

Lakeside

A Quarterly Publication of the New Hampshire Lakes Association (NHLA)

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Groundwater and Lakes are Closely Connected

Groundwater and Lakes: What's the Issue?

Brandon Kernan, Manager of Source Water Protection, NH Dept. of Environmental Services

Sixty percent of NH residents rely on groundwater for their drinking water. Polluted groundwater not only impacts this important use, but can also harm lake water quality. Similarly, large groundwater withdrawals may impact the total volume of a lake and/or the flow of water through a lake, which in turn may negatively affect the lake's ecosystem, water quality, and recreational uses.

What is groundwater, and how much does NH have?

The term "groundwater" applies to all water that is found beneath the surface of the land, with some areas of the state being underlain by more groundwater than others. Subsurface geology plays a major role in the availability of groundwater in that the saturated thickness of subsurface soils and the type of water-bearing material (gravel, sand, silt) are factors, as is the extent of the aquifer (the area of saturated ground beneath the surface), the recharge rate of water into the aquifer from precipitation and nearby surface waters, and the number, size, and interconnectedness of bedrock fractures beneath the overlying soils.

Who owns NH's groundwater?

Groundwater is a shared resource in New Hampshire. Therefore no one person "owns" the groundwater. Rather, it is more of a question of who has the right to use the water and how much can you use? New Hampshire's water rights system can be confusing and is based on common law (law that is based on historic court decisions) where the consumption of water is governed by the rule of reasonable use. "Reasonable use" generally refers to one property owner's use of the water may not interfere with the use of another property owner, regardless of which use was established first. The standard for what is

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The Acton Wakefield Watershed Alliance Crew works to improve shoreland protection.

Acton Wakefield Watersheds Alliance Youth Conservation Corps is Tackling Stormwater Runoff Problems

By Carol Lafond and Linda Schier

In 2004, community members interested in protecting the water quality of lakes that lie within the Saco and Piscataqua watersheds in Wakefield, NH and Acton, ME formed the Acton Wakefield Watersheds Alliance (AWWA). AWWA's mission is to preserve or restore the water quality in these watersheds through remediation of impairments and public outreach and education regarding the importance of water quality. The current membership is made up of both community residents and members of area lake associations including Balch Lake, Belleau Lake, Great East Lake, Horn Pond, Lovell Lake, Pine River Pond, and Wilson Lake.

In the fall of 2004 AWWA members met with the Technical Director of the Mousam Lake (Maine) Youth Conservation Corps (YCC) and decided to create a similar program in their target area. Both the N.H. Department of Environmental Services (NH DES) and the Maine Department of Environmental Protection (ME DEP) have recognized that stormwater runoff is a major cause of lake

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From the President...

I am privileged and honored to be stepping into the shoes of former President Nancy Christie. As many of you know, Nancy is a mentor and a friend and one of the reasons New Hampshire Lakes Association is held in such high regard throughout the state. I intend to advance that stewardship legacy, as we continue to fill the need of lake advocacy and education throughout New Hampshire.

The love of lakes is what brings us together. Whether it be through our jobs or recreation, we hold a common belief in protecting and maintaining the high quality of our lakes here in New Hampshire. As a lake enthusiast, I have spent the better part of my life playing an active role in the management of lakes. As a young boy, I enjoyed boating, swimming and fishing with my father on a quiet 200 acre lake in Michigan. Unfortunately, I spent the better part of my formative years watching my lake slowly die from unregulated impacts to the water. Luckily, New Hampshire has NHLA and its membership to help manage and protect our lakes. Wise management of activities should allow for enjoyment and use of our lakes without harming them. Our role as stewards of lakes is to recognize the current situation and anticipate solutions so we may prevent future problems.

Transitions are never easy and this has truly been a remarkable year for NHLA. We have a new fiscal year (March 31), a new Chairman and new staff (see page 7). We have moved to a new office so we can better address the needs of you, our membership. And we have begun to put together a new Education Outreach Director so we can offer guidance and solutions to help manage your local problems. This position will allow NHLA to respond to a need throughout the state for help at the local level. Once this program is underway, NHLA can protect NH lakes and ponds from both a top down and bottom up approach.

