# A G E N D A

## REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE
# LAKESIDE WATER DISTRICT

**May 5, 2026**

Meeting Place: Lakeside Water District; 10375 Vine Street
Lakeside CA 92040; **5:30 p.m**.

**Assistance for those with disabilities:** If you have a disability and need accommodation to participate in the meeting, please call Brett Sanders, General Manager, at (619) 443-3805 for assistance so the necessary arrangements can be made.

1. Call to Order

2. Prayer/Invocation

3. Pledge of Allegiance

4. Approval of the Agenda

5. Opportunity for Public Comment Pertaining to Items Not on the Agenda (Items must meet the requirements of Government Code Section 54954.2)

6. Approve Minutes of a Regular Meeting held on April 7, 2026.

7. Review the March 2026 Treasurers Report for the Annual Audit. Request to Note and File in Preparation.

8. Operations Report. Johnze

9. Consider Approval of a Proposal for the District to Work with a Municipal Advisor to Secure Funding for the Yerba Valley Annexation Project. Sanders

10. Discuss the Current Options of Funding for the Yerba Valley Annexation Project. Sanders

11. Set Public Hearing Date of June 2, 2026 for the 2025 Urban Water Management Plan Review. Sanders

12. Review Lakeside Water District Board of Director’s PFAS Initial Monitoring Results Exceedance Notification Letter. Sanders

13. Approve Demands of the Treasurer for April 2026.

14. CWA Report

15. Director's Reports and/or Ad Hoc Sub-Committees Reports if needed.

16. General Managers' Report.

17. Closed Session Item – Anticipated Litigation (54956.9 (e)(1)) - One Case.

18. Adjourn; Next Regular Meeting to be held on June 2, 2026.

**PUBLIC COMMENT PROCEDURES**

Members of the public will be allowed to address the Board on any agenda item prior to the Board's decision on the item. They will also be allowed to comment on matters not on the posted agenda, which are under the subject matter jurisdiction of the district. No action may be taken by the board except to set the matter presented for the next regular board meeting if proposed by the board. State your name, topic and provide the secretary with a request to speak form, so you can be properly included in the comment period. Comments are limited to 3 minutes and the board is not required to comment on the topic.

**CERTIFICATE OF POSTING**

I certify that on May 1, 2026, I posted a copy of the meeting agenda and any public records relating to items on the agenda and that they are available for public inspection at the time the record is distributed to all, or a majority of all members of the board. Such records shall be available at the district office located at 10375 Vine Street, Lakeside, California, or on the district's website at LakesideWater.org.

Agendas are posted at least 72 hours in advance of a regular meeting, or 24 hours in advance of a special meeting of the Board of Directors, near their regular meeting place, and as per Government Code Section 54954.2(a)(1) and 54956(a).

________________________________________

Brett Sanders, General Manager / Board Secretary

**MINUTES OF A REGULAR MEETING OF THE BOARD OF DIRECTORS OF THE LAKESIDE WATER DISTRICT HELD ON April 7, 2026**

At the time and place provided by law for the holding of a Regular Meeting of the Board of Directors of the Lakeside Water District; to-wit at the meeting place of said Board at 10375 Vine Street, Lakeside, California, at 5:30 p.m. the Board duly convened, the following members present.

| | |
|---|---|
| Directors: | Frank Hilliker<br>Pete Jenkins<br>Steve Johnson<br>Eileen Neumeister<br>Steve Robak |
| Secretary: | Brett Sanders |

1) Call to Order by Board President Neumeister

2) Prayer/Invocation – Pastor Marshall Master provided the prayer for the night's meeting.

3) Pledge of Allegiance was led by Director Johnson.

4) Approval of Agenda. Motion by Director Hilliker to accept the agenda as submitted.

Motion: Hilliker    Second: Robak

| Vote: | | | |
|---|---|---|---|
| | Ayes | 5 | Hilliker, Jenkins, Johnson, Neumeister, Robak |
| | Noes | 0 | |
| | Abstain | 0 | |
| | Absent | 0 | |

5) Opportunity for Public Comment Pertaining to Items Not on the Agenda (Items must meet the requirements of Government Code Section 54954.2). None

6) Approve Minutes of a Regular Meeting held on March 10, 2026. Motion by Director Robak to approve the minutes as presented.

Motion: Robak    Second: Jenkins

| Vote: | | | |
|---|---|---|---|
| | Ayes | 5 | Hilliker, Jenkins, Johnson, Neumeister, Robak |
| | Noes | 0 | |
| | Abstain | 0 | |
| | Absent | 0 | |

7) Review the February 2026 Treasurers Report for the Annual Audit. Request to Note and File in Preparation. Approved to Note and File.

8) Operations Report. Superintendent Johnze reported the following.
- EOS Building Updates; Concrete is complete, interior is complete, need to set bathroom fixtures.

- Asphalt Overlays throughout the District
- SCADA improvements. Working on repairs and upgraded the both the Lakeside Service Area and Riverview Service Areas. Trying to merge into one system.
- Improved treatment testing methds and training. Purchased a new multi water quality test device that saves time, buy calculating multi results with one device. Less reagent chemicals.
- RiverRun East 2 – Contractor completing final 300 LF of main installation.
- River Street, City of San Diego Pump Station Project. Met to approve materials for future water main re-installation.
- One new fire hydrant and a 1" meter has been installed on Pinehurst Dr.
  Main break 0, Service leaks 1 (ARV), Fire hydrants damaged 2

9) Consider Approval of Resolution 26-02 accepting a bid by A.B. Hashmi, Inc. for the Yerba Valley Annexation Pipeline Project – Private Customer Lines, in the amount of $979,350. General Manager Sanders provided an overview of the bids and options for the Board. The project was over the District's budget for the project. Motion by Director Hilliker to reject all bids and do not approve the Resolution, and to advertise for new bids as soon as possible. Directed the General Manager to review options to gain more bidders and to make the bid specification and scope clearer for contractors.

Motion: Hilliker Second: Jenkins

| | | | |
|---|---|---|---|
| Vote: | Ayes | 5 | Hilliker, Jenkins, Johnson, Neumeister, Robak |
| | Noes | 0 | |
| | Abstain | 0 | |
| | Absent | 0 | |

10) Consider Audit Proposals for the District's Annual Financial Audit for a period of 5 years. General Manager Sanders provided a summary of the three proposals received and factor's used to evaluate the differences. Motion by Director Hilliker to accept the proposal by Nigro & Nigro for a period of 3 years with the option of two additional single years in the amount of $175,000.

Motion: Hilliker Second: Robak

| | | | |
|---|---|---|---|
| Vote: | Ayes | 5 | Hilliker, Jenkins, Johnson, Neumeister, Robak |
| | Noes | 0 | |
| | Abstain | 0 | |
| | Absent | 0 | |

11) Review State Water Resources Control Board Water Regulation "Conservation is a Way of Life" Compliance Summary of Lakeside Water District. General Manger Sanders provided a summary of the report and how the District was judged by the SWRCB criteria. No action, information only.

12) ACWA JPIA Workers Compensation, Liability, and Property Risk Assessment. The General Manager Sanders summarized the letter describing the results of a District visit by our ACWA JPIA Risk Control Advisor. No action, information only.

13) Approve Demands of the Treasurer for March 2026. Motion by Director Hilliker to approve the demands as presented.

Motion: Hilliker Second: Robak

| | | | |
|---|---|---|---|
| Vote: | Ayes | 5 | Hilliker, Jenkins, Johnson, Neumeister, Robak |

Noes 0
Abstain 0
Absent 0

14) CWA Report – CWA Representative Hilliker reported that the Board voted to approve a water transfer agreement with Western Municipal Water District in Riverside County. A signing ceremony was held following the approval. Attended the Hoover Dam and Gene Pumping Station Board tour. Excellent tour and information. May be offered again in the future. A new proposed transfer agreement with Eastern Municipal Water District is scheduled to be considered this Thursday, April 9 at 1:30 during a special board meeting.

15) Director's Report and Ad Hoc Sub-Committees Reports. No comments

16) Manager's Quarterly Report. The General Manager reported.

1) Customer Service & Billing Representative 1, Position Filled
2) Yerba Valley Annexation USDA Update. Working on a final funding timeline for a potential new funding path.
3) Urban Water Management Plan for 2025 is completed and we are planning for a public hearing at the June 2nd Board Meeting.

17) Adjourn; There being no further business the meeting adjourned to the next Regular Meeting scheduled for May 5, 2026.

Attest:

| | |
|---|---|
| Brett Sanders, Board Secretary | Eileen Neumeister |
| Lakeside Water District | Board President |

# Lakeside Water District
## Statement of Revenues and Expenses
## July 2025 through March 2026

| | Mar 26 | Jul '25 - Mar 26 | Budget | % of Budget |
|---|---|---|---|---|
| Operating Revenue | | | | |
| Water Sales | | | | |
| 4000 · Water Sales on Account | $ 665,652 | $ 7,017,539 | $ 9,602,575 | 73% |
| 4010 · System meter charge | $ 138,537 | $ 1,093,426 | $ 1,458,965 | 75% |
| 4020 · CWA/IAC | $ 37,644 | $ 345,384 | $ 457,906 | 75% |
| 4040 · Penalties / other | $ 9,475 | $ 114,600 | $ 130,000 | 88% |
| Total Water Sales | $ 851,308 | $ 8,570,949 | $ 11,649,446 | 74% |
| | | | | |
| 4100 · Capacity Fees LWD | $ - | $ 49,045 | $ 57,030 | 86% |
| 4101 · SDCWA Capacity & Treatment | $ - | $ 52,562 | $ 85,186 | 62% |
| 4200 · Meter Services | $ - | $ 11,253 | $ 35,000 | 32% |
| 4210 · Engineering & Inspection Fees | $ 750 | $ 37,186 | $ 7,500 | 496% |
| 4220 · Fire Hydrants | $ - | $ 15,375 | $ 30,000 | 51% |
| 4230 · Tapping | $ - | $ 15,000 | $ 15,000 | 100% |
| 4300 · Miscellaneous Income | $ 221 | $ 56,283 | $ 20,000 | 281% |
| 4310 · Water Letters | $ 300 | $ 2,050 | $ 250 | 820% |
| 4400 · Rent - Land Lease | $ 30,092 | $ 237,300 | $ 291,770 | 81% |
| 4600 · Interest Income | $ 46,181 | $ 324,604 | $ 315,000 | 103% |
| 4700 · Taxes Revenue | $ 12,997 | $ 512,340 | $ 800,000 | 64% |
| Total Operating Revenue | $ 941,849 | $ 9,883,947 | $ 13,306,182 | 74% |
| | | | | |
| Expense | | | | |
| Administrative and General | | | | |
| 7000 · General Manager/Secretary | $ 18,833 | $ 172,757 | $ 234,000 | 74% |
| 7001 · Incentive Compensation | $ - | $ 14,000 | $ 14,000 | 100% |
| 7020 · Director's Fees | $ 625 | $ 5,500 | $ 10,750 | 51% |
| 7100 · General Insurance | $ - | $ 85,267 | $ 66,575 | 128% |
| 7200 · Annual Audit | $ - | $ 33,555 | $ 31,000 | 108% |
| 7210 · Attorney Fees | $ 1,743 | $ 12,025 | $ 30,000 | 40% |
| 7230 · Consultants | $ 5,606 | $ 29,098 | $ 8,000 | 364% |
| 7300 · Elections/Registrar | $ - | $ - | $ 2,000 | 0% |
| 7320 · Lafco Operating Costs | $ - | $ 3,994 | $ 5,634 | 71% |
| 7401 · Administrative Expense | $ - | $ 3,799 | $ 7,000 | 54% |
| 7450 · Public Info/Public Relat | $ - | $ 13,497 | $ 11,350 | 119% |
| 7500 · State Health Dept./ SWRCB | $ - | $ 46,434 | $ 49,064 | 95% |
| 7800 · Bad Debt Expense | $ - | $ - | $ 2,000 | 0% |
| 7900 · Water Dev./Conservation Program | $ - | $ - | $ 9,500 | 0% |
| Total Administrative and General | $ 26,807 | $ 419,926 | $ 480,873 | 87% |

| | Mar 26 | Jul '25 - Mar 26 | Budget | % of Budget |
|---|---|---|---|---|
| Operations and Maintenance | | | | |
| 5000 · Water Purchases | $ 706,254 | $ 6,135,331 | $ 7,994,040 | 77% |
| 5075 · Padre Dam Deliver Charge | $ - | $ - | $ 2,600 | 0% |
| 5080 · Water Treatment & Testing | $ 1,460 | $ 16,726 | $ 24,000 | 70% |
| 5090 · Infrastructure Access Charge | $ 37,465 | $ 336,915 | $ 443,760 | 76% |
| 5091 · SDCWA Capacity & Treatment Fees | $ - | $ 52,562 | $ 111,353 | 47% |
| 5100 · Electric Power | $ 21,060 | $ 200,047 | $ 327,000 | 61% |
| 5200 · Water Treatment -Maint/Supplie | $ 3,514 | $ 122,079 | $ 80,000 | 153% |
| 5627 · County - Road Improvements | $ - | $ - | $ 15,000 | 0% |
| 5628 · Telemetry Repair | $ 1,078 | $ 37,659 | $ 15,000 | 251% |
| 6000 · Wages, Field | $ 64,350 | $ 594,387 | $ 866,513 | 69% |
| 6100 · Distribution - Maint/Supplies | $ 12,215 | $ 150,298 | $ 130,000 | 116% |
| 6102 · Dist. Pump & Maint | $ - | $ 2,648 | $ 60,000 | 4% |
| 6110 · Emergency Repairs & Service | $ - | $ - | $ 45,000 | 0% |
| 6200 · Trucks-Fuel,Maintenance,Repair | $ 5,799 | $ 50,355 | $ 70,000 | 72% |
| 6400 · Outside Labor | $ 846 | $ 13,901 | $ 42,000 | 33% |
| 6410 · Engineering | $ - | $ 3,052 | $ 20,000 | 15% |
| 7010 · Wages, Office | $ 26,389 | $ 247,875 | $ 340,000 | 73% |
| 7030 · Payroll Taxes | $ 8,430 | $ 75,220 | $ 102,508 | 73% |
| 7040 · Group Insurance | $ 28,690 | $ 289,644 | $ 326,740 | 89% |
| 7050 · CalPers Retirement | $ 13,553 | $ 185,100 | $ 253,503 | 73% |
| 7070 · Unemployment Insurance | $ - | $ - | $ 5,000 | 0% |
| 7400 · Office Expense | $ 35,248 | $ 150,517 | $ 157,714 | 95% |
| 7440 · Dues & Subscriptions | $ 258 | $ 24,445 | $ 32,000 | 76% |
| 7920 · Miscellaneous Expense | $ 152 | $ 4,771 | $ 6,000 | 80% |
| Total Operations and Maintenance | $ 966,761 | $ 8,693,532 | $ 11,469,731 | 76% |
| Total Expense | $ 993,568 | $ 9,113,458 | $ 11,950,604 | 76% |
| Net Ordinary Income | $ (51,719) | $ 770,489 | $ 1,355,578 | 57% |

| | | | | |
|---|---|---|---|---|
| Capital Requirements | | | | |
| 1510 · Buildings & Land Improvements | $ - | $ - | $ 4,000 | 0% |
| 1520 · O & M Equipment | $ - | $ - | $ 10,000 | 0% |
| 1530 · Office Furniture & Equipment | $ - | $ - | $ 15,000 | 0% |
| 1547 · CIP Design/Engineering | $ 35 | $ 15,235 | $ 5,000 | 305% |
| 1550 · Pumping Plant & Distribution | $ 9,405 | $ 61,581 | $ 30,000 | 205% |
| 1551 · New Service/Meters | $ 2,014 | $ 9,459 | $ 10,000 | 95% |
| 1580 · SCADA Telemetry Upgrade | $ - | $ - | $ 30,000 | 0% |
| 1581 ·Yerba Valley Annexation Pipeline | $ 7,665 | $ 27,053 | $ 450,000 | 6% |
| 1582 ·Operations, Eng. & Security Bldg. | $ 10,979 | $ 242,878 | $ 195,000 | 125% |
| 1583 ·Julian Ave. Multiple Pipe Rep. | $ - | $ 14,655 | $ 20,000 | 73% |
| 1584 ·Rocoso Rd. Pipe Replacement Eng. | $ - | $ 6,060 | $ 20,000 | 30% |
| Total Capital Expense | $ 30,098 | $ 376,921 | $ 789,000 | 48% |

