

Canadian Geoscience Education Network Annual Meeting
9:30 a.m. – 4:30 p.m., Friday May 14, 2010
Geological Survey of Canada (Calgary)
3303 - 33rd St. N.W., Calgary

Present: Kevin Ansdell, Jan Aylsworth, Laura Clinton, Howard Donohoe, Jon Dudley, Kate Grapes Yeo, Fran Haidl, Beth Halfkenny, Stella Heenan, Lesley Hymers, Amanda McCallum, Godfrey Nowlan, Greg Pittman, Dave Rudkin, Eileen Van der Flier-Keller, Christy Vodden, Miriam Vos-Guenter, Randy Wells, Erica Williams, Jane Wynne

Report of the President (Godfrey Nowlan)

Godfrey reported that CGEN is continuing to be active and successful, with a growing membership. Recognition of CGEN as a credible national focal point for earth science outreach and education is also growing, and this is evidenced, in part, by the relative ease of fundraising under the CGEN name – for example, significant funding was found for both GeoCanada 2010 and EdGEO in the past year. One of the keys to CGEN’s success is the Secretary-Treasurer’s email distribution of news, opportunities and resources to all members. Godfrey recommended that everyone consider this as a prime venue for publicity, promotion and networking. (*Action all – send short blurbs to Christy at cgen@sympatico.ca*) He listed the areas where CGEN had played a significant, and often lead, role in the past year: notably the WHERE Challenge, through national promotion and assembling of team of 40 judges; GeoCanada 2010, in all parts of the outreach/education program, with Fran Haidl the Outreach Co-Chair; fundraising for EdGEO; and the special issue of Geoscience Canada on outreach in Ward Neale’s memory, in which all articles were authored by CGEN members. (*Action all – Geoscience Canada is always on the look out for articles and story ideas can be discussed with Fran at Fran.Haidl@gov.sk.ca*)

Godfrey expressed concern, however, that the priority goals set out at last year’s annual meeting (see minutes for 2009 meeting, p. 7, at <http://www.geoscience.ca/cgen/minutes.html>) had not been pursued, wondering whether it was because they were not the relevant priorities or “did we just miss the boat.” Given the major work accomplished, his feeling was that the priority setting exercise had been seriously flawed and resulted in a wish list rather than actual priorities. He congratulated everyone on all the important things that we DID accomplish. For the future he flagged the Planet Earth Institute as a major initiative with opportunities for CGEN, and the need for CGEN to broaden its membership with “oceans and astro” people.

Report of the Secretary-Treasurer (Christy Vodden)

As of April 30, 2010, the CGEN bank balance was \$20,122.29, which includes \$650 earmarked for geoheritage and a \$15,000 ESS Class Grant from the Geological Survey of Canada to support workshops for EdGEO’s new “Putting the Earth into Science” curriculum materials (2009-2010 financial statement attached as Appendix 1). The \$15,000 grant was the only funding received since the May 2009 meeting. CGEN no longer receives regular funding from any source, and the CGEN general funds continue to diminish with \$6,472.29 remaining. Although there have been no requests for funding this year, it would be useful to revisit CGEN’s annual budgetary requirements and define funding parameters. All of CGEN’s projects do their own fundraising

as needed, and only the careers website and EdGEO have received a CGEN allocation in the past few years. If a more solid funding base is of interest, some options include the Canadian Geological Foundation, which now offers multi-year funding, and the Geological Survey of Canada, which has expressed interest in CGEN applying for funding in this fiscal year. One innovative way of fundraising for CGEN has been led by the Ottawa-Gatineau Geoheritage Project. OGGP speakers have diverted any offered speaker's fees to CGEN to be held for geoheritage projects. Jane Wynne suggested that this concept be promoted in an article in *Geolog* and other similar professional newsletters, with Beth Halfkenny suggesting that in lieu of speaker's gifts, a donation could be made to CGEN. (*Action Christy*)

A highlight of the year was the fundraiser to collect \$5,000 to support a chapter in memory of Ward Neale in the upcoming book about Canada's geology "Four Million Years and Counting," and this was accomplished in no time flat through the generosity of CGEN members and other colleagues of Ward's, with the Canadian Geological Foundation providing support in the form of tax receipts.

There are no issues linked to the CGEN website. An update was done in November, and another will be done once the minutes are available. The long-term contractor, Jennifer Smith provides excellent service at a very reasonable rate. Membership continues to show healthy growth. We now have 355 members, a total of 50 new members since last May.

Debriefing on GeoCanada 2010 education/outreach activities (all)

Education and outreach were prominent at GeoCanada 2010, and its organizing committee is to be congratulated for making this happen, as well as for creating such an excellent overall program. Attendance was close to 5,000. Jon Dudley noted that this was the first time that the Canadian Society of Petroleum Geologists had inserted outreach into their conference and that it represented a real "step change" for them. The major outreach/education key components were:

CGEN/EdGEO Teachers Workshop: Organized by Godfrey Nowlan and Laura Clinton, this was a milestone workshop as it premiered EdGEO's new manual "Putting the Earth into Science," which provides earth science activities integrated into the core curriculum of physics, chemistry, biology and mathematics. The 23 teachers (two had to cancel) who attended were enthusiastic about the materials, and they committed to sharing the materials with teachers in their board. They also provided excellent feedback to Stella Heenan, the content developer and workshop leader. The workshop included a one-day field trip to the Royal Tyrrell Museum of Paleontology, which was also open to conference registrants, and it was fully subscribed. The Geological Survey of Canada through an NRCAN ESS Class Grant was the major sponsor of the workshop.

Earth Science for Society: This two-day student/public event ran consecutive to the conference and in an adjacent building. Over 2,000 students were given 90-minute tours through the various exhibits representing all aspects of the earth sciences and all of which had hands-on activities for the students. About 500 members of the public and many conference delegates also attended. Annette Milbradt and her team are to be congratulated on pulling together this fantastic event, which was a massive coordinating exercise, involving two years of planning and almost 100 on-site volunteers. The sponsors who generously donated the \$140K needed to support the event

are listed at: <http://www.geocanada2010.ca/index.php?page=earth-science-for-society>. Anyone interested in the debriefing materials should contact Fran at Fran.Haidl@gov.sk.ca.

Communicating Earth Science to the Public: This 1½ day session, co-chaired by Dave Liverman, Eileen Van der Flier-Keller and Christy Vodden, experimented with the traditional session structure of talks and posters by adding a keynote speaker (Iain Stewart, Professor of Geoscience Communication and well-known TV geologist), a panel discussion on communications issues and approaches (“Hot Buttons and Best Practices” with five panellists representing the petroleum and mining industries, government surveys, aboriginal communities and environmental outreach), and a half-day workshop (Let’s Talk Science: Science with Impact introduced by CEO Bonnie Schmidt). Attendance was strong throughout, with well over 100 at the keynote and panel discussion. Iain’s keynote was extremely well received and built beautifully on Godfrey Nowlan’s superb plenary talk “Earth Science Literacy and Planetary Citizenship,” which had immediately preceded the session. The panel discussion generated a great debate, which unfortunately had to be cut short when the time ran out. The workshop, sponsored by the Canadian Geological Foundation and Let’s Talk Science, had about 25 participants and stimulated a vigorous debate about getting the earth science “messages” across.

