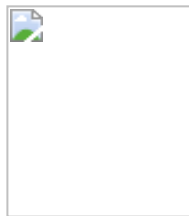


# The Granite State Geologist



## Newsletter of the New Hampshire Geological Society

Suite 133 \* 26 South Main Street \* Concord, NH 03301

Volume 26 \* Summer 1999

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### President's Message

*Jack Jemsek*

The economy is good, work is demanding, time becomes precious. Just as the sands of time fall through the hour glass, and the world turns, geologic time stops for no one. How can you even think becoming more involved in NHGS matters?

Well, consider the tectonic analogy wherein stresses build between two juxtaposed crustal blocks due to, say, gravitational forces. Strain occurs along an antecedent fault zone. Precursors of earthquake activity abound (e.g., crustal dilatation, water levels, radon gas, microseismicity), yet only minor ductile deformation occurs at depth. The rock masses only need a favorable earth tide or co-seismic event to rupture, translate and achieve an equilibrium stress regime.

In your geologic endeavors this year, take advantage of the prevailing tide and cooperation which exists within the professional geologic community and let an episodic event happen. This year, a little participation goes a long way toward making the NHGS and geology in New Hampshire significantly better. Support is needed for the licensed professional geologist legislative act, [Earth Science Week \(October 10- 16\)](#), and attendance at NHGS program activities - all for the cause of promoting education and public understanding of geology and the environment.

This request goes out to consultants, professors, secondary teachers, students, scientists and amateur rockhounds. The long-term vitality of geology in NH is aided by your membership and activism in NHGS events and programs. Next time you geologize, mention the NHGS and the benefits of being a member.

One of the most surprising statistics of the 179-strong NHGS membership is the general lack of students and teachers both at the collegiate and secondary levels. This needs to change for us to achieve our public outreach goals. We are planning to recruit student and faculty members at the college level during formal visits to be arranged this fall.

If you are a [New Hampshire Council of Professional Geologists \(NHCPG\)](#) member and you let your NHGS membership expire, you are not doing what you could for geology in New Hampshire. A quick review of the NHGS and NHCPG membership rosters suggests that over 10 percent of NHGS members have let their NHGS memberships lapse upon signing on with the NHCPG. Additionally, NHCPG members who have never been NHGS members are missing opportunities to further advance public awareness of the role geology plays in our lives. Also see Dorothy Richter's article in the [Winter 1999 issue](#) of *The Granite State Geologist* "[NHGS & NHCPG, Complementary Organizations You Really Should Belong to Both!](#)" for more reasons.

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## The 1999 NHGS Board of Directors

- President: Jack Jemsek.
- Vice-President: Charlie Balyeat.
- Secretary: Lee Wilder.
- Treasurer: Gretchen Rich.
- Members-at-Large:
  - Michael Robinette (term expires in 2000)
  - Tim Allen (term expires in 1999)

## Who will be on the Y2K Board?

We are now seeking volunteers to run the October 1999 election for the NHGS Board of Directors for the year 2000. Volunteers must be members of the Society but cannot be nominated for any of the Directors' positions. Responsibilities include soliciting nominations of candidates for positions on the Board and ensuring that candidates' biographies are available for publication in the fall newsletter. In addition, we are also seeking nominations of candidates for the year 2000 Board of Directors.

Please contact Lee Wilder (447 Putney Hill Road, Hopkinton, NH 03229, 603-746-3205) if you would like to volunteer to run the election, or if you would like to be nominated to run for office! The deadline for receipt of nominations is August 20, 1999. Those nominating themselves should provide a brief biography for inclusion in the newsletter.

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## An Update on NHCPG Activities

*Dorothy Richter and Jack Jemsek*

The [New Hampshire Council of Professional Geologists \(NHCPG\)](#) has made key steps toward fulfilling its mission to promote the licensing of geologists in New Hampshire. The bill to license geologists was introduced to the State of New Hampshire Senate on February 11, 1999 as SB-181. The bill was drafted by NHCPG members with assistance from their lobbyist. NHCPG and representatives of the engineering community had previously agreed to have the bill 're-referred' until the Fall 1999, which was accomplished on March 16. A copy of the draft legislation SB-181 may be reviewed at the website [www.state.nh.us/gencourt/bills/99bills/sb0181.html](http://www.state.nh.us/gencourt/bills/99bills/sb0181.html), and is essentially the same as the version which was distributed to NHCPG members over the winter.

