBATE	Electric Vehicles RCEA REBATE	Heat Pumps RCEA REBATE	Equipment & Appliance RCEA REBATE
14 approved	37 approved	59 approved 7 reserved	39 approved 5 in progress

2022 totals

Residential Services ASSESSMENTS	Non-Res Services ASSESSMENTS
97 consultations 64 res kits	132 Completed

Customer Energy Solutions updates

October 2022 News

Agency Projects - ongoing

Arcata School District - CalSHAPE HVAC and CO2 monitor projects are moving ahead
Burnt Ranch Elementary School - roof-mounted solar array is being installed
City of Arcata - energy efficiency project is being planned
City of Blue Lake - best use of OES funding and a possible solar project are being planned
City of Eureka - solar projects are being designed
City of Ferndale - solar and lighting project completed
City of Rio Dell - solar, storage and generator installed
City of Trinidad - solar and storage project completed
Coastal Grove Charter School - CalSHAPE HVAC and CO2 monitor projects are in progress
Eureka City Schools - solar, storage, and EV bus charger project is in progress
Loleta Union Elementary School - assisting with CalSHAPE program application
McKinleyville Union School District - assisting with CalSHAPE program application
Pine Hill Elementary - ECAA loan project kick-off meeting held in September
Redway Community Services District - revisiting possible solar project
Redwood Coast Montessori School - CalSHAPE plumbing application submitted, CalSHAPE HVAC and CO2 monitor projects in progress
Yurok Tribe - benchmarking and making connections for multiple project locations

Rural Regional Energy Network

The RuralREN group is shepherding the proposed customer energy efficiency program through the CPUC regulatory process. The RuralREN partners, representing hard-to-reach rural communities, held its first in-person meeting in September in conjunction with the California Climate and Energy Collaborative Conference.

Technology and Equipment for Clean Heating (TECH) Quick Start Grant

Through this grant, RCEA is providing rebates for unregulated fuel users (propane, kerosene, cordwood, etc) to switch to heat pump space and water heaters. RCEA has secured partnerships with area contractors and identified 11 projects so far. The grant will cover a total of 20 projects. RCEA is a finalist for a second round of funding, which will support an analysis of barriers to electrification in the more rural parts of the county and tribal lands.

Rio Dell's "Light the Night" Project

RCEA continues to reach out and provide residential energy efficiency kits to Rio Dell residents who bring in and dispose of old, inefficient light bulbs at Rio Dell City Hall. The project is part of the Rio Dell Police Department's "Light the Night" initiative aimed at encouraging residents to leave their porch lights on at night to deter crime. Rio Dell city staff approached RCEA to collaborate on this win-win community boosting project.

Rebates Mailer

On the flip side of our Power Content Label (one of our annual compliance mailings that goes out to all our customers) we included an invitation for our customers to take advantage of all the rebates we have now. The response was robust and the timing was good. The public is curious about fuel switching and is willing to upgrade if the cost is manageable.

REDWOOD COAST EnergyAuthority
www.RedwoodEnergy.org
(707) 269-1700 • info@RedwoodEnergy.org

Redwood Coast Energy Authority
633 3rd Street, Eureka, CA 95501
Phone: (707) 269-1700 Toll-Free (800) 931-7232 Fax: (707) 269-1777
E-mail: info@redwoodenergy.org Web: www.redwoodenergy.org

BOARD OF DIRECTORS DRAFT MEETING MINUTES

September 22, 2022 - Thursday, 3:30 p.m.

Notice of this meeting was posted on September 17, 2022. Vice Chair Chris Curran called a regular meeting of the Board of Directors of the Redwood Coast Energy Authority to order on the above date at 3:33 p.m., stating that the teleconference meeting was being conducted pursuant to the AB 361 Brown Act open public meeting law revisions signed into law on September 16, 2021, and Governor Newsom's State of Emergency Proclamation of March 4, 2020. Vice Chair Curran stated that the posted agenda contained public teleconference meeting participation instructions.

