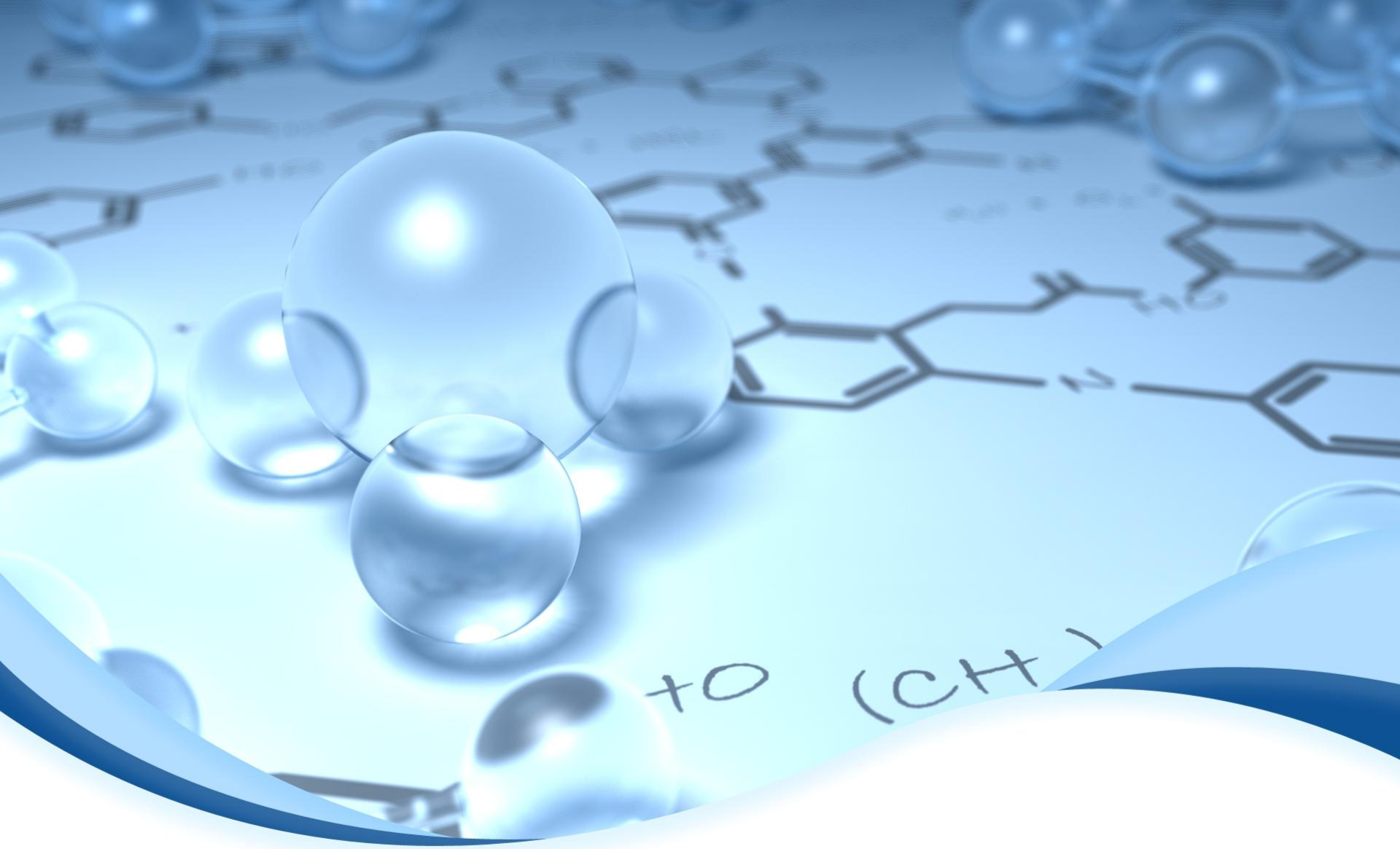


Surface Water Meeting AWOP Update

Aimee White

ADEM
Alabama Department of Environmental Management

SWM AWOP Update Outline

What is AWOP?

3 Main Status Components (Goals)

What does AWOP do?

How do I get Involved?

What would the water system need?

