

# 2013 Compliance Assistance Conference



## *What It Means To Be a Public Water System*

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# Overview

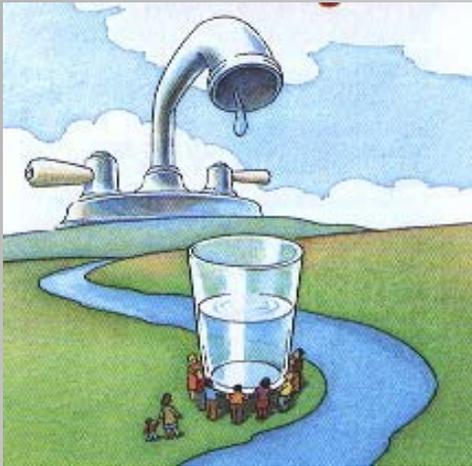
- Safe Drinking Water Act
- Definition of a Public Water System (PWS)
- Types of PWS's
- Responsibilities of PWS's
- Certified Operators
- Source Water Protection
- Sanitary Surveys
- Security & Emergency Preparedness
- Backflow Prevention

# Safe Drinking Water Act



- Passed by congress in 1974
- Amended in 1986 and 1996
- Protects public health through regulation
- Authorizes EPA and primacy agents to set health based standards
- Applies to all public water systems

# Public Water Systems

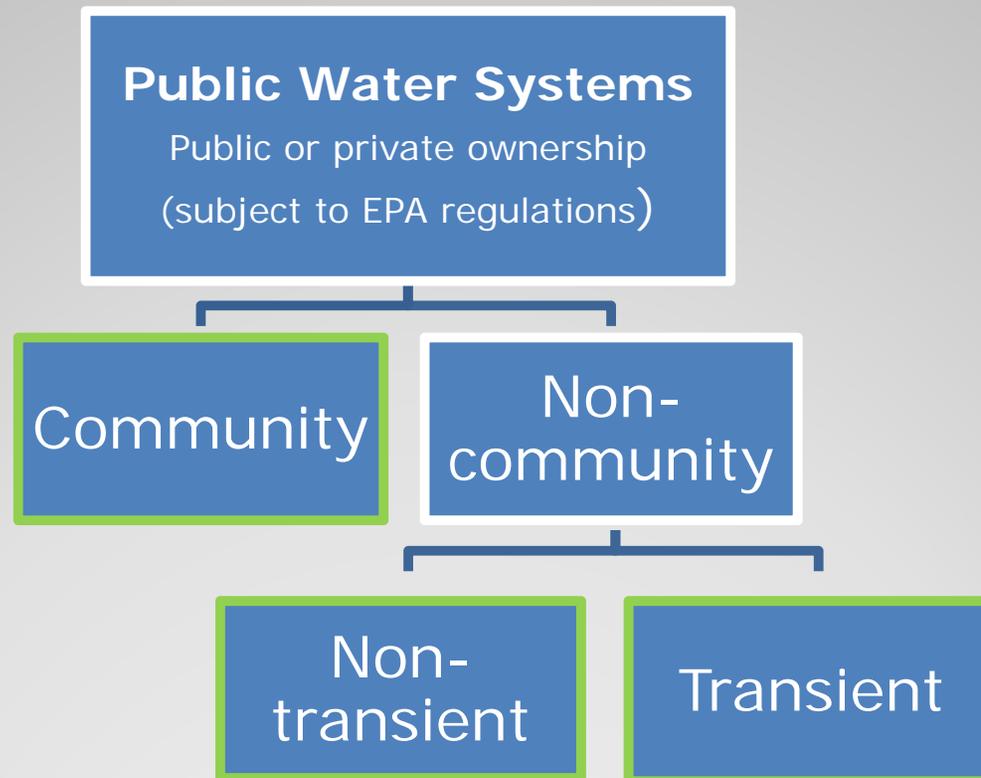


- Operation providing water for human consumption
- 15 or more service connections
- **or**
- An average of 25 or more individuals daily at least 60 days out of the year

# What does it mean?

- "Human consumption" means the ingestion or absorption of water as the result of drinking, cooking, dishwashing, hand washing, bathing, showering, or oral hygiene.
- "System" means the collection, treatment, storage, and distribution facilities under control of the operator

# Types of Public Water Systems



# Community PWS's

- At least fifteen service connections used by year-round residents

**or**

- At least twenty-five year-round residents.

