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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Office of Water Management

Office of Water Programs Overview

Citizens Advisory Council

May 16, 2018

Tom Wolf, Governor

Patrick McDonnell, Secretary

Office of Water Programs

- Chesapeake Bay Office
- Bureau of Waterways Engineering & Wetlands
- Bureau of Clean Water
- Office of Water Resources Planning
- **Bureau of Safe Drinking Water**



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DEPARTMENT OF ENVIRONMENTAL PROTECTION



Bureau of Safe Drinking Water

Bureau of Safe Drinking Water

Safe Drinking Water Overview

May 16, 2018

Objectives

- Review safe drinking water facts
- Discuss new and upcoming regulations and initiatives
- Examine challenges

SDW Facts

- Population = 12.7 M
 - Ranked 6th in nation
- Number of PWSs = more than 8,500
 - Ranked 3rd in nation
- Population served by PWSs = 11.3 M



SDW Facts

PWS Types:

- CWSs = 2,000
 - ❑ 84% are small systems (lack TMF capacity)
 - ❑ Medium and large systems serve 91% of population
- NTNCWSs = 1,100
- TNCWSs = 5,300
- BVRBs = 170

SDW Program Components

SDW Program Components:

- Operations
- Monitoring/reporting
- Permitting
- Response to water supply emergencies
- Training and technical assistance

SDW Program Components

Response to water supply emergencies:

- One-hour reporting and consultation
- Public notification (PN)
- Tier 1 violations/situations (imminent threat/acute)
 - Pathogens, nitrate/nitrite, waterborne disease outbreak, treatment breakdown, chemical spill, chemical overfeed, natural disaster, etc.
 - PN ASAP but within 24 hours – in the form of a “Boil Water Advisory” or “Do Not Consume” or “Do Not Use”
 - PWS must take investigative and corrective actions to get people out of harm’s way

SDW Program Components

Training and technical assistance:

- Capability Enhancement Program
 - Improve technical, managerial and financial (TMF) capacity
 - Onsite and classroom training/technical assistance
- Operator Certification and Training Program
- Area-Wide Optimization Program
 - Filter Plant Performance Evaluation Program
 - Distribution System Optimization Program
 - Partnership For Safe Water

