THE MAINE GEOLOGIST
NEWSLETTER OF THE GEOLOGICAL SOCIETY OF MAINE

June, 2012
Volume 37
Number 2

THE PRESIDENT'S MESSAGE

As summer begins, I am writing from the field in the Shetland Islands (with spotty internet contact). We all thank Kevin McCartney, David Putnam and Chunzeng Wang, the Geology/Ecology Club, and the rest of our friends at UMPI for arranging our Spring meeting at Presque Isle. We had a very successful panel discussion on professional activities and employment by Liz Champion and Cliff Lippitt. There was good audience participation, and extensive discussion in the halls afterward. Those in attendance saw some interesting student posters and oral presentations. Congratulations to Anderson Award winners Peter Strand and Patrick Ryan, both of the University of Maine for their poster on their fieldwork in the Dry Valleys of Antarctica. We also heard an outstanding presentation by Steve Kite, formerly a Maine geologist, now on the faculty at West Virginia University, about the "ice caves" of the Appalachians.

See this page for details on the summer field trip. This year's trip will be led by Doug Reusch and Tom Weddle, and will look at the bedrock and surficial geology of the Mt. Blue area ... sure to be an interesting trip. Looking ahead, remember to watch the website and mail for information about the Fall meeting.

Alice R. Kelley, President (2011-2012)
akelley@maine.edu

THE EDITOR'S MESSAGE

Please send items of interest for the News from the Campuses and Member News columns, or other things you'd like to share.

Please check the date on your address label – members more than two years in arrears will be dropped from the mailing list. Send dues to Lois Ongley (see address on the last page).

Dan Belknap, Newsletter Editor (1998 – present) <belknap@maine.edu> (207) 581-2159, FAX: -2202

GSM WEBSITE: www.gsmmaine.org

Geological Society of Maine Annual Summer Field Trip
August 3-4, 2012

Leaders: Doug Reusch and Tom Weddle
Dates: August 4 & 5 (camping nights of Aug. 3 & 4)
Location: Mt. Blue SP, camping at park headquarters

Trip overview:
The annual GSM summer field trip will be held at Mt. Blue State Park on the weekend of August 3rd - 5th, and the trips will be held on Saturday and Sunday.

Saturday we will hike Bald Mountain (Washington Township) led by Doug Reusch to examine the outstanding bedrock exposures along the ascent. Recent detailed mapping projects in this area reveal the presence of multiple faults that offer clues to the origin and deformation of the Seboomook formation at this location. The Sunday trip will be to examine a few gravel operations along the Sandy River between Phillips and Strong, which is within the uppermost extent of the late-glacial marine transgression of this region. There will be a cookout on Saturday night.

Mt. Blue is one of the busy parks with many visitors during summer, and because of that we will not be camping at an official group campsite, but rather at the park headquarters where there are some open fields; there is potable water available there, and outhouses, but no showers. For those who would prefer to camp at Webb Lake (where there are bathroom facilities and showers), reservations must be done at least two days ahead of your arrival. Please call in your individual campsite reservations early to the park. Call 1-800-332-1501 in Maine; if outside Maine call (207) 624-9950, or reserve on-line now at www.campwithme.com for the weekend. If you are travelling a long distance, be aware that you must arrive at the campground before 10:00 PM to enter.

We hope to see you at Mt. Blue State Park in August!

NEWS FROM THE STATE GEOLOGIST

A TALE OF REFORMS, CONSOLIDATIONS AND MERGERS

Proposals to reform state government typically wax and wane with the political shifts in the State House, moving from one extreme of targeted small agencies to the other of mega-departments. Such proposals have been nearly perpetual since I took over as Director of the Maine Geological Survey in 1995. In that year, Governor Angus King's Productivity Realization Task Force instituted some significant changes within the Department of Conservation, demonstrating that incremental changes can successfully navigate the political waters. Wholesale change is a different matter. In the previous Administration, a long-debated proposal to corral all the natural resources agencies into one overarching super natural resource department failed due to the politics of oversight committees and concerns of advocacy groups. In spite of the past history, every Governor seeks a legacy of improved and streamlined government and the current incumbent is no different in this regard.

Several significant reform processes will affect the Department of Conservation and the Maine Geological Survey over the next six months:

1) LURC reform. If you have followed the discussions at all in the past 18 months, you will know that very significant changes are underway for the Land Use Regulation Commission in terms of its authority and the composition of the Commission. While not directly impacting MGS, the changes will involve a major restructuring of responsibilities within the agency and will change the types of permitting activities with which we assist LURC.

