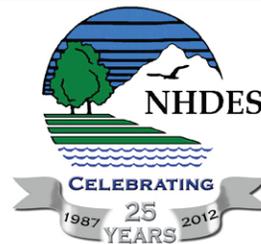


ENVIRONMENTAL NEWS



Newsletter of the N.H. Department of Environmental Services

May-June 2012

COMMISSIONER'S COLUMN

The importance of wetlands protection to New Hampshire

New Hampshire was among one of the first states in the nation to pass its own legislation to protect wetlands—those areas many call swamps, lowlands or marshes. Often regarded as wastelands, wetlands are actually very important features of the landscape that provide numerous benefits to people and wildlife—important enough that they have been protected since the 1960s.

In 1967, the Legislature passed the wetlands law to address tidal wetlands and surface waters. In 1969, the Legislature determined that fresh water wetlands also warranted protection. Although the statute has been revised over the years, its principal goals and focus still remain: ensuring that the exceptional diversity of wetlands that occurs across the New Hampshire landscape will continue to provide a multitude of ecological, economic and social benefits.

A wetland is a natural area that is often wet but may not be wet all year round, and is characterized by its distinctive hydrology, soils and plants. Calculating the economic value or importance provided by a single wetland is difficult. It

Commissioner's Column, continued on page 2



A wetlands disturbed by logging operations prior to restoration. In 1969, the Legislature determined that fresh water wetlands warranted protection.

THEN & NOW IN PHOTOS



Then, before environmental protections ... The former Chlor-Alkali facility, pictured here circa 1920s, was located on the east bank of the Androscoggin River just downstream of the Sawmill Dam in Berlin. DES has been involved in the site's cleanup since 1997. The site was added to the National Priorities List, or Superfund, in September 2005. For more recent photos of the Chlor-Alkali site, see page 5.

Spring begins with a moderate drought. What's ahead?

Snapshot of drought status on new web page

At the time of this writing, the state is officially experiencing "moderate drought." On the other hand, we've also had rain over the last couple of days. Is it the beginning of new weather pattern bringing much needed precipitation to the region? Or should we look forward to a summer of parched lawns and low lake levels?

These are the questions that the state's Drought Management Team has been preoccupied with since February, when snowfalls were significantly below normal. New Hampshire currently has a precipitation deficit of several inches over the last 90 days (again, as of writing). This coupled with the limited snow pack and an early snowmelt has caused stream flow conditions to be significantly below the seasonal average throughout the state. Groundwater levels have been termed "seasonally normal," but rain is needed to prevent a rapid decline in levels in the coming months. Most drinking

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Commissioner's Column

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is, however, possible to evaluate the range of services provided by all wetlands that have direct impacts on the local economy. Some of these services, or functions, include protecting and improving water quality, supporting the fishing industry, storing floodwaters and providing opportunities for education and recreation. Destroying or degrading wetlands can lead to serious consequences, such as increased flooding, extinction of species, and a decline in water quality for recreating and drinking.

The mission of the DES is to help sustain a high quality of life for all citizens by protecting and restoring the environmental and public health in New Hampshire. One key role of the department is the management and protection of wetland resources while also accommodating potential development and the growth of a strong economy. The development of land and related activities may have impacts on both the quantity and quality of wetlands and wildlife habitat. Requiring compensation for the unavoidable wetland impacts resulting from development activities has been a part of the program since the mid-1980s and prior to the Wetland Bureau joining DES in 1987, and now serves as a critical program for addressing wetland loss.

Data from 1997 to 2004 reveal that wetland loss averaged 150 acres per year. Understanding the need to offset this loss, DES developed a compensatory mitigation program that involves a process of saving natural habitat by directing development away from sensitive areas and strategically implementing wetland restoration or upland preservation of critical landscapes to counter the loss. The DES wetland mitigation program strives to maintain the valuable wetlands we still have and to restore lost or impaired wetlands where possible.