Art and Geology: Jeff Packard and Ian Young led the development of a series of posters, each linking a Canadian artwork to a geological map and a significant earth scientist. One set was on show at the conference, the other on public display in downtown Calgary. There was a diversity of opinion about the success of the format, which was very wordy, and many suggestions as to future uses of the panels. All agreed that they would be a welcome addition “as is” at professional earth science meetings, but that an edited version would be needed for general public venues, with Erica Williams suggesting a takeaway print version. (*Action Christy – to contact Patricia Grattan, an independent curator with an interest in geology and art*) A website version was also suggested as an option. Kate Grapes Yeo noted that from a teacher’s perspective they represented an “awesome model of cumulative activity for students: arts/language/science.” Howard Donohoe said that he would talk to the Atlantic Geoscience Society about possible uses. (*Action Howard*)

Plans for Ottawa 2011 (Al Donaldson/Beth Halfkenny/Christy Vodden/all)

The education/outreach component of the Ottawa conference includes a special session on geoscience education, two field trips and a teachers’ workshop. Unfortunately, the session summary submitted by Al Donaldson did not make it into the first circular for reasons unknown. A priority will be to meet with the Ottawa 2011 organizing committee to ensure that our plans are recognized by them and incorporated into all future publicity materials. We will also have to find out if they are planning any public component for the conference. (*Action Al, Beth and Christy*)

The special session will focus on assessing recent progress in the enhancement of public geoscience awareness, with an emphasis on improvements in geoscience curricula at all academic levels, evaluations of the future of geotourism (especially by way of geoparks), and reviews of geoheritage values (i.e. preserving, protecting and raising public awareness of geoheritage sites).

The field trips are a one-day “Geological highlights of the National Capital Region” led by Al Donaldson and “Ottawa’s building and monument stones” led by Quentin Gall. Both will be of interest to educators, with the former included as part of the teachers’ workshop.

The teachers’ workshop will be organized by Beth Halfkenny and Laura Clinton as a two-day event, split into two groups. One will focus on elementary level and the other on high school level teachers, with the groups coming together for meals and the one-day “Geological highlights” field trip. Given the huge effort and funding required to bring in teachers from across Canada, it was agreed that local teachers (from both Ontario and Quebec) should be the main attendees sought. The workshop will be held at Carleton University, and the best timing for it falls at the end of the conference owing to the long weekend at the start of the conference. The dates proposed were Friday, May 28 for the workshop, with the field trip on the following day. Another issue to be addressed with the Ottawa 2011 organizing committee is whether teachers would be given free access to the technical sessions, as was done at GeoCanada 2011.

CGEN regional chapters (Charly Bank by email)

As CGEN’s President Elect, Charly is tasked with keeping informed of developments and liaising with the regional chapters that were mandated at the May 2009 meeting. It was expected that there would be some growing pains getting the new concept off the ground, given that no one is looking for new projects to fill their overcharged schedules, but there has been some encouraging progress:

British Columbia: EdGEO workshops are done through the Pacific Section of the Geological Association of Canada (GAC) on Vancouver Island and the GAC Cordilleran Section in the Lower Mainland. Eileen Van der Flier-Keller suggests that these groups meet in the future, and she has discussed this with Brett Gilley (UBC Carl Wieman Institute). Eileen put in a plea for the reinstatement of the annual CGEN meeting aligned with the Cordilleran Roundup, given that it provided an excellent opportunity for people from BC, Alberta, Yukon, NWT and Nunavut to come together. Several people supported this notion. (*Action Charly/Eileen*)

Alberta: A group representing Calgary-based societies and CGEN met in 2008, and basically this same group has responsible for coordinating and putting on the major GeoCanada outreach events. It is hoped that this group will maintain their connection.

Saskatchewan: There is a well-established group that has been active for a long time, and Fran Haidl organized a CGEN chapter meeting in Saskatoon, December 2. Randy Wells pointed out that the timing of such meetings is really important, preferably linking to a larger event, and that face-to-face interaction accomplishes so much more than emails.

Manitoba: Mining Matters and Manitoba partners are cultivating a meaningful partnership (Ministry of Mines, Ministry of Education, University of Manitoba). Lesley Hymers believes that it is a good time to promote the formation of a Manitoba CGEN chapter, and suggested that we approach Jeff Young, University of Manitoba. (*Action Charly*)

Ontario-Ottawa: The Ottawa-Gatineau Geoheritage Project has agreed to be a CGEN regional chapter. At a public meeting in June 2009 they launched a book on Ottawa's building stones by Quentin Gall. About 25 people turned out.

Ontario-Toronto: A group representing industry (Mining Matters), high school, and academia have worked closely together to bring earth science to high-school teachers. They did not have a formal meeting this past year.

Quebec: No contact established.

Atlantic Canada: The Education Committee of the Atlantic Geoscience Society, which has Nova Scotia and New Brunswick branches, has agreed to act as a regional chapter. They meet ~3-4 times annually. Newfoundland has no contacts established, but Amanda offered to take a lead on this. (*Action Charly/Amanda*)

Yukon, Northwest Territories, Nunavut: No contacts established.

The discussion covered a range of points, mainly about the understandable lack of consistency between the way the existing self-identified groups function, their focus and the varying definitions of the term “regional.” Two major points were clear. One, a consistent, proactive line of communication is needed between the national and regional groups, and the most workable suggestion was that the President-Elect ask (and then nag) each established regional chapter to send in a short annual report, to be circulated to all CGEN through the email notices, with the hope that activity in one part of the country will spur activity in other parts. (*Action Charly*) Two, contacts for parts of the country where no regional chapters exist need to be made, and several people volunteered to follow up. (*Action – Amanda: Newfoundland; Leslie: Manitoba; Godfrey: Quebec and Alberta*).

The bottom line is that we do not want to impose artificial meetings or create an unnecessary time burden on CGEN members. The regional chapters are meant to increase networking opportunities in geographic units where the CGEN members share aligned goals and would benefit from working with others in their region. As a result, their composition and activity level must be left to the groups themselves. Anyone wishing to set up a regional group can use the CGEN membership list at <http://www.geoscience.ca/cgen/executives.html> to find out who is in their target areas and get their email addresses. Please let Charly Bank know of any such activity: bank@geology.utoronto.ca

Teachers’ network: An interesting discussion, led by the teachers, arose about the need for an online “one-stop shopping” place for Canadian teachers to share resources of direct interest to their classroom needs. Networks that do exist tend to be board-specific, and creating a national teacher-oriented “sharing area” would be a valuable service provided by CGEN. Miriam Vos-Guenter (Belmont Secondary, Victoria) volunteered to collate suggestions and maintain the links for the site, which will feature the best geoscience resources available in Canada, as suggested by teachers and other members of CGEN. It will be housed at <http://www.earthsciencescanada.com> (*Action Miriam*)

International Year of Planet Earth (Godfrey Nowlan)

The International Year of Planet Earth is now officially over, and all that is left to do is the final report. A lot was accomplished, despite fundraising taking a nosedive after the economic meltdown. There is an impressive legacy that will live on at the website

<http://www.earthsciencescanada.com/>, notably Careers in Earth Science (see Core Projects agenda item for full report) and the book “Four Billion Years and Counting” that is to be published in 2011, at which point the illustrations from the book and, possibly, teachers’ resources would be posted on the website. The Canadian Federation of Earth Sciences will maintain the overall website, with CGEN responsible for keeping the content up to date. The only disappointing project was the IYPE commercial purchased to run during the CBC television series “Geologic Journey.” It cost \$60,000 and had no measurable impact.

The WHERE Challenge, which is also housed on the website, ran for a second year, but given the huge amount of time required to run it, it will need another group to take it over. Both CSPG and Mining Matters are interested in exploring this. (*Action Godfrey*) One issue is that if a change of focus is required to the contest, it would require translation of all new material for the website and promotional materials, with an attendant expense.

GeoVistas received \$10,000 funding from the Canadian Geological Foundation. The project will develop brochures that invite people to visit particular views in a National Park and explain to them what they are seeing. They will be available in park offices or for download from the internet. The content will be suitable for incorporation into trail guides, displays, and educational materials that will raise awareness of the importance of geology to the local environment and its inhabitants; and its impact on ecological, cultural and economic development. Although individual GeoVistas will be site-specific, the template is transferrable to any locality where the natural environment has a significant impact on local cultural and economic development. The project is being piloted in Jasper National Park in Alberta (Larry Lane, Godfrey Nowlan) and Grasslands National Park in Saskatchewan (Fran Haidl). If this pilot project is a success, future GeoVistas may be expected throughout Canada's parks systems. About 10 brochures will be produced: each one featuring an accessible, iconic view in the park. Work is underway in Alberta and Saskatchewan with a view to completion in early 2011.