A Joint Working Group on Proposed Licensing of Professional Geologists was formed in March 1999 to facilitate discussion of the draft legislation between the geologic and engineering communities. Participants

include the NHCPG, NHGS, Consulting Engineers of NH, NH Society of Professional Engineers, and American Society of Civil Engineers. Representatives of the NH Department of Environmental Services have also participated to provide regulatory perspectives. Professional geologist legislation and legislative efforts in other states (approximately 23 total) was reviewed and used as a basis for discussion.

The Joint Working Group met on March 29, May 5 and June 7 to address the main concerns identified by the engineers in the draft bill, including certification versus licensure and the definitions. The NHCPG supported the need for licensure by providing examples of how the practice of geology is related to the protection of public health, safety and welfare and the environment. A position paper was drafted which will aid others in understanding the need for licensure. Revised definitions for "geology", "practice of the profession of geology" and "licensed professional geologist" were obtained. Finally, educational and exam requirements and grandfathering provisions were discussed. Based on the findings of the Joint Working Group, NHCPG will provide a revised draft of the bill to the engineers so that any other significant comments from the general engineering community can be addressed this summer prior to submission of the final draft bill in the fall legislative session.

On a related note, the NHGS will be supporting NHCPG by purchasing a [banner](#) ad on the new NHCPG web page at <http://www.nhcpge.org/>. This allows NHGS to financially support the NHCPG cause in a manner consistent with the NHGS's tax-exempt, non-profit corporate status, and with our purpose to advance the science of geology in New Hampshire by contributing to public education, strengthening the role of geology in environmental concerns, and disseminating knowledge about the geology of the Granite State.

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## News from the United States Geological Survey ([USGS](#))

*Gregory J. Walsh*

The bedrock geologic map of the Windham quadrangle, NH is complete and available. The map was completed as part of the BRASS project at the USGS (<http://geology.er.usgs.gov/gmapeast/brass/brass.html>). Go to the following website to view or download the Windham report: <http://pubs.usgs.gov/openfile/of99-8/>

If you just want to browse through the map, I suggest downloading the PDF map parts. The paper map will be available through the Maps On Demand (MOD) program at the USGS.

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## News from the New Hampshire Department of Environmental Services ([NH-DES](#))

*Jack Jemsek*

NHGS hopes to have a regular column on events, policies, and issues in the regulatory or legislative community which may affect geologists. At this time, the NHGS would like to note that important legislative action is being considered regarding the groundwater standards for methyl tertiary butyl ether (MTBE).

There are three legislative bills presently being considered regarding MTBE in New Hampshire (HB-694, SB-70, and SB-71). The draft legislation and status may be viewed by directing your web browser to <http://www.state.nh.us/gencourt/gencourt.htm>. One of the bills considers banning MTBE from fuel in New Hampshire, and the other two involve reducing the MTBE standards to as low as 5 or 35 parts per billion (ppb), a significant change from the existing standard of 70 ppb standard. Presently, DES policy has set an "action level" of 15 ppb which is generally applicable to installation and operation of point-of-entry water treatment systems for private drinking water supplies.

From a practical standpoint, it is clear that a 5 ppb standard would create a huge backlog of "new" petroleum contamination sites which require attention. Due to the chemical properties of MTBE, the 5 ppb limit would be technically difficult and expensive to enforce. Additionally, MTBE does not appear to pose a threat to human

health even at the 70 ppb limit. A reduction of the MTBE standard to 35 ppb is more reasonable and is similar to the standard adopted by the State of Maine.

The MTBE legislation is of great importance to the geologist since the reduction of the MTBE standard will greatly complicate groundwater contaminant assessments and cleanup. Be aware that an increased knowledge of contaminant hydrogeology will be necessary to address MTBE contamination, especially with regard to low MTBE contamination in fractured bedrock aquifers. Additionally, it has been shown that sources of MTBE are not solely limited to gasoline storage and distribution facilities. MTBE has recently been found in heating oil due to mixing with residual gasoline in wholesale petroleum tanks (see recent issue of *Ground Water*).

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## **Upcoming Events--mark your calender!**

### **NHGS Summer Field Trip: Bedrock Geology of the Nashua Trough**

Led by Pat Barosh, PhD, this trip will examine the bedrock geology of the Nashua Trough, a controversial Cambro-Ordovician feature exposed in Nashua, Hudson and Derry. Dr. Barosh will also discuss arsenic in groundwater as it relates to the bedrock geology. We will meet at 8:30 AM on Saturday, July 17, at Shorty's Restaurant on Rt. 130 West just off Exit 6 of the Everett Turnpike in Nashua. Bring a lunch as none will be provided. The trip will run rain or shine, so be prepared.

