



Granite State Geologist

The Newsletter of the Geological Society of New Hampshire, formerly NH Geological Society
Spring 2003 Issue No. 40

GSNH *Officers*

President – Lee Wilder
Colby-Sawyer College
New London, New Hampshire

Vice President-GS – John Regan
NH Dept. Environmental Services
Concord, New Hampshire

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Portsmouth, New Hampshire

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Mike Robinette
Gilmanton, New Hampshire

Membership

Steve Shope
Exeter Environmental Assoc.
Exeter, New Hampshire

Website

Julie Spencer
ENSR International
Westford, Massachusetts
jspencer@ensr.com

Newsletter

Tania Brice Coffin
Keene, New Hampshire
coffin@cheshire.net

President's Message

Lee Wilder, President - Geological Society of New Hampshire

A real New England winter! Hope you are all surviving in relative comfort.... By the time you read this, spring weather should be “just around the corner”.

The GSNH Winter 2003 Dinner Meeting was held at the Cat n' Fiddle Restaurant in Concord. Thanks to all who helped make the meeting such a success! Some 50 GSNH members enjoyed catching up with friends, discussing the Earth Sciences, enjoying a scrumptious buffet and listening to an entertaining presentation by our own Robert Whitmore. Bob entertained us with highlights of his recent mineral collecting trip to Madagascar. Thanks to Bob for the interesting talk. I am often reminded of the great diversity and “expertise” within the GSNH membership. I would encourage other members to talk with the GSNH Events Committee about sharing your knowledge or experiences at a dinner meeting or leading a field trip.

The GSNH 2003 Membership Directory is being mailed to you with this newsletter. Because of the recent constitution and by-law revisions, the GSNH Board decided to include the names of all the active 2002 NHGS members as well as those who had paid their GSNH 2003 dues up until the Directory press time (late February 2003).

Plan now for the GSNH Spring 2003 Dinner Meeting to be held in April 2003. The dinner reservation form is in this newsletter. Why not plan on bringing a friend and introduce them to the Society. We are a unique collection of individuals having a great variety of Earth Science interests. Who knows, they may wish to join the GSNH!

National Ground Water Awareness Week

March 16-22, 2003 has been designated Ground Water Awareness Week. The National Ground Water Association and other organizations which focus on ground water will hold events during Ground Water Awareness Week to highlight the importance of ground water. All ground water professionals are urged to get involved raising awareness as well. Go to www.ngwa.org for more information.

GSNH Winter Dinner Meeting

January 9, 2003

The Winter Dinner Meeting of the Geological Society of New Hampshire was held January 9, 2003 at the Cat n' Fiddle Restaurant in Concord, NH. Our stalwart president was serving his time at the summit of Mt. Washington, so the business meeting was ably conducted by our GS-Vice President, John Regan

GSNH Winter Dinner Meeting, continued

The Board of Director's election of Tim Stone, StoneHill Environmental, Portsmouth, NH to serve as the Vice President – PG Branch was announced to a round of applause. Deb Ganley of Keene Montessori School, Keene NH reported on the school's GSNH Teacher Training Grant used to train their kindergarten teachers in the best use of a Rock Detective kit of rock mysteries for kindergarten-age children. Then everyone enjoyed Bob Whitmore's description of his trip to Madagascar. However, the trip wasn't just about Madagascar; it began in New Orleans at one of the nation's centers for pegmatite research (Bob is owner of the Palermo Pegmatite Mine). The trip, organized by an international group of pegmatite aficionados, then went to Paris, France to see an exhibit of the world's finest diamonds on loan from government and private collectors from all parts of the globe. [*Ed...The photos were impressive, the real stones must have been amazing!*] Then, at last in Madagascar, we saw Bob's photos of the many pegmatite mine's where the group collected, the stark, but lovely landscape of Madagascar, as well as the primitive mining conditions. Many of his shots highlighted the poverty in which the people of Madagascar live. Thank you, Bob, it was quite a journey. The last order of business was the mineral raffle held each meeting to benefit the scholarship funds:

First Prize: Winner: Tom Shevenell. Galena from the Tri-County Area/Missouri. Donated by Greg Kirby.