PRESENT: Chair Stephen Avis, Rex Bohn, Vice Chair Chris Curran, Mike Johnson (Fortuna Alternate Director), Sarah Schaefer, Frank Wilson, Sheri Woo. ABSENT: Scott Bauer, Mike Losey (Fortuna Director), Jack Tuttle. STAFF AND OTHERS PRESENT: Ardi Arian, Renewable America President and CEO; General Counsel Nancy Diamond; Power Resources Director Richard Engel; Senior Power Resources Manager Jocelyn Gwynn; Executive Director Matthew Marshall; Power Resources Specialist Colin Mateer; Board Clerk Lori Taketa; Deputy Executive Director Eileen Verbeck.

ORAL COMMUNICATIONS

There were no public comments on items not on the agenda. Vice Chair Curran closed the oral communications portion of the meeting.

CONSENT CALENDAR

3.1 Approve Minutes of August 25, 2022, Board Meeting.

3.2 Approve Disbursements Report.

3.3 Accept Financial Reports.

3.4 Extend Resolution No. 2022-6 Ratifying Governor Newsom's March 4, 2020, State of Emergency Proclamation and Authorizing Remote Teleconference Meetings of RCEA's Legislative Bodies, for the period September 22, 2022, through October 21, 2022, pursuant to Brown Act revisions of AB 361.

Neither directors nor members of the public requested that items be removed from the consent calendar.

M/S: Schaefer, Woo: Approve consent calendar items.

The motion passed with a unanimous roll call vote. Ayes: Avis, Bohn, Curran, Johnson, Schaefer, Wilson, Woo. Noes: None. Absent: Bauer, Tuttle. Abstain: None.

OLD BUSINESS

5.1. Foster Clean Power A Solar Plus Storage Power Purchase Agreement - CPUC Mid-Term Reliability Procurement

Power Resources Senior Manager Gwynn reported on the proposed solar and storage project in Arcata by developer Renewable America. Staff proposed that RCEA procure energy, resource adequacy, and renewable energy certificates from this project to satisfy the state's 2024-2025 mid-term reliability requirements. The project is going through the County permitting process.

Renewable America President and CEO Ardi Arian introduced himself and described site studies, current and proposed land use. The County issued a permit for a nearby cannabis project which requires solar electricity. The proposed site is desirable due to a nearby grid interconnection point. The project meets County development requirements.

The directors expressed concerns about using agriculture lands for solar farms and allowing willing landowners to submit piecemeal development requests. RCEA's strategic plans call for working with the County on limiting energy projects to designated renewable energy development areas. Efforts on that collaboration with the County have been postponed until County staff completes Climate Action Plan work.

There were no responses from the public to Vice Chair Curran's invitation for comment and the public comment period was closed.

M/S: Woo, Schaefer: Approve Power Purchase Agreement with Foster Clean Power A LLC and authorize the Executive Director to execute all applicable documents.

The motion passed with a unanimous roll call vote. Ayes: Avis, Bohn, Curran, Johnson, Schaefer, Wilson, Woo. Noes: None. Absent: Bauer, Tuttle. Abstain: None..

NEW BUSINESS

6.1. Rural Electric Vehicle Charging CEC Grant

Executive Director Marshall reported on the proposed award of $700,000 to RCEA for rural Humboldt County electric vehicle charging site development. The grant requires $175,000 in match funding.

The directors discussed the charging stations' potential to enable vehicles to help power the grid during emergencies and whether proposed Southern Humboldt sites can be powered given PG&E's recent reports of infrastructure limitations. Staff agreed to provide more detailed equipment costs for RCEA-developed projects going forward.

J.A. Savage submitted a written comment requesting that the charging stations be able to process credit and debit card transactions instead of requiring use of a cell phone app.

To member of the public Sunny's inquiry about the construction timeline, staff responded that the project will go through the design and permitting process in early 2023 before construction through early 2024. Vice Chair Curran closed the public comment period.

M/S: Johnson, Bohn: Approve accepting CEC Rural Electric Vehicle Charging Grant in the amount of $700,000 and authorize $175,000 in RCEA match funds for a total project

cost of $875,000 and authorize the Executive Director to execute the Grant Agreement and any associated documents necessary to secure the grant following review and approval by RCEA General Counsel.

The motion passed with a unanimous roll call vote. Ayes: Avis, Bohn, Curran, Johnson, Schaefer, Wilson, Woo. Noes: None. Absent: Bauer, Tuttle. Abstain: None.

