

## ATTACHMENT 3

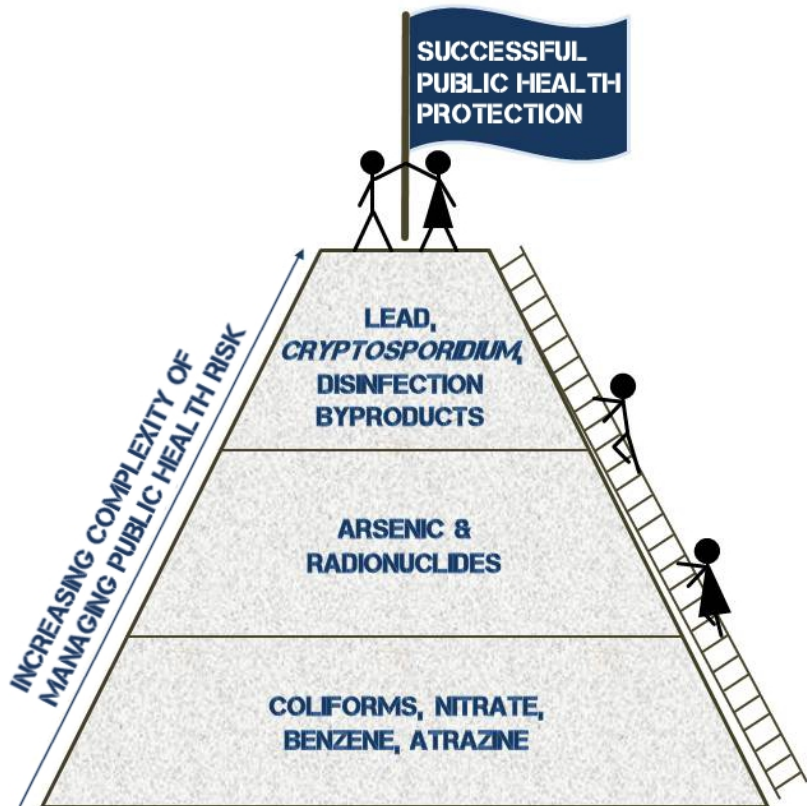
### ASDWA's Connecticut Specific Resource and Needs Report Submitted to DWS from ASDWA through Lori Walker, Cadmus November 2016

## The Safe Drinking Water Act for Public Health Protection

Under the Safe Drinking Water Act ("SDWA"), the U.S. Environmental Protection Agency ("EPA") establishes safety standards designed to ensure that consumers served by public water systems across the country receive high quality drinking water.<sup>23</sup> In addition to public health protection benefits, achieving the goals of the SDWA provides economic benefits. Proactively avoiding incidents such as waterborne disease outbreaks can prevent loss of life and reduce considerable health care costs. Businesses also require high quality water to meet strict standards associated with their operations or manufacturing processes.

Protecting our nation's drinking water requires intensive effort on a daily basis by public water system operators, with support from state staff and technical assistance providers. The task grows increasingly challenging in the face of emerging contaminants and other threats, such as water security risks and sustainability or resilience efforts that must be instituted in the face of climate change.

The EPA and states implement regulations that protect consumers from these threats. These regulations establish either public health standards for allowable levels of contaminants in drinking water or treatment approaches to remove contamination and protect source water. The figure at right illustrates some of the types of contaminants or other constituents of concern in drinking water that states and public water systems manage and the increasing workload required to protect public health. More than just workload volume increases as new contaminants are regulated. Surveillance and solutions



<sup>23</sup> Significant portions of the text in this write-up were previously released in the December 2013 report by ASDWA, "Insufficient Resources for State Drinking Water Programs Threaten Public Health: an Analysis of State Drinking Water Programs' Resources and Needs."

for problems at the top of the pyramid, such as lead and *Cryptosporidium*, are more complicated and highly technical, demanding greater state involvement by very technical staff and more skilled public water system operators.