Second Prize: Winner: Suzanne Wall. Double-terminated quartz septer/Exit 5 - Route 93 in Londonderry, NH. Donated by A Broader Concept, Route 2, Hooksett, NH.

Membership Update

Steve Shope, Membership Coordinator

As most of you know, NHGS absorbed NH CPG following the October 2002 Annual Meeting, and our name was changed to the Geological Society of New Hampshire (GSNH). Naturally, our ranks swelled from 213 members in 2002/2001 to a new and artificial high of 340 members at the end of 2002. I say artificial, in that the NH CPG list included a number of individuals who had contributed to the cause in 1998, but whom had not been active in the following years. These folks have been dropped from the database for a lack of activity, and we now have 245 members who are current for the years 2002 and 2003. Your Board of Directors has been hard at work on a 2003 membership directory, which has been shipped to current members with this newsletter.

Along with the change in name at the end of 2002, came a change in the membership year. Once June to May, the GSNH membership year now coincides with the calendar year. It is my hope that this will resolve some of the confusion that has occasionally arisen in the past. Renewal notices will be sent in October of each year. If you have any questions about your renewal status at any point, please feel free to e-mail me at sshope@rcn.com.

39th Annual Gilsum Rock Swap & Mineral Show to be held on June 28-29, 2003 Gilsum, NH

Robert Mitchell, Gilsum Recreation Committee

The town of Gilsum, located in the scenic Monadnock Region in southwestern NH, will once again host thousands of people from all over the U.S. to attend the Gilsum Rock Swap and Mineral Show. Here more than 75 dealers, swappers, distributors, and collectors can buy, sell, or swap beryl, quartz crystals, semi-precious stones, and rocks and minerals of all sorts. Displays range from newly found specimens in the rough to fossils, prized collector's pieces and even hand crafted jewelry. This year's event will include a fluorescent mineral display and minerals from Russia. A special presentation will also be given by James Tovey, who mines beryl and other minerals from several local mines. That presentation starts Saturday night at 7:00 p.m. Dealer space reservations are available on a first-come, first serve basis and book early. Spaces start at \$65 for the weekend. A limited number of camp sites are also available for \$10.00 per night and must be reserved in advance. Swapper spaces are \$10 per day or \$15 for the weekend. The event takes place at the Gilsum Elementary School grounds, Route 10, in Gilsum, just north of Keene, NH, and is about 2 hours from Boston. Show hours are 8:00 AM to 6:00 PM Saturday June 28, and 8:00 AM to 4:00 PM Sunday June 29.

39th Annual Gilsum Rock Swap & Mineral Show, continued

Gilsum's many mines operated until the 1940s and yielded feldspar and mica. Most are now abandoned, although one, the Beaugard mine, is available to mineral clubs through prior arrangement. Today collectors prize other minerals such as beryl. Maps showing locations of local mines are available during the show. Since the show's inception, the town of Gilsum has opened its doors for the event. Activities include a daily pancake breakfast, bake sale, local book sale, chicken barbeque dinner, and a traditional New England ham and bean supper with all you can eat home-made pies.

Admission is free, although donations are graciously accepted. All proceeds go to youth recreation and community programs. For more information or to reserve a swapper or camper space please contact Robert Mitchell at the Gilsum Recreation Committee, P.O. Box 76, Gilsum, NH, 03448; call 603.357-9636; or send email to rmitchell60@adelphia.net.

GSNH Spring Dinner Meeting

Patrick J. Barosh will present a talk on the "Geology of Southeastern New Hampshire" at the GSNH Spring Dinner Meeting on Thursday April 10, 2003. The talk will present a summary of his understanding of: 1) the region based on detailed stratigraphic and structural control in Massachusetts and Maine, using mainly fossil dating; 2) the post-Triassic faulting controlling the present tectonics and; 3) the environmental implications.