Fran Haidl, on behalf of CGEN, thanked Godfrey for all his hard work on IYPE, noting that "It would not have happened without his leadership and dedication."

Planet Earth Institute (Godfrey Nowlan)

This international initiative, developed by Ed de Mulder who was one of the main instigators of IYPE, builds on the momentum of IYPE. The goal is to have a funded, staffed central office that will coordinate efforts in member countries to communicate "with the general public the added value of Earth science information for society..." It will be a non-profit and apolitical organization. The concept is based on the need for ongoing national committees, and Godfrey suggested that CGEN would be the logical focal point in Canada and he would like us to consider it with a view to taking a decision at some future point.

The international concept of "citizens of the earth need to band together to do what our governments won't do" is appealing, and the institute would offer a chance to network globally and work with people with the same goals of increasing awareness of the earth sciences. Godfrey's only issue with the concept is the expectation that national committees would fundraise for the central office. He found this taxing of country funds distasteful and imagined that it would not be accepted by any of the country member committees. While he saw a need to provide some seed money, he felt that any fundraising done in Canada should be directed to Canadian projects. His vision would be a loosely knit network of national groups working towards the same goals. He asked everyone to read about the institute and provide feedback to him at Godfrey.Nowlan@NRCan-RNCan.gc.ca. He specifically would like comments on how CGEN would fit in to the institute and what our responsibilities should be. (*Action all – the document is at <http://www.yearofplanetearth.org/content/downloads/TPEI-NP-290410.pdf>*)

CGEN priorities for 2010-2011 (all)

Six priorities were identified and ranked as follows:

1. ***EdGEO***: This is currently the most active and high profile of CGEN's core projects. It is well managed by Laura Clinton and is having good success at fundraising to meet growing demands on it. Assistance by the CGEN Executive and membership will be available as needed.
2. ***One-Stop Shopping for Top Educational Resources***: This was a teacher-identified priority and Miriam Vos-Guenther volunteered to coordinate and maintain a list of resources, which will reside on <http://www.earthsciencescanada.com/>.
3. ***Earth Science in High Schools***: There have been productive connections made between the University of Waterloo and Memorial University with high schools in their regions. Transferring those models to other regions is recommended. As a first step, case studies of the two models should be circulated to CGEN. (*Action Godfrey*)
4. ***Integrating earth science with the social sciences***: The new EdGEO manual successfully integrates earth science content into physics, chemistry, biology and math curricula. A parallel effort to integrate with the social sciences should be made. The first step would be to establish a CGEN sub-committee (Godfrey Nowlan, Eileen Van der Flier-Keller, Jan Aylsworth volunteered to scope it out). Greg Pittman suggested that the arts be added to the exercise. (*Action Godfrey, Eileen, Jan*)
5. ***Careers in earth science website***: Further promotion and ongoing maintenance are required. Connections with the Council of Canadian Chairs of Earth Science Departments need to be pursued concerning contributions and promotion. (*Action Godfrey*)
6. ***Gaps in membership***: Geographic gaps include Nunavut, Prince Edward Island, western Newfoundland, northern Alberta and Ontario, British Columbia (north and interior), Quebec (particularly Montreal). Sectoral gaps are in the petroleum industry and ocean sciences. (*Action – CGEN members are to send names and emails to Christy for anyone they know in these gap areas and she will send out an invite for them to join CGEN*).
7. ***Developing regional chapters***: See discussion and actions in preceding agenda item “CGEN regional chapters.” (*Action Charly*)
8. ***Teacher networks***: This is aligned to the teacher-driven priority for sharing of resources beyond the limits of existing board/school-specific networks. (*Action – Jon Dudley to discuss social networking options with Tom Keenan, a Calgary-based Internet expert*)

Core projects

***Careers in Earth Science project* (Godfrey Nowlan/John Clague)**

The website is online in English and French (<http://www.earthsciencescanada.com/careers/>) and publicity has been underway with the use of promotional postcards since September. CGEN has responsibility for maintaining the content and for any upgrades, and Godfrey has approached the content developer Jenn Sabeau as to whether she would take this on as a small contract. There is funding available for this through IYPE, but any upgrades would require fundraising to support them. As a carry-over from the 2009 meeting, Godfrey is to contact Barry Warner to discuss Canadian university contributions to the careers website.

***EarthNet* (via email Jennifer Bates)**

See report attached as Appendix 2. EarthNet has not been online for a significant time, which is unfortunate as its searchable database contains a huge amount of material of use to educators, students and the public about the earth sciences. It had previously been housed on the Natural Resources Canada website, but they only support bilingual sites, and a new home is being sought, as is an affordable way to post new materials. In the meantime, content development is moving ahead, notably for a petroleum component with funding from Encana. EarthNet has developed many resources over the years, but has always asked for materials from across the country in order to provide truly national coverage region-by-region.

EdGEO (Laura Clinton)

See report attached as Appendix 3. Laura Clinton reported that EdGEO has had an especially productive year, thanks to its success in fundraising. Revenues of \$20K were donated by sponsors to support EdGEO workshops (12 held this year, totalling 303 teachers) and two \$15K grants from the Geological Survey of Canada and the Canadian Geological Foundation enabled contractors to be hired to produce two major manuals of educational resource materials: the previously described “Putting the Earth in Science” and “Bringing Earth Science to Life,” a massive compilation, in the final stages of development, that provides all the information needed to put on an EdGEO workshop, including a huge range of the very best educational materials that have been used at past workshops. Another welcome achievement was a French EdGEO website, thanks to the translation work of Pierre Verpaelst and Pierre Rheaume. It went live in mid-May (http://www.edgeo.org/fr_CA/).

The next steps are to renew fundraising efforts for the coming year and to market the two new manuals through promotion and workshops. An excellent start was made with the teachers’ workshop at GeoCanada 2010, and it is expected that many of the participants will be ambassadors for the “Putting Earth into Science” materials in their boards. Jane Wynne suggested national promotion through earth science professional associations and school boards, with Kate Grapes Yeo suggesting students in faculties of education be targeted and Greg Pittman reporting that he would be writing an article for the Newfoundland professional association that supported him. Erica Williams recommended putting the manuals on CDs for those schools not having good Internet access.

Laura wondered if anyone was interested in becoming the volunteer editor of the EdGEO newsletter or if any other group wanted to partner in its production. (*Action – anyone interested should contact Laura at lclinton@pdac.ca*)

Geoheritage Project (Christy Vodden for Al Donaldson)

See report attached as Appendix 4. Although there is much activity underway across the country, the Ottawa-Gatineau Geoheritage Project (OGGP) is the only self-identified group aligned with CGEN’s Friends of Canadian Geoheritage core project. Highlights for the OGGP were the launch of “A Walking Guide – Ottawa’s Building and Monument Stones,” authored by Quentin Gall; and a grant from the Canadian Geological Foundation to create a new OGGP website, update the OGGP brochure and prepare information sheets for the new Metcalfe Geoheritage Park. Located in Almonte, Ontario, the park will be officially opened in October. OGGP continues to network with museums and other aligned groups, georescue significant sites (notably shatter cones at Laurentian University and stromatalites off Highway 417 in Ottawa), give public talks and have a presence at various public events. Of note, Geoheritage Day,

October 18, organized by Beth Halfkenny, ran for a second year, with great success. Many OGGP members volunteered at this event, which ran as part of National Science and Technology Week.

Al really would like CGEN members to expand efforts to encourage the preservation and protection of our geoheritage in their areas. As tabled at previous CGEN meetings, there is a pressing need for legislation (both provincial and federal) to protect geological treasures across Canada. It is uneven across the country, but an important first step would be to do a cross-country check-up on what's in place. Apparently Alberta and Quebec have solid legislation and Newfoundland's is at a draft stage. Godfrey indicated that this might be an appropriate project for the new Canadian Geoparks Committee. (*Action Godfrey*)

***Geoparks* (Godfrey Nowlan)**

The Canadian National Committee is developing guidelines for Canadian geoparks, aligned with those of the U.S. committee. The term “park” is a bit of a misnomer, as these developments are really meant to protect and promote geoheritage by turning them into a sustainable tourism development, underpinned by public education and economic benefits to the host community. The development of these parks is supported by Unesco, and there are currently 66, mainly in China and Europe.