Lakeside Water District

# Investment Report

As of March 31, 2026

| | Mar 31, 26 |
|---|---|
| **Current Assets** | |
| **Checking/Savings** | |
| **1020 · UBS Cash Fund** | 3,217.79 |
| **1030 · King Cash Fund** | 68,374.57 |
| **1050 · Multi-Bank Securities, Inc.** | 63,221.96 |
| **1070 · Investment - LAIF** | 1,032.05 |
| **Total Checking/Savings** | 135,846.37 |
| **Other Current Assets** | |
| **Investments** | |
| **1321.70 · Mrgn Stanley BK 4.45% 6/6/29** | 115,000.00 |
| **1321.71 · First Gty Bk Hamm 4.35% 11/6/28** | 199,900.00 |
| **1321.73 · FHLB 4.09% 11/25/30** | 245,005.25 |
| **1321.74 · FHLMC Med 4.170% 01/27/31** | 245,005.25 |
| **1351.38 · Toyota 0.95% 7/22/26 57542** | 140,000.00 |
| **1351.39 · Synchrony 0.9% 8/20/26 27314** | 119,000.00 |
| **1351.40 · FHLN 0.9% 8/26/26** | 640,000.00 |
| **1351.41 · ConnectOneBk 0.8% 9/24/26 57919** | 136,000.00 |
| **1351.42 · PentagonFed 0.9% 9/29/26 227** | 249,000.00 |
| **1351.43 · FHLN 1.1% 10/13/26** | 350,000.00 |
| **1351.44 · FHLN 1.375% 11/16/26** | 270,000.00 |
| **1351.45 · FHLB 1.65% 12/30/26** | 270,000.00 |
| **1351.46 · FHLN 2.5% 3/29/27** | 270,000.00 |
| **1351.48 · StBk India 3.3% 6/1/27 33682** | 100,000.00 |
| **1351.49 · TSRY 2.375% 5/15/27** | 346,489.66 |
| **1351.51 · Morgan S Privt Bk 3.7% 9/26/29** | 245,000.00 |
| **1351.52 · Morgan S Bk 3.7% 9/26/29** | 105,000.00 |
| **1351.54 · Cross Riv Bk Teaneck 4% 1/3/28** | 245,000.00 |
| **1351.55 · AMEX NATL BK 4.15% 3/26/30** | 244,000.00 |
| **1351.56 · EAGLEBK BETH 4.05% 4/17/28** | 249,000.00 |
| **1351.57 · MILESTONE BANK 3.95% 4/28/28** | 245,000.00 |
| **1351.58 · FNBA 3.85% 4/30/29** | 249,000.00 |
| **1351.59 · Medallion BK 4.050% 5/19/28** | 249,000.00 |
| **1351.60 · UBS BK USA 4.10% 5/22/28** | 249,000.00 |
| **1351.61 · USF FCU 4.00% 7/30/30** | 249,000.00 |
| **1351.62 · Valley Nat'l Bk 3.95% 07/31/28** | 245,000.00 |
| **1351.63 · Connexus 3.75% 9/18/28** | 249,306.99 |
| **1351.64 · Royal BK CDA 4.10% 9/30/30** | 500,000.00 |
| **1351.65 · Gold Sachs BK USA 3.70% 10/7/30** | 245,000.00 |
| **1351.66 · Gulf Coast B&T 3.65% 11/25/30** | 245,000.00 |
| **1351.67 · Texas EXC Bank 3.75% 11/26/29** | 249,000.00 |
| **1351.68 · 3rd Fed SVG & LN 3.75% 12/19/30** | 245,000.00 |
| **1351.69 · Farmers & Merch. 3.70% 12/31/30** | 249,000.00 |

| | Mar 31, 26 |
|---|---|
| **1351.70 · Customers Bank 3.80% 2/26/31** | 245,000.00 |
| **1351.71 · Celtic Bank 3.75% 2/27/31** | 249,000.00 |
| **1351.72 · Sunwest BK/UT 3.65% 2/27/31** | 249,000.00 |
| **1351.73 · Optum Bank 3.70% 3/11/31** | 245,000.00 |
| **1351.74 · Enterprise Bank 3.70% 3/17/31** | 249,000.00 |
| **1351.75 · Fannie Mae 4.00% 3/24/31** | 450,000.00 |
| **1383.27 · FHLB 2.5% 2/25/27** | 670,000.00 |
| **1383.28 · BealBk 2.05% 3/3/27 57833** | 247,000.00 |
| **1383.29 · FHLB 2.5% 3/30/27** | 200,000.00 |
| **1383.30 · FHLB 3.25% 4/21/27** | 255,000.00 |
| **1383.31 · FHLB 3% 4/29/27 no call 24mo** | 250,000.00 |
| **1383.32 · FHLB 3.375% 5/28/27 no call24mo** | 255,000.00 |
| **1383.33 · AllyBk 3% 6/9/26 57803** | 139,000.00 |
| **1383.34 · SALLMA 4.3% 07/27/29** | 244,000.00 |
| **1383.35 · UBS 4.2% 07/24/29** | 248,000.00 |
| **1383.36 · FNMA 4.375% 8/6/29** | 179,184.50 |
| **1383.37 · Valley Natl 4.15% 1/27/28** | 244,000.00 |
| **1383.40 · FHLB 4.125% 10/5/29** | 204,692.50 |
| **1383.41 · FHLB 4.375% 6/24/2030** | 185,878.75 |
| **1383.42 · Farmer MAC 4.26% 7/16/30** | 496,980.00 |
| **1383.44 · FNMA 4.00% 8/20/30** | 899,550.00 |
| **1383.45 · FNMA 3.75% 1/7/31** | 320,000.00 |
| **1383.46 · JPMC Bank 4.00% 3/26/31** | 240,000.00 |
| **Total Investments** | 15,216,992.90 |
| **Total Current Assets** | 15,352,839.27 |

**Investment Changes in March 2026**

| | | |
|---|---|---|
| **Purchased 1351.73** | **Optum Bank 3.70% 3/11/31** | 245,000.00 |
| **Purchased 1351.74** | **Enterprise Bank 3.70% 3/17/31** | 249,000.00 |
| **Purchased 1351.75** | **Fannie Mae 4.00% 3/24/31** | 450,000.00 |
| **Purchased 1383.46** | **JPMC Bank 4.00% 3/26/31** | 240,000.00 |
| **Redeemed 1351.33** | **FHLB .875% 3/10/26** | 245,000.00 |
| **Redeemed 1351.34** | **Greenstate .7% 3/12/26** | 249,000.00 |
| **Called 1383.39** | **BMW Bank of NA 3.95% 4/25/28** | 245,000.00 |

# Investments by Maturity

**March 2026**

| Description | Cusip | Maturity | Rate | | Amount | | Est. Yr Interest | Avg Rate |
|---|---|---|---|---|---|---|---|---|
| King Fidelity Treasury MM | FZFXX | | 4.11% | $ | 567 | $ | 23.29 | |
| Maturity in 2025 | $ | 567 | 0% | | | | | 4.11% |
| Ally Bank | 02007GSU8 | 6/9/2026 | 3.00% | $ | 139,000 | $ | 4,170.00 | |
| Toyota Fin | 89235MLD1 | 7/22/2026 | 0.95% | $ | 140,000 | $ | 1,330.00 | |
| Synchrony | 87165GD74 | 8/20/2026 | 0.90% | $ | 119,000 | $ | 1,071.00 | |
| FHLB | 3130ANJT8 | 8/26/2026 | 0.90% | $ | 640,000 | $ | 5,760.00 | |
| ConnectOneBk | 20786ADL6 | 9/24/2026 | 0.80% | $ | 136,000 | $ | 1,088.00 | |
| PentagonFed | 70962LAS1 | 9/29/2026 | 0.90% | $ | 249,000 | $ | 2,241.00 | |
| FHLN | 3130APB87 | 10/13/2026 | 1.10% | $ | 350,000 | $ | 3,850.00 | |
| FHLN | 3130APLP8 | 11/16/2026 | 1.38% | $ | 270,000 | $ | 3,712.50 | |
| FHLB | 3130AQBE2 | 12/30/2026 | 1.65% | $ | 270,000 | $ | 4,455.00 | |
| Maturity in 2026 | $ | 2,313,000 | 15% | | | | | 1.20% |
| FHLB | 3130AQYG2 | 2/25/2027 | 2.50% | $ | 670,000 | $ | 16,750.00 | |
| Beal Bk | 07371CK81 | 3/3/2027 | 2.05% | $ | 247,000 | $ | 5,063.50 | |
| FHLB | 3130ARDY4 | 3/29/2027 | 2.50% | $ | 270,000 | $ | 6,750.00 | |
| FHLB | 3130ARCL3 | 3/30/2027 | 2.50% | $ | 200,000 | $ | 5,000.00 | |
| FHLB | 3130ARKD2 | 4/21/2027 | 3.25% | $ | 255,000 | $ | 8,287.50 | |
| FHLB | 3130ARMS7 | 4/29/2027 | 3.00% | $ | 250,000 | $ | 7,500.00 | |
| US Treasurery | 912828X88 | 5/15/2027 | 3.54% | $ | 346,490 | $ | 12,265.75 | |
| FHLB | 3130ARYQ8 | 5/28/2027 | 3.37% | $ | 255,000 | $ | 8,593.50 | |
| State Bank India N | 856285N64 | 6/1/2027 | 3.30% | $ | 100,000 | $ | 3,300.00 | |
| Maturity in 2027 | $ | 2,593,490 | 17% | | | | | 2.83% |
| Cross Riv BK Teaneck | 227563LU5 | 1/3/2028 | 4.00% | $ | 245,000 | $ | 9,800.00 | |
| Valley National Bk | 919853PX4 | 1/28/2028 | 4.15% | $ | 244,000 | $ | 10,126.00 | |
| EAGLEBANK Bethesda | 27002Y-HN-9 | 4/17/2028 | 4.05% | $ | 249,000 | $ | 10,084.50 | |
| Milestone BK SALT | 59934M-DC-9 | 4/28/2028 | 3.95% | $ | 245,000 | $ | 9,677.50 | |
| Medallion BK Salt | 58404D-XT-3 | 5/19/2028 | 4.05% | $ | 249,000 | $ | 10,084.50 | |
| UBS BK USA | 90355G-WG-7 | 5/22/2028 | 4.10% | $ | 249,000 | $ | 10,209.00 | |
| Valley Nat'l Bk | 919853QZ7 | 7/31/2028 | 3.95% | $ | 245,000 | $ | 9,677.50 | |
| Connexus | 20825WES5 | 9/18/2028 | 3.75% | $ | 249,307 | $ | 9,349.01 | |
| 1st Gty Bk Hammond | 320437AT3 | 11/6/2028 | 4.35% | $ | 199,900 | $ | 8,695.65 | |
| Maturity in 2028 | $ | 2,175,207 | 14% | | | | | 4.03% |
| FNBA | 32110Y-T7-0 | 4/30/2029 | 3.85% | $ | 249,000 | $ | 9,586.50 | |
| Mrgn Stanley BK | 61776CPV3 | 6/6/2029 | 4.45% | $ | 115,000 | $ | 5,117.50 | |
| UBS | 90355GPU4 | 7/24/2029 | 4.20% | $ | 248,000 | $ | 10,416.00 | |
| SALLMA | 795451DM2 | 7/24/2029 | 4.30% | $ | 244,000 | $ | 10,492.00 | |
| FNMA | 3135GAU25 | 8/6/2029 | 4.38% | $ | 179,185 | $ | 7,839.32 | |
| Morgan S Privt Bk | 61768UPS0 | 9/26/2029 | 3.70% | $ | 245,000 | $ | 9,065.00 | |
| Morgan S Bk | 61776CBR7 | 9/26/2029 | 3.70% | $ | 105,000 | $ | 3,885.00 | |
| FHLB | 3130B34U4 | 10/5/2029 | 4.13% | $ | 204,693 | $ | 8,443.57 | |

# Investments by Maturity

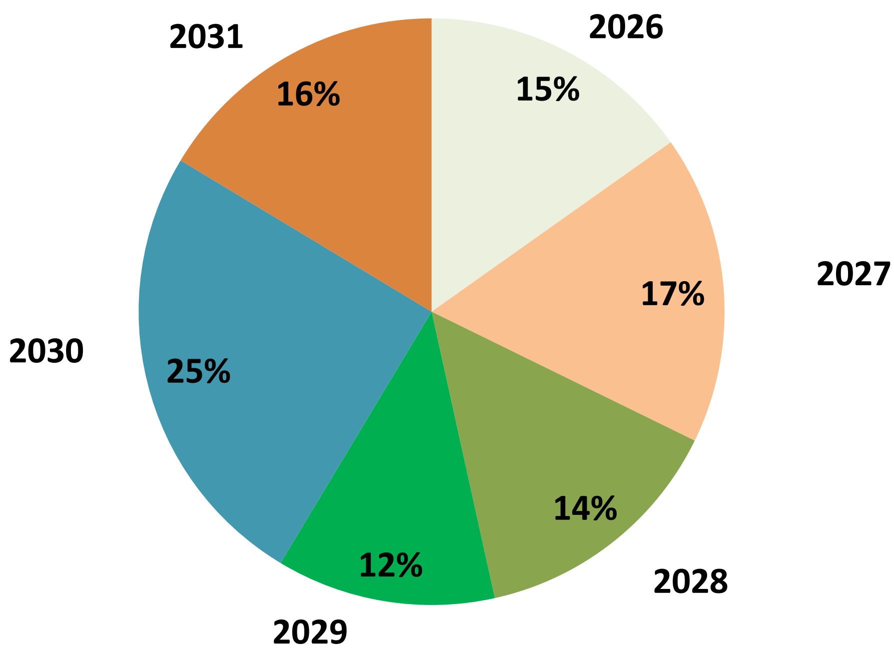


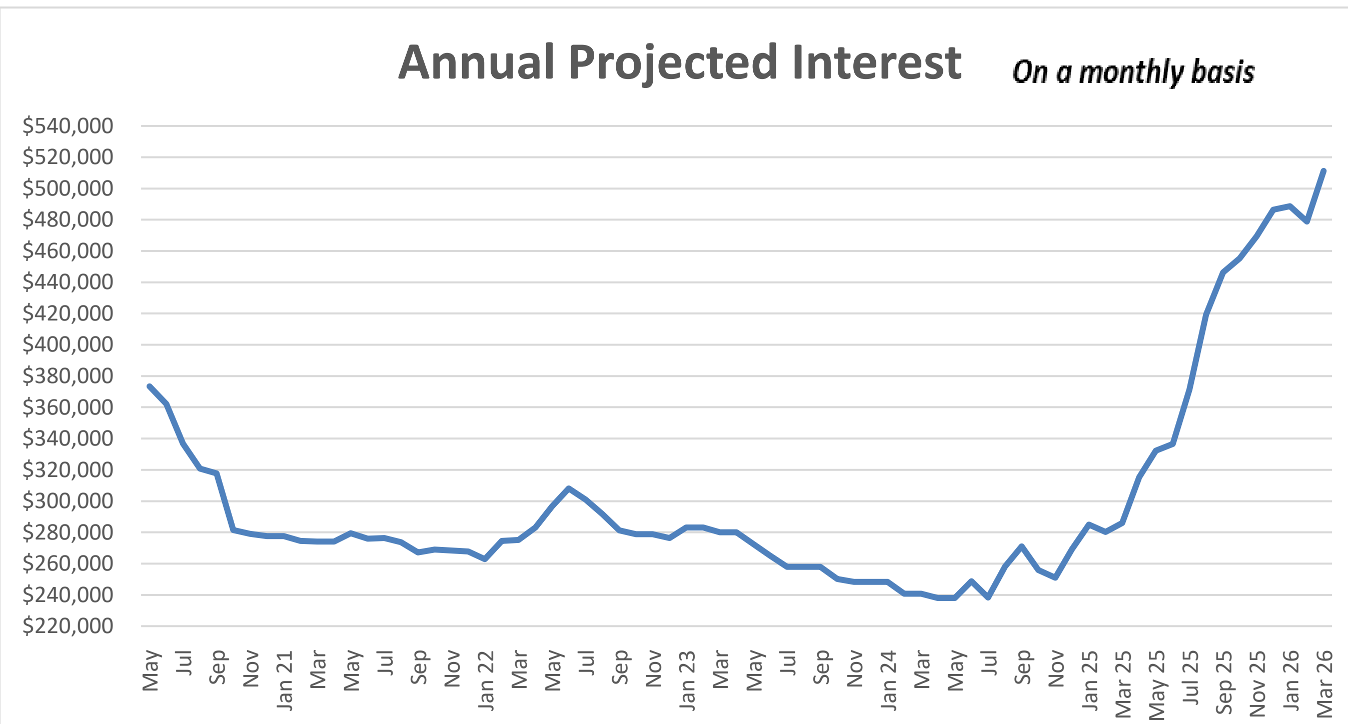
| Description | Cusip | Maturity | Rate | Amount | Est. Yr Interest | Avg Rate |
|---|---|---|---|---|---|---|
| Texas EXC Bank | 88241TXB1 | 11/26/2029 | 3.75% | $ 249,000 | $ 9,337.50 | |
| Maturity in 2029 | $ 1,838,877 | 12% | | | | 4.03% |
| American Express Nat'l Bk | 02589AGX4 | 3/26/2030 | 4.15% | $ 244,000 | $ 10,126.00 | |
| FHLB | 3130B6T22 | 6/24/2030 | 4.38% | $ 185,879 | $ 8,132.20 | |
| Farmer MAC | 31424WK43 | 7/16/2030 | 4.26% | $ 496,980 | $ 21,171.35 | |
| USF FCU | 90353ECE1 | 7/30/2030 | 4.00% | $ 249,000 | $ 9,960.00 | |
| Fedl Natl MTG Assn | 3136GANN5 | 8/20/2030 | 4.00% | $ 899,550 | $ 35,982.00 | |
| Royal BK CDA | RY6190844 | 9/30/2030 | 4.10% | $ 500,000 | $ 20,500.00 | |
| Gold SachsBK USA | 38151PAH4 | 10/7/2030 | 3.70% | $ 245,000 | $ 9,065.00 | |
| Gulf Coast B&T | 402194GS7 | 11/25/2030 | 3.65% | $ 245,000 | $ 8,942.50 | |
| FHLB | 3130B8LT7 | 11/25/2030 | 4.09% | $ 245,005 | $ 10,020.71 | |
| 3rd Fed SVG & LN | 88413Q-JK-5 | 12/19/2030 | 3.75% | $ 245,000 | $ 9,187.50 | |
| Farmers & Merchants | 308862-EH-O | 12/31/2025 | 3.70% | $ 249,000 | $ 9,213.00 | |
| Maturity in 2030 | $ 3,804,414 | 25% | | | | 4.00% |
| FNMA | 3136GCDK8 | 1/7/2031 | 3.75% | $ 320,000 | $ 12,000.00 | |
| FHLMC Med | 3134HCPG8 | 1/27/2031 | 4.17% | $ 245,005 | $ 10,216.72 | |
| Customers Bank | 23204H-RQ-3 | 2/26/2031 | 3.80% | $ 245,000 | $ 9,310.00 | |
| Celtic Bank Salt Lake | 15118R-4D-6 | 2/27/2031 | 3.75% | $ 249,000 | $ 9,337.50 | |
| Sunwest Bank/UT | 86804DDM7 | 2/27/2031 | 3.65% | $ 249,000 | $ 9,088.50 | |
| Optum Bank | 68405V-FL-8 | 3/11/2031 | 3.70% | $ 245,000 | $ 9,065.00 | |
| Enterprise Bank | 29367R-NQ-5 | 3/17/2031 | 3.70% | $ 249,000 | $ 9,213.00 | |
| Fannie Mae | 3136GCVD4 | 3/24/2031 | 4.00% | $ 450,000 | $ 18,000.00 | |
| JPMC Bank | 46659CZC7 | 3/26/2031 | 4.00% | $ 240,000 | $ 9,600.00 | |
| Maturity in 2031 | $ 2,492,005 | 16% | | | | 0.48% |

