

March, 2013
Volume 39
Number 1

THE PRESIDENT'S MESSAGE

This is my first message as GSM's president since being "elected" at the 2012 fall meeting. I hope I can keep things going as smoothly and successfully as Alice Kelley did. The fall meeting was a somewhat unique situation for GSM in that we sponsored the Maine Metallic Minerals Conference in Old Town. For those of you who did not attend, it included an excellent review of metallic mineral exploration in Maine, current mining techniques, legal issues, and mine reclamation. I was particularly impressed with the state-of-the-art techniques now being used to address acid rock drainage in Canada. A key concept was that reclamation essentially begins when the mine is first opened and continues throughout its life. Simple ideas like segregating acidic vs. non-acidic rock tailing goes a long way.

Here's some great news—geology is now a hot science! I remember when people used to ask me if I dig up bones when I told them I was a geologist. And science on TV always focused on animals in Africa or space. Now the public understands what a tsunami is and there are TV shows like Killer Volcanoes and The Day the Dinosaurs Died. Actually, I made those names up, but the Science Channel, Discovery Channel, and PBS have many shows now that are about geological events, processes, or locations. Interest in the environment is leading many students to geology as well. Let's hope this trend continues.

Summer field trip plans are starting to come together and the location will be the Casco Bay region. Steve Dickson of MGS has offered to show us the recent and dramatic changes to the Popham Beach landscape, and Pike Industries has graciously allowed us to tour some of their large rock quarries in the area. We still may have a ½ day open so feel free to make suggestions for field visits in the area, or better yet, volunteer to lead a trip. We will be setting a date soon—probably August 3-4.

I look forward to seeing many of you at the spring meeting at University of Maine—Farmington on April 10th. More information is provided elsewhere in this newsletter. I encourage you to contact me at any time of you have questions, comments, or suggestions about GSM.

Keith Taylor
keitht@stgermaincollins.com
207-591-7000

THE EDITOR'S MESSAGE

Student poster and oral presentations at the April 10th Spring Meeting:

Faculty, please inform your students.

See the *Call for Abstracts* on page 2 for details on the submission of abstracts. Note -please do not submit abstracts to the newsletter editor - submit them by email to Dr. Julia Daly at dalyj@maine.edu by the Wednesday March 27th, 2013 deadline, preferably sooner.

I have taken over for Dan Belknap as newsletter editor to give him a respite after his 15 years of dedicated service to GSM. Please send items of interest for the News from the Campuses and Member News columns, or other things you'd like to share to Carol White, Newsletter Editor, Geological Society of Maine.

By email: cawhitemaine@zwi.net

By mail: C.,A. White & Associates LLC
1 Main Street, Yarmouth, ME 04096

(207) 846-5599 (office); (207) 846-9065 (fax)

GSM WEBSITE: www.gsmmaine.org

GSM SPRING MEETING

Wednesday April 10, 2013
University of Maine Farmington

North Dining Hall, Olsen Student Center
University of Maine Farmington, Maine

Tentative AGENDA (Check GSM website for updates)

1:00 to 2:45 pm Student posters

2:45 to 3:45 pm Student oral presentations

4:00 pm Keynote speaker

Dr. Charles Langmuir, Harvard University
Humankind at the helm: Civilization in a planetary context"

5:00 to 6:00 pm Social hour

Directions and parking information will be posted on the GSM website prior to the meeting

KEYNOTE SPEAKER

Dr. Charles Langmuir

Higgins Professor of Geochemistry
Harvard University Center for the Environment

This spring, the University of Maine at Farmington is exploring climate change in the University Forum entitled “**State of the Planet, Intergenerational Justice and Our Collective Future**” According the forum website “ While many scientists view our current relationship with the planetary support system as highly precarious, there is not yet a consensus among policy makers on how to proceed. The goal of this series of free and open-to-the-public events is to create a forum where the campus and local community can come together to learn about the science across academic disciplines and engage in creative discussion on the best way to move forward.” The forum consists of a series of public talks during the months of February through April by faculty and local and international experts on the subject of climate change. A highlight of the forum is a talk by Dr. Charles Langmuir of the Harvard University Center for the Environment. This years’ GSM Spring meeting, hosted by Geology Dept at UMF, has been scheduled to coincide with Dr. Langmuir’s talk entitled *Humankind at the Helm: Civilization in a Planetary Context*". Details on the forum including the schedule of events and resources can be found at web address on the UMF website <http://umf.maine.libguides.com/stateofplanet>

