

# DSRSD Drinking Water Quality



**Dublin San Ramon  
Services District**

*Water, wastewater, recycled water*

*Steven Delight*

**Board of Directors Meeting  
November 1, 2022**





# Water Quality Defined

- » **Primary Drinking Water Standards -  
Protect human health**
- » **Secondary Drinking Standards -  
Aesthetic qualities**
- » **DSRSD water quality issues of  
concern**
  - > Taste and Odor
  - > Hardness





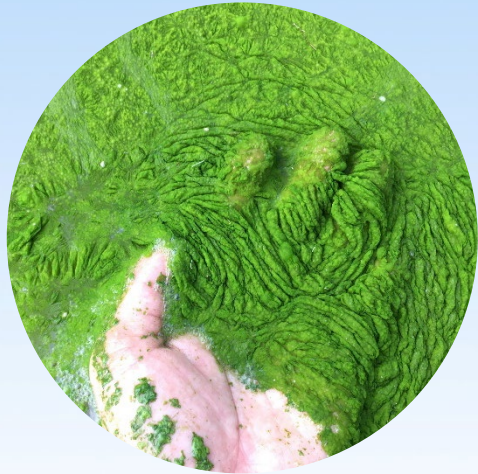
# Hardness

Hardness is measured as mg/l  $\text{CaCO}_3$  (Calcium Carbonate)

<b>&lt; 75 mg/l</b>	commercially soft
<b>75-150 mg/l</b>	acceptable for household purposes
<b>150 mg/l</b>	can cause scale buildup or staining
<b>&gt; 200 mg/l</b>	is generally desirable to be softened for household uses



