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New State Data: Toxic 'Forever Chemicals' Widespread in California Drinking Water Sources

## TOXIC 'FOREVER CHEMICALS' DETECTED IN DRINKING WATER SUPPLIES ACROSS CALIFORNIA

Drinking water sources for 74 community water systems serving 7.5 million Californians are contaminated with the highly toxic fluorinated chemicals called PFAS, according to an Environmental Working Group review of the latest state data.

Very low doses of PFAS chemicals in drinking water have been linked to an increased risk of cancer, reproductive and immune system harm, liver and thyroid disease, and other health problems. All of the detections in California water systems' sources exceeded 1 part per trillion, or ppt, the safe level recommended by the best **independent studies** and endorsed by EWG.

More than 40 percent of the systems had at least one sample with a level of total PFAS over 70 ppt, the U.S. Environmental Protection Agency's inadequate **lifetime health advisory level** for the two most notorious fluorinated chemicals, PFOA and PFOS. In addition to those two compounds, some California water systems detected up to six other PFAS chemicals.

Among the utilities with high maximum detections of PFAS in drinking water sources was the system for the southern part of Camp Pendleton, the sprawling Marine Corps base in San Diego County, where a combined

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More than 578 ppt of eight PFAS chemicals was detected this year in a well of the City of Corona water system, and more than 450 ppt of six PFAS in a well of the California Water Service Company system for Oroville. In 2017,



The water systems conducted the tests between 2013, when the EPA ordered **one-time nationwide sampling** for PFAS, and this year, as the **state moves toward establishing its own health advisory levels** for the two PFAS compounds covered by the EPA's advisory.

EWG's list shows not the current level of contamination in customers' tap water, but rather the extent of contamination in drinking water sources identified since 2013. Maximum detection levels reported to the California State Water Board and the EPA are a snapshot of what was in the water when it was tested, not necessarily what is coming out of taps now.

Water systems may have taken contaminated wells offline, blended water from contaminated wells with cleaner sources, or installed water treatment to reduce PFAS levels. For example, Camp Pendleton's **2017 water quality report** stated that after one sample that year exceeded the EPA's advisory level for PFOA and PFOS, the affected well was shut down.

But mitigation efforts do not make the problem go away. The costs of mitigating high PFAS levels are borne by the utility and often passed on to customers, and systems face challenges finding alternate sources of water when a source is shut down. At a time when clean water supplies in the state are at a high premium, communities all across California are affected by the PFAS contamination crisis.

The earlier EPA-mandated tests had confirmed PFAS contamination in the tap water of 27 California water systems. The new detections reported to the state increase the number of California water systems with confirmed PFAS detections to 74. The water board recently **ordered** additional testing for some PFAS in water near airports, landfills and locations where PFAS were previously found.

PFAS contamination has been found in **more than 800 communities, military bases**, airports and industrial sites nationwide. EWG's analysis of unreleased EPA-mandated test data estimates that more than **100 million** Americans may have PFAS in their drinking water. Because PFAS are "forever chemicals" that never break down once released into the environment, they build up in our blood and organs. According to the federal **Centers for Disease Control and Prevention**, virtually all Americans have PFAS in their blood.

The EPA has not set a national legal limit for PFAS in drinking water supplies, only the non-enforceable and inadequate lifetime health advisory. Neither has California, despite **calls** to do so from EWG and more than two dozen other environmental and public health organizations.

The water board has asked the state Office of Environmental Health Hazard Assessment, or OEHHA, to develop public health goals for PFOA, formerly used to make DuPont's Teflon, and PFOS, formerly an ingredient in 3M's Scotchgard. The water board says regulations for other PFAS chemicals may be considered later.

While the state works toward developing health benchmarks for PFOA and PFOS, **OEHHA has recommended** that community water systems inform their customers if the levels of those chemicals exceed health-based notification levels, which it says should be set at "the lowest levels at which PFOA and PFOS can be reliably detected in drinking water."

OEHHA's recommendation to report all detections is based on a science review of pancreatic and liver cancer in animals, indicating that a concentration protective from a one in one million cancer risk over a lifetime is at or

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recommended – 5.1 ppt for PFOA and 0.5 ppt for PFOS.



Despite the health risks of PFAS, there are no state or federal legal limits on releases of these chemicals into the environment or legal requirements to clean up legacy contamination.

Military and civilian firefighters continue to use PFAS firefighting foams that seep into drinking water supplies. Because these foams have been used for decades, **hundreds of military installations** are contaminated. Manufacturers continue to discharge PFAS into the air and water. Nearly **500** facilities nationwide are suspected of releases of PFAS chemicals, but these manufacturers are not subject to any environmental or reporting **requirements**. There is no federal requirement for water utilities to remove PFAS from tap water, or even test for PFAS in water.