# Community PWS Examples



- Cities
- Villages
- Mobile Home Parks
- Prisons
- Nursing Homes
- Home Owner Associations
- Subdivisions
- Rural Area Systems

# Non-Transient Non-Community

- NTNC
- Non-community public water system
- Regularly serves at least twenty-five of the same persons over six months per year.

# NTNC Examples



- Schools
- Businesses
- Hospitals
- Day Care Facilities

# Transient Non-Community

- TNC
- Non-community public water system
- At least twenty-five different people over 60 days per year.

# TNC Examples



- Churches
- Golf Courses
- Restaurants/Bars
- Campgrounds
- Resorts
- Rest Areas
- Retail Stores
- Gas Stations
- Hotels/Motels/Inns

# Responsibilities of PWS's



- Monitoring
- Operation
- Maintenance
- Source Water Protection
- Record Keeping
- License to Operate

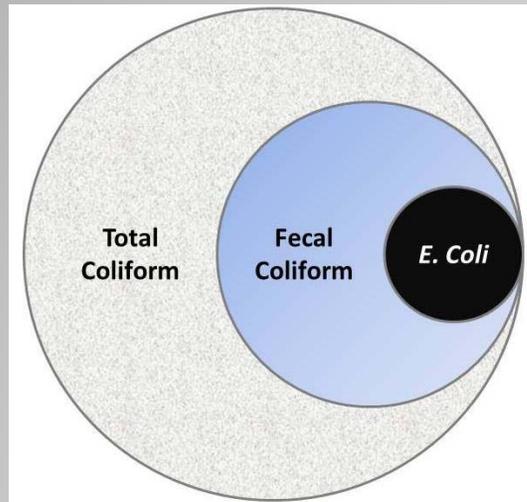
# Monitoring Requirements for Communities and NTNC Systems

- Total Coliform Bacteria
- Lead and Copper
- Inorganic Chemicals (IOC)
- Organic Chemicals (SOC and VOC)
- Disinfection ByProducts (DBP)
- Operational Parameters (chlorine residual, iron, manganese, hardness, etc.)
- Others as needed

# Monitoring Requirements for TNC Systems

- Total Coliform Bacteria
  - Nitrate/Nitrite
- ❖ Testing is performed to detect acute (short-term) risks to the public

# Total Coliform Bacteria

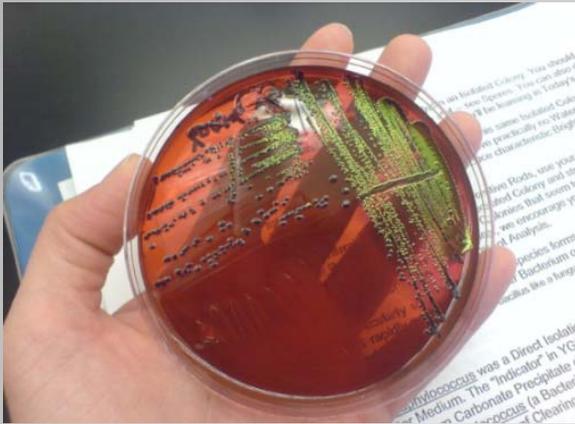


- Common in the environment, but generally not harmful
- Easy, quick and inexpensive test
- Indicator of potentially harmful organisms such as E. coli or fecal coliform
  - Indicate potential contamination of human or animal waste
  - Acute health effects

# Maximum Contaminant Level

- MCL
- The maximum permissible level of a contaminant in water which is delivered to any user of a public water system
- Set for both acute and chronic exposures

# Certified Labs



- Approved by Ohio EPA's Laboratory Certification Program
- Use scientific methods (approved by U.S. EPA) to obtain accurate results

Lists of certified labs:

[www.epa.state.oh.us/ddagw/labcert.aspx](http://www.epa.state.oh.us/ddagw/labcert.aspx)

## eDWR

- Program for reporting drinking water data
- Labs report their chemical and microbiological sample results **and** PWS's report their monthly operational data (MORs) electronically
- Web-based system, accessible via any internet connection
- *Ohio EPA eBusiness Center* a secure portal for online business services offers accessibility

# Ohio EPA eBusiness Center

<https://ebiz.epa.ohio.gov>

State of Ohio | Ohio EPA



Environmental  
Protection Agency

eBusiness Center

Ohio EPA's eBusiness Center is a secure portal for the regulated community and consultants to electronically complete and file Ohio EPA-related reports and permit applications.

#### New Account

Don't have an account? Click the link below to create a new account.

[Create New Account...](#)

#### System Support

Do you need assistance or have questions about Ohio EPA eBusiness Center?

