
Joint Legislative Audit and Review Commission



**Performance and Oversight of Virginia's
Small Community Drinking Water Systems**

Commission Briefing

November 13, 2006



JLARC

Study Mandate

- SJR 82 (2006) directed JLARC staff to review the regulatory framework overseeing Virginia's small community water systems
 - Assess Virginia Health Department (VDH) oversight of water quality
 - Evaluate State Corporation Commission (SCC) rate approval process
 - Review small system security and sustainability

In This Presentation

- Background
- Performance of Small Water Systems Is Mixed
- VDH Oversight of Small Water Systems Could Be Improved
- Oversight of Small System Rates Could Be Improved with Greater Coordination
- Water Supply Protection and Planning Are Limited

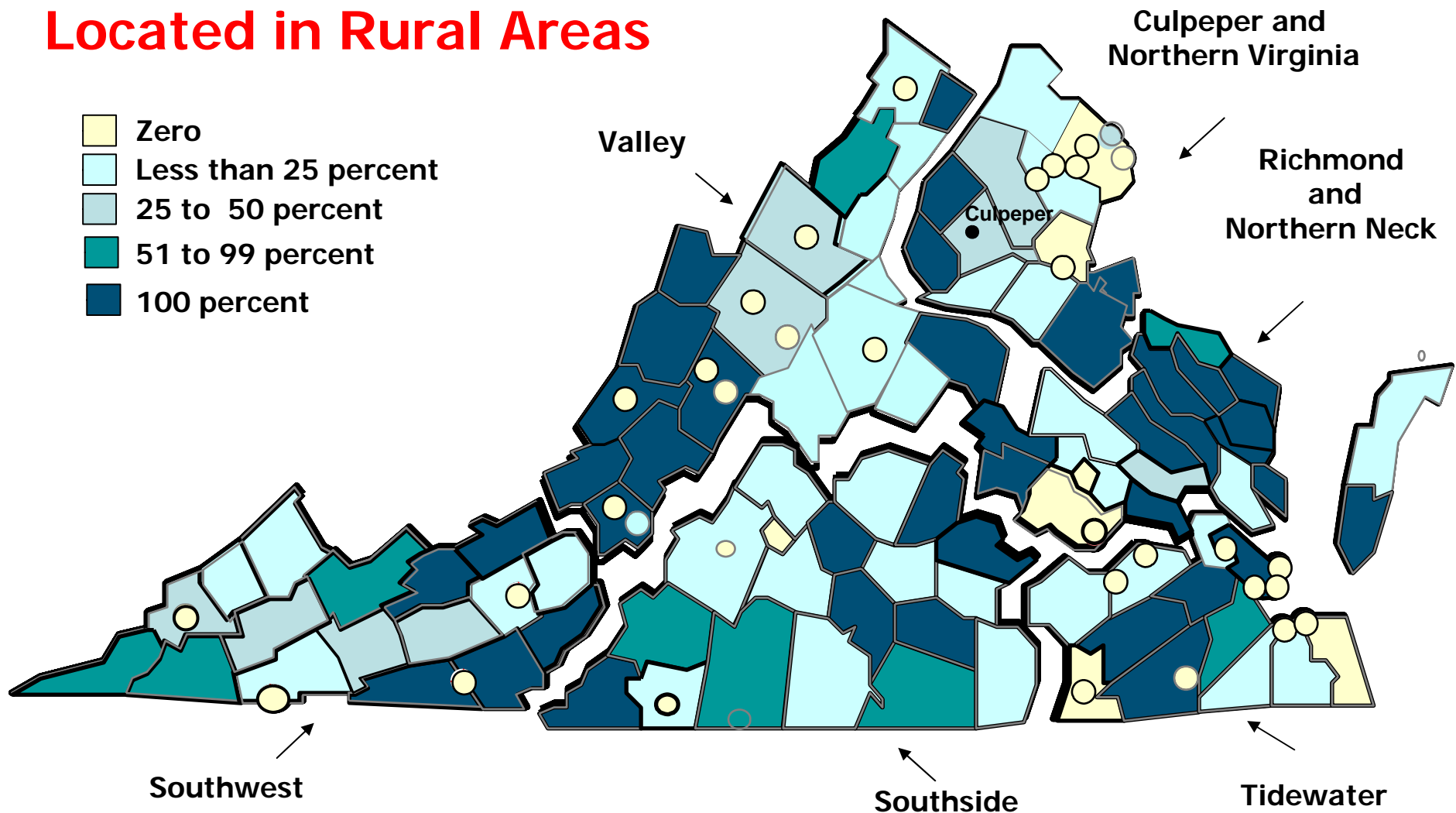
Small Systems Serve About 8% of Virginians Served by Community Waterworks