Because PFAS have not been designated as “**hazardous substances**” under the federal Superfund law, PFAS manufacturers are not required to clean up legacy PFAS contamination – even though companies like **3M** and **DuPont** knowingly released PFAS chemicals for decades. Internal company documents **show** that manufacturers knew of the risks PFAS chemicals posed to their own workers and neighboring communities but failed to tell regulators.

Congress may soon adopt PFAS reform provisions included in the House and Senate versions of a must-pass defense spending bill, the National Defense Authorization Act for FY 2020, including provisions to:

- Quickly end military uses of PFAS in firefighting foam and food packaging.
- Reduce industrial discharges of PFAS into drinking water supplies.
- Remediate sites with the worst PFAS contamination.
- Expand PFAS monitoring and reporting.

Congress is stepping up because President Trump’s Environmental Protection Agency and the Department of Defense have refused to act. Earlier this year, the Trump administration proposed a **PFAS “action plan”** too weak and toothless to address the growing contamination crisis.

System Name, Location	Population	Maximum PFAS Sample Result (parts per trillion), Year, Source	PFAS Detected	Detections/Samples
Camp Pendleton (South)	39,400	820.8 2017 Well 330925	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	162/207
City of Corona	155,896	578.4 2019 Well 17a	PFBS, PFDA, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	112/228
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Cal-Water Service Company, Oroville	9,427	451.8	PFBS, PFHpA, PFHxA,	6/7



California American Water Company – Suburban, Rosemont	111,768	404 2017 Nut Plains	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	40/87
City of Pleasanton	73,067	258.9 2019 Well 08	ADONA, PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	8/16
Zone 7 Water Agency, Pleasanton, Livermore, Dublin	40	235.4 2019 Mocho Well 01	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	23/29
California Water Service, Visalia	135,923	225 2014 EP #77: VIS-W-077-01-CL	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	4/88
Santa Clarita Water Division	120,900	197.5 2019 Valley Center Well	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	5/30
Sierra Army Depot, Herlong, Patton Village	1,500	150.5 2018 Well 8 — Raw	PFBS, PFHpA, PFHxS, PFOA	6/8
City of Anaheim	450,000	132.1 2019 Well 046 072	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	27/55
Valencia Water Company	117,251	121.6 2019 Well S-7	PFBS, PFDA, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	14/50

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Well 01 PFOS



Cal-water Service Company, Chico	100,435	118 2014 EP #127: CH- W-007-04-CL	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	27/123
City of Lathrop	12,427	115 2019 Well 09	PFBS, PFHxS, PFOA, PFOS	9/16
Serrano Water District, Villa Park	6,641	111 2019 Well 05 011	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	4/4
City of Garden Grove	170,883	110.7 2019 Well 028	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	16/37
East Orange County Water District	3,000	103.3 2019 West Well	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	4/4
California Water Service Company – East Los Angeles	150,446	94.7 2019 Well 38-02	PFBS, PFDA, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	10/32
City of Fullerton	138,251	90.9 2019 Well 03a	PFBS, PFHxA, PFHxS, PFOA, PFOS 12 32	
City of Commerce Water Department	3,828	90.4 2019 Gac Treat For Well 04I Efflu	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	2/2

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Atascadero Mutual Water Company	30,332	89.5 2019	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA,	8/15
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Montebello City Water Department	6,962	2019 Montebello Well 01	PFBS, PFDA, PFHPA, PFHxA, PFHxS, PFNA, PFOA, PFOS	2/2
Montebello Land & Water Company	32,219	86.4 2019 Well 07	N-EtFOSAA, PFBS, PFHxS, PFOA, PFOS	18/20
Camp Pendleton (North)	15,600	83.4 2019 Well 620620	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	67/81
Pico Rivera Water Department	39,000	82 2014 EP #26: Well 7 Treated	PFBS, PFHxA, PFOA, PFOS	23/34
Liberty Utilities, Bellflower, Norwalk	72,884	76.9 2019 Well 28-b	PFHxS, PFOA, PFOS	7/15
Downey Water Department	111,930	75 2019 Well 02 (old Well 08)	PFBS, PFHxA, PFHxS, PFOA, PFOS	5/12
Irvine Ranch Water District	370,000	74.8 2019 Well Opa-1	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	2/32
Elsinore Valley Municipal Water District, Lake Elsinore, Canyon Lake, Wildomar	142,264	73.8 2019 Canyon Lake Wtp - Treated	PFBS, PFDA, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	7/19

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		2019 Well 26	PFHxA, PFHxS, PFOA, PFOS	
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			Well 05	
Friendly Acres Mobile Home Park, Red Bluff	75	67.6 2019	Well 01	PFHpA, PFHxA, PFHxS, PFOA, PFOS 1/1
Orchard Dale Water District, La Mirada	22,492	66 2014	EPTDS from Mills	PFOA, PFOS 1/4
Bakman Water Company, Sunnyside	8,866	65.5 2019	Well 07	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS 4/6
Rubidoux Community Service District	26,150	63 2019	Well 04 - Old Skotty	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS 3/9
Golden State Water Company, Norwalk	44,466	58.9 2019	Imperial Plant - Combined-effl	PFBS, PFHxA, PFHxS, PFOA, PFOS 2/13
City of Stockton	171,687	49.8 2019	Well Sss8	PFBS, PFDA, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS 2/43
Monterey Park Water Department	62,183	49 2019	Well 05	PFOA, PFOS 4/13
		49 2019		PFBS, PFHxA, PFHxA