In addition to his research and teaching at Harvard, Langmuir is the director of Harvard’s Mineralogical and Geological Museum. He is a member of the National Academy of Sciences and lead author of the 2012 book “**How to Build a Habitable Planet: The Story of Earth from the Big Bang to Humankind.**” This second edition, revised from the original edition published in 1985 by Langmuir’s colleague Columbia University geoscientist Wallace Broecker, now includes a discussion of biology and recent, relevant discoveries in the geosciences. According to Langmuir, in this book he wanted to present the latest scientific knowledge and also help readers understand its origins, providing the background for why scientists think theories on evolution, climate change, the big bang, plate tectonics and others are true. We encourage you to join for this thought provoking talk.

CALL FOR ABSTRACTS

STUDENT PARTICIPANTS: Please submit your abstract by **email** to:

dalyj@maine.edu

Professor Julia Daly
Geology Dept., U Maine at Farmington

Please be sure to designate **GSM poster** or **GSM talk**. Abstracts will be compiled and handed out as a Program and Abstracts supplement to the newsletter at the meeting

DEADLINE Wednesday **March 27, 2013.**

FORMAT: Please send as an attachment in *file.doc* format as follows:

DETAILED TITLE, (ALL CAPS)
LAST NAME, First Name, Department,
College, Address, [your email address](#)

Provide text of the abstract describing the work succinctly using a GSA style format. Please limit the abstract to 300 words.

THE STATE GEOLOGIST'S MESSAGE

MAINE MINING STATUTES AND RULES

ROBERT G. MARVINNEY, STATE GEOLOGIST

A bit less than a year ago, the 125th Legislature passed significant changes to the laws that govern mining of metallic minerals in Maine. This act set in motion a lengthy process to revise the detailed mining rules administered by the Maine Department of Environmental Protection and the Land Use Planning Commission. Several inter-related processes are now underway to revise portions of the rules using direction from the laws.

Exploration rules: Having held hearings in December, the DEP is now in the final process of revising the regulations for metallic mineral exploration, including clearly separating more intensive advanced exploration processes from initial exploration. These new rules will be in place by early summer.

Rezoning in the Unorganized Territories: The Land Use Planning Commission (LUPC) has been directed to revise how rezoning would be accomplished to allow mining. Mining is not a pre-approved activity in any zone, so this activity can only move forward after a successful rezoning petition. Currently the rezoning process involves full evaluation of environmental impacts as well as socio-economic impacts. The new mining law shifts the entire environmental review process to the DEP. The LUPC in its rezoning deliberations is to consider only the socio-economic aspects of potential mining activity, and proximity to other uses. In December, the LUPC held several public hearings on the proposed revisions. On February 1, I helped organize an informational session for the LUPC during which Carol White, George Kendrick, and I provided information on various aspects of mining. The LUPC should complete its process by early summer.

Mining rules: The majority of the effort falls to the DEP to revise the mining rules by January 2014. Currently, the DEP has engaged the services of a consultant to create the new rules, a draft of which should be available by the early summer. These rules will be subject to a hearing and review process by the

Board of Environmental Protection, followed by review before the Legislature.

Since the new mining statute was enacted, we had an election and a markedly changed composition to the 126th Legislature. Several bills have been submitted that may change the process the 125th Legislature set in motion. Here are some titles:

- An Act To Protect Water Quality and Avoid Taxpayer Clean-up Costs from Metallic Mineral Mines
- An Act To Protect Water Quality
- An Act To Protect Maine's Environment and Natural Resources Jeopardized by Mining
- An Act To Restore Former Provisions of Mining Laws
- An Act To Amend the Application Procedure for Mining Permits

Stay tuned as these bills come into play during this legislative session.

Robert G. Marvinney, Maine State Geologist:
Robert.G.Marvinney@maine.gov

Maine at Northeast GSA

Contributed by Woody Thompson

Staff at the Maine Geological Survey are busy preparing for the Northeast Section meeting of the Geological Society of America, which is being held March 18-20 at the Mt. Washington Hotel in Bretton Woods, NH. This meeting has broken all records for paper submissions to regional GSA meetings, and 1000 or more participants are expected to attend. Bob Marvinney is chairing a session on "Partnering and Progress" by state geological surveys. He and Tom Weddle are also presenting a paper in this session, and Bob is co-author on several other papers on groundwater arsenic contamination and the International Appalachian Trail (IAT) in collaboration with Walt Anderson.