Maintaining The Program

Still Developing New Manganese Goals

Developing Corrosion Control Goals

Membrane Optimization Goals

AWOP Impacts

SWM AWOP Update Outline

What's happening in AWOP?

Region 4 Multi-State AWOP Team

DBP Workshop at Warrior River Water in Bessemer

What special studies were conducted?

How did it go?

What did we learn?

What is AWOP?

- Area Wide Optimization Program
- Supplies realistic goals for water treatment plants.
- The goals are set below what the regulations require.
- Water systems go above and beyond to ensure the best quality of water supplied to each customer.

3 Main Status Components

Disinfection Byproducts

- Short Term Goal for distribution's each individual site:
  LRAA is ≤ 70 ppb for TTHM and ≤ 50 ppb for HAA5
- Long Term Goal, the average of max LRAA based on 11 quarters of data:
  < 60 ppb for TTHM and < 40 ppb for HAA5.
- Plant Effluent Goal:
  TTHM RAA 20 ppb or less
  HAA5 RAA 15 ppb or less
  TOC RAA 1.7 mg/L or less

Microbial (Pathogen Removal) for Traditional WTPs

- Meet sedimentation goals of 1.0 or 2.0 NTU
- < 0.10 NTU, 95% of the time for individual filtered water turbidity
- 0.30 NTU, do not exceed
- < 0.10 NTU, rewash filter and return to service

Chlorine Residual

- Maintain sufficient chlorine residual; report lowest

What does AWOP do?

- Our team sets up training sessions and workshops in which operators can receive CEH's.
- Homework is assigned.
- Provides Operators with tools and the knowledge to achieve optimization.
- Operators can apply their knowledge /skills to their own water systems.

How do I get involved?

The Operator or Management can call me or call your inspector and we can work out a schedule to set it up. My number is 334-271-7779. Or you can email me at abwhite@adem.alabama.gov.

What would the water system need?

- A large enough space to provide room for training sessions.
- Classroom style preferably but can make other conference room styles work.
- Support from Management.
- Operators with a willingness to put forth the effort to learn new skills and gain new knowledge.

Maintaining The Program

AWOP is a voluntary program for ADEM staff. AWOP is in addition to required duties.

All appropriate water systems are tracked in the status components.

Water system involvement in AWOP activities is voluntary.

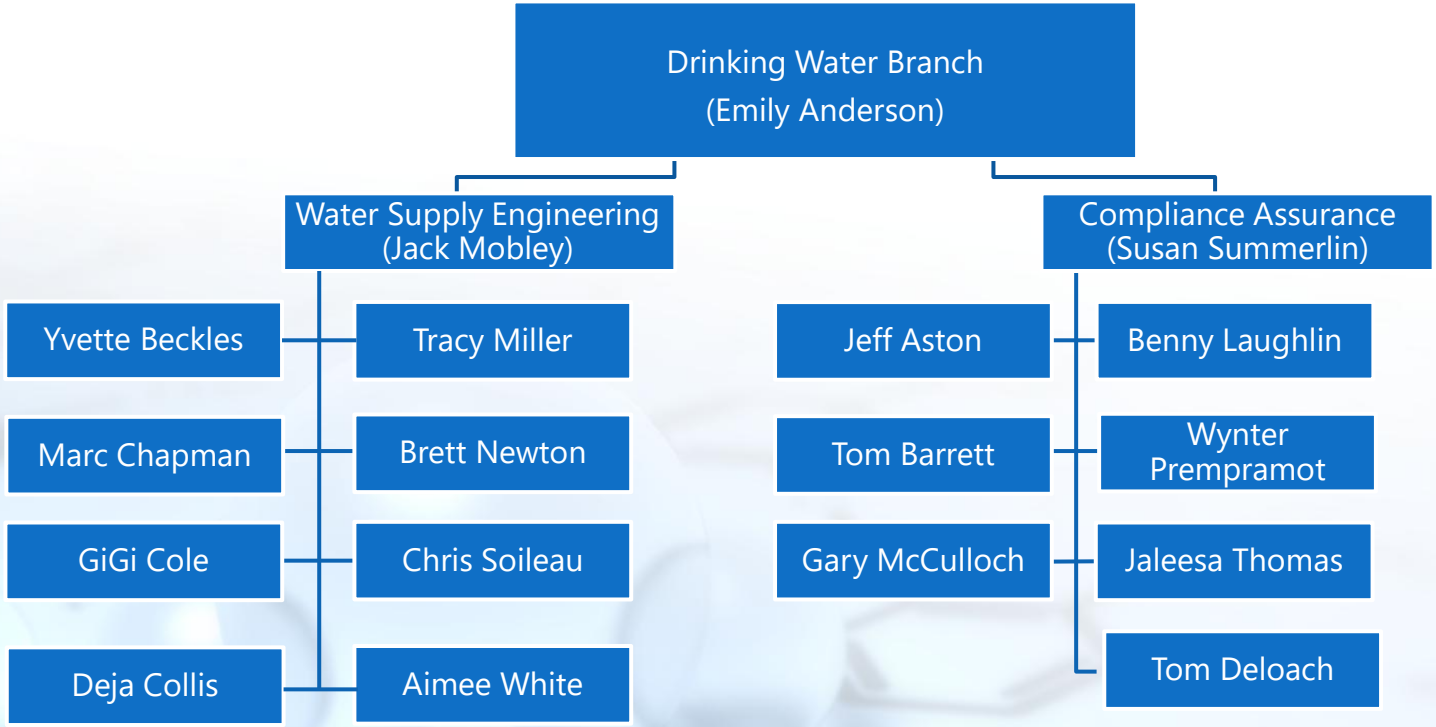
More technical staff are becoming involved.

