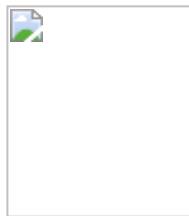


# The Granite State Geologist



## Newsletter of the New Hampshire Geological Society

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

Number 5 \* June 1993

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### History of Some Mineral Resource Studies in New Hampshire

*Lincoln R. Page*

The first mineral resource study in New Hampshire that I am familiar with was made by David M. Larrabee in 1930. He visited all known localities, located them on a map, and wrote a report. How this was financed is unknown to me, but I assume it was through State Geologist Goldthwait or Prof. Harold M. Bannerman of Dartmouth College. Bannerman was making an investigation of gold and other metal deposits for Governor John Winant. In 1932 I made some polished section studies of gold ores and the results were transmitted to the Governor. Larrabee's report was never published, but perhaps a copy might be available at Dartmouth. Bannerman was instrumental in causing the State to appoint an official State Geologist and start a geological program and to continue to publish the bedrock maps. Bannerman's work also resulted in publications on mineral resources and the State Planning and Development Commission's (SPDC) Part II of the Geology of New Hampshire (1956). This was made possible through the cooperation of Ed Ellingwood, the Commissioner of SPDC.

In 1942 I made a reconnaissance survey of New Hampshire pegmatites for tantalum and beryllium for the U. S. Geological Survey (USGS). The previous summer Jerry Olson of the USGS had evaluated the mica resources of the State and Bannerman was actively investigating them in 1942.

Mineral needs for WW II provided great impetus for the set-up of a large USGS office in Hanover to pursue pegmatite studies and for Bannerman to go to Washington to run the entire USGS pegmatite program. Eugene Cameron and associates investigated the pegmatite resources of New Hampshire and the rest of New England. The results are in USGS Prof. Paper 255.

After WW II, in 1948-49, I was in charge of the national beryllium program, carried out by the USGS for the Atomic Energy Commission (AEC), and started a cooperative program with the State to map pegmatites; the real purpose of the work to evaluate the beryllium deposits was classified. The first investigations were made by J. C. Olson and John W. Adams of the USGS and the results published by the SPDC as a bulletin on feldspar. Later James J. Page and assistants mapped all of the beryllium deposits described in the USGS Prof. Paper by D. M. Larrabee and James J. Page. I believe this was the first cooperative State/USGS minerals program, but it was followed by others with the Department of Resources and Economic Development that resulted in complete airborne magnetometer and radiation mapping of the State and also surficial geologic mapping in the Merrimack river basin. As in the pegmatite cooperative, the USGS overmatched the State in most of the years from 1960-73.

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### NHGS Member Honored

Ken Kettenring, administrator of the wetlands bureau at the NH Department of Environmental Services, recently received a National Wetlands Award from the Environmental Law Institute in Washington, DC. According to the Institute, Kettenring earned the award because his wetlands program is one of the most respected in the country, and includes a "stringent but efficient permit review program and an effective enforcement capability." The award came with a framed lithograph of a heron. (Concord Sunday Monitor, May 16, 1993.)

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## Family Picnic and Field Trip to the Summit of Mount Washington

The New Hampshire Geological Society's third annual summer picnic and field trip is planned for Saturday, August 7, 1993. This year we'll be going to the summit of Mount Washington, where we'll share a picnic lunch provided by the Society, tour the summit buildings and the weather observatory, and learn about Mount Washington history and geology. For those so inclined, additional scientific field trips to look at some of the unique geologic features of the Mount Washington area are also planned.

Participants may ascend to the summit by driving their own car up the Mount Washington Auto Road, riding the Cog Railway or the Mount Washington Auto Road Stagecoach, or by hiking up the mountain through Tuckerman Ravine. The complete schedule of events is laid out below, and costs are listed on the enclosed Field Trip Registration Form.

