

The Granite State Geologist



Newsletter of the New Hampshire Geological Society

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President's Message

Greg Kirby

With the start of another year and a second term as President, I wish to thank all of those members who have continued to participate in the Society's events and have taken the time to make the Society more enjoyable. I'm pleased to report that the Public Outreach Program has been well received by the membership and the New Hampshire Science Teachers Association. We have four volunteers so far. I feel that this is a good start and teachers will begin to utilize the great wealth of knowledge we can make available to them. We also increased the amount of money for scholarships to benefit secondary education. Approximately \$600.00 has been awarded to two teachers. As you will see in the report, this amount did not affect the overall earnings for the 1995 fiscal year.

We now maintain a membership of over 135 and I anticipate that there will be a lot more of you who will wish to participate in the Society's programs. In 1996 I would like to encourage volunteers to come forward. To get things started I have two major goals for the coming year. First, I would like to begin development of brochures describing some of the geologic landmarks and points of interest in our NH State Parks. This would involve establishing a committee to work with the State Geologist and Department of Resources and Economic Development to develop formats for the brochures as well as a means for publication. Secondly, I would like to involve student participation in an annual publication of undergraduate and graduate student abstracts. A committee will need to be formed.

I look forward to our Education Committee awarding more scholarships in October. Also, we need more membership involvement to spread the word of our Outreach Program throughout the State. The Program Committee has several volunteers to present new geological tools for environmental investigations. In January we start off with MicroWell Installations ÑEnhanced Technology for Site Investigations. Also, I am looking forward to the annual field trip in August when the Society travels to southeastern New Hampshire where John Brooks will give us a tour of the geology of the Isle of Shoals that includes a clam bake(?) at Ordiorne State Park in Rye NH.

In order to raise money for scholarships this year I would like to continue our mineral raffle at the quarterly dinner meetings. Donations will be graciously accepted. Also, for fund-raising this year the Finance Committee will try to undertake the printing of T-shirts and/or hats with an NHGS logo.

Once more, I would like to point out that tough times for the science of geology in New Hampshire are intensifying. This year, over 2,000 employees were laid off from the USGS. GSA has plans to scale down as well. Already, geologists employed as consultants are being released in order to hire geotechnical engineers to maintain remedial operations at hazardous waste facilities. Now more than ever, there is a need to become active and outspoken. We need to show that geology does serve the public interest and that understanding the earth will

aid in improving our lives. I ask those of you who are interested to provide your names and topics of interest to Nelson Eby, The Education Committee Chair.

As always, Tim Allen can use material for the newsletter, *The Granite State Geologist*.

See you in January!

NHGS On Line

The New Hampshire Geological Society is on-line on the Internet's World Wide Web at the URL:

<http://nhgs.org/NHGS/NHGS.html>

The Society's "homepage" includes basic information about the Society and our activities, and a complete set of back issues of the Society's newsletter, *The Granite State Geologist*.

Public Outreach Activities

In keeping with its purpose to advance the science of geology in New Hampshire, the New Hampshire Geological Society has an on-going public outreach program targeted at K-12 students and their teachers. Current efforts include the following:

Teacher Travel Scholarship (first offered in 1994Ð95)

Each year, teachers across the state are invited to apply for a Travel Scholarship that would reimburse them for up to \$300 of expenses incurred in attending a regional or national earth-science related convention. We anticipate that only one award will be made per year. Last year, this award was made to Johanna Vienneau (see #15 of *The Granite State Geologist*). This year, the scholarship has been granted to Harold Tuttle of the Lafayette Regional Middle School to assist in defraying the costs for attending the National Science Teacher Association conference at St. Louis, Missouri, in March 1996. Mr. Tuttle teaches middle school mathematics and science, and hopes to acquire new skills for teaching Earth/Space Science. We look forward to hearing Mr. Tuttle's report at our April meeting.

Classroom Enhancement Grant (first offered in 1995Ð96)

As with the Travel Scholarship, each year teachers across the state are invited to submit proposals for a grant of funds to support the purchase of earth-science related teaching materials (equipment or supplies) for use in the classroom. In this first year of the program, the grant was awarded to Zachary Smith of The Derryfield School. Mr. Smith applied for \$287.00 towards the purchase of surveying equipment to aid in teaching his Stream Studies class for high school juniors and seniors. Mr. Smith has also been invited to the April meeting to report to the Society about his work.