Maintaining The Program
2025 Team Structure

Core Team

- Aimee White
- Brett Newton
- Chris Soileau
- GiGi Cole
- Deja Collis
- Tracy Miller

Drinking Water Organization



New Manganese Optimization Goals

- We are working with the EPA in developing new Manganese goals.
- The goal could be 0.02 ppm or 0.03 ppm in finished water.
- Currently there are 3 different tests approved to measure manganese with each having differing minimum levels of detection/accuracy.
- Minimizes manganese loading in the distribution system.

New Corrosion Control Optimization Goals

- We are working with the EPA to develop corrosion control goals.
- Maintain minimum levels of corrosion inhibitor in the distribution system.
- 1.0 ppm, suggestion for the current minimum level of corrosion inhibitor in the distribution system at maximum physical locations.

Membrane Optimization Goals

- Meet sedimentation goals of 1.0 or 2.0 NTU
- 0.050 NTU 95% of time from individual membranes (IFE)
- Not to exceed 0.15 NTU.
- 95% of PDTs below limit.
- Hybrid WTPs will have to meet goals appropriate to treatment units.
- Goals Were implemented in 2020

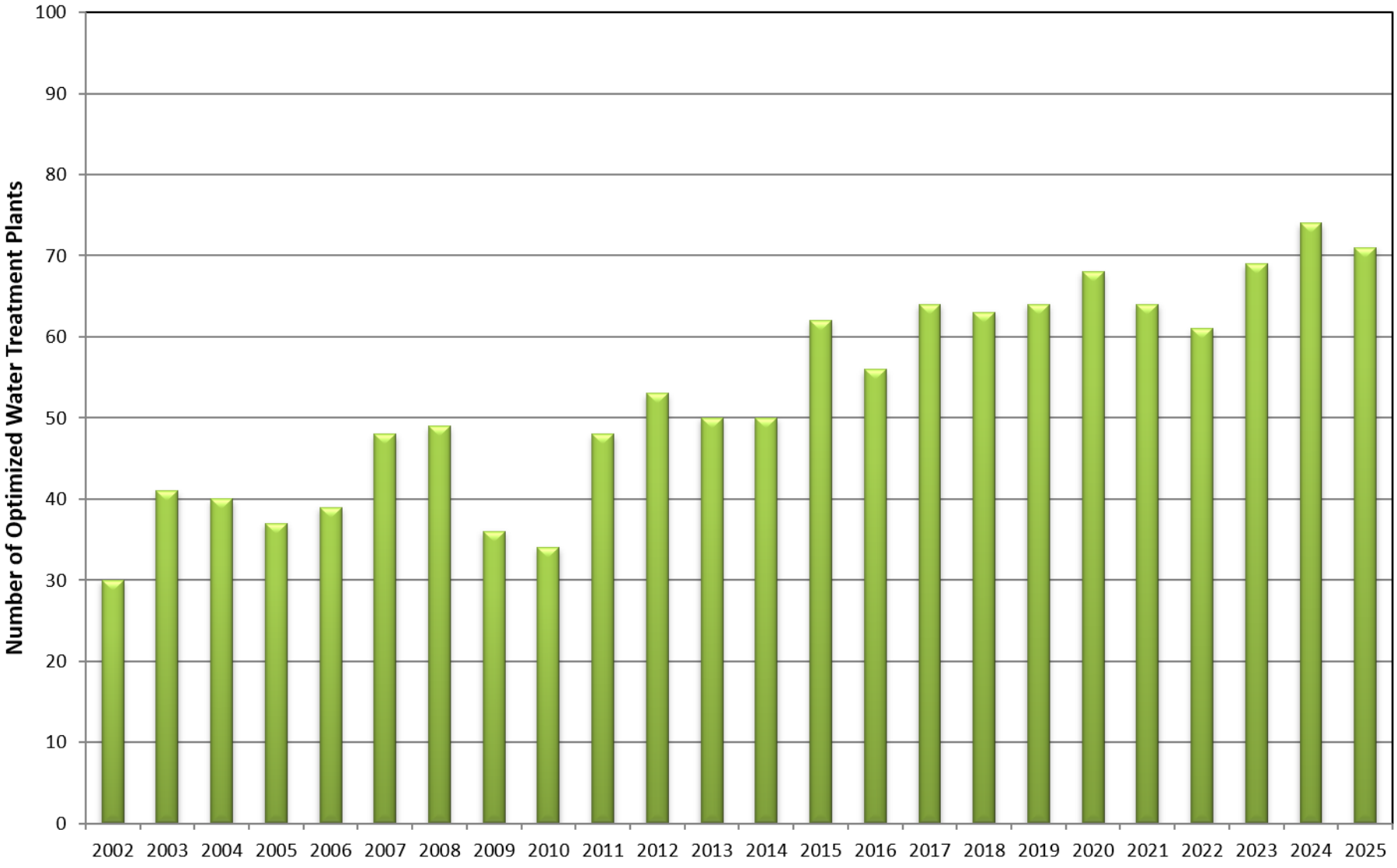
Status Components
