The Source

Newsletter of the NHDES Drinking Water Source Protection Program
on the web at *www.des.nh.gov*

Summer 2011

Instituting Water Use Restrictions in Dry Times

During the summer of 2010 more than 80 public water systems in New Hampshire implemented some form of water use restriction, such as restricting lawn watering. In addition, almost 40 systems required bulk water deliveries to help meet consumer demand. For much of the state, there was very little rain last summer. According to the U.S. Drought Monitor, which is part of the National Drought Mitigation Center, 11 percent of New Hampshire was in a "moderate drought," 55 percent was considered "abnormally dry" and the remainder was considered "normal." The southwest part of the state had the driest conditions on average.

New Hampshire experiences at least one mild drought condition spanning three months or more almost once every four years and the summer of 2010 proved to be a challenging time for many water suppliers.

Having a clear policy in place concerning discretionary water use during drought or dry months may be critical to meeting water demands. Here are a few suggestions to include in your local policy. First, create a consistent method to determine when to institute water use restrictions by compiling the relevant data, e.g., consumption, precipitation, groundwater levels, stream flow, reservoir storage. Second, identify the relevant indicators for your system that will be monitored. Finally, establish trigger levels using the indicators and tie the triggers directly to formally adopted restriction levels.

DES has a model water use restriction policy intended for municipal systems and water districts. The model is a starting point and does not establish specific indicators or triggers that should be developed by managers of municipal water systems. It establishes four water use restriction levels that range from voluntary conservation to a prohibition of landscape watering. The model is available on DES's Water Conservation page at www.des.nh.gov/organization/divisions/water/dwgb/water_conservation/documents/water_use_restrictions.pdf. •

DOT and DES Offering Grants in the Southern I-93 Corridor

Through an agreement with the N.H. Department of Transportation, DES has $3 million in federal funds for the protection of drinking water supply lands in the Lake Massabesic watershed and in the I-93 corridor communities of Salem, Windham, Derry, Londonderry and Manchester as part of a mitigation program for the I-93 widening project. The Lake Massabesic watershed includes portions of Auburn, Hooksett, Candia and Chester.

The grant money will be administered by DES's Water Supply Land Protection Grant Program. In this program, municipalities and non-profit land trusts may apply for grants to cover up to 25 percent of the cost of purchasing land or conservation easements critical to the quality of public drinking water supplies.

The money comes from a fund established to offset impacts to wetlands associated with the widening of Interstate 93 between the Massachusetts border in Salem and the I-93/I-293 interchange in Manchester.

Eligibility applications are due September 1, 2011. DES will notify eligible applicants by October 1, 2011, and final applications will be due November 1, 2011. Grants will be awarded based on priority ranking and availability of funding.

More information on these grants, including a map of the eligible land, and copies of application forms are available online at www.des.nh.gov/organization/divisions/water/dwgb/dwspp/land_acqui/index.htm or by contacting Holly Green at (603) 271-3114 or holly.green@des.nh.gov. •

SPOTLIGHT ON GOFFSTOWN

Reaping the Benefits of "Green Infrastructure" 100 Years Later

Land conservation has been an important tool to protect our state's water resources, including those that supply drinking water. Preserving the natural landscape limits the release of sediment, nutrients and other contaminants often associated with changes in land use or landscape. Some communities in New Hampshire made large-scale conservation investments in forests and natural landscape over 100 years ago. This "green infrastructure" continues to pay dividends in terms of clean water and low water system operating costs, including less filtration and treatment. Perhaps spurred by the same challenges faced today, such as population growth and landscape change, these historic investments continue to protect tributaries, wetlands and shoreland areas critical to maintaining water quality. Green infrastructure delivers clean water to public water systems in a number of places in New Hampshire, including the Whittle Brook Reservoir watershed in Goffstown.

Established in the 1890s, the Whittle Brook reservoir today is the primary source of drinking water for approximately 3,000 residents in town. The Whittle Brook system consists of two man-made reservoirs having the capacity to store 15 million gallons of water and provide a safe yield of 200,000 gallons per day. Today, 70 percent of the Whittle Brook watershed land is conserved, primarily due to the vision and generosity of one prominent family beginning around 1890.