As we move forward, it will be even more important for NHLA to continue to expand our successful programs. These include the Lake Host Program, legislative initiatives, the economic study, outreach programs, Lakes Congress, and speaking engagements. NHLA should be the organization you turn to for advice and solutions. We have the answers to your lake questions and help with your water quality problems. There are a lot of challenges ahead, but with the help of our dedicated board of directors, our knowledgeable staff, and you, our members, we can continue to protect the New Hampshire lakes now and for the future.

Thank you for being part of the solution. I am truly excited about this opportunity and look forward to talking with all of you soon. Have a great summer!

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“reasonable” can change, and what was once reasonable, may overtime become unreasonable. In 1998, amendments made to RSA 485-C require the state to proactively ensure new large groundwater withdrawals do not result in large impacts to water users or water resources. This means land owners developing a groundwater withdrawal of any amount have a right to reasonable use of the water under common law, and that civil cases may be brought to the courts to resolve conflicts when the water rights of another land owner are unreasonably impacted.

How does groundwater relate to lakes?

Groundwater rarely stands still under a particular piece of land, but rather “flows” from one place to another, under the ground, depending on soil type, bedrock, etc. This groundwater flow is one of several sources of water for lakes. Therefore, human activities that may impact the quality or quantity of groundwater may also impact the quality or quantity of lake water.

When the amount of groundwater flowing into a lake is reduced, due to declining groundwater levels in underground aquifers for example, the total volume of a lake and/or the flow of water through a lake can be reduced, which may negatively impact the lake’s ecosystem, water quality, and recreational uses.

The susceptibility of the water quality of a lake to impacts from changes in the quality or quantity of groundwater largely depends on the lake type. Lakes with no surface water inflows (that is, no streams entering them) are largely dependent upon groundwater (especially during periods of low precipitation). For lakes with significant surface water inflows, groundwater may be a minor component of the total water source of the lake.

Obviously, if lakes relying on groundwater inflow lose their water supply, then the water level will decrease. This will affect the recre-

ational and ecological components of the lake. For example, some boats will not be able to float at their docks; rocks will be closer to the surface and thus impact boating safety. In addition, shallower water may impact the fishery, as sunlight can more easily penetrate the water and warm it significantly. The added sunlight will also encourage the growth of invasive aquatic species such as variable milfoil and other exotics may become more problematic.

Who regulates/restricts groundwater use?

Because the movement of groundwater does not respect municipal boundaries, it makes sense that the state is the entity that can regulate or restrict groundwater use. Indeed, state laws ensure that certain groundwater discharges and new groundwater withdrawals that exceed 57,600 gallons over any 24-hour period do not adversely impact the quality or quantity of groundwater or water resources such as neighboring wells, wetlands, streams, rivers and lakes. Since August 1998, any proposed “large” groundwater withdrawal (one that exceeds 57,600 gallons over any 24-hour period) must undergo a comprehensive permitting process to demonstrate that other water users or water resources (lakes, rivers and wetlands) would not be

adversely impacted. The permitting process includes public notification, a public hearing, extensive field testing and assessment of data, and development of an environmental monitoring, reporting, and mitigation plan.

NHDES also regulates the discharge of wastewater onto or into the ground. The focus is to prevent contamination of groundwater by the improper disposal of wastes and wastewaters containing solvents, petroleum products, and other contaminants found in industrial, commercial, or domestic wastewater discharges. Domestic, commercial or industrial wastewater discharges of 20,000 gallons per day or more into groundwater must be registered or permitted by NHDES. As part of the review process, NHDES ensures that such a discharge of wastewater into groundwater will not result in a surface water quality violation (such as when/if the wastewater in the groundwater were to enter a lake or pond). Visit www.des.state.nh.us/DWSPP/gwdisch.htm for more information on DES’ Groundwater Discharge Program.

More information about NHDES’ Large Groundwater Withdrawal Permitting Program may be found at www.des.state.nh.us/DWSPP/lgwith.htm.

