



Session 5: SC Approach to Revised Total Coliform Rule Assessments

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EPA ORD-Region 4 Small Drinking Water Systems Meeting

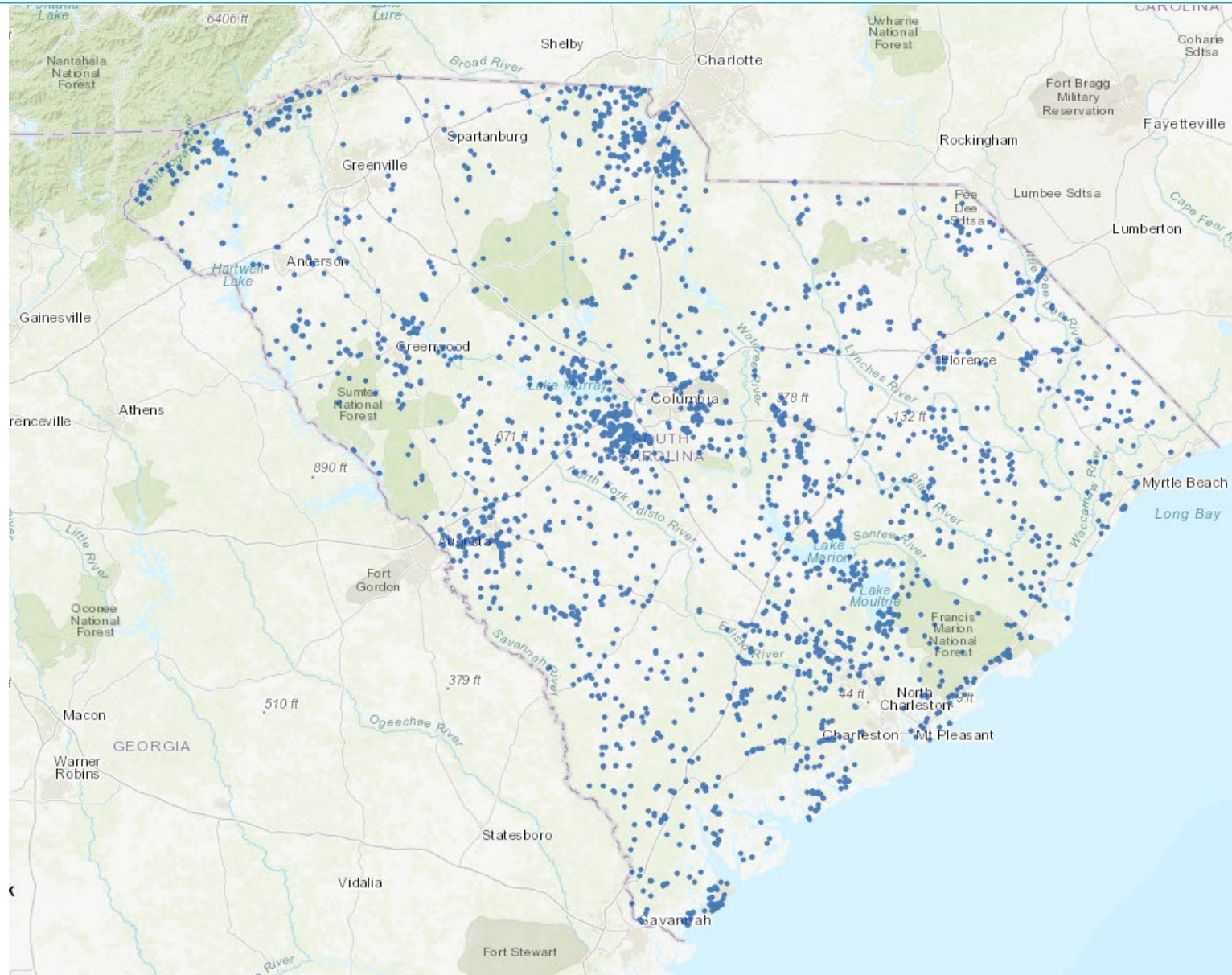
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Find and Fix?

