BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607 Office of the Secretary: (510) 287-0440

Notice of Time and Location Change

PLANNING COMMITTEE
Tuesday, April 11, 2023
9:00 a.m.
Training Resource Center, 2nd Floor
375 11th Street
Oakland, CA 94607

Notice is hereby given that the Tuesday, April 11, 2023 Planning Committee meeting of the Board of Directors has been rescheduled from 9:15 a.m. to 9:00 a.m. The meeting will be held in the Administration Building Training Resource Center at 375 11th Street, Oakland, California due to Board Room renovations.

Dated: April 6, 2023

Rischa S. Cole

Rischa S. Cole
Secretary of the District

W:\Board of Directors - Meeting Related Docs\Notices 2023\041123_planning_notice_time_location_change.docx

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BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT

375 - 11th Street, Oakland, CA 94607 Office of the Secretary: (510) 287-0440

AGENDA
Planning Committee
Tuesday, April 11, 2023
9:00 a.m.
Training Resource Center, 2nd Floor
375 11th Street
Oakland, CA 94607

***** Please see appendix for public participation instructions*****

Committee Members: Doug A. Linney {Chair}, Lesa R. McIntosh, and Marguerite Young

ROLL CALL:

PUBLIC COMMENT: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DETERMINATION AND DISCUSSION:

1. 2022 Mokelumne Fishery Update (Tognolini)
2. Water Quality Regulatory Update (Briggs)
3. Annual Recreation Report – 2022 (Tognolini)

ADJOURNMENT:

Disability Notice

If you require a disability-related modification or accommodation to participate in an EBMUD public meeting please call the Office of the Secretary (510) 287-0404. We will make reasonable arrangements to ensure accessibility. Some special equipment arrangements may require 48 hours advance notice.

Document Availability

Materials related to an item on this agenda that have been submitted to the EBMUD Board of Directors within 72 hours prior to this meeting are available for public inspection in EBMUD's Office of the Secretary at 375 11th Street, Oakland, California, during normal business hours, and can be viewed on our website at www.ebmud.com.

APPENDIX

Planning Committee Meeting
Tuesday, April 11, 2023 – 9:00 a.m.

EBMUD Board committee meetings will be conducted in person and via Zoom.
These meetings are recorded and live-streamed.

*Online**
https://ebmud.zoom.us/j/94576194030?pwd=dWZlc3hNU3JNUVBQYmNKWjJSNVZQdz09
Webinar ID: 945 7619 4030
Passcode: 925293

By Phone
Telephone: 1 669 900 6833
Webinar ID: 945 7619 4030
Passcode: 925293
International numbers available: https://ebmud.zoom.us/u/kdmpbwwlg2

*To familiarize yourself with Zoom, please visit https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting

Providing public comment - *The EBMUD Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.*

- Each speaker is allotted 3 minutes to speak; the Committee Chair has the discretion to amend this time based on the number of speakers
- The Secretary will track time and inform each speaker when the allotted time has concluded
- Comments on **non-agenda items** will be heard at the beginning of the meeting
- Comments on **agenda items** will be heard when the item is up for consideration
- The Secretary will call each speaker in the order received

In person
- Fill out and submit a blue speaker card which is available in the meeting room

Via Zoom
- Use the raise hand feature in Zoom to indicate you wish to make a public comment https://support.zoom.us/hc/en-us/articles/205566129-Raising-your-hand-in-a-webinar
  - If you participate by phone, press *9 to raise your hand
- When prompted by the Secretary, please state your name, affiliation if applicable, and topic

Submitting written comments or materials
- Email written comments or other materials for the Board of Directors to SecOffice@ebmud.com
- Please indicate the meeting date and agenda item number or non-agenda item topic in the subject of the email. Contact information is optional.
- **Please email by 4 p.m. the day prior to the scheduled regular meeting**; written comments and other materials submitted to the Board of Directors will be filed in the record.

To *observe* the Planning Committee Meeting,
please visit: https://www.ebmud.com/about-us/board-directors/board-meetings/

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 6, 2023

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager CCC

FROM: Michael T. Tognolini, Director of Water and Natural Resources MTT

SUBJECT: 2022 Mokelumne Fishery Update

SUMMARY

In Calendar Year 2022, after two years of falling below average, the salmon return was again above the long-term average with 6,395 fish returning to the Mokelumne River. Record numbers of Mokelumne origin salmon were harvested in both the commercial (51%) and recreational (44%) ocean fisheries. Steelhead returns were slightly lower compared to the prior year's totals but remain stable. The second and final year of the Proposition 68 funded habitat restoration was completed in 2022 by building new floodplain habitat and spawning habitat to benefit adult spawning, incubation, improved survival to emergence, and health of juvenile fish. A review of the 2022 return and the key factors affecting Mokelumne salmon and steelhead will be presented at the April 11, 2023 Planning Committee meeting.