New Hampshire native and White Mountain enthusiast Woody Thompson will be chairing and giving papers in a theme session on regional glacial geology and a symposium on the history of geologic research in the Northeast. Woody is on the local planning committee for the meeting and is also leading a field trip and giving a talk to K-12 teachers on the glacial geology of New England.

**UPCOMING MEETINGS OF
INTEREST**

SPRING 2013

Maine Water Conference
Tuesday March 19, 2013
Augusta Civic Center, Augusta, Maine

2013 Plenary Speakers:

Craig Williamson, Miami University, Oxford, OH
*Managing Water Resources in a Changing Climate:
Deciphering the Sentinel Responses of Lakes In a Warmer and
Wetter World*

Timothy Ford, Dean of Graduate Studies and Public Health and
Interim Dean of the Westbrook College of Health Professions,
University of New England
Global Studies in Water and Health: Implications for Maine

[http://umaine.edu/mitchellcenter/maine-water-
institute/maine-water-conference-2/2013-2/](http://umaine.edu/mitchellcenter/maine-water-institute/maine-water-conference-2/2013-2/)

Geological Society of America
Northeast Section
March 18-20
Bretton Woods, NH

See Woody Thompson's write up about the meeting on page 3
and the meeting website:
<http://www.geosociety.org/sections/ne/2013mtg/>

A Public Forum On
**Mineral Deposits, Mining, Mine Water Treatment
and Environmental Concerns**
Saturday, March 23, 2013, 8:30 a.m. - 12:00 noon
UMPI Campus Center, Multipurpose Room

*Hosted and sponsored by:
The UMPI Environmental Studies and Sustainability Program
and Maine Geological Survey*

See page 5 of the Newsletter for details of the meeting. For more
information, contact Dr. Chunzeng Wang
chunzeng.wang@umpi.edu or 207-768-9412

GSM Annual Spring Meeting
Wednesday April 10, 2013
University of Maine Farmington

North Dining Hall, Olsen Student Center
University of Maine Farmington, Maine

Tentative AGENDA

1:00 to 2:45 pm Student posters
2:45 to 3:45 pm Student oral presentations
4:00 pm Keynote speaker
Dr. Charles Langmuir, Harvard University
*Humankind at the helm: Civilization in a planetary
context"*
5:00 to 6:00 pm Social hour

**Annual Meeting of the Maine Chapter of the
International Appalachian Trail**
Thursday May 2 to May 4, 2013
Shin Pond Village, Maine

For details see
<http://www.internationalatmaine.org/pages/index>

SUMMER & BEYOND

Maine Beaches Conference
July 12, 2013
Southern Maine Community College
South Portland, Maine
<http://www.seagrant.umaine.edu/maine-beaches-conference>

GSM Summer Field Trip & Meeting
Early August 2013 ? – Stay tuned

**2013 New England Intercollegiate Geological
Conference**
North Central Maine - Katahdin Region
October 11-13 Columbus Day Weekend
Big Moose Inn, Millinocket Lake, Maine

Additional trip leaders needed!

Contact Lindley Hansen lhanson@salemstate.edu (978-542-
6701) at Salem State University for information or if you are
interested in leading a field trip.

<http://w3.salemstate.edu/~lhanson/NEIGC/>

**A PUBLIC FORUM On
Mineral Deposits, Mining, Mine Water Treatment
and Environmental Concerns
Saturday, March 23, 2013, 8:30 a.m. - 12:00 noon
UMPI Campus Center, Multipurpose Room**

*Hosted and sponsored by: The UMPI
Environmental Studies and Sustainability Program
and Maine Geological Survey*