- Small community water systems serve between 25 and 3,300 people 60 days or more a year
- In Virginia
 - Almost 1,100 systems
 - Approximately 470,000 people receive water
 - More than 600 systems are privately owned
 - Most people served by publicly owned systems
 - Most systems use groundwater

Small Water Systems

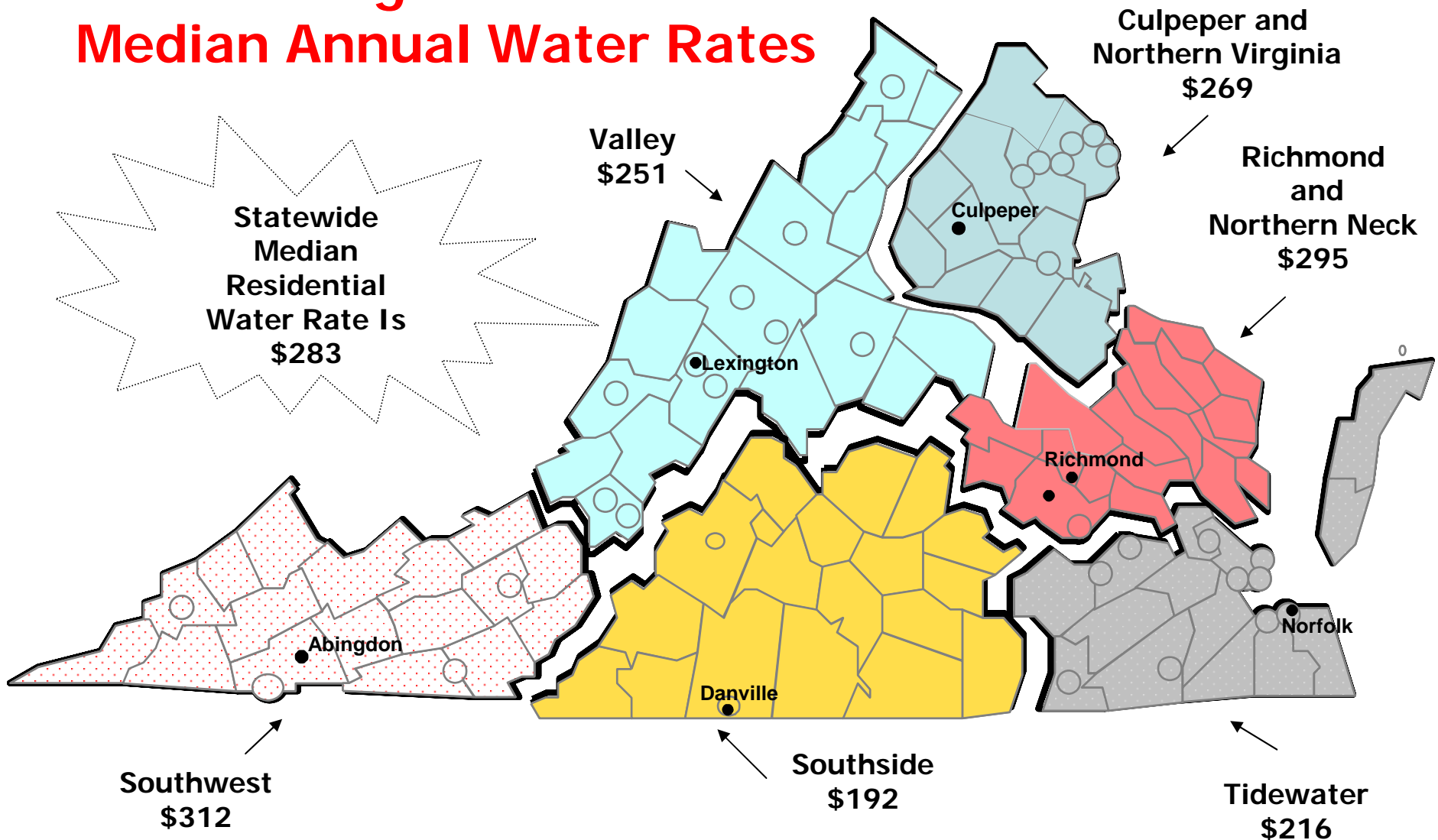


Most Small Water System Customers Located in Rural Areas



Does not include percent of population served by private wells.