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Mills R



City of Adelanto	31,765	47 2019 Well 04	PFHxS	1/7
City of Santa Ana	329,815	42.8 2019 Well 38	PFBS, PFHxA, PFHxS, PFOA, PFOS	2/32
Higuera Apartments, San Luis Obispo	30	40.3 2019 Well 01	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	1/1
Central Basin Municipal Water District, Los Angeles	0	37.8 2019 Well Cb-1	PFBS, PFOA, PFOS	4/4
California Water Service, Livermore	56,700	37.6 2019 Well 19-01	PFHpA, PFHxS, PFOA, PFOS	1/19
Ontario Municipal Utilities Company	167,382	33.8 2019 Well 25	PFBS, PFHpA, PFHxA, PFHxS, PFOA	1/70
Buena Vista Migrant Center, Watsonville	455	32.9 2019 Well #1	PFBS, PFOA, PFOS	1/1
San Jose Water Company	998,000	26.3 2019 Williams Well 15	PFBS, PFHxS, PFNA, PFOA, PFOS	47/118

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2015



City of Clovis	103,871	25.4 2019 Well T-06 - Raw	PFBS, PFHpA, PFHxA, PFHxS, PFNA, PFOA, PFOS	11/82
South Montebello Irrigation District	9,574	25 2019 Well 05	PFOA, PFOS	3/3
City of San Juan Capistrano	40,000	21 2015 EP #14: NOS	PFOA	1/10
Stonegate Mobile Home Park, Larkfield	100	20.7 2019 Main Well	PFBS, PFHpA, PFHxA, PFHxS, PFOA, PFOS	1/1
City of Sacramento Main	486,189	19 2019 Well 139	PFOA, PFOS	3/23
City of Riverside	303,871	18.6 2019 7th & Chicago - Distribution	PFBS, PFHxA, PFHxS, PFOA, PFOS	2/4
Afuera De Chorro Water Company, San Luis Obispo	75	16.3 2019 Well 15	PFBS, PFHxS, PFOA, PFOS	1/1
Bellflower Somerset Mutual Water Company	46,000	15 2019 Well 587	PFOS	1/16

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Secondary  
Well



		Kelsey Drive Well	PFOA, PFOS	
City of Rialto	48,623	12.1 2019 Rialto Well 05	PFBS, PFHpA, PFHxA, PFHxS, PFOA	1/19
Santa Clara Valley Water District, Santa Clara County	0	11.9 2018 W Campbell Ave - Well B	PFHxA, PFHxS, PFOA, PFOS	4/6
San Lorenzo Valley Water District, Boulder Creek, Brookdale, Forest Park	21,145	8.4 2019 Quail Hollow Well 05a - Raw	PFBS, PFOS	1/20
City of Redding	91,207	6.9 2019 Enterprise Well 08	PFHxS, PFOS	2/36
City of Anderson	11,127	6.6 2019 Well 08 -rhyne Well	PFBS, PFOS	1/22
Sacramento County Water Agency – Arden Park Vista	9,841	6.4 2019 Well 02 - Tolenas – Raw	PFHxS, PFOA, PFOS	1/2
Castaic Lake Water Agency, Santa Clarita	0	6 2019 Saugus Well 01	PFHxS, PFOS	1/2
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California Water Service – North Garden	24,167	5.5 2019	PFHxA, PFHxS, PFOA, PFOS	1/19



Coachella VWD No. 11, Desert Shores, Salton Sea Beach, Salton City	5,442	5.2 2019 Well 8995-	PFBS, PFHxA	1/3
Marina Coast Water District	31,218	5.2 2019 Well 29 (a)	PFHxA	2/15
Glendale Water Department	195,799	3 2019 Gou Blended Effluent From Gran	PFHxA	2/14
Tucker Oaks East Water District, Anderson	105	2.7 2019 Well 01 - Raw	ADONA	1/1
Long Beach Water Department	470,292	2.6 2019 Alamitos Well 08	ADONA	1/19
City of Fresno	522,352	1.1 2019 Well 199 - Raw	PFOS	1/390

**DISCLAIMER:** This table presents data from the **California State Water Board** and the **U.S. Environmental Protection Agency** analyzed by EWG. EWG has worked to ensure the accuracy of the information provided. EWG does not accept responsibility for the specific test results reported to the agencies. The source descriptions (Column 3) are taken directly from agency documents.

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