SUPPLY LINES WITH THE SOURCE

Newsletter of the NHDES Drinking Water & Groundwater Bureau
on the web at www.des.nh.gov

Spring 2017

Let Hindsight Lead to Foresight: Monitor Drought Conditions

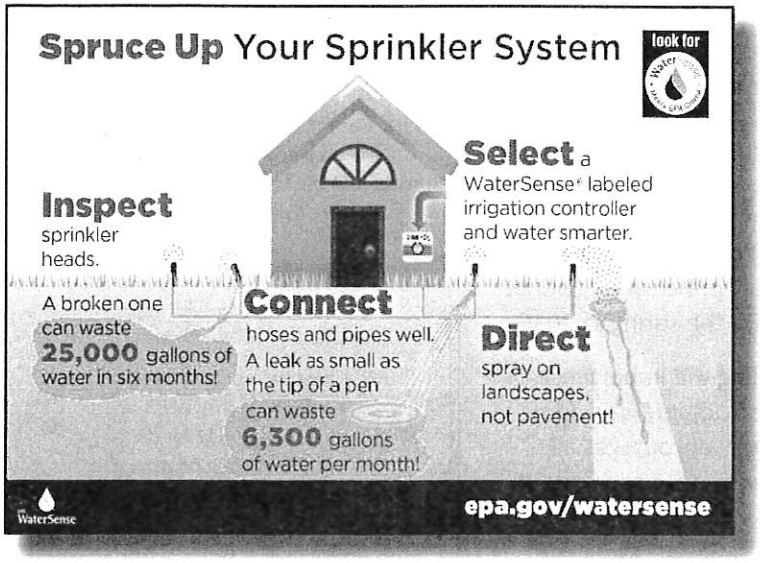
Early spring snowmelt and spring showers replenish surface waters and recharge groundwater. As the temperature continues to rise, the growing season begins and groundwater recharge tapers off. Any new precipitation is quickly used for plant transpiration or lost to evaporation or run-off. This is why a thin snowpack and an early growing season can exacerbate already dry conditions, as they did in 2016.

NH DROUGHT INFORMATION

By keeping a close eye on spring conditions, you can better plan how to manage your water supply in the approaching months. The U.S. Drought Monitor and the U.S. Seasonal Drought Outlook provide an excellent overview of current and forecasted drought conditions in the state. More detailed information including precipitation deficits, stream flows, and groundwater and surface water levels are also useful for determining conditions in your area. To easily access the above-mentioned information, click on the New Hampshire Drought Information icon at www.des.nh.gov and under "Hot Topics" click on Drought Conditions.

Spruce Up Sprinkler Systems and Save

As homeowners and businesses begin their clean-up this spring, it's the perfect time to do a sprinkler spruce-up as well. Irrigation system maintenance can help customers save money and water, but it also benefits the water system. In the spring and summer, water resources can be limited due to increased customer use and environmental demands, such as vegetation growth. In a drought, supply capacity can be further strained. Homes with timer-controlled irrigation systems use about 50 percent more water outdoors than homes without irrigation systems. If that controller isn't properly programmed or maintained, the irrigation system can waste as much as 30,000 gallons of water annually. Combine that with improperly maintained irrigation systems, such as sprinkler heads pointed in the wrong direction or a leak in the system, and there could be even greater water waste. For instance, a broken or missing sprinkler head can waste as much as 25,000 gallons of water over a six-month irrigation season. Properly maintained irrigation systems allow greater water efficiency at a time of peak demand.



Water systems and municipalities can play an important role in promoting irrigation system maintenance. You can offer rebates for WaterSense certified weather-based irrigation controllers. By using current weather data, these controllers tailor watering schedules to actual site conditions and can save an average home nearly 8,800 gallons of water annually over a standard clock timer-controlled irrigation system. Outreach and education are also critical. Remind residents about the four simple steps for maintenance: inspect, connect, direct and select. For more detail about these steps and case studies from successful outreach