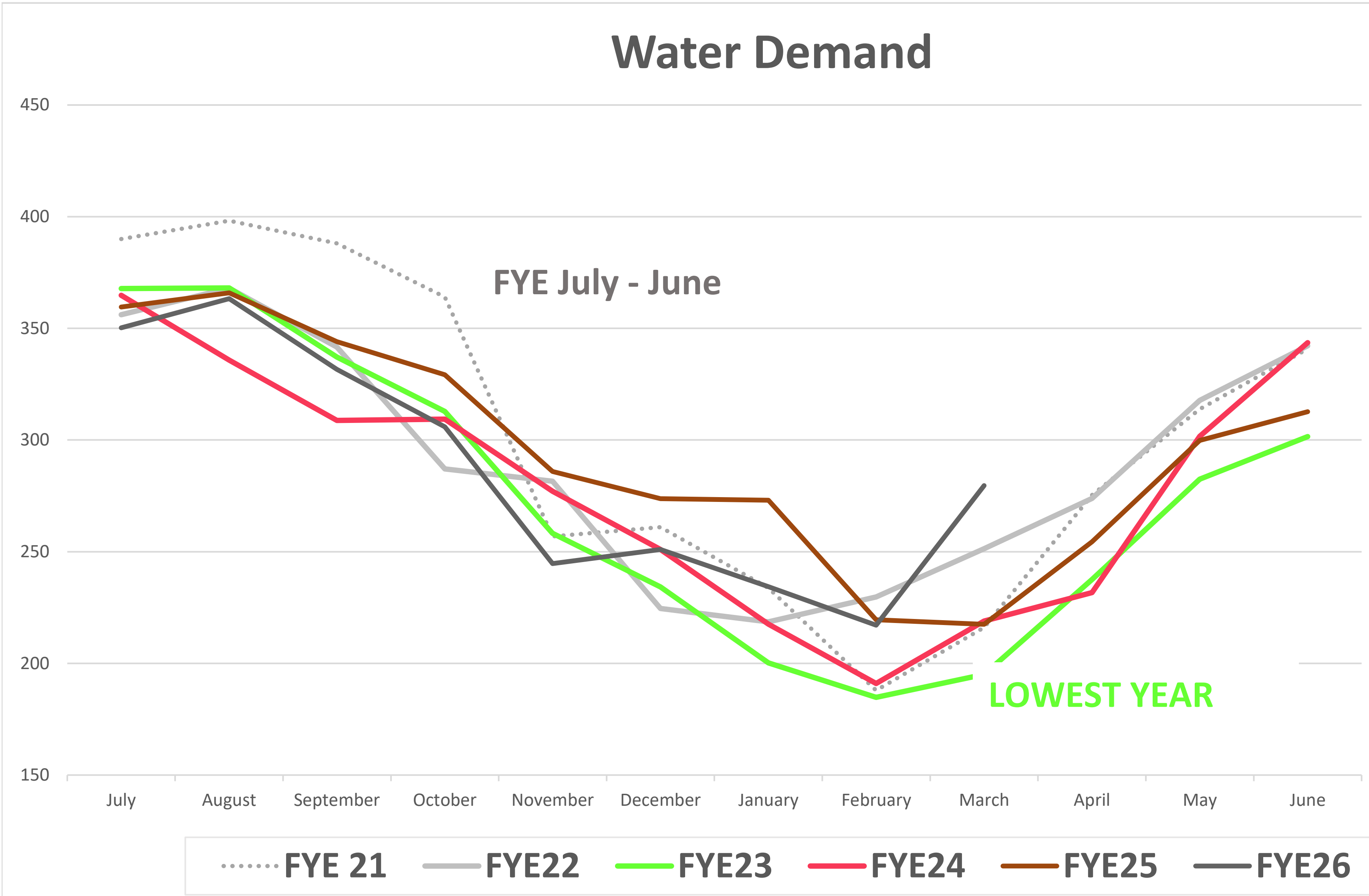
| | Investments | Annual Interest | Avg |
|---|---|---|---|
| Total | $ 15,217,560 | $ 511,228 | 3.36% |

| Description | Cusip | Maturity | Rate | Amount | Est. Yr Interest | Avg Rate |
|---|---|---|---|---|---|---|

# Investments by Maturity Year




Water Demand
450
400
350
300
250
200
150
FYE July - June
LOWEST YEAR
July
August
September
October
November
December
January
February
March
April
May
June
FYE 21
FYE22
FYE23
FYE24
FYE25
FYE26

OPERATIONS REPORT
May 2026
BOARD OF DIRECTORS MEETING

**General Operation:**

- *EOS Building updates*
- *SCADA improvements*
- *Looking to hire two new full-time employees*

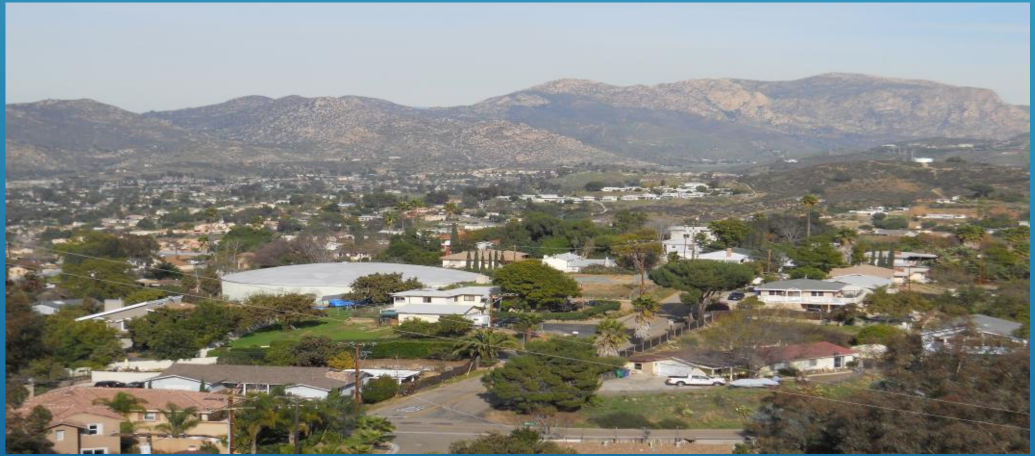
**Contractor/ Developer/ County Projects:**

- *River Run East update*
- *River Street-City of San Diego job*

**District Emergencies Repairs:**

- *Main breaks 1 Castle Court*
- *Service leaks 2 Leyendekker and Calle Lucia*
- *Fire hydrants 1 Moreno*

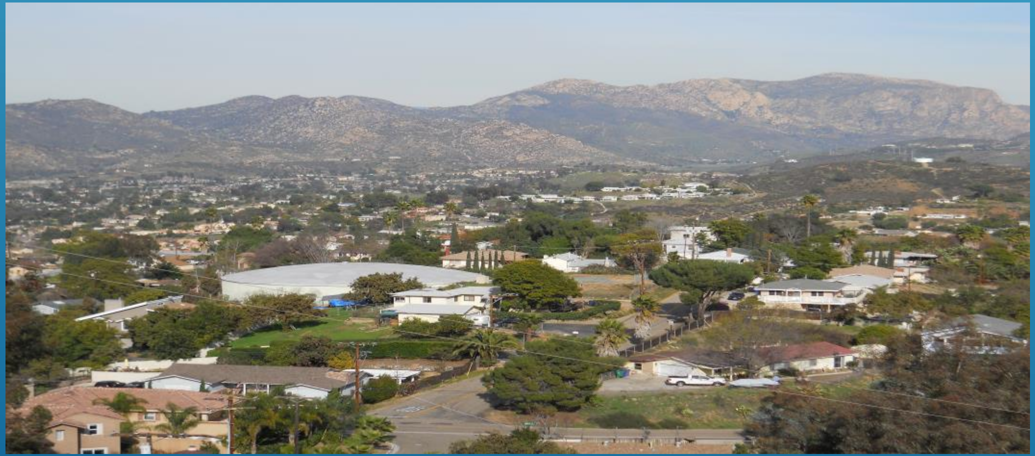
# CONSIDER PROPOSAL FOR MUNICIPAL ADVISOR



May 5, 2026

LAKESIDE WATER DISTRICT

# DISCUSS OPTIONS FOR FUNDING THE YERBA VALLEY ANNEXATION PROJECT



May 5, 2026

LAKESIDE WATER DISTRICT

LAKESIDE WATER DISTRICT



# Notice of Public Hearing
# For 2025 Urban Water Management Plan and Availability of Draft Plan for Review

The Lakeside Water District hereby releases its Draft 2025 Urban Water Management Plan (UWMP) and 2025 Water Shortage Contingency Plan (WSCP) for public review. The UWMP and WSCP will be available through June 2, 2026 at the District Board Room (located at 10375 Vine Street, Lakeside, CA 92040). An electronic (PDF) copy can also be obtained by contacting the District and requesting a PDF copy.

A Public Hearing will be held as an agenda item of the District regularly scheduled Board Meeting on Tuesday, June 2, 2026 at 5:30 p.m. to consider comments on the Draft 2025 UWMP and WSCP, and to formally adopt the UWMP and WSCP by separate resolutions. The Board Meetings are held at the District Board Room. The time of the Public Hearing will be posted on the Board Agenda which will be released a 72 hours prior to the June 2, 2026 Board meeting.

The District encourages the active involvement of the community. If you have any questions concerning the 2025 UWMP and WSCP, please contact: Brett Sanders, General Manager by email at BrettS@lakesidewater.org.

10375 VINE STREET, LAKESIDE, CA 92040
(619) 443-3805 FAX (619) 443-3690

LAKESIDE WATER DISTRICT



April 29, 2026

Lakeside Water District Governing Board
10375 Vine Street
Lakeside, CA 92040

VIA EMAIL

Subject: Notification of PFOS and PFHxS Detection

The purpose of this letter is to inform you on the presence of perfluorooctaniesulfonic acid (PFOS) and Perfluorohexane Sulfonic Acid (PFHxS) in the groundwater that is served to our customers. Following mandatory monitoring required by the State Water Resources Control Board, Division of Drinking Water (DDW), it was determined that the notification level for PFOS and PFHxS has been exceeded. The notification level for PFOS is 4 parts per trillion and for PFHxS is 3 parts per trillion.

In April 2024, the United States Environmental Protection Agency published the final Per- and Polyfluoroalkyl Substances (PFAS) National Primary Drinking Water Regulation (NPDWR). The final rule requires community and non-transient noncommunity water systems to complete initial monitoring requirements by April 26, 2027.

The State Water Resources Control Board's Division of Drinking Water has issued Order No. DW 2025-0002-DDW to require monitoring and reporting consistent with the NPDWR and in preparation for California-specific PFAS regulations. Currently the District is sampling our groundwater sources Vine Street Wells 7 and 8 for 25 Perfluorinated Alkyl Acids required by the regulation.

Pursuant to Health and Safety Code Section 116455, the Lakeside Water District is required to inform its governing body and the governing body of any local agency whose jurisdiction includes the area supplied with drinking water by the Lakeside Water District of concentrations exceeding the notification levels. Notification levels are health-based advisory levels established by the DDW for chemicals in drinking water that lack maximum contaminant levels. When chemicals are found at concentrations greater than their notifications levels, certain notification requirements and recommendations apply.

> "Notification level" means the concentration level of a contaminant in drinking water delivered for human consumption that the department has determined, based on available scientific information, does not pose a significant health risk but warrants notification pursuant to this section. Notification levels are nonregulatory, health-based advisory levels established by the department for contaminants in drinking water for which maximum contaminant levels have not been established. Notification levels are established as precautionary measures for contaminants that may be considered candidates for establishment of maximum contaminant levels, but have not yet undergone or completed the regulatory standard setting process prescribed for the development of maximum

contaminant levels and are not drinking water standards.

The levels associated with water delivered to our customers is located in Table 1 below.

PFOS and PFHxS have been extensively produced and studied in the United States. These manmade substances have been synthesized for water and lipid resistance. They have been used extensively in consumer products such as carpets, clothing, fabrics for furniture, paper packaging for food, and other materials (e.g., cookware) designed to be water proof, stain-resistant or non-stick. In addition, they have been used in fire-retarding foam and various industrial processes. The origin of the contaminant in our water supply at this time in unknown but the water system is working with the State Board and their agencies to determine how and why.

If a chemical is present in drinking water that is provided to consumers at concentrations considerably greater that the notification level and the response level, DDW recommends that the drinking water system take the source out of service. However, at this time the water system is continuing to monitor the levels in our sources(s), and they have not exceeded the response level at this time. Additional information will be provided to our customers in the Lakeside Water District Consumer Confidence Report that comes out next year.

Based on the current evaluation of recent human and animal toxicity data, exposure to PFOS and PFHxS in tap water over certain levels may result in adverse health effects including hepatotoxicy, immunotoxicity, thyroid toxicity, reproductive toxicity, and certain types of cancer (pancreatic and liver).

Table 1

| | Analyte Number | Analyte Name | Sampling Date | Detected Level | RL | Notification Level | Unit | Sample Type |
|---|---|---|---|---|---|---|---|---|
| Well 07 | 2803 | PERFLUOROHEXANE SULFONIC ACID (PFHxS) | 03-16-2026 | 5.1 | 2 | 3 | NG/L | RT |
| | | | | | | | | |
| Well 08 | 2803 | PERFLUOROHEXANE SULFONIC ACID (PFHxS) | 03-16-2026 | 6.3 | 2 | 3 | NG/L | RT |
| Well 08 | 2805 | PERFLUOROCTANE SULFONIC ACID (PFOS) | 03-16-2026 | 5.2 | 2 | 4 | NG/L | RT |

PFAS regulatory levels:

| | DDW | | DDW | | USEPA | |
|---|---|---|---|---|---|---|
| Constituent | NL | Date established | RL | Date established | MCL | Date established |
| PFOS | 4 ng/L | 8/1/2019 | 40 ng/L | 2/6/2020 | 4.0 ng/L | 4/10/2024 |
| PFHxS | 3 ng/L | 10/29/2025 | 10 ng/L | 10/29/2025 | 10 ng/L | 4/10/2024 |

If you should have any questions please call me at 619-443-3805.

Sincerely,

Brett Sanders
General Manager

United States Environmental Protection Agency

# Technical Fact Sheet – Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA)

**November 2017**



## At a Glance

- Manmade chemicals not naturally found in the environment.
- Fluorinated compounds that repel oil and water.
- Used in a variety of industrial and consumer products, such as carpet and clothing treatments and firefighting foams.
- Extremely persistent in the environment.
- Known to bioaccumulate in humans and wildlife.
- Readily absorbed after oral exposure. Accumulate primarily in the blood serum, kidney and liver.
- Toxicological studies on animals indicate potential developmental, reproductive and systemic effects.
- Health-based advisories or screening levels have been developed by EPA and state agencies.
- EPA has not issued a Maximum Contaminant Level (MCL) for drinking water.
- Standard analytical methods use high-performance liquid chromatography coupled with tandem mass spectrometry.
- Resistant to most chemical and microbial conventional treatment technologies. Most common groundwater treatment method is extraction and filtration through granular activated carbon filters.

