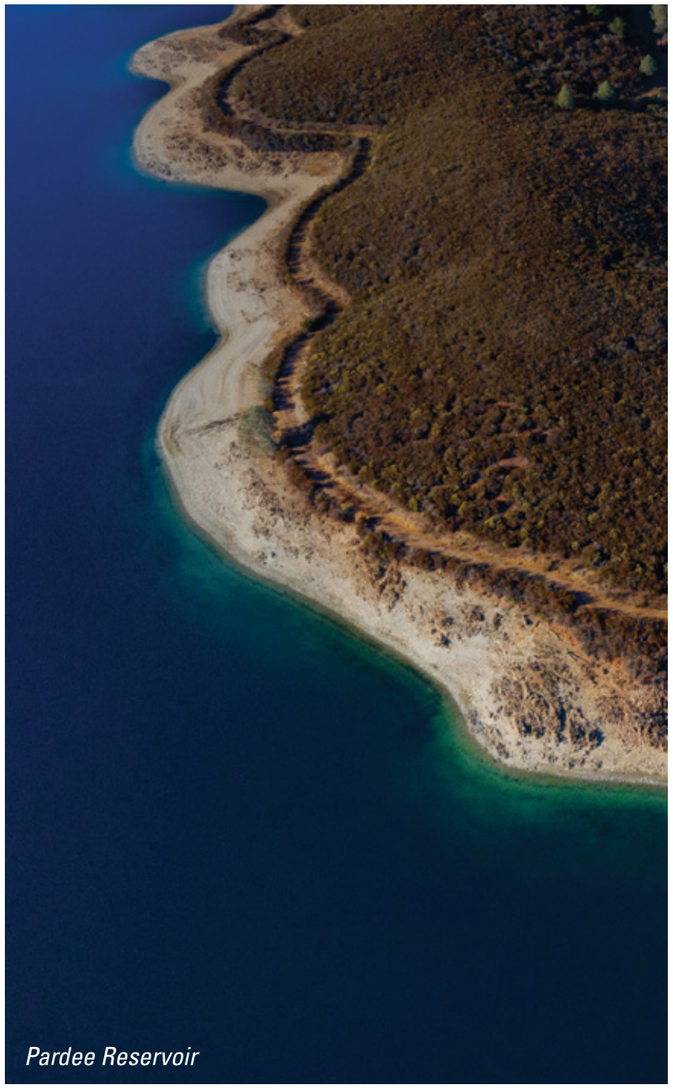
EBMUD First Half 2022 Data Update

These tables include data for detected water quality parameters from January 1, 2022 to June 30, 2022 in accordance with the requirements of the America's Water Infrastructure Act of 2018 (AWIA). EBMUD's 2021 report, with data from the entire calendar year, is here: **https://www.ebmud.com/wqr**.



Pardee Reservoir

1 Regulated for public health *Primary MCL (Unit)*		State or federal goal PHG, MCLG or MRDLG	Highest amount allowed MCL, MRDL or AL	System average	WATER TREATMENT PLANTS: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro	Typical sources
MICROBIOLOGICAL	Total Coliform	0	TT	NA	0.3% was the highest percentage found in any month					Naturally present in the environment
	Turbidity (NTU)	NA	1	0.04	0.02 - 0.10	0.02 - 0.09	0.02 - 0.10	0.04 - 0.11	0.03 - 0.10	Soil runoff
		NA	95% ≤ 0.3	100%	100%	100%	100%	100%	100%	
INORGANIC	Fluoride[A] (ppm)	1	2	0.7	0.7	0.7 - 0.8	0.6 - 0.8	0.7 - 0.8	0.7 - 0.8	Erosion of natural deposits; water additive that promotes strong teeth
D/DBPs	Bromate (ppb)	0.1	10	1.8[B]	NA	NA	NA	<1 - 2.7	<1	By-product of drinking water disinfection
Chloramine as chlorine[C] (ppm)		4	4	2.5[B]	0.1 - 3.7					Drinking water disinfectant added for treatment
Control of DBP precursors – TOC		NA	TT	NA	NA	NA	NA	met requirement		Various natural and man-made sources
Haloacetic acids, 5 species[E] (ppb)		NA	60	43[D]	29 - 66	35 - 38	27 - 38	34 - 48	14 - 23	By-product of drinking water disinfection
Trihalomethanes[E] (ppb)		NA	80	51[D]	43 - 65	44	44 - 63	32 - 59	30 - 38	By-product of drinking water disinfection