[Click here for online help...](#)

Phone: (877) 372-2499 (1-877-EPA-BIZZ)  
Hours of live support: 8:00 AM - 5:00 PM weekdays,  
except State [holidays](#).

Welcome to Ohio EPA eBusiness Center

User ID:

Password:

The login form is set against a background image of a sunlit path leading to a lake. It includes a key icon, a title, two input fields for User ID and Password, and a Login button.

[Forgot your password?](#)



# Certified Operator

- Required for all public water systems except TNC serving less than 250 people
- Responsible for day-to-day operations
  - PWS is operating properly
  - Routine testing is completed
  - Routine maintenance is completed
  - Maintain log book

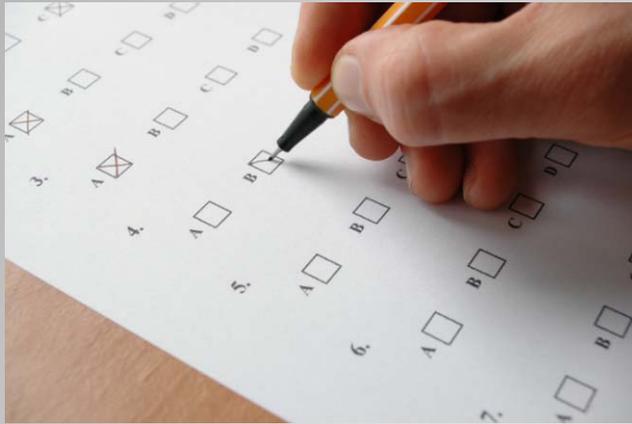
# Log Book Requirements

- Operation and maintenance records for each PWS and water treatment plant within a PWS
  - Hard bound books
  - Time cards
  - Separate operation and maintenance records
  - Well- organized computer logs
- Must be maintained on-site

# Items to Include in a Logbook

- Identification of the PWS
- Date and times of arrival and departure of operators
- Specific operation and maintenance activities
- Results of tests performed and samples taken
- Performance of preventative maintenance and repairs, or requests for repair of the equipment
- Identification of the persons making entries

# Becoming a Certified Operator



- Must have high school diploma or equivalent
- Apply for and pass the state operator certification exam
- Must document appropriate level of hands-on work experience

# Exam Eligibility

**Class A**            12 months

**Class I**            12 months

**Class II**           36 months

**Class III**           60 months, including 12 months as a Class II operator

**Class IV**           36 months as a Class III, including 24 months management experience at a Class III or IV facility

**(A, II, III, IV)** Reductions available for education and course completion.

# Continuing Education

- Requirement for certified operators
- Courses must be approved by the Director of Ohio EPA
- Minimum number of contact hours requirement every two years
  - Class A or limited Class A = 8 hrs
  - Class I Water , Class I & II Water Distribution = 12 hrs
  - Class II, III & IV Water = 24 hrs

# Classification of PWS's

- Classified as class A, I, II, III or IV
- Assigned according to population size, source water, flow characteristics (MGD), treatment techniques and contamination limits
- Required to provide a minimum staffing level

## Class A PWS's

- System must meet certain criteria
- NTNC or Community system with population <250
- TNC system with population >250
- Purchased water or ground water source
- No treatment to comply with MCL being used
- No serious public health or environmental hazard

# Maintenance



- Preventative/scheduled maintenance
- Cleaning/painting
- Repairs as needed
- Equipment upgrades

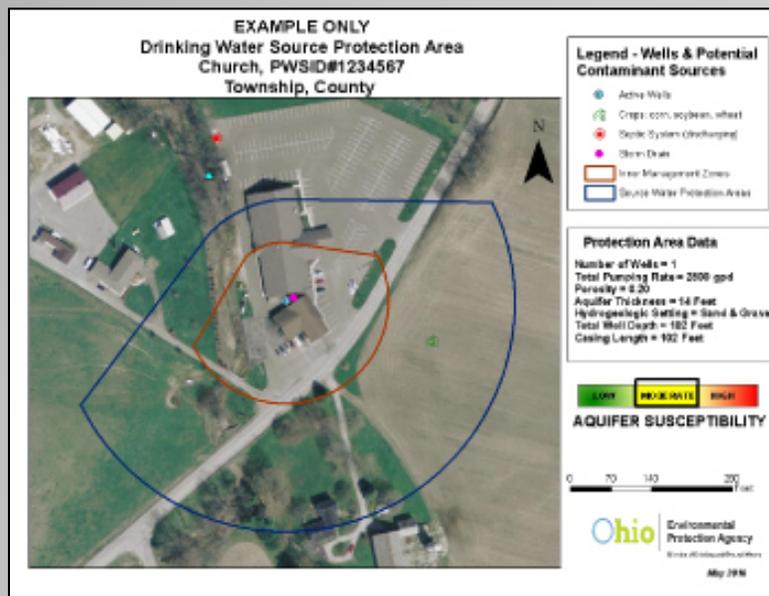
Systems with substantial distribution systems:

- Valve exercising
- Routine system flushing
- Backflow prevention





# Source Water Protection



- Assessment of the area around the public water system's source
- Inventory of potential threats
- Analysis of the susceptibility of the source becoming contaminated
- Executed by OEPA or consultant

# Source Water Protection



- Protection activities undertaken by the PWS
- “Drinking Water Source Protection Plan”
- Tailored to PWS depending on size, type and source
- Watershed planning for surface water systems

# Record Keeping

- Microbiological analyses – 5 years
- Chemical analyses – 10 years
- Records of actions taken to correct violations – 3 years
- Copies of any written reports, summaries or communications relating to sanitary surveys – 10 years
- Copies of public notices issued – 3 years

# License to Operate



1. Green – unconditioned
2. Yellow – conditional
3. Red – Not a license, but rather a sign issued due to the denial of a renewal, suspension or revocation of the license

# Sanitary Surveys



- Every three years for community water systems
- Every five years for non-community water systems
- Frequency can increase if warranted

# Sanitary Survey Components



- Source
- Treatment
- Distribution System
- Finished Water Storage
- Pumps
- Pumps Facilities and Controls
- Monitoring, Reporting and Data Verification
- System Management and Operation
- Operator Compliance

# Sanitary Survey Results

- Letter sent to PWS denoting deficiencies
- Requirements and recommendations included
- PWS must respond within 30 days of receipt
- Schedule of how recommendations will be addressed

# Plan Approval



- Any substantial changes to a public water system must be approved by Ohio EPA
- Includes construction and installation

# Substantial Change



- Change that affects isolation, capacity, flows, water quality, source, distribution or treatment
  - Distribution systems
  - Water sources
  - Treatment facilities

# Application of Plan Approval

- A completed copy of the Water Supply Data Sheet
- Three copies of plan drawings
- One copy of specifications
- One copy of supporting information
- A submittal letter from the PWS
- Plan review fee
- Package must be submitted to the appropriate district office

# Security & Emergency Preparedness

- Features of your system critical to production and distribution of safe drinking water to the public
- Essential tools necessary for maintaining operations during an emergency
  - Equipment and supplies
  - Essential personnel
  - Mutual aid plan
  - Strategy for communicating with first responders
  - Policy for practicing and updating the plan

# Contingency Plans

- Requirement for community PWSs
- Need to include many potential situations
  - Power outage
  - Water main break
  - Inorganic/organic contamination
  - Bacteriological contamination
  - Suspected tampering
  - Distribution storage failure
  - Water system depressurization
  - Suspected backflow or cross-connection
  - Source failure
  - Unplanned absence of operator

# Resources

- Ohio WARN (Water/Wastewater Agency Response Network)
- Mutual Aid Assistance
- Coordination with Local Law Enforcement
- Coordination with County EMAs
- Water Contamination Information Tool (WCIT)
- Water Security Handbook
- Drinking Water Security For Small Systems Serving 3,300 or Fewer Persons
- These and more are located at:  
[www.epa.state.oh.us/ddagw/security.aspx](http://www.epa.state.oh.us/ddagw/security.aspx)