Mr. Kernen is the Manager of NH DES Source Water Protection Program.

AWWA — from page 1

pollution. AWWA is following the YCC model with a Technical Director, Crew Leader and crew of local high school students designing and implementing Best Management Practices to inhibit water flow and reduce erosion on shorefront properties. The involvement of the local youth encourages stewardship in environmental protection and many crew members have gone on to environmental careers.

By the summer of 2005, AWWA hired two local youths and worked with existing Maine YCC to complete two demonstration projects. On Great East Lake, the crew stabilized a path that had been eroding into the lake over the years. The YCC put in steps that stabilized the slope and redirected runoff from both the stairs and the roofline into planted and mulched areas where it could be absorbed. A second project on Pine River Pond prevented road water runoff from washing sand, soil and other pollutants into the lake. A berm was built and planted with bushes along the roadside to stop and absorb the water coming from the road. Stone walkways were installed and the entire area, except for a narrow perched beach, was mulched and planted with ground cover to prevent runoff. Both of these projects demonstrated that erosion could be

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Status of 2006 Legislation

Thanks to your help, one NHLA initiated bill was passed by the legislature and has been signed by the Governor.

Permanent Funding for Milfoil Prevention (HB 1407): The Milfoil and Other Exotic Aquatic Plants Prevention Grant Program would have lost significant funding by 2008. Fortunately, NHLA worked with the Exotic Aquatic Weed Committee of the New Hampshire House and Senate to sponsor HB 1407. By removing the sunset provision, the bill ensures permanent funding for milfoil prevention and education (such as our Lake Host Program) by maintaining the \$3 fee from boat registrations, which was set to expire in 2008.

Other Important Lake-related Legislation

Mercury Emissions Reduction bill (HB 1673): Over the past 14 months, NHLA actively participated in a joint effort along with Public Service of New Hampshire (PSNH), DES, law makers and other groups to develop a comprehensive approach to reducing mercury emis-



PHOTO COURTESY OF JOHN HESSION.

NHLA Board member and PSU Center for the Environment Director Steve Kahl chats with US Senator John E. Sununu and NHLA President Jared Teutsch.

sions. Sponsored by Representative **Lawrence C. Ross** of Peterborough and signed by Governor Lynch, **HB 1673** will allow PSNH to install a wet scrubber no later than July 1, 2013, thereby significantly reducing mercury emissions by at least 80%. In addition, the bill creates the added benefit of removing sulfur dioxide and other emission particulates thereby improving the overall air quality in New Hampshire.

Funding for the Land and Community Heritage Investment Program (LCHIP) (HB 1167): Thanks to your support, this legislation provides much needed funding to the

Land and Community Heritage Investment Program (LCHIP) by appropriating \$500,000 this year. LCHIP is critical to protecting NH's open land and historical resources. ■

Attention members! What are your issues? We are starting to prepare for the 2007 legislative session and would like your input. Give us your thoughts on the enclosed survey form!



Lakes Congress Highlights

The Inns and Spa at Mill Falls sponsored the Thirteenth New Hampshire Lakes Congress and Annual Meeting held on June 17, 2006 at Plymouth State University's Center for the Environment in Plymouth. Hats off to Plymouth State University for hosting another first class Lakes Congress!

A plenary session on the topic of lake management and its problems and solutions for New Hampshire's lakes and ponds set the stage for the nine workshops and one lake visit that followed. Attendees could choose among the following:

- ◆ Tour of the Center for the Environment Lab & the Gregg Meteorology Center
- ◆ Milfoil: Researching a Means to an End
- ◆ Involving Youth in Lake Stewardship
- ◆ Climate Change and Its Impacts on Our Lakes and Ponds
- ◆ The Maine Solution to Lake Management
- ◆ Groundwater: Science, Policy and the Public Trust
- ◆ New and Continuing Threats to New Hampshire's Loons
- ◆ Protecting the Shoreline
- ◆ Lake Management: State Agencies and Their Responsibilities

Thanks to the generous loan of a pontoon boat by MacCallum's Boathouse in Northwood, conference attendees were treated to a cruise around Squam Lake while hearing about the "privacy value" of a vegetated shoreline and the added benefit it provides to water quality. They also enjoyed a hands on approach to water quality monitoring.

