# The Granite State Geologist

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News from the Board of

Welcome! ... to returning members and those who have recently joined the NHGS. The election ballots have been counted (and recounted!) and it presently appears

(pending any further appeals) that the NHGS Officers for 2001 are: Treasurer, John Noble; Secretary, David Wyman; Vice President, John Regan; and President, Lee Wilder. Also serving on your Board of Directors are: Past President, Jack Jemsek; Members-at-Large, Tim Allen and Mike Robinette; and Membership Chair, Steve Shope. A hearty thanks to Gretchen Rich, who has served several years as NHGS Treasurer, and to Charlie Balyeat, past Vice-President and Program Chair. Thank you both for your years of service. We will miss you both.

It was great seeing so many faces at the Fall Dinner Meeting and the honoring of Gene Boudette's retirement as NH State Geologist. Gene and his family enjoyed all the festivities and he is currently negotiating with Bea for enough wall space to hang his NH Bedrock Map.

Some of the items currently on the Board's agenda include continued conversation with the NH Council of Professional Geologists (NHCPG) regarding their joining with the NHGS. Our membership and missions overlap to such an extent that it would make sense that this happen. There are some technicalities that need to be worked out, but both parties are hopeful for a workable resolution. As you know, through the able leadership of Dorothy Richter and all of your assistance, the NHCPG was successful in passing legislation providing for the licensing of Geologists in the State of New Hampshire. At this writing the mechanism for testing and licensing of geologist is moving forward (see story elsewhere in this issue). The combining of the NHGS and the NHCPG would also entail the rewriting of

parts of our present constitution and by-laws. At that time it would probably also make sense to change the name of the NHGS to the GSNH (Geological Society of New Hampshire). Not only would that title be more in keeping with similar organizations in other states and nationally, but it would allow the office

> of State Geologist to be the NHGS (New Hampshire Geological Survey), as that office is also known in other states. This action also has the endorsement of Dave Wunsch, New Hampshire's new State Geologist. Dave spoke briefly at Gene's retirement, and gave a more thorough report on his goals as the new State Geologist at our meeting in January. Dave is working hard at the continued growth of the New Hampshire Geological Survey—see House Bill 245, relative to the duties and staff of the state geologist, now

working its way through the Legislature (http:// www.gencourt.state.nh.us/ns/billstatus/). NH Geology affects all of us in many ways, and the New Hampshire Geological Survey needs our continued support.

I hope to see you all at our Spring Meeting, April 12th. Make a note on your calendar now, and watch your mailbox for a more complete announcement coming in late March.

### Remarks on Gene Boudette's Retirement

Brian Fowler

There are some who know Gene who are convinced, after coming into contact with his well-developed intellect, his quiet manner, and his dry, closely-honed wit, that he was not born in the usual ways, but rather simply emerged, fully developed, from among the rocks and boulders of the ground moraine in Charlestown, NH. But we locals know that's not true. There actually is a normal birth record over there and it is the start of a life and career destined for important things.

Gene grew up in the Connecticut and Sugar River Valleys and is the successful product of completely "local" schools, starting with those around Charlestown and then moving on to that one down in Durham and then that other one up in Hanover.

Gene moved away from New Hampshire and worked all over the United States and several other parts of the World, making important contributions to the scientific knowledge base of geology; all, in a way, in preparation for his return to New Hampshire to become one of the only real natives to ever hold the office of State Geologist. In fact, back-channel discussions have occurred several times in the past about the possibility that his distinguished profile might replace that of the Old Man should he ever tumble from the Cannon Cliff.

But all this misses who Gene really is. Many know him as a determined, methodical, and resourceful scientist with a distinctive passion for geologic truth, but often masked and down played by this image are a considerate sensitivity for others and remarkable dry, quiet, and creative sense of humor. Gene is a truly resourceful and trustworthy colleague whether on a research project, on a fund-raising or legislative assignment, or on a mission of scientific or personal compassion for an associate or a friend. In short, a true gentleman in the best traditions of New England's geologic heritage.

## The Formation of the New Hampshire Geological Society

Mary Dowse

As we celebrate the tenth anniversary of the NHGS, I thought you might like a brief history of how the NHGS came to be (at least from my perspective).

