

Water Quality Annual Report 2014

A New Era for Fresno Water



The City of Fresno Department of Public Utilities (DPU) operates and maintains surface water treatment facilities, groundwater recharge facilities, groundwater pumping facilities, water storage reservoirs, and water distribution pipelines, valves, fire hydrants, and water meters. The Department of Public Utilities is responsible for purchasing, treating, and delivering an average of 125 million gallons of water per day (MGD) to approximately 130,000 accounts at single-family residential, multi-family residential, commercial, institutional, and industrial sites.

Where Does Our Water Come From?

For Fresno customers, there are two sources of drinking water. One is derived from the Fresno Sole Source Aquifer, a large underground water system that supplies many communities in the San Joaquin Valley. The city operates approximately 260 wells that draw from this aquifer, which can lower the water table. For this reason,

Fresno has an aggressive recharge program that is continually finding new places and methods to conduct ground water recharge. Water recharge operations can slow this decline, but with conservation, you can help have a greater impact.

The second source is surface water delivered via Fresno Irrigation District canals and comes from either Millerton or Pine Flat lakes located in the foothills east of Fresno. This water is treated to drinking water standards at Fresno's state of the art 30 million gallons a day Northeast Surface Water Treatment Facility.

In response to potential 1,2,3 trichloropropane (TCP) contamination and current groundwater overdraft conditions, the City's Public Utilities Department developed a capital investment plan that implements corrective action. The plan was designed to take full advantage of existing surface water entitlements

at Millerton and Pine Flat Lakes by investing in the infrastructure needed to capture, treat, and deliver the entire amount of surface water already allocated for our community. These ratepayer-funded entitlements, which total 180,000 acre-feet per year during a normal precipitation year, will also allow the groundwater supply to rest,

recharge, and be restored.

As the current water demand for Fresno is approximately 140,000 acre-feet per year, existing surface water entitlements can be used to meet the community's current water demands without exacerbating the environmental and health-related issues associated with decades of over-drafting the region's groundwater supply. The plan includes raw water pipelines to deliver mountain water; a new treatment facility

that will prepare the water for use in the community; and finished water distribution facilities to deliver this water to Fresno's homes, businesses, churches, schools, parks, and restaurants.

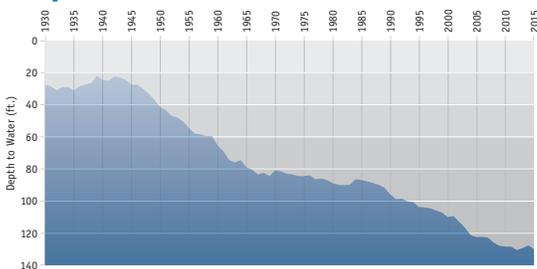
The capital investment plan totals \$429 million

The capital investment plan includes the following categories of projects:

- **Intentional Groundwater Recharge Facilities = \$6.4 million**
- **Raw Water Supply Facilities = \$98.4 million**
- **Surface Water Treatment Facilities = \$186.4 million**
- **Finished Water Distribution Facilities = \$55.4 million**
- **Pipeline and Well Rehabilitation and Replacement = \$82.5 million**

over a five-year period spanning 2015-2019. To complement the proposed plan, the City will allocate approximately \$1.1 million from sources other than ratepayers over a five-year period for continued water conservation programs.

City of Fresno Historical Water Levels



Fresno's water table has dropped more than 100 feet in the past 70 years

What's in This Report?

This Annual Water Quality Report, prepared in cooperation with the California State Water Resources Control Board (State Board) - Division of Drinking Water, provides important information about Fresno's water supply, water quality, and water delivery system. Test results for Fresno's 2014 Water Quality Monitoring Program are summarized on the following pages. It is important to read the messages regarding various water quality issues from the U.S. Environmental Protection Agency (USEPA) and from your City of Fresno Water Division.

Also included are results from unregulated contaminant monitoring that helps USEPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

The tables on pages 4 and 5 list all the drinking water contaminants that were tested for during the 2014 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2014. The State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data contained in this report, though representative of the water quality, is more than one year old.

Facts About Drinking Water Standards

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline (1-800-426-4791).