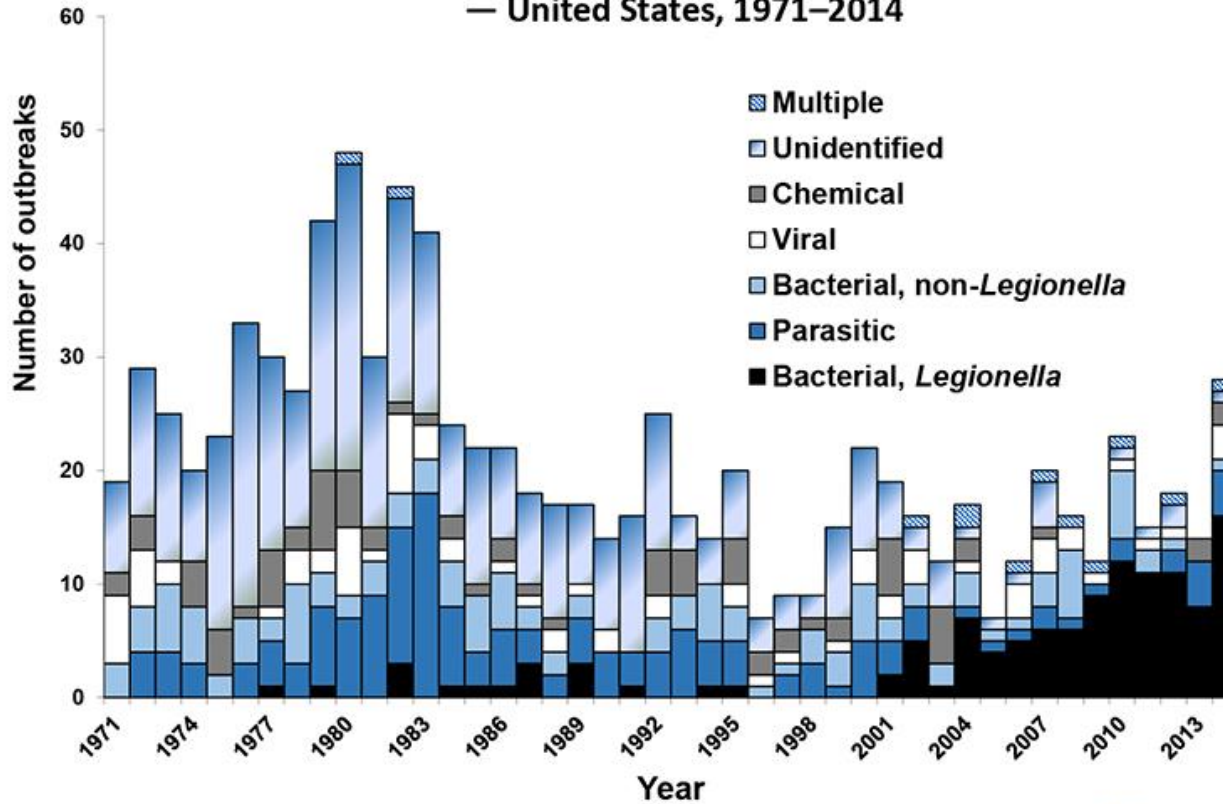
▶ New and Upcoming SDW Regs

New and Upcoming SDW Regs:

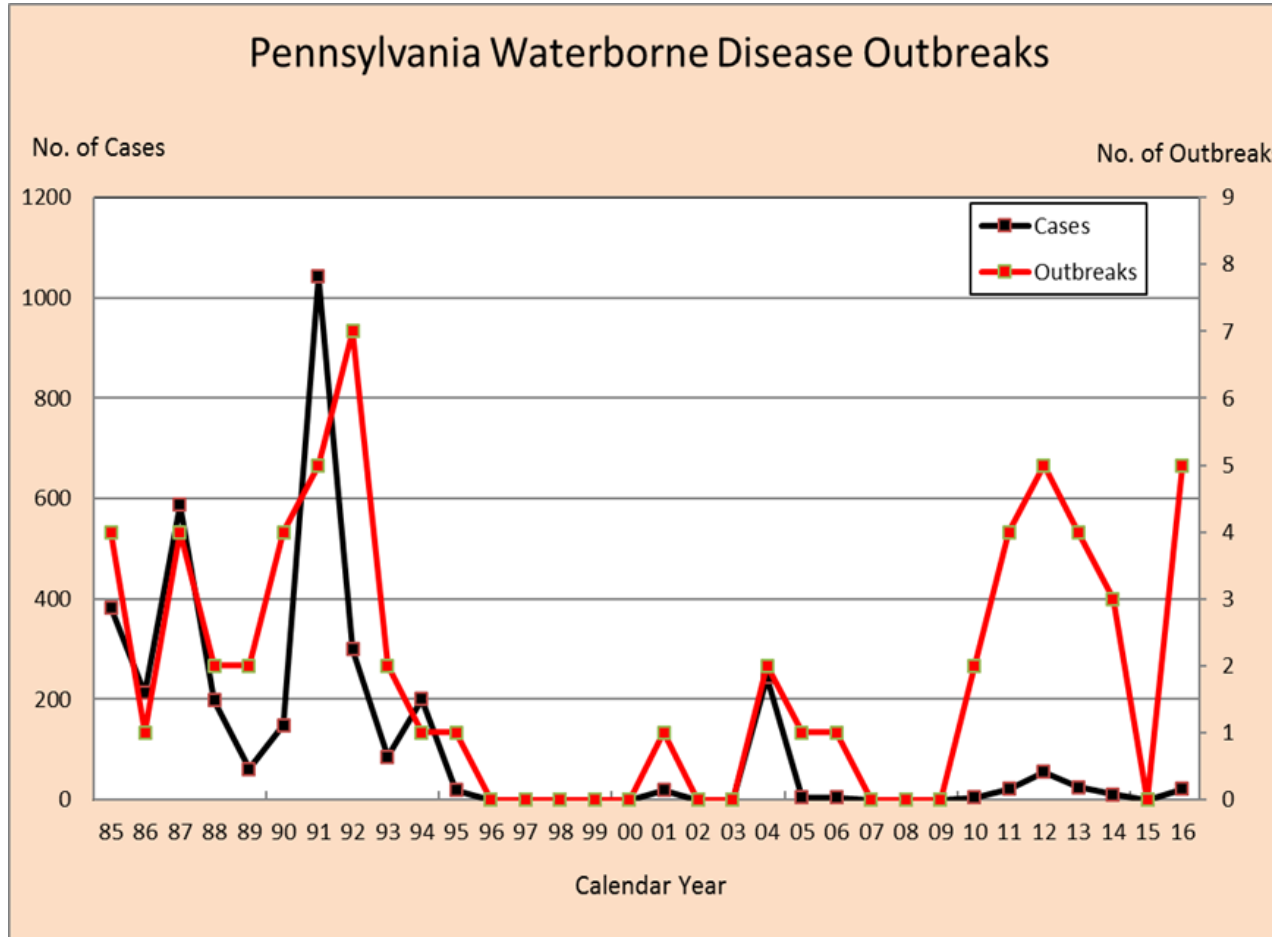
- Revised Total Coliform Rule (RTCR)
- 3rd Six-Year Review
- Disinfection Requirements Rule
- Contaminant Candidate List 4
- Unregulated Contaminant Monitoring Rule 4
- General Update and Fees
- Reduction of Lead in Drinking Water Act – Regulations
- Long-term Revisions to the Lead and Copper Rule

