

The Sampler

PROTECTING NEW HAMPSHIRE'S LAKES THROUGH THE DEDICATION OF VOLUNTEERS

PUBLISHED BY THE NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
VOLUNTEER LAKE ASSESSMENT PROGRAM, SPRING 2012

A Word from Ted Diers

New Bureau Administrator

Now, truth be told, I'm an "ocean guy." I've spent the last 15 years working with the DES Coastal Program on the protection, preservation and restoration of New Hampshire's coastal and ocean resources. I probably feel the same way about immersing myself in the great brine as you do when exploring the waters of our great ponds; it goes beyond just recreation and well into the metaphysical. That said, I am open to and have begun the conversion process into a "lakes guy."

Over the past eight months since becoming administrator of the Watershed Management Bureau, I've learned a few things about New Hampshire's lakes. First of all, our lakes are in pretty good shape. Most of our lakes are meeting water quality standards, except for pH and mercury. In general, the "fishable, swimmable" goal is in our grasp. However, I see some concerning trends. First, nutrient enrichment and the resultant premature aging of lakes need to be a foremost concern for everyone in the state. A number of our lakes are experiencing declin-

Diers, continued on page 2

Asian Clams in New Hampshire

Asian clams, also called "golden clam," are round, yellow-green to dark brown colored shellfish with thick, concentric rings on their shells. The clams are typically small, averaging less than 1.5 inches 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.

Asian clams are native to the freshwater of southern and eastern Asia. It is believed that immigrants to North America brought the clams as a food source and subsequently released them into the wild. The first documented discovery of Asian clams in the US was sometime between 1924 (Indiana report) and 1938 (Washington State report). Today, the Asian clam is found in over 40 US states and is expected to continue spreading. An infestation was recorded in the Northeast in Marlborough, Mass. at Fort Meadow Reservoir in 2005 and in Lake George, N.Y. in 2010. Two populations of the Asian clam have been documented in New Hampshire, one in the Merri-



Above: The size of Asian clams are compared to native freshwater mussel and snails. Right: Their size is compared to that of a dime. Photo by the Lake George Assoc., NY.



Asian Clams, continued on page 3

Diers, *continued from page 1*

ing transparency and increasing algal growth, indicators of eutrophication. In addition, aquatic invaders imperil the vitality of our lake economies. Control and prevention of exotic milfoil and other plants is critical. Finally, the most important lesson - the primary reason we know this is because of you!

The highest quality and greatest quantity data that the state depends on for management decisions is collected by volunteer lake monitors. As an agency, we are dependent on your personal investment of time and treasure in collecting these important data sets. Fully 50 percent of the data that we used in our most recent biennial report to Congress on the water quality of the state



Ocean Guy Ted Diers transitions to Lake Guy.

was collected by volunteers. Here is another thing that I learned; that

the 303(d) list, the list of our impaired waters, is really important. It is used for funding decisions, drives permit requirements and carries with it the full weight of the Clean Water Act.

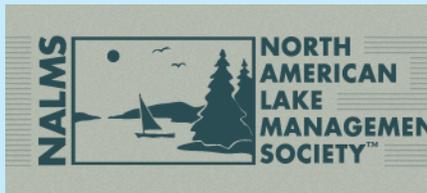
Our bureau and government agencies in general, are experiencing a period of declining budgets. We will have to change the way we do business, focusing our resources on the most important activities to accomplish our mission. What won't change is our dedication to top notch data and analysis – and that's where you play such a vital role. I can't thank you enough for your volunteer work to help our lakes. Please keep up the great work and let me know if there is anything we can do to improve your volunteering experience.

Ted Diers
Administrator

Have You Joined NEC NALMS Yet?

NEC NALMS is the acronym for the New England Chapter of the North American Lake Management Society. The purpose of the New England Chapter of NALMS is to promote further understanding of lakes, ponds, reservoirs, and impoundments, and their watersheds; the ecosystem of which they are a part; and their protection, restoration and management.

Each year NEC NALMS sponsors a conference for lake managers and volunteer monitors to meet and discuss various issues associated with lake ecology. The conference is hosted by each New England state in turn, and this year it is being held in Durham from June 8-9.