DISCUSSION

In 2022, the Mokelumne River Chinook salmon return continued to rise from 2020's decadal low of 4,044 fish. Of the 6,395 returning fish, 1,381 fish spawned in the river and 5,014 were collected at the hatchery for egg production to support both mitigation and ocean enhancement goals. For the third year in a row, the return was below the post-1998 average of 9,564 but is 117 percent of the long-term average (1940–2022) of 5,442. Because of year-to-year variability, one indicator the District uses to assess the health of the Mokelumne fishery is the running nine-year average return, which represents three complete three-year salmon life cycles. The nine-year average annual return is 11,073 or 203 percent of the long-term average. The steelhead trout return to the hatchery remains stable at 215 adult fish in 2022. The District continues to provide a suite of management actions to support the salmon population; however, the species is subject to multiple stressors in both the freshwater and marine environment. Figure 1 shows salmon returns to the Mokelumne River since recordkeeping began in 1940.

In early October, the District implemented three pulses using 12,224 acre-feet of water accumulated through gainshare water, spring adaptive management water, and water designated in our Camanche water right permit for fish passage. Pulses were spaced two weeks apart and a portion of water was used to raise base flows in between pulses by 75 cubic feet per second (cfs) to maintain a minimum base flow of 200 cfs. The Delta Cross Channel gates were closed four

times in October and four times in November (typically closed on weekdays and open on weekends) through most of the migration season. Coded wire tag data from in-river recoveries in 2022 showed that Mokelumne River origin hatchery fish migrated back to the Mokelumne River at a higher proportion than those that strayed to the American River. Of all coded wire tag returns to the Central Valley of Mokelumne River origin fish, 47 percent were recovered on the Mokelumne River and 36 percent were recovered on the American River. This is a reverse of 2021 when an atmospheric river caused higher straying to the American River.

The Mokelumne salmon population continues to make up a significant portion of the commercial and recreational catch off the coast of California. Results released by the California Department of Fish and Wildlife show that Mokelumne River origin salmon accounted for approximately 51 percent of the commercial and 44 percent of the recreational catch respectively in 2022 compared to 19 percent of the commercial and 42 percent of the recreational catch in 2021. This is a record contribution rate for the Mokelumne. Considering the size of the watershed and modest (< 3%) Delta outflow contribution, the Mokelumne's contribution to the ocean food web, salmon industry, and dependent businesses remains significant. Unfortunately, due to the overall low numbers of fish escaping the ocean fishery in the state to freshwater this year, the commercial and recreational seasons will be closed in 2023 to support a rebound of the stocks.

Steelhead trout returns for the Mokelumne River (primarily measured at the hatchery) have never been substantial since recordkeeping began in 1963. The District and various resource agency partners who comprise the Mokelumne River Hatchery Coordination Team have, over the last 15 years, implemented numerous measures to improve returns such as changing release locations and timing, eliminating egg imports, and improving rearing techniques. In 2022, 215 adult steelhead entered the hatchery, yielding an egg take of approximately 337,000. The goal for the hatchery is to produce 250,000 yearling steelhead smolts from the eggs collected. Even with some expected natural mortality from the egg to yearling stage, the District projects that it will meet the steelhead production goals for the year.

For the 2022/23 season, staff have been conducting real-time genetics monitoring for steelhead over concerns that American River steelhead that were reared at the Mokelumne River Fish Hatchery in 2021 due to temperature issues on the American River could return to the Mokelumne. American River steelhead are not part of the federally threatened Distinct Population Segments that Mokelumne steelhead are, and so mixing of stocks should be avoided. Preliminary results of those studies have shown a small number (22) of American River steelhead migrated to the Mokelumne as two-year-olds this year and were culled from the population. In future years, the hatchery will not accept American River steelhead unless they are marked before transport to the Mokelumne for rearing, to protect our listed stock of Central Valley Steelhead.

Staff completed the second and final year of a spawning and rearing improvement project funded by the District and Proposition 68 in August and September 2022. The District recently accepted $450,000 in grant funds from the Healthy Rivers Initiative under Proposition 68. In 2021 staff implemented the first year of this restoration work, expending approximately $300,000 of those

funds along with a $34,000 in-kind contribution from the District. In 2022, staff completed the balance of the work and will submit for final reimbursement of $150,000 in May 2023. The project added 0.55 acres of floodplain that will begin to inundate at 1,000 cfs to the Mokelumne River Day Use Area. The 2022 project also added 600 cubic yards of salmonid gravel for reach maintenance, placed 2,500 cubic yards of fine sediments in adjacent floodplain project sites to support vegetation growth, and stockpiled approximately 2,000 cubic yards of gravel for future uses as spawning gravel.