- Morning Field Trips:
  1. Self-guided tour: stop and see the many geologic sites along the way during your drive up to the Mount Washington area. Roadlog prepared by Greg Kirby and Ken Milender.
  2. Metamorphic and Igneous Petrology (migmatites and granites) and Siluro-Devonian Stratigraphy along the Peabody River in Pinkham Notch. Meet at 8:30 AM at the Great Gulf Wilderness Trailhead parking lot, Route 16, Gorham (~2 miles north of Auto Road). Leader: Tim Allen.
- Ascend the Mountain:
  1. Hike up through Tuckerman Ravine to the summit (4.1 Miles, 4266 Feet of Vertical Climb, 4.25 Hours). Meet at 7:30 AM at AMC Pinkham Notch Camp, Route 16, Pinkham Notch. Do not count on getting a ride down--expect to hike down or arrange a ride down in advance. Leader to be announced.
  2. Drive up the Mount Washington Auto Road or ride the Auto Road's Stagecoach. Meet at 10:45 AM at the Glenn House Site, Route 16, Pinkham Notch (large gravel parking lot on east side of Rt. 16, just south of the Auto Road). Leader: Brian Fowler.
  3. Take the 11:00 train up the Cog Railroad. Meet at 10:00 AM (train riders must arrive at least 45 minutes prior to departure) at Cog Railway Base Station, off Route 302, Bretton Woods. Leader: Gary Smith. Advance Reservations Required, by July 16. Cog riders should plan to come down off the mountain by the 4:30 (or earlier) train.
- Picnic Lunch on the Summit, 12:00 Noon: featuring assorted deli sandwiches, potato salad, fruit salad and soft drinks, arranged by Gary Smith.
- Afternoon Field Trips (from the summit):
  1. Summit Tour: History, Scenery, Observatory, Museum & Summit Buildings (Guy Gosselin), White Mountain geology and summit outcrops (Tim Allen) and display of minerals from the White Mountains (Bob Whitmore). Limited hiking around summit area. Tour will be completed by about 4:00 PM.
  2. Glacial & Periglacial Geology on Mount Washington, with hike down from summit and around base of summit cone and back. 4 miles and 2000' of climb, return to summit by 5:00 PM. Leader: Brian Fowler.
  3. Stratigraphy, Structure and Metamorphism of the Presidential Range, with hike from summit to Mt. Clay and back. 5 miles and 2000' of climb, return to summit by 5:00 PM. Leader: Dyk Eusden.

All pre-registrants for the field trip will receive a guidebook including: recommended clothing and equipment list, a self-guided roadlog for the drive up from Conway, guides for the Petrology, Glacial & Periglacial and Stratigraphy & Structure field trips, a bibliography of Mt. Washington geology, and a list of motels and

campgrounds in the area for those who wish to stay over Friday and/or Saturday night (please make your own reservations!).

Mount Washington is Home of the World's Worst Weather! Thus all participants should make sure to bring adequate clothing--while it may be 80 degrees and sunny in the valley, it is likely to be cold, windy and foggy at the summit. In addition, the hike up the mountain, and afternoon trips 2 & 3 above, are substantial hikes that require adequate physical conditioning, appropriate footwear and clothing, and a full water bottle. These hikes are subject to cancellation in the event of unfavorable weather.

This event has been organized with the invaluable assistance of the Mount Washington Observatory, 2448 White Mountain Highway, PO Box 2310, North Conway, NH 03860, with museum and observatory facilities on the summit (of course).

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## **Massachusetts Licensed Site Professionals**

*Bob Luhrs*

The May 7, 1993 promulgation of the 309 CMR 1.00 legislation for Licensed Site Professionals in Massachusetts should be of interest to many geologists who practice environmental geology in New England. Those of us who hope to be licensed in the first group of LSPs in October 1993 have to complete and submit the bulky application by June 30, 1993, not to mention the hefty \$245 fee.

The LSP program is an integral part of the rewritten Massachusetts Contingency Plan, giving qualified individuals authorization to conduct projects from the initial phases to closure without any regulatory review or sign off. To keep the LSPs honest, the law provides for both civil and criminal penalties for any misuse of the LSP authority vested by the Commonwealth. The Massachusetts Department of Environmental Protection will retain regulatory authority only for high priority sites where there is imminent danger to the health, safety and welfare to people of the Commonwealth. This privatization of authority supposedly will allow the MDEP to better allocate its resources where they can do the most good.

How will this program work? Well, from talking to many professionals who are following this legislation, it appears that the jury is still out. Questions of how consultants will deal with pressures from responsible parties to close sites prematurely seem real. LSPs stand to lose clients if they do not respond to pressure to close a site; however, you're probably better off losing a client than facing large fines, jail time and loss of license. Some lawyers following development of the LSP program suggest that as a LSP, individuals as well as their companies will be subject to errors and omissions lawsuits. The prospect of personal errors and omission insurance has been raised on many occasions.

If you are interested in more information, contact the LSP Association, P. O. Box 382, Dover, MA 02030, or call the LSP Board at (617) 292-5556.

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## **Membership Report**

A New Hampshire Geological Society 1993 Membership Directory has been published and was distributed to members at the Society's spring meeting in April. For those members who were not at that meeting, the Directory is included with this issue of The Granite State Geologist.