In the late 1980's it seemed that a small group of geologists often found themselves at the statehouse to testify at legislative hearings, most notably on bills concerning excavation of sand and gravel and registration for geologists. The recurring conversation in the hall was about the possibility of forming a state geological society. During a conversation after a hearing on sand and gravel in the winter of 1990, Brian Fowler offered to lend his support and be the speaker if necessary. Shortly after that Dick Lane and I compared our calendars and selected the date for the first meeting. I called around to restaurants in the Concord area to find a suitable venue and ended up making reservations for 50 at the Cat and Fiddle for Thursday evening, June 21, 1990.

Tom Shevenell, when asked, immediately agreed to be the money man and took the reservations and the checks for the first meeting. We did ask for payment up-front for the meeting, because we did not want to be left having to pay out of our pocket for no shows.

Larry Davis created the flyer announcing the meeting. He scanned the image of the 'Old Man of the Mountains' from the cover of the state List of Geologic Publications and the pick and hammer superimposed on the state outline from one of the volumes of The Geology of New Hampshire. The flyer was mailed to everyone listed in the directories of several national professional societies, as well as other names provided by the organizers.

Dick and I made a wild guess about the number of people that might come to a meeting and were deeply gratified when 49 people registered for that first meeting. Guess, it was not such an outlandish estimate after all. People came from all over the state to network, meet old friends and hear Brian Fowler speak on Rock Mass Stability Studies: Old Man of the Mountains. A number of others, unable to attend, expressed support and interest in forming a geological society.

With such a strong show of support we proceeded with the necessary paperwork. Brian Fowler had the necessary legal work done to incorporate and Tom Shevenell took care of the financial side. Dick Lane, Tom and I met late one afternoon at a restaurant just north of the Epsom traffic circle to sign the necessary forms for incorporation and to establish a bank account. Brian Fowler had arranged the meeting and was unable to attend but sent the paperwork which he had already signed.

The second meeting was on October 25, 1990, again at the Cat and Fiddle. Bob Whitmore spoke on Mining and Mining Artifacts in New Hampshire, but the primary agenda item was the presentation of draft bylaws and constitution. The interim Board of Officers presented at the meeting were: Dick Lane, President; Mary Dowse, Vice President; Gary Smith, Secretary; Tom Shevenell; Past President, Ray Talkington; and John Cotton and Bob Luhrs as Members-at-large. The society was off and running.

The first annual family field trip and picnic was held August 10, 1991 when members of the society and their families visited the Palermo Pegmatite as guests of Bob Whitmore and then retired to Wellington State Park for a cookout. We had several days of rain before the field trip and the morning of the tenth it was still raining hard as most of us prepared to leave for the field trip. The rain stopped as we gathered at the Palermo and a group of about 25 members and their families had a great time in the mine and on the dump piles. It was an excellent opportunity for members to share their sense of fun and excitement about geology with their children and we all learned an important lesson, that a bicycle helmet makes an excellent hard hat for a child that wants to go into the mine with daddy. By mid-afternoon as we ate kabobs on the shore of the Lake at Wellington State Park the sun came out to end a great day.

The goal of the organizing committee was to get the society up and running and we were optimistic that others would step in and take over and move the society forward. Dick Lane, as president, served the longest tenure of the members of the interim board and saw the society through the first several years. Since then it has been exciting to see the growth both in the membership of the society and in the range of activities. The society truly has lived up to its goal to "promote geology" in the state of New Hampshire.

Editor's Note: A project supported by the NHGS grant program was featured in the October 19 issue of "The Bow Times - Neighborhood News" newspaper (story reprinted below); elsewhere in the same issue, a \$300 NHGS Lincoln R. Page Classroom Enhancement Grant to the Bow Elementary School was acknowledged.

#### Hopkinton students prepare bog trail guide

Betsy Wilder, Bow Times Correspondent

Bedford—There was a thin slice of lemon floating in their water glasses and more than one fork beside their plates, when students from Mrs. Grady's third-grade class at Harold Martin School were guests of the New Hampshire Geological Society's fall dinner meeting at the Sheraton Wayfarer October 12.

Sophia Wheat, Jeremiah Fortier, Shawn Martin, and their teacher, Terry Grady represented their class. They attended the dinner meeting to thank the NHGS for providing a grant which will help cover the expenses of producing a new trail guide for Smith Pond Bog in Hopkinton.

As the students sat down at the dinner table Wheat whispered some advice to the boys, "If you don't know which utensils to use, just start at the outside and work you way in."

