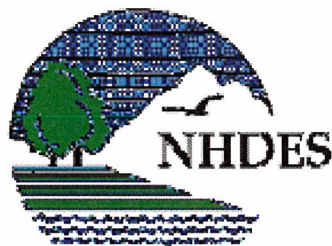


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NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

**TRIENNIAL REPORT TO THE GOVERNOR
AND USEPA
WITH HIGHLIGHTS FOR FY 2011
ON
NEW HAMPSHIRE'S CAPACITY DEVELOPMENT
PROGRAM FOR PUBLIC WATER SYSTEMS
FY 2009 TO FY 2011
July 2009 to June 2011**



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I. INTRODUCTION

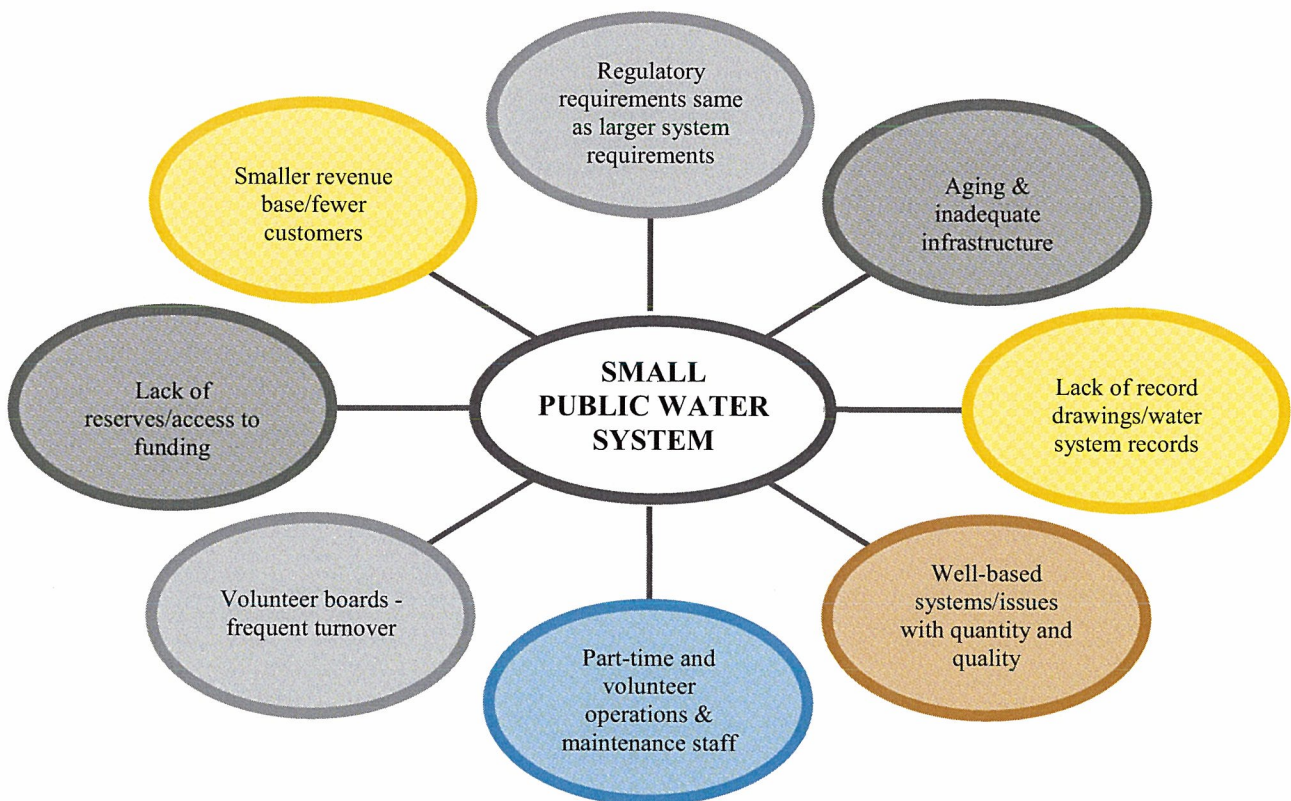
1. BACKGROUND

Under the 1996 Amendments to the Safe Drinking Water Act (SDWA), Section 1420(c), states must develop, implement, measure, and report on their *capacity assurance* efforts to ensure that all new and existing public water systems (PWS) have adequate technical, managerial and financial means to provide clean, safe and reliable water. States failing to comply with these requirements are subject to withholding of up to 20 percent of their Drinking Water State Revolving Loan Fund allotment.

This report is structured in accordance with reporting criteria developed by EPA, to provide more consistent state reporting. Activities for this reporting period are organized into those provided for *new* PWS (Section B) and those for *existing* PWS (Section C).

The overall goal of capacity assurance is to improve the rate of compliance and long-term sustainability of community (CWS) and non-transient non-community (NTNC) public water systems. New Hampshire's program is administered through the Department of Environmental Services Drinking Water and Groundwater Bureau (DWGB). Based on the non-compliance trends from the past few years, we have focused more technical assistance efforts on the very small water systems (<250 service population), and on specific contaminants such as bacteria, arsenic, uranium, lead and copper. Figure 1 depicts some of the reasons that the very small systems require continued assistance and enforcement to maintain compliance with the SDWA.