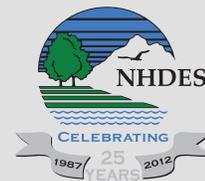


On Friday June 8, several workshops and field trips are

offered. Opportunities include learning how to manage stormwater runoff, algal identification, aquatic plant identification, and utilizing Google Earth mapping features. Several talks are planned for the Saturday lecture sessions, including presentations on watershed and stormwater management, algal blooms, climate change, and invasive species.

If you would like more information about becoming a NEC NALMS member, please contact Amy Smagula at (603) 271-2248 or amy.smagula@des.nh.gov. You can also go to the NEC NALMS website at www.nalms.org/necnalms.

The Sampler is published by



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Asian Clams, *continued from page 1*

mack River (from Bow, south) and the other in Cobbetts Pond in Windham. There are likely more populations that have yet to be documented.

Asian clams are not native to the United States. Larval and juvenile clams are easily transported by water currents, or when humans move water from one waterbody to another. They can form dense clusters of over 5,000 clams per square meter, dominating the benthic community and altering the benthic substrate. Native birds, mammals, fish and other animals feed on Asian clams. However, these invasive clams reproduce rapidly, making it difficult for native predators to keep Asian clam populations in check.

What problems do Asian clams cause?

The Asian clam's ability to rapidly propagate and physically attach to objects as juveniles creates several problems, including:

- Large populations of Asian clams may severely alter lake or riverine food webs by directly competing with existing native fish and shellfish species for food and space.
- Raw water intakes such as those at drinking water, electric generation, and industrial facilities become impaired or clogged by clam shells or by juveniles that are sucked into the intake and that grow in the system.

The clams release phosphorus into the water through burrowing, feeding from the sediment and their excreta. Phosphorus feeds plant and algal growth, and makes potentially hazardous cyanobacteria blooms more likely to occur.

Impacts on boating and navigation include:

- Larval clams drawn into boat engine cooling water intakes may occlude the cooling system, leading to overheating and damaging the engine.
- If shells are drawn into the engine, abrasion of cooling system parts, especially impellers, could result.

Asian clams can tolerate a fairly wide range of environmental conditions. Asian clams live in lakes, ponds, rivers and streams with sand or gravel bottoms, in sun-lit, warm, shallow water. They live just below the surface of the sediment or with a third of their shell just above the sediment's surface. Generally, it was thought that these clams only tolerated water temperatures of 2°-36° C; however, in Lake George these clams successfully over-winter, surviving temperatures below 1° C for months. These clams are found in clear water with good water quality and are intolerant of high nutrient levels.

How can Asian clams be controlled?

An effective way to permanently eliminate infestations has not been found, therefore, emphasis must be placed on controlling impacts on ecosystems and water users. Methods that have been tested for removing adult Asian clams include: removal of infested sediment, water level drawdown, and asphyxiating with plastic mats. Controls for water intakes include: increasing flows, removing clams by hand and using chemicals or high temperatures to kill the clams. However, many of these methods will likely affect other aquatic organisms and may require state and/or federal permits/approvals.

Asian clams are regulated in New Hampshire, and it is illegal to import, possess, or release Asian clams in this state. (See Administrative Rules NHFG FIS 803.04, NHFG FIS 804.03 and NHFG FIS 805.01 respectively.)

To help, tell your local watershed association, marina, municipal officials, or anyone interested in protecting New Hampshire's waters about the Asian clam. If you are in the power generation industry, plan now for the clams' invasion of your facility. Do not purchase Asian clams for use in aquariums, in ponds or as bait. When boating in infested waters, perform the following activities **AWAY FROM ANY SURFACE WATER**:

- Inspect for and remove mud, plants and organisms from your boat hull, trim plates, anchors and trailer.
- Remove all water from your boat and equipment; drain your boat's bilge, live wells and engine cooling system; dump bait buckets.
- Dry anything that comes into contact with the water for five to seven days in the sun before traveling to another waterbody.
- If you find clams, wash down the boat with hot water (140° F) and allow the boat and trailer to sit for two to seven days to dry and/or spray down gear with a 10 percent bleach solution and let the solution stand for a few minutes before rinsing clean.

The best defense against Asian clams is to prevent them from entering New Hampshire's waters. However, when they arrive, we all need to take part in ensuring that this invasive species does not continue to spread.