## Introduction

This fact sheet, developed by the U.S. Environmental Protection Agency (EPA) Federal Facilities Restoration and Reuse Office (FFRRO), provides a summary of two contaminants of emerging concern, perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA), including physical and chemical properties; environmental and health impacts; existing federal and state guidelines; detection and treatment methods; and additional sources of information. This fact sheet is intended for use by site managers who may address these chemicals at cleanup sites or in drinking water supplies and for those in a position to consider whether these chemicals should be added to the analytical suite for site investigations.

PFOS and PFOA are part of a larger group of chemicals called per- and polyfluoroalkyl substances (PFASs). PFASs, which are highly fluorinated aliphatic molecules, have been released to the environment through industrial manufacturing and through use and disposal of PFAS-containing products (Liu and Mejia Avendano 2013). PFOS and PFOA are the most widely studied of the PFAS chemicals. PFOS and PFOA are persistent in the environment and resistant to typical environmental degradation processes. As a result, they are widely distributed across all trophic levels and are found in soil, air and groundwater at sites across the United States. The toxicity, mobility and bioaccumulation potential of PFOS and PFOA result in potential adverse effects on the environment and human health.

## What are PFOS and PFOA?

- They are human-made compounds that do not occur naturally in the environment (ATSDR 2015; EPA 2009b).
- PFOS and PFOA are fully fluorinated, organic compounds. They are the two PFASs that have been produced in the largest amounts within the United States (ATSDR 2015; EFSA 2008).
- PFOS and PFOA are part of a subset of PFASs known as perfluorinated alkyl acids (PFAAs).

## PFAS Chemistry

- The PFAS group is made up of two subgroups: perfluoroalkyl substances and polyfluoroalkyl substances.
- PFOS and PFOA are **perfluoroalkyl substances** (compounds for which all hydrogens on all carbons (except for carbons associated with functional groups) have been replaced by fluorines).
- **Polyfluoroalkyl substances** are compounds for which some hydrogens (but not all) on the carbon atoms have been replaced by fluorines.
- PFASs are extremely persistent in the environment primarily because the chemical bond between the carbon and fluorine atoms is extremely strong and stable.

Source: Buck and others 2011

- PFOS and PFOA can also be formed by environmental degradation or by metabolism in larger organisms from a large group of related PFASs or precursor compounds (ATSDR 2015; UNEP 2006).
- PFOS and PFOA are stable chemicals that are comprised of chains of eight carbons. Because of their unique ability to repel oil and water, these chemicals have been used in: surface protection products such as carpet and clothing treatments; coatings for paper, cardboard packaging and leather products; industrial surfactants, emulsifiers, wetting agents, additives and coatings; processing aids in the manufacture of fluoropolymers such as nonstick coatings on cookware; membranes for clothing that are both waterproof and breathable; electrical wire casing; fire and chemical resistant tubing; and plumbing thread seal tape (ATSDR 2015).
- Through 2001, PFOS and other PFAS chemicals were used in the manufacture of aqueous film forming foam (AFFF), which is used to extinguish liquid hydrocarbon fires (ASTSWMO 2015; EPA 2016f; DoD SERDP 2014; Place and Field 2012). Manufacturers of AFFF in the United States now use PFASs other than PFOS; however, existing stocks of PFOS-based AFFF remain in use.
- By 2002, the primary U.S. manufacturer of PFOS voluntarily phased out production of PFOS. In 2006, eight major companies in the PFASs industry voluntarily agreed to phase out production of PFOA and PFOA-related chemicals by 2015. EPA is concerned about a limited number of ongoing uses of PFOA-related chemicals, which are still available in existing stocks and from companies not participating in the PFOA Stewardship Program. In addition, exposure could occur via goods imported from countries where PFOS and PFOA are still used (EPA 2016b, 2016c, 2016f).

**Exhibit 1: Physical and Chemical Properties of PFOS and PFOA** (ATSDR 2015; EFSA 2008; EPA 2016b, 2016c)

| Property | PFOS (Free Acid) | PFOA (Free Acid) |
|---|---|---|
| Chemical Abstracts Service (CAS) number | 1763-23-1 | 335-67-1 |
| Physical description (physical state at room temperature and atmospheric pressure) | White powder (potassium salt) | White powder/ waxy white solid |
| Molecular weight (g/mol) | 500 | 414 |
| Water solubility at 25°C (mg/L) | 680 | $9.5 \times 10^3$ |
| Melting point (°C) | No data | 54 |
| Boiling point (°C) | 258–260 | 192 |
| Vapor pressure at 25°C (mm Hg) | 0.002 | 0.525 |
| Organic carbon partition coefficient ($K_{oc}$) | 2.57 | 2.06 |
| Henry's law constant (atm-m$^3$/mol) | Not measurable | Not measurable |

Abbreviations: g/mol – grams per mole; mg/L – milligrams per liter; °C – degree Celsius; mm Hg – millimeters of mercury; atm-m$^3$/mol – atmosphere-cubic meters per mole

## Existence of PFOS and PFOA in the environment

- During manufacturing processes, PFASs were released to the air, water and soil in and around manufacturing facilities (ATSDR 2015). Recently, PFOS and PFOA contamination has also been observed in facilities using PFAS products to manufacture other products (secondary manufacturing facilities).
- PFOS has been detected in surface water and sediment downstream of production facilities and in wastewater treatment plant effluent, sewage sludge and landfill leachate at a number of cities in the United States (OECD 2002; Oliaei and others 2013).
- The environmental release of PFOS-based AFFF may also occur from tank and supply line leaks, use of aircraft hangar fire suppression systems, firefighting training activities, and use at airplane crash sites (DoD SERDP 2014).
- PFOS and PFOA products often contain residuals from manufacturing and formulation that are PFASs. PFOS- and PFOA-based products often contain impurities and residuals which may be precursors to PFOS and PFOA. Biological and abiotic environmental processes have been shown to transform these precursors into PFOS and PFOA (Liu and Mejia Avendano 2013; Buck and others 2011; Conder and others 2010).
- In general, PFOS and PFOA are stable in the environment and resist typical environmental degradation processes. As a result, these chemicals are persistent in the environment (OECD 2002; ATSDR 2015).
- PFOS and PFOA are detected in environmental media and biota in many parts of the world, including oceans and the Arctic, indicating that long-range transport is possible (ATSDR 2015).
- The wide distribution of perfluoroalkyl substances, such as PFOS, in higher trophic level organisms is strongly suggestive of the potential for bioaccumulation and/or bioconcentration (EPA 2015; UNEP 2006).
- PFOS has been shown to accumulate to levels of concern in fish. The estimated bioconcentration factor in fish ranges from 1,000 to 4,000 (EFSA 2008; MDH 2017a). PFOA has been shown to bioaccumulate in air breathing species, including humans, but not in fish (Vierke and others 2012).

## What are the routes of exposure and the potential health effects of PFOS and PFOA?

- Studies have found PFOS and PFOA in the blood samples of the general human population and wildlife, indicating that exposure to the chemicals is widespread (ATSDR 2015; EPA 2015).
- Reported data indicate that blood serum concentrations of PFOS and PFOA are higher in workers and individuals living near facilities that use or produce PFASs than for the general population (ATSDR 2015; EPA 2009b).
- Potential exposure pathways include ingestion of food and water, use of consumer products or inhalation of PFAS-containing particulate matter (e.g., soils and dust) or vapor phase precursors (ATSDR 2015; EPA 2009b).
- PFOA and PFOS have been found in drinking water supplies, typically associated with manufacturing locations, industrial use or disposal.
- Human epidemiological studies found associations between PFOA exposure and high cholesterol, increased liver enzymes, decreased vaccination response, thyroid disorders, pregnancy-induced hypertension and preeclampsia, and cancer (testicular and kidney) (EPA 2016e).
- Human epidemiological studies found associations between PFOS exposure and high cholesterol and adverse reproductive and developmental effects (EPA 2016d).
- PFOS and PFOA are toxic to laboratory animals, producing reproductive, developmental and systemic effects in laboratory tests (Austin and others 2003; EPA 2016d, 2016e; Post and others 2012).
- EPA found that there is suggestive evidence that PFOS and PFOA may cause cancer (EPA 2016d, 2016e).
- The American Conference of Governmental Industrial Hygienists (ACGIH) has classified PFOA as a Group A3 carcinogen – confirmed animal carcinogen with unknown relevance to humans (ATSDR 2015).
- The World Health Organization's International Agency for Research on Cancer has found that PFOA is possibly carcinogenic to humans (Group 2B) (IARC 2016).
- In 2009, the Stockholm Convention on Persistent Organic Pollutants added PFOS to Annex B, restricting its production and use. PFOA was proposed for listing in 2015 (Stockholm Convention 2016).

## Are there any federal and state guidelines and health standards for PFOS and PFOA?

- EPA derived oral non-cancer reference doses (RfDs) of 0.00002 mg/kg/day for both PFOS and PFOA (EPA 2016d, 2016e). The RfD is an estimate of the daily exposure level that is likely to be without harmful effects over a lifetime.
- In May 2016, EPA established drinking water health advisories of 70 parts per trillion (0.07 micrograms per liter (µg/L)) for the combined concentrations of PFOS and PFOA. Above these levels, EPA recommends that drinking water systems take steps to assess contamination, inform consumers and limit exposure. The health advisory levels are based on the RfDs (EPA 2016b, 2016c).
- EPA found that there are insufficient data to derive inhalation non-cancer reference concentrations (RfCs) for PFOS and PFOA (EPA 2016d, 2016e).
- For PFOA, EPA estimated a cancer slope factor of 0.07 $(mg/kg/day)^{-1}$. Based on this slope factor, EPA calculated that a PFOA drinking water concentration of 0.5 µg/L would correspond to a one-in-a-million increased risk of cancer (EPA 2016c, 2016e).
- EPA has not issued a Maximum Contaminant Level (MCL) for drinking water.
- Various states have established drinking water and groundwater guidelines, including the following:

| State | Guideline (µg/L) | | Source |
|---|---|---|---|
| | PFOA | PFOS | |
| Delaware | 0.4 | 0.2 | DNREC 2016 |
| Maine | 0.13 | 0.56 | MDEP 2016 |
| Michigan | 0.42 | 0.011 | MDEQ 2015 |
| Minnesota | 0.035 | 0.027 | MDH 2017b |
| New Jersey | 0.04 | NA | NJDEP 2016 |
| North Carolina | 2 | NA | NCDEQ 2013 |
| Texas | 0.3 | 0.6 | TCEQ 2016 |
| Vermont | 0.02 | NA | VTDEC 2016 |

- Some states have fish consumption advisories for certain water bodies where PFOS has been detected in fish (MDH 2017c; MDHHS 2016).
- PFOS and PFOA are included on the fourth drinking water contaminant candidate list, which is a list of unregulated contaminants that are known to, or anticipated to, occur in public water systems and may require regulation under the Safe Drinking Water Act (EPA 2016a).

## What detection and site characterization methods are available for PFOS and PFOA?

- Detection methods for PFOS and PFOA are primarily based on high-performance liquid chromatography (HPLC) coupled with tandem mass spectrometry (MS/MS) (ATSDR 2015).
- EPA Method 537, Version 1.1, is a liquid chromatography/tandem mass spectrometry (LC-MS/MS) method used to analyze PFOS, PFOA and other PFAAs in finished drinking water. While most sampling protocols for organic compounds require sample collection in glass, this method requires plastic sample bottles because PFASs are known to adhere to glass (ATSDR 2015; EPA 2009a). In addition, the method notes that analytes are found in common lab supplies and equipment such as PTFE (polytetrafluoroethylene) products, LC solvent lines, solid phase extraction sample transfer lines, methanol and aluminum foil (EPA 2009a).
- Currently, there are no standard EPA methods for analyzing PFASs in groundwater, surface water, wastewater or solids. EPA is developing analytical methods for these media. EPA expects to have draft methods for water and solids by fall 2017. EPA will also develop standard operating procedures for field sampling (EPA 2017).
- ASTM has published standards for analyzing PFAAs in soil (D7968-14) and in water, sludge, influent, effluent and wastewater (D7979-15). Both standards use LC-MS/MS (ASTM 2014, 2015). These methods have not been multi-lab validated.
- The available detection methods report sensitivities of low picograms per cubic meter ($pg/m^3$) levels in air, high picograms per liter (pg/L) to low ng/L levels in water, and high picograms per gram to low ng/g levels in soil (ATSDR 2015).
- Experimental techniques are available to measure PFASs in air samples. Some studies have used gas chromatography mass spectrometry (GC/MS) to measured PFASs in air samples (ATSDR 2015). In addition, some precursor chemicals and transformation products are measured by GC/MS/MS or LC/MS/MS (Liu and Mejia Avendano 2013). An oxidative technique has been proposed to estimate precursor levels by LC/MS/MS (Houtz and Sedlak 2012).

- Researchers are developing a new analytical method that uses particle induced gamma emission (PIGE) to quickly and non-destructively detect the presence of PFASs in consumer products and other solid materials (National Science Foundation 2015).

## What technologies are being used to treat PFOS and PFOA?

- Chapter 10 of the PFOS and PFOA health advisories discuss the performance of common drinking water technologies to treat these chemicals (EPA 2016b, 2016c). In general, PFOS and PFOA resist most conventional chemical and microbial treatment technologies. Technologies with demonstrated effectiveness include granular activated carbon sorption and ion exchange resins (EPA 2016b, 2016c).
- PFAAs can be formed when precursor chemicals are transformed in the environment or in the body (EPA 2016b, 2016c). Therefore, if precursors are not addressed during remediation, over time they may be transformed to PFAAs, such as PFOS and PFOA. The presence of other contaminants, including PFAS precursors, can also impact design and performance of remedial technologies.
- The most common groundwater treatment is extraction and filtration through granular activated carbon. However, because PFOA and PFOS have moderate adsorbability, the design specifics are very important in obtaining acceptable treatment (EPA 2016b, 2016c). Other potential adsorbents include: ion exchange resins, organo-clays, clay minerals and carbon nanotubes (EPA 2016b, 2016c; Espana and others 2015). Evaluation of these sorbents needs to consider regeneration, as the cost and effort required may be substantial (EPA 2016b, 2016c).
- Other ex situ treatments including nanofiltration and reverse osmosis units have been shown to remove PFASs from water (EPA 2016b, 2016c). Incineration of the concentrated waste would be needed for the complete destruction of PFASs (MDH 2008; Vecitis and others 2009).
- Research into other treatment approaches for PFOS and PFOA in groundwater is ongoing (DoD SERDP 2016).
- One soil management approach is excavation and off-site disposal. Capping may also be an option.
- High-temperature incineration can also be used to destroy PFOS and PFOA (ASTSWMO 2015).
- Stabilization methods for PFAS-contaminated soil may be effective (Kupryianchyk and others 2016).