### **VGS Summer Field Trip**

The Vermont Geological Society will also be running their summer field trip on Saturday, July 17, to the Danby underground marble Quarry, Mt. Tabor, VT. Children will not be allowed in the underground quarry. You must be a member of the VGS and must pre-register for this trip, and you must bring a hard hat! For more information, contact: Shelley Snyder at 802-658-0575 or e-mail: [SSNYDER@mtabe.k12.vt.us](mailto:SSNYDER@mtabe.k12.vt.us)

### **NHGS Summer Family Outing and Picnic**

This event will consist of a field trip to look at the Geology of the Ossipee Ring Dike Complex, led by Nelson Eby, followed by a picnic lunch at Wiers Beach and a Cruise on Lake Winnepesaukee aboard the MV Mount Washington. The cruise will depart from Wiers Beach at 3:00 pm and last for approximately 2 hours. Metered parking is available on Lakeside Avenue near the Mt. Washington's docks -- you'll need to feed the meter about \$2.50 to cover the duration of the cruise. Alternatively park at the church on Tower Street. Assuming we have a group of at least 25, the cruise tickets will cost \$12.00 per person and must be paid to NHGS in advance.

The field trip will begin at 10:00 am, assembling at the flashing light on Route 25 in South Tamworth (5.4 miles west of Route 16). The trip will consist of 3 or 4 stops, and will conclude at about 1:00 pm. We will re-assemble at Wiers Beach at about 1:30 for a picnic lunch. For \$7.00 for adults, or \$4.00 for children, the Society will provide a "boxed lunch" consisting of sandwich (choice of Ham & Swiss, Roast Beef & Swiss, or a Grinder), beverage, chips and a snack. Contact Greg Kirby at 603-271-3624 for more information.

### **New England Intercollegiate Geologic Conference**

The New England Intercollegiate Geologic Conference (NEIGC) will take place October 1-3, 1999, based at the University of Vermont in Burlington. There will be an all-day symposium on surficial geologic mapping in New England preceding the NEIGC, on September 30. For more information, visit the NEIGC web-site at <http://neigc.org/NEIGC/>.

### **New York State Geological Association Meeting**

The 71st Annual Meeting of the New York State Geological Association will also take place October 1-3, 1999, at SUNY Fredonia. For additional information on the field trips and workshops, please contact: Gordon C. Baird, NYSGA field trip and workshop coordinator Dept. of Geosciences, SUNY College at Fredonia, Fredonia, NY 14063 phone: 716-673-3840, fax: 716-673-3347, e-mail: baird@fredonia.edu The New York State Geological Association website is at: <http://www.library.csi.cuny.edu/dept/as/geo/nysga.html>

## NHGS Annual Meeting

Following John Strabinsky's (of ERM) talk at a recent meeting of the Association of Engineering Geologist--Northeast Section, the NHGS is proud to announce that Dr. Jack Guswa of GeoTrans will speak at the NHGS Fall Meeting on October 7, 1999. Mr. Strabinsky's talk was on observations made during his Woburn, MA hazardous waste site assessments. Dr. Guswa was active in groundwater modeling of groundwater contaminants at the site and will prove to be an interesting and timely presentation given the recent movie based on the novel *A Civil Action*. The fall meeting is also the annual meeting of the NHGS, and features the election of officers (see [story page 1](#)). Details will be forthcoming in the [fall issue](#) of *The Granite State Geologist*.

## Earth Science Week

Earth Science Week this year is October 10-16 and Dr. Eugene Boudette, the NH State Geologist, expects Governor Shaheen to declare a second annual proclamation for the event. Dr. Boudette sees interest building in the state. Last year the NH Bedrock Geologic Map was commemorated during Earth Science Week activities, with a dedication to the late Dr. John Lyons. This year NHGS, the New Hampshire Science Teachers Association (NHSTA) and the NH Geologic Resources Advisory Committee (NHGRAC) will collaborate to sponsor information segments on radio and press releases to newspapers. Lee Wilder, who happens to be active in NHGS, NHSTA and NHGRAC, is chairing an Earth Science Week Committee for NHGS. Although time is short, ideally a contingent of geologists will be available to make visits to secondary schools which request speakers for Show & Tell/Question & Answer sessions. Look to [www.nhgs.org](http://www.nhgs.org) and [www.earthsciweek.org](http://www.earthsciweek.org) on the web for more information, and please contact NHGS if you are interested in assisting. We need your help!