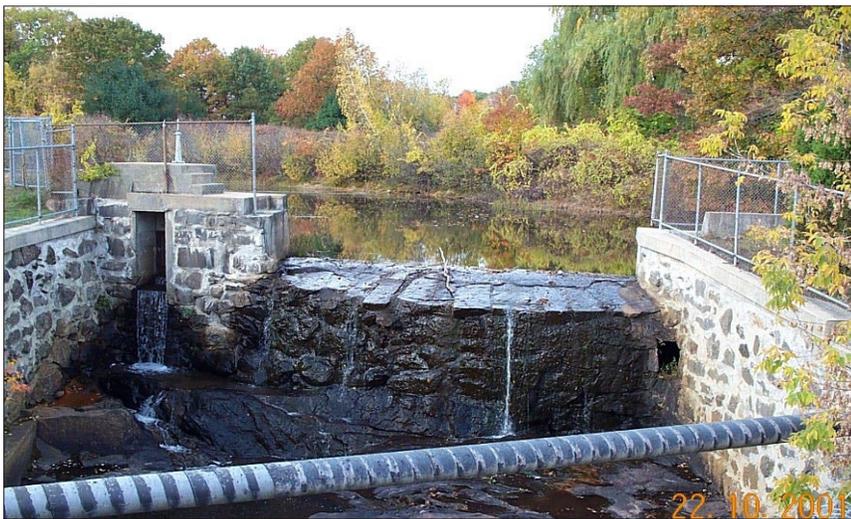
The state's Fish and Game Department and Department of Environmental Services are collaborating to identify occurrences of this species in New Hampshire.

For more information on Asian clams or if you have found Asian clams in New Hampshire, please contact Fish and Game at (603) 271-3421 or the DES Exotic Species Program at (603) 271-2248.

A Tale of Two Waters: How a Pond was Successfully Restored to a River

By Steve Landry, Merrimack Watershed Supervisor

During the spring of 2009, the city of Manchester partnered with the Department of Environmental Services (DES) and 14 other funding partners to take an important step toward fostering a more resilient community and restoring impaired surface waters when construction was completed on the removal of the Maxwell Pond Dam on Black Brook. Although the



By 2006, the century old Maxwell Pond Dam was starting to show signs of its old age with several structural deficiencies.

physical removal of the 15 foot high dam took only a few weeks, the environmental degradation of Black Brook linked to the construction of this dam can be traced back over the last century.

The crystal clear waters of Black Brook tumbling over bedrock back in the late 1880s attracted the attention of the Amoskeag Ice Company and prompted the construction of a dam on Black Brook for the purposes of harvesting ice blocks from the impoundment. That impounded section of Black Brook became known as Maxwell Pond. By the 1990s, the excess sand, gravel, and sediment delivered by Black Brook into Maxwell Pond had reduced the depth in the eight-acre pond from 10 to three feet.

Volunteers with the Manchester Urban Ponds Restoration Program began their participation in the New Hampshire Volunteer Lake Assessment Program in 2000. By 2002, the Maxwell Pond data collected by

VLAP volunteers demonstrated that Maxwell Pond was unable to support aquatic life due to a lack of dissolved oxygen in the impoundment. As a result, DES added Maxwell Pond to the state's 2002 Clean Water Act 303(d) list of impaired waters.

By 2006, the century old Maxwell Pond Dam was starting to show signs of its old age with several structural deficiencies noted during a routine safety inspection performed by DES Dam Bureau engineers.

DES ordered the city to either make necessary repairs, or remove the dam. Shortly thereafter, two successive storm events in New Hampshire resulted in the waters of Black Brook exceeding the capacity of the dam and spillway due to accumulated sediments and lack of flood storage. Flood waters surged around the dam, undermining Front Street, destroying public and private properties, and threatened to compromise the integrity of a gas main and an electrical conduit adjacent to the dam. After the second round of costly repairs due to flooding at this site, the mayor and board of aldermen voted to move forward with dam removal to elim-

inate a public safety hazard, reduce the expenses of maintaining a century old structure on city property, and to restore Black Brook to a free flowing system for the first time since the late 1880s.