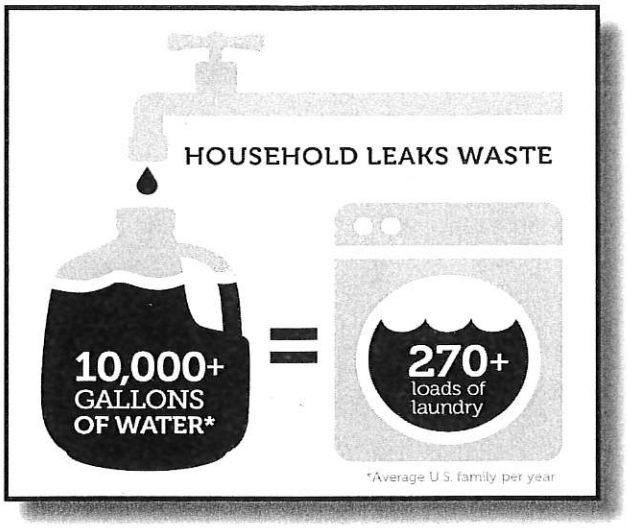
(Sprinkler, continued on pg 2)

(Sprinkler, continued from pg 1)

campaigns, become a WaterSense partner for free at https://www3.epa.gov/watersense/partners/index.html and gain access to these educational materials as well as a nationwide network of partners.

Nip That Drip: Find and Fix Household Leaks!

In light of the drought and in recognition of the U.S. Environmental Protection Agency's Fix a Leak Week (March 20-26, 2017), now is the perfect time to encourage residents to find and fix household leaks. In the average home, leaks waste more than 10,000 gallons of water each year. That's the amount of water needed to wash 270 loads of laundry.



Finding and fixing household leaks can be accomplished in three simple steps:

1. Check the water bill for an unexplained increase in usage, the water meter for activity when no water is being used, the toilet for a silent leak, fixtures for drips, and the sprinkler system for winter damage.

2. Twist faucet valves, tighten pipe connections and secure the hose to the spigot.

3. Replace plumbing fixtures and irrigation controllers with WaterSense labeled models, which are independently certified to use 20 percent less water and perform as well as or better than standard models.

Water systems and municipalities can assist residents and users with each of these steps. For instance, customers won't know how much water they are using unless a service meter is installed and they are billed based on usage. Systems can also provide rebates on WaterSense certified fixtures.

For tips, fact sheets, articles and resources related to finding and fixing household leaks, please visit the New Hampshire Is for Water website at www.nhisforwater.org and the NHDES Water Conservation webpage at http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/index.htm. Better yet, become a WaterSense partner at https://www3.epa.gov/watersense/partners/index.html and gain exclusive access to outreach and educational materials.

City of Dover Breaks Ground on Drinking Water Infrastructure Improvement Project

The City of Dover broke ground on a multiphase project to upgrade aging drinking water supply and treatment facilities on October 18, 2016. Phase I of the project will include replacement of a water treatment facility originally built in 1957, along with improvements to processes for iron and manganese removal. The City received a Drinking Water State Revolving Fund (DWSRF) loan from NHDES for $8.5 million for Phase I. In addition to the low-interest loan, the City is eligible for 15 percent principal forgiveness. Construction of Phase I is expected to be completed in the spring of 2018.

"NHDES commends the City of Dover for understanding the importance of investing in and upgrading their drinking water infrastructure," said Tom Burack, NHDES' former Commissioner. "NHDES strongly encourages all municipalities to take the actions and make the investments necessary to

(Dover, continued on pg 3)

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Phase II of the project, scheduled for 2017 to 2019, will include upgrades to pump stations and storage tank facilities at an estimated cost of $9 million. Dover has applied to borrow additional funding from the DWSRF to finance Phase II. NHDES is also working with Dover to resolve the MtBE contamination problem affecting Dover's Griffin well. The replacement of the well, to be funded by the State's MtBE Settlement Funds, is estimated to cost $1.4 million, which is in addition to the $468,000 already provided from the MtBE Settlement Funds for pump tests, permitting and construction design of the replacement well.