- What if you don't find anything?
- This regulation is having an impact on our small businesses in SC
- Many of our customers are in the campground – veterinary hospital – convenience store business, not the water business

Public Supply Wells



South Carolina Statistics

Statistic	Number
Public water systems	2542
Community water systems	580
Non-transient, non -community water systems	101
Transient, non -community (non -seasonal)	692
Transient, non -community (seasonal)	30
“State-defined” (less than 15 connections or 25 people)	830



South Carolina Statistics

2019 - Present

Statistic	Number
Total Assessments	191
Number of Level 2	88
Number of multiple Level 2	4
Enforcement actions: <ul style="list-style-type: none">• Referred for E. Coli• Referred for incomplete or did not complete assessment	11 1
Success stories	few

Assessments in South Carolina

- Given conditional primacy by EPA R4
 - Currently finalizing primacy agreements
- Assessments began in 2010 (before RTCR)
 - Work out implementation challenges
 - Early form developed for all systems
 - This early assessment form is still used for non - federal systems
 - Early assessments completed by field office staff (12 field offices statewide)

Assessments in South Carolina

- Primacy Application – Round 1
 - Level 1: Self-assessment performed by PWS
 - Level 2: Completed by DHEC engineering staff out of Columbia (central office)
 - Self-assessment process works, but not very revealing about water system or why they have challenges
 - Larger than expected volume of L2 Assessments
 - Comments from EPA R4 about our primacy package

Assessments in South Carolina

- EPA Comments
 - Forms look good
 - When does the State deem the Assessment complete?
 - Can the State take enforcement action when not complete?
 - How does State determine who is qualified to conduct a Level 2 assessment?
 - Rethink processes and resubmit to EPA

Assessments in South Carolina

- Primacy Application – Round 2
 - Level 1: Self-assessment performed by PWS
 - Level 2: PWS to “hire” someone qualified
 - “Hire” means arrange for or contract out – several PWS have reached out to local water system operators that conduct for free
 - Document to EPA who we consider qualified

Qualified Level 2 Assessors

- The individual must have experience with water sources, treatment, and distribution systems; and
- The individual must hold a professional license in a relevant field (for example, certified operator, professional engineer)



- An understanding of the RTCR including objectives and requirements;
- An understanding of coliform and E. coli specifically including sources, controls and remediation;
- An understanding of coliform sampling procedures;
- Experience with interpreting and analyzing water supply sources, operations and water quality throughout the treatment and distribution processes;
- Familiarity with water system operations and how changes affect the entire water supply system; and
- Familiarity with the particular water system requiring an assessment.

Implementation Challenges

- General
- Case Study 1: Rural veterinary hospital
- Case Study 2: National chain store
- Case Study 3: Boy Scout Camp

General Implementation

- Small water system challenges
 - Folks aren't in the water business, they're in the mobile home, vet clinic, convenience store, etc. business
 - Understanding gap between complicated regulation and sampling requirements
- Workload on staff
 - Letters and follow -up for Level 1 & 2 processes
 - Continual technical assistance through L1 & L2
 - Follow up and assessment reviews
 - Process tracking
 - Some enforcement referrals with different process

Case Study 1: Rural Vet Hospital

- PWS has triggered multiple L2 assessments
- Who's tried to help? 3 engineers, 1 well driller, 2 hydrogeologists
- 2-3 “regular” disinfections with hypochlorite
- At least 1 “super” chlorination
 - High volume
 - Push solution into geologic formation
- Changed sample location from outside (dog run) to inside the building

Case Study 1: Rural Vet Hospital

- PWS adjacent to farm: manure spread for fertilizer
- Owner states that problems began after farmer drilled & began using irrigation well
 - Possible hydraulic connection through fractures
- Owner willing to drill new well but does not want to drill another well and have similar problems
- Engineer recently submitted project to slip line existing well to block out contamination zone(s)

Case Study 2: National Chain Store

- Chain store exploding in growth in SE
 - 20-30 permits issued for new stores since 2015
 - Does not include stores connected to existing PWS
- Brand new store in operation for 1½ years, new store construction & new well
- Multiple L2A
- Local consultant engineer completed first L2A; several items found and corrected

Case Study 2: National Chain Store

- Triggered another L2A
 - DHEC staff member (certified operator) completed
 - No corrective actions identified; possibly backflow -related
- DHEC backflow expert performed site visit
 - No issues with backflow conditions
- Store shared that they had a “wastewater incident” out in parking lot after opening
- Well has less than required 100 -ft pollution free radius, but is grouted to 100 -ft depth
- Ongoing challenge!

Case Study 3: Boy Scout Camp

- Seasonal system – May through November
- Multiple buildings
- Multiple wells & tanks; complex distribution system
- 2010 – present: 15 TC+ samples (5 in 2014)

Case Study 3: Boy Scout Camp

- Multiple site visits for recommendations
 - Disinfect & flush lines
 - Cleaning/disinfect/flush tanks
 - Review & enhance repair techniques
- Older distribution system – leaks & breaks
- Clean compliance history for 4 -5 months, trigger assessment, close for season!

Success Stories

- SC State Park
 - Level 2 in 2017
 - Corrective actions taken

- Private campground
 - Level 2 in 2016
 - Corrective actions taken
 - Returned to annual monitoring



Contact Us

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