2 Regulated for drinking water aesthetics *Secondary MCL (Unit)*	State or federal goal PHG, MCLG	Highest amount allowed MCL	System average	WATER TREATMENT PLANTS: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro	Typical sources
Chloride (ppm)	NA	250	9	5 - 6	5	6 - 7	16 - 17	14 - 16	Runoff/leaching from natural deposits
Odor (TON)	NA	3	<1	<1	1	<1	<1	<1	Naturally-occurring organic materials
Specific conductance (µS/cm)	NA	900	170	80	76	83 - 130	260	340	Substances that form ions when in water
Sulfate (ppm)	NA	250	15	1 - 2	1 - 2	2 - 10	29 - 33	37 - 50	Runoff/leaching from natural deposits
Total dissolved solids (ppm)	NA	500	98	40 - 52	42 - 57	45 - 74	130 - 160	180 - 220	Runoff/leaching from natural deposits
Turbidity (NTU)	NA	5	0.04	0.02 - 0.10	0.02 - 0.09	0.02 - 0.10	0.04 - 0.11	0.03 - 0.10	Soil runoff

Key Terms

AL	***Regulatory Action Level.*** The concentration which, if exceeded, triggers treatment or other requirements that a water system must follow.
DBP	***Disinfection By-Products.*** These are formed when chlorine and/or ozone reacts with natural constituents in water. Trihalomethanes (THMs), haloacetic acids (HAAs), chlorate, and bromate are disinfection by-products.
D/DBPs	***Disinfectants and Disinfection By-products.*** Disinfectant residuals, disinfection byproducts and byproduct precursors.
MCL	***Maximum Contaminant Level.*** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs or MCLGs as is economically and technologically feasible. Secondary MCLs address odor, taste and appearance of drinking water.
MCLG	***Maximum Contaminant Level Goal.*** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.
MRDL	***Maximum Residual Disinfectant Level.*** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	***Maximum Residual Disinfectant Level Goal.*** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
NA	***Not Applicable.***
Primary Drinking Water Standard	These standards regulate contaminants that affect health by setting MCLs, MRDLs, and Treatment Techniques (TT) along with their monitoring and reporting requirements.
PHG	***Public Health Goal.*** The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.
TOC	***Total Organic Carbon.*** A measure of organic content in the water.
Turbidity	A measure of the cloudiness of water. Turbidity is monitored because it is a good indication of the effectiveness of our filtration systems.
TT	***Treatment Technique.*** A required process intended to reduce the level of a contaminant in drinking water.

Notes

A	Please see page 11 of 2021 Annual Water Quality Report for additional information about fluoride in drinking water.
B	Shown under System Average is the highest running annual average (RAA), and includes data from 2021. Shown under each water treatment plant is the range of values from January through June 2022.
C	Chloramine residuals in the distribution system are measured as an equivalent quantity of chlorine. When the chloramine residual cannot be detected, the sample is further analyzed to ensure that microbiological water quality is in compliance with regulations.
D	Compliance is determined based on the highest locational running annual average results. Water treatment plant values show the range of individual sample results.
E	Shown under system average is the highest locational running annual average (LRAA) and includes data from 2021. Shown under water treatment plant is the range of values from distribution system sample location from January through June 2022. These locations are assigned to the most representative water treatment plant, but the data may also represent water from another plant.

Units

gpg	***grains per gallon***
NTU	***Nephelometric Turbidity Unit.*** A measure of the cloudiness of water
ppm	***parts per million.*** One ppm is like 1 second in 11.5 days. (mg/L)
ppb	***parts per billion.*** One ppb is like 1 second in nearly 32 years. (µg/L)
ppt	***parts per trillion.*** One ppt is like 1 second in nearly 32,000 years. (ng/L)
TON	***Threshold Odor Number.*** A measure of odor in water
µS/cm	***microsiemens per centimeter.*** A measure of electrical conductance