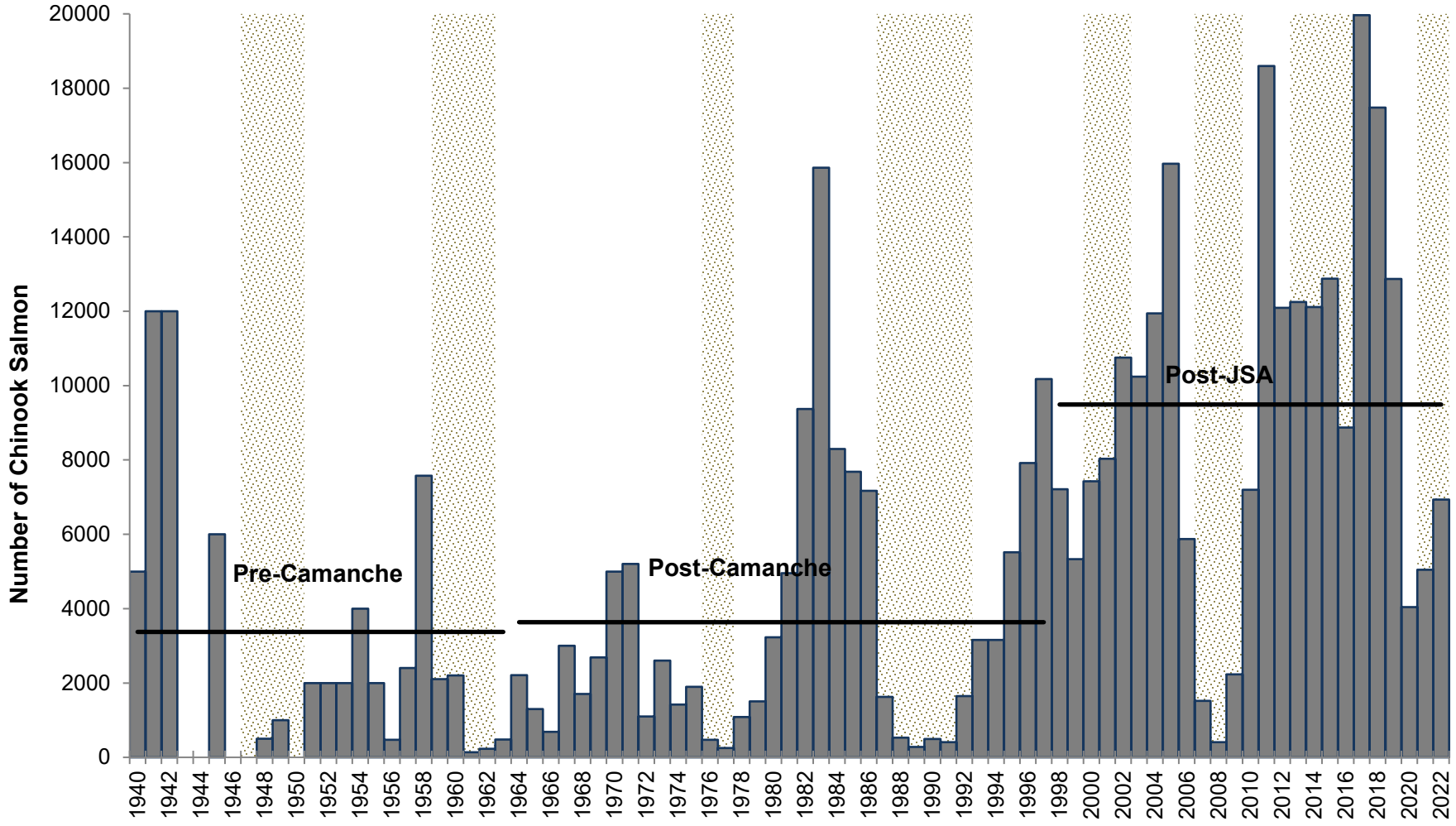
NEXT STEPS

Weather and Delta conditions continue to challenge juvenile salmon migrating from the Mokelumne River. Overcoming these effects will be at the forefront of fisheries management activities going forward. The District, working with resource agencies, will continue to implement measures to improve the survival of juvenile salmon as they migrate through the Central Delta, and continue to restore habitat for spawning, juvenile rearing and juvenile migration through gravel, floodplain and diversion screening projects. Staff is working on a feasibility assessment for a temperature control device to help manage downstream temperatures for spawning and egg incubation, and have submitted numerous concept proposals for grant funding to support habitat restoration projects but have yet to receive any award notifications. Capital funds will be leveraged to get projects ‘shovel-ready’ by funding design and permitting, and staff will continue to apply for state and federal funds to support the work.

CCC:MTT:dec

Attachment: Annual Chinook Salmon Escapement to the Lower Mokelumne River Graph

Figure 1: Annual Chinook Salmon Escapement to the Lower Mokelumne River Graph



Horizontal lines indicate pre-Camanche, post-Camanche, and post-JSA periods, respectively.

