

**Agenda Item 6A**



## STAFF REPORT

**TO:** Board of Directors

**PREPARED BY:** Steven Palmer, PE, CSDM, General Manager *SP*

**SUBJECT:** General Manager Report

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### Project Updates

#### Solar Evaluation

Design under revision by Centrica.

#### Administration

- Lock box service for customer payments is anticipated to start with the April billing.
- Draft case study about ultrasonic buoy for algae control in Lake Angela (Attachment 1).
- National Integrated Drought Information System Drought Monitor conditions worsened from No Drought to Abnormally Dry (Attachment 2).

### Upcoming Board Items

#### April

- Administrative Fee Schedule

#### May

- Rate Study Hearing
- Draft FY26/27 Budget
- Draft 5 Year CIP

#### June

- FY26/27 Budget
- 5 Year CIP
- Annual Special Tax Levies for CFD
- Annual Tax Levies for Delinquent Charges
- Appropriations Limit

# **Attachment 1**

## Donner Summit Public Utility District Eliminates Seasonal Treatment Crisis with Ultrasonic Algae Control

45%

Reduction in backwash & clarifier flush water volume

67%

Reduction in drinking water treatment plant influent turbidity

~\$86K

Estimated first-year cost savings from reduced water usage alone

### The Site and the Challenge

Lake Angela, an 18-acre drinking water reservoir managed by the Donner Summit Public Utility District (DSPUD) in Soda Springs, California, had been battling recurring algal blooms for years, most notably in 2009, 2015, 2016, 2022, and 2024. Some of the dominant species included *Chlorella sp.*, *Oocystis sp.*, *Navicula*, *Cocconeis*, and *Cyclotella*, all of which created operational strain on the District's water treatment plant.

Each summer, when algae populations peaked, DSPUD's treatment process paid a steep price: clogged filters, overworked clarifiers, and a spike in chemical usage that drove up costs and wasted treated water. *"When the algae in the lake got out of control, we had little choice but to add large amounts of chemicals to kill them,"* said Steven Palmer, PE, CSDM, DSPUD's General Manager. *"Unfortunately, the dead algae then clogged the system and forced us to flush everything out."*

DSPUD considered its options carefully. Adding chemicals directly to the lake was discussed but quickly set aside. *"We wanted to avoid that, just from an environmental point of view,"* Palmer said. A pre-treatment coagulation system was also evaluated, but it would have required a full pilot study before any capital could be committed, adding time and cost to an already persistent problem. What the District needed was something that could provide a cost-effective solution in a single season.

*"The buoy just seemed like a simple, straightforward, elegant solution."*

— Cathy Preis, President, Board of Directors, Donner Summit Public Utility District.

### The Solution: One MPC-Buoy in Lake Angela

In January 2025, DSPUD's Board of Directors approved the installation of one MPC-Buoy in Lake Angela. By November, the Board had seen enough to approve treatment for another two years.

The MPC-Buoy emits low-power ultrasound at a fixed depth, creating a sound layer that disrupts algae buoyancy regulation and keeps cells below the depth where they can grow. Low power is intentional. High-power systems rupture algae cells and can release toxins, trading one problem for another. LG Sonic monitors water quality continuously through the MPC-View platform and adjusts the buoy's ultrasonic programs throughout the season, staying ahead of the small fraction of cells that may gradually adapt to any given frequency. Palmer noted an interest in leaning more heavily on MPC-View's reporting tools going forward, particularly for communicating results visually to the Board and elected officials.

The 2025 season ran from spring installation through late October, covering the full window of Lake Angela’s typical bloom period. The volume of water used for backwashing and clarifier flushing fell by 45% overall, a reduction of 8.0 million gallons. The 2024 season required 17.8 million gallons for treatment plant cleaning over those four months; in 2025, that figure dropped to 9.8 million gallons. The improvement accelerated as the season continued: a 32% reduction in July widened to 64% by October, the month that had historically produced some of the worst bloom conditions.

Month	2024 Volume (MG)	2025 Volume (MG)	Change (MG)	Reduction
July	4.43	2.99	-1.44	32%
August	4.48	2.67	-1.81	40%
September	4.31	2.49	-1.81	42%
October	4.55	1.61	-2.94	64%
<b>Total</b>	<b>17.78</b>	<b>9.77</b>	<b>-8.01</b>	<b>45%</b>

Table 1. Wastewater treatment plant influent volume, 2024 vs. 2025 (July–October)

Turbidity in the drinking water treatment plant influent, a direct measure of the algae and suspended solids entering the system, dropped by an average of 67% over the same period. October’s turbidity fell from 3.4 NTU in 2024 to just 0.6 NTU in 2025, an 82% reduction. Even July, the earliest and typically lightest-affected month, recorded a 72% drop.

Month	2024 Turbidity (NTU)	2025 Turbidity (NTU)	Change (NTU)	Reduction
July	1.8	0.5	-1.3	72%
August	2.5	1.4	-1.1	44%
September	3.4	1.1	-2.3	68%
October	3.4	0.6	-2.8	82%
<b>Average</b>	<b>2.8</b>	<b>0.9</b>	<b>-1.9</b>	<b>67%</b>

Table 2. Drinking water treatment plant influent turbidity, 2024 vs. 2025 (July–October)

After the first year of implementation, DSPUD reported saving \$86,000 on reduced backwash and flush water usage. “It was pretty close to what we had estimated before we made the purchase,” Palmer said. “That’s not really including chemical costs — it’s too early to quantify those.” The total savings, once those categories are accounted for, are expected to be higher.