Canada's first proposal is the Stonehammer Geopark proposal, which was put together by a Saint John consortium including the New Brunswick Museum, provincial and municipal governments, real estate developers, banks, representatives of the tourism industry and field naturalists. The proposal has been accepted by the international committee, and two geoparks experts will come to Saint John for an on-site assessment as the final step in the approval process. The proposal, which represents a huge amount of work, is online at: <http://stonehammer.nbm-mnb.ca/>. Godfrey reported that another proposal is in the works for Newfoundland, and there have been some enquiries from other parts of the country.

***Geoscape and Sea-to-Sky Highway product* (via email Bob Turner)**

Bob reported that five GeoTour guides were published, including three previously developed community guides for Terrace, the Hazeltons and Prince George and two new projects. The first new project, a guide for the Sea to Sky Corridor (Vancouver to Whistler) was completed in time for the 2010 Winter Olympics. It was a collaborative project between the Geological Survey of Canada and the regional communications office for Natural Resources Canada. It was published in a novel format and was accompanied by a Sea to Sky map, three fact sheets (on glaciers, mountains and volcanoes), and an audio tour of geological highlights for the highway route. A similar production is in the works for Vancouver. The second new GeoTour was for the East Kootenay region in southeastern BC; partners included BC Energy Mines Petroleum Resources, Fort Steele Heritage Town and the Fernie Museum. It is a companion to the West Kootenay GeoTour guide released last year. All are available from the GSC Sales Office at: (604) 666-0271; website: http://gsc.nrcan.gc.ca/org/vancouver/bookstore/index_e.php

***What on Earth* (Alan Morgan)**

Plans are still in place to go to an entirely online format, as a downloadable PDF. The last issue online at the What on Earth website is dated December 2007, representing a large gap in the

publishing schedule. The next issue is in production.

Reports from CGEN members

Atlantic Geoscience Society (Howard Donohoe/Jennifer Bates)

The AGS supported two teachers to attend GeoCanada 2010. AGS members have some wide-ranging projects underway, including a new workshop on evolution held at Acadia University. They are also involved in major projects such as the proposed Stonehammer Geopark in the Saint John area, and the much-anticipated popular book about Canada's geology "Four Billion Years and Counting: Canada's Geological Heritage." See Appendix 5 for full report.

B.C. Sc 10 Earth Science (Erica Williams)

A recent BC government document showed that of 15,082 BC high school science students, 46% passed the mandated exam at the A or B levels. Erica posed the question of whether this is a signal of the degeneration of science teaching in favour of passing an exam. Of note, Erica is compiling a sea-to-sea-to-sea spreadsheet on earth science curriculum. (*Action – Erica to share spreadsheet with CGEN when completed*)

Canadian Federation of Earth Sciences (Godfrey Nowlan for Bill Mercer)

CGEN is the outreach arm of CFES, and Godfrey is the CFES Outreach Director. Funding for CFES continues to be a major issue, but as a national umbrella organization it is establishing itself as a fairly effective forum for the Canadian earth science community in all its diversity. CGEN is considered the "shining star" of CFES in light of all we accomplish. Bill Mercer, the current CFES President, is ending his term and the incoming president is Bill Stiebel, a hydrogeologist who intends to focus on governance.

Carleton University (Beth Halfkenny):

"Explore Geoheritage Day" (<http://www.earthsci.carleton.ca/ExploreGeoheritageDay.html>) has proved to be a strong success, and is going to run for a third time on October 24 as part of National Science and Technology Week. Beth urged other CGEN members to give it a try in their communities. She offered to provide advice to anyone interested; contact her at: beth_halfkenny@carleton.ca. Other activities offered by Carleton include a teachers' workshop and school visits.

Canadian Society of Exploration Geophysicists (Annette Milbradt via email)

The recent focus of the CSEG Outreach Committee has been two events at GeoCanada 2010: the Earth Science for Society event and a "Reach for the Top" style competition about geophysics for university students, with winners getting all-expenses-paid trips to Denver to compete in the international finals. Other university student outreach highlights included two events (at the universities of Alberta and Manitoba) under their Ambassador Program, and a one-day GeoSkills conference. At the high school level, CSEG made presentations about geophysics at high schools in Mission and Calgary, and a CSEG booth was at five Calgary high school career fairs. See Appendix 6 for report.

CRYSTAL program (Eileen Van der Flier-Keller)

The Centres for Research in Youth, Science Teaching and Learning (CRYSTAL) program is over and there will be no renewed funding as was hoped. The Pacific CRYSTAL, housed at the University of Victoria, will have several legacies, notably a compilation of everything that they learned that will be published as a book or e-book.

Geological Association of Canada (Eileen Van der Flier-Keller)

The initiative to provide teacher memberships at highly reduced rates initially attracted 19 teachers, but this has gone down to six teachers, which is too bad as the perks include reduced rates for all GAC publications and the annual conference, as well as e-subscriptions to *Geoscience Canada* and *Geolog*. The Y.O. Fortier Award for excellence in journalistic reporting of earth science stories has now been broadened to include magazine articles. The 2010 award went to Randy Boswell of the Canwest News Service. The annual deadline is January 31.
(Action all – keep an eye out for good print reporting and nominate a journalist)

Geological Survey of Canada (Jane Wynne/Jan Aylsworth)

Jane reported that during National Science and Technology Week (NSTW), October 15-24, 2010, there would be five days of ship time in the Georgia Basin to take science to five remote communities. There will also be a BC-wide classroom drill “Drop, Cover, Hold” at 10:00 a.m., January 26, 2011, as part of earthquake preparedness efforts in the province.

Jan reported that NSTW continues to be a focal point for school visits to the GSC facilities in Ottawa, although requests are dropping off for school visits in other times of the year, owing to issues with the central communications group of Natural Resources Canada. The NSTW Fun Day traditionally attracts about 2000 people and is targeted mainly at families with young children. In Quebec, NSTW is celebrated with information booths and activities at shopping malls and by public walks. In Calgary, rock, mineral and fossil ID activities are held.

An issue of concern to CGEN is that the GSC educational publications, which used to be distributed in the thousands to teachers annually, are mostly out of print and there is no plan for reprints. *(Action – Godfrey and GSC reps to talk offline)*

Geological Survey of Newfoundland and Labrador (Amanda McCallum)

Highlights of the past year include five public lectures held at the Johnson Geo-Centre that attracted between 50-200 people; the distribution of 300 rock and mineral kits to every school in Newfoundland and Labrador – the specimens were collected by project geologists or provided by producers; growing email connections with earth systems teachers; and geotourism to the Bonavista Peninsula. Of special note, the first Mining Week since the early 1990s was held. As part of it, and in partnership with Mining Matters and the Canadian Institute of Mining and Metallurgy, the first Mining in Society event was put on (the first time one has ever been held outside a major urban centre). The Department of Natural Resources, of which the Survey is part, is recognizing the need for more outreach and their new website will include an outreach and education component. For the future, a partnership with Mining Matters will put on 20 workshops in the Baie Verte Peninsula. Amanda is also the outreach chair for the GAC/MAC annual meeting in St. John’s in May 2012.

Mining Matters (Laura Clinton)

The Prospectors and Developers Association of Canada (PDAC) Mining Matters, based in Toronto, continued to expand its reach in the past year through collaboration in Manitoba, British Columbia, Newfoundland, Saskatchewan and Quebec. The goal is to build capacity through partnership activities with provincial counterparts. In Ontario, remote and aboriginal communities are a priority and an aboriginal specialist has recently been added to the Mining Matters team. The PDAC annual convention and trade show had a strong education component with 70 teachers participating in the programming. Public outreach continues at gem and mineral shows and at major events such as Mining in Society. The Mining Matters website has been refurbished and translated; it provides a wealth of education resources for teachers <http://www.pdac.ca/miningmatters/>.