After a relaxing boat ride, the group enjoyed a discussion on lake and watershed management through the use of speed limits, boat censuses and the Squam lakes watershed comprehensive mapping project.

During the annual meeting, former NHLA board chairman Tom Deans presented the John F. Morten Memorial Award for Exemplary Lakes Stewardship to Wally Francis (See page 7). Afterwards, Tom congratulated Ted Kramer as the incoming chairman of the board.

One of highlights of the day included a nice speech about resource conservation and protection by US Senator John E. Sununu during lunch. Overall, the day was enjoyable and relaxing. The photos here capture some of the events of the day. ■



Shippen Bright of Maine Lakes Conservancy Institute described Maine's approach to lake management.



US Senator John E. Sununu talks about the importance of resource protection.



Harry Vogel shares his insight into loons

Thank You Nancy!

Over the past 7 years, Nancy Christie has provided NHLA with excellent leadership and service, moving us forward into the next phase of growth and lake stewardship. Under her guidance, NHLA experienced unprecedented financial stability while increasing our organizational strength through increased staff and membership support. Nancy has decided to move on to new challenges and she will be missed. On behalf of the staff, board of directors and the membership, we wish her the best! ■

L to R: Nancy Christie displays awards with Jacquie Colburn and Jody Connor of DES at her farewell party



MEMBERSHIP MATTERS

New Members

2/16/2006–7/25/2006

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Mr. and Mrs. William F. Bertholdt
Mr. and Mrs. George Carpenter
Mr. Roger Clough
Ms. Michelle Collins
Ms. Eleanor Drury
Ms. Sandra Ferguson
Mr. and Mrs. John Filson
Ms. Susan Holland
Ms. Andrea M. LaMoreaux
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Mr. and Mrs. James Putnam
Mr. and Mrs. Bryant Robertson
Mr. Philip J. Sullivan
Mr. and Mrs. George Walton
Mr. and Mrs. Steve Wingate
Mr. and Mrs. William O. Wuester

Associations

Silver Lake Association Belmont-Tilton
Winona Forest

Grants

The French Foundation (*Unrestricted*)
John K. Gemmill Fund (*Helen & Priscilla membership*)
The Schenk Family Fund (*Membership*)
Norcross Wildlife Foundation (*Lake Book*)
Otto Fund (*Development Director Tom Haas*)
Wolfeboro Fund (*Development Director Roger Murray*) ■



New board chair Ted Kramer thanks outgoing chairman Tom Deans for his years of service to NHLA.

Lakes Legacy Party at Church Landing — Thanks Again, Rusty!

Once again, our friend and lake steward, Rusty McLear sponsored, and hosted, this year's Lakes Legacy party at Church Landing in Meredith on July 26th. This was the second consecutive year at Church Landing where thirty members and friends sipped cocktails and sampled exquisite hors d'oeuvres as they enjoyed beautiful views of Lake Winnepesaukee.

The purpose of the party was to thank our Lakes Legacy members and share a preview of new initiatives at NHLA.

For More information about this special giving society, please contact our office. ■

STAFF UPDATE

Derek Durbin **Environmental Policy** **Director**

Derek brings a strong understanding of conservation work, having volunteered and interned for the Conservation Law Foundation and the NH Department of Environmental Services. Recently, he worked on environmental law issues in Puerto Rico.

Derek holds a B.A. degree in History with a minor in biology from the University of New Hampshire and a Juris Doctor degree focusing on Environmental Law from Vermont Law School.



L to R: Development Director Ted Gillan sits with Environmental Policy Director Derek Durbin and Lake Host Coordinator Andrew Goldman.

Ted Gillan **Development and Membership** **Director**

Ted brings a nice combination of nonprofit development skills along

with a keen understanding of the business world. Previously, he worked as the Development Coordinator for the Nashua Center for the Multiply Handicapped.