Pat has worked in New England over 30 years as part of the last major USGS mapping program, director of a study to understand faulting and earthquake hazards in the region for the Nuclear Regulatory Commission and as a consultant on a variety of investigations on earthquakes, water resources and environmental problems for federal and private clients. Last year he worked on active faults in central China on an NSF grant. Pat received his B.A. and M.A. from UCLA and his PhD from the University of Colorado.

The reservation form for the Spring Dinner Meeting is inside the last page of this newsletter. The lecture part of the dinner meeting will count as 1.5 hours of CEU credit.

Legislative Committee Report

Ken Milender, GSNH Legislative Committee

GSNH's Legislative Committee is charged with tracking legislation of interest to New Hampshire's geological community, and to review the proposed legislation and inform the membership of the provisions and implications. The Legislative Committee can also present testimony at legislative hearings as directed by the GSNH Board of Directors.

About 1,150 bills have been proposed for consideration during the 2003 legislative session. The deadline for proposing bills was mid-December; the active legislative session began the week of January 6th. The Legislative Committee has identified 29 bills, gleaned from the General Court's website, that may warrant our attention during the current session. Bill topics are chiefly groundwater use and water supply, with several additional bills addressing land use, waste management, and surface-water or instream flow issues.

Because groundwater issues form such a large percentage of the bills of interest (13 of 29--almost half!), we've briefly summarized them below. Some of the bills are very detailed, and we've included a little more detail for those bills. Some of the bills are very general and their titles explain their purpose (leaving many questions at this point). The NH House Resources, Recreation and Development Committee has been assigned most of the bills that are originating in the House. This committee will be very busy over the next few weeks! Word is, that the Committee may seek to consolidate all these groundwater-related bills, but we'll see.

Legislative Committee Report, continued

HOUSE BILL 401 would require applicants to submit a final report, which includes aquifer-testing analysis, to the DES, the municipalities, and each supplier of water within the anticipated zone of contribution. This bill would also provide for a hearing and comment period following receipt of the final report. This bill would also permit municipalities to establish a large groundwater withdrawal review committee, composed of members from municipalities in the zone of contribution, which could direct the DES to meet with and provide information to the committee. The committee could make recommendations and the DES would be required to explain any decision that is contrary to a recommendation of the committee.

HOUSE BILL 454 would require the DES to protect existing water rights before granting approval for any new large groundwater withdrawal and prohibit the DES from approving a large groundwater withdrawal when the governing body of a municipality within the zone of contribution to the well disapproves of it.

HOUSE BILL 742 would establish a committee to study the relationship between groundwater withdrawals and the ownership of watershed land.

HOUSE BILL 797 would establish a committee to study methods for the legislature to protect New Hampshire's groundwater aquifers.

SENATE BILL 19 would require notification of certain property owners, public water suppliers, and health officers when groundwater contamination is discovered. The bill would also repeal the requirement that public water systems notify each customer about the MTBE content of the water if there is greater than 5 ppb MTBE in the water the system is delivering to consumers.

SENATE BILL 155 would establish a commission to study ways to establish a balanced approach to groundwater use among residential, public-water supply, industrial, commercial, agricultural, energy, recreational, and other water users and environmental interests, and to improve the current process by which new water users may reasonably and efficiently use state groundwater resources, including consideration of potential regional impacts and local water management issues, in order to best protect and preserve an adequate supply of groundwater for the state into the future. The study would include consideration of issues such as potential impacts on New Hampshire's environment, other water users, municipalities, and the state's economy. The commission would also evaluate whether there is a need to address other issues pertinent to groundwater.

SENATE BILL 194 would establish a committee to study certain issues relative to large groundwater withdrawals and their effect on Darrah Pond in Litchfield.