In 2004, mitigation rules were adopted that establish what an applicant



Earlier this spring, a rare habitat at Odiorne Point State Park was restored using wild beach grass salvaged by the DES Coastal Program from a NHDOT maintenance project on the New Castle causeway. The beach grass was planted on the east side of the jetty, in the bayberry beach plum shrubland area, which was recently cleared of the invasive plant, honeysuckle. The DES Aquatic Resources Mitigation program is providing funds for this dune restoration project of the Rockingham County Conservation District.

is required to provide for wetland compensation. The rules spell out ratios for wetland construction, restoration of existing impaired wetlands, land acquisition and upland preservation relative to the type of wetland lost due to development. While restoration of wetland functions is preferred, due to the limited number of sustainable options, preservation of upland buffers is often a large part of a compensatory mitigation proposal. In the years following the adoption of new mitigation rules, impacts decreased to an average of 75 acres per year with a total of 220 acres of restoration/enhancement and 12,567 acres of preservation achieved.

DES continues to improve the effectiveness of the wetlands program and recently adopted a fourth form of wetlands mitigation. The Aquatic Resource Mitigation Fund Program provides permit applicants with the option to contribute payments to a special mitigation fund in lieu of implementing a site-specific compensatory mitigation alternative. On a yearly basis, DES issues a request for proposals, evaluates the proposals received, and awards grants to those projects determined to have the highest long-term environ-

mental benefits in the specific watershed. By continually adopting improvements, such as the addition of the ARM Fund, DES has improved the operation of the program and the protection of wetlands in the state for the benefit of all of our citizens and visitors.

Tom Burack, *Commissioner*

ENVIRONMENTAL NEWS



Environmental News is published six times a year by the N.H. Department of Environmental Services.

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REWARDING EXCELLENCE

Scott Hilton receives prestigious EPA Award

Scott Hilton of the Waste Management Division was recently presented with the EPA Environmental Merit Award for an Individual. Scott was recognized for his tireless work in the cleanup and successful redevelopment of the former Pease Air Force Base Superfund Site in Portsmouth/Newington.

Now known as Pease International Tradeport & Airport, the site is home to about 250 businesses and 7,000 employees. When the Air Force base closed in 1991, Pease was considered one of the most contaminated Superfund sites in New England. The designation of the 4,300-acre installation as a Superfund site and the identification of over 50 potentially contaminated areas of concern represented a monumental roadblock to transferring the property to the Pease Development Authority. A cleanup team of staff from the Air Force, DES and EPA developed and executed innovative cleanup approaches. More than \$180 million has been spent or obligated to restore the Pease environment, and numerous cleanup actions, concurrent with major on-going Pease redevelopment, have been completed. This cleanup and redevelopment would not be a reality without Scott Hilton's expertise, management skills, tenacity and commitment to quality.

Scott began his efforts at Pease in the early-1990s as a DES hydrologist and later as project manager and sole DES representative. He handled some of the most difficult challenges with competence and enthusiasm, advocating for a strong relationship between the two agencies and presenting a unified regulatory voice to the Air Force on cleanup efforts. Scott was instrumental in protecting the Haven Aquifer, a significant ground water resource adjacent to the former base. His efforts ensure that potable water will always be available to the Pease Tradeport and the Seacoast. Scott's numerous environmental accomplishments stand out as examples of how the EPA-state collaboration can accomplish critical goals for cleanup and beneficial reuse of a contaminated site. Congratulations, Scott! ■

Conference highlights solutions to local energy needs

Earlier this spring, nearly 225 representatives of local energy committees, municipalities and schools, contractors, and others from around the state and region attended the fourth annual Local Energy Solutions Conference in Penacook. The conference provided information and examples of energy efficiency, renewable energy project ideas and how to finance these projects.