Ted is an avid fisherman with a B.A. degree in Business Administration from the University of Wisconsin-Milwaukee. ■

Wally Francis Receives John F. Morten Award



Former chairman, Tom Deans presents the 2006 John F. Morten Memorial Award for Exemplary Lakes Stewardship to W. Wallace Francis of Silver Lake in Nelson and Harrisville.

As part of our annual meeting at the Thirteenth Lakes Congress on June 17th, W. Wallace ("Wally") Francis was presented the John F. Morten Memorial Award for Exemplary Lakes Stewardship in recognition of his many years of work to protect Silver Lake and the surrounding watershed in Nelson and Harrisville.

Among his many accomplishments, we note that Wally:

- ◆ Conceptualized the Silver Lake Stormwater Management Project, focused on reducing non-point source pollution in Silver Lake
- ◆ Initiated a newsletter to inform members on the importance of lake stewardship
- ◆ Promoted conservation easements for shoreland and watershed protection
- ◆ Active milfoil monitor
- ◆ Enthusiastic lake educator and advocate
- ◆ Secured a \$50,000 grant from DES to protect water quality
- ◆ Successfully campaigned to limit high speed motor boat activity

Mr. Francis typifies the selfless dedication to lake protection this award is designed to recognize. We congratulate him for his tireless efforts on behalf of lakes.

Thanks to all who submitted nominees for consideration. Be sure to check the winter newsletter for the "2007 call for award nominations." ■

AWWA — from page 3

stopped in an environmentally friendly manner that also beautifies the property.

To make the AWWA-YCC a reality, the volunteer AWWA directors spent long hours establishing By-Laws and filing the necessary paperwork to have the organization recognized as a 501(C)3 non-profit corporation. We investigated various funding mechanisms and were awarded a two-year NH DES Watershed Assistance and Restoration Grant appropriated through the U.S. Environmental Protection Agency under Section 319 of the Clean Water Act. We continue to seek other funding on an ongoing basis. We have also delivered presentations to the Boards of Selectmen in both Acton and Wakefield and both towns have provided funding to the YCC program. The local lake associations and many local businesses have generously provided assistance as well. Our efforts have been greatly enhanced by our partnerships with knowledgeable professionals Wendy Garland and Jess Hunter of ME DEP; Natalie Landry and Barbara McMullan of NH DES; Julia Peterson and Jeffrey Schloss of NH Cooperative Extension; and Duane Snyder and Pat Baldwin of the Mousam Lake Youth Conservation Corps.

Over the past year, AWWA members worked diligently to raise awareness of the problems associated with stormwater runoff. Through articles in newspapers and lake association newsletters, displays and activities at community events and public forums, landowners have been encouraged to request assistance with their erosion issues. The AWWA Technical Director, Alix Marcoux, will meet with each interested landowner for a site visit to determine what assistance the AWWA-YCC can provide. Alix will work with the landowner to create custom landscape designs based on environmentally friendly Best Management Practices to correct the problems. The goal for the season is to select 15 sites for YCC projects and to offer technical assistance to an additional 30 sites for landowners wishing to implement their own solutions. For the sites selected for the YCC projects, the landowner will agree to provide all the necessary materials, maintain the plantings, encourage visitors to view the project and display a sign announcing the AWWA YCC involvement. The AWWA YCC will provide the design, assistance with the permitting process and the labor of a 5-6 person crew.

We have found that working within two states, two municipalities

and two major watersheds can be daunting but we are off to a great start. We hope the YCC program will become a part of the community fabric and will continue in the coming years. AWWA will continue to work to raise awareness of erosion and other water quality issues through presentations to town officials, member lake associations and community organizations; articles in local newspapers, lake association newsletters and websites; signs at project sites; public tours of projects; and an erosion prevention educational program for local schools.

If you would like to know more about the Acton Wakefield Watersheds Alliance please contact Linda Schier, AWWA President at president@greastlake.com or Carol Lafond, AWWA Vice President at webmaster@greastlake.org. ■

WE'VE MOVED!

Change your address book because NHLA has moved to a new office at 3 Silk Farm Road in Concord, NH. Stop by and see us!



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