



2025 Great Lakes Water Conference
Water Security and the Great Lakes Region

Drone Threats to Public Water Utilities: Room for Local Empowerment

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Unmanned Aircraft Systems - Advances in Technology

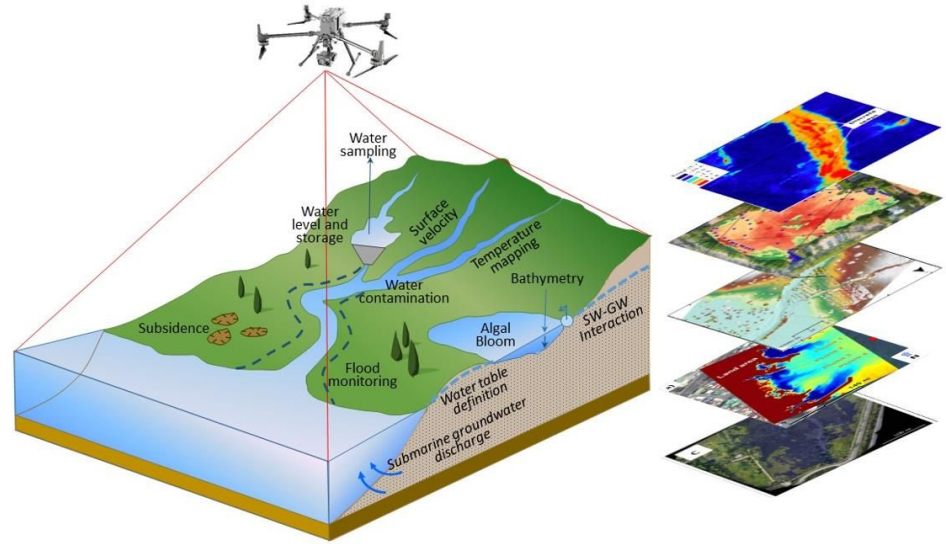
- Similar to the Jeep Wrangler, which began as a military combat vehicle in World War II and has since evolved into a beloved American sport utility vehicle driven by millions worldwide, UAS technology has made its way to the masses.
- While originally developed for military purposes, over the last 15 years, UASs have become accessible and commonly used by various groups and individuals, including government personnel, commercial businesses, and the public at large.



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Unmanned Aircraft Systems - Advances in Technology

Public water utilities use for inspections, security, and data collection to improve safety, efficiency, and cost-effectiveness. Drones are used to inspect difficult-to-reach infrastructure like dams, tanks, and pipelines, sometimes with specialized sensors like thermal cameras.



Unmanned Aircraft Systems - Federal Regulation



- The FAA promulgated 14 C.F.R. Part 107 (Part 107), which governs commercial and governmental operations of small UASs. 49 U.S.C. § 44809.
- A small UAS is defined as “an unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.” 14 C.F.R. § 107.3.

Unmanned Aircraft Systems - Federal Regulation



Federal & State Regulation of UASs

The Federal Aviation Administration (FAA) has exclusive authority to regulate the national airspace, including rules about aircraft safety, flight altitude, and airspace use. FAA, *State and Local Regulation of Unmanned Aircraft Systems* (2023).

However, states and local governments retain authority to regulate where and how drones can be operated when tied to public safety, security, and privacy concerns (especially near prisons, critical infrastructure, schools, etc.).



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Issues and Threat from this

It is because of the widespread use and the capabilities of today's drone technology, that UASs pose a great security risk—particularly to municipal infrastructure assets—and the FAA's regulatory regime is moving at a slower pace.

While the FAA is actively working to expand its list of security-sensitive restricted airspace designations, drinking water reservoirs are not commonly found on that list. They are only protected if a request is submitted to, and approved by, the FAA.

Delegation of Authority to Protect these Resources

Similar to the way the Safe Drinking Water Act creates avenues for the U.S. Environmental Protection Agency to grant primacy enforcement responsibility to states for public drinking water systems, if the authority to enforce UAS flight operations was delegated for the purpose of maintaining security of public utility infrastructure, it would make a significant difference.