Distribution (DBPs)

Optimization Goals Achieved	4th QTR 2021	1st QTR 2022	2nd QTR 2022	3rd QTR 2022	4th QTR 2022	1st QTR 2023	2nd QTR 2023	3rd QTR 2023	4th QTR 2023	1st QTR 2024	2nd QTR 2024	3rd QTR 2024	4th QTR 2024	1st QTR 2025	2nd QTR 2025	3rd QTR 2025	4th QTR 2025
Systems Optimized	168	169	170	161	159	157	170	165	170	165	172	176	170	165	169	171	167
Met TTHM LRAA Goal	224	225	222	218	224	221	217	220	215	218	217	218	218	217	213	217	214
Met TTHM Long Term Goal	204	207	206	204	205	198	206	203	205	203	204	205	202	204	199	197	195
Met TTHM Short- and Long-Term Goals	204	207	199	198	203	196	198	200	196	200	202	203	199	200	196	193	189
Met HAA5 LRAA Goal	213	213	218	218	220	219	218	218	215	217	216	216	217	216	217	214	214
Met HAA5 Long Term Goal	191	189	194	187	189	189	190	190	189	195	201	200	200	194	196	196	194
Met HAA5 Short- and Long-Term Goals	187	186	186	185	185	185	186	186	181	189	193	195	193	188	193	194	192
Met Both Short-Term Goals	208	208	206	206	214	210	208	210	207	209	207	207	208	206	203	205	203
Met Both Long-Term Goals	175	175	171	171	170	163	174	172	171	176	183	183	179	176	177	176	176
Not Meeting Any Goals	2	1	0	0	2	1	2	3	2	4	4	3	2	2	2	2	3

Status Components
Microbial (Conventional)