Minimal Regional Variation in Median Annual Water Rates



Median rates calculated for all systems regardless of size

Regulatory Oversight of Small Systems

- Federal Safe Drinking Water Act (SDWA) establishes maximum contaminant levels and creates multi-barrier approach for protecting drinking water
- VDH implements and enforces SDWA elements
- Other State and non-state entities have roles
 - SCC regulates rates for one-quarter of systems
 - Non-state entities provide small systems training and resources

System Success Tied to Technical, Financial, and Managerial Capacities

- Technical – Ability to ensure waterworks functions correctly
 - Collecting and submitting proper water samples
 - Maintaining and repairing pumps, water lines, treatment equipment
- Financial – Ability to recover costs necessary to maintain and upgrade waterworks
 - Charging rates that recover costs
 - Maintaining adequate reserves for repairs
- Managerial – Ability to carry out day-to-day operations
 - Hiring and retaining qualified staff
 - Notifying public

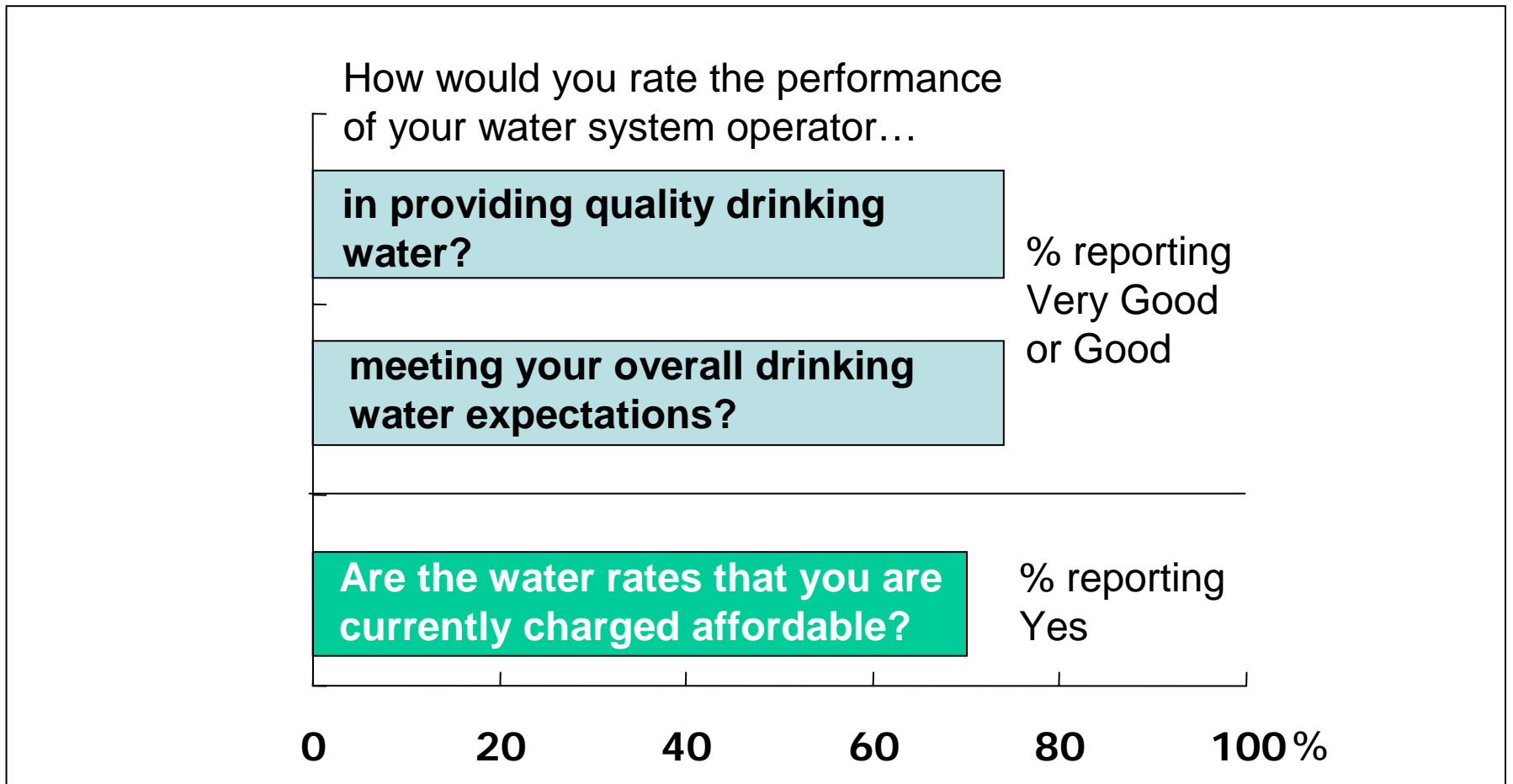
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Finding

- At least 70 percent of small system customers responding to a JLARC survey reported general satisfaction with water quality and rate affordability

Customer Survey Respondents Found Water Quality and Affordability Satisfactory



Finding

- Some owners responding to a JLARC survey report technical challenges to operating their systems