"With schools and town energy budgets tightening, federal grants ending, and the fate of the Regional Greenhouse Gas Initiative uncertain, this year's energy conference focused on financing local energy projects," the working group's co-chair, Julia Dundorf, explained. Up until now, RGGI has provided funding to towns and schools that have reduced energy costs through energy efficiency and renewable energy projects. "School and town officials know the time to plan is *now*." The conference provided many tools to assist in this planning. Some of the sessions covered project management, collaborative partnerships, integrated land use and transportation planning, high efficiency lighting, and project financing. A highlight of the conference was the tour of Merrimack Valley High School's biomass heating plant and the impressive energy retrofits made to the school.

The conference was hosted by the New Hampshire Local Energy Working Group and supported by nearly 40 speakers. For more information, please visit www.cleanair-coolplanet.org/les2012. ■

Air permitting rules under review

DES is in the process of amending and readopting Env-A 600, *Statewide Permit System*. This rule establishes New Hampshire's system for permitting the construction, operation and modification of certain sources of air pollution. Air permitting is required of many different types of New Hampshire business – from emergency generators to large utility power-plants.

The amendments proposed are intended to focus DES's and the regulated community's resources on regulating larger sources of air pollution while maintaining an appropriate level of oversight for smaller, but more numerous, sources of air pollution. One goal of the amendments is to allow smaller sources of air pollution to obtain construction and operating permits using streamlined processes versus using a "one-size fits all" permitting approach. The amendments intend to bring the state's requirements up-to-date with federal air pollution control requirements, and to clarify the applicable requirements for larger, more complex, sources of air pollution.

DES recently hosted a stakeholders meeting to present the proposed rules and to provide interested parties the opportunity to discuss the proposed rules with DES staff. The meeting was attended by 30 people from New Hampshire businesses, environmental consulting firms and environmental interest groups. DES received many constructive comments, which will help TO improve the final rule.

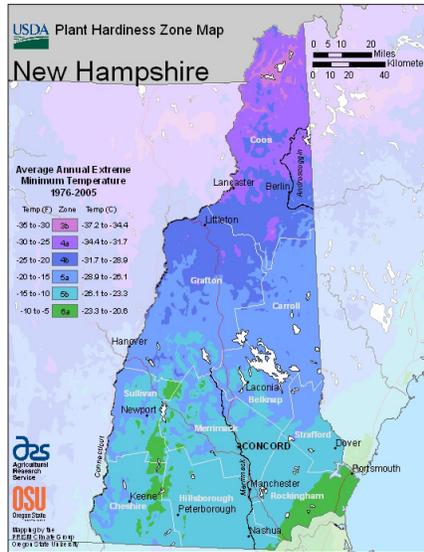
The official public notice and initial proposal are available on the DES website. Written comments will be accepted up until May 9, 2012, and may be sent to Karla McManus, DES Air Resources, PO Box 95, Concord, NH 03302-0095, Fax (603) 271-7053, or karla.mcmanus@des.nh.gov. ■

New USDA hardiness map reflects warmer winters

It's that time of year when most gardeners are planning what they want to plant. As you are making your plans, be sure to consult the new 2012 USDA Hardiness Zone Map because your zone may be warmer than you think. Compared to the last updated 1990 map, zone boundaries in have shifted by about 5°F in most of the nation.

The map separates the country into 13 different temperature zones and helps people determine which plants are most likely to thrive in their location. The map is based on the average annual minimum winter temperature. This year's map includes two new zones: Zone 12 (50°F - 60°F) and Zone 13 (60°F - 70°F). The higher the zone number, the warmer your average low temperature during wintertime. Each zone is a 10-degree Fahrenheit band, further divided into A and B 5-degree Fahrenheit zones.

The temperature data for the 2012 map are gathered from a longer and more recent time period. The new map uses data measured at weather stations during the 30-year period of 1976-2005. In contrast, the 1990 map was based on temperature data from only a 13-year period of 1974-1986.