## Where can I find more information about PFOS and PFOA?


- ATSDR. 2015. “Draft Toxicological Profile for Perfluoroalkyls.” www.atsdr.cdc.gov/toxprofiles/tp200.pdf
- ASTM. 2014. “D7968-14, Standard Test Method for Determination of Perfluorinated Compounds in Soil by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS).” www.astm.org
- ASTM. 2015. “D7979-15e1, Standard Test Method for Determination of Perfluorinated Compounds in Water, Sludge, Influent, Effluent and Wastewater by Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS).” www.astm.org
- Association of State and Territorial Solid Waste Management Officials (ASTSWMO). 2015. Perfluorinated Chemicals (PFCs): Perfluorooctanoic Acid (PFOA) & Perfluorooctane Sulfonate (PFOS): Information Paper. clu-in.org/download/contaminantfocus/pops/POPs-ASTSWMO-PFCs-2015.pdf
- Austin, M.E., Kasturi, B.S., Barber, M., Kannan, K., MohanKumar, P.S., and S.M. MohanKumar. 2003. “Neuroendocrine Effects of Perfluorooctane Sulfonate in Rats.” Environmental Health Perspectives. Volume 111 (12). Pages 1485 to 1489.
- Backe, W.J., Day, T.C., and J.A. Field. 2013. “Zwitterionic, Cationic, and Anionic Fluorinated Chemicals in Aqueous Film Forming Foam Formulations and Groundwater from U.S. Military Bases by Nonaqueous Large-Volume Injection HPLC-MS/MS.” Environmental Science and Technology. Volume 47. Pages 5226 to 5234. www.ncbi.nlm.nih.gov/pubmed/23590254
- Buck, R.C., Franklin, J., Berger, U., Conder, J.M., de Voogt, P., Jensen, A.A., Kannan, K., Mabury, S.A., and S.P. van Leeuwen. 2011. “Perfluoroalkyl and Polyfluoroalkyl Substances in the Environment: Terminology, Classification, and Origins.” Integrated Environmental Assessment and Management. Volume 7 (4). Pages 513 to 541. onlinelibrary.wiley.com/doi/10.1002/ieam.258/full

## Where can I find more information about PFOS and PFOA? (continued)


- Conder, J.M., Wenning, R.J., Travers, M., and M. Blom. 2010. "Overview of the Environmental Fate of Perfluorinated Compounds." Network for Industrially Contaminated Land in Europe (NICOLE) Technical Meeting. 4 November 2010. www.nicole.org/uploadedfiles/nicole-brussels-november2010.pdf
- Delaware Department of Natural Resources and Environmental Control (DNREC). 2016. "Guidance for Notification Requirements." www.dnrec.delaware.gov/dwhs/sirb/Documents/Notification%20Guidance.pdf
- Espana, V.A., Mallavarapu, M., and R. Naidu. 2015. "Treatment Technologies for Aqueous Perfluorooctanesulfonate (PFOS) and Perfluorooctanoate (PFOA): A Critical Review with an Emphasis on Field Testing." Environmental Technology & Innovation. Volume 4. Pages 168 to 181.
- European Food Safety Authority (EFSA). 2008. "Perfluorooctane Sulfonate (PFOS), Perfluorooctanoic Acid (PFOA) and Their Salts." The EFSA Journal. Volume 653. Pages 1 to 131.
- Houtz, E.F., and D.L. Sedlak. 2012. "Oxidative Conversion as a Means of Detecting Precursors to Perfluoroalkyl Acids in Urban Runoff." Environmental Science and Technology. Volume 46 (17). Pages 9342 to 9349. www.ncbi.nlm.nih.gov/pubmed/22900587
- International Agency for Research on Cancer (IARC). 2016. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Volume 110. monographs.iarc.fr/ENG/Monographs/vol110/index.php
- Kupryianchyk, D., Hale, S.E., Breedveld, G.D., and G. Cornelissen. 2016. "Treatment of Sites Contaminated with Perfluorinated Compounds Using Biochar Amendment." Chemosphere. Volume 142. Pages 35 to 40. www.ncbi.nlm.nih.gov/pubmed/25956025
- Liu, J., and S. Mejia Avendano. 2013. "Microbial Degradation of Polyfluoroalkyl Chemicals in the Environment: A Review." Environment International. Volume 61. Pages 98 to 114. www.ncbi.nlm.nih.gov/pubmed/24126208
- Maine Department of Environmental Protection (MDEP). 2016. "Maine Remedial Action Guidelines (RAGs) for Sites Contaminated with Hazardous Substances." www.maine.gov/dep/spills/publications/guidance/rags/ME-RAGS-Revised-Final_020516.pdf
- Michigan Department of Environmental Quality (MDEQ). 2015. "Rule 57 Water Quality Values." www.michigan.gov/documents/deq/wrd-swas-rule57_372470_7.pdf
- Michigan Department of Health and Human Services (MDHHS). 2016. "Eat Safe Fish Guides." www.michigan.gov/mdhhs/0,5885,7-339-71548_54783_54784_54785_58671-296074--,00.html
- Minnesota Department of Health (MDH). 2008. "MDH Evaluation of Point-of-Use Water Treatment Devices for Perfluorochemical Removal. Final Report Summary." www.health.state.mn.us/divs/eh/wells/waterquality/poudevicefinalsummary.pdf
- MDH. 2017a. "Contaminants and Minnesota Fish." www.health.state.mn.us/divs/eh/fish/faq.html
- MDH. 2017b. "MDH Response to EPA Health Advisory for PFOS and PFOA." www.health.state.mn.us/divs/eh/hazardous/topics/pfcs/current.html
- MDH. 2017c. "Site-Specific Meal Advice for Tested Lakes and Rivers." www.health.state.mn.us/divs/eh/fish/eating/sitespecific.html
- National Science Foundation. 2015. "Nuclear Physics Technique Helps Companies Detect Dangerous Compound." www.nsf.gov/mobile/discoveries/disc_summ.jsp?cntn_id=135957&org=NSF
- New Jersey Department of Environmental Protection (NJDEP). 2016. "Perfluorooctanoic Acid (PFOA) in Drinking Water." www.nj.gov/dep/watersupply/dwc_quality_pfoa.html
- North Carolina Department of Environmental Quality (NCDEQ). 2013. "Interim Maximum Allowable Concentrations (IMACs)." deq.nc.gov/document/nc-stds-groundwater-imac-2013
- North Carolina Secretary's Science Advisory Board on Toxic Air Pollutants (NCSAB). 2012. "Recommendation to the Division of Water Quality for an Interim Maximum Allowable Concentration for Perfluorooctanoic Acid (PFOA) in Groundwater." deq.nc.gov/about/divisions/air-quality/science-advisory-board-toxic-air-pollutants/ncsab-aal-recommendations
- Oliaei, F., Kriens, D., Weber, R., and A. Watson. 2013. "PFOS and PFC Releases and Associated Pollution from a PFC Production Plant in Minnesota (USA)." Environmental Science and Pollution Research. Volume 20 (4). Pages 1977 to 1992. link.springer.com/article/10.1007/s11356-012-1275-4

## Where can I find more information about PFOS and PFOA? (continued)


- Organisation for Economic Co-operation and Development (OECD). Environment Directorate. 2002. ‘‘Hazard Assessment of Perfluorooctane Sulfonate (PFOS) and its Salts.’’ www.oecd.org/chemicalsafety/risk-assessment/2382880.pdf
- Place, B.J., and J.A. Field. 2012. “Identification of Novel Fluorochemicals in Aqueous Film-Forming Foams (AFFF) Used by the US Military.” Environmental Science and Technology. Volume 46 (13). Pages 7120 to 7127. www.ncbi.nlm.nih.gov/pmc/articles/PMC3390017
- Post, G.B., Cohn, P.D., and K.R. Cooper. 2012. “Perfluorooctanoic Acid (PFOA), an Emerging Drinking Water Contaminant: A Critical Review of Recent Literature.” Environmental Research. Volume 116. Pages 93 to 117.
- Stockholm Convention. 2016. “What Are POPs?” chm.pops.int/TheConvention/ThePOPs/tabid/673/Default.aspx
- Texas Commission on Environmental Quality. 2016. “Texas Risk Reduction Program (TRRP) Protective Concentration Levels (PCLs).” www.tceq.texas.gov/remediation/trrp/trrppcls.html
- United Nations Environment Programme (UNEP). 2006. “Risk Profile on Perfluorooctane Sulfonate.” Stockholm Convention on Persistent Organic Pollutants Review Committee. Geneva, 6 -10 November 2006.
- U.S. Department of Defense Strategic Environmental Research and Development Program (DoD SERDP). 2013. “Remediation of Perfluoroalkyl Contaminated Aquifers using an In Situ Two-Layer Barrier: Laboratory Batch and Column Study.” ER-2127. www.serdp-estcp.org/Program-Areas/Environmental-Restoration/Contaminated-Groundwater/Emerging-Issues/ER-2127
- DoD SERDP. 2014. “Ecotoxicity of Perfluorinated Compounds.” Environmental Restoration (ER) Program Area. FY2016 Statement of Need. www.serdp-estcp.org/Funding-Opportunities/SERDP-Solicitations/Past-SONs
- DoD SERDP. 2016. “Emerging Issues.” www.serdp-estcp.org/Program-Areas/Environmental-Restoration/Contaminated-Groundwater/Emerging-Issues/
- U.S. Environmental Protection Agency (EPA). 2003. “Guidance for Obtaining Representative Laboratory Analytical Subsamples from Particulate Laboratory Samples.” EPA 600/R-03/027. clu-in.org/download/char/epa_subsampling_guidance.pdf
- EPA. 2006. “SAB Review of EPA’s Draft Risk Assessment of Potential Human Health Effects Associated with PFOA and Its Salts.” EPA SAB-06-006. yosemite.epa.gov/sab/sabproduct.nsf/A3C83648E77252828525717F004B9099/$File/sab_06_006.pdf
- EPA. 2009a. Method 537. “Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS).” Version 1.1. EPA 600/R-08/092. www.epa.gov/water-research/epa-drinking-water-research-methods
- EPA. 2009b. “Long-Chain Perfluorinated Chemicals (PFCs) Action Plan.” www.epa.gov/assessing-and-managing-chemicals-under-tsca/long-chain-perfluorinated-chemicals-pfcs-action-plan
- EPA. 2013. “The Roles of Project Managers and Laboratories in Maintaining the Representativeness of Incremental and Composite Soil Samples.” OSWER 9200.1-117FS. www.cluin.org/download/char/RolesofPMsandLabsinSubsampling.pdf
- EPA. 2015. “Long-Chain Perfluoroalkyl Carboxylate and Perfluoroalkyl Sulfonate Chemical Substances; Significant New Use Rule.” Proposed Rule. 40 CFR 721. Federal Register: Volume 80 (No. 13). www.gpo.gov/fdsys/pkg/FR-2015-01-21/pdf/2015-00636.pdf
- EPA. 2016a. “Contaminant Candidate List 4-CCL 4.” www.epa.gov/ccl/draft-contaminant-candidate-list-4-ccl-4
- EPA. 2016b. “Drinking Water Health Advisory for Perfluorooctane Sulfonate (PFOS).” EPA 822-R-16-004. www.epa.gov/ground-water-and-drinking-water/supporting-documents-drinking-water-health-advisories-pfoa-and-pfos
- EPA. 2016c. “Drinking Water Health Advisory for Perfluorooctanoic Acid (PFOA).” EPA 822-R-16-005. www.epa.gov/ground-water-and-drinking-water/supporting-documents-drinking-water-health-advisories-pfoa-and-pfos
- EPA. 2016d. “Health Effects Support Document for Perfluorooctane Sulfonate (PFOS).” EPA 822-R-16-002. www.epa.gov/ground-water-and-drinking-water/supporting-documents-drinking-water-health-advisories-pfoa-and-pfos

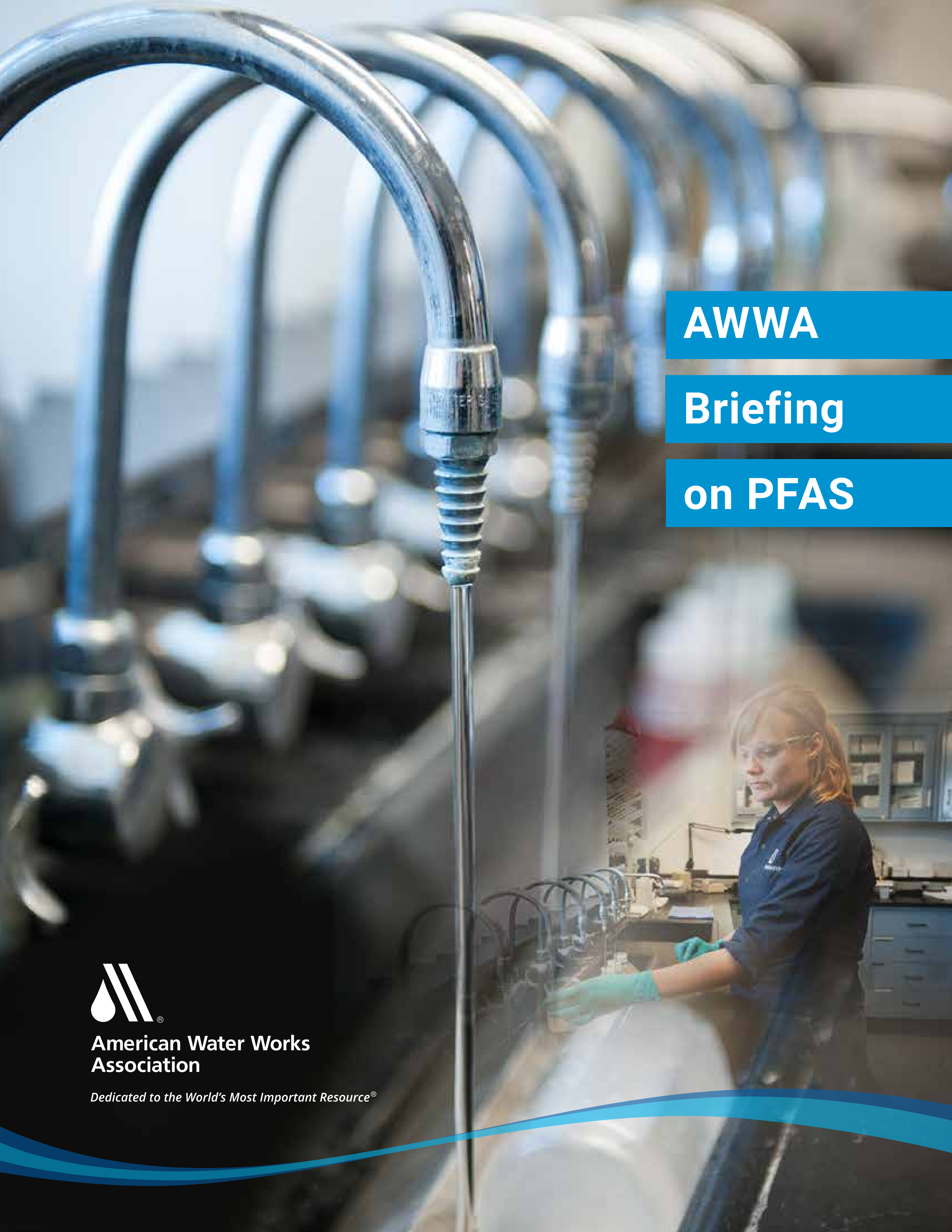
## Where can I find more information about PFOS and PFOA? (continued)


- EPA. 2016e. “Health Effects Support Document for Perfluorooctanoic Acid (PFOA).” EPA 822-R-16-003. www.epa.gov/ground-water-and-drinking-water/supporting-documents-drinking-water-health-advisories-pfoa-and-pfos
- EPA. 2016f. “Risk Management for Per- and Polyfluoroalkyl Substances (PFASs) under TSCA.” www.epa.gov/assessing-and-managing-chemicals-under-tsca/perfluorooctanoic-acid-pfoa-perfluorooctyl-sulfonate
- EPA. 2017. “Per- and Polyfluoroalkyl Substances (PFAS): Sampling Studies and Methods Development for Water and Other Environmental Media.” EPA 600/F-17/022.
- Vecitis, C.D., Park, H., Cheng, J., and B.T. Mader. 2009. “Treatment Technologies for Aqueous Perfluorooctanesulfonate (PFOS) and Perfluorooctanoate (PFOA).” Frontiers of Environmental Science & Engineering in China. Volume 3(2). Pages 129 to 151.
- Vermont Department of Environmental Conservation (VTDEC). 2016. “Interim Groundwater Quality Standards.” dec.vermont.gov/sites/dec/files/documents/interimgwqstandards_2016.pdf
- Vierke, L., Staude, C., Biegel-Engler, A., Drost, W., and C. Schulte. 2012. “Perfluorooctanoic acid (PFOA) — main concerns and regulatory developments in Europe from an environmental point of view.” Environmental Sciences Europe. Volume 24 (16). enveurope.springeropen.com/articles/10.1186/2190-4715-24-16


## Contact Information

If you have any questions or comments on this fact sheet, please contact: Mary Cooke, FFRRO, at cooke.maryt@epa.gov.

# AWWA Briefing on PFAS



American Water Works Association

*Dedicated to the World's Most Important Resource®*

## SOUND SCIENCE, PUBLIC HEALTH PROTECTION CRUCIAL FOR PFAS

AWWA members and friends,

If you are in the water sector, and even if you are not, you have likely heard about per- and polyfluoroalkyl substances (PFAS). PFAS are increasingly a topic of public concern, particularly when they are discovered in community drinking water supplies.

PFAS have been manufactured and used in various industries around the globe since the 1940s. Their prevalence and staying power in the environment—including drinking water sources—have raised concerns about the possibility of adverse health impacts.

In February 2019, after input from AWWA and other water organizations, EPA issued its PFAS Action Plan. The plan included a goal to move forward with a regulatory determination for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) before the year's end.

In the meantime, some states are unwilling to wait. As of October 2019, 21 states have established policies to protect drinking water sources from PFAS and three more are engaged in developing policies. Three states have drinking water MCLs for PFAS in effect, with five more somewhere in the development process.

PFAS concerns have also quickly generated a host of federal legislative proposals. In May 2019, AWWA testified on PFAS before both houses of U.S. Congress, noting that "we are eager to follow the data on PFAS compounds wherever it may go in the investigative process so that we may know how to best protect public health."

With PFAS, water systems again find themselves at the center of an emotional public health debate. It's worth noting that this cycle of uncertainty, public concern, and demand for action will likely be repeated with other emerging compounds. When that happens, just as with PFAS:

**AWWA will stand by the twin pillars that uphold smart water policy: a commitment to public health protection and fidelity to rigorous scientific process.**

AWWA provides this report—and many other resources related to PFAS—to help our communities understand and confront this latest challenge to water quality.