# Taste and Odor



**Surface Water**  
**Algae Decay**  
Geosmin,  
2-Methylisoborneol (MIB)



**Chloride**



**Total Dissolved Solids**  
(TDS)



**Chlorine Residual**

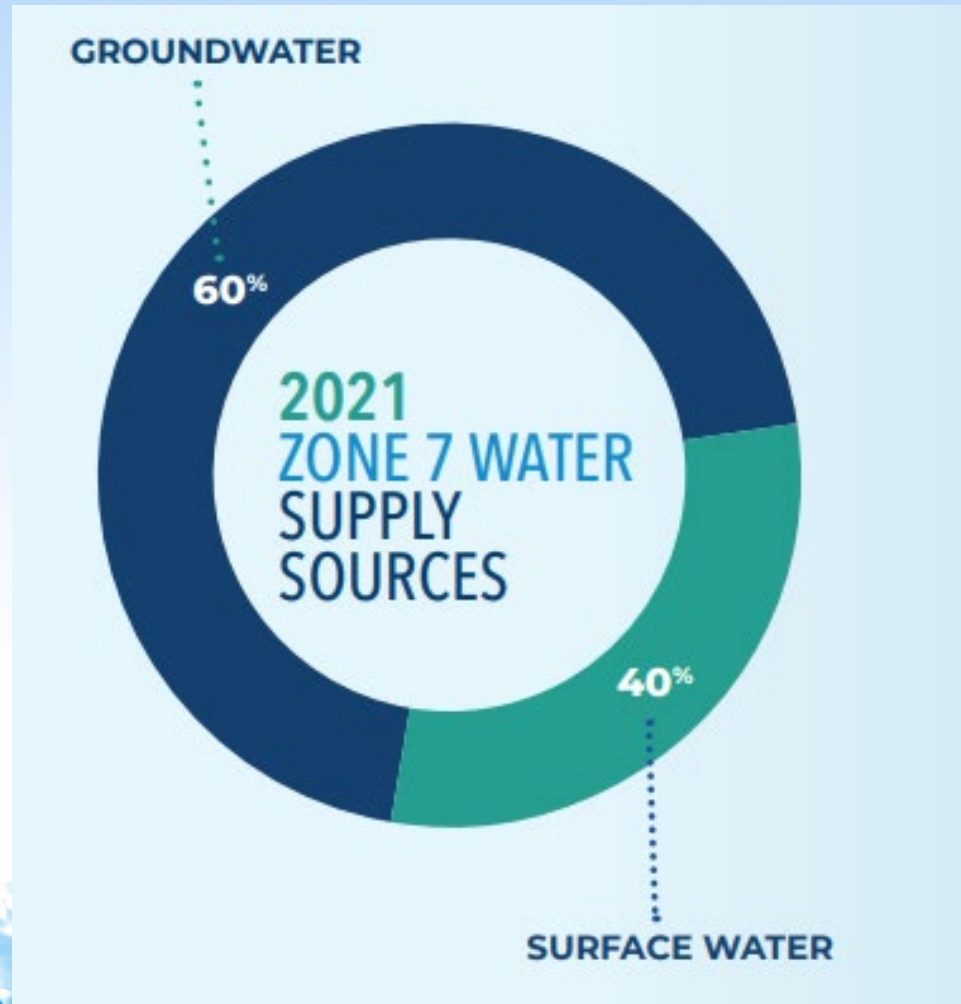


# ZONE 7 WATER SUPPLY





# Zone 7 Water Agency: Source Water Composition



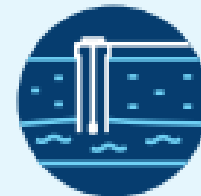
## IMPORTED SURFACE WATER

The majority of our water supply originates as Sierra Nevada snowmelt and is conveyed by the State Water Project through the Delta and then via the South Bay Aqueduct.\*



## LOCAL SURFACE WATER

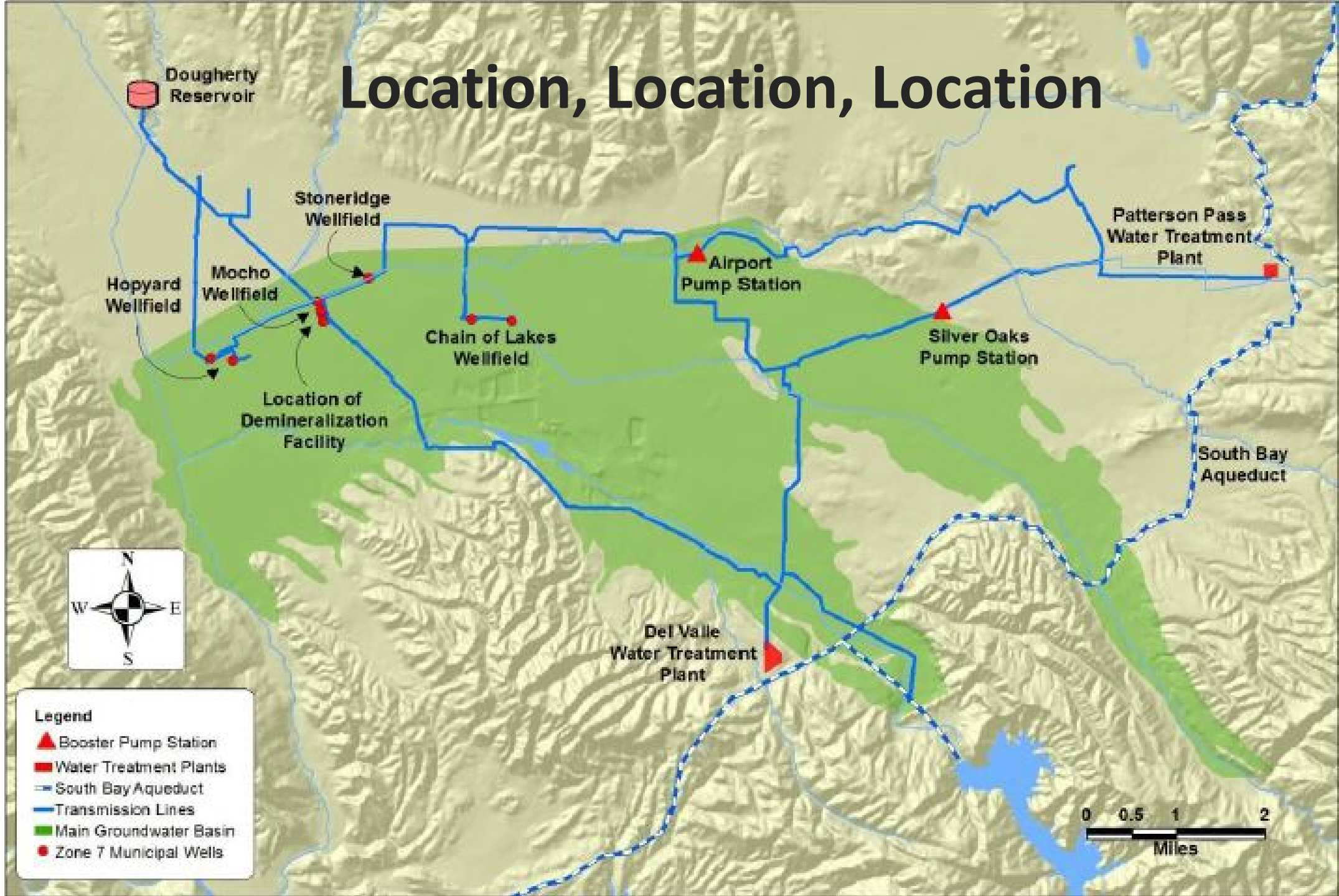
This is comprised of local rain runoff stored in Lake Del Valle.