(Dover, continued on pg 4)

DWGB Calendar of Events & Deadlines: March - August 2017

March 10	Permit to Operate Applications available on OneStop, contact Jane Murray at jane.murray@des.nh.gov or (603) 271-3544 or see http://www2.des.state.nh.us/DESOnestop/BasicSearch.aspx
March 24	New Hampshire Water and Watersheds Conference, Plymouth State University, Plymouth, see https://www.plymouth.edu/center-for-the-environment/2017-nh-water-watershed-conference/
May	2017 Drinking Water State Revolving Fund (DWSRF) Pre-Applications available, contact Johnna McKenna at johnna.mckenna@des.nh.gov or (603) 271-7017 or see http://des.nh.gov/organization/divisions/water/dwgb/capacity/dwsrf.htm
May 1	Drinking Water State Revolving Fund (DWSRF) Pre-Applications available, contact Johnna McKenna at johnna.mckenna@des.nh.gov or (603) 271-7017 or see http://des.nh.gov/organization/divisions/water/dwgb/capacity/dwsrf.htm
May 10	25th Annual Drinking Water Festival and 4th Grade Science Fair, contact Lara Hooper at lara.hooper@des.nh.gov or (603) 271-4071
May 18	NHDES Drinking Water Source Protection Conference, Grappone Conference Center, Concord, contact Pierce Rigrod at pierce.rigrod@des.nh.gov or (603) 271-0688 or Amy Hudnor at amy.hudnor@des.nh.gov or (603) 271-2950 or see http://des.nh.gov/organization/divisions/water/dwgb/dwspp/workshop.htm
June	2017 Drinking Water State Revolving Fund (DWSRF) Pre-Applications due, contact Johnna McKenna at johnna.mckenna@des.nh.gov or (603) 271-7017 or see http://des.nh.gov/organization/divisions/water/dwgb/capacity/dwsrf.htm
June	2018 Leak Detection Survey Grant Application period open, contact Kelsey Vaughn at kelsey.vaughn@des.nh.gov or (603) 271-0659 or see http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/leak-detection.htm
June 30	Permit to Operate Fees due, contact Jane Murray at or jane.murray@des.nh.gov or (603) 271-3544 or see http://des.nh.gov/organization/divisions/water/dwgb/permit_pws_pto.htm
July 1	Consumer Confidence Reports due, contact Debra McDonnell at debra.mcdonnell@des.nh.gov or (603) 271-6703 or see http://des.nh.gov/organization/divisions/water/dwgb/capacity/consumer.htm
July 7	2018 Leak Detection Survey Grant Applications due, contact Kelsey Vaughn at kelsey.vaughn@des.nh.gov or (603) 271-0659 or see http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/leak-detection.htm
Anytime	Record Drawing Grant Applications accepted, see http://des.nh.gov/organization/divisions/water/dwgb/capacity/documents/record-drawing-grant-app.doc

To see event calendars for additional opportunities please visit:

Granite State Rural Water Association at http://www.granitestatewater.org
New England Water Works Association at http://www.newwa.org
New Hampshire Water Works Association at http://www.nhwwa.org

(Dover, continued from pg 3)

For more information on the project, contact the City of Dover's consultant, Keith Pratt, Underwood Engineers, at (603) 436-6192; or Rick Skarinka, NHDES Drinking Water and Groundwater Bureau, at (603) 271-2948. For more information on the NHDES DWSRF loan program, please visit http://des.nh.gov/organization/commissioner/pip/categories/grants.htm.

Save the Date – Thursday, May 18, 2017, Annual NHDES Drinking Water Source Protection Conference

Don't miss this year's Drinking Water Source Protection Conference at the Grappone Center in Concord, New Hampshire on Thursday, May 18 from 8:30 AM to 3:30 PM. The event offers a wide array of topics, involving drought, emerging contaminants, land conservation and best practices to protect local drinking water resources. Registration will be available online at the American Ground Water Trust's website, www.agwt.org. New Hampshire Water Works Operator Technical Contact Hours will be available for certified operators.

Welcome, Randy Suozzo

The Drinking Water and Groundwater Bureau is pleased to welcome Randy Suozzo as the newly-hired sanitary engineer in the Engineering and Survey Section. Randy will primarily provide regulatory oversight and technical assistance to municipal public water systems. He previously worked in private consulting and has over 18 years of experience in the drinking water field. Randy graduated from UNH with a degree in Mechanical Engineering and is a licensed Professional Engineer in New Hampshire. In addition, he has published several technical articles in regional journals and is a member of New England Water Works Association. Please welcome Randy to our Bureau.