# Backflow Prevention

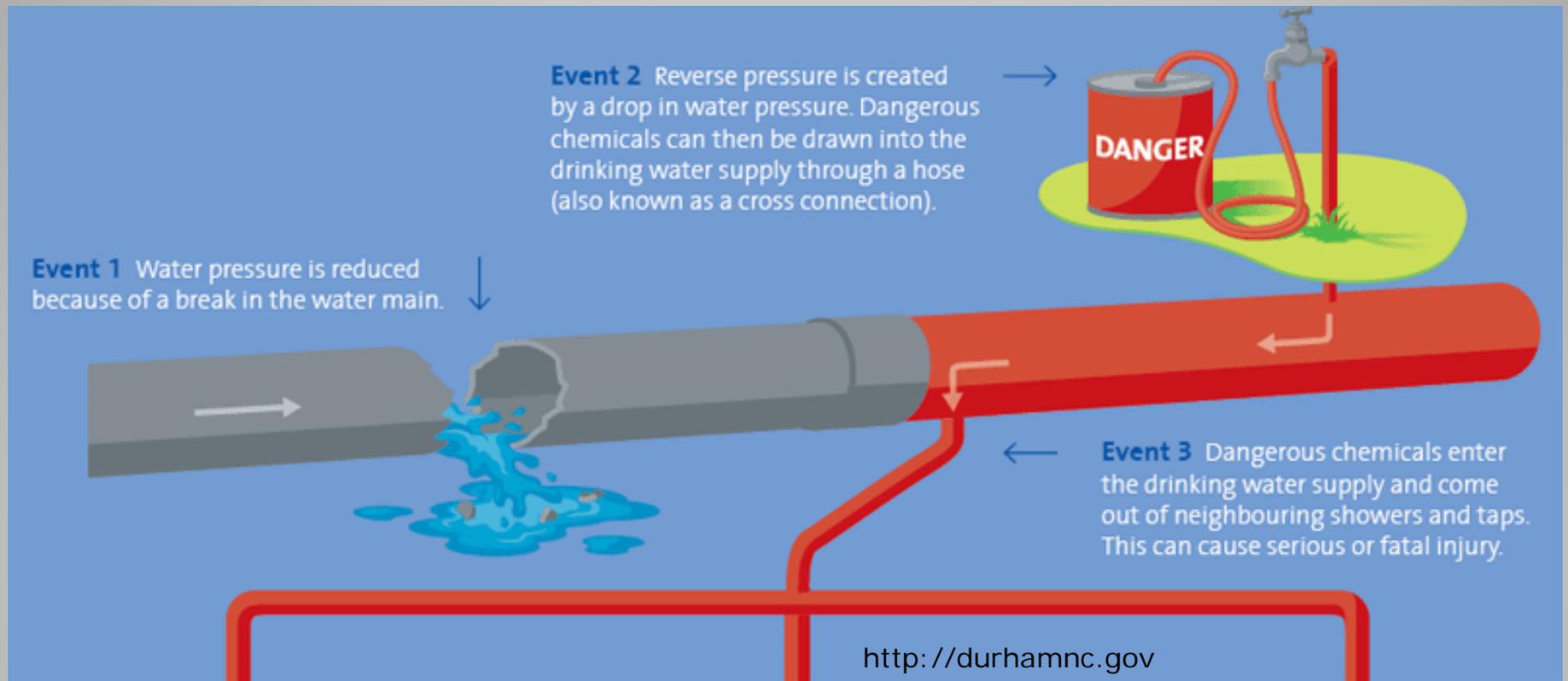
## **What is a cross-connection?**

Any physical connection created between a possible source of contamination and any drinking water system piping.

## **What is backflow?**

The flow through a cross-connection from a possible source of contamination back into the drinking water system. It occurs when a cross-connection is created and a pressure reversal, either as backsiphonage or backpressure, occurs in the water supply piping.

# Backflow



# Backflow Sources

- Hose connections
- Chemically treated heating systems
- Swimming pools, hot tubs, spas
- Private and/or non-potable water supplies located on the property
- Water-operated sump drain devices
- Feed lots/livestock holding areas or barnyards

# Backflow Examples

- Soapy water or other cleaning compounds in a mop bucket
- Hose submerged in a swimming pool.
- Garden hose attached to a fertilizer/pesticide sprayer.
- Bacteria/chemicals/additives in a boiler system
- Unsafe water pumped from a private well

# Who is responsible?

- In Ohio, responsibility is divided
- State and local plumbing inspectors have authority over plumbing systems within buildings
- Ohio EPA and water suppliers regulate protection of the distribution system at each service connection
- Water customers have the ultimate responsibility for properly maintaining their plumbing systems
  - Cross-connections not created
  - Operational devices

# Financial Assistance

- Ohio EPA has several programs that offer below market rate loans to eligible public water systems
- Loans may be used as follows:
  - To fund improvements
  - To eliminate public health threats
  - To ensure compliance with federal and state drinking water laws and regulations
- The Drinking Water Assistance Fund (DWAF)
  - Water Supply Revolving Loan Account (WSRLA)
  - Wellhead protection program
  - technical assistance through the Rural Community Assistance Program (RCAP)

# Ohio EPA District Offices

Northwest District  
Bowling Green  
419-352-8461

Southwest District  
Dayton  
937-285-6357



Northeast District  
Twinsburg  
330-963-1200

Southeast District  
Logan  
740-385-8501

Central District  
Columbus  
614-728-3778

Questions?