The 1993 *Cryptosporidium* outbreak in Milwaukee, Wisconsin killed 104 people and sickened 403,000 prompting promulgation of new requirements to specifically monitor for *Cryptosporidium* in the 1996 Amendments to the SDWA. In 2014, when the Elk River in West Virginia was contaminated by a spill of 4-Methylcyclohexanemethanol (“MCHM”) from an industrial site,

300,000 customers in nine counties were instructed not to use the water to drink, cook, bathe, or wash, leading to school and business closures. More than 700 people reported symptoms of nausea and rashes to the state Poison Control Center, including 14 hospitalizations. Vulnerabilities to such an incident may have been caught in a source water protection assessment; unfortunately the state or water utilities hadn’t conducted one for this water supply. The recent lead crisis in Flint, Michigan poisoned up to 12,000 children, despite requirements under the Lead and Copper Rule that have been in place since 1993 requiring systems to evaluate for corrosion potential. These last two incidents highlight that implementation of the SDWA is ineffective unless there are adequate staff and resources to implement them.

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*Risks from lead and Cryptosporidium were well-documented in the 1996 SDWA Amendments: problems like the lead contamination in Flint, MI or the Cryptosporidium outbreak in Milwaukee, WI are partly due to inadequate resources for strong state oversight.*

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Unlike most environmental programs, the drinking water program builds in prevention and technical assistance to help public water systems remain in or return to compliance. When problems arise, tracking and addressing situations for public water systems with violations of drinking water standards, or ones that are nearing a threshold that could cause problems, requires significant state resources. Assistance for a public water system with recurring compliance problems requires, on average, twice as many hours of staff time as a public water system that has no compliance problems, and some noncompliant systems can require ten times as much work as compliant systems.

Other activities that are not required by the SDWA are essential as part of a comprehensive drinking water protection program in Connecticut. Examples of these activities include:

- Overseeing the approval process for treatment and pilot studies to help public water systems make decisions about treatment choices. While not explicitly required by federal regulation, careful siting and engineering of wells, treatment plants, and other infrastructure are critical state functions that ensure safe delivery of drinking water.

- Requiring additional monitoring for contaminants not regulated by EPA. Examples of these contaminants found in New England drinking water supplies include Methyl-Tertiary-Butyl-Ether (“MTBE”), an automotive fuel additive that has been found in some ground water sources; perchlorate, which is found in the solid propellant for rockets, missiles and fireworks; perfluorooctanoic acid (PFOA), and perfluorooctanesulfonic acid (PFOS), historically used to create materials highly resistant to stains, water, oil, or grease and used in products such as carpets, clothing, fabrics for furniture, and paper packaging for food and also used for firefighting at airports and some factories. EPA has set a health advisory level for some of these contaminants and is studying whether the public health risks warrant promulgation of a national drinking water standard, but in the meantime, states must address valid citizen concerns with their own research, technical solutions, and helpful outreach materials.

- Enforcing state laws that set limits for drinking water constituents that are not the subject of EPA regulations. When EPA’s decision to regulate lags behind a state’s timeline to address a problem, some states promulgate their own health standard. For instance, Connecticut established an Action Level for the gasoline additive MTBE and provides bottled water or treatment systems for private wells that exceed it. The drinking water program also implements protection programs or policies to address local concerns (e.g., such as presence of cyanotoxins from harmful algal blooms.)

- Developing water resources to ensure that public water systems will have adequate water supplies for their customers both now and in the future. This work extends beyond forecasting routine demand. States also help water supplies with drought management planning and evaluation of water security threats and emergency events. Connecticut has invested in this area after feeling the effects of two storms in 2011, Tropical Storm Sandy and an early snowstorm (see text box on the following page). States practice demand management approaches (such as water conservation and water rate pricing structures) and supply-oriented ideas (such as use of recycled water for non-potable water needs, desalination, and emergency connections with neighboring utilities with more capacity.)

All of these efforts impact the states’ abilities to continue to manage the day-to-day demands of their drinking water programs, which are already constrained by limited staff resources. In the case of major disruptive events, states may have to significantly re-prioritize their workload (e.g., reduce on-site inspections or technical assistance), as they did, for example, in the aftermath of Hurricane Katrina and Tropical Storm Irene, in order to cover the time or monetary costs associated with disaster events.