Ontario Mining Association (Lesley Hymers)

A major undertaking for the past year was the *So You Think You Know Mining* video competition, which offers high school students the opportunity to create a two to three minute video that describes the benefits of mining. The 2010 competition had 38 entries and cash prizes totalling \$22,500 were to be awarded to Ontario high school students in June. Planning for the 2011 competition is underway. See Appendix 7 for full report.

Saskatchewan Geological Society (Fran Haidl)

The Society funded five Saskatchewan teachers to attend GeoCanada 2010, of which four were able to attend. Other activities included a public lecture and a school lecture tour by Ellen Millie of the University of Calgary. Her talk on meteorites was heard by 750 students over two days, and the public lecture attracted 80 people. A teacher workshop was held for 25 teachers at Prairie Valley.

Saskatchewan Outreach (Kate Grapes Yeo)

Kate is part of an “Enterprise Saskatchewan” study driven by mining companies’ concerns about the lack of future workers. She is comparing K-12 earth science curriculum across Canada to that offered in Saskatchewan to see what programming and resources should be developed for her province. She hopes to use CGEN members to help with a survey she is putting together and will share the results with CGEN when complete. (*Action Kate*)

University of Toronto (via email Charly Bank)

There is continued connection with Toronto high school teachers through meetings, and with students through classroom visits to the U of T facilities. The “Girls Rock Science” seminar series and the day-long “Science Rendezvous” event continue to be popular. See Appendix 8 for full report.

Date of next meeting: The 2011 CGEN annual meeting will be held on Monday, May 24 at Ottawa 2011, <http://www.gacmacottawa2011.ca/>. Mark it in your calendar!

Christy Vodden
Secretary-Treasurer
October 12, 2010

Appendix 1

Canadian Geoscience Education Network
2009-2010 FINANCIAL REPORT

Balance at last report (as of April 30, 2010)	+\$8,667.57
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Incoming funds:

GSC/NRCan Grant for teachers' workshops, 20/04/10	+15,000
Interest (May/09 – April/10)	<u>nil</u>
Total incoming:	+\$15,000

Sub-total:	+\$23,667.57
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Outgoing payments:

J. Smith, website update/transfer to new site, 12/05/09	-\$175
C. Vodden, catering: AGM & Ottawa reg. chapter 02/07/09	-\$135.11
C. Bank, catering: AGM & teachers' workshop 20/07/09	-\$543.27
GAC, Geoscience Canada, 50 Neale special vol., 30/10/10	-\$357.50
F. Haidl, Sask. reg. chapter, 24/12/09	-\$200
J. Smith, website update, 17/03/10	-\$75
S. Heenan, teachers workshop, 04/30/10	-\$2,000
Monthly bank charges (May/09 – April/10)*	<u>-\$59.40</u>
Total outgoing:	\$3,545.28

BALANCE (as of April 30, 2010)	\$20,122.29
CGEN portion:	\$6,472.29
Teachers' workshop:	\$13,000
Geoheritage portion:	\$650

* Charge of \$4.95/month if balance is under \$10,000.

Christy Vodden
Secretary-Treasurer
May 14, 2010

Appendix 2

EarthNet Report to the Canadian Geoscience Education Network

GeoCanada 2010, Calgary, Alberta
May 2010

Overview

EarthNet (www.earthnet-geonet.ca) was created in the 1990s as a reputable source of information for those interested in learning more about earth science. The intended audience is educators, students and interested members of the public. Examples are drawn from the varied and fascinating geology of Canada. Periodic assessments have been made to determine whether the site is achieving its original intention. In response to the most recent assessment, a reconstruction plan for EarthNet is currently underway. Slow progress is being made. The inability to find an affordable web developer has stymied posting of completed and new materials. However, recent investigations reveal a possible way to remove this stumbling block. These days online website construction tools are available for those without computer programming degrees. One program will be test-driven this summer. Finding a suitable program could mean easier web page development and direct posting of content. Like any website, ensuring current and representative content is one of the challenges. For the most part, content for EarthNet is created by volunteers but modest support (~\$2-3K annual) allows for small contracts. A successful proposal to Encana Corporation is focusing development on petroleum-focused content. Like every project, the search for funding is an ongoing activity.

Content development

Development funded by Encana Corporation:

- Conversion of hard copy AGS Offshore Oil and Gas video teachers guide to digital format completed. Conversion of animation and video clips to web format remains.
- Development of learning activity using the Hele-Shaw cell to demonstrate sedimentation, salt diapirs, faulting, etc. (photography, video and writing): Video capture of a demonstration done. An activity for 2010 NS EdGEO workshop to be developed and posted.
- Development of new animations (origin of oil, trap mechanisms): One animation created by NSCC students. Several scenes in story board remain. Video capture by GSC Atlantic of outreach demos to be added.
- The following remain:
 - Adaptation of offshore maps and sections in digital web format (well locations & production status of offshore east coast wells; cross-sections of east coast offshore basins)
 - Update of teaching resources
 - Development and posting of web pages using the above content

Other development:

- Geology of Communities: Mastodons of the Maritimes (with the Atlantic Geoscience Society)
- Virtual Field Trip: Geological vignettes for locations across Canada (with Parks Canada)
- Especially for Teachers: posting of clips extracted from videotaping of 2009 NS EdGEO workshop

The Geological Survey of Canada (Atlantic) no longer hosts EarthNet although it allows use of an internal server for development. A new home will be found while the site is being recreated. There are a few options. Preliminary inquiries indicate the associated annual cost to house the site on a reputable server should not be insurmountable.

Site contributions

CGEN members and regional chapters are encouraged to contribute field trip guides, images, weblinks, and information on new resources or activities to EarthNet. All contributions will be acknowledged on the

site.

Promotion

CGEN members play an important role in communicating with educators. You might want to include EarthNet promotion cards in your education packages once the site is active.

Report prepared by Jennifer Bates, Chair of the EarthNet Development Committee
jbates@nrcan.gc.ca

Appendix 3

EdGEO Report to CGEN – May 14, 2010

L. Clinton

This report provides an update of EdGEO operations during the last fiscal year (April 1, 2009 to March 31, 2010).

Workshops

Fourteen EdGEO workshops were scheduled and twelve were delivered during the last fiscal year. A detailed table of the workshops is attached. There were seven workshops in British Columbia, two workshops in each of Alberta and Ontario, and one in Nova Scotia. One workshop was cancelled in BC and one was cancelled in Manitoba. Total attendance was 303.

At the time of this report, two workshops have been approved for funding for the 2010/2011 fiscal year.

Finances

EdGEO workshop support for 2009/2010 amounted to \$18,672.10, with additional approved commitments of \$5,850 for 2010/2011.

Revenue of \$20,000 was secured from sponsors this fiscal. New sponsors include EnCana, Nexen, Canadian Society of Exploration Geophysicist Foundation, Magma Energy Corp., Ontario Secondary School Teachers Federation, Canadian Geological Foundation, and the GAC Mineral Deposits Division.

With new projects initiated this year, expenses did exceed revenue. The operating profit was \$-6,481.07. As of March 31, 2010 total assets for EdGEO were \$32,259.37.

Funds of \$15,000 have been committed from the Canadian Geological Foundation to support the development of ten curriculum-based lesson plans to integrate Earth science topics into the core subjects of physics, chemistry, biology and mathematics. The project is now complete and EdGEO will now be able to collect on the CGF grant.

New project “Bringing Earth Science to Life”:

A grant of \$15,000 from the GSC was awarded in March 2009 to support a project that will deliver a comprehensive collection of relevant, classroom-ready resources in Earth science for junior and intermediate grade levels. The National EdGEO Workshop Program worked in partnership with volunteer EdGEO workshop facilitators to compile existing learning activities that have been used in teacher-training. The learning activities will be made available for download on the EdGEO Web site. The resulting collection will avoid duplication of effort for future EdGEO workshops and leverage existing high-quality offerings. This project will greatly assist volunteer EdGEO workshop organizers by providing materials that can be used directly or adapted for use in new workshops. The project is very near completion with plans to post the complete manual by the end of May.