Owners Report Challenges Meeting Water Quality Standards and Maintaining System

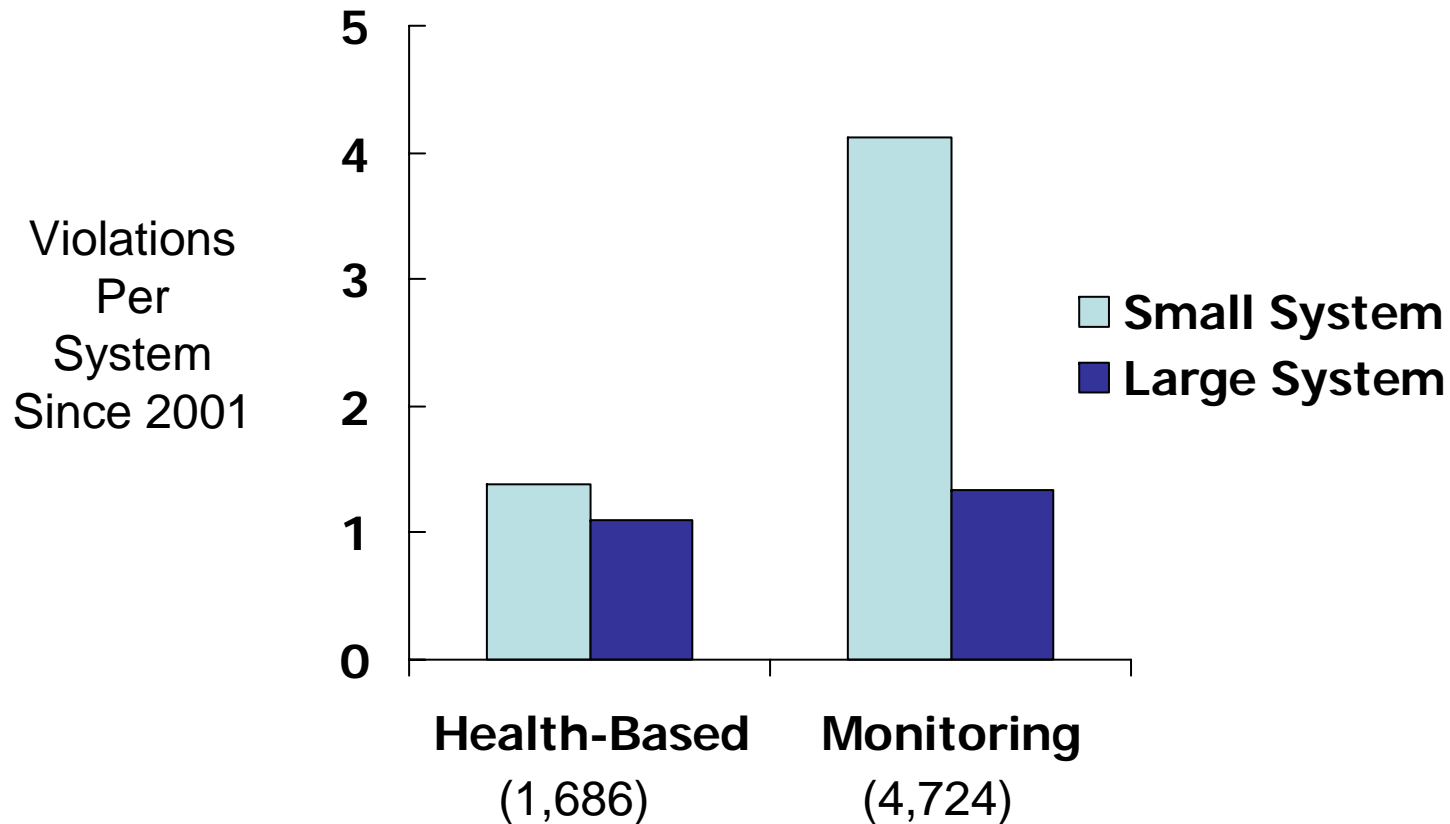
- 22% found meeting water quality standards moderate to major challenge
- More than one-third reported moderate to major challenges maintaining equipment
 - Distribution system – 46%
 - Tanks and equipment – 44%
 - Building or water storage shed – 34%

Finding

- Small systems more frequently receive monitoring violations than large systems

On a Per-System Basis, Small Systems More Likely to Violate Monitoring Requirements