Now that the 1993 Directory is out, it's time to renew your membership for the 1993-94 membership year. Your personalized Membership Renewal Invoice is included with this newsletter--please note any changes to the information shown on the invoice and return it with your payment by September 1, 1993. If you move or change jobs, please be sure to let us know. Note that NHGS dues are not deductible as a charitable contribution, but are deductible as a business expense.

Membership in the NHGS has many benefits, including The Granite State Geologist, annual Membership Directory, and discounts for quarterly dinner meetings and the annual summer picnic and field trip. You must renew your membership now in order to continue receiving The Granite State Geologist, and only payed-up members may run for office or vote in the elections at the annual meeting in October.

## NHGS Treasurer's Report

For the period April 1, 1993 - June 17, 1993

Starting Balance		2009.32
Income		
	Dues	80.00
	April 93 Meeting	728.00
	Interest Income	6.65
Total		814.65
Expenses		
	April 93 Meeting	680.80
	Field Trip deposit	100.00
	P. O. Box Rent	90.00
	Postage	58.00
	Newsletter Expenses	345.75
	Mebership Directory	199.55
	Prof. Services(Tax Prep.)	150.00
	Bank Fees	17.84
Total		1641.94
Ending Balance		1182.03
Bank Account Balances		
	Savings Account	860.02
	Checking Account	322.01
Total Balance Forward		1182.03

Respectfully submitted,  
*Dorothy Richter, Treasurer*

## Rocks & Minerals

The July/August 1990 issue of Rocks & Minerals magazine was a special issue devoted entirely to geology and mineral collecting in the Granite State. Featured are articles by Eugene Boudette, State Geologist, and several other members of the New Hampshire Geological Society. Copies of this special issue of Rocks & Minerals are still available for purchase at cost. Send a check for \$6.50 per copy, payable to "University of New Hampshire," with your request to: University of New Hampshire, Department of Earth Sciences, James Hall, Durham, NH 03824-3689.

## UNH Seismic Station

As reported in the May issue of UNH Focus, the Department of Earth Sciences at the University of New Hampshire is establishing a seismic monitoring station in James Hall on the UNH campus in Durham. The station is equipped with four analog seismometers acquired from the U.S. Air Force's Phillips Laboratory in Bedford, MA. The establishment of this seismic monitoring station was made possible by the support of Linc Page and the late Helena Milne. The seismometers are a timely addition given the renewed interest in the

seismicity of the northeast, and the consequent earthquake hazards, as demonstrated by John Ebel at the January NHGS meeting. The UNH Focus report featured a photograph of and interview with Professor Wally Bothner, a NHGS member.

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## NHGS News and Events

The third annual Summer Picnic and Field Trip will be going to the summit of Mount Washington on August 7, 1993--Bring the whole family! Details inside. For information, contact Joanne McLaughlin at (603) 224-7979 or Tim Allen at (603) 358-2571.

The 1993 Annual Meeting in October (14 or 15--date depends on speaker availability) will feature the election of officers. Please consider serving your society on the Board of Directors or volunteering in some other way. Note that to run for office, or to vote in the election, you must be a payed-up member, so renew your membership now!

Dates of future meetings of the Society: January 13, April 14, June 9(?), and October 13, 1994. Do you have a talk that you would like to present to the society? Please volunteer! The 1994 summer picnic and field trip is scheduled for August 6. Do you have a location in mind that would be the perfect spot? Please make a suggestion!

Students! The Society would like to hear about your research. Consider giving a short talk at any one of our regularly scheduled meetings. Abstracts will be published in The Granite State Geologist.

The Geological Society of America's 1993 Annual Meeting will be held October 25-28 in Boston. The deadline for submitting abstracts is July 7. The pre-registration deadline is September 24. Note that there are numerous pre- and post-meeting fieldtrips to localities in New Hampshire! Contact GSA at 1-800-472-1988 or (303) 447-2020 for more information.

The Keene Mineral Club is running a series of mineral collecting field trips: July 17 & 18-Moat Mountain in North Conway, NH; August 22-Keyes Mine in Orange, NH; September 19-Sky Farm in Northfield, MA, and Turners Falls Dam in Gill, MA; October 10-Fluorite Mines in Westmoreland, NH. Questions? Call Tom Minich (603) 357-3688 or Eric Greene (413) 774-5707.

Do you have an article, news item or calendar event that you would like to have included in a future issue of The Granite State Geologist? We need your contributions! Contact Tim Allen at (603) 358-2571, Science Division-Geology, Keene State College, 229 Main Street, Keene, NH 03431-4183, FAX (603) 358-2257.

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.

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Last Modified August 23, 1995

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