Under the 1974 Safe Drinking Water Act, the United States Environmental Protection Agency and the California Department of Public Health were charged with the responsibility of setting and implementing safe drinking water standards. Congress reauthorized this act in 1996. There are 74 regulated contaminants and another 34 are subject to monitoring. Fortunately, only a small number have ever been detected in Fresno's water supply.

What happens in Fresno if a well exceeds USEPA or State Board standards?

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. State Board regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

If a well violates standards, it would be removed from service and an alternate water supply is provided. In the event a well exceeds standards but must stay in service, customers who receive water from that well would be directly notified by mail or by hand-delivered flyers.

Notice of Violation

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During 2014, we did not monitor or test the Enterprise Canal – Raw for hexavalent chromium and therefore cannot be sure of the quality of the drinking water during that time.

However, testing was conducted on the treated water on 2/13/2014, 05/06/2014, and 06/20/2014 and the results were all non-detect for chromium.

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.

How Water Quality Affects People

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Nitrate: Nitrate in drinking water at levels above 45 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness; symptoms include shortness of breath and blueness of the skin. Nitrate levels above 45 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Arsenic: While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Fresno is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

www.fresno.gov/water

We're here to help!

You can contact the City of Fresno Water Division by phone, mail or e-mail.

PHONE	MAIL	E-MAIL
Water Division 621-5300	City of Fresno Water Division	information@water.fresno.gov
Water Quality 621-5365	1910 E. University Ave.	
Water Conservation 621-5480	Fresno, CA 93703-2988	

Report Water Waste 621-5480

OPPORTUNITIES FOR PUBLIC DISCUSSION

The public is invited to discuss water quality and other water issues during monthly meetings held at the Water Division. For more information, contact us at 621-5305.

SPEAKER'S BUREAU & TOURS

Need a speaker for your community group, or service club about water issues? Call 621-1610. Tours are also available. Call us at 621-8635.

California Drinking Water Source Assessment and Protection Program

The City of Fresno Water Division and the State Water Resources Control Board, formerly the California Department of Public Health, CaDPH, has completed the California Drinking Water Source Assessment and Protection (DWSAP) Program for water wells operated by the Fresno Water Division. The complete report prepared in 2003 is available for viewing at the Water Division or the State Water Resources Control Board office. Please contact the Water Division at 621-5300 or State Water Resources Control Board at 447-3300 if you are interested in more information regarding this report.

The City operates approximately 260 wells throughout Fresno's 115 sq. mile service area. Given the size and complexity of our system, the DWSAP report is a very large document and even a brief summary would be difficult to include in this Consumer Confidence report. However, two summary data tables are available on the City's website at www.fresno.gov. In the search box type Water Quality Report and you

will automatically be routed to the linking page containing the reports.

The multipurpose goal of the DWSAP is to identify ways communities can protect the water supplies, manage their water resources, improve drinking water quality, inform their citizens of known contaminants, and identify known activities and locations that can threaten their supply, and meet regulatory requirements.

As an example, the following paragraph lists the contaminating activities and sources which can affect Fresno's drinking water.

Airports-Maintenance/fueling areas, Apartments and condominiums, Automobile-Body Shops, Automobile-Gas stations, Automobile-Repair Shops, Boat services/repair/refinishing, Chemical/petroleum processing/storage, Crops, irrigated, Dry Cleaners, Electrical/electronic manufacturing, Fertilizer, Pesticide/Herbicide Application, Golf courses, Historic gas stations, Historic waste dumps/landfills, Home manufacturing,

Hospitals, Housing-high density, Junk/scrap/salvage yards, Known Contaminant Plumes, Landfills/dumps, Machine shops, Metal plating/finishing/fabricating, Medical/dental offices/clinics, Military installations, Motor pools, Office buildings/complexes, Parks, Pesticide/fertilizer/petroleum storage & transfer areas, Photo processing/printing, Plastics/synthetics producers, Railroad yards/maintenance/fueling areas, Rental Yards, Schools, Septic systems-high density, Sewer collection systems, Transportation corridors-Railroads, Underground storage tanks-Confirmed leaking tanks, Utility Stations-maintenance areas, Veterinary offices/clinics, Wastewater treatment plants, Wells-Agriculture/Irrigation, Wells-Water supply.

More information is included in the summary which identifies the affected well(s) and associated activities.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application, and septic systems.
- Radioactive contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities..