Vice Chair Curran confirmed there was a Community Choice Energy quorum.

OLD CCE BUSINESS

7.1. Renewable America North Bank Road Projects Update – CPUC Mid-Term Reliability Procurement

Power Resources Senior Manager Gwynn reported that the project developer has changed the project's location, scope and operation date and the project no longer helps meet state-mandated mid-term reliability goals. The project would still fulfil Board local solar energy development goals. Development of a smaller solar project submitted to RCEA by Renewable America as a feed-in tariff project at this project's original site will be contingent upon Board approval to buy power from this larger solar development and County permit approval.

The directors expressed concern about the perceived piecemeal approach to local power purchase agreements (PPAs) and potential misconstrual of RCEA's PPAs as support for unpopular development projects on agricultural or timber lands regardless of social or environmental consequences. It was clarified that determination of each energy development project's environmental impacts and zoning appropriateness is beyond RCEA's purview. Developers usually need confirmed power buyers to find project financing to go through the permitting and construction phases. It is rare for fully permitted, post-CEQA process projects to respond to calls for renewable power providers and to find developable Humboldt land not already covered by trees or zoned for agriculture or industrial use. Projects under contract to RCEA to which the County does not grant permits will eventually fail to meet development milestones in the contract and go into seller default, if the contract is not canceled when the permit is denied. RCEA staff is honoring community-determined and Board-approved goals to procure local renewable energy. The directors expressed support for local renewable power, concern for project siting, and support for continued negotiation.

There were no responses from the public to Vice Chair Curran's invitation for comment and the public comment period was closed.

M/S: Avis, Schaefer: Authorize staff to continue negotiations with Renewable America of a long-term power purchase agreement for the 5 MW North River Clean Power solar plus storage project.

The motion passed with a unanimous roll call vote. Ayes: Avis, Bohn, Curran, Johnson, Schaefer, Wilson. Noes: None. Absent: Bauer, Tuttle. Abstain: None. Non-Voting: Woo.

NEW CCE BUSINESS

8.1 2022 Integrated Resource Plan Portfolio Review

Power Resources Director Engel described the state's required biennial Integrated Resource Plan filing, which helps the state plan for electricity needs for the next 10 years and helps staff ensure that the agency meets state decarbonization, reliability and cost-effectiveness guidelines as well as the Board's renewable energy procurement goals. Staff Director Engel described four possible energy portfolios with varied amounts of offshore wind, geothermal and biomass energy. Staff are recommending a diverse preferred conforming portfolio. The directors were asked to weigh the value of local versus non-local renewable power considering different available power sources, to consider whether to continue biomass procurement beyond the Humboldt Sawmill Company contract expiration in 2031 through 2035, and whether short-term large hydropower contracts should be pursued beyond the 2020s to hold a place for offshore wind and other resources that will take a long time to develop.

The directors discussed the need for power grid upgrades and the desirability of a southern transmission route to accommodate both large-scale Humboldt County offshore wind and Sonoma County geothermal development, the source of actual electrons used in Humboldt County and how local renewable projects green the greater electric grid and reduce local reliance on PG&E's Humboldt Bay Generation Station, and the probability of purchasing more in-state renewables as Pacific Northwest large hydropower availability wanes. The desirability of committing to local biomass through 2035 was mentioned, as it would allow HSC to invest in clean power delivery upgrades and repairs. Staff will request director approval for the diverse portfolio option at the next Board meeting.

Lucas Giese, a resident of Bayside, inquired about RCEA's public engagement on the Integrated Resource Plan beyond Board and Community Advisory Committee meetings. Staff described public engagement efforts to update the agency's RePower strategic plan in 2019 which included community input on power sources, and plans to do public workshops in 2023 to inform the 2024 IRP update. To Mr. Giese's inquiry on how load assumptions were developed, staff Manager Gwynn described requirements to use the California Energy Commission's load forecasts. Vice Chair Curran closed the public comment period.

STAFF REPORTS

9.1. Executive Director's Report

Executive Director Marshall described recent PG&E reports about transmission system problems that are preventing electricity load growth in Southern Humboldt. Previous staff discussions with PG&E covered upcoming Southern Humboldt cannabis projects and other planned growth but PG&E had previously expressed no concerns. Staff will discuss with PG&E immediate and near-term grid-management actions RCEA can take to alleviate local load congestion until transmission upgrades are made. To engage effectively, RCEA needs clearer understanding of congestion locations, which PG&E has previously not disclosed.