Smith Pond Bog Sanctuary in Hopkinton is a 55-acre preserve owned by the Audubon Society of New Hampshire. The bog is a kettle-hole pond formed about 14,500 years ago.

As the glacier melted a huge block of ice broke off the glacier and was buried with sand and gravel. When the ice melted the depression fell below ground water level and became a pond. Since then vegetation has filled in the edges of the pond and a floating root mat has formed.

The bog is a favorite field trip destination of the Harold Martin students, where they can look for pitcher plants, black spruce, red winged blackbirds, and glacial boulders.

Last year Mrs. Grady's class worked on improving the board walks at the bog.

This year's class will work with the New Hampshire Audubon Society to create a trail guide. The students will go to the bog and create a map of the area.

They will research and develop a history of the bog as well as a reference guide for the plants and wildlife that can be seen in the area. The NHGS's \$300 grant money was used partially toward the board walk project and partially for this year's trail guide project.

Wheat, Fortier, and Martin each took turns giving an overhead projector presentation of the Smith Pond Bog project. They read the last page together in unison and the Geological Society responded with appreciative applause.

#### From the Education Committee

What is happening in your local school? At what grade(s) are the students studying the Earth Sciences? Do you have children who are or will be studying in these classes? Are the teachers Earth Scientists? Or have they received adequate training in order that the classes are meaningful? Would like to see children from schools in your community involved in projects like that described above? Maybe upon checking, you find that the teacher could benefit from an opportunity to attend a workshop or conference in some aspect of Earth Science. Or perhaps some particular materials or supplies are needed to better support the teaching of Earth Science, in the classroom, laboratory or field. Maybe some funding would help with an Earth Science project. Please have the teacher check out the NHGS's Lincoln Page Professional Development Fund and Grant Program at our web site at: http://nhgs.org/NHGS/

#### At the Close of the Millennium: Ten Major Advances in the Geology of New Hampshire

Patrick J. Barosh

New Hampshire, as it begins the 21st Century, has a greater than ever need for geologic information. Geologic data is in demand everywhere for water resources, environmental, engineering, planning and other purposes. Fulfilling this need can be largely done by following the major advances over the past forty years, and it is worthwhile to review them.

The character of geologic advances has changed greatly over the past Century. Prior to World War I, Federal surveys helped provide a general geologic framework of the region. From then until the 1960s universities conducted mineralogical studies and developed structural hypotheses while preparing rock distribution maps. After World War II Federal surveys began again and emphasized collecting field data to produce full geologic maps using modern stratigraphic principles and integrating geophysical data. Also, the neotectonic movements and earthquakes of the region were investigated under the concerns for nuclear power plans, dams and sites for radioactive waste. Other environmental problems loomed in the 1980s and the era of the consultants began, shadowed by regulatory agencies. This last era produced enormous amounts of raw data, but to often did not have a detailed enough geologic framework to adequately apply it.

Most of the present need for information can be satisfied by utilizing the major advances made by the Federal surveys. These are not now fully used in New Hampshire as many were made outside the State and a deep conservatism exists in the universities and colleges. Another important factor is that more and more information remains unpublished and is hard to know about and obtain even in this "Information Age".

The problem facing New Hampshire in the next Century is how to make use of this work to produce a series of modern geologic quadrangle maps to provide the data needed and to provide the trained personnel that can produce them. Such a series of printed maps would save the State 100's of millions of dollars on projects.

The ten major geologic achievements in the past forty years are in both methods used, and the resulting discoveries. The methodologies are the most important as their application will lead to further discoveries. The computer world does not enter here, as it operates in the

storage and retrieval of geologic data, not its creation.

#### Methodologies

The geology is not too complicated or too covered to be unraveled by well-trained experienced field geologists recording direct observations and applying a minimum of theory. This approach found the geology to be very different from the hypotheses of mid-century. This is also the most cost-effective method. The problem is that fewer and fewer schools are training field geologists, and consulting firms are finding it very difficult to obtain qualified personnel.

Modern stratigraphic studies can be conducted successfully in even high-grade metamorphosed strata as most of the sedimentary features can be discerned. Measured and described type sections can be established and the environment of deposition interpreted. This produced different units and correlations than a mineral-based stratigraphy. Almost all the units in New Hampshire are now well described and dated and can provide the control to reveal the structure. The Paleozoic units in the north, such as those delineated by Eugene Boudette and Robert Moench, are being used. However, the older units of central and southern New Hampshire (USGS Bulletins, 1389, 1796 and 1814) have type actions in Massachusetts and are not fully mapped across the State. This is unfortunate as the Arsenic-bearing Paxton Group that crosses in the south poses health problems.