1. "Pre-Camanche" escapement (3,374) is the average estimate at Woodbridge Dam for the period from 1940 through 1963 (excluding years when no data were recorded: 1943, 1944, 1946, 1947, and 1950).
2. "Post-Camanche" escapement (3,636) is the average estimate at Woodbridge Dam for the period 1964 through 1997.
3. "Post-JSA" escapement (9,491) is the average estimate at Woodbridge Dam since implementation of the JSA in 1998.
4. Dithered shaded areas are periods of drought in California. Historical drought data are based on California Department of Water Resources, *California's most Significant Droughts: Comparing Historical and Recent Conditions*, January 2022. More recent drought designations follow guidelines presented at https://water.ca.gov/Water-Basics/Drought.

Annual Chinook Salmon Escapement to the Lower Mokelumne River

EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 6, 2023

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager

FROM: David A. Briggs, Director of Operations and Maintenance

SUBJECT: Water Quality Regulatory Update

SUMMARY

The attached report provides an update on two evolving regulatory matters that impact the District – revisions to the federal Lead and Copper Rule (LCR) and new regulations for per- and polyfluoroalkyl substances (PFAS). A presentation will be made at the April 11, 2023 Planning Committee meeting.

DISCUSSION

Lead-related regulations for drinking water providers changed following adoption of the revised federal LCR in 2021. In California, additional requirements have been adopted in the last four years. The changes that most impact the District relate to abatement of remaining lead-containing components, additional sampling for schools and childcare centers, and various actions related to customer-side (customer-owned) laterals, which in some situations will involve communication with customers about lead-related health risks and new requirements.

In March 2023, the U.S. Environmental Protection Agency proposed enforceable limits for six PFAS at levels near the detection limit. If enforceable limits are finalized at these low levels, compliance may only be possible for many water utilities after additional investment in water treatment.

The attachment provides additional information on both matters.

CCC:DAB:sd

Attachment: Water Quality Regulatory Update

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ATTACHMENT

WATER QUALITY REGULATORY UPDATE
April 2023

This report provides an update on two evolving regulatory matters that impact the District – revisions to the federal Lead and Copper Rule Revisions (LCRR) and new regulations for per- and polyfluoroalkyl substances (PFAS).

Revisions to Lead and Copper Rule

Although all known lead service lines have been removed from the District's service area, recent revisions to the federal LCRR and state requirements will impact the District. This report summarizes the new requirements, details the District's status, and describes upcoming outreach and notification programs. Many of the activities and outreach will occur in the cities of Oakland, Richmond, San Leandro, San Lorenzo, and San Pablo. The District's data continue to show that lead concentrations in customers' tap water are non-detect or at very low concentrations, due to lead components in the customers' homes.

State Requirements

California legislation enacted in 2016 and 2017 required the District to develop an inventory and replacement schedule for lead service lines (LSLs) and service lines containing lead fittings by July 1, 2020 and submit it to the State Water Resources Control Board (State Board) for approval. The District met the deadline and reported that there were no LSLs and approximately 2,380 galvanized service lines with suspected lead fittings. The District committed to replacing at least 125 of these lead-containing galvanized service lines each year (about 800 remain today).

The District has been working with customers served by these lines to collect sequential tap samples for lead. The sampling effort has confirmed that the District's corrosion control program continues to be effective with very low lead concentrations. Each customer is notified when their service line is being replaced and a pitcher filter capable of removing lead is provided for their use during the work. Flushing instructions and follow-up samples are also provided at no charge. Steady progress is being made to remove these service lines and total removal is estimated to be complete by 2030.

Sampling in schools was also required by the state. Sampling was completed by the deadline of November 1, 2019 with very low results – 95 percent were below five parts per billion (ppb) and all high sample results were attributed to premise plumbing which was immediately addressed by each school.

Federal Requirements

The LCRR was proposed in January 2021 and finalized in December 2022. Similar to the state requirements, the LCRR requires water systems to develop an inventory of LSLs. However, under the LCRR, the service line includes both the District-side and the customer-side portion of the lateral. The LCRR requires completion of the inventory by October 2024.

Customer-Side Service Lines

In contrast to the District-side service lines, there are no detailed records for customer-side service line materials. When a building is constructed in the service area, each city or county building department issues a permit which includes acceptable materials for the water service line. Materials used by contractors are generally not recorded. Prior to 1986, lead was an acceptable water service line material in the California Plumbing Code. The District began recording customer-side service line information in 2021 during meter changeouts, service line replacements, and other field work. However, such opportunities are not frequent enough to meet the October 2024 regulatory deadline for inventory completion.

Based on interviews with relevant professional staff within the District and within county building departments, the District believes that lead was not used for customer-side service lines in the East Bay. This has been confirmed by thousands of field verifications and is consistent with information reported by other California water agencies. The LCRR allows water systems to categorize service lines as "non-lead" when developing their inventory, provided there is evidence to support this claim. The District intends to apply the "non-lead" categorization to nearly all customer-side service lines. Additional characterization will be needed for a subset of galvanized service lines, as detailed below, but it is expected that 99 percent of the customer-side service lines will be "non-lead" in the inventory. Additional testing and statistically valid confirmation sampling are ongoing to support this categorization. Preliminary discussions with State Board staff indicate that this approach will be acceptable.