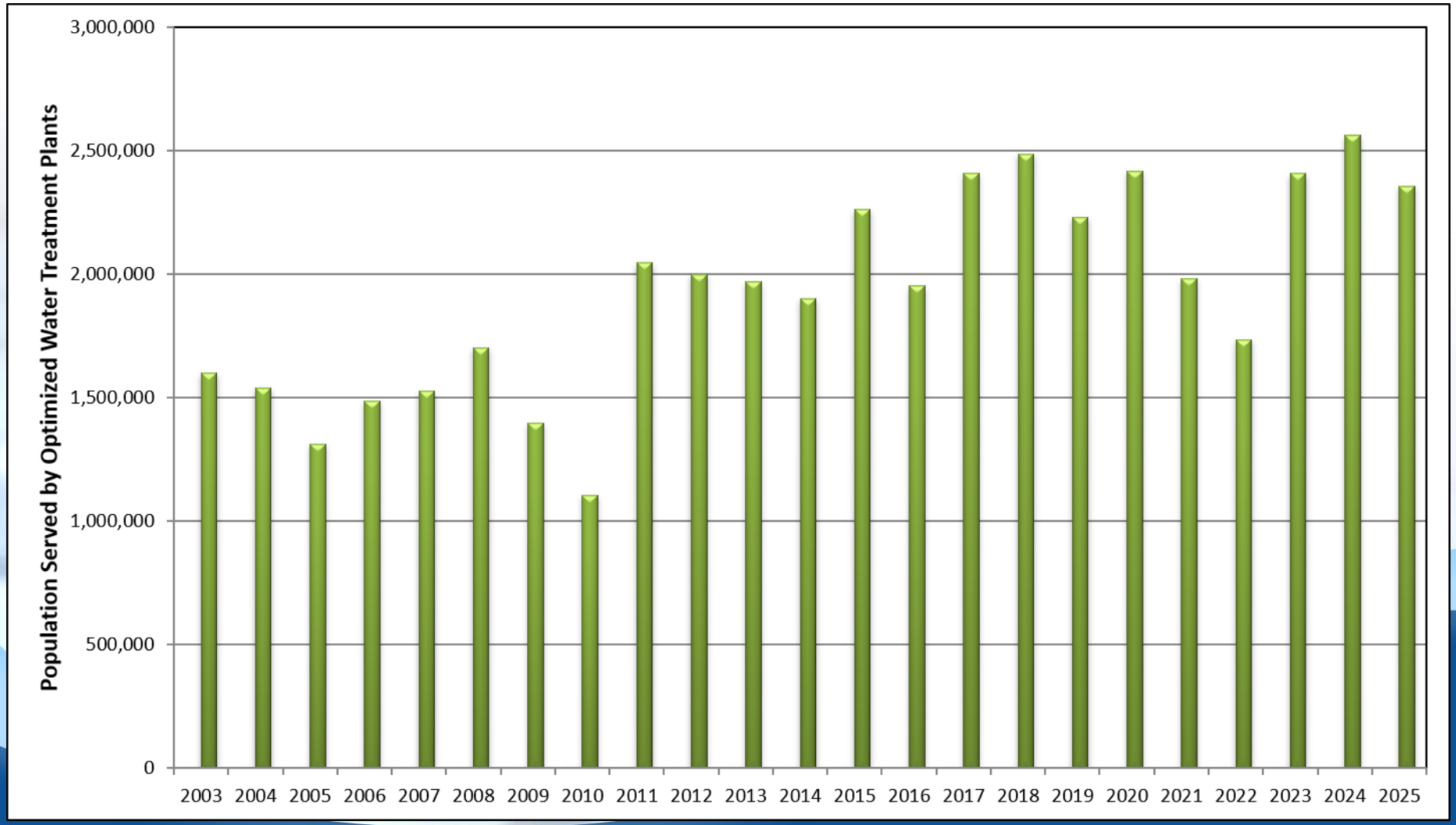
Goal	Number of WTPs	Percent
Optimized	**71**	**76.3%**
Settled Water	78	79.6%
Filtered Water	83	84.7%
Neither Goal	8	8.2%

AWOP Impacts



AWOP Impacts

Population Receiving Optimized Water



What's been happening in AWOP?

- This year Alabama hosted the Region 4 and More Multi-State AWOP Team Meeting and Training Workshop in April with a focus on DBPs.
- South Carolina hosted the Region 4 and More Multi-State AWOP Team Meeting and Training Workshop in August with a CPE.
- Next, the Region 4 and More Multi-State AWOP Team is meeting in Atlanta, Georgia in November 2026.