Aeromagnetic and gravity data primarily express the surface geology and if in sufficient detail can be used to unravel structure and trace units through covered areas. Unfortunately, most of New Hampshire lacks such data.

Faults are well reflected on the surface, due to glacial and stream erosion and can be recognized by geomorphic analysis of topographic, aerial photographic, SLAR and LANDSAT data, as well as by disruption in patterns of aeromagnetic and gravity data. This proven method is quick and reliable if done by personnel experienced in mapping faults and surficial deposits.

#### **Discoveries**

The region is highly faulted and folds are subordinate; most folds seen are drag folds. The hypothesized large complex fields are due to misinterpretation of fault offsets and miscorrelation of units. The faults are the most important element in many investigations.

The high-grade metamorphic strata of central and southern New Hampshire are Late Proterozoic in age

and cut by the Massabesic granite. Their deformation near the end of the Proterozoic represents the greatest orogeny known in the State.

A great northwest-dipping collision zone between crustal plates lies offshore just southeast of the Isle of Shoals. Much of the fundamental structure in New Hampshire is in response to movement along this zone as an ancient ocean basin disappears by subduction.

Post-Triassic faults, that tend to the northwest and north, cross the State and shape most of the hills and valleys. These faults formed as the North Atlantic Ocean Basin opened. The high-angle and open nature of these latest faults makes them excellent conduits for water and contaminants.

New Hampshire is undergoing various tectonic movements at the present, due to the continued widening of the Atlantic, and generating earthquakes. The two principal areas of earthquakes, the Ossipee region and offshore, north of Cape Ann, occur at structural intersections along the same wide zone of northwest-trending faults, that crosses the State. There is a definite earthquake hazard, but one than can be delineated.

The general distribution and understanding of the nature of the surficial deposits has been accomplished. This is of particular significance for water and sand and grave resources.

#### News from the New Hampshire Board of Professional Geologists

Dorothy Richter

In the fall of 1999, Governor Jeanne Shaheen appointed the following four geologists to sit on the new Board of Professional Geologists:

- Timothy T. Allen, Ph.D., of Keene State College, term expires October, 2004
- John E. Cotton, of the NHDES, term expires October, 2002
- Dorothy A. Richter, of Hager-Richter Geoscience, Inc., term expires October, 2005
- Paul M. Sanborn, of Sanborn-Head & Associates, term expires October, 2003

Ron Cook, an environmental attorney, has been nominated to fill the fifth, public member seat on the board. If approved by the Governor's Council at their February 14 meeting, he will assume a one-year term.

As everyone should know by now, the Board of Professional Geologists is part of the NH Joint Board of Licensure and Certification. The Joint Board has a very friendly and knowledgeable staff, an informative website (www.state.nh.us/jtboard/home.htm), and is an impressively efficient operation. Louise Lavertu, Administrator, is working closely with the PG Board to ease us into the system. We are lucky to have Donna Lobdell, Administrative Secretary, assigned to the PG Board. The geological community should direct all questions regarding licensing to the Joint Board office and should feel free to call or email Donna at any time.

Donna is compiling a mailing list to send application packages when they become available. As of the end of January, there were over 200 names on the list! To get your name on the list, contact:

New Hampshire Joint Board of Licensure and Certification 57 Regional Drive Concord, NH 03301-8518 Telephone: 603-271-2219 TDD Access: Relay NH 1-800-735-2964 Fax: 603-271-7928

Web: www.state.nh.us/jtboard/home.htm email: dlobdell@nhsa.state.nh.us

The PG Board has gotten to work quickly. Even before meeting formally for the first time, Louise asked Board members to attend a training seminar on Due Process presented by the Attorney General's office to all NH licensing boards on November 9. The AG's office will present additional training sessions in 2001.

The PG Board has met on November 14 and December 19, 2000, and January 29, 2001. Board officers elected for a two-year term are:

Chairman: Paul Sanborn Vice Chairman: John Cotton Secretary: Tim Allen

The PG Board has adopted a pragmatic approach to its mission, similar to that used by the NHCPG to pass the PG bill—listen, research, and work towards the end. Work is well underway on a draft of the administrative rules that are necessary to run the Board. The rules must be approved by the Administrative Rules Committee of the Legislature. We are told that the entire process will take several months. We think the process is: draft rules are prepared and submitted as an initial proposal, a notice of public hearing is published and a hearing is held to receive public comments (your chance for input), an attorney from Legislative Services

provides his review and comments, the rules are revised and a final proposal is made, and finally, the Board adopts the rules.