In 2007, the DES Watershed Assistance Section awarded the city \$105,000 through a restoration grant for dam removal and river restoration and assumed a lead role in managing the project. By February 2009, the \$500,000 project budget was secured and the DES Dam Maintenance Section began removing the spillway of the Maxwell Pond Dam. Working in concert with the DES Dam Maintenance Section, both National Grid and Fairpoint Communications were on site to perform major relocations of their respective utilities. By the middle of March 2009, the entire spillway had been removed and Black Brook was once again cascading over bedrock where the Maxwell Pond Dam had acted as a barrier to fish migration for over a century.



There have been very encouraging sightings of fish species returning to Black Brook now that a barrier to their passage has been eliminated.

One of the more immediate restoration benefits of this dam removal was the rebound of dissolved oxygen levels in the waters of Black Brook and the ability to support aquatic species once again. This resulted in the removal of Maxwell Pond from the list of impaired waters in New Hampshire, and is featured on the US Environmental Protection Agency website as a nonpoint source success story at http://water.epa.gov/polwaste/nps/success319/nh_maxwell.cfm.

The Maxwell Pond Dam removal and Black Brook restoration project was selected as one of three projects across the country to be included in the 2010 American Rivers documentary titled "Restoring America's Rivers – Preparing for the Future." The DVD relates how communities across the nation are facing increasingly extreme storms that bring damaging floods. These events can strain outdated infrastructure and endanger public safety. Restoring America's Rivers tells the story of how community leaders around the country are solving these problems by working with nature, not against it. Black Brook is featured in this DVD because of the direct impacts to the community by outdated infrastructure, a return to the natural condition that makes the surrounding community safer and more resilient to weather extremes, and restoring vital habitat for fish and wildlife. This documentary can be viewed by visiting the American Rivers website at: <http://www.americanrivers.org/our-work/restoring-rivers/dams/>

restoring-americas-rivers-dvd.html.

As if on cue following the 2010 release of the American Rivers DVD, New Hampshire experienced Tropical Storm Irene in 2011. Although Black Brook is still adjusting to the dam removal and the changes to length and slope within the former impoundment area, the high flows associated with Tropical Storm Irene caused no damage to the Front Street Bridge, the adjacent commercial and residential properties, and there was no need to evacuate businesses or close off Front Street to traffic as had been the case in the two years leading up to the dam removal. With full access to undeveloped floodplains and ample flood storage capacity, Black Brook conveys extreme flows without risk to infrastructure in the corridor.

There have been very encouraging sightings of fish species returning to Black Brook now that a barrier to their passage has been eliminated and sufficient oxygen is present in the water to support biological communities. To date, the presence of bridge shiners (state threatened species), sea lamprey (furthest upstream sighting in Merrimack basin), American eel (species of concern), Tessellated darters (host species for endangered mussels), and Brown trout provide further evidence of the habitat improvements and ability of Black Brook to support aquatic species once again. The number of observed species of fish in the former impoundment area of Maxwell Pond has doubled since the dam was removed in 2009.

Restoration project partners continue to document the transition process from Maxwell Pond to Black Brook, a freely flowing stream. Each year, the Gulf of Maine Barrier Removal Monitoring Protocols (<http://www.gulfofmaine.org/streambarrierremoval/>) are being implemented within the project area to monitor the physical, chemical, and biological responses of the stream channel itself as well as the responses of aquatic and terrestrial communities to pre- and post-dam removal conditions. Although Maxwell Pond no longer exists and VLAP activities are no longer implemented, volunteers from the Manchester Urban Ponds Restoration Program continue to monitor the health of Black Brook.

2011 Volunteer Limnologist & Secchi Disk Award



Derek Monson, one of the three 2011 volunteer limnologist award winners, pictured sampling on Cobbetts Pond.

Since 2004, DES has recognized at least one volunteer for his or her dedication and commitment for volunteer lake monitoring. This award has been appropriately named the Volunteer Limnologist Award because each time a volunteer monitor collects a water sample from a lake or pond or conducts a Weed Watcher survey, the volunteer is performing the role of a true limnologist. In addition, the Secchi Disk Award is given to the overall Volunteer Limnologist award winner of the year. That volunteer which truly stands out on the “cutting edge” of volunteer monitoring.