National WBDOs

Etiology of Drinking Water–Associated Outbreaks (N=928), by Year
— United States, 1971–2014



Pennsylvania WBDOs



▶ New SDW Regulations

Microbial Pathogens/Dist. System Water Quality:

- RTCR (effective April 2016):
 - *E. coli* acute MCL
 - Triggers for Level 1 & Level 2 Assessments
 - “Find and fix” sanitary defects



▶ New SDW Initiatives

Microbial Pathogens/Dist. System Water Quality:

- 3rd Six-Year Review (Published January 2017)
 - EPA reviewed microbial and DBP rules
 - Included 1st time review of paired TCR samples and disinfectant residual data (~5 M records from 34 states)
 - Clear link between disinfectant residual level and positive total coliform and *E. coli*/fecal coliform sample results
 - Residuals ≥ 0.2 mg/L are associated with lower percentage of positive samples

Upcoming SDW Regulations

Microbial Pathogens/Dist. System Water Quality:

- Disinfection Requirements Rule:
 - Final rulemaking – expected to be published in April 2018
 - EP disinfectant residual = 0.20 mg/L
 - CT/log inactivation monitoring & reporting requirements
 - Distribution system disinfectant residual:
 - Minimum residual = 0.2 mg/L
 - Sample siting plan
 - Weekly monitoring
 - Compliance determinations
 - Nitrification control plan

Issues of Concern

Risk/Risk Trade-off (Pathogens and DBPs):

- Important issues:
 - Disinfectant residuals (method issues – detection limits & interferences, representative sampling, minimum numeric residual, public notification)
 - Research plan for emerging pathogens (OPPPs)
 - Fate of non-regulated DBPs in the distribution system

▶ New SDW Regulations

Emerging/Unregulated Contaminants:

- CCL 4
- UCMR 4 (Published as final December 2016):
 - Direct implementation rule - intended to gather occurrence data to assist in making regulatory determinations
 - Monitoring period: 2018 - 2020
 - Includes 10 cyanotoxins, 9 HAAs (brominated), SVOCs, pesticides, alcohols & metals (Mn & Ge)

Emerging/Unregulated Contaminants

Implementation of Health Advisories:

- Harmful Algal Blooms (HAB) – issued in 2015
 - 10-day HA for Total Microcystins
 - 0.3 $\mu\text{g}/\text{L}$ for children younger than school age
 - 1.6 $\mu\text{g}/\text{L}$ for all other age groups
 - 10-day HA for Cylindrospermopsin
 - 0.7 $\mu\text{g}/\text{L}$ for children younger than school age
 - 3.0 $\mu\text{g}/\text{L}$ for all other age groups
- PFOS/PFOA – issued in 2016
 - Combined Lifetime HA of 0.07 $\mu\text{g}/\text{L}$ (protective of most sensitive subpopulation - pregnant/lactating women and fetuses)

Emerging/Unregulated Contaminants

PFOA Petition to EQB:

- Submitted by Delaware Riverkeeper Network
- Requested an MCL for PFOA not to exceed 6 ppt (0.006 $\mu\text{g}/\text{L}$ or 6 ng/L)
- The petition was complete, requested an action that can be taken, and did not conflict with federal law
- DEP recommended on August 15, 2017 that the EQB accept the petition for further evaluation. Further evaluation may help inform whether additional measures are needed to protect public health