Mineral Raffles

To help raise money for the scholarships and grants described above, We have been holding mineral raffles at our quarterly dinner meetings. The monies raised from these raffles are kept in a separate account, earmarked solely for support of our Public Outreach and Education programs. We wish to thank Bob Whitmore, Garrett Grasskamp and Peter Thompson for donating the prizes raffled off at the October meeting. First Prize, won by Bob Morency, was a beryl crystal from Bob Whitmore's Palermo Mine. Second Prize, a fine specimen of wollastonite donated by Garrett was won by D. Leaffer. The Grand Prize, an autographed copy of Peter's dissertation on the Geology of the Monadnock, NH, 15 minute quadrangle, was won by Bob Luhrs. A total of \$47.00 was raised which bring total earnings this year of \$140.00. We are now soliciting donations for the

January and April mineral raffles. If you wish to donate a mineral specimen, please contact Greg Kirby or Nelson Eby.

K-12 School Speakers Program

We end 1995 with 4 volunteer speakers for the K-12 School Speakers Program. The purpose of this program is to provide New Hampshire schools with a list of professionals who have indicated a willingness to address students on various topics such as glaciers, rocks and minerals, environmental geology, etc. In order to spread the word, the New Hampshire Science Teachers Association has been contacted and requested to print an announcement in their newsletter on a periodic basis. For those of you wishing to volunteer for this program, we will be handing out sign-up sheets at the Winter Dinner Meeting.

Field Trip Reports

Craig Durrett reports finding a necklace left behind at the Summer Picnic on Newfound Lake. If you or a family member are missing such an item, please contact Craig at 508-682-1980.

Third Hutton Symposium on Granites and Related Rocks

Greg Kirby

Between August 22 and 24, 1995, Nelson Eby, PhD. (U Mass/Lowell) led an international contingent of geologists to observe the geology of the White Mountain Magma Series. A total of 25 geologists from Japan, New Zealand, Hong Kong, Finland, France, Italy, Slovakia, Portugal, Great Britain, Ireland and the USA spent three days on a pre-Conference field trip observing outcrops of the ring dike complexes of the White Mountain Batholith, the Ossipee Mountain ring dike and the Mt. Pawtuckaway ring dike. The focus of the trip was to present the history of magmatic differentiation and intrusion of mafic and felsic rocks derived from partial melting of the asthenosphere.

The White Mountain Magma Series is a classic example of A-type magmatism, meaning that there has been little to no contamination from continental crust. Prof. Eby presented geochemical and geochronologic data showing that there were two distinct periods of magmatism: the oldest ranging from 220-155 MA and the younger ranging between 130-100 MA. During his discussion, Prof. Eby pointed out that the White Mountain Series was chemically distinct from the younger Ossipee and Pawtuckaway complexes. He showed that the White Mountain series were largely composed of metaluminous and peralkaline granites and alkali and quartz syenites, and that this series was conspicuously lacking in mafic plutonic rocks. In contrast, the younger series of rocks making up the Ossipee and Pawtuckaway complexes are largely composed of volcanic mafic rocks (andesites and basalts) and plutonic (pyroxenites and diorites). Prof. Eby presented in order the succession and crosscutting relationships of the older and younger rocks that were intruded. He estimated that these magmas were injected at depths ranging from two to five kilometers in a concentric pattern, with little to no crustal contamination.

Highlights of the trip included touring the North Conway area, an afternoon snack at the Castle in the Clouds in the Ossipees, and hiking around Mt. Pawtuckaway State Park. The contingent enjoyed accommodations at the Inn at the Mill in Meredith, NH and at the New Hampshire Learning Center in Durham, NH. "Break For Moose" bumper stickers were given to our foreign guests; unfortunately, no ungulates were observed.

Please Make Advance Reservations

Making arrangements for the Society's dinner meetings has become increasingly difficult and expensive. In order to keep costs down, the restaurants need for us to provide an accurate head count well in advance of the dinner. While we want to encourage attendance at the meetings, those of you who show up without having made advance reservations are difficult to accommodate; and for those who do phone in their reservations, but who

then don't show upÑwell, your dinner must still be paid for. We understand that not everyone has a chance to submit their reservation through the mail, and we will continue to accommodate all comers. However, to encourage paid-in-advance reservations, the Board of Directors has authorized a \$2.00 surcharge for payments made at the door. We hope that this will limit potential losses to the Society. We appreciate your understanding.