# Connecticut: Assessing Emergency Preparedness



Connecticut was heavily affected by two storms in 2011—Tropical Storm Irene in August and an early snowstorm in October. Both storms caused lengthy power outages that impacted large areas of the state and caused many water systems to lose water pressure, making them susceptible to contamination. Numerous water systems issued boil water advisories that lasted many days.

- Tropical Storm Irene: 137 small water systems (serving 16,624 customers) issued boil water advisories to their consumers for an average of five to six days.
- Early Snowstorm: 121 small water systems (serving 20,212 customers) issued boil water advisories to their consumers.



Post-storm evaluations determined that many small water systems were ill-prepared for an extended period without power and lacked adequate technical, managerial and financial capabilities to handle the crisis. Large water systems faced other challenges. Most large water systems were able to sustain access to their water supplies and maintain water pressure, but some water systems were forced to run generators for large pump stations and treatment plants for more than seven days. Water systems found it difficult to communicate with local and state emergency managers (who are not part of the state drinking water program) about the urgent need to restore street power to areas where water system components, such as water treatment plants, were located.



The devastation of the two storms prompted the Connecticut Department of Public Health to develop an emergency preparedness strategy to ensure that a safe and adequate water supply is reliably available for the 2.7 million Connecticut residents served by community public water systems. In the future, these systems will have emergency power capacity and will be better trained and equipped to maintain water quality in emergencies, avoiding the need for lengthy boil water advisories and preventing increased risks to public health.

## NATIONAL CRISIS IN FUNDING FOR STATE DRINKING WATER PROGRAMS

A 2011 analysis of state drinking water programs by the Association of State Drinking Water Administrators (“ASDWA”) and the EPA showed that the resources for state drinking water programs had sharply declined leaving a substantial deficit between needs and available resources. This deficit limits states’ ability to implement the SDWA and protect public health.

Between 2001 and 2011, workloads increased but states saw a 26 percent decrease in available resources for their programs. Inflation and a 25 percent increase in the average cost for a full-time equivalent (“FTE”) staff position exacerbated the impact of flat or declining state program budgets. The current economic climate has not improved, and state programs continue to experience challenges with implementation of the SDWA.

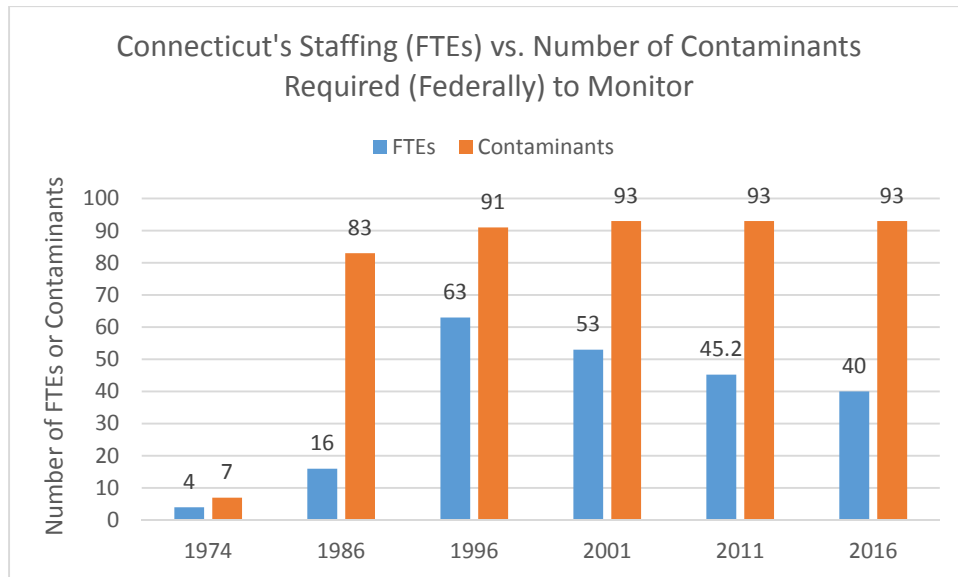
### 2011 ASDWA/EPA Resource

The 2011 ASDWA/EPA analysis of resources needed by state drinking water programs was very detailed and comprehensive. It modeled 112 key activities performed by state staff to implement the SDWA, including program administration and IT, capacity development, operator certification, rule implementation for the national primary drinking water regulations, and enforcement. Ten states, including Connecticut, ground-truthed the model and piloted its calculations to determine whether it calculated resources correctly. A list of all activities is included as Attachment 1.