VDH has issued 6,410 health-based and monitoring violations since 2001

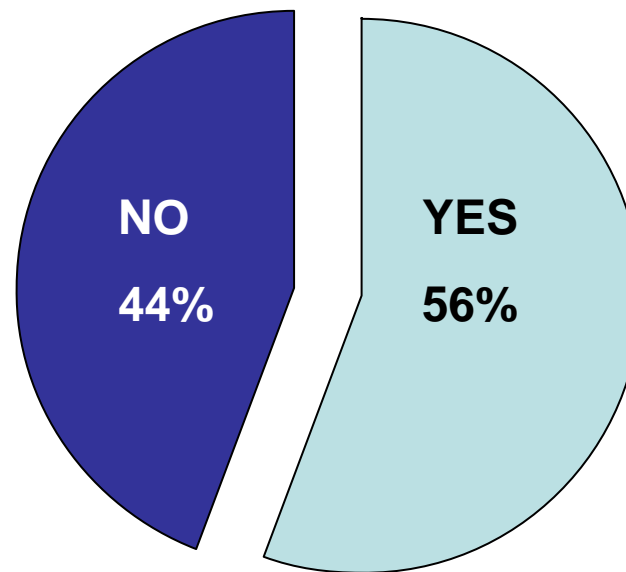


Finding

- Majority of owners of small private systems responding to a JLARC survey reported desire to not operate system

Majority of Responding Private System Owners Would Choose to Leave Waterworks Operations

If you had the opportunity, would you choose not to own and/or operate your water system?



90 Private Systems
Owners Responded

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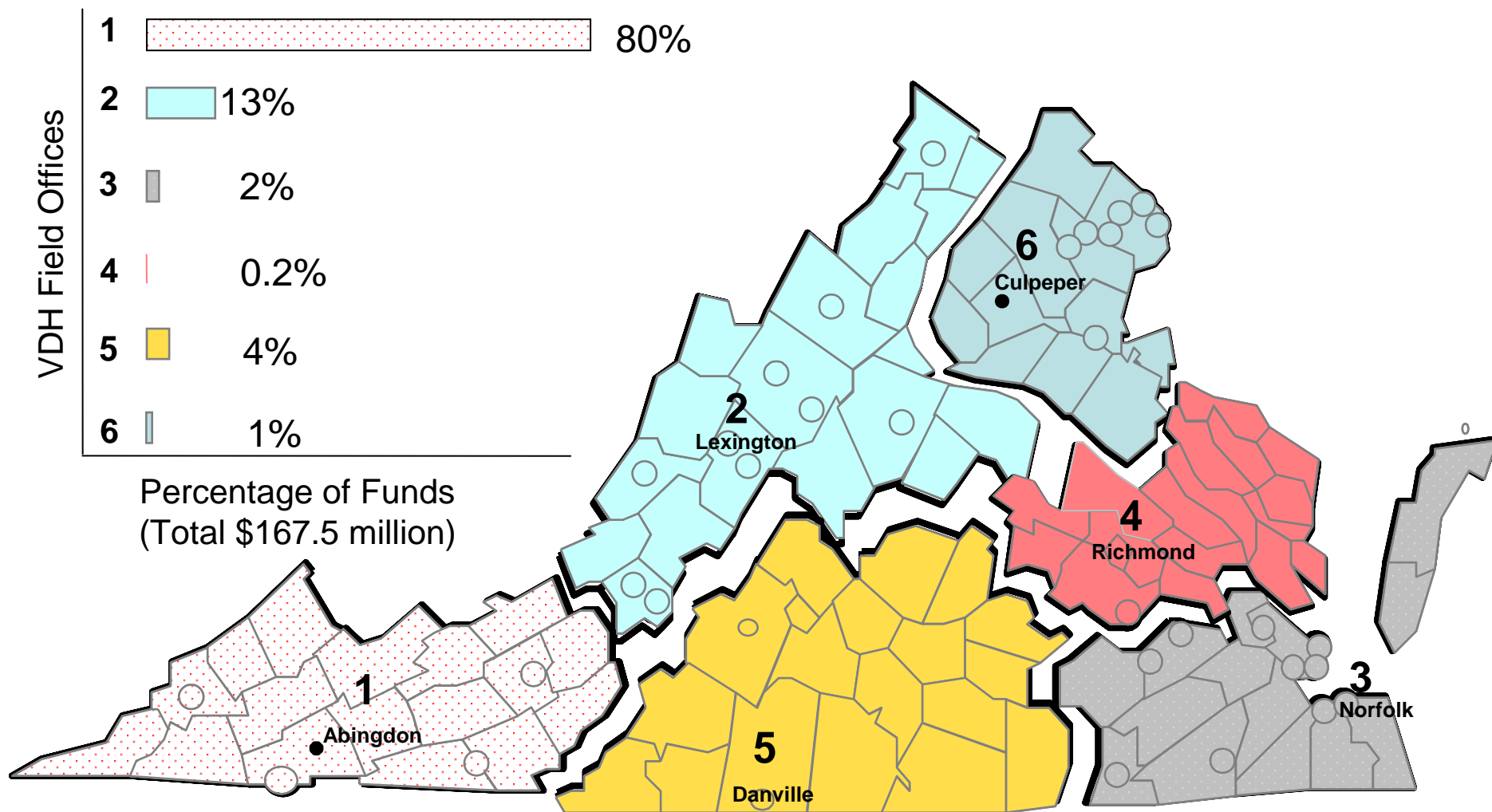
Findings

