



System-wide Overview

SMALL SYSTEMS & OPERATORS BRIEFING

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Challenges Facing Small Water Systems on Whidbey Island and Other Washington State Island Communities

1. Overview

Whidbey Island relies on **dozens of small Group A and Group B water systems**, many of them operated by HOAs, volunteer boards, or part-time contract operators. These systems collectively serve thousands of residents and represent the majority of Whidbey's water infrastructure — yet they are the **least resourced, least supported, and most vulnerable** part of the island's water landscape.

This briefing outlines the structural, financial, regulatory, and workforce challenges facing small systems and their operators, with a focus on island-specific constraints.

2. Structural Challenges

A. Fragmented Governance

- Whidbey has **dozens of independent systems**, each with its own board, bylaws, and financial structure.
- No single entity is responsible for **island-wide planning, operator support, or long-term aquifer stewardship**.
- Small systems often operate in isolation, without shared data or coordinated planning.

B. Aging Infrastructure

- Many systems were built **50–60 years ago** and are now at or beyond their design life.
- Common issues include:
 - Failing wells
 - Undersized or corroded distribution lines
 - Aging storage tanks

- Outdated electrical and control systems

Replacement costs are **far beyond the capacity** of most HOAs.

C. Volunteer-Run Boards

- Many systems are governed by volunteers with limited technical or regulatory expertise.
- Boards often struggle to:
 - Interpret DOH requirements
 - Plan capital improvements
 - Manage emergencies
 - Communicate risks to residents

This leads to **reactive management** rather than long-term planning.

3. Workforce & Operator Challenges

A. Severe Shortage of Certified Operators

Across Washington, there is a **statewide shortage** of certified water system operators and Satellite Management Agencies (**SMAs**).

On islands, the shortage is even more acute due to:

- Travel time
- Ferry logistics
- Higher operational burden
- Limited housing affordability

Operators are aging out, and younger replacements are scarce.

B. Overburdened Operators

Small-system operators often:

- Manage multiple systems simultaneously
- Are on call 24/7
- Work with aging infrastructure
- Receive modest compensation
- Carry significant public health responsibility

Burnout is common, and turnover is destabilizing.

C. Limited SMA Capacity

Washington law requires new systems to be owned or operated by an SMA “in perpetuity” unless none is available.

But:

- Many SMAs are at capacity

- Some will not take on remote or island systems
- HOAs often cannot afford SMA rates

This leaves systems without reliable operational support.

4. Financial Challenges

A. Insufficient Rate Base

Most HOAs have **20–100 connections**. Even with rate increases, they cannot generate enough revenue to:

- Replace wells
- Rebuild storage
- Install treatment for contaminants (e.g., PFAS, manganese)
- Modernize controls or telemetry

B. Rising Costs

Island systems face:

- Higher contractor mobilization costs
- Limited local vendors
- Supply chain delays
- Higher construction bids

C. Shrinking State Funding

Washington's Drinking Water State Revolving Fund (DWSRF) and related programs are:

- Oversubscribed
- Prioritizing emerging contaminants
- Increasingly competitive

Small systems often lack the administrative capacity to apply for or manage grants.

5. Regulatory & Public Health Challenges

A. Increasing Regulatory Complexity

Small systems must comply with:

- Sampling schedules
- Sanitary surveys
- Cross-connection control
- Emergency response planning
- New contaminant standards

Volunteer boards often struggle to keep up.

B. Risk of Chronic Non-Compliance

When systems lack:

- Operators
- Funding
- Technical expertise
- Board capacity

...they drift into non-compliance, increasing public health risk and regulatory pressure.

C. Emerging Contaminants

PFAS, nitrates, and disinfection byproducts are rising concerns.

Small systems lack:

- Treatment capacity
- Monitoring infrastructure
- Funding for upgrades

6. Island-Specific Challenges (Whidbey & Similar Communities)

A. Hydrogeologic Sensitivity

Whidbey's aquifer is a **thin freshwater lens** in contact with saltwater.

Small systems, each pumping independently, can collectively:

- Increase saltwater intrusion risk
- Reduce ecological flows
- Stress recharge-limited sub-basins

B. Geographic Isolation

- Limited operator pool
- Higher emergency response times
- Fewer contractors
- Higher project costs

C. Climate Pressure

Reduced summer recharge and increased drought frequency disproportionately affect small systems with shallow wells or limited storage.

7. Implications for WIWSA and Island County

A. Small Systems Are the Island's Weakest Link

They are:

- The most numerous
- The least resourced
- The most vulnerable
- The most essential to long-term resilience

B. Operator Capacity Is a Critical Bottleneck

Without a stable operator workforce, small systems cannot:

- Maintain compliance
- Respond to emergencies
- Plan for the future

C. Funding Alone Will Not Solve the Problem

Even with grants, small systems lack:

- Administrative capacity
- Technical expertise
- Long-term planning structures

D. Coordination Is Essential

Whidbey needs:

- Shared operator services
- Island-wide technical support
- Coordinated emergency response
- Shared data and monitoring
- A unified water budget
- A long-term governance strategy

8. Recommendations for Action

1. Establish a Small Systems Support Program

- Shared operator pool
- Technical assistance
- Emergency response coordination
- Training and certification support

2. Create an Island-Wide Operator Workforce Initiative

- Scholarships
- Apprenticeships
- Housing support
- Recruitment incentives

3. Develop a Shared Services Model

- Meter reading
- Sampling
- Reporting
- Asset management
- Capital planning

4. Prioritize Small Systems in Funding Strategies

- Grant writing support
- Capital planning assistance
- Pooled procurement

5. Integrate Small Systems into the Water Budget

- Pumping data
- Vulnerability mapping
- Recharge impacts

6. Explore Long-Term Governance Options

- Enhanced WIWSA role
 - Coordinating authority
 - Shared services district
 - PUD exploration (only after readiness is established)
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