Upcoming Events

The Northeast Section Meeting of the Geologic Society of America will be held between March 21 and 23, 1996. The deadline for pre-registration is February 26, 1996. For further information on registration, feel free to contact the University at Buffalo, 314 Crofts Hall, Buffalo, NY 14260-7015; or phone 716-645-3869.

The 1996 Friends of the Pleistocene Field Trip will be headquartered in Machias, Maine. The focus of the trip will be exploring evidence for coastal glaciation, paleoclimate and anthropologic evolution during the period of 14,000 to 12,000 bp. For further information you can contact Harold Borns at the Institute for Quaternary Studies, University of Maine/Orono. Hal can be reached at 207Ð581Ð2196 or you can E-mail him at borns@maine.maine.edu.

The New England Section of the Association of Engineering Geologists has several upcoming programs of probable interest to NHGS Members. In particular, AEG is conducting its annual Spring Symposium on March 16, 1995. Those wishing to submit abstracts for the symposium may contact Jutta Hager at 617-893-9700. The next scheduled events are:

- January 18, 1996: Ralph PrebleÑAquifers of the World
- February 15, 1996: Peter BrittonÑThe Hamilton Shear Zone Project
- March 16, 1996: Spring SymposiumÑRegional Geology/Engineering Issues
- April 18, 1996: Rex MoreyÑGPR/CPT Studies @ Ground Water Remediation Labs

[The 1996 New England Intercollegiate Geologic Conference \(NEIGC\)](#) will take place on Friday, September 27 through Sunday, September 29 and will be headquartered in the Gorham-Littleton area of northern New Hampshire, jointly sponsored by [Harvard University's Earth and Planetary Sciences Department](#), the [Mount Washington Observatory](#), and the [New Hampshire Geological Society](#). Anyone interested in this event should contact Mark Van Baalen, Dept. of Earth and Planetary Sciences, Harvard University, 20 Oxford St., Cambridge, MA 02138; W: 617Ð495Ð3237; FAX: 617Ð495Ð8839; H: 508Ð486Ð4751; e-mail: myb@harvard.edu Additional information will be available online on the World Wide Web at URL: <http://neigc.org/NEIGC/>

NHGS News and Events

The 1996 Winter Meeting of the New Hampshire Geological Society will be held Thursday, January 11, 1996. John Swallow, Ph.D. of Pine and Swallow Associates will present MicroWell InstallationsÑEnhanced Technology For Site Investigations. John will discuss several case histories of the use of MicroWell technology in investigating contaminant plume delineations, including sites ranging from the Savage Well Super Fund Site in Milford, NH to oil spills in the tundra of Alaska. The dinner will take place at The Cat-n-Fiddle Restaurant in Concord, NH. A cash bar begins at 6:00 p.m., with a buffet dinner at 7:00. The cost will be \$16.00 for members and \$17.00 for non-members. We need an accurate head count so we need your reservations no later than January 8, 1996Ñthere will be \$2.00 surcharge for thoseÑ who pay at the door. For more information, contact Greg Kirby at 603Ð271Ð3624.

Scheduled dates for Upcoming Meetings of the Society for 1996 are: April 11; Annual Field Trip August 10 and the annual meeting October 10, 1996. As a general rule, the Society's meetings are scheduled on the second Thursday of January, April, June(?) and October; while we usually shoot for the Þrst Saturday in August for the Annual Field Trip.

Next summer's Annual Field Trip has been tentatively scheduled for Saturday, August 10, 1996. John Brooks has graciously volunteered to lead a field trip to the Isle of Shoals and Ordiorne Point where he completed his

masters thesis on the Geology of the Inner Continental Shelf, Southeast New Hampshire and Maine in 1985. We plan to reserve space on the ship to the Isle of Shoals with a clam bake planned in the afternoon at Ordiorne State Park. We will inform you of the details as they develop.

Volunteers are always needed to speak at future quarterly dinner meetings and to lead the annual field trip and picnic, as well as to serve in our Public Outreach Programs. Also, volunteers are always welcome on the Society's Membership (Craig Durrett), Finance (Gretchen Rich), Scholarship/Education (Nelson Eby), and Program (Greg Kirby) and Publications (Tim Allen) Committees. Please contact the corresponding chairperson or convenor.

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[Previous Issue](#) | Number 16 | [Next Issue](#)

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