- Technical assistance and training efforts appear effective
- More than \$180 million in State and federal funding to waterworks since 1997 – 80% to Southwest

Technical Assistance and Training Efforts Appear Good

- 87% of respondents to JLARC staff survey cite little challenge obtaining guidance and assistance
 - Preliminary engineering conferences
 - Interpreting regulations
 - Guidance for system improvements and reporting
- VDH-provided training appears good
 - Participate in DPOR's waterworks board
 - VDH partners with non-state entities

Since 1997, \$133 Million in State and Federal Funds Have Been Allocated to Southwest Virginia



Finding

- Inspections are conducted within EPA's minimum requirements, but inspections are almost always announced

Inspections of Most Small Waterworks Occur At Least Every 20 Months, But Are Rarely Unannounced

- EPA requires inspections of surface water systems every 36 months; no similar groundwater requirement

Water Source	VDH Objective	Actual Frequency
Groundwater	24 Months	20 Months
Surface Water	6 Months	8 Months
Purchased Water	36 Months	22 Months

- VDH notifies waterworks prior to inspection
 - Limited response to owner survey indicates most receive 1 to 7 days prior notice
 - Unannounced inspections may provide a more accurate picture of typical system operating conditions

Recommendation

- VDH should conduct a portion of its inspections on an unannounced basis. VDH should also specify timeframes for conducting follow-up inspections to determine if identified deficiencies are being corrected

Finding

- VDH is not notified of all customer complaints

Most Customer Complaints May Not Be Forwarded to VDH

- Complaints can measure customer satisfaction and identify system issues
- VDH does not require complaints be forwarded
- VDH field offices report receiving about 210 complaints annually
- Limited owner survey responses indicate owners receive more than 200 complaints annually

Recommendation

- VDH should require system owners to report all complaints to it by no later than the quarter following the receipt of the complaint

Finding

- Circumstances can limit VDH's enforcement efforts to obtain compliance

Circumstances and Conditions of Small Systems Can Dictate VDH's Enforcement Approach

- Challenges faced by small systems impact VDH's enforcement options
 - Financial challenges may limit VDH's ability to fine a system for not complying
 - Financial challenges also may preclude VDH's ability to require system upgrades
 - Enforcement efforts limited by potential impact on water system users
- VDH's use of compliance assistance in certain circumstances may be appropriate

Finding

- Some systems operate without licensed operators



Not All Small Systems Have Licensed Operators As Required by Federal and State Regulations

- Properly trained and qualified operators are critical to system success
- SDWA requires licensed operators
- JLARC staff identified 104 water systems without licensed operators
 - Licensure is requested by VDH at inspection
 - Not verified against list maintained by Department of Professional and Occupational Regulation (DPOR)

Recommendation

- VDH should verify whether systems are using licensed operators using information maintained by DPOR

Findings

- Additional options to address systems with histories of noncompliance are needed
- Consolidation may provide mechanism for increased compliance

Enforcement Efforts May Be Limited by Impact on Consumers

- Most small systems generally comply with federal and State drinking water standards
- Small number of small systems unresponsive to VDH efforts

Consolidation Should Be Encouraged

- Offering financial incentives to encourage consolidation of nonviable systems may improve compliance
- Consolidation refers to combining more than one system to improve economies of scale
 - Physical connection
 - Combining administrative activities
- Successful in North Carolina and Maryland

Recommendation

- VDH should implement a policy to identify non-compliant water systems. VDH should then use financial and/or other incentives to encourage the consolidation of these systems with more successful systems

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- **Oversight of Small System Rates Could Be Improved with Greater Coordination**
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Findings

- Rates charged by fewer than one-quarter of small water systems are regulated by SCC
- Reporting requirements for regulated utilities are rigorous, but enforcement of regulations on small utilities is limited

Rates Charged by Fewer Than One-Quarter of Small Water Systems Are Regulated By SCC

- SCC regulates rates charged by 69 public utilities that own 254 water systems
 - One utility owns 120 small water systems
- Local government water rates are self-regulated
 - 402 small water systems serving 306,000
 - Rates charged by large localities serving 5.4 million Virginians are exempt from SCC regulation
- Other utilities are exempt
 - 126 manufactured housing providers
 - Systems serving fewer than 50 connections