2) Dissolution of the State Planning Office. For decades, SPO was used by Governors in the manner of a think-tank – special studies were conducted through the agency and the results used to develop new policies. Maine's Quality of Place report and work of the Ocean Energy Task Force are two examples of the kinds of targeted activities SPO has provided. Governor LePage has decided to disband the office and refocus a remnant in an agency that seeks to improve government efficiency. But SPO also has on-going programs, many of which are moving to the Department of Conservation. For many years, coastal geologists from the Maine Geological Survey have worked with the staff of the Maine Coastal Program to develop appropriate policies on coastal development that have as their basis the geological processes that shape this landscape. I am pleased that the Coastal Program will be joining the MGS. Also relocated to our space in the Williams Pavilion is the Floodplain Manage-ment Program, which works closely with FEMA on implementing appropriate floodplain develop-ment policies and working to improve mapping. Also moving to the Department of Conservation are the Land for Maine's Future Program and the Landuse Team, which implements the Growth Management Act. These are all significant new responsibilities for our Department.

3) Departmental merger. At the end of the legislative session, a supplemental budget bill that makes adjustments to the FY 2013 budget beginning July 1, was passed by the Legislature through a majority vote. Part of the bill calls for the merger of the Department of Agriculture and the Department of Conservation into one agency. This proposal avoids a major pitfall of previous merger proposals, since there is only one legislative oversight committee for both departments, and thus, no bickering between oversight committees on loss of jurisdiction. Over the next few months, an ad hoc committee will look at how to better organize the new Department of Agriculture, Conservation, and Forestry.

All of these changes present challenges and opportunities. While the challenges cannot be ignored, I prefer to focus on the new opportunities these reorganizations bring in terms of strengthened partnerships and breadth of expertise that can greatly enhance what our small agency can do. Stay tuned as these reforms are implemented.

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

ABSTRACTS: Spring Meeting Friday, April 13, 2013, University of Maine Presque Isle

POSTER

THE EFFECTS OF FOREST TYPE ON ARTHROPOD ABUNDANCE AND FOOD USE BY BIRDS.

BELAIR, Scott, Dept. Environmental Science, University of Maine Presque Isle, <scott.belair@maine.edu>

To improve our understanding of the effects of forest management on invertebrates as food for vertebrates, we sampled the differences in abundance of arthropod taxa at the habitat level within four habitats in Maine commercial forests: even-age spruce plantation (30 years), even-age natural regeneration (30 years), mature spruce (>75 years since last harvest) and mature hemlock (>75 years since last harvest). During late April through early August, arthropod abundance was determined using pitfall traps and branch sampling. Since arthropod abundance does not equate to food availability, food use of ground foraging and foliage gleaning birds was determined through the use of crop and fecal sampling. There were significant differences in arthropod temporal and habitat abundance among forest stand types, with spiders highest in

natural regeneration, ground beetles highest in spruce plantation and ants highest in mature spruce. We found a lower abundance of spiders within the spruce plantation. After a peak the third week of May, there was a significant seasonal decline in spiders overall. Small ground beetles were highest in diurnal samples while large ground beetles were highest in nocturnal samples. In bird crop and fecal samples, moth and butterfly larvae, beetles and spiders appear to be the most commonly used food items. Since invertebrates form the base of most forest vertebrate food webs, an understanding of how forest management practices may impact the abundance and availability of food can be used to implement strategies that mitigate the impacts of silviculture on habitat quality for terrestrial vertebrates.

POSTER

GROUND PENETRATING RADAR SURVEYS OF LARGE POINT BARS ALONG THE SANDY RIVER, WESTERN MAINE

BERLIN, Abigail, Dept. of Geology, University of Maine Farmington, 173 High St, Farmington, ME 04938-6821, <abigail.berlin@maine.edu>

The Sandy River originates in the western mountains of Maine and is characterized by numerous large sand and gravel bars along its banks from its middle reaches to its outlet into the Kennebec River. Historically, sand and gravel were mined from several point bars along this river, but permits were suspended for this activity about ten years ago. The possibility of renewed approval for sand and gravel mining indicated that additional information, especially sand and gravel volume estimates, would better inform this process. Using GPR data, this project will quantify sand and gravel volume in these point bars and can estimate the percent removed in different mining scenarios.