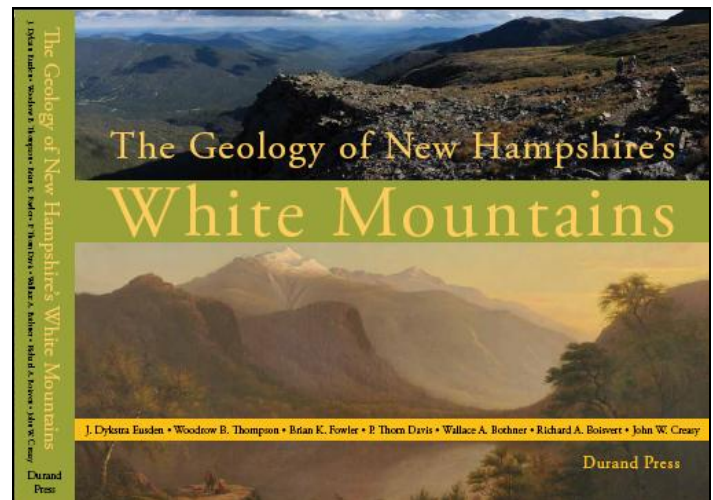
The forum provides a first-of-its-kind opportunity to residents of Northern Maine with a panel of high-profile speakers who are experts in the fields concerning issues of mining metallic minerals. The forum is intended to be informational and educational. Anyone with an interest in issues about mineral deposits, mining, and mine waste treatment and environmental concerns is welcome. The goal of the forum is to begin a meaningful dialogue about northern Maine's metallic minerals and mining. The forum is open to the public and admission is free.

Agenda

- 8:30-9:00 a.m. Registration (free)
- 9:00-9:10 a.m. Welcome by UMPI President Linda Schott
- 9:10-10:00 a.m. **Maine's Geology, Mineral Potential, and Basics of Metallic Mineral Exploration and Mining** by Dr. Robert Marvinney, State Geologist and Director of Maine Geological Survey
- 10:00-10:50 a.m. **Exploration and Mining in the 21 Century: Responsible Mineral Resource Development Options & the Role of High Technology** by Dr. David Lentz, Professor and Economic Geology Chair, Department of Earth Sciences, University of New Brunswick, Canada
- 10:50-11:10 a.m. Break
- 11:10 a.m.-12:00 p.m. **Brunswick Mine: 48+ Years of Base Metal Mining** by Mr. James Cormier, Superintendent of the Department of Environment and Community Affairs, Xstrata Zinc Brunswick Mines, Canada

For more information, contact Dr. Chunzeng Wang
chunzeng.wang@umpi.edu or 207-768-9412

NEW BOOKS



A new book for the public, titled "**The Geology of New Hampshire's White Mountains**" has just rolled off the press. Maine co-authors are Dyk Eusden, Woody Thompson, and John Creasy, together with Brian Fowler, Wally Bothner, Thom Davis, and NH State Archaeologist Dick Boisvert. This 175-page book has been in the works for 20 years, having originally been proposed at a 1993 Mount Washington Observatory symposium on the glacial geology of the White Mountains. It encompasses the bedrock, plate tectonic, and glacial origins of the mountains, as well as climate change, Paleoindian settlement, landslides, waterfalls, alpine permafrost features, mining history, and the demise of the Old Man of the Mountain. The book is geared toward the non-scientist and is the first of its kind for this part of New England. It is illustrated throughout with color photos and graphics. The book will be available at Northeast GSA and bookstores, or you can order the book directly from Durand Press: <http://www.durandpress.com/books.htm>
Contributed by Woody Thompson

Educational Funding Requests

The Geological Society of Maine (GSM) is pleased to grant modest funds to support educational programs through the Walter Anderson Fund. GSM will award grants of up to \$500 to help fund projects that align with the purposes for which the society was formed. See www.gsmmaine.org for more information.

MINUTES

Geological Society of Maine Fall Meeting, Black Bear Inn, Orono, Maine November 9, 2012

The GSM business meeting followed the Maine Metallic Minerals Conference. The Conference served as the program for the meeting.

The meeting was called to order by outgoing GSM President Alice Kelly.

Old Business

The summer field trip to the Mt. Blue area was well attended and thanks were given to Doug Reusch and Tom Weddle for leading the trip.

New Business

The 2013 spring meeting location and date have not been determined yet. The traditional rotation puts the meeting at Bates College. Lois Ongley offered Unity College as a backup location. The difficulty of scheduling the spring meeting was discussed. The meeting date will be set by the hosting institution and it is likely there will be a conflict with at least one school's spring break and other meetings.

The location and date of the 2013 summer field trip were discussed. There was general agreement that it will be in southern Maine. The need for early planning to get campsites during the summer tourist season in southern Maine was discussed.