Randy Suozzo

2017 Consumer Confidence Report – Reminder

Community water systems' Consumer Confidence Reports (CCR) – reporting 2016 data – must be completed and distributed by July 1, 2017. You are encouraged to use your CCR as a public relations tool to inform your customers of any water system improvements or accomplishments in 2016 and of any plans for 2017. Take this opportunity to educate your customers about the importance of water conservation and source protection.

To assist you in producing an acceptable report, revised CCR brochure and contaminant table templates and guidance documents are available on the NHDES website at http://www.des.nh.gov/organization/divisions/water/dwgb/capacity/consumer.htm.

REMEMBER: You must report the detection of any contaminants, whether regulated or not, in the CCR. Specifically remember to list sodium, DBPs, fluoride, lead, PFOA, PFOS and any other detections you may have had under the Unregulated Contaminants Monitoring Rule (UCMR). For more information please contact Deb McDonnell at (603) 271-6703 or debra.mcdonnell@des.nh.gov or Chip Mackey at (603) 271-0655 or chip.mackey@des.nh.gov.

Thank you for "Bridging the Gap"

Thank you to all of the water, stormwater and wastewater system operators, owners, managers and engineers who attended the NHDES "Bridging the Gap" Asset Management Workshop on December 1, 2016! We hope you found the material engaging and valuable, and plan to use the principles discussed to address challenges you may be facing at your organizations.

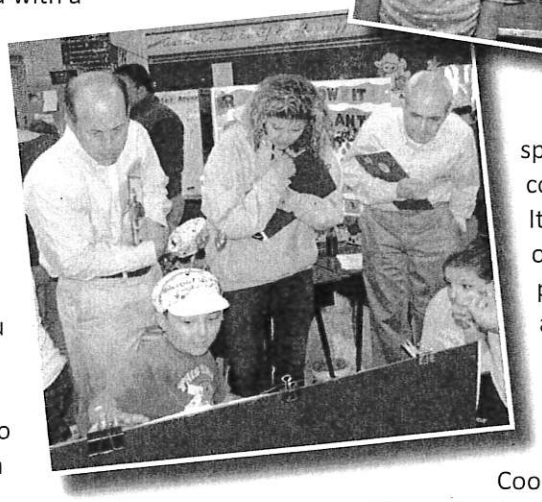
NHDES has been hosting this workshop since 2014, and this year's turnout was the highest with over 115 participants. Your presence together with your active contributions, feedback and ideas was greatly appreciated and made this event a great success.

Thanks again for your enthusiastic participation!

For future events or training, please make sure to visit our webpage at http://des.nh.gov/organization/divisions/water/dwgb/asset-managment/index.htm or contact Luis Adorno at (603) 271-2472 or luis.adorno@des.nh.gov.

Is Your Town Ready to Host a Fourth-Grade Science Fair?

Eric Swope, Industrial Pretreatment Coordinator, City of Keene



Picture a roomful of fourth graders at your local elementary school. They've all been working for weeks to create their science fair projects. These projects cover a wide diversity of topics but all are centered around the common theme of water. Now, finally, today is fair day and the space is filled with a mix of nervous, but excited, barely-contained energy as they set up their projects and make last minute preparations to present what they have learned about water.

Sound interesting? Sound exciting? Sound like a lot of fun? If you answered "yes," you would be correct on all counts! If you answered "yes," then this could be the time for you to consider helping to get a fourth grade water science fair off the ground in your town.

For those of us who work in water-related fields, water is always near to our thoughts, even more so during this extended drought that much of the northeast has been experiencing the past several months. We can all agree that having a citizenry that is aware of water-related issues is vital to the protection of our water resources. This is one of the goals of the New Hampshire Drinking Water Week Coalition, a group of professionals working in water-related fields who organize the annual New Hampshire Drinking Water Week Festival and Fourth Grade Water Science Fair.