Sincerely,

David B. LaFrance, AWWA CEO

## PFAS a growing community concern

Before a packed, early-morning audience at AWWA's 2019 Annual Conference and Exposition in Denver, Carel Vandermeyden, Deputy Executive Director of the Cape Fear Public Utility Authority (CFPUA) in North Carolina, shared a story that has been repeated in various forms in communities throughout North America.

CFPUA customers first learned in 2017 that a "soup" of PFAS was detected in the Cape Fear River supplying water to 80 percent of the utility's customers, a legacy from decades of industrial pollution. Little was known about the health impacts of the compounds being found. No federal or state regulations existed. But the demand for action was swift from politicians, media and consumers.

"In a two-year period, CFPUA has gone through a pretty significant customer interaction… we did research and pilot testing, designed an upgrade for a 44 MGD treatment plant…while trying to explain to our customers why CFPUA has to spend approximately $46 million of ratepayer money to deal with this problem that came from a point source," Vandermeyden said.

CFPUA has since filed a federal lawsuit against Chemours and DuPont–which operate an upstream chemical manufacturing facility—to recover costs and damages. By summer of 2019, the utility reported spending more than $8 million to address the PFAS issue. Its Board also awarded a $35.9 million construction contract to build eight new deep-bed granular activated carbon contactors to reduce PFAS in its finished water from the Cape River.

*Carel Vandermeyden, left, and Peter Grevatt discuss PFAS at ACE19.*

Water Research Foundation CEO Peter Grevatt, who moderated the ACE19 panel discussion, observed that PFAS seemed to be among the issues of greatest concern at the conference.

"This conversation about PFAS, there's something for almost everybody in the water sector," he said. "Whether you're thinking about drinking water…or whether you're thinking about wastewater and what's coming into your treatment plant or whether you're a reuse person… whether you're managing stormwater and thinking about runoff and how you're going to deal with those issues…One of the conversations that I think has been flowing through the conference—as we're all aware of the extraordinary public concern and also political action—is how do we try to still keep a seat at the table for science in the conversation around PFAS?"

**More AWWA resources available at awwa.org/PFAS**

## PFAS THEN AND NOW

Chemical compounds are manufactured to make life easier, better or safer. But time and information sometime reveal unintended consequences, as exemplified by PFAS.

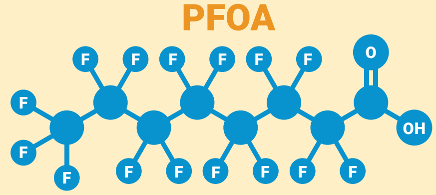

Over the last 70 years, these chemicals have been manufactured and used around the world to enhance many everyday products. They have been used to fight fires and recover oil, and to produce medical equipment, food packaging, cleaning products, nonstick cookware, stain- and water-resistant coatings, paints, inks and cosmetics.

Today, their use has led to a serious challenge for public water suppliers. PFAS are mobile, persistent and may have adverse health effects at very low concentrations.

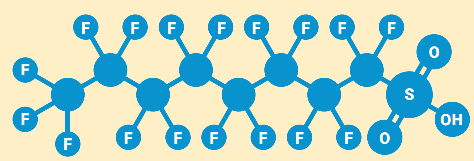
Now phased out in the United States, PFOA and PFOS were among the first PFAS produced and remain the most well-understood and commonly detected PFAS. These and other legacy PFAS that are no longer used have already entered the environment at industrial sites, landfills, and at sites where firefighting foams were applied. While there are hundreds of banned PFAS, there are thousands more in existence, and more than 600 used commercially in the United States.

### PFAS chemical properties

PFOA




PFOS




**More AWWA resources available at awwa.org/PFAS**

## STUDYING POTENTIAL HEALTH EFFECTS OF PFAS

The same properties that made these chemicals attractive for industrial and consumer applications have fostered the accumulation of PFAS in the human body and in the environment. We know these chemicals accumulate in various tissues of living organisms, and that some are toxic, but we know relatively little else about many of them. Fortunately, that's rapidly changing because of growing scrutiny from health agencies, utilities and the public.

### Research, studies needed for answers

The speed with which PFAS have emerged as a challenge for the water sector is stunning. In AWWA's 2019 State of the Water Industry Report, PFAS was the sector's second-highest ranked regulatory concern. In 2014, PFAS had just broken into the SOTWI top-ten emerging contaminant issues.

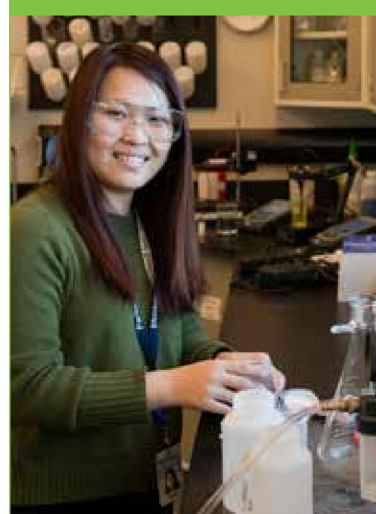
EPA and the U.S. Centers for Disease Control and Prevention describe the human health effects from exposure to low environmental levels of PFAS as uncertain. There are, however, studies of laboratory animals given large amounts of PFAS that found some PFAS compounds may negatively impact growth and development, reproduction, thyroid function, the immune system, and the liver. More research is needed to assess the human health effects of exposure to PFAS.

There is broad agreement that a great deal of research is needed to better understand which PFAS compounds – and at what levels -- pose serious public health risks and how to cost-effectively remove PFAS contamination. With those goals in mind, AWWA is joining with colleagues across the water sector to support federal research funding.

*Excerpted from June 2019 Opflow article by Dustin Mobley and Chris Tadanier*

### PFAS on rise in AWWA's 2019 State of the Water Industry Report

| CURRENT REGULATORY CONCERNS | | |
|---|---|---|
| Rank | Area | % Extremely concerned |
| 1 | Non-point source pollution | 17.1% |
| **2** | **Per- and polyfluoroalkyl substances (PFAS)** | **15.8%** |
| 3 | Cyanotoxins | 14.6% |
| 4 | Chemical spills | 16.0% |
| 5 | Point source pollution | 13.5% |
| 6 | Combined sewer overflows | 14.9% |
| 7 | Disinfection byproducts | 12.3% |
| 8 | Nutrient removals | 13.0% |
| 9 | Lead and copper | 14.0% |
| 10 | Pathogens | 14.4% |
| 11 | Radionuclides | 10.9% |
| 12 | Arsenic | 10.7% |



## SOURCES AND OCCURRENCES OF PFAS

In 2009, EPA included PFOA and PFOS on the Third Contaminant Candidate List and started the process of evaluating PFAS regulation under the Safe Drinking Water Act. The next step was developing a sound analytical method and sampling more than 4,900 water systems for six PFAS compounds through the Third Unregulated Contaminant Monitoring Rule (UCMR3). Samples collected from 2013 to 2015 showed a small number of water supplies–1.3%–had PFAS present above the current EPA Lifetime Health Advisory Level of 70 ng/L for PFOA and PFOS.

AWWA members are currently working with EPA to ensure that additional monitoring for PFAS compounds in the fifth UCMR cycle, 2021-2023, will utilize a well-tested analytical method and that states, EPA, and water systems are prepared to communicate effectively about observed levels.

### Sources of PFAS Contamination

#### Aqueous film-forming foams (AFFFs)

AFFFs have been used at military bases, airports, and firefighting training sites to suppress flammable liquid fires, and several PFAS compounds have been ingredients in these products. Uncontained AFFF runoff has migrated through soil to contaminate nearby aquifers and surface waters at a number of sites in the United States.

#### Manufacturing

Facilities that produced PFAS products or used PFAS in manufacturing processes have released the chemicals through wastewaters, solid waste, and air emissions.

#### Landfill disposal

At several historic landfill sites, PFAS-contaminated waste has contributed to leachate—liquid that has passed through a landfill and extracted dissolved and suspended matter from it—that subsequently contaminated natural waters. Today, untreated landfill leachate may pose a contamination risk.

*Excerpted from June 2019 Opflow article by Dustin Mobley and Chris Tadanier*

### Treatment options

To date, there are three widely applied technologies for PFAS reduction once water is contaminated. Each has advantages and limitations. All three generate waste streams that themselves must be managed. All require significant increases in capital and operating expenses. They include:

- Activated carbon, in which contaminants are adsorbed by the activated carbon media. The media needs to be regenerated periodically to renew adsorptive capabilities.
- Anion exchange, typically called ion exchange. The ion exchange process removes contaminants, such as PFAS, from water by exchanging them for another charged substance–typically chloride–on the surface of a resin. Removal rates vary by PFAS compound.
- Membrane filtration, using nanofiltration and/or reverse osmosis (RO) membranes. The technology removes dissolved substances by passage through a porous membrane at high pressure.

## PFAS treatment methods

| Treatment Method | Considerations | |
|---|---|---|
| | **Pros** | **Cons** |
| Granular Activated Carbon (GAC) | • Widely used for PFAS removal, high removal rates possible<br>• Powder activated carbon is useful for responding to spills | • Lower removal rates for perfluoroalkyl acids and short-chain PFAS<br>• Possibility of competitive adsorption with other compounds present, such as TOC<br>• Low rate of adsorption in GAC may result in long mass transfer zones and adjustment of associated operating requirements<br>• Requires thermal regeneration of GAC; regenerated GAC may not be as effective as virgin GAC<br>• Creates waste residuals to dispose of exhausted carbon and potential opportunity for pollution |
| Anion Exchange (IX) | • Sorption rates depend on the resin and porosity<br>• Can partially remove PFOA, PFNA, and PFOS<br>• Resin can be specialized for specific PFAS and allows IX to have a higher capacity than activated carbon | • Life-cycle costs are similar to GAC but depend greatly on resin and treatment system<br>• Rate of exchange will depend on many factors, including influent PFAS concentration, design of the IX, solution ionic strength and bead material<br>• Surface water supplies may need clarification/ filtration before treatment<br>• Range of efficacy for long and short-chain PFAS |
| Membrane Filtration | • Excellent, broad spectrum removal of PFAS<br>• Reasonable for groundwater systems | • Reject water must be treated before discharging<br>• High capital expense with high energy demands<br>• Susceptible to fouling and may require pre-treatment<br>• Reverse osmosis is preferable to nanofiltration due to better removal efficiency but higher operating costs<br>• Volume of water lost to brine waste stream can be significant |

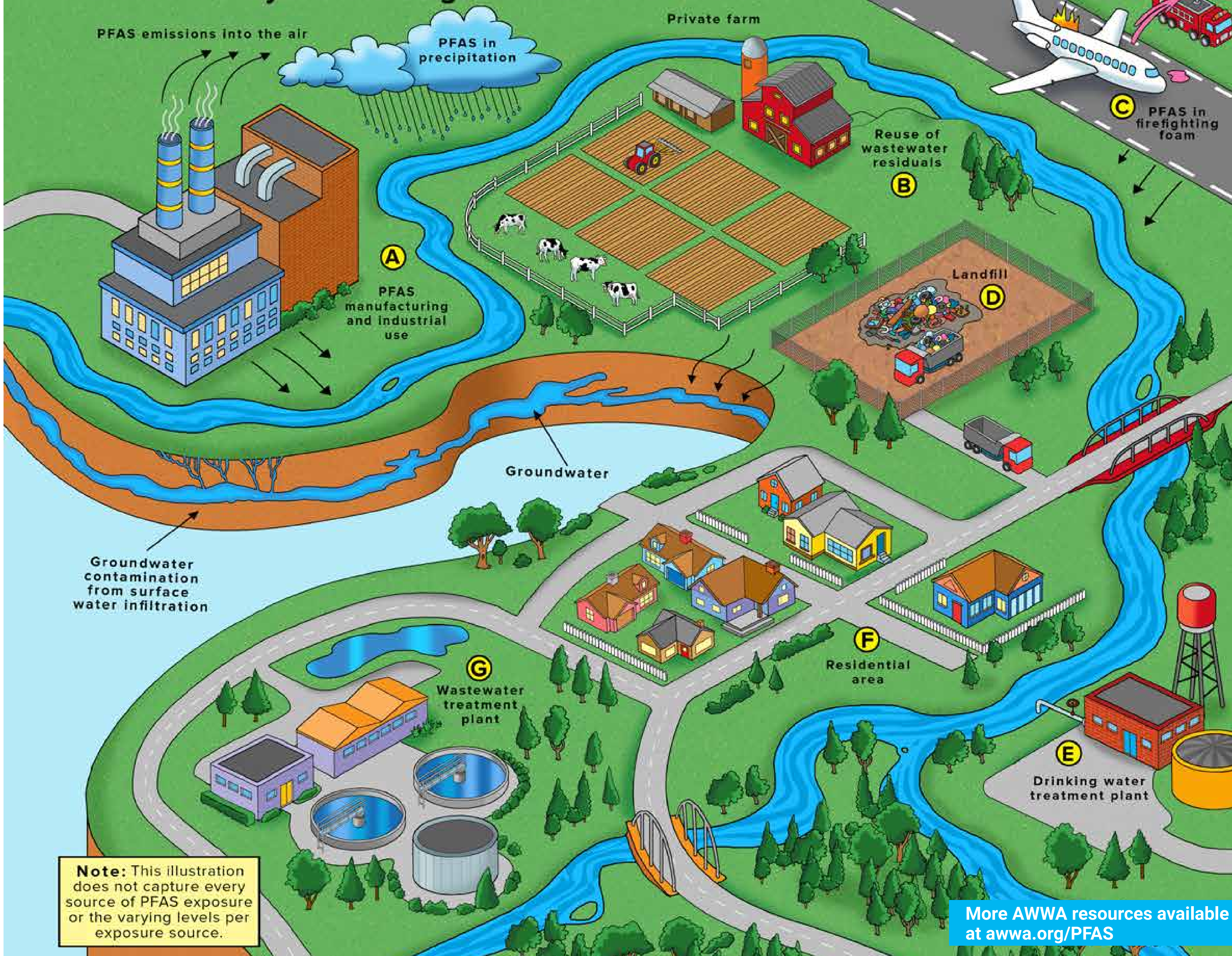
## PFAS contaminated residuals

Water and wastewater treatment generate solid residuals as part of conventional treatment processes to protect public health. Biosolids from wastewater treatment are nutrient rich, and once treated and tested to meet federal and state or provincial standards, they often are recycled as lower-cost fertilizers and soil amendments on agricultural land.

PFAS are not used in water and wastewater treatment processes but may be found in drinking water sources or wastewater influent. PFAS compounds have been shown to accumulate in biosolids, so when there are significant contributions from industry, levels in biosolids have been high enough to lead to elevated levels in groundwater and uptake into the food chain. Reducing or eliminating PFAS at the source is the most efficient action to address potential concerns related to PFAS in biosolids and residuals.

**More AWWA resources available at awwa.org/PFAS**

# How PFAS Cycle Through the Environment




**A**
PFAS, which are unregulated in industrial discharges, enter the environment through air, surface water and groundwater.

**B**
Nutrient-rich materials that remain after wastewater treatment and testing are used on farms as low-cost fertilizers. Significant contributions to wastewater from nearby industrial sites can lead to elevated PFAS levels in the residual materials that can seep into groundwater if not removed during treatment.

**C**
Firefighting foams containing PFAS were previously used at airports, military bases and training sites. In some sites, the runoff migrated through soil into surface and groundwater.

**D**
At older landfill sites, wastewater containing dissolved and suspended materials from contaminated waste may have leached into groundwater or entered surface water.

**E**
New technologies have enabled recent detection of PFAS in drinking water supplies. Water treatment facilities that hadn't previously known of PFAS in their water supplies are determining the most effective treatments for removal.

**F**
PFAS were used in common household products such as non-stick cookware, shampoo, food containers and paint. Because they don't easily break down, PFAS can accumulate in the human body and end up in source water and drinking water.

**G**
Liquid waste that seeps from landfills and wastewater plants are treated at wastewater plants, but PFAS may remain in the water after treatment and contaminate groundwater.

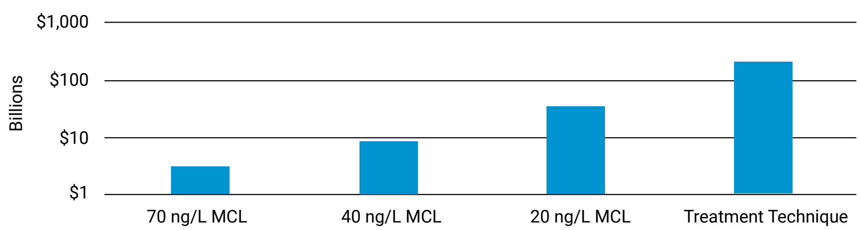
## COSTS OF PFAS TREATMENT

With U.S. Congress considering legislation that would require a national regulation for PFAS, the Congressional Budget Office asked AWWA for information about the costs of PFAS removal through drinking water treatment.