## GROUNDWATER

This supply, carefully managed by Zone 7, is pumped from the aquifer that underlies the Livermore-Amador Valley; water in the aquifer comes from local rainfall and from strategic recharges made with imported water to ensure access during dry years.

# Location, Location, Location



## WATER SUPPLY SOURCES

Sources	Contaminants (units)				Surface Water	Groundwater		
		MCL	DLR (MRL)	PHG, (MCLG), [MRDLG]				
<b>ADDITIONAL PARAMETERS</b> — Included to assist consumers in making health or economic decisions, i.e. low sodium diet, water softening, etc.								
6	Alkalinity as calcium carbonate (mg/L)	—		—	101	77 - 126	298	228 - 372
6	Boron (µg/L)	—	100	—	240	160 - 500	652	280 - 1230
6	Total Hardness as calcium carbonate (mg/L)	—		—	127	96 - 168	356	278 - 452
6	Potassium (mg/L)	—		—	3.9	3.3 - 4.6	2.0	1.6 - 3.0
6	Sodium (mg/L)	—		—	97	77 - 113	65	30 - 115
	pH (units)	—		—	8.5	8.2 - 8.9	7.5	7.3 - 7.6
6	Silica (mg/L)	—		—	10	5 - 14	26	24 - 28





# Zone 7 Water Quality Policy Goals

1. Meet all state and federal primary Maximum Contaminant Levels (MCLs).
2. Meet all state and federal secondary Maximum Contaminant Levels (MCLs). In addition, within technical and fiscal constraints, proactively mitigate earth-musty taste and odor events from surface water supplies and reduce hardness levels to “moderately hard”, defined as 75 to 150 mg/l Ca CO<sub>3</sub>. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintain consistent disinfectant dosage and residual.
3. Deliver to non-potable Contractors water of a quality that meets the irrigation needs and does not negatively impact vegetation, crops or soil.
4. Work to improve the quality of the groundwater and surface water supplies.