Lately we have been experiencing weather patterns here in New Hampshire that are unlike any in memory or even in recorded history. While winter came to a formal end on March 20, the 2011-2012 season was noteworthy, not for blizzards or nor'easters, but for how mild it was. There were only two significant snowstorms; one on Halloween weekend and the other on March 1. At the end of the season, snowfall in Concord totaled 48.9 inches through March 20, compared to a normal total of 54.2 inches and last year's 76.9 inches. Instead of a gradual warming of spring temperatures, winter ended with a record-breaking temperature of 81°F,

measured at Concord at 3:47 p.m. on March 18. The average temperature for that date is 45°F and the previous record high was 72°F, set in 1903. These conditions were not unique to the state capital. On March 23 of this year, Lake Winnepesaukee experienced the earliest ice out in history. The previous record had been set in March 24, 2010 when it broke the record set in March 29, 1921.

Maybe we'll be able to plant our gardens before Memorial Day this year! ■

CELEBRATING THE 25TH



Gov. John Lynch and Commissioner Burack admire the new plaque commemorating DES's 25th Anniversary and Earth Day 2012, which they unveiled on one of the few rainy days of this spring. The plaque is mounted on a granite block that was removed from the East Buck Street Dam, when the dam was dismantled in 2011 to restore stream flow. The DES Dam Maintenance Section erected the monument in front of DES headquarters in Concord.

THEN & NOW IN PHOTOS *continued from page 1*



Chlor-Alkali site in Berlin circa 1960s (top, left) and in 2005 after cleanup (bottom). From 1898 to the 1960s, chlorine, caustic soda, hydrogen and chloroform were produced using electrolytic cells in "cell houses" on the property. Diaphragm and mercury cells produced chlorine for use in the manufacture of paper at the adjacent pulp mill. Most of the on-site structures were razed and buried on site in the 1960s. Between 1999 and 2006, DES removed approximately 140 pounds of mercury and mercury-containing debris and sediments from the river and its banks.

UPCOMING EVENTS

May/June 2012 Calendar

- May 14** Commute Green Kickoff Event
- May 18** National Bike & Walk to Work Day
- May 18** Annual State Energy Conference & Awards
- June 2** Green Your Fleet! Fleet Manager Workshop
- June 5, 6** "Clean Air Hike" up Pack Monadnock with the Jaffrey Rindge Middle School 8th Graders
- June 19** 2012 BIA/DES Air Conference, 8am – 4pm

Please contact jessica.morton@des.nh.gov with questions about any of these events. ■

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INFRASTRUCTURE SURVEY

Towns and cities: tell us your stormwater needs *DES to update the Clean Watersheds Needs Survey*

How much will it cost to address water quality issues in the United States over the next 20 years? The 2008 estimate was \$298 billion. And that is likely a gross underestimate considering this includes mostly wastewater costs while costs for addressing stormwater needs have been significantly under-reported.

The estimate was determined by the Clean Watersheds Needs Survey, and across the country state agencies, including DES, and municipalities are busy sorting through planning documents to determine an estimate for the 2012 survey.

"Needs" are defined in the survey as unfunded capital costs of a project that address an existing or projected water quality or public health problem. Traditionally, needs for wastewater have been robustly represented, while reporting of stormwater needs is relatively new.

Collecting the data can be quite a challenge, so this is a "shout out" to every municipality across the state: DES may be contacting you for help with documenting your stormwater capital costs.

DES will be calling, emailing and sending surveys to ask about planned stormwater infrastructure projects, justification for the projects (do they address a water quality or public health issue), and how costs are documented. You don't have to wait, however, for us to call. If you know of projects in your municipality, please contact Barbara McMillan at (603) 271-7889 or barbara.mcmillan@des.nh.gov.

Eligible projects range from upgrading piping and culverts to low impact development tools, such as bio-retention and swales. Planning, design, and construction costs are all eligible for the survey.

Some towns have online capital improvement plans with project worksheets that clearly state project costs and rationale, while others have little or no information about their stormwater needs. To address the concern that while virtually all communities have stormwater management needs, but not all have the resources to contend with them, DES will employ an EPA-approved method using municipalities with well documented stormwater capital needs to represent those without well documented needs.