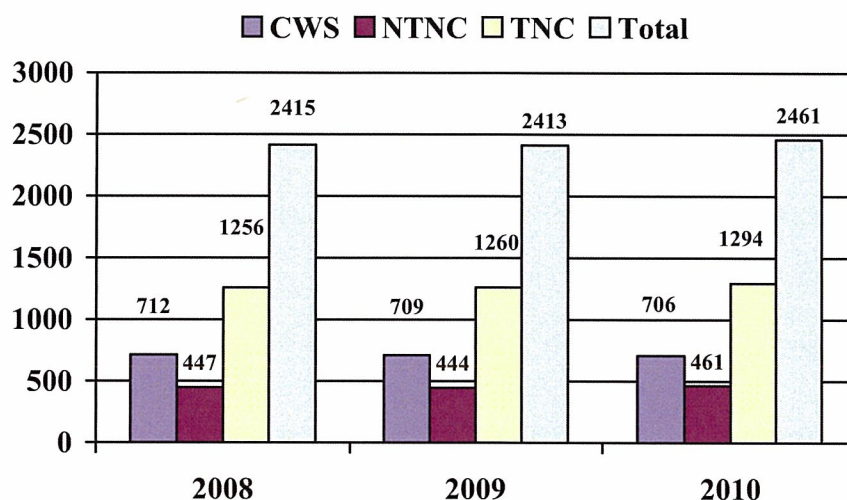
Figure 1 – Small Water System Challenges



2. PROFILE OF NEW HAMPSHIRE PUBLIC WATER SYSTEMS

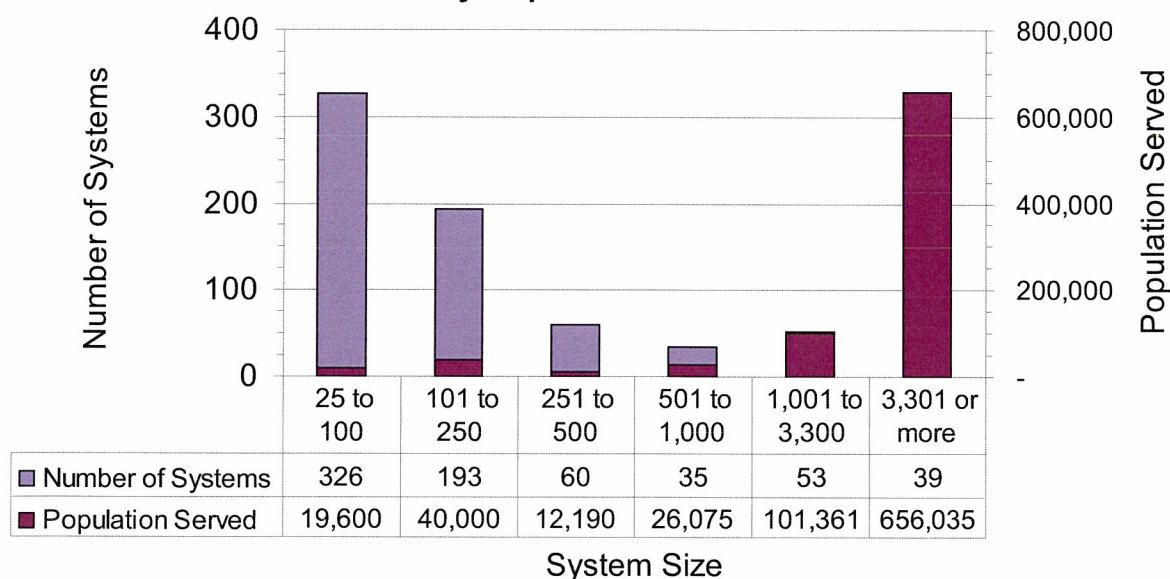
The capacity assurance program applies to *non-transient* water systems only, which comprise about half (47%) of the **2,461** water systems regulated by the state under the federal and state SDWA (Figure 2). About **60 percent** of the state's residential population is served by public water systems. The remaining 40 percent is served by private wells.

Figure 2 - NH Active Public Water Systems



It is important to note that the majority (74%) of New Hampshire's CWS serve fewer than 250 people (Figure 3), and thus face significant financial, managerial and technical challenges to maintain compliance with the SDWA requirements.