The watershed area was further protected during the first half of the 20th century, when approximately 440 acres of land constituting over half of the watershed area were acquired by Frank A. Parker and Annie S. Parker. That land, composed of a number of large tracts, was conserved and then donated to the Goffstown Water Precinct that now manages the watershed and reservoir system. The Parkers were also instrumental in determining the present location of the two reservoirs and completing final design plans for the water system. Frank Parker was a long-time member of the Precinct's Board of Water Commissioners and was deeply interested in the precinct's work and management of its resources.

As a leading business interest in Goffstown, the Parkers understood the value of a clean and sustainable local source of drinking water as an important community asset. Their involvement was probably both pragmatic and altruistic. According to Barbara Mace of the Goffstown Historical Society, "I sincerely think the Parker family was genuinely interested in returning to the town of Goffstown a portion of the abundance they had received from townspeople, friends and neighbors." Perhaps the Parker's most enduring investment has been the permanent protection of the Whittle Brook reservoir watershed, which continues to provide clean drinking water to current residents and businesses over 100 years later. •

Retirements and Staff Changes in the DWGB

If you have contacted the DWGB lately you may have noticed there have been some staff changes within the bureau. Below is a brief listing of the staff retirements and changes as of the printing of this newsletter.

- Bob Mann retired on March 31 and Rick Skarinka was hired to fill Bob's position. Rick will continue to oversee municipal water systems in the eastern portion of the state.
- Dan Dudley was hired to fill the vacant position when Rick moved into Bob's position. Dan will be responsible for the DWSRF and municipal water systems in the western portion of the state.

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The Source, the quarterly newsletter of the DES Drinking Water Source Protection Program, is published by the N.H. Dept. of Environmental Services.

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Protect Your Water Supply From Outdoor Fuel Tanks

Falling snow or ice from roofs, thaws, and flooding can damage above-ground fuel storage tanks and the piping connecting the tank to a burner or boiler within the building. Damage to outdoor fuel tanks or piping can release fuel oil, diesel, or other petroleum based products that pose a potential threat to drinking water supplies. To protect groundwater and other sources of drinking water from potential contamination, DES in partnership with home heating oil supply companies has a limited number of galvanized steel protectors for tanks and piping at no cost. **If you are interested in obtaining a tank protector, please contact your oil supplier first.**

If your oil supplier does not have any tank protectors, contact Jack Chwasciak, DES Oil Remediation and Compliance Bureau, at (603) 271-3577 or jack.chwasciak@des.nh.gov.

Depending on the amount spilled and the water resources impacted, clean up and remediation can be expensive. It is vital to clean up spills as quickly as possible to minimize the cost and impact to groundwater or other water resources. Information on maintaining above ground storage tanks for home heating oil is available online at www.des.nh.gov.

- Self-Inspection Checklist for Basement and Outdoor Home Heating Oil Tanks (search for "REM-6").
- Information on Reporting an Oil Spill (search for "Reporting a Spill").

If you experience a fuel spill, first contact your local 911 responder or fire department. Then call the DES Spill Response and Complaint Investigation Section, at (603) 271-3899, Monday through Friday, 8 a.m. to 4 p.m., or the State Police on weekends and evenings at (603) 271-3636. •

Awards Presented at the 2011 Drinking Water Source Protection Workshop

Each year DES recognizes a water system, municipality, organization or person for exemplary efforts to protect drinking water sources. On May 10, in front of the nearly 200 people attending this year's Drinking Water Source Protection Workshop, DES's Assistant Commissioner Michael Walls presented two awards, one for protecting source water quality and one for "source sustainability." Source sustainability involves preserving the yield or capacity of existing and future drinking water sources. This could occur by preserving groundwater recharge or instituting water use efficiency and conservation measures to ensure that existing sources will be adequate to sustain a water system into the future.