Using the MALA GPR system, 100 and 500 MHz profiles were collected along the longitudinal axis of each bar as well as several cross-lines. Topographic data for each line were collected with a laser theodolite. These data were used to correct the surface elevation of the line, allowing for more careful interpretation of subsurface features. Historic aerial photo imagery (1951 – 2002) and repeat high-resolution topographic surveys 2002-2006 show patterns of erosion and deposition at the study sites. The data were processed using RadExplorer software. The primary targets were the water table, basal sand contact, and bedrock presence (acting as a pinning point in bar migration). The water table for all four sites is identified by a high amplitude reflection. Both the basal sand contact and reflectors showing internal structure of fluvial sand deposits can be identified on profiles. At Farmington Falls, an application has been submitted requesting a permit for sand and gravel removal beginning in winter 2011-12. The sand bar here has a basal sand contact at a depth of about 2.5 m. Because the submitted mining application specifies removing material to approximately 20 cm above the water table, the percent of gravel that might be removed during this round of mining can be estimated. There will be future GPR surveys done at the Pillsbury bars to see the changes of the meander after the gravel removal job is complete.

POSTER

SNOW RESEARCH

BOODY, Philip, Dept. Environmental Science, Univ. Maine Presque Isle, <philip.boody@maine.edu>

The purpose is to obtain data about snow pack and snow metamorphism. This is accomplished by exposing a vertical cross-section of snow and identifying the layers present. Each layer is then sampled to obtain snow density, grain size, grain type, and temperature. Infrared pictures are taken of the exposed snow pit to obtain additional information about the different temperatures at each depth. All of these data are then helpful in creating algorithms for measuring snow water equivalent with microwave radiometers.

ORAL PRESENTATION (Graduate Student)

LANDSLIDE RISK ASSESSMENT ON THE COAST OF MAINE

JACOBACCI, Kara, Dept. Earth Sciences, University of Maine. <Kara.jacobacci@maine.edu>

Landslides on the Maine coast occur on roughly decadal time scales. These slides, while small in area, have the potential to cause hundreds of thousands of dollars in damage when failure occurs in areas with manmade structures. In order to better inform the public of the risks associated with unstable seaside bluffs, we will define areas of potential slides and identify their hazard potential. The ubiquitous glaciomarine clay bluffs of the Presumpscot Formation that line the coast of Maine undergo a cycle of weakening, slump, stabilization, and undercutting that can be characterized by surface features as well as irregularities in the subsurface. Bluffs that are presumed to be in various stages of this cycle will be imaged using ground-penetrating radar (GPR), cored, and surveyed. Each of these processes will provide insight into the frequency of slump events in that location as well as the extent and distribution of slides along the coast, allowing for the classification of the coastline by hazard level. Once a relative risk level has been determined, information on the hazard level of a particular area can be disseminated to the public.

POSTER

HETEROGENEOUS DEFORMATION OF GABBROIC ROCKS IN THE CENTRAL METASEDIMENTARY BELT BOUNDARY THRUST ZONE GRENVILLE PROVINCE CANADA

MAKO, Calvin, Dept. Earth Sciences, University of Maine, 5790 Byrand Global Sciences Center, Orono, ME 04469, <calvin_mako@umit.maine.edu>

The Grenville province of southern Ontario, Canada is the product of many cycles of convergent tectonics between 1.4 to 1.0 Ga, resulting in terrane accretion and the formation of moderate to high-grade metamorphic rocks. These rocks often exhibit high degrees of deformation and strain; shear zones are common. In southern Ontario these mid-crustal rocks are exhumed, providing an opportunity to study the structural processes that acted during the Grenville orogeny. Of interest to this study is the Central Metasedimentary Belt boundary thrust zone (CMBbtz), a 200km by 10km area of anastomosing shear zones and thrust sheets separating two major crustal domains of the Grenville province. The CMBbtz is thought to have accommodated thrusting of accreted terranes from the southeast onto the Laurentian continent to the northwest at about 1.0 Ga.