Figure 3 NH Community Water Systems by Population Served

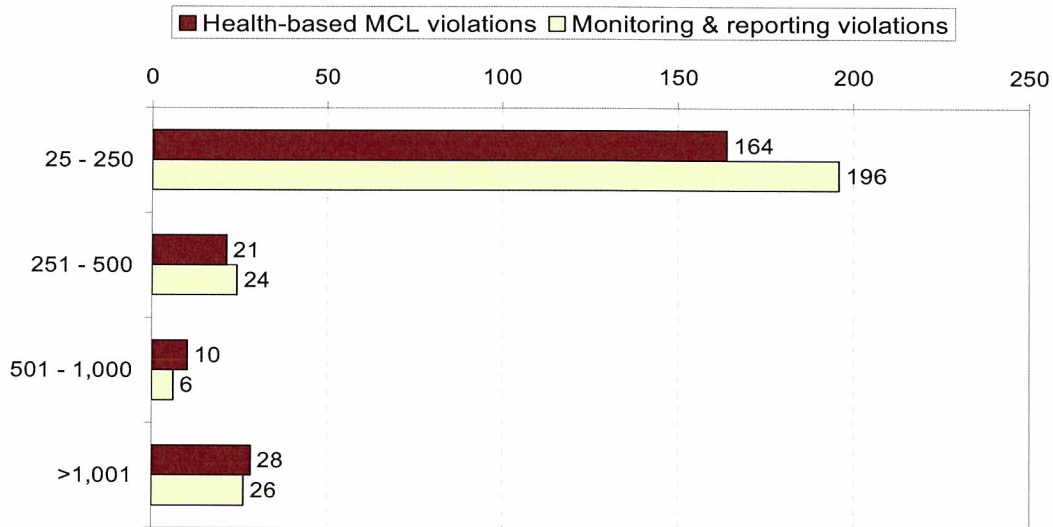


II. STATEWIDE CAPACITY NEEDS IDENTIFIED THIS PERIOD

1. VIOLATIONS BY SYSTEM SIZE

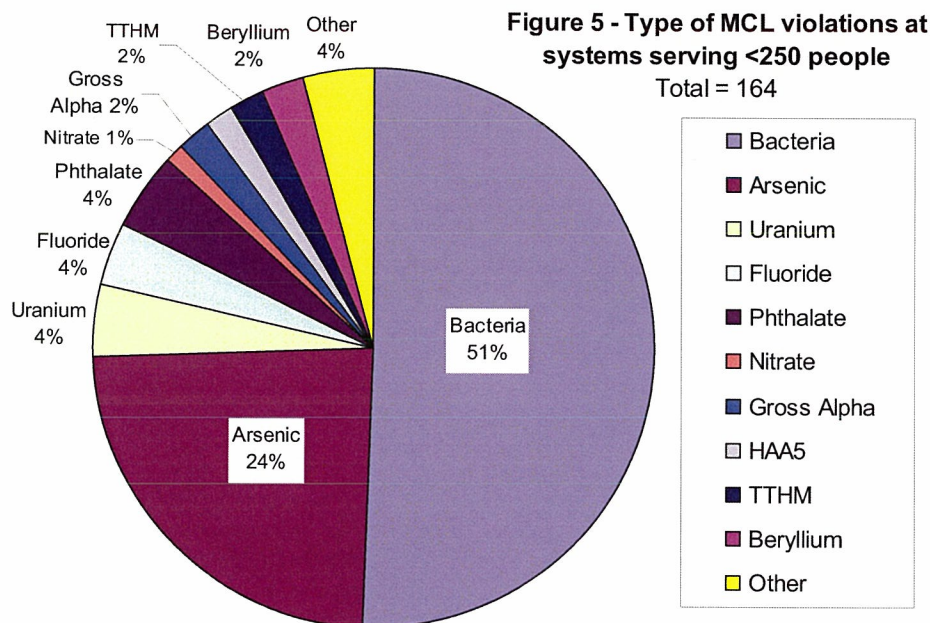
Review of the number of violations in the past fiscal year (Fig 4) reveals that the highest number of violations, both for health-based standards as well as for monitoring and reporting (failure to sample or provide public notice), are incurred by the very small systems (<250 people).

Figure 4 - Number of Violations by System Size
(July 2010 to June 2011)



2. VIOLATIONS BY CONTAMINANT

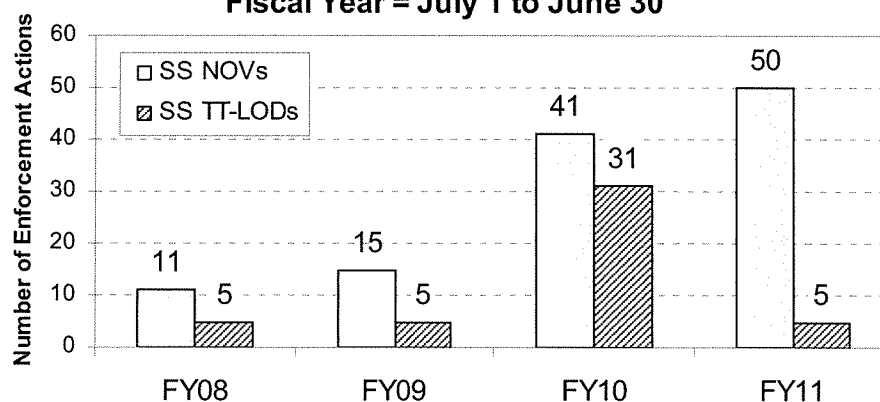
More detailed review of the health-based maximum contaminant level (MCL) violations at the very small systems (Figure 5), shows that the most important issues are total coliform bacteria (51% of violations) and arsenic (24%).



3. SANITARY SURVEY DEFICIENCIES

In FY2010 and in conjunction with state implementation of the new Groundwater Rule, New Hampshire reinforced its sanitary survey enforcement and outreach to address outstanding deficiencies that could impact system reliability and operations. Figure 6 shows the results of these efforts as depicted by the number of state-level Notices of Violation (NOV) and subsequent Treatment Technique/Letters of Deficiency (TT-LOD). NOV's are issued if the deficiency is not corrected or does not have a state-approved Corrective Action Plan (CAP) **by 30 days** of the survey visit. TT-LODs are issued if the deficiency is still outstanding or does not have an approved CAP **by 120 days** of the survey citation. Technical assistance on possible corrective options is provided at the time of the Sanitary Survey, as well as follow-up email/phone correspondence to address any questions or problems *prior* to the TT-LOD enforcement.