The data collected during the survey is compiled in a report to Congress and is used to help determine policy and Clean Water State Revolving Loan Fund allocations to states, contribute to academic research, provide information to the public, and help local and state governments implement water quality programs. DES is also taking this opportunity to let stormwater managers know that many of their projects may now be eligible for funding through the SRF loan program, which has traditionally been focused on wastewater needs.

For more information on the survey, please see <http://water.epa.gov/scitech/datait/databases/cwns/index.cfm>. ■



Eligible projects range from upgrading piping and culverts to low impact development tools, such as installing a rain garden.

A new threat to our lakes and rivers

DES and F&G team up to address encroachment of Asian clams

First it was variable milfoil and fanwort that became the threat to our lakes. Then it was zebra mussels and “rock snot.” Today the threat comes from a very small, very prolific and potentially destructive, freshwater clam called the Asian, or golden, clam.

The clams average less than 1.5 inch-



The size of Asian clams are compared to native freshwater mussel and snails. Photo by the Lake George Assoc., NY.

es in size, and have a life span of one to seven years. A single clam can release 2,000 to 8,000 offspring in a year, depending on conditions, and some can self-fertilize. Infestations were recorded as close to us as Marlborough, Mass., in 2005, and Lake George, N.Y., in 2010. Two populations of the Asian clam have been documented in New Hampshire: one in the Merrimack River (from Bow, south) and the other in Cobbetts Pond in Windham. There are likely more populations that have yet to be identified, which DES and Fish and Game are collaborating to document.

Because of their particularly small size in their larval and juvenile stage, Asian clams are easily transported by water currents and by boats from one waterbody to another. Once established, they can form dense clusters of over 5,000 clams per square meter.



Large populations of Asian clams may severely alter lake or river food webs —encroaching into and disrupting the wildlife habitat by directly competing with existing native fish and shellfish species for food and space.

The clams also pose an economic threat. Fresh water intakes such as those at drinking water, electric generation and industrial facilities can become damaged or clogged by clam shells or by juveniles that are sucked into the intake and grow inside the system. Motor boats are also at risk of damage when the clams are drawn in by the engines’ cooling water intakes.

The best defense against Asian clams is to prevent them from entering the state’s waters altogether. Knowing that is nearly impossible, those of us who work and recreate on the water have an important role in ensuring that this invasive species does not continue to spread. Read fact sheet “WD-R&L-62 Asian Clams in New Hampshire” at <http://des.nh.gov> for more detailed information.

If you think you have found Asian clams in New Hampshire, please contact either the DES Exotic Species Program at (603) 271-2248, or NH Fish and Game at (603) 271-3421. ■

Oil spill cooperative disbands after 40 years

New workgroup takes up spill response

The Piscataqua River Cooperative was established in 1971 by the oil terminal operators on the Piscataqua River as a mutual aid organization to assist its members in the event of an oil spill. In 1993, New Hampshire lawmakers amended the oil spill statute, adding a provision that allowed DES to provide up to \$100,000 per year to the cooperative for equipment purchases and training. In the following years, approximately \$1 million was given to the PRC to purchase boats, skimmers, barges and other response equipment. Procurement contracts were signed between DES and the PRC that contained a provision that the equipment would be returned to DES should the cooperative disband.

In February 2012, the oil spill response equipment purchased with public funds was turned over to DES. Since then, the DES Spill Response and Complaint Investigation Section has been working closely with contractors and vendors to ensure that the response equipment is readily available, operational and that there are personnel available that are properly trained to use the equipment.