Terms and Abbreviations

- n/a: not applicable
- NTU: Nephelometric Turbidity Unit (a measure of light)
- nd: not detectable at reporting limits.
- ng/L: nanograms per liter or parts per trillion.
- ug/L: micrograms per liter or parts per billion
- mg/L: milligrams per liter or parts per million
- pCi/L: picocuries per liter (a measure of radiation)

Maximum Contaminant Level (MCL): 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 are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Public Health Goal (PHG): 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 Environmental Protection Agency.

Primary Drinking Water Standard (PDWS): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Maximum Residual Disinfectant Level (MRDL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): 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.

Regulatory Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.



Table 1: PRIMARY STANDARDS AND UNREGULATED CONTAMINANTS

Chemical Table	MCL	PHG (MCLG)	Fresno Average	Range of Detection's	MCL Violation	Last Sampled	Typical Source of Contaminant
Volatile Organic Contaminants							
cis-1,2-Dichloroethylene (ug/L)	6	100	0.11	0 - 4.8	NO	2014	Discharge from industrial chemical factories; major biodegradation byproduct of TCE and PCE groundwater contamination
1,1-Dichloroethylene (ug/L)	6	10	0.04	0 - 1.9	NO	2014	Discharge from industrial chemical factories
Tetrachloroethylene (PCE) (ug/L) (1)	5	0.06	0.21	0 - 5.8	NO	2014	Discharge from factories, drycleaners, and auto shops (metal degreaser)
Trichloroethylene (TCE) (ug/L)	5	1.7	0.28	0 - 4.1	NO	2014	Discharge from metal degreasing sites and other factories
Synthetic Organic Contaminants							
Dibromochloropropane (DBCP) (ng/L) (2)	200	1.7	3.8	0 - 240	NO	2014	Banned nematocide that may still be present in soils due to runoff/leaching from former use on soybeans, cotton, vineyards, tomatoes, and tree fruit
Ethylene Dibromide (EDB) (ng/L)	50	10	0.1	0 - 27	NO	2014	Discharge from petroleum refineries; underground gas tank leaks; banned nematocide that may still be present in soils due to runoff and leaching from grain and fruit crops
Inorganic Contaminants							
Aluminum (AL) (mg/L)	1	0.6	0.001	nd - 0.13	NO	2014	Erosion of natural deposits; residue from some surface water treatment plants
Arsenic (As) (ug/L) (3)	10	0.004	0.5	nd - 13	NO	2014	Erosion of natural deposits; runoff from orchards; glass and electronics production wastes
Barium (Ba) (mg/L)	1	2	0.041	nd - 0.42	NO	2014	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chromium (Total) (ug/L)	50	(100)	0.707	nd - 19	NO	2014	Discharge from steel and pulp mills and chrome plating; erosion of natural deposits
Hexavalent Chromium (ug/L) (4)	10	0.02	2.429	nd - 8.6	NO	2014	Discharge from electroplating factories, leather tanneries, wood preservation, chemical synthesis, refractory production, and textile manufacturing facilities; erosion of natural deposits
Fluoride (ug/L)	2	1	0.022	nd - 0.21	NO	2014	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate (NO3) (mg/L)	45	45	20	0 - 42	NO	2014	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Perchlorate (ug/L)	6	6	0.013	nd - 3.1	NO	2014	Historic aerospace or industrial operations associated with rocket propellant, fireworks, explosives, flares, matches and a variety of industries.
Radionuclides (5)							
Gross Alpha (pCi/L)	15	n/a	2.51	-0.62 - 9.79	NO	2011	Erosion of natural deposits
Radium 226 (pCi/L)	3	n/a	0.72	-0.12 - 3.84	NO	2007	Erosion of natural deposits
Radium 228 (pCi/L)	5	.019	0.51	0.043 - .074	NO	2011	Erosion of natural deposits
Uranium (pCi/L)	20	0.5	5.89	nd - 16	NO	2007	Erosion of natural deposits
Unregulated Contaminants (ICR, UCMR & Misc)							
1,4-Dioxane	n/a		0.017	nd - 74	n/a	2014	We are required by regulations to monitor for certain unregulated contaminants. This is helpful to the USEPA and CDHS for tracking the location of contaminants and whether there is a need for stricter regulations. Several contaminants indicate detected values with a "<" symbol meaning less than. There are two possible reasons for this. First, the Detection Limit for Reporting, DLR, has not been established by EPA or CDHS. Second, for various reasons, the analytical equipment is unable to quantify the value below the stated "less than" value but analysis indicates the contaminant is present. For either reason, the concentration cannot be quantified and the City must assume that a "Fresno Average" is not applicable for this report.
Hexavalent Chromium (ug/L) (6)	n/a	2.248	nd - 13	n/a	2014		
Dichlorodifluoromethane (Freon 12)	n/a	0.403	nd - 29	n/a	2014		
Trichloropropane (1,2,3-TCP) (7)	0.0007 ug/L (PHG)	0.001	nd - 0.069	n/a	2014		
Tert-Butyl Alcohol (TBA)	n/a	0.011	nd - 2.9	n/a	2014		
Vanadium (total)	n/a	11	nd - 71	n/a	2014		
Bromochloromethane	n/a	0.001	nd - 0.79	n/a	2014		
Chlorate	n/a	204	nd - 970	n/a	2014		
Chlorodifluoromethane	n/a	0.085	nd - 3.8	n/a	2014		
Molybdenum (total)	n/a	0.9	nd - 7.1	n/a	2014		
Strontium (total)	n/a	97	nd - 510	n/a	2014		
Disinfection Byproducts, Disinfectant Residuals, and Disinfection Byproduct Precursors							
Total Trihalomethanes (TTHM) (ug/L)	80	n/a	4.4	nd - 16	NO	2014	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ug/L)	60	n/a	0.9	nd - 4.5	NO	2014	Byproduct of drinking water chlorination
Chlorine (NAOCL) (mg/L)	4	4	0.80	nd - 1.9	NO	2014	Drinking water disinfectant added for treatment