Figure 6 - Sanitary Survey Enforcement
Fiscal Year = July 1 to June 30



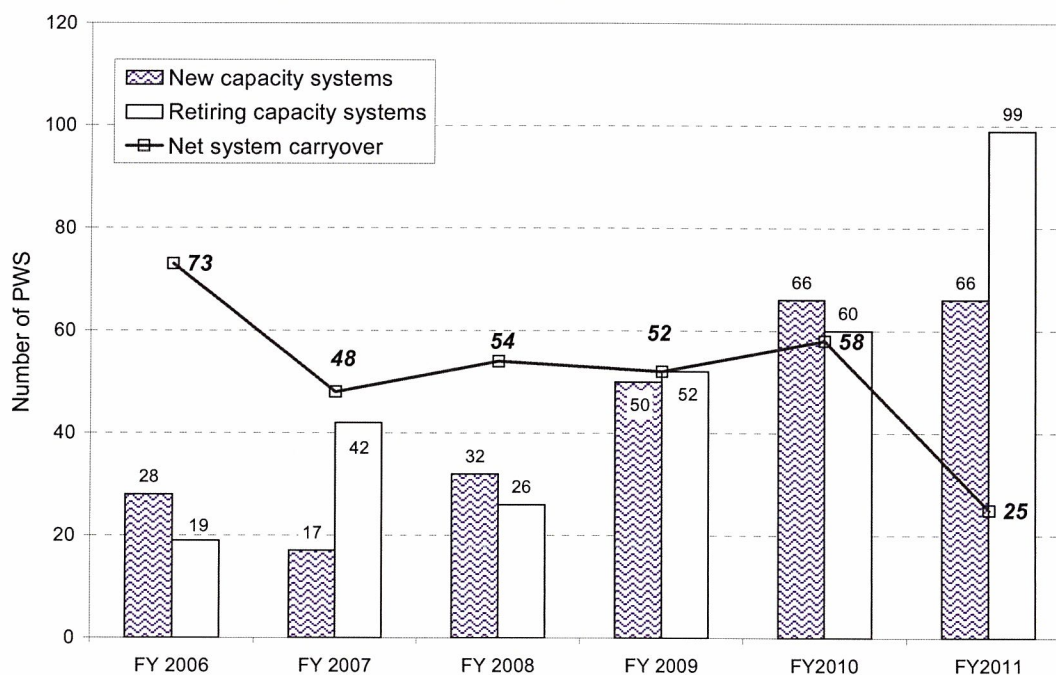
4. IDENTIFICATION AND PRIORITIZATION OF SYSTEMS IN NEED OF ASSISTANCE

Systems in need of targeted assistance through the Capacity Development Program are identified through regular interactions including sanitary surveys, referrals from contract operators, customer complaints, grant and loan application lists, and repeat violations/enforcement lists. A rolling capacity development “priority list” is maintained by the Capacity Development staff wherein each system is assigned a lead “TA contact” from the Bureau, to identify root causes and solutions with the system representatives and consultants.

A chronological work log is opened to track general interactions and progress for each water system on the priority list, and is closed when the system has returned to compliance and is deemed to be stable. The assigned TA leads meet as a group twice per month, to review system progress or lack thereof. When needed, the Bureau Administrator personally attends meetings or conference calls with water system commissioners, owners, or board members to review the deficiencies and agree on a suitable work plan and timeline for resolution.

Quarterly tracking measures include “new capacity systems” and “retired capacity systems”. Figure 7 shows the carryover from each fiscal year of active systems on the priority list. This past fiscal year shows a high number of “retirees” based on increased and continued contacts from DES with system representatives, for both technical assistance and enforcement. This resulted in the lowest carryover of troubled systems (25 total) into FY 2012.

Fig 7 - Capacity Development "Priority List"



III. CAPACITY ASSURANCE FOR NEW SYSTEMS

From their inception, new public water systems must be designed to support adequate technical, financial and managerial resources for their long-term sustainability and reliability. The capacity assurance program for new systems includes regulatory requirements and control points to verify that new approvals are issued only to systems that have demonstrated these capabilities.

1. CHANGES IN STATE REGULATIONS FOR CAPACITY ASSURANCE

There were no changes in the Capacity Assurance state regulations in fiscal year 2011.

2. MODIFICATIONS TO THE STATE'S CONTROL POINTS FOR CAPACITY ASSURANCE

New Hampshire's main control point for capacity assurance is the water system **Business Plan**. The business plan is a tool for the system to document its managerial and financial assets, and to improve its ability to provide effective and reliable service to its customers over the long term. There were no changes to the business plan in this reporting period.

3. NEW PWS APPROVALS VS. ENFORCEMENT TARGETING TOOL (ETT) LIST

On average, around 10 new non-transient water systems are approved or "found" per year in New Hampshire (Figure 8). A few are also deactivated either because they connect to a larger system, or they no longer meet the definition of a PWS. The names of non-transient water systems added to our inventory over the past 3 fiscal years are listed in Table 1. Of these, **Sunset Villa in Fitzwilliam (PWS 0823010)** and **Epsom Medical Center in Epsom (PWS 0775020)** have been listed on the federal Enforcement Targeting Tool (ETT) due to repeat violations. An Administrative Order was filed against the Sunset Villa owner and they returned to compliance in Q3 2011. Epsom Medical Center was provided technical assistance for maintenance of its arsenic treatment and returned to compliance in Q1 2011.