Paper copies of the GSM newsletter will no longer be routinely mailed to members. The newsletter will be posted electronically on the GSM website and an email or post card announcement will go out to all members. Members should keep the Treasurer apprised of email address changes. The board noted that there are very few members do not have email addresses. Anyone who requests can have a newsletter mailed to them. Institutional members will continue to receive the newsletter by mail. The expense and problems with predictability of the bulk mail delivery led to this decision by the board.

Elections were held for GSM officers and directors. A slate was nominated by the board of directors for open positions, including President, Vice President, Secretary, Treasurer, 2 Directors, and

Newsletter Editor. Tom Eastler moved that the slate be accepted. Fred Beck seconded the motion. The slate was elected unanimously by a show of hands. The GSM officers are as follows:

Keith Taylor, St. Germaine Collins, President
Martin Yates, University of Maine, Vice President
Lisa Jacob, Sanborn Head & Associates, Secretary
Lois Ongley, Unity College, Treasurer
Steve Kelley, Haley & Aldrich, Director
Alice Kelley, University of Maine, Director,
Thomas Weddle, Maine Geological Survey, Director
Carol White, CA White Associates, Newsletter Editor

An announcement will be coming regarding procedures for requesting money from GSM's education fund.

A question was raised regarding arrears on dues. Members rely on the date on the newsletter address label to let them know when they need to renew their membership and pay their dues. It was resolved that postcards would be sent by first class mail prior to GSM meetings and those would serve that purpose.

A summary of the treasurer's report was presented by Lois Ongley, including a budget for the coming year. Details are in the treasurer's report. GSM currently has approximately 249 members, with 200 of those in good standing (up-to-date on their dues). The total includes 186 regular members, 34 student members and a few associate and institutional members.

Tom Weddle announced that next year's NEIGC will be in the Millinocket Lake area and will be based at Big Moose Lodge. The date is not finalized yet but may be Columbus Day weekend. Robert Johnston, speaking on behalf of the group, thanked the outgoing officers for their service to GSM.

A motion to adjourn was made by Carolyn Lepage and seconded by Cliff Lippit.

Signing off as the Secretary of GSM and handing the torch to Lisa Jacob. It has been a pleasure. I will continue to serve as webmaster to the best of my limited ability. Thank you.

Martha Mixon

GSM TREASURER'S REPORT

February 3, 2013

At the last Executive Committee meeting on September 27, 2012, the committee discussed a budget for the 2012-13 fiscal year. The budget, suggested by the Treasurer and modified by the committee, was loosely based on the previous year's income and expenditures.

Current Membership

Students	34
Associates	a few
Regular Members	186
Institutional Members	a few

PROPOSED BUDGET	
Fiscal Year August 1, 2012 to July 31, 2013	
Income	
Dues	\$ 2,750.00
Dividends	\$ 75.00
Donations Anderson Fund	\$ 100.00
Other Income	
Meetings	\$ 1,600.00
Copyright fees	\$ -
Bookkeeping Error	\$ -
Subtotal	\$ 3,275.00
Expenses	
Newsletters	\$ 1,200.00
Meeting Expenses	\$ 850.00
<i>Field Trip 2012</i>	
<i>Fall 2012</i>	\$ -
<i>Spring 2013</i>	\$ -
<i>Executive Committee</i>	
<i>Field Trip 2013</i>	\$ -
Anderson Fund Awards	
<i>Teacher Map Workshop</i>	\$ 2,000.00
<i>Spring Meeting Awards</i>	\$ 200.00
Website	\$ 100.00
Miscellaneous (10% of above)	\$ 230.00
Subtotal	\$ 4,580.00
Net Gain (Loss)	\$ (1,305.00)

ASSETS

Assets as of January 31, 2013	
General Fund	
Prime Share	\$ 1,600.63
Money Market	\$ 2,517.24
Share Draft	\$ 3,552.64
Certificate of Deposit	\$ 3,396.30
Anderson Fund	
Prime Share	\$ 6,985.27
Certificate of Deposit	\$ 6,065.44
Total Assets	\$ 24,117.52