EdGEO wishes to thank Stella Heenan and Christy Vodden for their efforts to complete both projects.

EdGEO Web Site:

The EdGEO Web site has been translated to French and went live last week. EdGEO wishes to extend thanks to Claire Toner, Pierre Rhéaume, Pierre Verpaelst and Kevin Haidl who have worked extensively to complete this project over the past year.

EdGEO Newsletter:

EdGEO is seeking a volunteer editor for the annual newsletter.

EdGEO Executive Committee

Laura Clinton
Sheila-Dale Johnston
Toon Pronk
Jane Wynne

EdGEO Regional Committee

Charly Bank
Laura Clinton
Beth Halfkenny
Stella Heenan
Lesley Hymers
Amy Nishio
Claire Toner

Contact Information

Laura Clinton, Chair
94 Charest Place
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Friends of Canadian Geoheritage
Annual Report to the Canadian Geoscience Education Network

Ottawa-Gatineau Geoheritage Project (OGGP)

The 15 executive members of this group continue to meet regularly in Ottawa, under the leadership of Al Donaldson. In May 2009, OGGP agreed to become a regional chapter of CGEN and hosted its first open meeting, June 18, at which “A Walking Guide – Ottawa’s Building and Monument Stones,” authored by Quentin Gall, was launched. About 25 people attended. The book, published by the Geological Association of Canada, has been well received and, if funding can be secured, is being considered as a handout to all delegates during registration at the Ottawa 2011 Annual Meeting.

A grant of \$4520 from the Canadian Geological Foundation is being used to create a new website for OGGP, to reprint an updated brochure and to prepare information sheets for the new Metcalfe Geoheritage Park in Almonte, Ontario.

Networking continues to be a priority, and some excellent new connections were made during the past year. Of note, with the Matheson House Museum in Perth, Ontario, which has an important collection of rocks, minerals and fossils from James Wilson, a respected colleague of Sir William Logan’s. OGGP members will examine and evaluate the collection, and assist the museum in publicizing this collection to a wider public. We continued to work with the Mississippi Valley Conservation Society to develop a brochure and signs of geological features around the Mill of Kintail. Connections with the National Capital Commission and Ontario Archaeological Society were continued.

OGGP hosted the Mississippi Mills Geoheritage Information Day, held at Metcalfe Park, Almonte, October 3, had a good turnout and some media promotion in the local newspaper. It provided an opportunity to network with local heritage groups, and promoted the official opening of the Metcalfe Geoheritage Park in 2010. Originally planned for May, the official opening has been postponed to October 10, 2010, because of extensive construction in the adjacent Hydro Station (penstocks for doubling of power production from the dam directly north of the park have been stored within the park; this area will be cleared and restored during the summer). The following day (October 4), Al Donaldson, with colleagues Chris Findlay and Dave Forsyth, ran the now-annual geo-excursion for the Grenville Land Stewardship Council. This trip again drew more than 50 non-geoscientists; planning for the 2010 excursion, to include a half-day cruise among the Thousand Islands, is now underway. Al also led a series of geowalks for the Mississippi Valley Field Naturalists during their Annual Bioblitz, this one held on the Bell Nature Conservancy (property donated by the descendants of pioneer Canadian geologist Macintosh Bell).

Geoheritage Day, October 18, organized by Beth Halfkenny, ran for a second year, with great success. Many OGGP members volunteered at this event, which ran as part of National Science and Technology Week.

The OGGP also attended many events this year with its exhibit, notably, the Ottawa Heritage Day event at City Hall (February 16), and the Ottawa Gem and Mineral Show (September 26-27). OGGP members continued to give talks to groups throughout the region, this year including: West End Learners Unlimited, Ottawa Life Long Learning, Mississippi Mills Field Naturalists, Jewish Adult Learners, Anglican Retirees Group, Civitan Club of Almonte, and The Ottawa Field Naturalists.

In our 2008 and 2009 reports, we put forth two suggestions related to geoheritage for CGEN action, but little feedback has been forthcoming. We feel these are of sufficient importance that we are re-tableing them:

1. Expand efforts to encourage the preservation and protection of our geoheritage. There is a pressing need for legislation -- provincial and national - to protect geological treasures across Canada. As a start, **let's seek CGEN representatives from each province and territory to determine the present state of affairs across the land, and then identify potentially supportive politicians to achieve action.**
2. Investigate ways to encourage the capture of geological information revealed but rarely adequately observed/recorded in ephemeral exposures created during highway work and excavation for construction.

Christy Vodden and Beth Halfkenny

for

Allan Donaldson

May 14, 2010

ATLANTIC GEOSCIENCE SOCIETY EDUCATION COMMITTEE
Report to the Canadian Geoscience Education Network
May 2010

Nova Scotia Branch

AGS was asked to consider supporting the attendance of a Maritime region teacher to the GeoCanada 2010 teacher workshop and field trip. Two Nova Scotia teachers applied to attend. One teacher from New Brunswick applied and has received full support from the Association of Professional Engineers and Geoscientists of New Brunswick. A funding request for \$1500 was recently approved by AGS Council. The Education Committee membership voted to provide \$500. In return for the combined \$2000 support from AGS, the teachers will be required to present a report at a meeting of the Education Committee and to lead a teachers session at the August 2010 EdGEO workshop. These requirements pair nicely with the hopes of GeoCanada 2010 workshop organizers that participants will find a way to share their GeoCanada 2010 experience with fellow teachers.

As part of the AGS 2010 Colloquium, a workshop on evolution was given at Acadia University to 24 participants including teachers, B.Ed. students and AGS members. The first part of the workshop was an interactive presentation showing how geological and biological evidence can be brought together in a compelling way to enhance the teaching of evolution, especially at junior and senior high school levels. Presenters also showed how the evolutionary story can be demonstrated by exploring the geology and paleobiology of Nova Scotia. Interactive session presenters include Sonya Dehler, Rob Fensome and Graham Williams, all of the Geological Survey of Canada (Atlantic). Following this session was a forum on the teaching of evolution, facilitated by Melissa Grey (Joggins Fossil Centre). Forum members included: Simon Haslett (Director of the Centre of Excellence in Learning and Teaching, University of Wales), Heather Johnson (Halifax Independent School), Anne Marie Ryan (Department of Earth Sciences, Dalhousie University), Don Stewart (Department of Biology, Acadia University), Tracy Webb (Horton High School, Wolfville, Nova Scotia).

Over the last year, committee member Andy Henry arranged meetings with key partners of a Nova Scotia offshore development initiative that could offer grants in the future for approved education-focused proposals. Presentations of AGS education programs, products and plans were made to Exxon Mobil, Encana, and the Canada-Nova Scotia Offshore Petroleum Board. The presentation made last year to Encana led to funding for EarthNet website development.

- The following projects and activities (leader noted in brackets) made some progress in the last year.
- . Re-printing of the 2004 publication *Nova Scotia Rocks*: This brochure continues to be very popular with the public and visitors to the province. AGS approved a \$5K grant. A funding proposal is currently with CGF. (Andy Henry)
 - . Collaboration with the Nova Scotia Community College Animation Program is taking place again this year as part of the Encana-funded development of EarthNet. (Jennifer Bates)
 - . Beyond *The Last Billion Years* (BLBY) Public Talk Series: After eight years, the series could not run in 2009-10 due to the temporary closure of the NS Museum of Natural History. A speaker line-up for the 2010-11 season is under construction. (Dustin Whalen)
 - . A first draft of the text for a booklet to accompany the Fundy Basin paintings (on display at the Fundy Geological Museum) is at the review stage. (Graham Williams)
 - . Collaboration between AGS and the Photographic Guild of Nova Scotia (PGNS): Annual awarding of the *Atlantic Geoscience Society Award* (best geological photograph) and the “*The Last Billion Years*”

Award (best Atlantic Canada geological photograph) took place. AGS may use the entered photographs for education purposes. (Rob Fensome)

. Development of postcards based on the Fundy Basin paintings: Print quotes have been obtained. Final artwork yet to be completed (Carol Corbett and Pat Welton).