In this zone of structural and tectonic significance, we have investigated an outcrop of anorthositic gabbro that is near Gooderham to identify mechanisms of shear localization. This relatively small outcrop (25 meters) exhibits widely varying degrees of strain, from very low strain (apparent igneous texture)

to very high strain. We have analyzed samples across the strain gradient to identify structural and microstructural differences, including in mineral mode, grain size, shape-preferred orientation, grain aspect ratio, mineral chemistry, and crystallographic preferred orientation. Our analysis indicates that grain sizes of both hornblende and plagioclase are significantly reduced in the strained samples by brittle fracturing of hornblende and subgrain boundary rotation-recrystallization of plagioclase. Strain localization in these rocks likely occurred through textural changes and possibly fluid related weakening.

POSTER

MODELING CONTAMINANT TRANSPORT AND PREFERENTIAL FLOW PATHS IN A HOMOGENE-OUS POROUS MEDIUM

PERKINS, Randy S. , Dept. Earth Sciences, University of Maine, randy.perkins@maine.edu and REEVE, Andrew S. , Dept. Earth Sciences, University of Maine, <asreeve@maine.edu>

As the Maine Department of Environmental Protection seeks to update its guidelines regarding remediation for petroleum-contaminated sites in Maine, it is necessary to understand how contaminants advect throughout the system. From this understanding, contaminant concentrations, as a function of travel time, distance from contamination source, groundwater velocity, and dispersivity, can be modeled. It can be intuitively hypothesized that contaminants moving through groundwater will not be uniformly transported away from the point source, and will have a tendency to preferentially "finger" their way through the system. The objective of this research is to prove that such fingering exists while simultaneously determining an appropriate dispersivity constant for the experimental porous medium. To observe advection, a 15-foot by 4-inch vertical Darcy tube was constructed to simulate a saturated, homogeneous aquifer. Eight sections of four ports were placed lengthwise along the tube that provided both a means of measuring hydraulic gradient and collecting samples of an injected salt (NaCl) slug into the system. By recording the specific conductivity of the samples, the contaminant front was tracked and dispersivity was calculated using the Ogata-Banks solution for contaminant concentration. The result of this was twofold: it showed preferential fingering of the contaminant front of two calculated velocities ($6.1e^{-5}$m/s, $7.4e^{-5}$m/s) and appropriate dispersivity values (1.43 cm, 1.49 cm, respectively) were determined. Fingering may have been due to air bubbles in the system, which a coarser medium would mitigate. Additional experiments should also look to consider transport of petroleum contaminants through the system.

POSTER

INVESTIGATION OF THE ROSS SEA ICE SHEET HISTORY, AS PRESERVED IN THE ANTARCTIC DRY VALLEYS

RYAN, Patrick and STRAND, Peter, Earth Sciences, University of Maine, <patrick.t.ryan@maine.edu> <peter.strand@umit.maine.edu>

In January 2012 undergraduate students assisted on a National Science Foundation-funded University of Maine expedition to the Antarctic Dry Valleys. By investigating the retreat of the Ross Sea Ice Sheet following the Last Glacial Maximum, approximately 20 ka, the linkage between ice-sheet retreat and global sea-level rise will be understood more fully. Of particular interest is the potential contribution of the Ross Sea Ice Sheet to meltwater pulse 1a, a dramatic rise in global sea level at 14.6 ka. During the last glacial period, the Ross Sea Ice Sheet advanced inland, filling the mouths of the Dry Valleys and damming lakes within them. Sediment was distributed farther into the valleys by proglacial lake-ice conveyors, as evidenced by unique depositional features, such as "cups and saucers." Ancient algae samples preserved in geologic features were gathered for carbon-14 dating. Additionally, rock samples were collected for cosmogenic exposure dating. Together, these sample dates will be used to determine temporal relationships among mapped glacial landforms.

GSM SECRETARY'S REPORT

Geological Society of Maine Spring Meeting, April 13, 2012

University of Maine Presque Isle

The GSM Spring Meeting was hosted by the Geo-Ecology Club at the University of Maine Presque Isle. It was held in Folsom Hall. Approximately 35 GSM members and friends attended the meeting. The meeting featured undergraduate student research presented in a poster session. The meeting also included presentation of a thesis proposal by graduate student Kara Jacobacci from the University of Maine, an employment panel discussion, and a keynote speaker. The meeting was followed by a memorial service for GSM member and emeritus UMPI professor Bill Forbes.

Employment Panel

The meeting began at 12:15 with an employment panel led by Cliff Lippitt, Liz Champeon and Alice Kelley. Cliff is a consulting geologist with S. W. Cole Engineers. Liz is a retired consulting geologist emeritus with S. W. Cole Engineers. Alice is on the faculty at the University of Maine Orono. The presentation emphasized the importance of being innovative and flexible on the job and in today's job market, with a willingness to work long hours.