Limited Enforcement of Financial Reporting Requirements

- Companies that do not file face limited enforcement action
 - 19 utilities did not file in 2005, no action taken
- SCC has authority to levy up to \$10,000 in fines for noncompliance
- Potential negative impact of financial penalties on small systems operation limit enforcement options

Finding

- Most small water utility rate increases are approved by SCC staff without formal review

Most Small System Rate Increases Are Approved

- Regulatory relief from rate setting process provided through the Small Water or Sewer Public Utility Act
 - 90 percent of proposed small system rate requests approved since 2001
- Customer complaints primarily trigger formal review
 - Secondary contaminant concerns
 - Size of increase
 - Parity with neighboring utilities
- SCC does not have a formal policy requiring small water systems to provide customers with information on electronic filing of complaints

Finding

- Coordination between SCC and VDH should be formalized through Memorandum of Understanding

Formal Review Is Thorough

- SCC staff primarily ensure
 - Adjustments assigned to specific improvements
 - Soundness of financial model
 - Adequacy of rate base
- Through determination of reasonable domestic need the SCC has
 - Considered impact on customers by consumption
 - Enforced compliance with VDH consent orders
 - Established that compliance with Secondary Maximum Contaminant Levels is critical

Rate Setting Process Can Be Challenging, and Support Is Limited

- Review process is adversarial
- Several criteria are not reviewed
 - Limited review of historical increases
 - Customer affordability
 - Comparison to nearby utility rates
- Formal involvement of outside entities is limited
 - VDH staff do not testify
 - Local government involvement is limited
- Some small utility owners wary of proposing rate increases

Finding

- Single-tariff pricing structures could increase opportunities for consolidation of underperforming small water systems

Single-Tariff Pricing Structures Could Encourage Consolidation

- Pricing structures designed to spread costs of improvements across multiple systems
 - Facilitates compliance with drinking water standards
 - Provides incentives for utility consideration
 - Mitigates rate shock to customers
 - Encourages private utility investment
- SCC does not prohibit, but usage could be encouraged

Recommendation

- The VDH and SCC should develop a formal agreement on maintaining safe and reliable water supplies for regulated water companies, including
 - Identification of common goals and agency responsibilities
 - Guidelines for implementing enforcement actions
 - Financial planning and reporting guidelines that allow VDH to provide technical support
 - Guidelines encouraging and coordinating direct testimony of VDH staff in rate cases

Recommendations

- The SCC should require public utilities to provide information to customers on the electronic filing of comments as part of their public notification of rate changes

- The SCC, in consultation with VDH, should develop policies and guidelines for increasing the use of single-tariff pricing to encourage the consolidation of small water systems, including
 - Demonstration of need
 - Impact of proposed rate structure for improving compliance with water quality regulations
 - Potential impact of the rate structure on the rate payers