The 2011 award for Water Quality Protection was presented to Eric Senecal of the Lakes Regional Planning Commission and Green Mountain Conservation Group (represented by Blair Folts, Tara Schroeder and Jay Buckley) for their combined efforts over the course of a year to develop and institute aquifer protection ordinances in the Ossipee aquifer area. In March, four of six towns involved in this initiative adopted new ordinances providing a consistent level of groundwater protection across the Ossipee aquifer, a source of drinking water for 42 public water systems.

This year's Source Water Sustainability award was presented to Wade Crawshaw of the Gunstock Acres Village District in Gilford. Wade has been critical to the implementation of a system that records low flows within distribution piping in six different zones of the water system. By strategically placing flow meters and recording the low flows, the system is able to alert him when leaks occur and indicate their approximate location within the distribution network. Wade can then begin exercises to isolate the leak and make the repair quickly, saving potentially millions of gallons of treated water.

Congratulations to this year's award winners! •

Staff, *continued from page 3*

- Jim Gill retired in February and Susan Willoughby has been hired to fill Jim's position.
- Alan Leach retired in February and Leah McKenna has been hired to fill Alan's position as a supervisor in the Enforcement Section.
- Richard Thayer retired last December and Adam Torrey has been hired to fill his position.
- Jennifer Rowden was hired to fill James Tilley's position in the Source Water Protection Section. Jennifer is assisting many of the programs in the section including the Chemical Monitoring Waiver Program.

More staff changes within the bureau will take place over the summer, so stay tuned! •

Wastewater Reuse—Opportunity and Benefits

Cities and towns across New Hampshire are facing escalating costs to provide clean water to consumers, and treat and dispose of wastewater. To satisfy increasing water demand and protect water supplies, wastewater treatment plants must look for ways to reduce potable water usage and assure surface water and groundwater remain clean and available to the public.

Although New Hampshire is considered "water rich," water is not unlimited. The rising demand on water resources, more stringent requirements for wastewater discharges to surface water and growing public concern have spurred municipalities and utilities to find alternative and beneficial methods to dispose of wastewater.

Many wastewater treatment plants are permitted to discharge treated wastewater directly to surface water for disposal. As standards for wastewater quality change to meet important environmental and public health goals, many facilities face expensive upgrades or new facility costs to meet these requirements. In many cases, a large proportion of those treatment costs are associated with nutrient removal and/or advanced filtration systems.

Fortunately, the use of reclaimed wastewater helps to address all of these concerns. Reclaimed water that is adequately disinfected can be employed for commercial or institutional gray water systems, rain gardens, industrial cooling water, irrigation, and man-made wetlands and impoundments. This reuse can be just as beneficial and often more economical than treated potable water. Nutrient rich reclaimed wastewater is especially useful to consumers that have a need to irrigate land and apply chemical fertilizers and other amendments. Reuse of reclaimed wastewater is permitted in New Hampshire at eight sites (spray irrigation) including three golf courses and one site authorized to use reclaimed wastewater to make snow. Irrigation of golf courses, crops, parks and athletic fields benefit from adequately treated wastewater rich in nitrogen and phosphorus by reducing their fertilizer needs and use. This type of reuse also results in a reduction in the nutrient load that would otherwise enter surface water.

New Hampshire encourages the beneficial reuse of reclaimed wastewater as it can reduce pressure on groundwater resources that provide potable water and decrease degradation of surface waters. DES has developed guidance identifying the various methods to reuse reclaimed wastewater and the criteria for treatment necessary to protect public health and the environment. (See www.des.nh.gov/organization/commissioner/pip/publications/wd/documents/wd-05-31.pdf). The design of future wastewater treatment plants (and upgrade projects) should include an assessment of potential reclaimed wastewater users and be built to direct wastewater at various points in the treatment process to a beneficial use, whenever feasible.

As a green initiative to help reduce water usage, wastewater reuse can provide a solution to mitigate stress on drinking water supplies and provide an alternative disposal method to reduce pollution to sensitive surface waters. By diverting adequately treated wastewater for beneficial purposes, it can become an asset rather than a liability.

For more information on wastewater reuse in New Hampshire, contact Mitchell Locker, Groundwater Permits Coordinator, at (603) 271-2858 or by e-mail at mitchell.locker@des.nh.gov. •

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