Poster and Oral Presentations

The poster session opened at 1 p.m. with 5 posters on research topics in geology and 1 poster on an ecological research topic. Abstracts of the posters are published in this newsletter. There were no undergraduate oral presentations at this meeting. Instead, Kara Jacobacci, graduate student at the University of Maine, presented her thesis proposal orally. The presentations were judged by volunteers from the executive council and the award for best poster was presented at the beginning of the business meeting.

Business Meeting

A brief business meeting followed the presentations. The business meeting consisted of announcements. No funds were committed other than the Walter Anderson awards for student presentations. An executive council meeting was not held prior to the meeting, as a quorum was not present. An executive council was planned for a later date. The following summarizes the announcements and discussions at the business meeting.

- Awards for posters presentations. The award for outstanding poster presentation went to Patrick Ryan and Peter Strand, undergraduate students at the University of Maine Orono, for their poster "Investigation of the Ross Sea Ice Sheet History, as Preserved in the Antarctic Dry Valleys". The award consists of $100. No undergraduates gave oral presentations, so no award was made in that category.
- Open positions for GSM newsletter editor, treasurer and secretary were noted. Elections will be held during the fall meeting.
- Summer field trip alternatives were discussed, including a trip in the Mount Blue area.
- The passing and contributions Bill Forbes, a paleontologist and emeritus professor at University of Maine Presque Isle, was noted, and all were invited to attend the memorial service after the meeting. Bill passed away in May 2011.
- The recent passing of Don Koons on April 9, 2012 was noted. Dr. Koons chaired the geology department at Colby College for many years and was the first Commissioner of the Maine Department of Conservation.
- Fred Beck announced that planning is under way for a July 2014 Grand Canyon rafting trip, a great trip for geologists and non-geologists. It includes interpretation of the geology, zoology, botany and history of the river. Contact Fred at fmbeck@fmbeck.net for details.
- Bob Johnston of the Maine Geological Survey read a statement for State Geologist Bob Marvinney, who could not make it to the meeting. He reviewed the mergers, reforms and reorganizations in state government that are in various stages that affect the Maine Geological Survey. He also described the introduction and imminent passage of a bill to revamp the permitting process for mining in Maine. Bob Marvinney and Robert Gerber have been discussing ideas for an educational workshop or symposium focusing on mining issues. GSM officers will put this on their board meeting for discussion of what role GSM can play in the symposium.
- Walter Anderson noted an upcoming 8-day International Appalachian Trail trip to Iceland that he will be taking part in. The IAT now has 19 chapters including members in Maine, the Canadian Maritimes, Greenland, Iceland, Ireland, the Shetlands, Norway, the Netherlands, France, Spain and Morocco (list not complete). The rationale for the IAT is a geological one, and trails are planned that rim the Atlantic Basin, with geology being the thread that ties it all together. The trip to Iceland will include a trip to the rift zone, with geologists from the eastern and western Atlantic Rims shaking hands across the rift.

Keynote Speaker, Steven Kite

Dr. Stephen Kite of West Virginia University, formerly of University of Maine, gave the keynote address. Dr. Kite spoke about natural cold air vents that form in rock talus piles at Ice Mountain, West Virginia. In cooler times of year cold air sinks into the air spaces in the rock piles. In warmer weather the cooler air flows out of the rocks at the bottom of the slope. The sites support flora and fauna typical of more northerly regions, making them unique ecological preserves. These sites were compared to the Deboullie rock glaciers that we visited last summer for the GSM field trip.

Memorial for Bill Forbes

A tribute to geologist and paleontologist William H. Forbes was held following the meeting. Bill Forbes was a GSM founding member and renowned paleontologist who taught at UMPI for more than 20 years. The memorial was attended by GSM members, the University of Maine Presque Isle and City of Presque Isle community. It included testimonials and a slide show.

Executive Council Meeting, April 27, 2012, University of Maine Orono

A meeting of the executive council was held on April 27 at the University of Maine Orono. In attendance were Alice Kelley, Cliff Lippitt, Dan Belknap, Julia Daly, Rudy Rawcliffe, and Martha Mixon. Topics of discussion were the spring meeting at UMPI, nomination of officers for the fall elections, a proposed educational mining symposium, funding requests to GSM for geological pursuits, and the summer field trip.