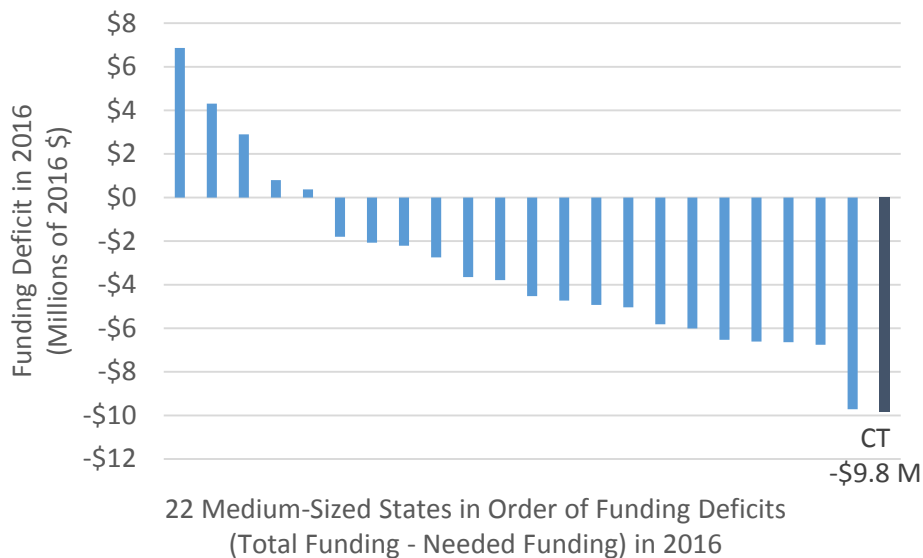
Since the 1996 Amendments to the SDWA, drinking water program requirements have become more complex and funding has further diminished. State drinking water programs have been forced to rely more heavily on EPA’s Drinking Water State Revolving Fund (“DWSRF”) capitalization grant to fund operations, effectively limiting the availability of future loans for infrastructure improvements. While states have worked diligently to prioritize their activities and resources to be as cost-effective as possible in implementing the SDWA, the resource gap ultimately leads to greater public health risk. States must make tough choices about how to use their limited resources, which result in fewer inspections and site visits to public water systems; less protection of drinking water source waters; less assistance to public water systems; and less ability to prevent situations that can compromise public health, including planning for sustainability and resiliency or responding to emergency events.

### CONNECTICUT’S CRITICAL RESOURCE DEFICIT

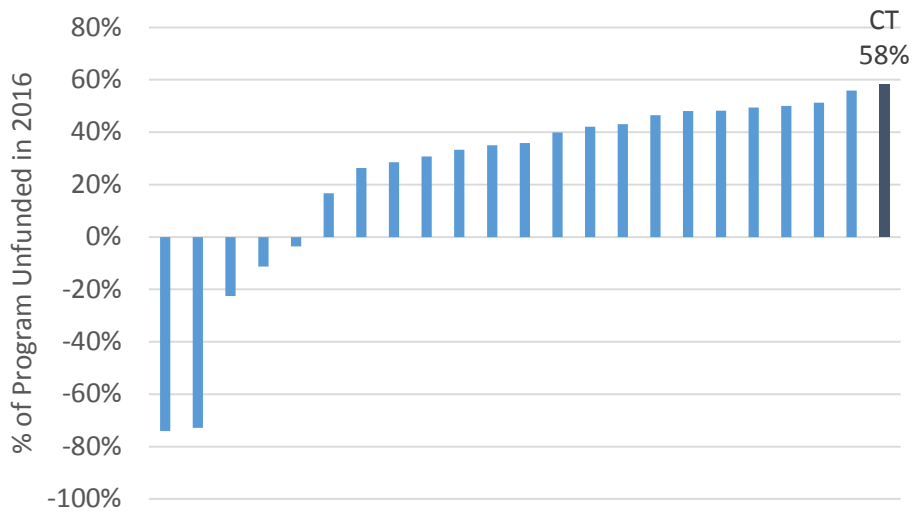
Over the past 20 years, Connecticut is one of 27 states that has experienced a substantial decline in their ability to meet their drinking water resource needs, according to research by ASDWA and EPA. From a peak of 63 FTEs in 1996, the Connecticut safe drinking water program staffing decreased to 53 FTEs in 2011 and is currently staffed by 40 FTEs, or a total decrease of 36 percent in staffing levels since 1996. Staffing resources in Connecticut’s drinking water program have steadily declined over the past 20 years, meanwhile contaminants federally required to be monitored by the SDWA have increased.