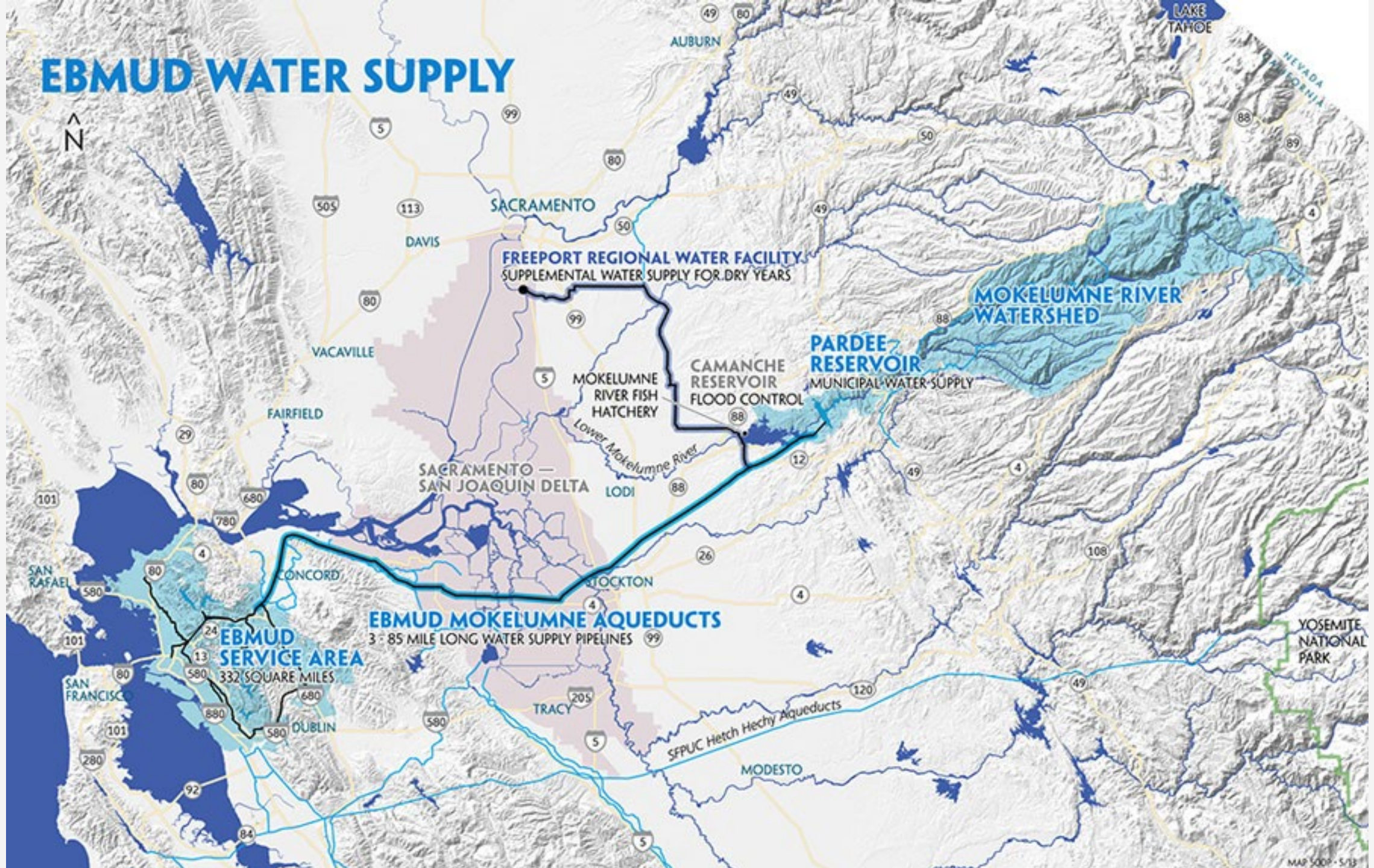


# Water Service Area





# EBMUD WATER SUPPLY



**FREEPORT REGIONAL WATER FACILITY**  
SUPPLEMENTAL WATER SUPPLY FOR DRY YEARS

**MOKELUMNE RIVER WATERSHED**

**PARDEE RESERVOIR**  
MUNICIPAL WATER SUPPLY

**CAMANCHE RESERVOIR**  
FLOOD CONTROL

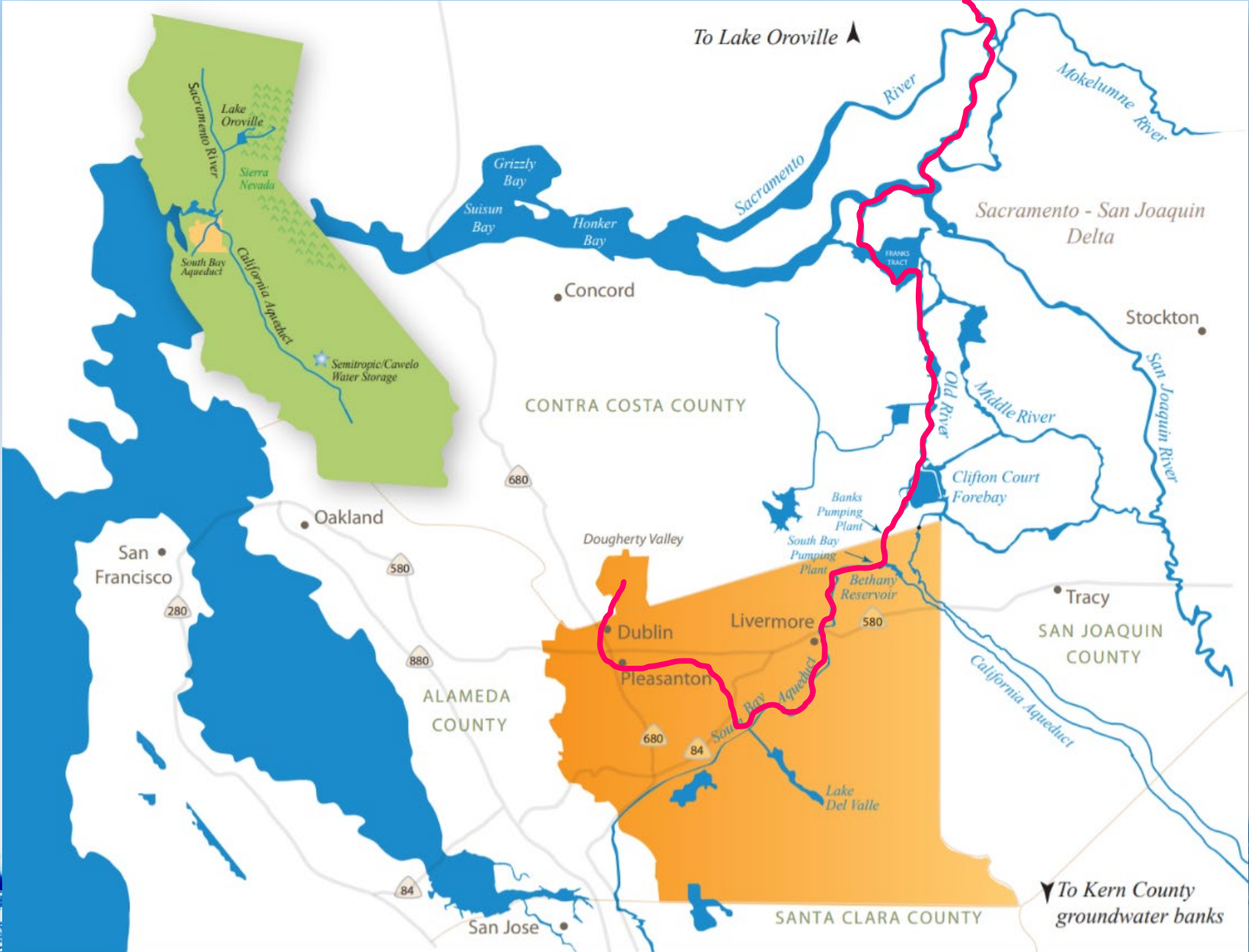
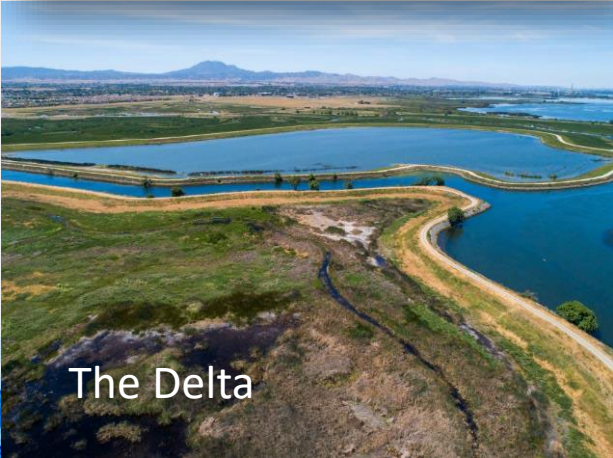
MOKELUMNE RIVER FISH HATCHERY

**EBMUD MOKELUMNE AQUEDUCTS**  
3 - 85 MILE LONG WATER SUPPLY PIPELINES

**EBMUD SERVICE AREA**  
332 SQUARE MILES




# The Long Journey to the Tri Valley





# Comparing EBMUD to DSRSD

 **EBMUD WATER TREATMENT PLANTS**

4 Other parameters of interest to customers <i>(Unit)</i>		Walnut Creek	Lafayette	Orinda	Sobrante	Upper San Leandro
Alkalinity, Total as CaCO <sub>3</sub> (ppm)		22 - 28	22 - 27	22 - 53	61 - 76	97 - 160
Calcium (ppm)		4 - 6	4 - 6	4 - 13	15 - 17	21 - 36