Spring Meeting Discussion: The consensus was that the meeting was light in attendance, and light on student participation in the poster and oral present-ations. The timing is always difficult for scheduling the meeting and avoiding spring breaks at the various colleges and universities. In the fall similar schedu-ling problems arise due to NEIGC and GSA meetings. The distance to UMPI was thought to be a factor in the light attendance. A suggestion was made that the spring meetings retain the student focus, but that we may include presentations from professionals as well. The jobs panel was thought to be a success, but could be broadened in the future to include graduate school opportunities and other career paths.

Volunteers and nominations for fall elections: The treasurer, secretary, newsletter editor and one director position are opening up. Some tentative nominations were discussed. The idea of student representatives or directors, one undergraduate and one graduate student, to take part on the GSM executive council was raised. The idea was enthusiastically supported and will be raised at the fall meeting. A change in the bylaws may be required.

Mining Symposium: The idea of an educational mining symposium or workshop was suggested by Bob Marvinney and Bob Gerber, who have monitored the progress of a new mining law through the legislature last session. Just signed by Governor LePage, LD 1853, "An Act To Improve Environ-mental Oversight and Streamline Permitting for Metallic Mineral Mining in Maine" will require the Department to Environmental Protection to submit new rules related to metallic mineral mining to the legislature by January 10, 2014. The symposium would likely include representatives from DEP to present a regulatory perspective, geologists who can provide background on the geology related to metallic mineral deposits and mining in Maine, and scientists who can address environmental issues related to mining, and land reclamation techniques. The role of GSM is an educational one, in keeping with our mission, and the goal will be to encourage a balanced discussion. A motion was made by Cliff Lippitt for GSM to sponsor the symposium as an educational endeavor, and offer publicity via its website and newsletter. Julia Daly seconded the motion and it passed unanimously.

Funding requests: GSM occasionally receives fund-ing requests from various groups and individuals to sponsor student travel and field trips. The most recent request is from the geology club at University of Maine Farmington, which is fundraising to support non-tuition expenses related to a geology field course in Ireland. The question is whether and how to disburse GSM education funds in meaningful amounts and in a manner consistent with our bylaws to support these requests. According to Lois Ongley, GSM treasurer, we have approximately $20,000 in the education fund. Approximately 40% of our dues, or roughly $1200 per year is added to the education fund. Poster and oral presentation awards at the spring meeting amount to $200 per year. The executive council has committed to coming up with guidelines and an application process for making awards to support student travel totaling less than $1000 per year. Martha Mixon and Lois Ongley will work together on a draft application form and procedure. Dan Belknap moved that GSM support the University of Maine Farmington Geology Club with a $500 donation, with the understanding that this is a one-time donation while we work on a protocol for making these decisions and awards. The motion was seconded by Cliff Lippitt and passed unanimously

GSM Summer Field Trip: The field trip will be Aug. 3-5, based out of Mt. Blue State Park. Doug Reusch and Tom Weddle will be the field trip leaders.

Submitted by Martha Mixon, Secretary
Martha.mixon@gmail.com

Martha N. Mixon
11 Merriam Street, Portland, Maine 04103
cell (207) 400-0055 home (207) 871-8012

GSM TREASURER'S REPORT

BUDGET

Fiscal Year August 1, 2011 to July 31, 2012

Income	
Dues	$ 3,000.00
Dividends	$ 75.00
Donations for Anderson Fund	$ 200.00
Subtotal	$ 3,275.00
Expenses	
Newsletters	$ 1,200.00
Meeting Expenses	$ 850.00
Anderson Fund Awards	
Teacher Map Workshop	$ 2,000.00
Spring Meeting Awards	$ 200.00
Website	$ 100.00
Miscellaneous (10% of above)	$ 230.00
Subtotal	$ 4,480.00
Net Gain (Loss)	$ (1,105.00)