A new category of service line material has been created in the LCRR: Galvanized Requiring Replacement (GRR). A GRR is a galvanized service line that is *or ever was* connected to an LSL. U.S. Environmental Protection Agency (US EPA) created this category because several studies have demonstrated that lead-release from galvanized pipes due to detachment of lead-containing scale is occasionally a public health concern, even after the lead service line has been removed. The District's data indicates that lead is not released from our GRRs under normal operation. However, lead-release behavior during disturbances or source water changes is unknown. GRRs are not included in any of the current state requirements.

Historically, the District had approximately 7,000 LSLs, all of which were installed between 1942 and 1945 and all of which have been removed. This installation period for residential homes and businesses corresponds to the shortage of copper and steel during World War II. Many of these LSLs were branched, meaning that a single District-side service line supplied two or more customer-side service lines. Thus, there are approximately 10,000 homes and businesses currently served by former LSLs. If any of these customer-side services are galvanized pipes, they will be categorized as GRRs under the LCRR. There is no obligation for water utilities to replace customer-side plumbing. However, notification requirements will remain as long as the plumbing remains.

Table 1 includes a breakdown by city of the number of District-side service lines that were formerly LSLs and the corresponding number of customer service lines. Based on some preliminary studies, it is expected that 40 to 50 percent of these customers have galvanized pipes.

Table 1. Potential GRRs by City

City	Former District-side Lead Service Lines	Customer-side Laterals Served by These Lines
Oakland	1,765	2,617
Richmond	1,844	2,417
San Leandro	846	1,350
San Lorenzo	567	1,031
San Pablo	852	1,017
Berkeley	383	483
El Cerrito	163	211
Alameda	121	169
Hayward	91	128
Castro Valley	94	114
Albany	80	100
Rodeo	55	86
Lafayette	29	29
Emeryville	22	24
Walnut Creek	16	16
El Sobrante	13	14
Piedmont	11	11
Orinda	5	5
Pleasant Hill	3	4
Kensington	3	3
TOTALS	6,963	9,829

To complete the inventory by the regulatory deadline, the District plans to use a contractor to visit and inspect each of the approximately 10,000 locations to determine and record the service line materials.

Customer Notification Requirements

Once confirmed, the LCRR requires that customers served by GRRs be notified no later than 30 days after completion of the inventory, annually until the GRR is removed, and whenever there is a disturbance of their service line. These notices must include the following language:

> *Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney, or nervous system problems.*

The notice must include a statement that the property is served by a GRR lateral and must communicate actions that occupants can take to reduce exposure to lead. The notice must also provide a description of any programs providing financing solutions for property owners seeking

to replace their service line if such funding is available. The District is also looking into on-bill financing.

In addition to the required language, the District may include language putting the risk in context for District customers, which based on sampling is very low. The District will also include information about when the original LSL was installed, when it was removed, and instructions for getting a free water lead test. Additionally, when a GRR service line is disturbed, for example by shutting off the line or replacing the water meter, the District must notify consumers at the service connection and provide them information to reduce their exposure to potentially elevated lead levels.

Advance Communication to Community Leaders

The District will inform leadership in all cities in advance of any communication with customers along with an offer to meet and discuss with District staff. Talking points will be shared to educate community leaders about District activities and the appropriate ways to discuss the health impacts of lead in our community. A fact sheet and frequently asked questions will be developed for use by staff and posted on the District's website. The contractor will begin inventorying the GRRs this summer and the work will take about one year to complete.

Additional Lead Exposure Research

The District has always taken a lead role in removing lead from drinking water. Currently staff are working with the US EPA, other water agencies, and Water Research Foundation on research to further understand how prior-deposited lead may be subsequently released from galvanized plumbing. Understanding this phenomenon will help determine any health risks from galvanized plumbing that was once connected to leaded piping.

Additional research opportunities may include refining sampling techniques for multi-family residential units. By design, lead sampling for federal requirements is conducted within single-family dwellings. Proper lead sampling involves coordination with occupants and must be conducted after water use is suspended for at least 6 hours. Although lead exposure in multi-family units in the District's service area is not expected to be significant, developing new sampling techniques may greatly benefit other service areas.

PFAS Updates

On March 29, 2023, the US EPA published proposed new regulatory limits for six PFAS. These new regulatory standards will be the first enforceable limits for PFAS that will apply to the District. For more than a decade, both state and federal regulatory agencies have issued PFAS monitoring requirements and advisories; however this new regulation, once finalized, will be enforceable and may require the District to modify its water treatment processes.