General Update and Fees

- Approved by EQB on April 17, 2018 to move forward as final rulemaking
- Revises the treatment technique requirements for microbial pathogens
- Adds new requirements for alarms, shutdown capabilities, and system resiliency (i.e., auxiliary power or alternate provisions)
- Establishes the regulatory basis for issuing general permits
- Addresses concerns related to gaps in the monitoring, reporting and tracking of back-up water sources

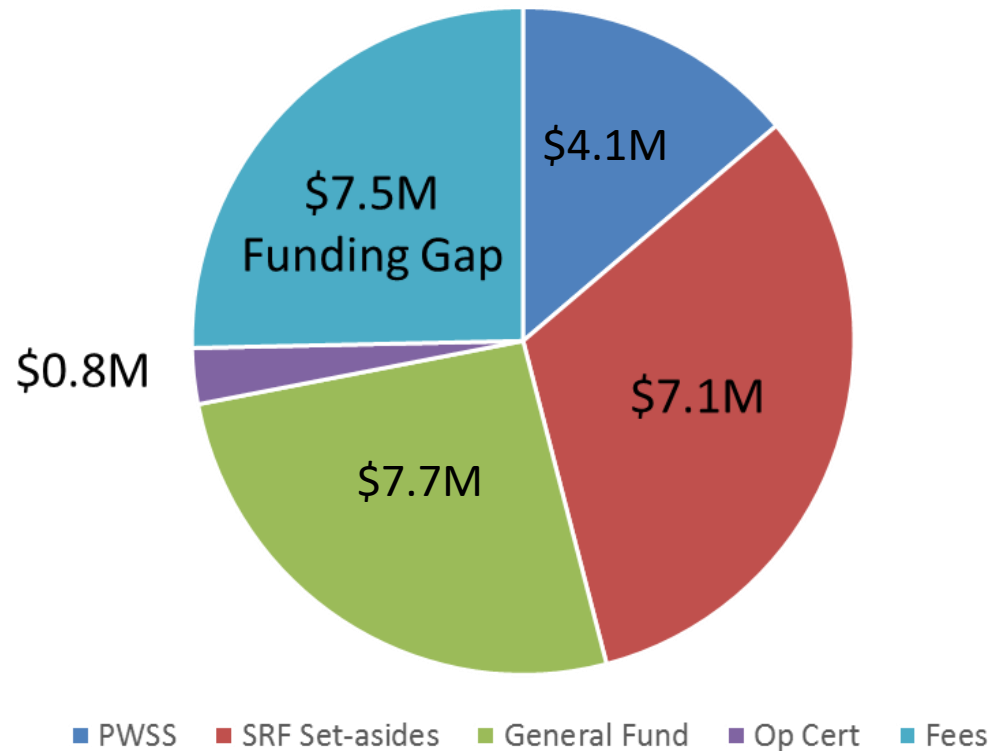
General Update and Fees

New Annual Fees/Amended Permit Fees:

- Fees are necessary to generate adequate funding to carry out minimum program elements
- Failure to meet minimum program elements may result in an increased risk to public health
- Program performance is currently under review by EPA. As per EPA, the Department's workload is excessive and not sustainable; program performance will continue to suffer.

SDW Program Costs and Funding

SDW Program Costs and Funding



General Update and Fees

New Annual Fees:

- Annual fees range from \$250 - \$40,000 for CWSs, \$50 - \$1,000 for NCWSs, and \$1,000 - \$2,500 for BVRBs
- Per person costs range from \$0.35 to \$10 per year
- At least 26 states charge annual fees to augment the cost of their Drinking Water Program. Annual fees for these 26 states range from \$25 to \$160,000 per water system.

Upcoming SDW Regulations

Lead:

- Reduction of Lead in Drinking Water Act
 - New “lead-free” definition
 - Requires regulations
- Lead Notification Requirements (WIIN Act)
 - Notification when 3rd party data indicates action level exceedances (ALE) within homes
 - Issuance of Tier 1 PN for lead ALEs – requires regulations
- Long-term Revisions to the Lead and Copper Rule
 - Federalism consultation
 - Address gaps in current rule
 - Proposed rule expected in August 2018

SDW Challenges

- Emerging contaminants
- Source water protection
- Aging infrastructure
- Simultaneous compliance
- Resiliency and sustainability
- Resources



SDW Challenges

Aging infrastructure:

- ASCE report card for PA = D
- EPA 2015 Drinking Water Needs Survey for PA = \$16.8 B
 - \$11.1 B distribution systems
 - \$2.8 B treatment
 - \$1.9 B storage tanks
 - \$617 M new sources of supply
 - \$350 M other



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