Region 4 and More– Multi-State Workshop on DBPs Warrior River Water Authority

- Included Region 4 EPA and several states.
- We focused on DBPs, because of the hosting state preference. We pick topics based on relevance to the hosting state.
- We evaluated their WTP processes and aspects of their distribution system.

What did this Workshop cover?

- One group did a special study on some tanks in the distribution system.
- One group did a special study on areas of the distribution system between booster pump stations.
- One group did a special study on evaluating the water treatment processes at the plant using data which consisted of regulatory and nonregulatory monitoring.

How did it go?

- The results were mixed.
- At the end of the studies, we learned that some areas of the distribution system needed further study.
- Some tanks need more turnover.
- At the plant, the system should narrow down chemicals and dosages to determine the most effective treatment and continue using the TOC Analyzer.

What did we learn?

- We learned that looking at the plant, tanks, and distribution system working together gives a better picture as a whole.
- Most importantly, the operators and staff that have in-depth knowledge of their plant and distribution system really have an advantage for reducing DBPs.

NOW PRESENTING THE AWOP AWARDS FOR THE 2025 MICROBIAL (TURBIDITY) AWARD WINNERS

1 YEAR AWARDS

Albertville Utilities Board - 12 MGD Plant

Curry Water – BJ Thomas WTP

Hamilton Water

Huntsville Utilities - South Parkway WTP

Madison Utilities

Phenix City WTP

2 YEAR AWARDS

Attalla WTP (City of)

Heflin WTP

Oneonta Utilities WTP

Opelika – Betts WTP

West Morgan East Lawrence WTP

3 YEAR AWARDS

Central Elmore Water & Sewer

Guin Water Department

Huntsville Utilities – Southwest Plant

Mobile Area Water Works and Sewer Board – Myers WTP

Tallassee Water

4 YEAR AWARDS

Central Alabama Water – Western WTP

Coosa Valley WSD

Fort Payne (The WWB of the City of)

Franklin County Water Service Authority

5 YEAR AWARDS

Bessemer (G.U.S.C.)

Central Alabama Water – Carson WTP

Warrior River Water

6 YEAR AWARDS

Alexander City Water

Athens Utilities

Clay County Water Authority

Constellium – Wise Alloys – WTP

Oxford Water Works and Sewer Board – Quarry WTP

7 YEAR AWARDS

Alabaster Water

Bridgeport Utilities

Sheffield Utilities

Shelby County Water

Winfield Water Works

8 YEAR AWARDS

Albertville Utilities Board – 9 MGD WTP

Anniston – Knowlton WTP

Arab Water Works

Huntsville Utilities – Southeast WTP

North Marshall Utilities

Smiths Water and Sewer Board

9 YEAR AWARDS

Arley Water Works

Berry Water Department

Jasper Water Works

Northeast Alabama WSD – Monsanto WTP

11 YEAR AWARDS

Harvest-Monrovia WSFP – Zion WTP

Thomasville Water Works WTP

12 YEAR AWARDS

Colbert County Rural Water System

Cullman Utilities Board

13 YEAR AWARDS

Decatur Utilities

Guntersville Water Works – Sunset WTP

Northeast Alabama – Highpoint WTP

14 YEAR AWARDS

Scottsboro Water Works – Skinny Jones WTP

Talladega (City of) Water Department

15 YEAR AWARDS

Central Alabama Water – Putnam WTP

Central Alabama Water – Shades Mtn WTP

Hawk Pride Mountain WS WTP

US Army Aviation & Missile Command WTP

17 YEAR AWARDS

Russellville WWSB

19 YEAR AWARDS

Blount County Water

Calera Water Works – Central WTP

Tuscumbia Water

20 YEAR AWARDS

Florence Water Department – Wilson Lake WTP

Harvest-Monrovia WSFP – Burwell WTP

Red Bay WTP

21 YEAR AWARDS

Scottsboro Water Works – North Sauty WTP

22 YEAR AWARDS

Centre Water and Sewer – Centre WTP

Florence Water Department – Cypress Creek WTP

23 YEAR AWARDS

Anniston WWSB – Krebs WTP

Fayette Water

Montgomery Water Works

Northeast Alabama WSD – Waterloo WTP

Section Dutton Water