HOUSE BILL 353 would make a \$600,000 appropriation to DES, for the biennium ending June 30, 2005, to establish a pilot program for studying and establishing protected instream flows and water management plans on the Lamprey and Souhegan rivers.

HOUSE BILL 361 would permit municipalities to form regional water districts (passed the House).

HOUSE BILL 540 would establish a committee to study a fee on withdrawals of water for commercial purposes. This committee would study withdrawals of water for commercial purposes, investigate ways to measure commercial withdrawals of groundwater, determine if imposing a fee is in the best interests of the state and the amount of the fee, and review mechanisms for ensuring the correct reporting of the number of gallons of water withdrawn for commercial purposes.

HOUSE BILL 738 would add regional water systems to the water systems eligible for state aid and adds the evaluation of the groundwater contributing area of public wells that have recorded levels of chemical contaminants, excluding MTBE, to projects eligible for state aid; define the terms "eligible regional water system costs," "regional water system" and "groundwaters"; require regional water systems to agree to participate in

Legislative Committee Report, continued

regional and statewide water supply planning initiatives as a condition for receiving aid; add criteria for prioritizing applications and evaluating regional water systems; make the polluter of a well responsible for repaying a state grant; and make an appropriation to the DES to implement grants for regional water system projects.

SENATE BILL 67 would require the director of the office of state planning and the commissioner of the DES to prepare a report making recommendations for ways to include current and projected municipal water requirements when evaluating large groundwater withdrawal permit applications. This report would include a review of existing technical and scientific information that documents how future demand for a municipal water supply could be limited by a new, large groundwater withdrawal; an evaluation of methodologies that may be employed as part of the large groundwater permitting process in order to account for future municipal water requirements; and findings and recommendations for future action (passed the Senate).

SENATE BILL 162 would establish a committee to study water resources in the state of New Hampshire.

Several of these bills would establish study committees regarding various aspects of groundwater issues in the state. So that the concerns and expertise of professional geologists can be integrated with other groups included in these committees, the Legislative Committee will contact the bill sponsors to try to have professional geologists included in the membership of these legislative committees and commissions. We will also offer our expertise to sponsors of the other groundwater bills. Members with opinions on these bills (and geologists in search of additional details) are encouraged to contact the Legislative Committee at kmilender@mcttelecom.com.

[Ed.. GSNH likes to keep our members apprised of geologic research conducted in our state. Here is the latest from Keene State College]

Student Research at Keene State College

Tim Allen, Geology and Environmental Studies, Keene State College

Undergraduate geology and environmental geology students at Keene State College (KSC) have been involved in a number of research projects in recent years.

Christina Burt, Destiny Saxon, and Dina Andretta all participated, over several years, in helping map the bedrock geology of the area surrounding Lake Sunapee. This mapping has revealed the importance of brittle-stage normal faulting, showing that the Lake is a graben structure. Josh King, along with Christina Burt, was involved in the collection of geochronologic and geochemical data for selected samples from the Lake Sunapee area, which has helped support the mapping effort. Professor Tim Allen led a Geological Society of New Hampshire field trip to the area last summer, and may lead a similar trip for the New England Intercollegiate Geological Conference (NEIGC) this coming fall.

Michelle Comeau, Liz Hurd, and Heather Carson have worked at assessing the heavy metal content (Cr, Ni, Cu, Zn, Pb) of sediments in the Ashuelot River, running through Keene. There do appear to be a few spots with high Cu and other spots with high Pb (relative to the NOAA Sediment Quality Screening Guidelines), although the sources of these metals have not been determined. Michelle will present the results of this project at the KSC Academic Excellence Conference on Saturday, March 29, 2003

Mary (Peterson) Dodson and John Surette undertook a geochemical study of the hydrothermal alteration at the Wise Mine fluorite deposits in Westmoreland. Their interpretation is that the alteration is the result of leaching and metasomatism by an acidic fluid. Mary and John will also present their work at the KSC Academic Excellence Conference.

Geology in the News....