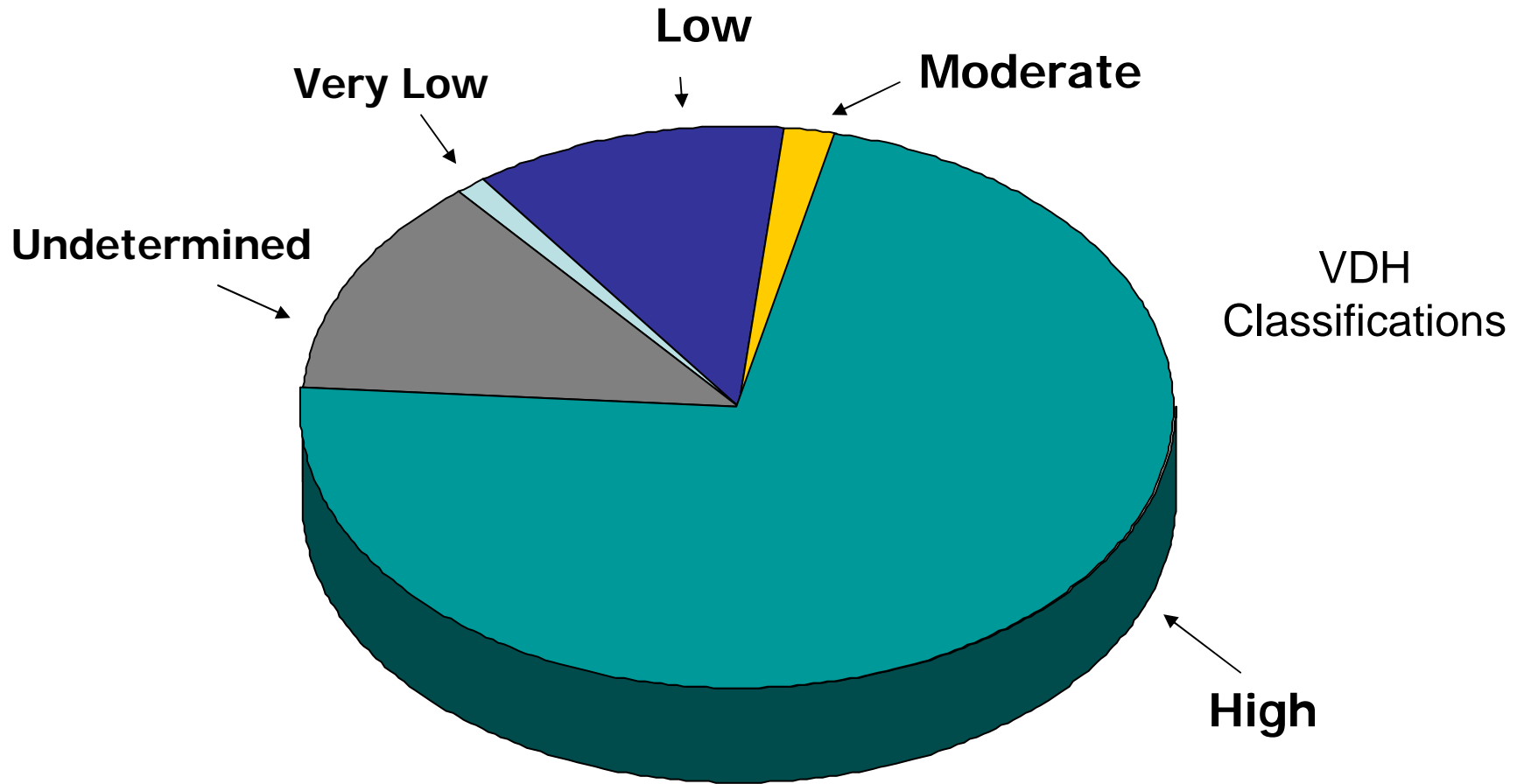
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Finding

- Most of Virginia's small water system sources have been classified by VDH as highly susceptible to contamination

Virginia's Small Water System Sources Highly Susceptible to Contamination



Undetermined includes assessments that have not been completed.

Finding

- Source water protection efforts are voluntary and use of these plans is limited

Source Water Protection Efforts Are Limited

- Virginia effort focused on identification and mapping of wellheads and potential sources of contamination
 - Coordinator position vacant since February 2006
- EPA concerned that Virginia's approach could be improved
 - Encourage coordination with the Department of Environmental Quality (DEQ) and local governments
- Protection efforts are voluntary
 - Use of assessments by system owners is mixed

Finding

- Security guidelines are voluntary, and many small systems may lack adequate emergency response capabilities. Of particular concern are systems that may lack adequate emergency power supply capabilities

Finding

- Statewide water supply planning and protection efforts are in their infancy, and coordination of protection and planning efforts could be improved through a Memorandum of Understanding with DEQ

Statewide Data on Groundwater Availability Is Limited

- DEQ responsible for State groundwater management program
- Groundwater management is occurring in Tidewater and Eastern Shore
 - More than 27.5 billion gallons permitted for withdrawal annually in designated areas
- Process for collecting data for rest of State in infancy

Finding

- 2003 Water Supply Planning Act requires long-term local water supply plans; however, most plans are not required to be submitted until 2011

State Water Supply Plan Not Required Until 2011

Population	Number of Localities	Completion Date
More than 35,000	45	November 2008
Between 15,000 and 35,000	49	November 2009
Less Than 15,000	40	November 2010
Regional	Undetermined	November 2011
Statewide	134	November 2011

- Majority of plans anticipated to be regional
- Almost \$800,000 in water supply planning grants awarded since FY 2006
- Localities required to include all systems regardless of size or ownership

Recommendations

- VDH should provide assistance to small water systems in developing emergency response plans and mutual aid agreements
- VDH and the Department of Emergency Management should include small water systems as critical facilities in statewide emergency response planning. In addition, VDH should coordinate efforts with Virginia's electric utilities for identifying the location of small systems and developing solutions for the timely restoration of power

Recommendation

- The VDH and DEQ should develop a formal Memorandum of Understanding outlining the goals and objectives of each agency regarding the protection of public health and long-term water supply planning

Key Findings

- Customers of small systems have reported general satisfaction with water quality and affordability and most small systems comply with federal and State standards
- Small system owners and operators face some technical challenges
- Using financial incentives to encourage consolidation of nonviable systems with successful operations might improve compliance
- Improved coordination between SCC and VDH could improve rate approval for small systems
- Water supply protection and planning have been limited in Virginia

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