AWWA prepared a preliminary estimate of drinking water treatment costs for two specific PFAS, PFOA and PFOS. The estimate detailed three different technologies for PFOA and PFOS removal – granular activated carbon (GAC), ion exchange and reverse osmosis. The cost of each of these technologies was estimated based on three potential maximum contaminant levels that EPA could set. A fourth scenario addressed the possibility of EPA setting a treatment technique standard that would apply to all community water systems. AWWA's full cost estimate analysis is available at awwa.org/pfas.

Depending on how PFAS-related legislation is finalized, the potential capital costs associated with treatment to remove PFOA and PFOS in drinking water would vary significantly. At a minimum, the potential capital cost would quickly exceed $3 billion nationally if regulation was aligned with EPA's lifetime health advisory level of 70 ng/L. It could exceed $38 billion if federal implementation mirrored state-level efforts of less than 20 ng/L. There is the potential, given the limited understanding of PFAS removal, that a treatment technique standard would be required and could entail more than $370 billion in capital investment and over $12 billion in annual O&M costs.

### U.S. Cost of Drinking Water Treatment to Remove PFOA and PFOS Using GAC




*Planning level costs are estimated to be conceptual and may be higher (+50%) or lower (-30%).*

AWWA's cost estimate is based on several assumptions and is conservative because:

- It does not consider lost water supply capacity and associated system resiliency due to taking water sources off-line and water lost due to waste streams.
- It was not possible to account for the cost of treatment of waste residuals, particularly with the current regulatory uncertainty surrounding PFAS as a hazardous substance.
- It does not include administration costs for a primary drinking water standard.
- Available data on which to base a cost estimate is limited.

The Association analysis highlights the need for additional data and research to better understand the implications of a national drinking water standard.

## AWWA Guiding Principles on PFAS Regulation

### 1. Commitment to public health protection

Protecting public health is AWWA's first core principle concerning PFAS and all drinking water matters. While human health impacts from PFAS exposure at levels found in drinking water are uncertain, AWWA recognizes PFAS as a growing public health concern that merits swift and serious attention.

### 2. Fidelity to scientific process

The Safe Drinking Water Act mandates a consistent, transparent, and science-based process for the consideration of new regulations. AWWA supports following the essential SDWA steps–without undue delay–to assure PFAS risks are effectively and efficiently reduced.

### 3. Protection of source water

The best way to keep drinking water safe is to protect it at its source. AWWA believes EPA should utilize existing laws to understand and control PFAS risks before harmful substances are introduced into commerce, and that PFAS producers–not consumers and water utilities–should be liable for cleaning up drinking water and the environment.

### 4. Investment in research

More funding for research is needed to assess and address the human health effects of exposure to PFAS; identify analytical methods that quantify levels of PFAS in source water, drinking water and wastewater; and further develop technologies to cost-effectively remove PFAS compounds to levels that do not post health concerns.

"… Regulatory actions need to be prudently implemented to avoid aggravating affordability issues for customers, particularly those with low incomes … Water systems across the United States are striving to provide the best water quality possible at a reasonable cost to their customers. Investing in a treatment requirement based on inadequate information can leave fewer resources to address other known risks, such as failing infrastructure or lead service line replacement."
*—AWWA response to the Congressional Budget Office*

**More AWWA resources available at awwa.org/PFAS**

## AWWA URGES PUBLIC HEALTH PROTECTION, SOUND SCIENCE

In Congressional testimony and communication with decision-makers, AWWA stressed the importance of source water protection, scientific process and continuing research to confront the challenge of PFAS in drinking water.

> "We caution against setting a precedent of by-passing these established processes via legislative action…That said, we are eager to follow the data on PFAS compounds wherever it may go in the investigative process so that we may know how to best protect public health."
> *—Tracy Mehan, AWWA executive director of government affairs*

AWWA emphasizes that EPA should use its existing authorities to address PFAS, including:

- The Toxic Substances Control Act of 1976, which gives EPA data-gathering authority to both collect data from manufacturers and restrict the use of industrial chemicals.
- The Safe Drinking Water Act (SDWA), which empowers EPA to decide which contaminants pose a meaningful opportunity to protect public health through drinking water standards.

AWWA advocates for proper federal funding to conduct research to:

- Understand the potential health effects and risks associated with PFAS
- Develop analytical methods to quantify levels of PFAS compounds in environmental samples, particularly in natural waters, wastewaters, and soil
- Develop technologies to more cost-effectively remove problematic PFAS from drinking water and wastewaters to levels that do not pose public health concerns

**More AWWA resources available at awwa.org/PFAS**

## ADDRESSING PFAS AT THE FEDERAL LEVEL

In 2016, EPA released 70 nanogram per liter drinking water lifetime health advisories for PFOA and PFOS, as individual compounds and cumulatively. Health advisories are not enforceable standards but rather guides to inform state and local risk management. Health advisories are a first step in setting treatment objectives, based on available health effects research. They do not take practical implementation considerations into account, nor do they consider cost.

In 2018, AWWA participated in a PFAS National Leadership Summit sponsored by EPA to inform the agency's decision process for PFAS regulation. AWWA advised EPA to:

1. Use its statutory tools to collect the information needed to make sound risk management decisions
2. Follow the Safe Drinking Water Act process to determine if and what drinking water standards should be set
3. Utilize its regulatory tools to protect drinking water supplies from PFAS compounds that pose health concerns
4. Coordinate with other federal agencies, local governments and utilities to communicate more effectively to the public about PFAS risks

In February 2019, EPA released its PFAS Action Plan to identify, understand and deal with the breadth of PFAS contamination across the nation and its territories. The action plan includes developing regulations for PFOA and PFOS, both to set enforceable standards for drinking water and to designate these compounds as Comprehensive Environmental Response, Compensation, and Liability Act (Superfund) hazardous substances. EPA is expected to make a regulatory determination for PFOA and PFOS by the end of 2019.

### Trending in an Instant

With PFAS and all emerging contaminants, communicating risk is a monumental challenge for water utility professionals. AWWA recently published a new guide, *Trending in an Instant*, which helps utilities communicate with clarity in today's changing media landscape. Available as an AWWA utility member benefit, a summary of the guide is available at awwa.org/pfas.

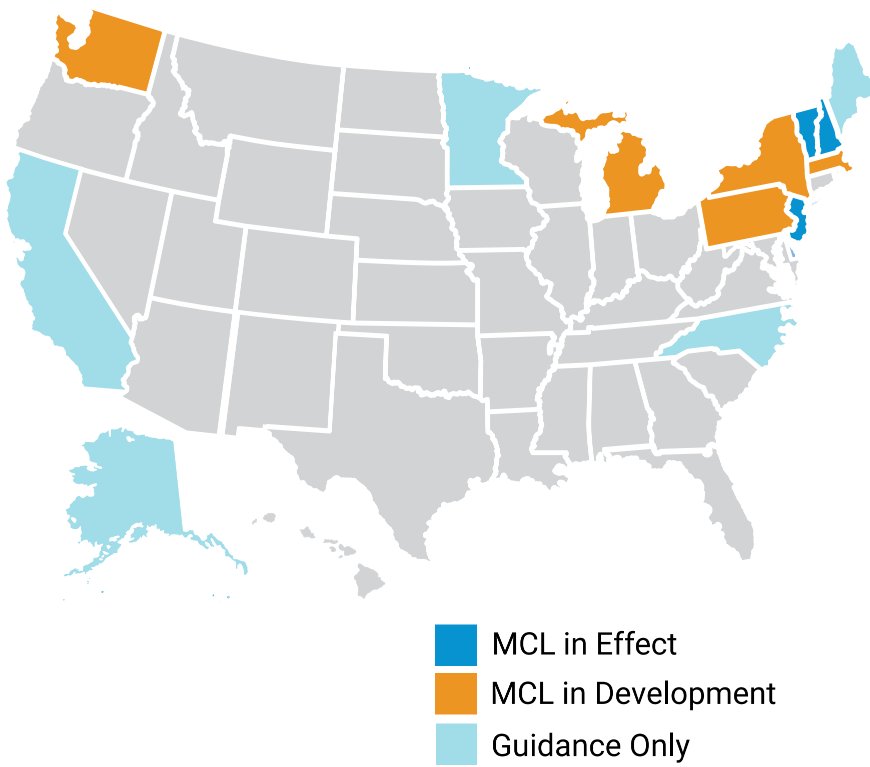
## STATE REGULATORY OVERVIEW

Individual states are also taking steps to address PFAS contamination in the absence of federal regulations. As of October 2019, 21 states had established policies to protect drinking water sources and three more were engaged in developing policies.

As the map below shows, three states have drinking water MCLs for PFAS in effect and five more are somewhere in the development process.

AWWA's PFAS State Regulatory Overview, available at awwa.org/pfas, provides insight into the PFAS listed and maximum allowed concentrations reflected in each state's draft and final regulations.

### State Drinking Water Standards and Guidance




***"Our members are concerned about states setting a range of maximum contaminant levels for PFAS compounds using a range of different analytical techniques, sometimes without adequate cost-benefit analysis."***

Tracy Mehan, AWWA executive director of government affairs

*May 15, 2019 testimony before U.S. House Subcommittee on the Environment and Climate Change*

## AWWA RESOURCES ON PFAS – AVAILABLE AT AWWA.ORG

AWWA provides the following PFAS resources for members and continues to develop them as the issue evolves. Many of these resources provide greater detail.

### AWWA Resource Pages

awwa.org/PFAS • Policy and Advocacy: awwa.org/Policy-Advocacy/Legislative-Activities

### Fact Sheets

Summary of State Regulation to Protect Drinking Water • Treatment Methods • Overview and Prevalence of PFAS • Monitoring, Sampling, Analysis • Cost Estimate to Remove PFAS

### *Journal AWWA*

The PFAS Problem, Nov. 2019 • Fast and Furious, PFAS, Sep. 2019 • Litigation Combats Hazards of Aqueous Film-Forming Foam Product, Aug. 2019 • States are Acting without USEPA, Aug. 2019 • PFAS 101, July 2019 • Monitoring UCMR Compounds in Drinking Water System Components and Treatment Chemicals, March 2019 • AWWA: Public health protection, scientific process, resources key in addressing PFAS, Feb. 2019

### *Opflow*

Litigation Combats Hazards of Aqueous Film-Forming Foam Products, Aug. 2019 • PFAS: Why They Matter and How to Treat Them, June 2019

### *AWWA Water Science*

Effectiveness of point-of-use/point-of-entry systems to remove per- and polyfluoroalkyl substances from drinking water, March 2019

### AWWA Standards

Activated Carbon Treatment: B600 Powdered Activated Carbon • B604 Granular Activated Carbon • B605 Reactivation of Granular Activated Carbon

Ion Exchange: B116 Electrodialysis and Ion-Exchange Membrane Systems

Reverse Osmosis: B114 Reverse Osmosis and Nanofiltration Systems for Water Treatment • B110 Membrane Systems

G100 Water Treatment Plant Operation and Management

### AWWA Manuals of Water Supply Practice

Reverse Osmosis: M46 Reverse Osmosis and Nanofiltration • M62 Membrane Applications for Water Reuse

### AWWA Technical Reports

Activated Carbon: Solutions for Improving Water Quality

### AWWA Communications Tool

Trending in an Instant: A Risk Communication Guide for Utilities

### AWWA Events

Water Quality Technology Conference

**More AWWA resources available at awwa.org/PFAS**


American Water Works Association

Lakeside Water District

# Disbursements List

March 2026

| Num | Name | Account | Original Amount |
|---|---|---|---|
| 17750 | Sloan Electric Company | 1582 · Oper, Eng. & Security Bldg. | 1,681.50 |
| 17751 | Superior Ready Mix Concrete | 1582 · Oper, Eng. & Security Bldg. | 1,318.33 |
| 17752 | ARTHUR, JAMES V. | 4000 · Water Sales on Account | 139.97 |
| 17753 | BEHM, JAZMIN | 4000 · Water Sales on Account | 30.82 |
| 17754 | BUSH, MARINA | 4000 · Water Sales on Account | 173.16 |
| 17755 | CHAMBERLAIN, MICHAEL | 4000 · Water Sales on Account | 139.23 |
| 17756 | DURHAM, DANIEL | 4000 · Water Sales on Account | 154.11 |
| 17757 | KIEWITT INFRASTRUCTURE WEST | 4000 · Water Sales on Account | 560.26 |
| 17758 | KRAUSE, KELLEY | 4000 · Water Sales on Account | 71.32 |
| 17759 | LIN, MARK | 4000 · Water Sales on Account | 147.76 |
| 17760 | REED, ALAN | 1001 · US Bank Checking | 132.88 |
| 17761 | SEV HOLDIMGS LLC/E.VACA | 4000 · Water Sales on Account | 166.81 |
| 17762 | WASHBURN, GYPSY | 4000 · Water Sales on Account | 77.51 |
| 17763 | ACWA - Group Ins | 7040 · Group Insurance | 31,629.24 |
| 17764 | ACWA JPIA W/C | 7100 · General Insurance | 5,216.01 |
| 17765 | All Star Computers | 7400 · Office Expense | 50.00 |
| 17766 | Alpha Analytical Laboratories, Inc | 5080 · Water Treatment & Testing | 1,054.00 |
| 17767 | Cintas First Aid & Safety | 6100 · Distribution - Maint/Supplies | 430.02 |
| 17768 | Coastal Flooring | 1582 · Oper, Eng. & Security Bldg. | 7,440.00 |
| 17769 | CrispImaging Inc. | 1547 · CIP Design/Engineer | 35.04 |
| 17770 | Excel Telemessaging | 7400 · Office Expense | 241.91 |
| 17771 | Ferguson Waterworks | 6100 · Distribution - Maint/Supplies | 5,121.14 |
| 17772 | Global Power Group, Inc. | 6100 · Distribution - Maint/Supplies | 822.50 |
| 17773 | HASA | 5200 · Water Treatment -Maint/Supplie | 1,189.88 |
| 17774 | Helix Water District | 5080 · Water Treatment & Testing | 921.00 |
| 17775 | Heritage Landscape Supply | 5080 · Water Treatment & Testing | 25.83 |
| 17776 | Jan-Pro | 7400 · Office Expense | 350.00 |
| 17777 | Napa Auto Parts Inc | 6200 · Trucks-Fuel,Maintenance,Repair | 54.00 |
| 17778 | Payton's Ace Hardware, Inc. | Split | 883.61 |
| 17779 | PowerPlan | 6200 · Trucks-Fuel,Maintenance,Repair | 2,107.38 |
| 17780 | Quadient - Postage | 7400 · Office Expense | 2,000.00 |
| 17781 | Republic Services | 6100 · Distribution - Maint/Supplies | 903.58 |
| 17782 | Safe & Sound | 7400 · Office Expense | 122.85 |
| 17783 | ULine | 1582 · Oper, Eng. & Security Bldg. | 7,500.00 |
| 17784 | Underground Service Alert | 7440 · Dues & Subscriptions | 175.55 |
| 17785 | UniFirst Corp | 6100 · Distribution - Maint/Supplies | 439.08 |
| 17786 | Wave.Band | 7400 · Office Expense | 946.91 |
| 17787 | SD Recorder/County Clerk | 7400 · Office Expense | 20.00 |
| 17788 | Summer Piper | 7230 · Consultants | 1,775.50 |
| 17789 | 4S Construction | 1582 · Oper, Eng. & Security Bldg. | 23,680.00 |
| 17790 | ACWA/JPIA | 7100 · General Insurance | 11,430.92 |
| 17791 | Alpha Analytical Laboratories, Inc | 5080 · Water Treatment & Testing | 508.00 |
| 17792 | Costco | 7440 · Dues & Subscriptions | 67.54 |
| 17793 | Dexter Wilson Engineering, Inc. | 1581 · Yerba Valley Annex. Pipeline | 1,110.00 |
| 17794 | East County Urgent Care | 6100 · Distribution - Maint/Supplies | 600.00 |
| 17795 | Enniss, Inc. | 6100 · Distribution - Maint/Supplies | 1,512.20 |
| 17796 | Ferguson Waterworks | 6100 · Distribution - Maint/Supplies | 1,316.69 |
| 17797 | Hach Company | 5200 · Water Treatment -Maint/Supplie | 3,499.76 |

| | | | |
|---|---|---|---|
| **17798** | **HASA** | 5200 · Water Treatment -Maint/Supplie | 1,470.31 |
| **17799** | **Heritage Landscape Supply** | 6110 · Emergency Repairs & Service | 281.29 |
| **17800** | **Lakeside Petroleum, Inc.** | 6200 · Trucks-Fuel,Maintenance,Repair | 3,146.17 |
| **17801** | **Napa Auto Parts Inc** | 6200 · Trucks-Fuel,Maintenance,Repair | 219.35 |
| **17802** | **SiteOne Landscape Supply** | 6110 · Emergency Repairs & Service | 350.69 |
| **17803** | **Snell & Wilmer** | 7210 · Attorney Fees | 1,275.00 |
| **17804** | **South Bay Foundry, Inc.** | 6100 · Distribution - Maint/Supplies | 2,262.75 |
| **17805** | **Techniclean, Inc.** | 1582 · Oper, Eng. & Security Bldg. | 495.00 |
| **17806** | **UniFirst Corp** | 6100 · Distribution - Maint/Supplies | 476.55 |
| **17807** | **United Site Service, Inc.** | 6100 · Distribution - Maint/Supplies | 114.90 |
| **17808** | **WestAir** | 6100 · Distribution - Maint/Supplies | 129.68 |
| **17809** | **Amer.Finest City Backflow Services** | 6400 · Outside Labor | 446.00 |
| **17810** | ****included in payroll** | Payroll Check | 0.00 |
| **17811** | **Standard Insurance** | 7040 · Group Insurance | 447.71 |
| **17812** | **Variable Annuity Life Insurance** | 2100 · Payroll Liabilities | 4,533.44 |
| **17813** | **San Diego Recorder/County Clerk** | 7400 · Office Expense | 20.00 |
| **eft** | **First Bankcard - Visa** | First Bankcard | 1,970.24 |
| **eft** | **First Bankcard - Visa** | First Bankcard | 4,188.33 |
| **eft** | **US Bank-Register** | 7400 · Office Expense | 169.27 |
| **eft** | **San Diego County Water Authority** | 5000 · Water Purchases | 635,245.00 |
| **eft** | **InvoiceCloud Fee** | 7400 · Office Expense | 799.60 |
| **eft** | **US Bank-NSF** | 1200 · Accounts Receivable | 144.96 |
| **eft** | **US Bank-NSF** | 1200 · Accounts Receivable | 100.00 |
| **eft** | **US Bank-Fees** | 7400 · Office Expense | 818.02 |
| **eft** | **Verizon** | 7400 · Office Expense | 172.28 |
| **eft** | **SDGE** | 5100 · Electric Power | 18,634.10 |
| **eft** | **SDGE** | 5100 · Electric Power | 148.53 |
| **eft** | **SDGE** | 5100 · Electric Power | 1,515.49 |
| **eft** | **SDGE** | 5100 · Electric Power | 741.36 |
| **eft** | **SDGE** | 5100 · Electric Power | 20.71 |
| **eft** | **SDGE** | 5100 · Electric Power | 0.13 |
| **eft** | **Cal Pers** | 2100 · Payroll Liabilities | 6,928.25 |
| **eft** | **Cal Pers** | 7050 · CalPers Retirement | 12,678.02 |
| **payroll** | **Payroll** | Split | 84,758.69 |
| | | | 904,675.62 |