At the 2011 VLAP Workshop, **Kally Abrams** representing Turee Pond in Bow, **Andrea Tomlinson** representing Northwood Lake in

Northwood, **Derek Monson** representing Cobbetts Pond in Windham, and the Messer Pond Protective Association received Volunteer Limnologist awards. Derek Monson also received the Secchi Disk Award for his contributions in volunteer monitoring, securing grant funds to develop and implement a watershed management plan, development and implementation of a watershed ordinance, exotic species management, and I-93 construction monitoring activities.

Future Nominees

If you would like to nominate someone for these prestigious awards, please send or e-mail a letter explaining who you have nominated and why to the VLAP Coordinator before May, 2012.

High School Students Help “Save” Clough Pond

by Robie Parsons and Andrea LaMoreaux, NH LAKES

High school students and their teacher spent the summer reducing the amount of polluted water that flows into Clough Pond while also beautifying the landscape.

Students from Merrimack Valley High School volunteered their summer with the New Hampshire Lakes Association Lake Conservation Corps Program to “save” Clough Pond from polluted water flowing into it. These students, working with NH LAKES, the Clough Pond Association, and individual property owners under the direction of Caroline Howland (a teacher at Merrimack Valley High School), completed three lake-friendly landscaping projects.

The first project involved the installation of a water bar, which is a feature made out of timbers and crushed stone that directs water runoff from a road and driveway, and two rain gardens, which are gardens situated in depressions on the landscape that collect and absorb runoff water. “The rain gardens look great and the water bar will divert most of the driveway runoff water into the first one. The remaining runoff will then get captured in the second rain gar-



Student volunteers from Merrimack Valley High School constructing a rain garden at Clough Pond.

den,” remarked property owner Tom Edwards. “It was fun interacting with the students and discussing with



(Left) Before the Lake Conservation Corps crew began work on this property along Clough Pond, polluted runoff water from a driveway flowed directly into the pond.



(Above) The volunteer crew installed a rain garden and infiltration trenches, which allows runoff water to be diverted and absorbed, thus preventing it from polluting the pond.

them the reasons behind the projects and how their efforts will help to keep Clough Pond healthy. They're a great group of students."

While constructing the second project, which involved digging a trench and filling it with stone and plants to slow down and absorb water, the students' work ethic impressed the property owner. "Those students really, really worked hard, despite the sweltering temperatures."

And, property owner Nancy Rondeau, who had a rain barrel installed to collect runoff water from her roof, an asphalt path leading straight from her driveway and into the pond removed, and infiltration trenches installed at the bottom of her steep driveway, was ecstatic about the crew's work. "Kudos to all of those involved in the conservation projects around Clough Pond. I haven't yet toured my neighbors' property projects, but I am certainly more than a little pleased with the outcome at my property. I'm almost looking forward to the next heavy rainfall to see how it all comes together." She continued, "My rain barrel was already full to the top last evening so I hooked up

the hose and re-watered all the plantings done by the crew and had enough left over to also do my vegetable garden."

These projects, while beautifying the landscape, are also reducing the amount of water runoff that flows across the landscape during rainstorms, picking up pollutants from roadways, driveways, and lawns before reaching the pond. These pollutants, particularly the nutrient phosphorus which is contained in many lawn fertilizers, septic system waste, and soil, can cause excessive plant and algae growth in the pond. Excessive plant and algal growth can make boating, fishing, and swimming unpleasant as well as dangerous.

"While not only improving the health and enjoyment of Clough Pond," says Andrea LaMoreaux, NH LAKES vice president of Education and Communication, "we hope this program will foster a life-long appreciation of the natural world among the student participants."

The projects were showcased to the community during an open house event held on a Sunday last August. Attendees learned how easily and inexpensively they could fix similar runoff problems on their own property in an effort to help improve the health of lakes, ponds, rivers and streams throughout the state.

In early November 2011, NH LAKES worked with volunteers from the Clough Pond Association, the town, and a local landscape contractor to retrofit the Clough Pond town beach with a large infiltration area to prevent beach erosion and also beautify the area. During this coming summer, NH LAKES will work with students and property owners to construct two more landscaping projects along the pond.

The Lake Conservation Corps program at Clough Pond is funded through a State Conservation Committee Conservation "Moose Plate" grant and is supported by generous donations discounts from local businesses including Fillmore Industries, and in-kind donations of materials and expertise from the town of Loudon.