Currently, the cities of Manchester and Keene and several towns hold fourth grade water science fairs at participating elementary schools. Manchester and Keene then have city-wide fairs for the top projects from each school. The city fairs and the school fairs in the smaller towns all serve as qualifying events for the New Hampshire State Water Science Fair, which is held each May at the Festival during New Hampshire Drinking Water Week. The Festival location moves around the state, with this year's Big Event on May 10 in Keene.

Water Science Fairs encourage curiosity and creativity while providing an opportunity for children to really dig into water-related topics that interest them. For many, it sparks an interest in the sciences and connects them to water-related issues. It also just may be an inspiration for our future scientists, water industry professionals, policy makers, leaders and water-literate citizens!

Interested in organizing a fourth grade water science fair in your town? Contact Lara Hooper, Education Coordinator for NHDES Drinking Water and Groundwater Bureau at lara.hooper@des.nh.gov, or (603) 271-4071. You can also contact Kristin Conte of Manchester Water Works at kconte@manchesternh.gov or (603) 792-2856; or Eric Swope of Keene Public Works at eswope@ci.keene.nh.us or at (603) 357-9836 x6504.

Eric Swope and Kristin Conte have each been organizing fourth grade water science fairs in Keene and Manchester for more than 15 years. ♦

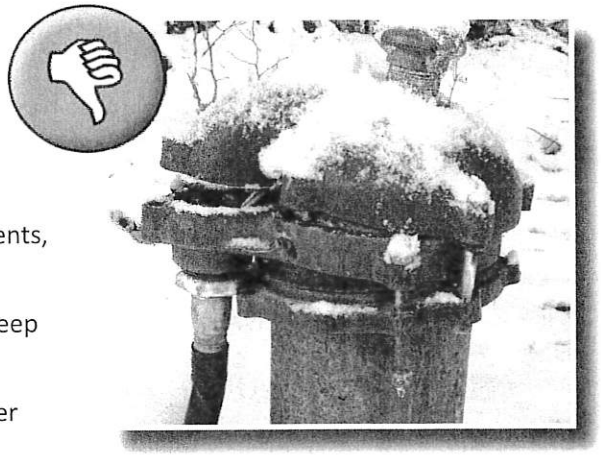
New Mapping Can Help Coastal Watershed Communities Protect Water Resources

New approaches to mapping lands that are the most critical for water resource protection – specifically drinking water source protection, flood risk mitigation and pollution attenuation — have been developed by The Nature Conservancy with NHDES Coastal Program funding. The three resulting map layers are now available on the New Hampshire Coastal Viewer, an online tool that gives anyone with an Internet connection the ability

(Mapping, continued on pg 7)

Start-up Procedures for Seasonal Systems

Seasonal public water systems, that are not exempt, must perform start-up procedures before opening and certify to NHDES that procedures have been completed per Env-Dw 506. Start-up procedures include inspecting the sanitary protective area and all components of the distribution system, correcting any open sanitary defects and disinfecting and flushing all distribution lines.



Inspection:

1. Wellhead cap/cover — Must be secure, seals intact and have a screened vent.

2. Sanitary protective area (SPA) – Ensure at least 75 to 200 feet around the well is maintained clear of fuels, septic system components, animal manure, fertilizers, etc.

3. Pump house – Maintain proper sanitary and safety conditions, keep locked, no water leaks or exposed electrical wires.

4. Treatment facilities – Verify whether fully operational, with proper chemical storage and air gap on backwash discharge.

5. Storage tank – Check tank integrity, ensure hatch is sealed, and vent and overflow are screened.

6. Distribution piping, valves and service lines – Reconnect all the plumbing and pressurize the system. Exercise valves and blow-offs. Repair leaks.

7. Dump station cross connection control – Testable Reduced Pressure Zone (RPZ) or sustained air gap must be in place.

8. Sample locations – Should be clean, labeled, accessible, 12 inches above floor.

Disinfection: Follow the instructions in fact sheet DWGB-4-3 Disinfecting Public Water Systems at http://des.nh.gov/organization/commissioner/pip/factsheets/dwgb/documents/dwgb-4-3.pdf