The directors differentiated between limited transmission into and out of the county and the current problem involving Southern Humboldt substations and transmission lines. They described completed construction projects that were promised electricity by PG&E but which were not connected to the utility's distribution system and the potential harm to regional economic development as developers threaten to abandon projects due to lack of electrical supply. No member of the public commented on this report. Vice Chair Curran closed the comment period.

SECTION 12.4b PAGE NO. 5

FUTURE AGENDA ITEMS

Directors requested that a PG&E Regional Vice President attend the next RCEA Board meeting to discuss PG&E's inability to serve electricity load increases in Southern Humboldt, and PG&E's lack of communication with government agencies regarding this matter.

CLOSED SESSION

There was no public comment regarding closed session item:

11.1 Conference with real property negotiators pursuant to Government Code § 54956.8 in re: APNs 001-141-005 and 001-141-006; RCEA negotiator: Executive Director; Owner's negotiating party: Wells Commercial; Under negotiation: price and terms.

The directors adjourned to closed session at 5:29 p.m. The Board reconvened from closed session at 6:09 p.m. Executive Director Marshall stated there was nothing to report from closed session and adjourned the meeting at 6:09 p.m.

Lori Taketa
Clerk of the Board

SECTION 12.4C ITEM NO. 1

Redwood Region Economic Development Commission
325 2nd Street, Suite 203, Eureka, California 95501
Phone 707.445.9651 Fax 707.445.9652 www.rredc.com

REDWOOD REGION ECONOMIC DEVELOPMENT COMMISSION
Regular Meeting of the Board of Directors
In person: Eureka City Hall, Conference Room 207, 531 K Street, Eureka CA
or attend via Zoom
https://us02web.zoom.us/j/82317176919?pwd=VEk1QUo5ZjZ5d24xOFhKcVhHRHVSZz09
Meeting ID: 823 1717 6919
Passcode: 221446
One tap mobile
+16699006833,,82317176919#,,,,*221446# US (San Jose)
+16694449171,,82317176919#,,,,*221446# US

October 24, 2022 at 6:30 pm PT
AGENDA

I. Call to Order & Roll Call

II. Public Input

III. Consent Calendar
A. Approval of Agenda for October 24, 2022
B. Approval of Minutes of the Board of Directors Regular Meeting: September 26, 2022
C. Consideration of Adopting Board Resolution 22-03 Making Findings Pursuant to Government Code Section 54953, as Amended by Assembly Bill 361, and Authorizing the Continued Use of Virtual Meetings During Declared States of Emergency

IV. Program – Beth Burks, AICP, Executive Director, Humboldt County Association of Governments
Regional Efforts Integrating Housing and Transportation

V. Old Business

VI. New Business
A. Consideration of Letter Stating RREDC Board's Position on PG&E Electricity Transmission Limits and Authorizing Executive Director to Forward to Appropriate Entities
B. Consideration of Adoption of Updated RREDC Employee Manual

VII. Reports – No Action Required
A. Executive Director's Report

VIII. Member Reports

IX. Agenda/Program Requests for Future Board of Directors Meetings

X. Adjourn

The Redwood Region Economic Development Commission will, on request, make agendas available in appropriate alternative formats to persons with a disability, as required by Section 202 of the Americans with Disabilities Act of 1990 (42 U.S.C. Sec. 12132), and the federal rules and regulations adopted in implementation thereof. Individuals who need this agenda in an alternative format or who need a disability-related modification or accommodation in order to participate in the meeting should contact the Board Secretary at (707) 445-9651. Notification 48 hours prior to the meeting will enable the Commission to make reasonable arrangements for accommodations.

RREDC Member Agencies

Cities Arcata · Blue Lake · Eureka · Ferndale · Fortuna · Rio Dell · Trinidad
Community Services Districts Humboldt · Manila · McKinleyville · Orick · Orleans · Redway · Willow Creek
Humboldt Bay Harbor, Recreation and Conservation District · Humboldt Bay Municipal Water District
County of Humboldt · Hoopa Valley Tribe · Redwoods Community College District