## SUMMARY OF FORMAL BOARD OF DIRECTORS' MEETING
## APRIL 23, 2026

1. Monthly Treasurer's Report on Investments and Cash Flow.
   The Board noted and filed the monthly Treasurer's Report

2. Approve Assignment of San Diego County Water Authority's Semitropic Groundwater Banking Rights and Sale of 7,717 acre-feet of banked water.
   The Board authorized the General Manager to execute agreements establishing the right for Westside Agriculture, LLC (Westside) to receive assignment of 100% of the Water Authority's recharge, recovery, and storage capacity in the Semitropic Water Bank (SWB) and for the sale of 7,717 acre-feet of banked water.

3. Adopt positions on various bills.
   The Board took the following actions:
   - Adopted a position of Support on S. 3737, the GROW SMART Act (Padilla).
   - Adopted a position of Support on S. 3738, the MORE WATER Act (Padilla).
   - Adopted a position of Support on AB 1893, Wildfire prevention: local assistance grant program: eligible activities (Gallagher).
   - Adopted a position of Support on AB 2739, Community Water Affordability and System Stabilization Act of 2026 (Soria).
   - Adopted a position of Support on SB 1313, Public water systems: grants and loans: perfluoroalkyl and polyfluoroalkyl substances (McNerney).

4. Adopt position on Senate Bill 872.
   The Board adopted a position of Support on SB 872 (McNerney), Delta Levees and Canal Subsidence Fund.

5. Adopt position on Assembly Bill 2215.
   The Board adopted a position of Support on AB 2215 (Calderon), Water rights: permits: State Water Project.

6. Construction contract with James W. Fowler Co. for the Pipeline 5 Relining Oceanside 5 Flow Control Facility to Huckleberry Lane project.
   The Board took the following actions:
   A. Rejected J.F. Shea Construction bid protest; and
   B. Awarded a construction contract to James W. Fowler Co. in the amount of $30,472,539.85 for the Pipeline 5 Relining Oceanside 5 Flow Control Facility to Huckleberry Lane project.

7. Approval of Minutes.
   The Board approved the minutes of the Formal Board of Directors' meeting of March 19, 2026 and Special Board of Directors' meeting of April 9, 2026.

**SUMMARY OF SPECIAL BOARD OF DIRECTORS' MEETING**
**APRIL 9, 2026**

1. Exchange Water Delivery Agreement with Eastern Municipal Water District.
The Board ratified an Exchange Water Delivery Agreement Between the San Diego County Water Authority and Eastern Municipal Water District.

# General Managers
## Monthly Report

**May 5, 2026**

**Board of Directors Meeting**

1) **Yerba Valley Annexation Pipeline Update**

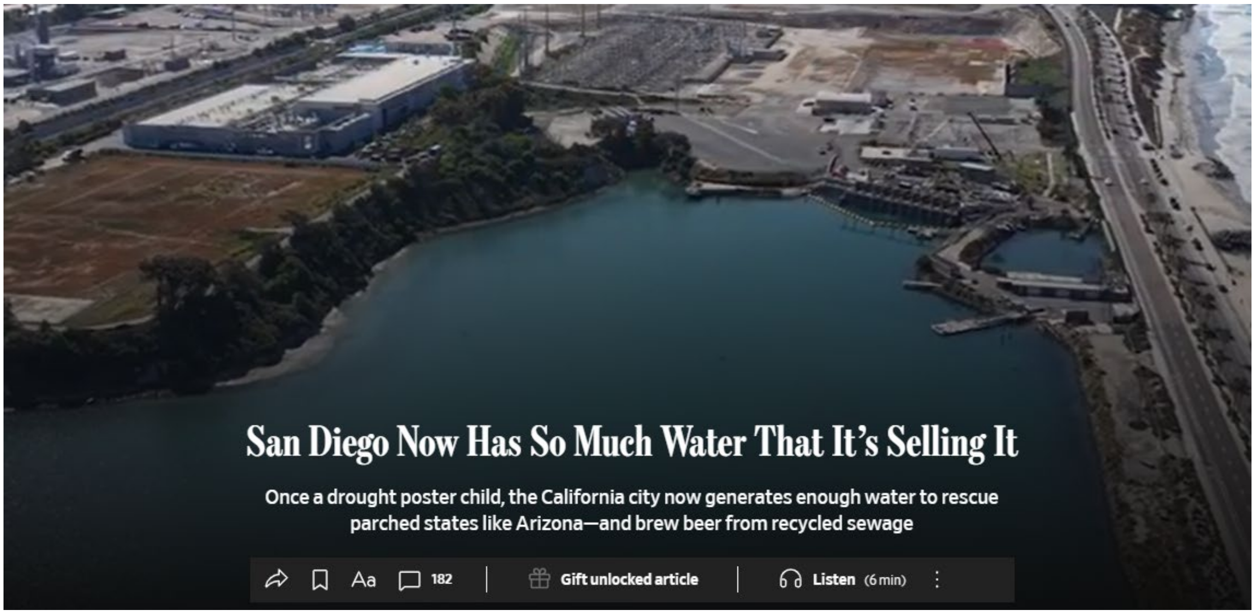
2) **2026-2027 Budget Development**

3) **2025 Consumer Confidence Report and 2026 Newsletter**

**Articles/Editorials Enclosed:**

**San Diego Now Has So Much Water That It's Selling It   WSJ**

THE WALL STREET JOURNAL.



# San Diego Now Has So Much Water That It’s Selling It

Once a drought poster child, the California city now generates enough water to rescue parched states like Arizona—and brew beer from recycled sewage



By Jim Carlton Follow | Photography and videography by John Francis Peters for WSJ

April 15, 2026 10:00 pm ET

Quick Summary

- Arizona and Nevada are pursuing a deal with the San Diego County Water Authority to access desalinated ocean water.

View more

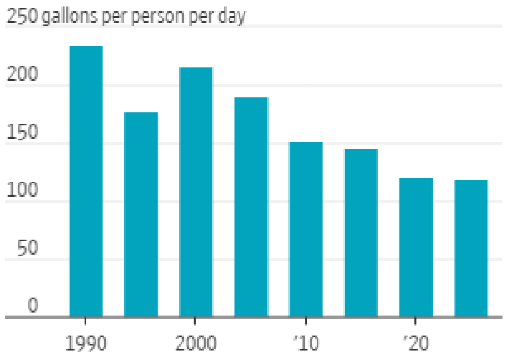
SAN DIEGO—With the Colorado River in crisis, Arizona and Nevada are turning to an unconventional lifeline: the ocean water off California’s golden beaches.

Both desert states are pursuing a deal with the San Diego County Water Authority to tap millions of gallons of fresh water produced by a Carlsbad ocean-desalination plant—the largest in North America—to help offset their reliance on the collapsing Colorado River.

The 1,450-mile river is in peril, a water source for 40 million people in seven states that is beset by population growth and a warming climate. Fed by the river, Lake Mead, America’s largest reservoir, has dropped to an elevation of only 1,060 feet, down 166 feet from its 1983 peak—with nearly 30 feet gone in just the past five years. A poor snowpack this winter in the Rockies means it is forecast to keep falling.

The decline has triggered cutbacks, both mandatory and voluntary. Arizona users have already cut water consumption by nearly a third, and additional reductions loom. More Western states are hunting for alternatives, including the first-of-its-kind deal for San Diego's desalinated ocean water.

**Per capita water use in San Diego region**

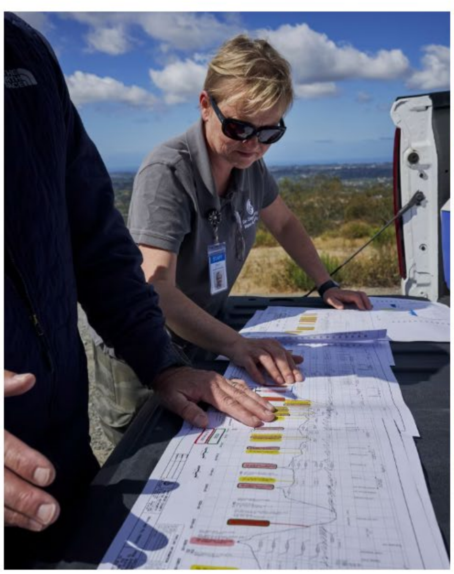



Source: San Diego County Water Authority

"It's not a silver bullet but several pieces of silver buckshot," said John Entsminger, general manager of the Southern Nevada Water Authority. He intends to sign an exploratory agreement with San Diego, along with his counterpart at Arizona's Department of Water Resources.

Pending federal and other approvals, Arizona, Nevada and other Colorado River users could strike water-transfer deals with the San Diego utility. No water is literally shipped; rather, the parties would trade access rights to water sources. States would fund much of the estimated 56,000 acre-feet of water that the desalination plant produces annually in exchange for San Diego's share of the Colorado River. The agreement could supply enough water for some 500,000 people.

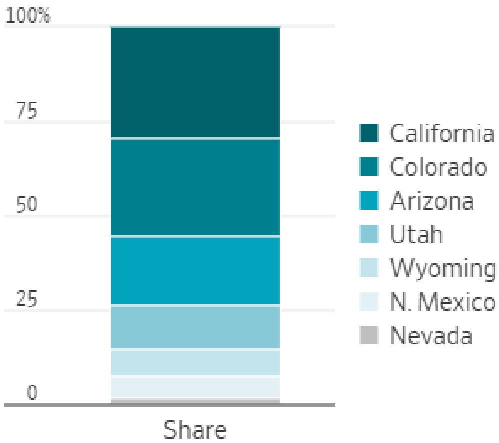
So-called water transfers increasingly offset local shortages, and more of these deals are crossing state lines. Water agencies are also creating new supplies for trade, including by recycling sewage water or desalinating ocean water.



The San Diego County Water Authority's Eva Plajzer with a system diagram at the Olivenhain Dam and Reservoir, about 20 miles inland from the Carlsbad plant.

Both Nevada and Arizona are partnering with the Metropolitan Water District of Southern California to build a plant in Los Angeles County that can treat up to 165,000 acre-feet of sewage water—or enough for a city of 1.5 million—for the benefit of all three states.

**Colorado River allocations among U.S. states**

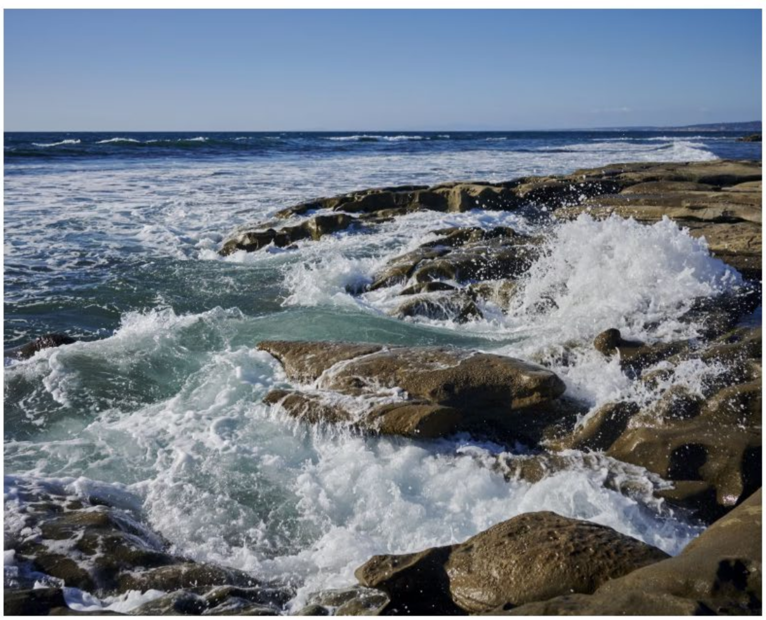



Source: San Diego County Water Authority

Utah has expressed interest in investing in more Pacific Ocean desalination plants, with the aim of securing more rights to the Colorado River from California, which holds the largest share of any state. In February, Democratic Gov. Gavin Newsom sent a letter to Utah's Republican Gov. Spencer Cox, calling that a good idea.

"There are going to be a lot of water utilities saying, 'Hey, I'm not using all the capacity in my plant, maybe I can sell it to Arizona'," said Peter Fiske, a manager at the Energy Department's National Alliance for Water Innovation.

Costs and environmental restrictions have historically slowed California's desalination efforts. Now, in Santa Monica Bay, a group of agencies plan to test new technology that removes salt from water offshore—reducing the expense and environmental headaches of doing so on land.




Some Western states want to invest in more Pacific Ocean desalination plants, with the aim of securing more of California's rights to Colorado River water.
JOHN FRANCIS PETERS FOR WSJ; SAN DIEGO COUNTY WATER AUTHORITY

The project, led by the Las Virgenes Municipal Water District and OceanWell Co., involves immersing pods the size of school buses into the ocean, more than 1,200 feet down. One goal: potentially produce a surplus and sell it.

“The ultimate endgame is to develop a water farm, which would consist of multiple pods and supply multiple public agencies,” said Robert Bergstrom, OceanWell’s founder and CEO, as he balanced on a floating dock at the Las Virgenes reservoir, where a prototype pod was recently tested.

San Diego became a water broker by necessity. During a five-year drought that ended in 1992, the San Diego County Water Authority lost a third of its allocation, which came almost entirely from imported shipments.

“The cry was ‘never again,’” said Bob Yamada, the agency’s former head of water resources, as he reminisced over lunch recently at a mall in La Jolla.

Over the next three decades, the authority invested billions to achieve water independence. It raised the height of a dam to double its storage, built the desalination plant and acquired rights to a trove of conserved Colorado River water from a desert farming district. In doing so, San Diego slashed its water imports from 95% to 10%.

Self-sufficiency came at a cost, as San Diego's water rates soared. Still, the city has largely escaped the water restrictions hitting other areas in recent droughts.

In fact, as supplies grew, San Diegans have cut their water use nearly 50% over the past quarter-century—leaving the city with water to spare. When Nick Serrano joined the water authority board in 2021, the deputy chief of staff to San Diego's mayor saw potential revenue in the unused water.

"My North Star is about affordability, and the way we can achieve that is we have an excess of water," said Serrano, now board chair of the authority.

The city of San Diego and others are recycling sewage, which will free up still more water.

The city's recycled water, branded as "Pure Water San Diego," is already a hit with local craft breweries that like its low mineral content. AleSmith Brewing Co. used it in its sold-out Re:Beer, "a crisp, dry-hopped lager."

New construction at water-recycling operations of Pure Water San Diego, which is expected to fill a significant portion of the city's supply of high-quality drinking water by 2035.

Gary Arant, the former longtime general manager of the Valley Center Municipal Water District in north San Diego County, welcomes the creative ways water managers are coping.

"I think we're moving to a realization," Arant said, sipping tea at an outdoor table in La Jolla, as clouds rolled in from the Pacific. "You've got to be able to move water from where it is to where it's needed."