An article in the February 22, 2003 *Portsmouth Herald*, and a January 28, 2003 press release from the University of NH News Bureau, both note that the Institute for Scientific Information, a group which ranks universities based on the frequency with which their research is cited, ranks UNH as the number one university in geoscience research. "UNH, which previously ranked third, moved to the top spot in the most recent rankings, covering 1997 to 2001. During that time researchers published 281 papers that were cited an average of 10.2 times by other scientists. Geoscience involves many fields of study including geology, geochemistry, hydrology, oceanography, volcanology, climatology, paleontology, and remote sensing. At UNH, scientists who work in these disciplines are faculty members in the College of Life Sciences and Agriculture and the College of Engineering and Physical sciences. Many of these scientists conduct their research as part of the university's world-renowned Institute for the Study of Earth, Oceans, and Space. Work being done at UNH in these areas focuses on the integrated behavior of the Earth and its surrounding environment. On-going studies examine such things as climate change, global water issues, land use change and atmospheric chemistry." (Sharon Keeler, UNH News Bureau, 1/28/03)

On December 30, 2002, subscribers to the *Keene Sentinel* were treated to a full page article, complete with a color reproduction of the new geologic map of NH, titled "Geology of the Granite State" by Carolyn Martin of the Keene Sentinel staff. Ms Martin's article highlighted the creation of the NH Geologic Survey and provided examples of the services the survey can provide to NH residents. State Geologist David Wunch and Brian Fowler of North American Reserve, Laconia NH and chair of the survey's Geologic Resources Advisory Committee were both interviewed.

If you see an article describing something related to the geology of New Hampshire, let us know! Email submissions to Tania Brice Coffin at coffin@cheshire.net

Geo-Quiz

Lee Wilder

The answer to the Geo-Quiz in the Winter newsletter: the boulder uncovered at the Irving Mainway on NH Route 3A at the junction of I-89 and I-93 in Bow, NH was found beneath the lacustrine sediments of Glacial Lake Merimack. It is proposed that the boulder is a glacial erratic deposited prior to creation of the lake, or, that it is an ice-rafted boulder, it may have fallen out of a block of glacial ice floating in the early lake.





Geological Society of New Hampshire

Spring Dinner Meeting

Speaker: Patrick J. Barosh

Topic: "Geology of Southeastern New Hampshire"

The talk will present a summary of Pat's understanding of :1) the region based on detailed stratigraphic and structural control in Massachusetts and Maine, using mainly fossil dating; 2) the post-Triassic faulting controlling the present tectonics and; 3) the environmental implications.

When: Thursday, April 10, 2003

Where: Cat 'n Fiddle Restaurant

Manchester Street, Concord, NH

6:00 pm Social Hour

7:00 pm Dinner

NHGS/NHCPG Annual Meeting, Thursday April 10, 2003

Dinner will be a buffet.

Reservations: _____ members @ \$17.00 _____ non-members @ \$19.00 (in advance)

Half-price for students (must show student ID card)

Reservations will be taken until Monday afternoon, April 7, 2003

There will be a \$2.00 surcharge for those paying at the door without reservations

Make checks payable to: Geological Society of New Hampshire

Mail to: Dave Wyman, Buoy Technologies, Inc., 31 Columbus Ave., Concord, NH 03301

phone: 603-224-9031 or davew@buoytec.com for information

Name: _____

Address: _____

Phone and/or Email: _____

Half the cost of the dinner may be tax-deductible as a business expense.

The lecture part of the program counts as 1.5 hours of CEU contact hour credit.

Dates to Remember!

March 16-22, 2003 National Ground Water Awareness
Week

Thursday April 10, 2003 GSNH Spring Dinner Meeting
6 PM at the Cat N' Fiddle Restaurant, Concord, NH

June 28-29, 2003 Gilsum Rock Swap, Gilsum, NH

Geological Society of NH
PMB 133, 26 South Main Street
Concord, NH 03301