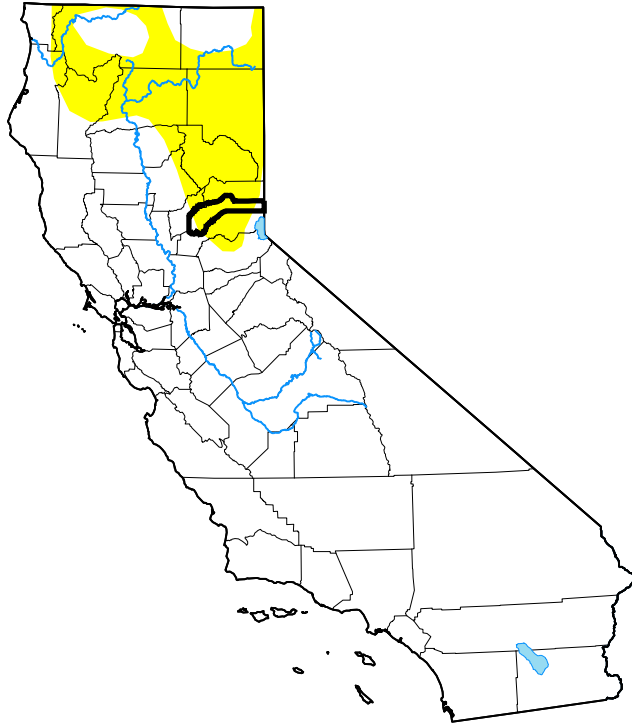
*“We definitely noticed very large improvements in the treatment process. We’re backwashing a lot less and using fewer chemicals. It’s a fascinating technology.”*  
 — Steven Palmer, PE, CSDM, General Manager, Donner Summit Public Utility District

## **Attachment 2**



# Nevada County, CA

[Home](#) / Nevada County, CA



Map released: Thurs. March 12, 2026

Data valid: March 10, 2026 at 8 a.m. EDT

## Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data

## Authors

United States and Puerto Rico Author(s):

[Brad Pugh](#), NOAA/CPC

Pacific Islands and Virgin Islands Author(s):

[Denise Gutzmer](#), National Drought Mitigation Center

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Map Download:

No Text ▾

Legend Only ▾

Stats Table ▾

## Statistics

Statistics type

Cumulative Percent Area ▾

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Export Table ▾

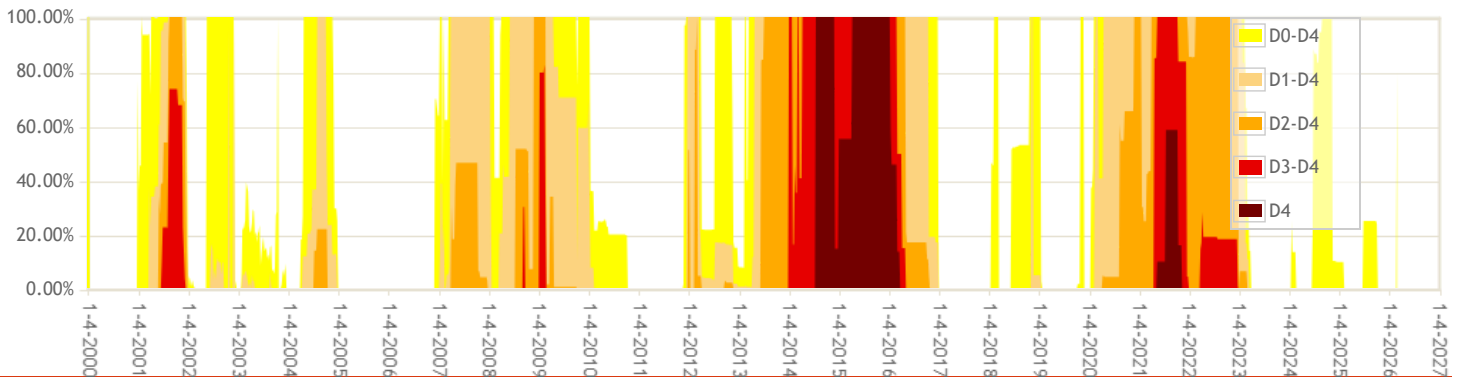
View More Statistics

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	DSCI
Current	<a href="#">2026-03-10</a>	18.99	81.01	0.00	0.00	0.00	0.00	81
Last Week to Current	<a href="#">2026-03-03</a>	100.00	0.00	0.00	0.00	0.00	0.00	0
3 Months Ago to Current	<a href="#">2025-12-09</a>	100.00	0.00	0.00	0.00	0.00	0.00	0
Start of Calendar Year to Current	<a href="#">2025-12-30</a>	100.00	0.00	0.00	0.00	0.00	0.00	0

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4	
Start of Water Year to Current	<a href="#">2025-09-30</a>	75.07	24.93	0.00	0.00	0.00	0.00	25
One Year Ago to Current	<a href="#">2025-03-11</a>	100.00	0.00	0.00	0.00	0.00	0.00	0

Estimated Population in Drought Areas: 0

Percent Area in U.S. Drought Monitor Categories



## How is drought affecting you?

Use the Condition Monitoring Observer Report (CMOR) system to let us know how dry, wet or normal conditions are affecting you, and see what others are saying.

[Submit report](#)



The U.S. Drought Monitor is produced through a partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, the National Oceanic and Atmospheric Administration and the National Aeronautics and Space Administration.

### Contact Us

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