



Source Water Protection: Surveillance, Monitoring and Preparedness

How A Private, Regulated Provider Protects Drinking Water Through Source Water Monitoring, Surveillance and Preparedness

Characterizing the Risk

Private, regulated water providers pair traditional watershed protection with real-time monitoring and to enhance situational awareness of source water conditions and support operational decision making.

American Water utilizes a Source Water Information Management (SWIM) tool to consolidate source water data, potential contamination sources and emergency contacts into a single interactive mapping platform to better assess risk, prioritize protection and support emergency response.

Monitoring and Surveillance

Private, regulated water providers utilize advanced monitoring and innovative technologies to support proactive source water management.

American Water is advancing UAVs (drones), satellites, online sensors and spectral imaging to improve visibility into source water conditions and improve understanding of source water risks.

Leading the Response

The leading private, regulated water providers convene partners to share knowledge, data, emerging technologies and best practices.

After a significant algal bloom in the Millstone River, New Jersey American Water helped establish a multi-agency working group of water utilities, state regulators, researchers, wastewater agencies and watershed partners to strengthen regional coordination.

Prepare and Practice

Private, regulated water providers lead preparedness exercises that bring consistent, proven response protocols to the communities they serve.

West Virginia American Water hosts source water tabletop exercises bringing together water sector stakeholders to test source water incident response and cross-sector coordination under National Incident Management System (NIMS) protocols.

According to AWWA's 2026 State of the Water Industry Report:

- **33% of utilities** report being "borderline" for water stress.
- **28% of utilities** experience some degree of water shortage.
- Long-term water supply reliability is among the industry's most significant concerns.
- Emerging contaminants, including PFAS, pharmaceuticals and microplastics, are increasing water quality and treatment challenges.