Hardness as CaCO <sub>3</sub>	(gpg) <sup>H</sup>	1	1	1 - 2	4 - 5	8 - 9
	(ppm)	15 - 22	14 - 20	16 - 48	48 - 66	100 - 160
Magnesium (ppm)		1	1	1 - 3	5 - 6	10 - 15
pH (pH)		9.3 - 9.4	9.0 - 9.4	9.1 - 9.4	8.3 - 8.8	8.2 - 8.5
Potassium (ppm)		1	1	1	1	1 - 2
Silica (ppm)		8 - 9	8 - 9	7 - 9	7 - 10	8 - 12
Sodium (ppm)		5 - 7	6 - 7	6 - 14	18 - 23	23 - 32

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Sodium (ppm)		5 - 7	6 - 7	6 - 14	18 - 23	23 - 32	



# Aesthetic Water Quality Improvements

Meet all state and federal secondary Maximum Contaminant Levels (MCLs). In addition, within technical and fiscal constraints, **proactively mitigate earth-musty taste and odor events from surface water supplies and reduce hardness levels to “moderately hard”**, defined as 75 to 150 mg/l Ca CO<sub>3</sub>. Also, Zone 7 shall optimize its treatment processes to minimize chlorinous odors by maintain consistent disinfectant dosage and residual.