REPORT OF INCOME AND EXPENSES	
As of January 31, 2013	
Income	
Dues	\$ 2,325.00
Dividends	\$ 32.34
Donations Anderson Fund	\$ 50.00
Other Income	
Meetings	\$ 580.00
Copyright fees	\$ 0.00
Bookkeeping Error	\$ 0.00
Subtotal	\$ 3,087.34
Expenses	
Newsletters	\$ 322.62
Meeting Expenses	\$ 665.12
<i>Field Trip 2012</i>	
<i>Fall 2012</i>	\$ -
<i>Spring 2013</i>	\$ -
<i>Executive Committee</i>	
<i>Field Trip 2013</i>	\$ 20.00
Anderson Fund Awards	
<i>Teacher Map Workshop</i>	\$ -
<i>Spring Meeting Awards</i>	\$ -
Website	\$ 65.00
Miscellaneous (10% of above)	\$ -
Subtotal	\$ 1,072.74
Net Gain (Loss)	\$ 2,014.60

MEMBERSHIP DUES STATEMENT

The GEOLOGICAL SOCIETY OF MAINE, INC. (often referred to as **GSM**) is a non-profit corporation established as an educational Society to advance the professional improvement of its members; to inform its members and others of current and planned geological programs in Maine; to encourage continuing social contact and dialog among geologists working in Maine; and to further public awareness and understanding of the geology of the State of Maine; and of the modern geological processes which affect the Maine landscape and the human environment.

The Society holds three meetings each year, in the late fall (Annual Meeting), early spring, and mid-summer (usually a field trip). A newsletter, *The Maine Geologist*, is published for all members three times a year. The Society year runs from Sept. 1 to Aug. 31. Annual dues and gift or fund contributions to the Society are tax deductible. There are four classes of memberships:

\$20.00	REGULAR MEMBER	Graduate geologists, or equivalent, with one year of practice in geology, or with an advanced degree.	FEE SCHEDULE AS OF February, 2008
\$20.00	INSTITUTIONAL MEMBER	Libraries, societies, agencies, businesses with interests in or practicing geology and related disciplines.	
\$10.00	ASSOCIATE MEMBER	Any person or organization desirous of association with the Society.	
\$ 5.00	STUDENT MEMBER	Persons currently enrolled as college or university students.	

THE GEOLOGICAL SOCIETY OF MAINE ANNUAL RENEWAL / APPLICATION FOR MEMBERSHIP

Regular Member	\$20.00	\$ _____	Name _____	Make checks payable to: Geological Society of Maine Lois K. Ongley, Treasurer Unity College 90 Quaker Hill Road Unity, ME 04988
Institutional Members	\$20.00	\$ _____		
Associate Member	\$10.00	\$ _____	Address _____	
Student Member	\$ 5.00	\$ _____		
Contributions to GSM (please write gift or fund on check)		\$ _____		
TOTAL ENCLOSED		\$ _____	_____	

Email Address _____

(GSM funds include the Walter Anderson Fund____, and discretionary gifts as noted by contributor)

2012/2013 SOCIETY YEAR BEGAN SEPTEMBER 1 - PLEASE SEND DUES TO TREASURER.
The DATE on your mailing address refers to PAID UP DUES DATE

THE GEOLOGICAL SOCIETY OF MAINE

c/o Carol White, Newsletter Editor
C.A. White & Associates
1 Main Street
Yarmouth, Maine 04096
cawhitemaine@gwi.net

Please Pay Your Dues

Return Service Requested

THE MAINE GEOLOGIST is the Newsletter of the Geological Society of Maine, published three times a year, in mid-winter, summer, and early fall, for members and associates.

Items for inclusion in the **Newsletter** may be directed to:

Carol White, cawhitemaine@gwi.net; C.A. White & Associates, 1 Main Street, Yarmouth, Maine, 04096

Correspondence about **membership** in the Society, **publications** and **dues** should be mailed to:

Lois K. Ongley, longley@unity.edu; Professor of Geochemistry, Unity College, 90 Quaker Hill Rd., Unity, ME 04988

Geological Society of Maine Officers 2012-2013

President	Keith Taylor	(12-14)	St. Germain Collins
Vice President	Marty Yates	(12-14)	University Maine-Orono
Secretary	Lisa Jacob	(12-14)	Sanborn Head
Treasurer	Lois Ongley	(12-14)	Unity College
Newsletter Editor	Carol White	(12-14)	C.A. White & Associates
Directors	Tom Weddle	(10-13)	Maine Geological Survey
	Alice Kelley	(12-15)	University Maine-Orono
	Steve Kelley	(12-15)	Haley & Aldrich