The result of this long-running decline in resources means that as of 2016 Connecticut ranks 22<sup>nd</sup> out of 22 among similar-sized states with the highest deficit between resource needs and program funding. As the graphic shows, only 4 states have adequate resources for their programs. While many states face challenges, Connecticut faces the biggest gap measured by dollars and cannot fund 58 percent of its program activities.







22 Medium-Sized States by% of Program Unfunded in 2016

Lack of resources forces Connecticut to set priorities and search for efficiencies—which is valuable—but also creates risks or vulnerabilities because the state cannot accomplish some important and necessary tasks. For instance, sanitary surveys are one of the most important preventative activities and involve state staff inspection of a water system to identify any sanitary defects or significant deficiencies in complying with SDWA regulations. With adequate resources, a state emphasizes preparation before conducting a sanitary survey, coordinates closely with compliance and enforcement staff about any problems, and then promptly shares information back to these key staff. A visit also may identify the need for engineering involvement, or capacity development to improve technical, managerial, or financial capacity for the water system. Once identified, well-funded programs usually revisit the water system to confirm that problems have been addressed. Connecticut can only minimally provide these services, and experiences long delays in writing reports and sharing information among staff. The delay may affect the water system’s efforts to address any problems and leave customers exposed to drinking water supplies from public water systems with undetected or detected and uncorrected significant deficiencies in SWDA regulations.

Connecticut’s program needs have been well-documented since 1989 and show a widening gap between the program’s resources and the staff needed to accomplish its safe drinking water mission. Only an infusion of new funding can reduce vulnerability that places Connecticut’s citizens at risk.

## State Program Activities

Minimum Base Program Activities	Comprehensive Program Activities	Excluded Activities in 2016	Divided Evenly Among Previous Three Categories
Engineering plan review (non contaminant-specific)	Source water assessment	Radon Rule	Administration and supervision not included in the overhead rates in Step 3 (FTEs)
Sanitary surveys	Emergency Response	Respond to questions on non-PWSs	Administrative support staff (FTEs)
Lab certification/Review Lab Capacity	Counter Terrorism	Oversight of bottled water	
Consumer Confidence Report Rule	Special Projects		
Public Notification Rule	Additives (e.g., fluoride)		
Operator certification	Non-SDWA monitoring (e.g., MTBE)		
Training	Special projects (e.g., necessary monitoring, data entry and mgmt.)		
DWSRF management	Analytical costs for compliance sampling (\$)		
Capacity development	Operation permits		
Enforcement	Administration of fee programs		
Total Coliform Rule	Public outreach coordinator(s)		
SWTR, IESWTR, FBRR, LT1ESWTR, and LT2ESWTR	Backflow prevention / Cross-cxn. control		
1979 TTHM Rule and Stage 1 and Stage 2 Disinfectant/Disinfection Byproducts Rules	Operator courses (training classes)		
Ground Water Rule	Other (please detail below)		
Phase II/V, Arsenic, and UCMR	Travel costs		
Lead and Copper Rule and LCR Minor Revisions			