# Mocho Well Demineralization



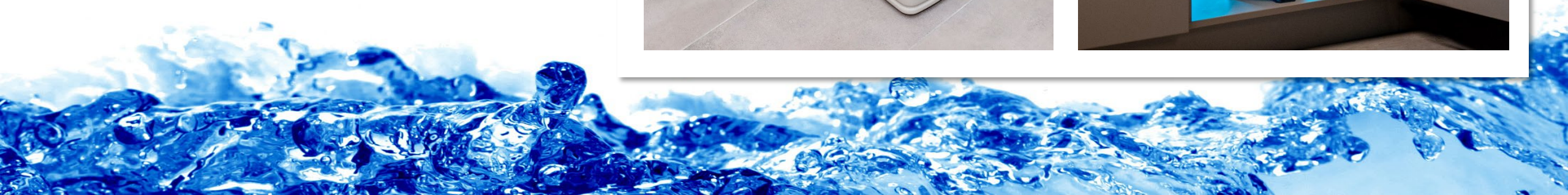
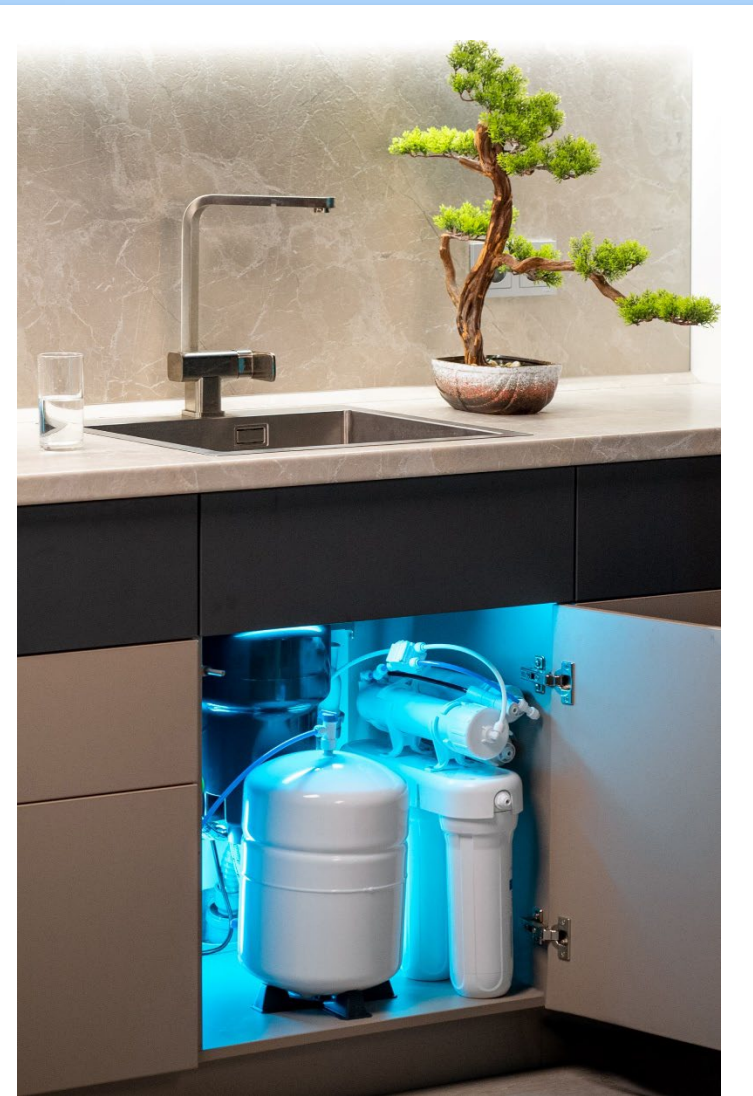


# Ozone Treatment





# Home Treatment







**Questions?**

**<https://www.dsrsd.com/your-account/water-quality>**