Figure 8 - New Non-Transient Public Water Systems FY07-11

Fiscal Year = July 1 to June 30

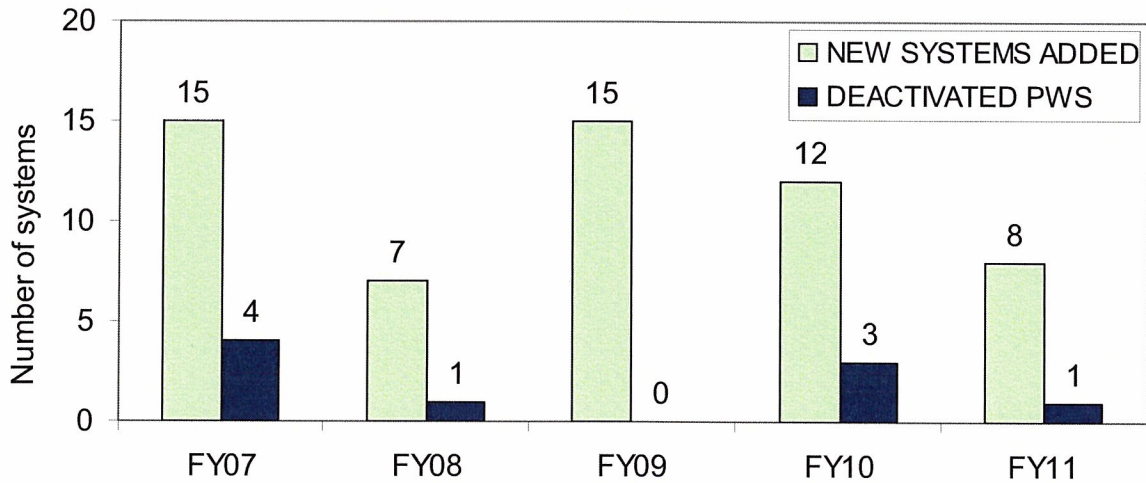


Table 1 - New Non-transient Systems FY2009 to FY2011

EPA ID	TOWN	PWS NAME	TYPE
FISCAL YR 2009 (JULY 1 2008 TO JUNE 2009)			
0025010	Albany	White Mountain Waldorf School	NT/NC
0265050	Bow	Bow Youth Center	NT/NC
0275080	Bradford	NFI North School	NT/NC
0666030	Dublin	Dublin Village Park	NT/NC
0775020	Epsom	Epsom Medical Center - ETT Q2 2010, closed Q1 2011	NT/NC
1625020	Nashua	Second Nature Academy	NT/NC
2545100	Windham	Windham High School	NT/NC
2546200	Windham	Cyr Lumber	NT/NC
FISCAL YR 2010 (JULY 1 2009 TO JUNE 2010)			
0116040	Atkinson	Palmer Gas	NT/NC
0346030	Campton	USFS WMNF Administrative Complex	NT/NC
0605010	Deering	Robin Hill Farm/Blue House	NT/NC
0823010	Fitzwilliam	Sunset Villa Park - ETT Q3 2010, closed Q3 2011	CWS
1462040	Madison	Silver Lake Landing Sr Housing	CWS
1685020	Newfields	Gateway to Learning Preschool	NT/NC
1936300	Plaistow	Barons Condos	NT/NC
2236160	Stratham	Lindt and Sprungli Buildings (3 systems 6160, 6170, 6180)	NT/NC
2546210	Windham	Granite Oaks	NT/NC
FISCAL YR 2011 (JULY 1 2010 TO JUNE 2011)			
0286060	Brentwood	Rockingham County Courthouse	NT/NC
0872020	Fremont	Blackrocks Village	CWS
1045050	Hampton Falls	RCA Head Start	NT/NC
1852100	Pelham	Boulder Hills	CWS
1992070	Rindge	Payson Village	CWS
2306050	Swanzey	Honda of Keene	NT/NC
2306060	Swanzey	Toyota/Hyundai of Keene	NT/NC
2546220	Windham	Five Industrial Dr	NT/NC

CWS = community public water system
ETT = EPA Enforcement Tracking Tool

NTNC = Non-transient non-community public water system

IV. CAPACITY ASSURANCE ACTIVITIES FOR EXISTING PWS

This section describes the different assistance programs administered by the DWGB to improve the managerial, financial and technical capacity of **existing** PWS. Activities include general and targeted outreach, grants and loans, and one-on-one assistance.

1. GRANTS AND LOANS

- Hired a contractor to have generator needs assessments completed at over 80 water systems throughout the state.
- Awarded 8 Local Source Water Protection grants for a total of \$116,067 for various drinking water protection projects.
- Awarded 9 Record Drawing grant match funds totaling \$6,340.55 to assist very small community water systems in developing or updating their record drawings. This grant program was developed in FY 2009 and offers 50 percent match of eligible costs up to \$1,500 per water system. The grant will remain open until funds have been depleted. Monthly outreach consists of email or letter notices to systems cited the prior month for lack of record drawings during regular sanitary surveys, with links to the grant application and drawing guidance.
- The Drinking Water State Revolving Loan Fund (DWSRF) awarded a total of \$7.2 million for 16 infrastructure project loans in 2009 (FY2010), of which nine projects (56%) were for systems serving <500 population (Table 2). All of the 2009 projects have continued work into FY2011, and are expected to be completed in FY2012. In August 2010, a total of \$11.6 million were awarded for funding of 17 new projects including Green Infrastructure. However, three small systems on the 2010 project priority list declined the DWSRF award due to excessive debt service (two systems), or a better loan/grant package with USDA-Rural Development (Pittsburg Water Dept).