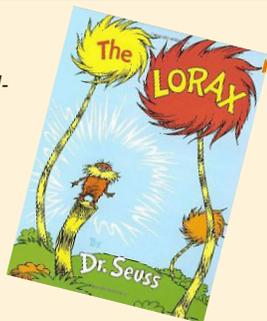
The DES recently spearheaded the formation of the Portsmouth Oil Spill Response Workgroup. The new group was formed to continue the strong working relationships between federal, state and local organizations previously fostered by the Piscataqua River Cooperative. The mission of the workgroup is to improve response capabilities and maximize preparedness for oil spill response. This will be accomplished by establishing committees to research and resolve spill response issues, and organize spill response exercises and training. ■

DES AT DISCOVER WILD NH DAY 2012



Discover Wild New Hampshire Day was a huge success this year with over 6,000 attendees! Clockwise from top left: Amy Smagula shows a youngster different types of water bugs and what they mean; John Liptak engages a young fellow about waste issues; Sonya Carlson makes it fun to throw trash, compost and recyclables away in their proper places; Jess Morton, DWNHD coordinator for DES, and her son Corbin show off their flashy, Wild NH tattoos; and Sherry Godlewski urges a youngster to pedal harder to generate enough energy to illuminate a light bulb.

There are many ways to spread the message of environmental stewardship, including through block-buster movies and popular children's books. Read "New Lessons from the Lorax" by guest columnist and environmental educator Ruth Smith in the [April 2012 GreenWorks](#).



MAY 14 - DECEMBER 31, 2012
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Berry Brook project in Dover highlights urban watershed renewal

In the spirit of Earth Day and city pride, volunteers from the Dover area recently came together to plant trees along the newly created Berry Brook wetland and stream channel. The new trees will enhance the watershed's wildlife habitat and help to filter pollutants and make the stream bank more stable – helping to ensure more clean water for future generations in the area.

The tree planting marked the culmination of one of the important phases of water quality and stream restoration improvements for this urban watershed renewal project, which began in 2011. The Berry Brook watershed represents a unique opportunity to work within a vibrant supportive community at a neighborhood scale, and measure watershed and ecosystem response in relation to impervious cover reductions. Impervious cover usually refers to surfaces such as parking lots, roadways and rooftops from which water runs off, instead of infiltrating into the soil. The damaging effects of impervious

surfaces can be reduced by directing this run-off to areas that allow for some infiltration and/or treatment of the stormwater run-off prior to it discharging to streams, such as Berry Brook.

The small scale of the Berry Brook watershed enables an examination of major reductions of impervious cover in relation to a range of water quality and habitat parameters.

The funding for the stream restoration and tree planting portion of the project is provided through the DES Aquatic Resource Mitigation Fund and the city of Dover. In addition, a DES Watershed Assistance Grant is providing funding to help address stormwater issues in the watershed. The project represents a unique partnership between the city of Dover, UNH Stormwater Center, Cocheco River Watershed Coalition, DES, NH Fish and Game, and American Rivers. For details on the Berry Brook watershed renewal project, please see <http://www.unh.edu/unhsc/berrybrook>. ■



DES project grant manager Sally Soule gets a little tree planting assistance from Mindy Burbier's children last fall at Berry Brook. Burbier, of the UNH Stormwater Center, is the Berry Brook project manager.

Drought

continued from page 1

water supplies are currently full, because of low demand in the winter and early spring. However, some of the recreational lakes, which are drawn down for the winter, need rain to refill to summer levels.

To help the public track conditions in their region, DES has added a quick link to a new web page that provides a current status of the state's drought condition, as well as quick links to real-time data and alerts. The page will be updated on Thursday afternoons for as long as a drought condition exists in the state. Click on "Current Drought Situation Summary" under "What's New" at <http://des.nh.gov>.

Reducing the amount of water used for discretionary purposes, such as lawn watering, and practicing everyday basic water conservation practices, are the most immediate and beneficial steps every user of water can take—whether or not the state is experiencing a drought. For additional information about water use efficiency and reducing discretionary water uses, please see the DES Water Conservation Program web page at http://des.nh.gov/organization/divisions/water/dwgb/water_conservation/index.htm. ■



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