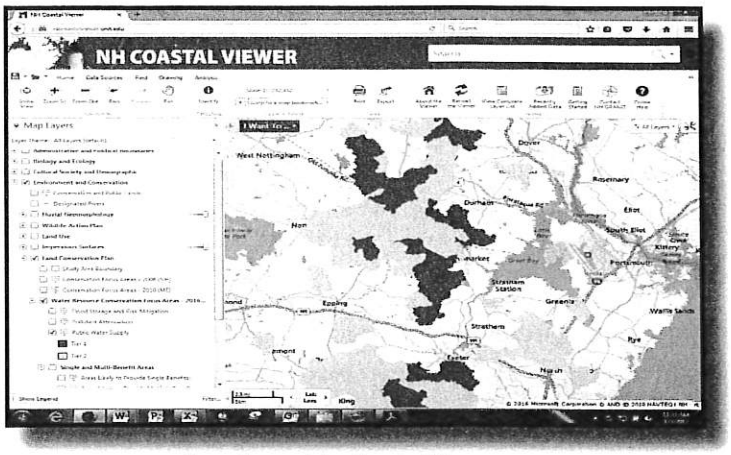
Monitoring: Collection of general system evaluation bacteria samples after disinfection and prior to monthly bacteria testing is recommended.

The Start-up Certification form must be submitted to NHDES within 30 days after starting up for the season. Failure to complete start-up procedures or submit certification will result in a Notice of Violation and a requirement for public notice. A start-up checklist is available along with the certification form on the NHDES OneStop site or at http://des.nh.gov/organization/divisions/water/dwgb/coliform-rule.htm. For more information or to determine whether your seasonal public water system is exempt, please contact Amy Rousseau at (603) 271-0893 or amy.rousseau@des.nh.gov.

Goodbye and Best Wishes!

Laurie Cullerot, long-time Information Manager for the Drinking Water and Groundwater Bureau, retired at the end of December 2016. Laurie was with NHDES for 35 years and with the drinking water program for 30 of them. She was the first Information Manager for the program, a position made necessary by reporting requirements under the federal Safe Drinking Water Act. Her leadership in creating a system to successfully flow information to USEPA enabled New Hampshire to obtain and maintain primacy for the public water system oversight program, which otherwise would be administered by EPA Region 1 in Boston. As importantly, she helped to create the electronic tools necessary to track compliance at public water systems and to provide systems with sampling schedules and other essential information on the NHDES website. Laurie was also instrumental in creating the ability to electronically report laboratory data. These and many other contributions over her long and dedicated career advanced the protection of public health and made life easier for both New Hampshire's 2500+ public water systems and the Bureau. Join us in wishing Laurie all the best.

(Mapping, continued from pg 5)
to access more than 150 spatial data sets in the 42 communities in New Hampshire's coastal watersheds, and to make and share their own customized maps. The viewer is intended for a wide variety of users for planning and education purposes, including municipal staff and volunteers.



New Hampshire Coastal Viewer

In addition to the new water resources layers, the viewer includes data such as conservation and public lands, aerial imaging, FEMA floodplains and storm surge and sea-level rise information. The NHDES Coastal Program, in collaboration with the University of New Hampshire's GRANIT System and other project partners, developed the Coastal Viewer in 2015 with a grant from NOAA's Office for Coastal Management.

To access the three new layers, visit http://www.granit.unh.edu/nhcoastalviewer/. Click on "Go to Viewer." In the viewer's menu on the left, click on the plus signs beside "Environment and Conservation," then "Land Conservation Plan," then "Water Resource Conservation Focus Areas – 2016 Update." Click to check the boxes next to each of those categories as well as "Public Water Supply." The Public Water Supply layer does not include all wellhead protection areas or water supply watersheds, but instead focuses on identifying sub-watersheds that contribute to the protection of both surface and groundwater resources (mapped as Tier 1), or sub-watersheds that contribute to the protection of either surface or groundwater resources (Tier 2). For more information about the geographic analysis behind the new data layers, please contact Peter Steckler, GIS & Conservation Project Manager at The Nature Conservancy at (603) 224-5853 Ext. 22 or psteckler@TNC.org.