Table 2 –DWSRF awards to systems serving <500 people (2009 and 2010 priority lists)

PWS ID	PWS Name	Popu- lation	Project Description	Initial Funding Request	Projected DWSRF Amt
2009 DWSRF Project Priority List					
0831010	Francestown Village Water Co	150	Well 2 deepen, PH rehab, As trt, access road	\$ 207,000	\$ 100,000
1431010	Lyme Water Association	83	Infrastructure improvements	\$ 770,770	\$ 300,000
1852080	Pelham Old Lawrence Road	25	PS/trt upgrades incl. new brine discharge	\$ 242,000	\$420,000
1992040	Rindge Hampshire Court Condos	50	PH/trt upgrades including VFD's	\$ 61,034	Same
0512060	Conway Forest Edge Water Co	118	PH upgrades, blending fluoride, VFD pumps	\$ 126,000	Declined
0413010	Charlestown, Blueberry Hill MHP	75	IC Charlestown, match for CDBG funding	\$ 500,000	\$250,000
0882170	Gilford, Country Village way	100	New PH and controls	\$ 97,400	\$76,000
0151010	Barrington, Swains Lake Vlg Wtr	150	New GW Supply and WTP rehab	\$1,050,000	Same
0512240	Conway Rockhouse Mountain	250	New well source and booster station	\$ 65,000	\$230,000
2010 DWSRF Project Priority List					
1901010	Pittsburg Water Dept	198	New well source, PH, piping and storage	\$2,562,623	Declined
0993020	Greenville Estates Village Dist	480	Distribution system improvements	\$500,000	Declined
0803040	Exeter Beech Hill MHP	70	New well source, PH and distribution	\$273,500	Declined
TOTAL DWSRF AWARD TO SYSTEMS <500 POPULATION				\$6.4 million	Est \$1.4 million

2. PUBLICATIONS

- Prepared and issued biannual newsletter “*Supply Lines with the Source*,” which is emailed to all community water system contacts.
- Published monthly e-newsletter to promote source water protection activities in the Salmon Falls watershed.
- Published article in *New Hampshire Town & City* magazine regarding economic benefits of water supply land conservation.
- Reviewed and posted updates to 46 Drinking Water fact sheets on a variety of topics including Source Protection, Water Efficiency/Conservation, Water Quality, and Emergency Planning, available at www.des.nh.gov Quick Links, Publications/Fact Sheets.

3. SOURCE WATER PROTECTION & EMERGENCY PREPAREDNESS ASSISTANCE

- Published Model Water Use Restriction Ordinance for Water Systems Owned or Operated by Municipalities or Village Districts.
- Implemented annual tracking and mapping of known water use restrictions in New Hampshire.
- Began a new series of regional workshops to train local and regional planners in source water protection basics.
- Conducted annual Drinking Water Source Protection Workshop (largest in New England).
- Outreach to systems who conduct inspections of potential contamination sources in their source water protection areas, offering refresher training in conducting inspection programs. We provided training to 23 local inspectors during the past FFY.
- Notified water systems with source water protection areas where household hazardous waste collection events were being held and provided them with materials to promote those events (46 events during the first three quarters of the FFY).
- Developed and implemented more efficient system to contact and assist most vulnerable water systems in areas affected by natural disasters.
- Conducted 53 outreach events during the first three quarters of the FFY.

4. TOTAL COLIFORM BACTERIA PWS ASSESSMENT PILOT

In an effort to address our Number 1 compliance issue (51 percent of all health-based violations, as shown in Section II – State Capacity Needs, Figure 5), a new PWS “assessment” checklist is being sent with every Total Coliform Rule MCL violation letter since January 2010. The PWS assessment form was modeled after the federal, proposed Revised Total Coliform Rule (RTCR) “Level 1 Assessment,” and is being piloted for evaluation with EPA’s RTCR workgroup.

The purpose of the assessment is to assist the PWS to systematically evaluate the system from source to distribution, to sampling collection and handling, to identify and prevent future causes for the bacteria contamination. Systems are required to return the assessment form (or an equivalent evaluation report) after incurring a second MCL violation within 12 months. A review of the effectiveness (or not) of this tool will be performed in FY2012.

5. LEAD AND COPPER OUTREACH

Small system compliance with the Lead and Copper Rule has improved significantly in the past year thanks in part to increased verbal and written communications to (a) complete treatment

installations by the required deadline, and (b) review ongoing water quality results and make adjustments to treatment accordingly.

In addition to improvements in compliance, we adopted the new federal revisions as Env-Dw 714, Control of Lead and Copper in February 2011. Two stakeholders meetings were held to review the new steps and approach, aimed at achieving compliance in a more timely manner.

6. EVALUATION OF LEAD LEVELS IN DAYCARES SERVED BY MUNICIPAL WATER SYSTEMS

In September 2010, DES received an EPA grant for \$10,000 to evaluate lead levels in drinking water at daycares and preschools served by larger municipal water systems. The work plan included outreach and education to prevent lead in drinking water, and the collection of samples from 56 daycares or preschools located in five municipal water systems. Sample collection was performed between June to September 2011. Data analysis and a final report is planned to be completed by year-end 2011.