Louise has contacted the National Association of State Boards of Geology (ASBOG). NH will join ASBOG as an associate member, probably until the grandfather period is over and we are ready to start using the examination.

The next PG Board meeting is scheduled for 8:30 am on Tuesday, February 27, 2001, at the offices of the New Hampshire Joint Board of Licensure and Certification, 57 Regional Drive, Concord. Meetings are open to anyone who would like to attend.

### The Billings Fund Awards Grant for Geological Field Work

The Billings Fund was established in 1996 in part to encourage geological field work and related research in the New England region. For the 2000 field season, a grant of \$960 was awarded to Ben Johnston, a graduate student at the University of Maine, for his project: "A Field and Laboratory Study of the Deer Isle Granite, Deer Isle, Maine: Role of Mafic Intrusions during Granite Petrogenesis." The Billings Fund is now inviting applications for student field work grants for the 2001 field season. One or more grants, probably in the range of \$500 to \$1000, will be awarded. Proposal guidelines and more information about the fund can be found at the NEIGC web-site at http://neigc.org/NEIGC/BillingsFund.html

The Fund, operated under the auspices of the Mount Washington Observatory, is overseen by a committee consisting presently of 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 website, or contact Mark Van Baalen, EPS Dept., Harvard University, 20 Oxford St., Cambridge, MA, 02138; 617-495-3237, mvb@harvard.edu

"Drill for oil? You mean drill into the ground to try and find oil? You're crazy."—Pennsylvania drillers who Edwin L. Drake tried to enlist to his project to drill for oil in Titusville in 1859.

#### **Half Zantop**

Richard Birnie

Half Zantop, a professor for nearly 25 years in the Earth Sciences Department at Dartmouth College, and his wife Susanne, a professor and chair of the German Studies Program, died on Saturday, January 27. Their deaths have been ruled as homicides, and because of the thorough investigation by the NH Attorney General's Office, few details surrounding their deaths have been released.

Half, an economic geologist, published numerous papers on ore deposits from around the world. His book, International Mineral Economics (1988), co-authored with Rod Eggert and Werner Gocht, is an important contribution to the economics of ore deposits. Half was working on a totally revised second edition of the book at the time of his death.

He is particularly remembered as an outstanding teacher who excited students about the earth sciences, both in the field and in the classroom. He took a great personal interest in his students and supervised 29 undergraduate theses, many on ore deposits in Mexico. Half also supervised several graduate theses, and took an interest in the development of graduate students as prospective teachers and not just research scientists. Half's Mexico segment of Dartmouth's field program (The Stretch) was a classic and his student reviews set the standard of excellence the rest of the faculty tried to emulate.

Both Susanne and Half were wonderful colleagues and mentors, and will be sorely missed. Their loss is immeasurable.

### **Some Upcoming Events**

The **Geological Society of America's Northeastern Section Meeting** will take place March 12-14, 2001, in Burlington, Vermont. For more information, check the web at http://www.geosociety.org/sectdiv/northe/01nemtg.htm

The **Vermont Geological Society's Spring Meeting** will be held Saturday, April 21, beginning at 8:30 AM on the campus of Norwich University in Northfield, Vermont. For more information, contact Shelley Snyder at 802-658-0575 or Marjorie Gale at 802-241-3608.

The Capital Mineral Club's 38th Annual Gem & Mineral Festival will take place on October 6 and 7, 2001, at Sunapee State Park, Rte. 103, Newbury, NH.

### A Multi-Purpose Natural Resource Data Base for New Hampshire—A Proposal

NH Department of Environmental Services and Geologic Resources Advisory Committee

Managing development, environmental impact, water resources, and hazard mitigation in New Hampshire is becoming increasingly difficult as the State's population increases at a very rapid pace. State, County, and local governments and planners need access to accurate technical information about the State's natural environment and resources so they can make timely and appropriate decisions about proposed land-uses. Right now, there is no easily accessible system to which they can quickly turn to get this information, and many officials have asked that such a system be set up and made conveniently available for their use. The Multi-Purpose Natural Resources Data Base Program presented below will provide this system to regulators and planners, and it will provide primary and secondary schools and private citizens with direct on-line access to accurate information about our natural resources.