. Many committee members give presentations in schools, science centres, museums (eg. FGM Elderhostel program renamed as Exploritas) via ASLA/SITS or by individual request.

New Brunswick Branch

The following is a report from Randy Miller on the development of a Geopark in the Saint John area. It was originally included in the Committee's 2009 annual report to the AGS.

"The Stonehammer Geological Project (led by the Stonehammer Geopark Working Group) has submitted a proposal to UNESCO and the Global Geoparks Network hoping to create the first North American member of the Global Geoparks Network. The proposed geopark is located in southern New Brunswick, encompassing about 2800 sq km with 58 geosites identified to date. Geosites all have some identifiable geological feature or story and may include for example existing parks, roadside outcrops, or remote fossil sites. The geosites have all been categorized as suitable for geotourism, geoeducation, or research based on various factors including access, ownership, sensitivity, safety and more.

The proposed geopark is centred on Saint John and extends from Lepreau Falls Provincial Park in the west, to the Fundy Trail Parkway in the east, north to Norton and up the Saint John River to Hampstead. We describe the geopark as having 'A billion years of stories' and the area of the park was designed to include as much of the geological time scale as reasonable, and a variety of geological features. The region also has a long history of geological exploration and discovery. The name Stonehammer is meant, in part, to recognize the work of the 'Steinhammer Club' (1857-1862) whose early geological work included much of the proposed geopark. The geopark includes as many existing parks as possible to allow geotourism to take place within current infrastructure.

The Stonehammer Geological Project has agreements with multiple partners to manage and operate the 'park'. Our application is currently with UNESCO and the Global Geoparks Network. They examine 2009 applications during the winter. Some of our working group is going to the Geoparks2010 conference in Malaysia in April. If they like our document they will arrange a site visit in the Spring/Summer and the earliest we might possibly hear about our acceptance into the GGN would be in the Fall of this year. The application consists of a printed 70 page description along with electronic appendices."

External activities

AGS members are involved in or leading the development of education resources under the auspices of other like-minded groups and committees. These member provide reports at Committee meetings: Garth Demont on community interactions; Rob Fensome on the Geology of Canada book; Nancy Muzzatti on AGS Video Committee activities; and Jennifer Bates on Nova Scotia EdGEO Committee workshops. Members also provide updates on activities at their respective workplaces particularly museums and centres that offer public education programs such as the Fundy Geological Museum and the Eastern Shore Education Resource Centre. Education activities in Newfoundland and Labrador are organized under the Newfoundland and Labrador section of the Geological Association of Canada.

AGS members continue to contribute to the "Four Billion Years and Counting: Canada's Geological Heritage" (FBY) book project. The FBY book will be a key product of Canada's International Year of Planet Earth (IYPE) program. There are three major sections: Foundations; Evolution of Canada; and

Wealth and Health. The book will be attractively illustrated, with photographs, paintings, and schematics. Both English and French volumes will be co-published by the Canadian Federation of Earth Sciences and two private publishers. The book project website is <http://www.earthsciencescanada.com/4by/>.

Membership

Members of the New Brunswick branch are: Toon Pronk (chair), Dave Lentz, Gwen Martin, Malcolm McLeod, Randy Miller, Adrian Park, Mike Parkhill, Jim Walker and Reg Wilson.

The Nova Scotia branch are: Ken Adams, Dottie Alt, Sandra Barr, Jennifer Bates (chair), Paul Batson, Sally Camus, Carol Corbett, Garth Demont, Howard Donohoe, Warren Ervine, Gordon Fader, Rob Fensome, David Frobel, Martha Grantham, Bob Grantham, Melissa Grey, Richard Haworth, Andrew Henry, Fenton Isenor, Chris Jauer, Heather Johnson, George Jordan, Elisabeth Kosters, Andrew MacRae, Henrietta Mann, Chris Mansky, Brian Matthews, Ann Miller, Murray Metherall, Brendan Murphy, Roger Outhouse, Patrick Potter, Pat Ryall, Anne Marie Ryan, John Shimeld, Deborah Skilliter, Pat Welton, Dustin Whalen, Hans Wielens, Sonya Woods, Graham Williams, Mike Young and Marcos Zentilli.

Report prepared by Jennifer Bates, Chair, Atlantic Geoscience Society Education Committee
jbates@nrcan.gc.ca

Appendix 6

Canadian Society of Exploration Geophysicists (CSEG) Outreach Committee Report – 2009

The Outreach Committee had a productive and rewarding year in 2009. Our members continue to deliver on our mandate to promote awareness and raise the profile of the science of geophysics and the CSEG. Thank you to Jessie Arthur, Pratt Barndollar, Lori Barth, Louis Blinn, Tina Bozic, Candace Bruins, Karen Chong, Joseph Chow, Adam Flynn, Brian Gamble, Michelle Gould, Anne Halladay, Paul Hausmanis, Helen Isaac, Matt Klukas, Perry Kotkas, Stephen Kotkas, Joel Kotkas, Jessa-lyn Lagroix, Mark Lane, Jennifer Leslie-Panek, Jane Ling, Darryn Listwan, Danielle Maughan, Karin Michel, Annette Milbradt, Matt Ng, Dave Nordin, Hassan Odhwani, Bob Parker, Dan Perez, Brian Russell, Stacey Sudlow, Alex Shrake, Carmen Swalwell, Kathryn Welsh, Marissa Whittaker, Tammy Yu, and Alex Wright, who all contributed to the ongoing success of CSEG Outreach activities. Your time and efforts are appreciated! Thank you to the companies who allowed their employees to volunteer for our many Outreach initiatives.

Schools Outreach is coordinated by Helen Isaac and **Public Outreach** is led by Perry Kotkas. Our enthusiastic volunteers attended 20 **career fairs** and assorted exhibitions in 2009 and talked to students and the public about geophysics. We travelled locally with our booth in the Calgary area, as well as to Vancouver, Kamloops, Kelowna, Winnipeg, Saskatoon, Regina, Canmore, and Edmonton. We present the science of geophysics with powerpoint shows, interactive seismic displays and other demonstration materials. We can now run two fully-equipped, dynamic booths. Volunteers made **in-school presentations** in response to requests that came in. The *Kids In Science Program* (KISP) hosted 170 students in Grades 7-9 from Our Lady of Peace and Sir John Franklin Junior High Schools on the exhibit floor at the convention in May. We appreciate the support of exhibitors and volunteer guides at KISP. In October, CSEG Outreach hosted students from three Calgary high schools at *Seismic in Motion for Students* (SIMfS), where companies showcase their seismic acquisition technologies and procedures. We also presented information about careers in geophysics at one of the stations. Thank you to 2009 SIMfS sponsors: ConocoPhillips, Canadian Natural Resources, Chevron, Enerplus, EnCana, Paramount Energy Trust, and Sigma Explorations. We received positive feedback from participants in all of our Schools and Public Outreach initiatives.

University Student Outreach (USO) is led by Stephen Kotkas. Thanks to the concerted efforts by the USO subcommittee, student memberships have increased over the past two years from about 70 to almost 250. USO activities included sponsoring and attending with the CSEG Outreach booth three undergraduate conferences, presenting Best Geophysical Paper awards at two undergraduate conferences, maintaining e-mail and newsletter communications with students, making connections between students and the Scholarship committee, establishing a student area at the convention, helping to deliver Geoskills 2009 for university students and junior geophysicists, and running a one day summer student field trip in June. We would like to recognize and thank Canadian Natural Resources for their generous sponsorship of 2009 student memberships. Thanks to Boyd PetroSearch for being the 2010 sponsor. We greatly appreciate it!