7. SEASONAL WATER SYSTEMS ANNUAL OPERATIONS AND MAINTENANCE TRAINING

Since 2009, DWGB staff coordinate annual training workshops for campgrounds and other seasonal systems, along with staff from Granite State Rural Water Association (GSRWA) and the New Hampshire Department of Resources and Economic Development (DRED). For FY2011, training sessions were held in North Conway (10 attendees), Hancock (eight attendees), Meredith (25 attendees), and Raymond (16 attendees). Training topics included:

- Water cycle and groundwater flow.
- New Hampshire geology and naturally-occurring drinking water contaminants.
- Well construction and water quality.
- Storage, distribution and treatment system construction and maintenance.
- Seasonal start-up and shut-down practices.
- Bacteria problems – causes and cures.
- Wastewater system considerations.
- State inspections – what to expect.

8. ARRA SET-ASIDE FOR LEAK DETECTION

Leak detection and repair play a fundamental role in reducing water loss and energy costs related to the treatment and delivery of drinking water. In FY 2010, DES issued a request for proposals and hired a professional leak detection firm through a set-aside of the American Recovery and Reinvestment Act (ARRA) to perform leak detection surveys at community water systems in New Hampshire. The surveys were completed during the summers of 2010 and 2011. The contractor was on site with the systems for almost 150 days at a total cost of \$110,000.

Of the 27 systems surveyed, eight serve less than 500 people. Approximately 12 miles of pipe were surveyed at the small systems resulting in the discovery of seven leaks totaling 16 gallons per minute. This rate equates to roughly 8.4 million gallons per year or 675,000 gallons per year per mile of pipe surveyed.

The 19 systems serving more than 500 people had 116 leaks in the 550 miles of pipe surveyed. Although the total leak rate was much higher (825 gallons per minute or 434 million gallons per year), the rate per mile was similar to the smaller systems at 780,000 gallons per year per mile of pipe.

9. OPERATOR CERTIFICATION PROGRAM OUTREACH

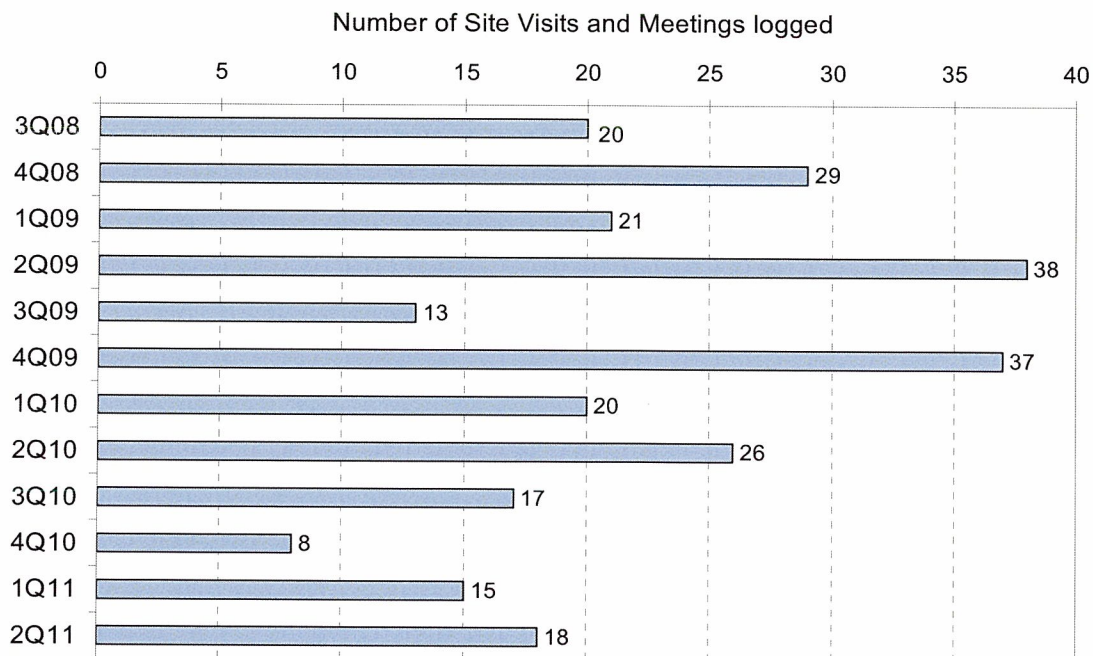
The Operator Certification program funds a number of outreach and training activities through the Operator Expense Reimbursement Grant, to advance the skill and knowledge of small water system operators and board members. Highlights for FY11 included:

- Request for proposals and subsequent contract with F.X. Lyons Inc., Intervale, for the design and construction of a pump station training mock-up at the DES Franklin Training Center in Franklin. The new center was completed in Spring 2011 and is scheduled for a public inauguration/ribbon cutting in October 2011.
- Contract with the New Hampshire Water Works Association (NHWWA) to coordinate the October 2010 NH Drinking Water Tradeshow and Exposition in Concord, featuring a full day of technical seminars (three parallel sessions, 17 presenters, 5 CEUs). This event is our main opportunity for outreach to very small system operators as it regularly attracts attendance by over 250 certified drinking water operators.
- Contract with the NHWWA to provide operator training for the Small Water Systems, Grade IA courses (Fall and Spring of each year), two basic math courses, one “advanced” water treatment seminar, and two Grade II treatment review courses.
- Two stakeholder meeting with Contract Operators and water system representatives from large, medium and small water systems for comments on the re-adoption of Env-Ws 360-361 Operations and Maintenance Rules (new Env-Dw 503-504), to be adopted in FY 2012.
- Annual outreach table and participation at Granite State Rural Water Association Operator Field Day (September of each year).