- (1) Tetrachloroethylene (PCE): PS 284 located near Barstow and Maroa is being monitored monthly. For 2014, the average concentration of 2.9 ug/L has remained below the MCL of 5 ug/L. However, there have been a few individual results exceeding the MCL including a 5.8 ug/L result from May 2014. Determination as to whether a well exceeds an MCL for non-acute contaminants such as PCE is based on a running average for a prescribed period of time. Therefore a well may have several results above the MCL yet still meet drinking water standards. Some people who use water containing PCE in excess of the MCL over many years may experience liver problems, and may have an increased risk of getting cancer.
- (2) Dibromochloropropane (DBCP): PS 184 located in SE Fresno is an active DBCP treatment site. In late December an operator mistakenly mislabeled samples collected from the site which resulted in a delay for timely results. By time the issue was corrected, the effluent results was 0.24 ug/L, technically below the MCL when rounding is factored in. In addition, two wells in SE Fresno, PS 182-1 and 100-2 contain DBCP close to the MCL. Both wells are being monitored monthly to determine compliance with the MCL and both are currently averaging below the MCL for 2014, though a few samples exceeded the 0.2 ug/L MCL. Determination as to whether a well exceeds an MCL for non-acute contaminants such as DBCP is based on a running average for a prescribed period of time. Therefore a well may have several results above the MCL yet still meet drinking water standards. Some people who use water containing DBCP in excess of the MCL over many years may experience reproductive problems and may have an increased risk of getting cancer.
- (3) Arsenic: PS 135B located in SE Fresno near Armstrong and Butler has had two single detections that exceed 10.0 ug/L. The MCL for Arsenic is based on a four quarter running average. The average is calculated every three months using the current and three previous test results from each quarter. The well did not exceed the MCL for 2014. Some people who drink water containing arsenic in excess of the MCL over many years may experience skin damage or circulatory system problems, and may have an increased risk of getting cancer.
- (4 & 6) Hexavalent Chromium is a regulated contaminant in the State of California but is not regulated at the federal level. In 2014, the city conducted three sample events for Chromium VI; one for state compliance and two for the federal UCMR 3 program. The test results for State compliance did not exceed the MCL of 10 ug/L, however, there were two results from the February UCMR event that were greater than the State MCL. The sample locations and testing methods differ between the two requirements and are not an equal comparison. Both sets of test results are included in this report. Some people who drink water containing hexavalent chromium in excess of the MCL over many years may have an increased risk of getting cancer.
- (5) RADIONUCLIDES, including Gross Alpha, Uranium, Radium 226 and Radium 228 are sampled on various schedules depending upon the results for previous samples. The well may be sampled as often as every three years but no longer than nine years. Compliance is based on the average of four quarters. Several well sites had samples that exceeded the MCL for a specific sample date. Some people who drink water containing these constituents over many years may have an increased risk of getting cancer.
- (7) Trichloropropane (1,2,3-TCP): The USEPA periodically requires utilities to conduct monitoring of unregulated contaminants such as 1,2,3-TCP which has been detected in 29 Fresno wells in 2014. The State of California has created a regulatory notification level of 0.005 ppb which is also the detection limit for reporting. The City continues monitoring of the affected wells while the State Water Resources Control Board continues development of stricter regulations. Some people who use water containing 1,2,3-Trichloropropane in excess of the notification level over many years may have an increased risk of getting cancer, based on studies in laboratory animals.