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## The Billings Fund Awards Grants for Geological Mapping

*Mark Van Baalen and Tim Allen*

With the help of the New Hampshire Geological Society, the [The Marland Pratt Billings and Katharine Fowler-Billings Fund for Research in New England Geology](#) was established at the [Mount Washington Observatory](#) in 1996, honoring the contributions of [Marland and Kay Billings](#) to the study of the geology of New England. The purpose of the Billings Fund is to encourage geological field work and related research in the New England region, and also to ensure the continued financial viability of the [New England Intercollegiate Geological Conference \(NEIGC\)](#), which held its [88th annual meeting](#) in 1996 at Mount Washington in New Hampshire. The first awards from the Fund were recently announced.

Selecting from several applications, the Billings Fund Committee awarded \$1050 to Caitlin Callahan of Mount Holyoke College for a project titled, "Structural Characterization of the Mount Waldo Pluton and its relationship to deformation along the Norumbega Fault Zone, Maine." A second award of \$600 was made to Jennifer Callahan (thought to be no relation) of the University of Rhode Island for a project titled, "Insights into the Devonian to Pennsylvanian history of the New England Appalachians: a field investigation of the Spencer Hill Volcanics, Rhode Island." The two Ms. Callahans will provide the Billings Fund Committee with copies of their results.

The Fund is overseen by a committee consisting presently of MWO and NHGS members Tim Allen Brian K. Fowler, and Mark Van Baalen (chair). The Fund welcomes additional contributions, which are tax deductible. Contributions to the Billings Fund may be sent in care of the Mount Washington Observatory, P.O. Box 2310,

North Conway, NH 03860. For more information about the Billings Fund visit the NEIGC web-site at <http://neigc.org/NEIGC/BillingsFund.html>, or contact Mark Van Baalen, EPS Dept., Harvard University, 20 Oxford St., Cambridge, MA, 02138; 617-495-3237, [mvb@harvard.edu](mailto:mvb@harvard.edu).

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## NHGS Awards Lincoln R. Page Scholarship

*Tim Allen*

The New Hampshire Geological Society has awarded a [Lincoln R. Page](#) Scholarship in the amount of \$295 to Jose C. Escamilla-Casas, a graduate student at the University of New Hampshire, to help support his independent study mapping of the Exeter Quadrangle. He will be looking for kinematic indicators to help better define deformational events, as well as trying to establish more accurate contacts between formations.

The Lincoln Page Scholarship program provides up to \$300 for expenses related to the recipient's continuing education in the earth sciences. The scholarship is open to any and all individuals who seek to continue their earth-science education in a manner consistent with the purposes of the New Hampshire Geological Society. K-12 teachers are especially encouraged to apply. Appropriate expenses would include travel to regional or national earth-science related conferences, course tuition, etc... Applications should consist of a one-page letter explaining the purposes for which funds are sought, and how an award would benefit the individual and meet the purposes of the NHGS. The application should be accompanied by a letter of endorsement from the applicant's school principal, faculty advisor, or employer as appropriate. Applications are accepted at anytime, although we anticipate that only one award will be made per year.

The Society also offers a Classroom Enhancement Grant. Teachers from across the state are invited to submit proposals for a grant of funds (up to \$300) to support the purchase of earth-science related teaching materials (equipment or supplies) for use in their classroom.

Applications and proposals will be considered as they are received, and should be sent to: The New Hampshire Geological Society, Scholarship Requests, Suite 133, 26 South Main St., Concord, NH 03301.

**NHGS Members:** Please help spread the word about these programs by talking with the teachers in your local school district! These programs are funded in part with proceeds from mineral raffles at NHGS meetings. At the April meeting, in keeping with Michael Dyber's scintillating slide show on carved gemstones, Bob Whitmore donated to the raffle two cut beryl gemstones, which were won by Don Dallaire and Tom Shevenell.