The **Challenge Bowl** subcommittee is led by Brian Russell. The Challenge Bowl was emceed by the energetic moderator, Peter Duncan. It was an entertaining evening with a full slate of eight teams in close competition. Congratulations to the winning team of Hossein Aghabarati and Fereidoon Vasheghani from the University of Calgary. They won an expense-paid trip to the 2009 SEG Convention to compete in the Challenge Bowl final.

CSEG Outreach members participated in the **Honorary Address** (HA) committee. The HA took place in

November and honoured the 200th anniversary of the birth of Darwin, the 150th anniversary of the publication of The Origin of Species, and the 100th year since the discovery of the Burgess Shale in Yoho National Park. Brian Keating, from the Calgary Zoo, gave an exciting and dynamic presentation. He spoke about his travels and about the different ways in which animals have evolved. Paul Johnston from Mount Royal University presented a very interesting discussion about the Burgess Shale. The afternoon presentation to almost 1,800 junior high school students, including students brought from Canmore by the Canmore Museum and Geoscience Centre, was very well received. The evening show and silent auction were well attended by the public.

Ambassadors are CSEG representatives in cities across Canada and internationally. In 2009, this program included meet-and-greet opportunities for CSEG members and university students in Vancouver and Saskatoon.

Outreach members liaise with many other organizations and share outreach and education ideas and resources. Wherever we can, we also support their great geoscience initiatives.

Outreach operations have moved under the CSEG Foundation umbrella as of January 1, 2010. We appreciate the support from the CSEG Executive and the Foundation over the past year.

We're always looking for enthusiastic and energetic volunteers interested in helping with our activities. Contact us at outreach@cseg.ca for more information.

ANNETTE MILBRADT
Chair

Appendix 7

Canadian Geoscience Education Network Annual Meeting 9:30 a.m. – 4:30 p.m., Friday May 14, 2010 Assiniboine Room, Geological Survey of Canada (Calgary) 3303 - 33rd St. N.W., Calgary

CGEN Member Report

Ontario Mining Association

The Ontario Mining Association (OMA) represents the mining industry in the province. It is one of the longest serving trade organizations in Canada, having been established in 1920. The 60 Members of the association are engaged in exploring, producing and processing mineral resources in an environmentally responsible manner.

Current Education and Outreach Activities

1) Career Fairs

Since January, the OMA participated in 2 two high school careers fairs: one in the Peel District School Board and the other in the Toronto District School Board. At these events, more than 300 students and 30 teachers were exposed to careers opportunities in the broader Earth sciences and in the mineral exploration and mining sector in particular.

2) So You Think You Know Mining Video Contest

The **So You Think You Know Mining** Video competition was 2009. The competition offers high school students the create a two to three minute video that describes the Videos can explore a range of benefits that mining brings to economic growth, employment opportunities, beneficial mining products, and technological and environmental individual and group entries are permitted.

In its inaugural year, the contest included five categories. A \$17,500 in cash was available to be won:

Best Overall Video	\$5000
Best Directing	\$2500
Best Writing of an Original Screenplay	\$2500
Best Music (Original Score)	\$2500
Best Comedy	\$2500



launched in 2008- opportunity to benefits of mining. society, including end-uses of innovation. Both

total purse of



Thirty entries were received. These entries were judged by a panel of representatives from the mining, film and television industries. Winning entries were celebrated at a special Red Carpet Ceremony at the Canadian Institute of Mining, Metallurgy and Petroleum conference in May 2009.

The current contest includes the 2008-2009 categories plus additional categories for the Best Animated Video (\$2500), the Best Video in a Language Other Than English (\$2500), and A People's Choice Award (\$2500). \$500 worth of video equipment will be also awarded to the school of the top winner. Current contest entries will vie for a total of \$22,500 in prizes. The contest closed in late April and the 38 video entries that were submitted are currently being judged. The winners and winning entries will be celebrated at an evening ceremony during the

OMA Annual General Meeting in North Bay in June.

The contest was heavily promoted this year. In addition to the usual channels, more emphasis was placed on advertisements, including on the social media web site Facebook, a regional CTV web site and the CFRB radio station.

3) Skills Canada-Ontario

The Ontario Mining Association and Members support the efforts of Skills Canada-Ontario. Since 2007 the Association has participated in the Ontario Technological Skills Competition. In 2010, the Ontario Technological Skills Competition and the Canada Skills Competition are being held in Ontario, in the same week at RIM Park in Waterloo. On the week of May 17, the OMA and Members will be participating in both of these events, delivering Elementary Workshops and providing a Career Exploration Showcase. The events offer programming especially for school groups and are also open to the public. The anticipated reach is in the 1000's.

Elementary Workshops

On the first day of the Ontario Skills event, the OMA will deliver six, 45 minute workshops to grade 7 & 8 students and teachers from schools across southern Ontario. The workshops will be themed around the Earth science, exploration and mining careers that are featured in the **Skills Work! Booklet**. These include Environmental Technicians (Career Profile, Reclamation), Geological Technicians (Career Profile, Mineral and Rock Identification), Health and Safety Technicians (Career Profile, Personal Protective Equipment), Instrumentation and Remote Control Technicians (Career Profile), Mine Technologists (Career Profile) and Productions Miners (Career Profile, Drill simulator).

Career Exploration Showcase

The Career Exploration Showcase will include booth installations and hands on activities similar to those delivered at the CIM, Mining in Society Shows. The theme of the OMA booth will promote a broad exposure to the Earth Sciences, feature the metallic and non-metallic mining activities underway in Ontario, and showcase the exploration and mining careers that are featured in the **Skills Work! Booklet**.

Upcoming Education and Outreach Activities

1) Barrick Hemlo 25th Anniversary Celebration (June 17-19)

The OMA and others, including PDAC Mining Matters and Science North, will be participating in an event to celebrate the 25th anniversary of the Barrick-Hemlo operation in Marathon. The event will include two days of educational programming, one each for local elementary and secondary school groups, and a public open house at the operation.

2) Canadian Ecology Centre-Mining Teachers' Tour

The Ontario Mining Association, the North Bay and Sudbury Chapters of the CIM and others will be working with the Canadian Ecology Centre to deliver a teacher professional development opportunity in August. The objectives of the opportunity are:

- To demonstrate that the mining sector is environmentally responsible and is a safe workplace
- To promote a wide range of mining careers
- To create and develop activities and applications for teachers and students in the classroom

- To distribute resources and create a network of teachers utilizing mining as a theme in their classrooms (i.e. High Skills Major, as one example)
- To facilitate informed decisions about all aspects of the mining industry (economic, social and environmental)

The Centre is located within the Samuel de Champlain Provincial Park, in Mattawa Ontario. The four-day/three night professional development experience will include exposure to industry professionals, field trips to operations and Science North/Dynamic, and educational resource workshops.

Teachers will also have the opportunity to work towards their Environmental Science Advanced Qualification.

Appendix 8

Toronto outreach activities in 2009-2010

In September 2009 Deryk Jackson organized a meeting with about a dozen high-school teachers offering grade 12 Earth and Space Science within the Toronto District School Board. Lesley Hymers, Stella Heenan, and Charly Bank assisted with this event. It was apparent that teachers offered this course for a range of reasons (personal interest, being asked to offer it) and appreciated having time to share ideas and be informed.

In previous winters we offered a teacher professional development day at the University of Toronto which had been well received. However, it did not happen this year, because of a change made by the Toronto District School Board. An alternative event is planned for early in the next school year; we decided against offering it in spring so as not to compete with other opportunities (eg, PDAC workshop). As a group we need to discuss how best to combine our efforts at reaching teachers in the area.

The WHERE challenge allowed some of us to meet. We note that the number and quality of submissions had increased over the previous year.

At the University of Toronto we continue to offer visits to classrooms or to our department for interested teachers. Undergraduate students are playing a more active role with this; the department is paying one of them to assist. Also, the “Girls Rock Science” seminar series and “Science Rendezvous” day-long event continue to draw interest.

Charly Bank, 12 May 2010