Key Terms

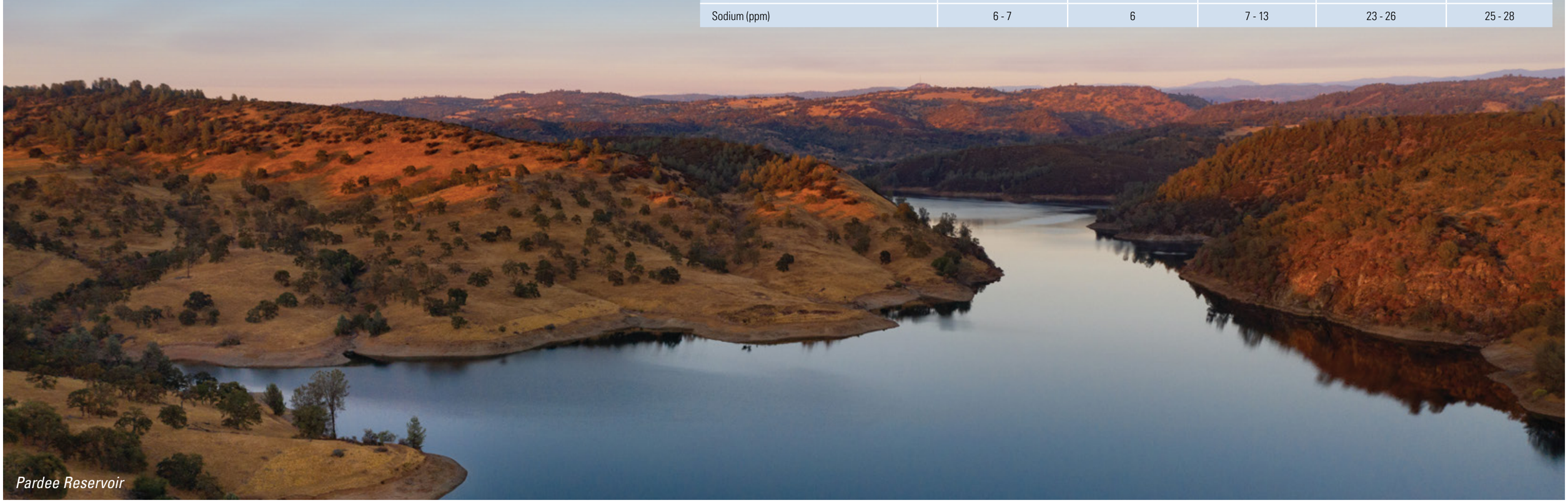
NL ***Notification Level***	A health-based advisory level established by the State Water Board for contaminants in drinking water that lack MCLs.
UCMR4	The federal unregulated contaminant monitoring rule part 4.

Notes

F	These data are collected in the distribution system. The sample locations are assigned to the most representative water treatment plant, but the data may also represent water from another plant.
G	Parameters with a notification level.
H	**Grains Per Gallon (gpg)** is a measure of water hardness. Knowing the amount can help improve the function of dishwasher, cooling equipment and other industrial processes. Refer to your appliance manufacturer's instruction manual for the optimum grains per gallon level.

3 Unregulated contaminants *No established MCL (Unit)*		Year sampled	State NL	System average	WATER TREATMENT PLANTS: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro
UCMR4	Bromide in source water (ppb)	2018-2019	NA	<5	<5	<5	<5	22 - 26	35 - 46
	Haloacetic acids, 5 species (ppb)[F]	2018-2019	NA	35	24 - 40	27 - 37	23 - 46	40 - 58	19 - 57
	Haloacetic acids, 9 species (ppb)[F]	2018-2019	NA	36	25 - 41	28 - 37	24 - 47	43 - 66	25 - 68
	Haloacetic acids, 6 brominated species (ppb)[F]	2018-2019	NA	2	0.3 - 2	0.4 - 1	0.4 - 2	3 - 10	0.6 - 12
	Manganese (ppb)	2018-2019	500	1	<0.4	<0.4	<0.4	0.4 – 13	2 - 4
	TOC in source water (ppm)	2018-2019	NA	2.5	1.5 - 2.3	1.5 - 2.3	1.5 - 3	3.4 - 5.5	5.3 - 7.2
Others [G]	Chlorate (ppb)	2022	800	183	180	150	210 - 240	110 - 260	76 - 160
	N-Nitrosodimethylamine (NDMA)[F] (ppt)	2022	10	2	<1 - 2.0	<1 - 1.6	<1 - 1.8	6.8 - 7.0	4.0 - 9.6

4 Other parameters of interest to customers *(Unit)*		WATER TREATMENT PLANTS: Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro
Alkalinity, Total as $CaCO_3$ (ppm)		23 - 26	24 - 25	23 - 41	67 - 78	100
Calcium (ppm)		6	6	6 - 11	17 - 19	24 - 26
Hardness as $CaCO_3$	(gpg)[H]	1	1	1 - 2	4	5 - 6
	(ppm)	18 - 20	18 - 20	16 - 36	64 - 74	94 - 100
Magnesium (ppm)		1	1	1 - 2	6 - 7	10
pH (pH)		9.3 - 9.4	9.2 - 9.4	8.8 - 9.4	8.2 - 8.8	8.0 - 8.4
Potassium (ppm)		1	1	1	1 - 2	2
Silica (ppm)		9 - 10	9 - 10	9 - 10	7 - 11	12 - 14
Sodium (ppm)		6 - 7	6	7 - 13	23 - 26	25 - 28



Pardee Reservoir