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## Alphabet Soup

- BRASS** [Bedrock Regional Aquifer Systematics Study](#)
- MTBE** Methyl Tertiary Butyl Ether
- MWO** [Mount Washington Observatory](#)
- NEIGC** [New England Intercollegiate Geologic Conference](#)
- NHCPG** [New Hampshire Council of Professional Geologists](#)
- NH-DES** [New Hampshire Department of Environmental Services](#) (sometimes just DES)
- NHGRAC** New Hampshire Geologic Resources Advisory Committee
- NHGS** [New Hampshire Geological Society](#)
- NHSTA** New Hampshire Science Teacher's Association
- NYSGA** [New York State Geological Association](#)
- VGS** Vermont Geological Society
- Y2K** Year Two Thousand

## Are there granite quarries in New Hampshire?

*The Granite State Geologist* is always seeking authors to research and write short articles on topics about NH geology. Surely there must be one among you interested in writing about the granite quarries of New Hampshire (Milford, Concord, Conway, others?!). Someone asked: "Why is New Hampshire called the 'Granite State' if there are no quarries? Obviously there are granite quarries in New Hampshire, so let's tell the world about it!

Such an article might address the geology of the granites at these localities, historical information on the quarrying, locations where the stone has been used, and should include a bibliography of sources to turn to for more information.

To get you started, Jim Skehan provides the following information: Lots of quarries used to operate. See U.S.G.S. Bulletins on Granites of New England and on Granites of New Hampshire, by T.N.Dale, who describes many quarries from about 1908 to 1925 or so. The Bunker Hill Monument is made of Quincy Granite which was transported from a quarry located near the present Southeast Expressway, Rt.3 and I-93, by the first railroad in the US, to boat transportation for Charlestown. My forthcoming book, "Roadside Geology of Massachusetts" contains a map of the Quincy quarries and an account of the quarrying activities and photographs.

What would be your compensation for researching and writing these articles? After editorial review, your article would be published in *The Granite State Geologist* and at the NHGS web-site (<http://nhgs.org/NHGS/>), where it would likely become THE place on the internet to get information on the topic. You would have the satisfaction of making a valued contribution to the NHGS and to the education of folks from around the world with an interest in New Hampshire Geology. Send your article to Tim Allen, MS 2001, Keene State College, Keene, NH 03435-2001.

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There was once a princess walking along the road. On a rock beside the road was a frog, and as she passed the frog said "If you kiss me, I will turn into a geologist and tell you where there is a new gold mine." The princess picked up the frog and put it in her pocket, and walked on. From the pocket came the frog again, "Aren't you going to kiss me??" "No," said the princess, "a talking frog is worth FAR more than a geologist with a gold mine!!"

*pak112204@pixie.co.za (Stuart Allen)*

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## NHGS News and Events

The Summer Field Trip to the Nashua Trough will take place on July 17 and the Annual Family Outing and Picnic, featuring a field trip to the Ossipee Ring Dike Complex and a cruise aboard the MV Mount Washington, is scheduled for August 14 (see [notes on page 3](#)). The 1999 Annual Meeting of the Society will be October 7, featuring a talk by Dr. Jack Guswa (see [note on pages 3 & 4](#)) and the election of officers (see [story on page 1](#)).

The Society's Board of Directors will be meeting next on August 2 at the offices of JGI in Manchester, and a joint meeting of the 1999 and 2000 boards has tentatively been set for November 9, 1999.

Visit the NHGS's Web-Site: <http://nhgs.org/NHGS/>, and don't forget our directory of NH Geology on the Web, at: <http://nhgs.org/NHGS/NHgeol.html>

Please, send stuff for the newsletter to: Tim Allen, MS 2001, Keene State College, Keene, NH 03435-2001, telephone: 603-358-2571, fax: 603-358-2897, or preferably by e-mail: [tallen@keene.edu](mailto:tallen@keene.edu) Electronic submission in the form of plain ASCII text (as the body of your e-mail) is preferred. Don't wait for deadlines--send material in at any time! But for those of you who need deadlines: to be considered for the Fall newsletter, articles must be submitted by August 20, 1999; the deadline for the Winter 2000 Newsletter is November 24, 1999!

The NHGS set up a booth at the June 1, 1999 NH Environmental Conference as part of its public outreach effort. Over a hundred people attended the conference which had several themes including the MTBE legislation and pollution prevention. NHGS displayed its new banner and also passed out information which was provided to us by the [USGS NH office](#) and [NHCPG](#).

**Membership Renewals Due!** Please use the invoice you will receive to renew your membership in the New Hampshire Geological Society, and help us update our mailing list at the same time!

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[tallen@keene.edu](mailto:tallen@keene.edu)