Background

PFAS are a group of manufactured chemicals that have been used in industrial and consumer products since the 1940s. These widely used compounds make products resistant to water, heat, and stains. There are thousands of different PFAS. Their chemical structure makes them highly stable and resistant to degradation in the environment. Some PFAS such as perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) were commonly used in the United States but have been phased out. These molecularly larger PFAS have generally been replaced by other PFAS such as perfluorobutane sulfonic acid (PFBS), perfluorohexane sulfonic acid (PFHxS), hexafluoropropylene oxide dimer acid (HFPO–DA, also known as a GenX chemicals), perfluorononanoic acid (PFNA), and others.

Recent regulatory actions have focused on keeping these substances out of drinking water supplies and banning their use. In 2022, the US EPA also proposed designating PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund).

The Centers for Disease Control and Prevention (CDC) found four PFAS (PFOS, PFOA, PFHxS, and PFNA) in the blood of nearly all people tested. Other studies show that most people in industrialized countries have measurable amounts of PFAS in their blood. Levels of PFOA and PFOS have been decreasing in the blood of the general population since these substances were phased out in the early 2000s. However, these compounds can remain in the human body after exposure and in the environment for many years.

The same chemical characteristics that make PFAS useful in consumer products make them particularly persistent in the environment, and difficult to remove from water. Studies have demonstrated that there are effective treatment technologies such as granular activated carbon (GAC), ion exchange and high-pressure membranes (e.g., reverse osmosis). These treatment methods are very costly and energy intensive.

Regulatory Development and Monitoring

Development of drinking water regulations for PFAS has been ongoing for years. US EPA included PFOA and PFOS in the third and fourth Contaminant Candidate Lists (CCLs) in 2009 and 2016. The CCL is a list of contaminants that US EPA is considering for new regulations. Water utilities are required to collect information on the levels at which the CCL contaminants occur and report the results to US EPA through a program called the Unregulated Contaminant Monitoring Rule (UCMR). Monitoring data for six PFAS were collected during the third UCMR (UCMR3) between 2013 and 2015. The District's sampling did not detect any PFAS in the drinking water during UCMR3; however, laboratory detection limits at the time were higher. The fifth UCMR (UCMR5) requires sample collection and analysis for 29 PFAS to occur between 2023 and 2025. These samples will be taken at the District's water treatment plants.

On June 15, 2022, the US EPA issued lifetime Health Advisories (HAs) for four PFAS. HAs are not enforceable; they are intended, with a margin of safety, to represent levels at which adverse health effects are not expected to occur over a lifetime of exposure. The HA for HFPO-DA was set at 10 nanograms per liter (ng/L) and for PFBS at 2,000 ng/L; interim HAs were set for PFOA at 0.004 ng/L and for PFOS at 0.020 ng/L. The interim HAs for PFOA and PFOS are much lower than the lowest available analytical detection limits.

The State Board in California has also been working on PFAS regulations for years. Notification Levels (NLs) and Response Levels for four PFAS have been set. The NLs are: PFOA at 5.1 ng/L, PFOS at 6.5 ng/L, PFBS at 500 ng/L, and PFHxS at 3 ng/L. Water systems are not required to monitor under the NL regulations; however, if monitoring is done and a parameter is detected above the NL, this information needs to be reported to the State Board.

In accordance with Assembly Bill 756, the State Board initiated PFAS monitoring through a series of phased monitoring orders that prioritize monitoring based on vulnerability of each water source to PFAS contamination. The first phase, in 2019, included groundwater sources near airports with firefighting training and water systems that detected PFAS during US EPA's UCMR3. The second phase, in 2020, added water sources near water systems with known contamination and those near U.S. Department of Defense sites, landfills and other potential PFAS sources. The latest phase, in 2022, requires sampling of potentially vulnerable surface waters including the Sacramento River and the Freeport intake. The Freeport sampling began in March 2023 and will continue quarterly. No PFAS were detected in the first samples taken at the Freeport intake. This monitoring is being conducted in coordination with Sacramento County Water Agency. The local and upcountry watersheds are considered more protected against PFAS contamination and have not been included in the State Board's monitoring orders.

On March 29, 2023, the US EPA proposed new Maximum Contaminant Levels (MCLs) for two PFAS: PFOA and PFOS at 4 ng/L. Four additional PFAS (PFNA, HFPO-DA, PFHxS, and PFBS) will be regulated via a Hazard Index which is intended to account for the combined effects of simultaneous exposure to these PFAS. US EPA expects this new regulation to be finalized by the end of 2023 or early 2024. Quarterly monitoring will be required for one year with compliance based on a running annual average at each water treatment plant. Water systems will have three years from the date the rule is finalized to comply with the new standards, which could be late 2026 or early 2027.

Discretionary District Sampling

In many instances, the District conducts sampling that is not required by state or US EPA. Most recently, the District collected four quarterly samples from the influent and effluent of each in-service water treatment plant during 2020-2021. During this monitoring event, 18 compounds were measured, and the laboratory's reporting limit for PFOA and PFOS was slightly less than 2 ng/L. Most results were "non-detects"; however, there were low-level detections of eight different PFAS, some of which are included in US EPA's proposed new regulatory standards. All results were below the California Notification Levels, but PFOA and PFOS were detected in water from the local East Bay reservoirs (Upper San Leandro and San Pablo). Some measurements were slightly above 4 ng/L (values ranged from 1.8 ng/L to 4.9 ng/L).