If you have a water runoff problem on your property that may be polluting a nearby waterbody, contact NH LAKES at (603) 226-0299 or rparsons@nhlakes.org.

NH LAKES is a member-supported, non-profit organization dedicated to protecting New Hampshire's lakes and their watersheds. Follow NH LAKES on Facebook by searching for "NH LAKES (NH Lakes Association)" at www.facebook.com. To receive NH LAKES' free monthly e-news blast, *Shorelines*, sign up at www.nhlakes.org.

Better Safe than Sorry!

Important Field Safety Measures for Volunteers

By Sara Steiner, DES Volunteer Lake Assessment Program Coordinator

The 2012 field sampling season has begun and as we head out to sample our surface waters, we should remind ourselves of some common field safety measures. I often hear of field sampling “accidents” resulting in minor injuries, but luckily no major injuries to date! Most accidents could have been avoided; however for those of us with a little less grace to our step, avoiding these minor mishaps is more difficult. For example, the time I stubbed my toe on a 50 lb. anchor while still in the boat; it was also the day I forgot my toe-protecting field shoes and opted to wear flip-flops instead—not a wise choice! From that day forward, my field shoes stayed at the office in plain sight.

Whatever your field monitoring should entail, let’s remember some of the basics and work our way up to some more advanced safety tips. As general rules when conducting field sampling: always bring a sampling partner; have a means of contacting someone in an emergency; have emergency contact information on you; have a first aid kit available; and have water and snacks. There is safety in numbers and we recommend at least two people participate in sampling activities together. In the event that someone falls, has a medical emergency, or is threatened (whether by human or animal), you can rely on your sampling partner to assist you.

If you’re off the beaten path, as we sometimes are when sampling, have a cell phone, whistle, and/or blow horn with you to notify pass-



Donning foul-weather gear before sampling on Pawtuck-away Lake. Always consider the weather and location before setting out.

erby and/or emergency responders that you need help. Carry a compass or GPS unit in case you get lost while sampling. In the event of a serious accident, always have a form of identification on as you may be unable to call for help or communicate important information to emergency responders. Always carry a travel first aid kit to help provide initial medical attention if necessary. If you’re worried these things might get wet, place them in a well sealed plastic bag. These are field basics, but what else should you consider?

Two of the most common things to consider are weather conditions and location. Pay attention to the weather report and be prepared. This includes being prepared to cancel your sampling activities and re-schedule at a later date. Let’s be realistic, no sampling activity is worth putting yourself in harm’s way. Do not sample in thunderstorms, flood conditions, excessive

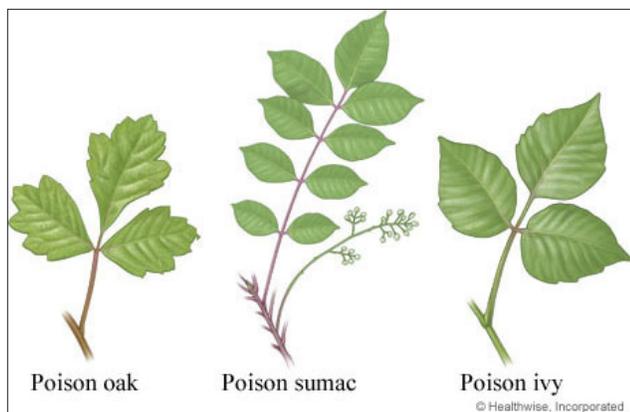
winds, waves, fog, cold, heat and humidity. If the weather permits you to sample, dress appropriately for the conditions. If you’re sampling in the warm summer weather, wear a hat, sunglasses, lightweight and light-colored clothing, and be sure to apply ample sunscreen. If you’re

sampling in the cool spring or autumn weather, wear multiple layers of clothing, warm hat and gloves if necessary, and a hunter orange hat/vest if you’re in the woods during hunting season. If a sampling station is on or near a roadway, wear a safety vest to alert drivers that you are there.

Whatever the weather forecast, always carry rain gear with you! Appropriate footwear is also essential! Rugged water shoes, preferably with toe protection, non-slip tread, and breathability are key. Or, you may require a good, waterproof



Painted turtle. Photo by Nancy Stetson, VLAP photo contest, 2nd place.