10. ONE-ON-ONE TECHNICAL ASSISTANCE

DWGB technical staff provide ongoing technical assistance to small water systems to assist with source capacity issues, bacteria troubleshooting, and financial and managerial planning. Quarterly technical assistance site visits and meetings (2T and CM codes) attended by DWGB staff for FY09 to FY11 are shown in Figure 9. These site visits are *in addition* to standard sanitary surveys, permitting inspections, or special investigations performed by DWGB staff.

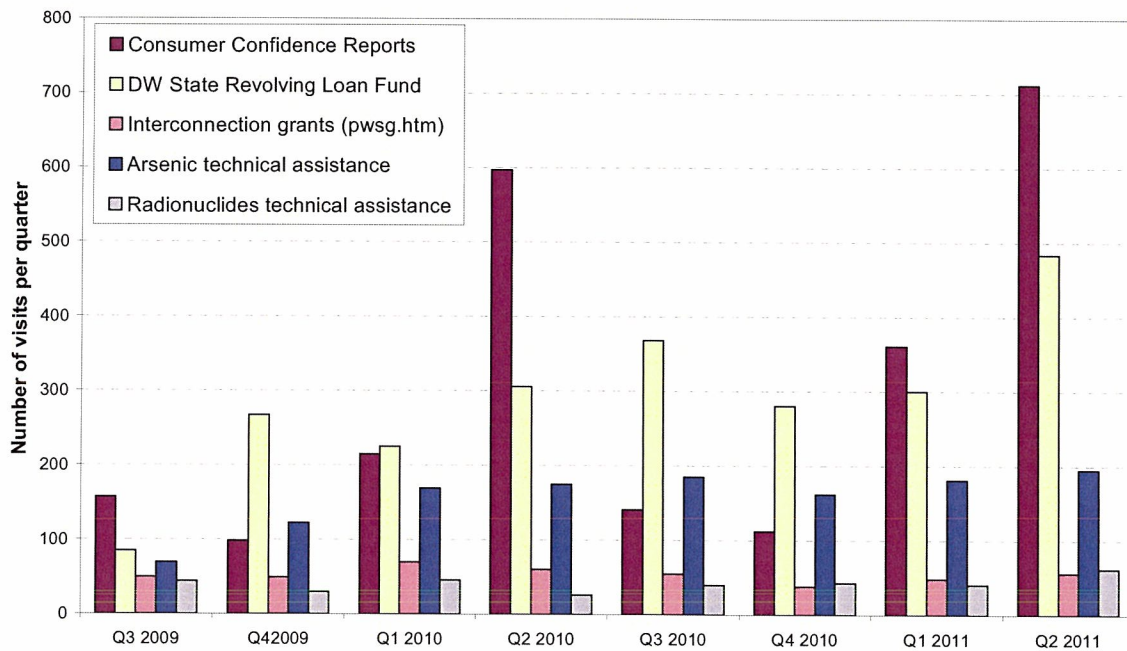
Fig 9 - Technical Assistance Visits & Meetings by DWGB Staff



11. SMALL PUBLIC WATER SUPPLY HELP CENTER

New Hampshire's "Small Public Water Supply Help Center" (www.des.nh.gov, A to Z List) provides fact sheets and guidance to help small systems with the most pressing compliance issues. Web visits are tracked quarterly to identify most popular topics (Figure 10).

**Figure 10 - Small System Help Center Webpage visits
Most popular pages FY2010 and FY 2011**



V. STATEWIDE REVIEW OF IMPLEMENTATION PROGRESS

Review of the capacity program implementation progress consists of weekly meetings by the lead TA contacts, quarterly meetings with all small and large water system technical staff, and quarterly measures tracking through the statewide Measures Tracking and Reporting System (MTRS). Current tracking measures are:

- Number of TA site visits by DWGB staff.
- Number of new systems added to the active capacity development list.
- Number of systems retired from the capacity development list.
- Number of visits to Small System Help Center/Capacity Assurance webpage.

Annual review of the program progress is provided via our annual reports to EPA, and triennial reports to the Governor.

VI. MODIFICATIONS TO CAPACITY DEVELOPMENT STRATEGY

For FY 2012, the existing systems strategy is proposed to be enhanced by the following:

- Basic asset management planning and development of a simple capital improvements plan (CIP) for small systems to be funded through the DWSRF.
- Quarterly review and matching of outreach activities to number and types of violations.

In addition, we will continue close coordination with other local and regional technical assistance and training partners, including:

- Continued participation in the National Capacity Re-energizing Workgroup and alignment of state priorities and measures with national program strategies.
- Continued collaboration with the Water Technical Assistance Center (WTTAC) at the University of New Hampshire–Durham, on projects targeting public water system compliance issues such as Disinfection Byproducts control.
- Continued collaboration with US Dept of Agriculture–Rural Development to provide the best loan/grant funding of drinking water infrastructure improvements for water districts and municipalities.
- Continued collaboration with other TA providers including: Granite State Rural Water Development (funding through USDA–RD), RCAP Solutions Northeast Rural Community Assistance Partnership, New England Water Works (NEWWA), New Hampshire Water Works Association (NHWWA), and the New England Interstate Water Pollution Control Commission (NEIWPC).