Measurements of the PFAS to be regulated via the Hazard Index were all much lower than the proposed regulatory standard. There is no data for one compound, HFPO-DA, because it was not included in the laboratory analytical method at that time.

San Joaquin County groundwater associated with the District's DREAM project was tested for PFAS during January 2022; no PFAS compounds were detected. This water source will be tested again during 2023. Bayside groundwater will be sampled for PFAS late in spring or summer.

Analytical methods are constantly improving, and laboratory results from several years ago may not be informative today. For example, the District monitored for PFAS during 2013-2015 under the UCMR3. Samples were collected for six PFAS compounds from each water treatment plant, and none were detected. At that time, the lowest concentrations that could be detected for PFOA and PFOS were 20 and 40 ng/L, respectively. Current analytical methods can detect these PFAS at levels as low as 1 or 2 ng/L.

Next Steps

The District is actively participating in discussions with various industry groups such as the American Water Works Association, Association of Metropolitan Water Agencies, California Municipal Utilities Association, California Urban Water Agencies, and others. These organizations are discussing development of formal comments to the US EPA. Most of the discussion centers around EPA's cost estimates. The comment period for the proposed PFAS regulation closes on May 30, 2023.

The District will monitor for PFAS in accordance with the new regulations and in accordance with UCMR5. In addition, a source water monitoring program will be developed to better characterize sources of PFAS within the local watersheds. Watershed protection, along with removal of PFAS from products, remains the best method for keeping PFAS out of drinking water.

The District's reservoirs in the East Bay are less protected from human-caused contamination such as PFAS compared to Pardee Reservoir. Standard surface water treatment processes, even ozone and UV, have no impact on PFAS concentrations. If monitoring results indicate that PFAS treatment is necessary, GAC may be the most reasonable treatment technology to be added to the conventional treatment plants. However, GAC removes chlorine along with organic compounds, and additional treatment plant modifications would be needed to ensure the plants could continue to disinfect the water while also treating for PFAS. The District is evaluating potential alternatives.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: April 6, 2023

MEMO TO: Board of Directors

THROUGH: Clifford C. Chan, General Manager CCC

FROM: Michael T. Tognolini, Director of Water and Natural Resources MTT

SUBJECT: Annual Recreation Report – 2022

SUMMARY

This memo summarizes recreation activities in the District's watersheds during 2022 and reports on goals established for recreation in the Mokelumne and East Bay watersheds. A presentation will be made at the April 11, 2023 Planning Committee meeting.

DISCUSSION

The District's watershed and recreation facilities continue to be popular with the public, receiving approximately two million visitors each year. Visitation is predominantly at the developed recreation areas, with approximately one million visitors to Lafayette Recreation Area and more than 470,000 visits to the Camanche Recreation areas. In the East Bay, visitation increased three percent year over year, to a total of 1,461,709 visitors in 2022.

NEXT STEPS

For the Mokelumne area, planning is underway for the replacement of the Pardee Recreation Area water treatment plant, hosting Kid's Fishing Day events at both Camanche and Pardee, and repairing damage from winter storms. In the East Bay, the interpretative signs upgrade project at Lafayette Reservoir will continue in 2023 and planning for the installation of a demonstration garden will begin, as will addressing multi-lingual signage at the watershed trail staging areas.

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Attachment: 2022 Recreation Summary Report

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2022 RECREATION SUMMARY REPORT

Recreation programs and projects strengthen the District's relationships with local communities, help to ensure a safe and enjoyable experience for our recreational guests, and support the District's Long-Term Water Supply, Water Quality and Environmental Protection, Long-Term Infrastructure Investment, and Customer and Community Services Strategic Plan goals.

Significant recreation issues in 2022 include:

- Completed construction of Park Model units at Camanche North Shore
- Mountain bikers constructed six miles of illegal trail in the Redwood forest above San Leandro Creek near the community of Canyon. Mountain bikers continue to build illegal trails in the Redwoods in Canyon and on the Orinda Horsman's pasture.

To reduce COVID-19 transmission, use of the Recreation User Surveys was suspended in early March 2020. As a result, no visitor satisfaction data was collected through 2022. In January 2023, staff launched an online Recreation User Survey for desktop and mobile devices and has installed signs with a QR code to access the survey at trailheads and recreation areas. Customer survey reporting will resume in the 2023 annual recreation report.

Mokelumne Watershed and Recreation

Recreational facilities on the Mokelumne watershed continue to attract large numbers of visitors seeking opportunities to swim, camp, hike, fish, hunt, and boat. Trail use on the Mokelumne decreased from 2021 highs to pre-pandemic levels, and visits to Pardee and Camanche recreation areas decreased due to low reservoir elevations.