Current Membership

Students	34
Associates	19
Regular Members	194
Institutional Members	7
Total	254

REPORT OF INCOME AND EXPENSE

as of May 24, 2012

Assets: August 1, 2011	
Anderson Fund Prime Share	$ 5,802.39
Anderson Fund CD	$ 6,024.21
Subtotal	$ 11,826.60
General Fund Prime Share	$ 2,026.57
General Fund CD	$ 3,769.00
General Fund Money Market	$ 2,505.88
General Fund Share Draft	$ 1,690.18
Subtotal	$ 9,991.63
Total	$ 21,818.23
Income FY to date	
Dues	$ 2,245.00
Dividends	$ 58.66
Donations to Anderson Fund	$ 60.00
Meeting Fees	$ 179.00
Copyright Fees	$ 373.35
Subtotal	$ 2,916.01
Expenses	
Newsletters	$ 776.42
Meeting Expenses	$ 462.00
Anderson Fund Awards	
Teacher Map Workshop	$ 0.00
Spring Meeting Awards	$ 100.00
UMF Geology Club Trip	$ 500.00
Web Site	$ 65.40
Miscellaneous	$ 0.00
Subtotal	$ 1,903.82
Net gain [or loss]	$ 1,012.19

Respectfully submitted,
Lois K. Ongley, Treasurer (2010 - present)
longley@unity.edu

NEWS FROM THE CAMPUSES

Colby College, Waterville, ME

Bob Gastaldo, Colby College, is on sabbatical for the 2012/2013 academic year during which time he will be working in the Palaeontology Laboratory of the University of Bonn with Dr. Carole Gee under an invitation from the Alexander von Humboldt Stiftung beginning later this summer. Their plans are to develop models for permineralization mechanisms responsible for the preservation of standing forests from the Permian to Tertiary. Fieldwork is planned for the island of Lesbos, Greece, and northern Africa. The research visit ends in December.

Bob heads to Rhodes University, in Grahamstown, South Africa, under the auspices of a Fulbright Fellowship beginning in January. The current award is for 7 months of support during which time he, and long-time colleagues, Dr. Rose Prevec and Dr. Billy DeKlerk (Albany Museum of Natural History) and Dr. Johann Neveling (Council for Geoscience, Pretoria), will be continuing their work on the terrestrial response of the Permian-Triassic Mass Extinction. Bob was awarded an NSF-EAR grant this past year for two field seasons in the area near Graaf Reinet and Middlesburg where the research team has collected ash beds near the PTB.

Bob, three Colby students (Tara Chisinski '14, Dan Langwenya '14, and Kody Spencer '14), along with Dr. Sandra Kamo (University of Toronto) and Prof. John Geismann (UT-Dallas), and South African colleagues, spent January near Nieu Bethesda where they've identified new PT Boundary sections, sampled for paleomagnetics, and collected new fossil plant and vertebrate specimens, along with volcanic ash beds.

Unity College, Unity, ME

Tim Godaire graduated on May 8, 2012 and will be attending the University of Maine in the Fall. Tim plans to study climate change and earn a MS.

Prof. Lois Ongley will be on sabbatical during AY2012-13. Her plans include writing papers, developing a new course and working with Chemists Without Borders.

University of Maine, Orono, ME

Alice Kelley and Joe Kelley are in the Shetland Islands in May doing geoarchaeological fieldwork with Bates College archaeologist Gerry Bigelow and others. Dan Belknap and Joe Kelley will be on a coring cruise in June with Irish and UK scientists in the Celtic and Irish Seas, following up on last summer's seismic profiling explorations. The goal of the project is imaging and sampling lowstand shorelines and incised valley fills, to better understand postglacial sea-level changes around Ireland and Great Britain.

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 modem 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:**
Institutional Members	$20.00	$__________		Geological Society of Maine
Associate Member	$10.00	$__________	Address ____________________________________	Lois K. Ongley, Treasurer
Student Member	$ 5.00	$__________		Unity College
Contributions to GSM		$__________	____________________________________	90 Quaker Hill Road
(please write gift or fund on check)				Unity, ME 04988
TOTAL ENCLOSED		$__________	____________________________________	

Email Address ____________________________________

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

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2011/2012 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 Daniel F. Belknap, Newsletter Editor
Department of Earth Sciences
111 Bryand Global Sciences Center
University of Maine
Orono, ME 04469-5790 <belknap@maine.edu>

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Correspondence about **membership** in the Society, **publications** and **dues** should be mailed to:
Lois K. Ongley, Professor of Geochemistry, Unity College,
90 Quaker Hill Rd., Unity, ME 04988 <longley@unity.edu>
Items for inclusion in the **Newsletter** may be directed to:
Daniel F. Belknap, Dept. Earth Sciences, University of Maine,
Orono, ME 04469-5790 <belknap@maine.edu>