Be able to identify poison oak, sumac and ivy or other plants that could cause mild to severe allergic reactions. Illustration copyrighted by Healthwise Inc.

pair of hiking boots for off-road sampling adventures. Expect the unexpected, and always bring an extra change of clothes and a towel!

Speaking of off-road sampling adventures, need I mention the disease-carrying mosquitoes and ticks? For exposed skin, apply insect repellent. To further deter ticks, wear long-sleeve shirts, pants, socks and boots if temperatures allow. Tuck shirts into pants, and pants into socks. Wear light colored clothing to easily spot ticks, and perform tick checks immediately after returning from the woods and remove any unwanted guests. Be able to identify poison ivy, oak, sumac or other types of vegetation that could cause skin irritation or rashes. Big monster flies, like deer or horse flies are harder to discourage, but an old field trick is to tuck a branch or other tall stem



If you can't swim, don't board a boat without wearing a personal flotation device (PFD). State law requires a PFD on board for every person in the boat.

annoyingly as you try to sample. That's a lot to remember and we haven't even started sampling yet!

If you follow the above tips and come prepared, field sampling should be a piece of cake, right? Try to follow these safety tips as well while on the boat and in the

water. First and foremost, in any boat, personal flotation devices (PFDs) are required to be on board, and depending on state regulations, worn at all times. If you can't swim, don't board a boat without wearing a PFD! All boats must carry equipment as required by the US Coast Guard (USCG) and state regulation, and must follow USCG and state regulations for waterway safety and etiquette. Carry extra lines, foul-weather gear and back-up equipment. If you happen to fall overboard, don't panic! If you're wading into a river or stream to collect samples, examine stream banks

of vegetation into your hat as these flies generally buzz the highest point around a person, so if you elevate that point with a stem of a plant or branch of a tree, even just six inches to a foot, you can keep them from buzzing your face



If there's a steep slope, consider using a sampling pole to collect the sample.

before entering. If there's a steep slope, you may consider utilizing a sampling pole to collect the sample. Do not enter a river or stream at flood stage. If you need to cross a river, use a walking stick to probe for deep spots and unstable terrain. Wear a PFD and have a whistle easily accessible. If necessary, wear hip boots or chest waders to protect from the elements, but be aware they could get water-logged if you fall or are swept down river. Utilize hip boots with a strap that can be pulled closed at the top effectively trapping air and serving as a makeshift PFD should you not be wearing one.

I'm sure all of this makes perfect sense to volunteers and volunteer managers who conduct field sampling. However, it only takes one "accident" to realize how important it is to remember and abide by these safety tips every time you're in the field. Prepare your field bag now and be sure to replenish items that you use. Enjoy the 2012 field sampling season and be safe out there!

Limnology Center Dedicated to Jody Connor



The Governor and Executive Council voted on March 28 to formally name the DES Limnology Center after Jody Connor. Jody was a dedicated and conscientious public servant, who strived to use sound science to help protect and preserve our lakes and their watersheds. He was a man who lived for lakes. In his role as Limnology Center director, Jody was in charge of many programs that relate to monitoring, protecting and enhancing the lakes and ponds of New Hampshire. He committed over 30 years with the state working on lakes. We honor Jody by operating the Jody Connor Limnology Center. A formal dedication ceremony, to which you'll be invited, will be held this summer.



Millen Lake moose. Photo by Donna O'Malley.

Clean Water from Improved Wastewater Treatment

Excerpted from the "25 for 25" Opinion/Editorial piece published March 30, 2012 in recognition of DES's 25th Anniversary.

The dramatic improvements to New Hampshire's lakes and ponds over the last 40 years are the result of significant wastewater treatment projects and improvements in the state, accomplished principally through the Clean Water State Revolving Fund, a low interest loan program for municipalities to meet the high costs of such projects. Over the last 20 years, DES's focus has shifted to the management of pollution from combined sewer overflows, urban stormwater systems and nonpoint source pollution. As DES celebrates its 25th birthday, the state still faces many wastewater infrastructure and water quality challenges. For us to continue to make progress in assuring that all of New Hampshire's waters are fishable, swimmable and drinkable will require innovative technical, policy and funding solutions. By working together, we can ensure that New Hampshire's waters will be clean, healthy and plentiful long into the future. To read the article in its entirety, please go to <http://des.nh.gov/media/pr/2012/20120320-25for25-4.htm>.