Table 2: MICRO BIOLOGICAL CONTAMINANTS

Over 220 bacteriological samples are collected every month in Fresno's distribution system. In addition, over 300 bacteriological samples are collected from wells and treatment sites.

Contaminant	Highest No. of Detection's	No. of Months in Violation	MCL	MCLG	Typical Source of Bacteria
Total Coliform Bacteria	2 of 245 or .08%	0	5%	(0)	Naturally present in the environment
E.coli	0	0	A routine sample is positive for E.coli and a repeat sample is positive for total, fecal or E.coli bacteria	(0)	Human or animal fecal waste

Table 3: LEAD AND COPPER

Lead and Copper samples are collected from wells, the distribution system and from inside residences.

Contaminant	No. of Samples Collected	90th Percentile Level Detected	No. of Sites Exceeding Action Level	Action Level	MCLG	Typical Source of Contaminant
Lead (ug/L) (Sampled in 2012)	54	0	0	15	0.2	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper mg/L) (Sampled in 2012)	54	0.19	0	1.3	0.3	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives

Table 4: SECONDARY STANDARDS CONTAMINANTS LIST

Secondary standards are based on aesthetic factors (taste, appearance and odor, etc.) and are not health related.

Inorganic Contaminants	MCL	Fresno Average	Range of Detection's	SMCL Violation	Last Sampled	Typical Source of Contaminant
Aluminum (ug/L)	200	0.001	nd - 130	NO	2014	Erosion of natural deposits; residual from some surface water treatment processes
Apparent Color (Unfiltered)	15	5	nd - 5	NO	2014	Naturally-occurring organic materials
Iron (Fe) (ug/L) (8)	300	52	nd - 7900	NO	2014	Leaching from natural deposits; industrial wastes
Manganese (Mn) (ug/L) (9)	50	4.3	nd - 210	NO	2014	Leaching from natural deposits
Odor Threshold	3 units	0.03	nd - 1.5	NO	2014	Naturally-occurring organic materials
Sodium (Na) (mg/L)	n/a	21	nd - 76	NO	2014	
Specific Conductance (E.C.) (umho/cm+)	1600	322	nd - 880	NO	2014	Substances that form ions when in water; seawater influence
Sulfate (SO4) (mg/L)	500	12	nd - 79	NO	2014	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS) (mg/L)	1000	234	nd - 580	NO	2014	Runoff/leaching from natural deposits
Total Hardness (as CaCO3) (mg/L)	n/a	122	nd - 410	NO	2014	
Turbidity (Lab) (units)	5	0.132	nd - 3	NO	2014	Soil runoff
Zinc (Zn) (mg/L)	5	0.001	nd - 0.17	NO	2014	Runoff/leaching from natural deposits; industrial wastes

(8) Iron: Two wells had results that exceeded the Secondary MCL for Iron and confirmation results are pending. Iron is not a health related contaminant but may cause discoloration and staining of appliances, fixtures and clothing.

(9) Manganese: PS 135B had several detections above the Secondary MCL for Manganese while monitoring for SMCL compliance. The well has confirmed above the MCL. The well is currently offline and a treatment system is being designed for the site.