This Multi-Purpose Natural Resources Data Base Program has two parts: (1) the rapid development of an easy way for people to access information from the system, and (2) the acquisition of accurate information not currently available to go into the system.

Some of the types of information to go into the system are already available, but much fieldwork is needed to get those types of information for all parts of the State. The access system is already available via the NH GRANIT Geographic Information System, but it needs to made simpler and more user-friendly so people, with limited computer expertise (most of us!), can use the system easily.

The program to be funded via this proposed Capital Appropriation will achieve both these important objectives and will guarantee the information available to land-use planners and regulators will gradually become more and more complete and easily accessible in all areas of the State as the program is concluded in its out years.

In the early years of the program, work will concentrate on completing the natural resource data base for the State by collecting information obtained from the surficial geologic mapping of the 7.5 minute topographic maps in the State. This information will be used to complete the "information layers" contained in the NH GRANIT System. Also in these early years and at the same time, the processes of entering information into the

system's "layers" and making it more easily accessible to users of the NH GRANIT System will be updated and simplified.

The field work components above will be completed by contractors to the NHDES, while the NH GRANIT System work components will be completed by NHOSP and Complex Systems Research Center at UNH. The NH Geologic Resources Advisory Committee of the NHDES will administer and oversee the technical progress of the overall program, while the Commissioner of NHDES will oversee the distribution of funds to the various participants in the program.

Part of the total funding for this program comes from an unusual program in which the NHDES has been, and is now participating called STATEMAP. This is a grant program administered by the US Geological Survey for the specific purpose of helping the States complete assembly of information included in the surficial geologic mapping of their surfaces. Upon annual application, STATEMAP grants money to the States if they commit to a matching amount to assist in the completion of that year's mapping. NH has been participating in this program now for some 15 years, and the mapping that has been completed to date, and which now only needs to be digitized into the system, resulted from this unique cooperative program.

The program proposed here plans to continue this cooperation with the STATEMAP program, and ensure that New Hampshire's annual "matching contributions" will be available to complete the maps of the entire State and to ensure that the NH GRANIT System becomes the valuable information resource to the governments and citizens of the State that it can be.

The entire program proposed here will require 10 years to complete at a total cost of \$2,602,000 or about \$260,000 per year. This expenditure will result in a completion rate of about 15 maps per year. We anticipate a match in the range of between 50% and 100% of NH's annual contribution to the program.

This proposal is identical to that made for this project in the last capital budget round in 1999. No increase in its cost is proposed. All the State agencies, educators, planners and private organizations that supported its funding previously continue to support it now, because they all believe it will greatly assist in the inventory, evaluation, planning and the protection of the State's valuable natural and water resources.



#### **NHGS News and Events**

**Future Meetings of the Society** have been set for Thursday, April 12, and Thursday, October 11, 2001.

Meetings of the **NH Council of Professional Geologists** are scheduled for the first Wednesday of each month (March 7th and April 4th), at 5:30 p.m. at the NHDES offices on Hazen Drive in Concord. Be there on time, however, as the doors are locked and you will need to be let in.

The NHGS is preparing a travelling **road-show kit** about the geology of New Hampshire. We need examples of New Hampshire minerals and rocks. Your contributions are needed—please send them to the NHGS at PMB 133, 26 South Main Street, Concord, NH 03301.

Jim Skehan reports that his new book, the "Roadside Geology of Massachusetts," which he highlighted for us at our January 1999 meeting, should come off the press by end January or beginning of February (2001) for \$20.00.

The broad purpose of the New Hampshire Geological Society is to advance the science of geology in New Hampshire. We hope to pursue this goal by contributing to public education, strengthening the role of geology in environmental concerns, and disseminating knowledge about the geology of the Granite State. Membership in the society is open to all, including professional geologists in all areas and interested lay people.

Would you like to write about the geology of some of the various natural features in the State? Write about mining and quarrying history? What kind of research are you working on now? What was your most recent consulting project? We need to hear from you! **Please contribute material for the newsletter** or the NHGS website (which is at http://nhgs.org/NHGS/) by e-mailing tallen@keene.edu (or send regular mail to: Tim Allen, Geology, Mailstop 2001, Keene State College, Keene, NH 03435-2001). Do it today! The submission deadline for the next issue of the newsletter is Friday, April 23, 2001.