Have you scheduled your annual DES biologist visit yet?

Volunteers' Eyes and Ears as Important as the Data

By Sherry Godlewski, DES Environmental Program Manager, and Chris Skoglund, DES Pollution Control Engineer

Volunteering to collect data about your local lake is a very valuable contribution that you make to help maintain our state's high quality of life. The data and observations you gather each time you are out help us to understand the conditions at the lakes and ponds across the state and their response to changes. Many of you have been volunteering at the same lake or specific site for several years, and many of you are just starting this year. Thank you for all that you do!

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, only one of which actually occurred in “winter” on March 1. The other significant snowfall came during Halloween weekend, with devastating consequences to the state. At the end of the season, snowfall in Concord totaled 48.9 inches through March 20, compared to an average total of 54.2 inches and last year's 76.9 inches.

Equally notable was that, instead of a gradual warming of spring temperatures, winter ended with a record-breaking 81 degrees, measured in Concord at 3:47 p.m. on March 18. The normal average temperature for that date is 45 degrees, and 2012 broke the previous record high of 72 degrees set in 1903. The mild 2012 winter contributed to the earliest recorded ice out in history on Lake Winnepesaukee, on March 23. The previous record had been set on March 24, 2010 when it broke the record set on March 29, 1921.

Sampling the various lakes and ponds in our state gives you the advantage of being the “eyes and ears” that provide information about what is happening on a local level. As you go about your regular monitoring activities, please keep in mind that recording additional information about weather patterns and lake responses can help paint a better picture of any changes New Hampshire is experiencing. The data and observations you collect will help us to better understand changes in lake quality, and help predict future changes.

Whether you reside on a lake or not, document anything that seems significant, different or unusual. Create a journal that you can use each year to track these



Crawfish hunting. Photo by Dayton Goudie.

observations. For instance, when did you hear the first wood frog or spring peeper? When did the first red-winged black birds arrive? Were the lake levels and turbidity different than last year at this time? When did you notice algae or plant species emerge? What were the temperatures this year compared to those of the past? When did you first dip your big toe in? When were *you* willing to take a dip?

By documenting these nuances, you create a rich history to which we can compare in the future. As we continue to experience winter warming, less snow on the ground, earlier ice out and extreme rainfall and flooding events, the character of our lakes and ponds will inevitably begin to change. Last summer we experienced a period of time with little to no rain fall. Will this happen again this summer? If this type of precipitation pattern continues, how will this impact our groundwater levels? If we have heavy rains, how does this impact our lake clarity and for how long? Are warmer summers negatively impacting dissolved oxygen levels? Are plants flowering earlier or later than usual? Do you have allergies and did they start earlier and last longer in the season? Scientific studies suggest that if we experience earlier spring warming, like this year, we may find an increase in algae blooms, more pollen from ragweed and other aeroallergens and even more robust poison ivy populations! Keep an eye out for these things and let us know.

Together we can document what we are experiencing and begin to understand and anticipate how our lakes and ponds respond. This can help guide what, when and how we sample in the future and how we respond to those changes to preserve the high quality lakes and ponds we all care about.

Upcoming Events

June 2, 2012 DES Volunteer Lake Assessment Program Annual Workshop.

DES, Concord, NH. For more information, refer to announcement in this newsletter or visit www.des.nh.gov/organization/divisions/water/wmb/vlap/index.htm

June 8-9, 2012 NEC NALMS.

University of New Hampshire, Durham, NH. For more information visit <https://sites.google.com/site/necnalms/conference>

June 22, 2012 Lakes Congress.

The Inn and Spa at Church Landing, Meredith, NH. For more information visit www.nhlakes.org/#

August 12, 2012: Love Your Lakes Day and Antique Boat Parade.

10 am-2 pm, Sunapee Harbor, Sunapee. For more information visit <http://www.lakesunapee.org/templates/events.html>



Have you
scheduled your
annual DES
biologist visit
yet?

If not, please contact
Sara Steiner, VLAP
Coordinator, at
(603) 271-2658 or
[sara.steiner@
des.nh.gov](mailto:sara.steiner@des.nh.gov).