Table 5: TURBIDITY IN NORTH EAST FRESNO RELATED TO SURFACE WATER TREATMENT PLANT OPERATIONS

	MCL	MCLG	Level Found	Range	Sample Date	Violation	Typical Source
Turbidity (NTU)	TT = 1 NTU	n/a	0.141	n/a	1-Jul-14	n/a	Soil runoff
	TT = 95% of samples <0.3 NTU		100%		Continuous	n/a	

Turbidity is a measurement of the cloudiness of the water determined by the ratio of the intensity of light scattered by the sample to the intensity of incident light. We monitor it because it is a good indicator of the effectiveness of our filtration system.

CONSERVATION

After four consecutive years of drought, Governor Jerry Brown did something no California governor had ever done – impose mandatory water-use reductions throughout the state. Of all the droughts this state has faced, it has never come up against a sustained drought this severe. In order to successfully navigate this drought, Fresno water customers need to dig deeper to conserve in ways most have never even considered. Lifestyle changes are certainly going to be required of everyone if we have any chance of meeting the State of California's 28% water reduction mandate.



The Incredible Shrinking Turf

Fresno's suburban landscape has often been identified by its lush, green lawns. Unfortunately, some green lawns are not suitable to this climate, as they require an incredible amount of water. The single biggest water hog for most Fresno families is a high-water use turf lawn – which is why it makes sense to make the switch to a more water-wise landscape.

Kick Your Lawn Mower to the Curb

The good news is that you can eliminate the hassle and pollution of mowing and have a beautiful water-conserving garden that requires little maintenance, simply by shrinking or eliminating your lawn and choosing alternative lawn options. Lawn alternatives are plentiful and include colorful and interesting water-conserving perennials and ground covers, as well as pavers, mulches, sitting areas, and objects of art.

Start Small, Save Big

Of course, if you're uncomfortable with the idea of doing away with your entire lawn all at once, you can always start with a mowing strip, side patch of lawn, or a portion of your main lawn. By starting small and working in stages, you'll get a better idea of what replacing your lawn will be like and you'll still be able to reap some of the savings that comes with less watering.

Seek and You Shall Find

To find alternatives to lawn, visit one of the many available online resources. On our own site, fresno.gov/water, you'll find downloadable brochures on the literature page of the conservation section. In addition, a local site, fresno.watersavingplants.com, is a wonderful resource filled with local landscape pictures, garden galleries, and tips.



Other Ways To Help: Summer is a heavy water-use time. You can help alleviate the burden on our community's water system by following these simple guidelines:

Timing it Right

If setting your automatic watering timer is giving you trouble, Water Conservation can help! As a courtesy to our customers, we will come to your home and show you how to adjust your automatic water timer FOR FREE. By having your automatic water timer set correctly to the City's outdoor watering schedule, you'll save both energy and water.

Keep Odd Hours

If you prefer to set the timer yourself, remember to set it for your watering days and "off the hour" (3:45 a.m., 4:37 a.m., 5:11 a.m.) to alleviate the heavy burden put on our water supply at "on the hour" times.

Stay Leak Free

Call and make an appointment today for a FREE water leak survey by our landscape specialists. Finding and repairing leaks will help you save money and water!

NO RAIN/NO DRAIN

Aside from structural repairs or to comply with public health standards determined by the County Health Officer, the draining of swimming pools more than once every three years is strictly prohibited by Fresno Municipal Code (Sec 6-520(c)(5)). If you do qualify and need to drain your pool, click on Permits at www.fresno.gov/water to apply or call 621-5480.

To requests these services, email: waterconservation@fresno.gov or call 621-5480.

OUTDOOR WATERING SCHEDULE

NO WATERING IS ALLOWED ON MONDAYS, THURSDAYS OR FRIDAYS

SPRING/SUMMER
May 1 - November 30

WINTER
December 1 - April 30

ODD Numbered Addresses:
(Ending in 1, 3, 5, 7, 9)

ODD Numbered Addresses:
(Ending in 1, 3, 5, 7, 9)

Tuesdays and/or Saturdays

Saturdays Only

EVEN Numbered Addresses:
(Ending in 0, 2, 4, 6, 8)

EVEN Numbered Addresses:
(Ending in 0, 2, 4, 6, 8)

Wednesdays and/or Sundays

Sundays Only

No Watering between 9AM and 6PM

Rebates

The City offers rebates for WaterSense toilets, clothes washers, sprinkler nozzles, lawn to garden conversion and much more. Click on \$Rebates at www.fresno.gov/water for rebate applications.



For other water conservation tips, go to www.saveourh2o.org