Capacity limits on day use vehicles remained in place at the Mokelumne River Day Use Area and both shores of Camanche Reservoir. This resulted in lower peak day visitation and improved sanitary conditions in the recreation areas, decreased visitor incidents related to parking and overcrowding, improved public safety, and significant improvement to the overall visitor experience at these facilities.

The Mokelumne Watershed Master Plan and Recreation Management Plan establish several performance goals for evaluating recreational services based on financial performance, public safety, and customer satisfaction levels. Tables 1 through 3 show annual visitation for the Mokelumne Area Recreation venues and performance results based on the established goals.

Table 1 – Annual Visitation at Mokelumne Recreation Venues (Visitor Days)
CY = Calendar Year

Location	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Camanche North Shore	236,674	233,340	213,896	210,870	202,431
Camanche South Shore	259,714	267,291	184,349	272,027	270,615
Pardee Recreation Area	56,630	64,234	74,573	65,147	65,034
Mokelumne River Day Use	48,313	38,115	48,438	62,598	39,475
Camanche Hills Hunting Preserve	13,368	12,176	12,253	12,366	12,463
Watershed Trails	11,199	11,191	20,249	18,973	11,515
Total	**625,898**	**626,347**	**553,758**	**641,981**	**601,533**

Table 2 – Percent Cost Recovery for Mokelumne Venues
FY = Fiscal Year

Location	Goal	FY18	FY19	FY20	FY21	FY22
Camanche North Shore Rec. Area	45%	71%	70%	61%	58%	56%
Camanche South Shore Rec. Area	45%	68%	66%	59%	69%	68%
Pardee Recreation Area	40%	38%	46%	43%	65%	54%
Camanche Hills Hunting Preserve	95%	97%	92%	105%	N/A*	100%

** Camanche Hills Concessionaire was unable to provide all annual data required for FY21.*

Table 3 – Public Safety in the Mokelumne Watershed

	Goal	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Boating Accidents (# of accidents per boating day)	0.01%	0.009% 3 accidents 34,537 vessels	0.006% 2 accidents 34,140 vessels	0.02% 6 accidents 28,442 vessels	0.016% 5 accidents 32,079 vessels	0.015% 4 accidents 27,508 vessels
Visitor Incidents (# of visitor incidents per visitor day)	0.2%	0.04% 249 incidents / 625,898 visitors	0.04% 248 incidents / 626,347 visitors	0.03% 176 incidents / 553,668 visitors	0.029% 184 incidents / 641,945 visitors	0.037% 223 incidents / 601,533 visitors

East Bay Watershed Recreation

Opportunities to explore and enjoy nature continue to attract visitors to the East Bay reservoirs and watershed trails. In 2022, visitation at the Lafayette Recreation Area increased three percent and visitation at the San Pablo Recreation Area increased by 27 percent, while use of the watershed trail system remained constant. Cost recovery declined to 36 percent at Lafayette and 50 percent at San Pablo, primarily as a result of reduced revenue at each location due to closures and limited services available during the COVID-19 pandemic.

Crime on the watershed continues to be low. There were no major accidents or reported public safety related events in 2022. East Bay Regional Park District (EBRPD) Police continue to make many more pedestrian stops than vehicle stops, focusing on leash law and trail permit violations.

Performance goals are used in the East Bay watersheds for evaluating recreational services based on financial performance, public safety, and customer satisfaction levels. Tables 4 through 6 show annual visitation for the East Bay Recreation Area venues and performance results based on the goals.

Table 4 – Recreation Visitation at East Bay Recreation Venues (Visitor Days)

Location	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Lafayette Recreation Area	1,071,623	921,188*	840,829	1,056,289	1,086,006
San Pablo Recreation Area	147,154	133,714	98,605	120,393	152,478
East Bay Trails	126,072	124,957	206,265	241,930	241,225
Total	**1,344,849**	**1,179,859**	**1,145,699**	**1,418,612**	**1,461,709**

** Count impacted by transition to new vehicle entrance procedure.*

Table 5 – Percent Cost Recovery for the East Bay Venues

Location	Goal	FY18	FY19	FY20	FY21	FY22
Lafayette Recreation Area	65%	59%	57%	36%	44%	51%
San Pablo Recreation Area	40%	55%	61%	50%	39%	55%

Table 6 – Public Safety in the East Bay Watersheds

	Goal	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Visitor Incidents (number of documented visitor incidents per visitor day)	0.2%	0.02% 335 incidents / 1,344,849 visitors	1.13% 1,483* contacts / 1,179,859 visitors	1.14% 1,550* contacts / 1,145,699 visitors	1.2% 1,746* contacts / 1,418,612 visitors	1.1% 1,666* contacts / 1,461,709 visitors

** Reflects a change in how EBRPD reports incidents. All contacts by EBRPD officers are now recorded as incidents.*