RCAP Solutions - How We Can Help

Kathy Rodgers, State Lead for New Hampshire, RCAP Solutions

In October of 2015 I was hired as the New Hampshire State Lead for RCAP Solutions. I am now part of RCAP's community resource team comprised of engineers, chemists, geologists, financial consultants, and water operators dedicated to helping small, rural communities and people deal effectively with water supply and wastewater treatment issues throughout the Northeast and Puerto Rico. We strive to make meaningful contributions towards ensuring water systems stay safe and viable. RCAP Solutions' services are provided free of charge to rural communities that request our assistance. Our work is supported by grants from the U.S. Department of Health and Human Services, USDA Rural Development, and the U.S. Environmental Protection Agency.

One of my first and favorite projects was with White Lakes Estates, a small community public water system in Tamworth, NH that serves 100 single-family residences and supplies water to approximately 250 people. They began experiencing a sharp increase in water main breaks and associated repair costs. The homeowner's association decided to move forward in replacing a large section of the distribution system. Bruno Siniscalchi, Treasurer of White Lake Estates, enlisted RCAP Solutions help to move the project forward. We met around Bruno's kitchen table with the contract operator to discuss project scope and construction costs. Then, Bruno and I drafted, prepared, and submitted the final State Revolving Fund (SRF) application to NHDES to secure funds for the project. After retaining an engineer services we solicited for construction bids to complete the work. The awarded bid came in low enough that White Lake Estates was able to expand the scope of work to include two extra streets in the project. RCAP Solutions was there to help facilitate those change orders. The project was completed on time and under budget. Now that the distribution replacement project is complete, RCAP is working with White Lake Estates to map the new system components and draft an asset management program. It has been a successful and highly rewarding collaboration.

RCAP Solutions also provides assistance to private well owners in the Northeast. We are actively conducting onsite well assessments for homeowners wanting to learn more about their private well. These assessments provide a comprehensive evaluation of the site conditions, geology, land use practices, existing treatment, well construction and maintenance to help homeowners understand the risks and vulnerabilities that could impact the quality of their

(RCAP, continued on pg 8)

(RCAP, continued from pg 7)
drinking water. As part of this endeavor, homeowners are encouraged to test their source water as recommended by Department of Environmental Services or Department of Health. Test results can be tricky to interpret. So, to aid in understanding what these results imply they are entered into NHDES Be Well Informed Guide. If the results indicate that commonly found pollutants are present then the Be Well Informed Guide will provide information on health concerns and water treatment choices. This compilation of information is a valuable resource to help homeowners proactively manage their land and reduce the risk of polluting groundwater. For more information please visit http://xml2.des.state.nh.us/DWITool/.

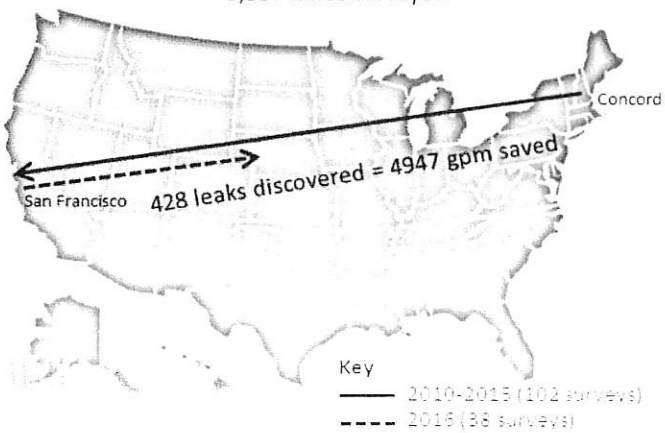
To learn more about our assistance programs and how to obtain our services please feel free to contact Kathy Rodgers at krodgers@rcapsolutions.org, 603-768-1048 or visit us online at http://www.rcapsolutions.org/private-wells/.

A Drop About Leak Detection

The NHDES Leak Detection Grant Program has supported 140 leak detection surveys at community water systems since 2010. In 2016, Arthur Pyburn & Sons Inc., the leak detection contractor, completed 38 surveys, covering 974 miles of distribution pipe. Seventy-five leaks were discovered totaling 804 gallons per minute in water loss. Grant applications for 2017, from 41 community water systems and proposals from consultants, are currently under review. The next grant application period for the 2018 season will open at the end of June.

NHDES Leak Detection Program Results: 2010-2016

3,887 miles surveyed



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