

Canadian Geoscience Education Network Winter Meeting
9:30 a.m. – 4:15 p.m., February 1, 2008
Association for Mineral Exploration BC
Suite 800, 889 West Pender Street
Vancouver, B.C.

News, Decisions/Actions & Member Reports

Present: Ollie Bonham, John Boyd, Laura Clinton, Ron Clowes, Tania Demchuk, Fran Haidl, Kate MacLachlan, John Ketchum, Gary Lewis, Sheila Stenzel, Bob Turner, Eileen Van der Flier-Keller, Pierre Verplaest, Christy Vodden, Erica Williams.

The Big News Stories

1. CGEN and the Canadian Federation of Earth Sciences (CFES) have set up the CFES Outreach Liaison Committee, which via a regular teleconference, will connect key outreach people from CFES member societies and CGEN. The first teleconference took place on February 12. The CFES website is worth a visit <http://www.geoscience.ca/>.
2. Sheila Stenzel, on behalf of the Mineral Resources Education Program of BC, wowed everyone at the meeting by committing \$5,000 to CGEN's careers in earth science website project. This will be a contribution to the International Year of Planet (IYPE) Earth, and a wonderful show of support for the careers project.
3. John Boyd, who heads the IYPE Canadian National Committee, reported that fundraising for IYPE projects is going well, notably with a substantial grant from Talisman to support the careers in earth sciences project and an overarching IYPE legacy website, which is intended to be a one-stop online stop for the earth sciences in Canada. There has also been a good response from companies to buy chapters in the popular geology of Canada "Four Billion Years and Counting." The Canadian IYPE launch took place on Earth Day at the Canada Museum of Science and Technology.
4. After a fruitful six years under Eileen Van der Flier-Keller's leadership, EdGEO is moving to a new home in Toronto. Laura Clinton took up the reins on April 1. A big thank-you to the Victoria team for a job well done!
5. The Ottawa-Gatineau Geoheritage Group won agreement from the Ontario Government to preserve ten large specimens of rocks from an outcrop of Nepean Sandstone containing rare stromalites, scheduled for removal during a major highway construction project. One specimen is expected to find a home in a new Geopark in Almonte, Ontario. Homes are being sought for the others. Interested parties should contact Al Donaldson at donaldson6427@rogers.com.
6. Geological highway maps for British Columbia are in production. Northern B.C. is done, with a print run of 20,000, and southern B.C. will be available for 2009, just in time for the Olympics. Links with Tourism B.C. have been invaluable in terms of funding and distribution.

A Very Nice Pat on the Back

Gary Lewis, the Outreach Director of the Geological Society of America and Chair of the Geoscience Education Committee of the International Union of Geological Sciences, brought along some wonderful kudos for CGEN. He called it the “best and most proactive outreach group in the world” and said he “would give anything to have a group in the U.S. like it.”

Decisions/Actions

1. The terms of the current CGEN Executive were extended another year (to end in May 2009), as allowed by our Terms of Reference and with the unanimous agreement of the entire CGEN membership.
2. At CGEN’s Quebec meeting, it was recommended that we discuss the feasibility of creating a longer term of office (four or five years) and adding a new position for a President-Elect, which would allow a one-year mentorship prior to taking on the President position. This will require amending the CGEN Terms of Reference. (Action: Fran/Christy)
3. Links with the Canadian Chairs of Earth Science Departments should also be explored at the Quebec meeting. (Action: Eileen/Christy)
4. CGEN’s assistance was sought by the IYPE Secretariat on three fronts. One, all members are encouraged to use the IYPE logo and run their events under the IYPE banner; artwork is available from Godfrey Nowlan at gnowlan@nrcan.gc.ca. Two, help promote IYPE by distributing IYPE promotional materials (again, contact Godfrey). Three, please notify Christy cgen@sympatico.ca of any of your events, activities or products run as IYPE contributions, so she can compile a comprehensive list of what CGEN did to celebrate/commemorate IYPE. (Action: all)

Member Reports

Geological Association of America (Gary Lewis): GSA has two new outreach initiatives that are of great interest, and Canadian participation is welcomed. The first, EarthCaching, is an activity similar to geocaching but the education quotient is super-sized by making the “treasure” an activity rather than an object. All details, including a downloadable teachers guide (written by teachers), can be found at <http://earthcache.org>. The other is Earth Trek, a citizen science program that allows the interested layperson to participate in scientific research. This is just getting off the ground and scientists are being invited to set up their own Earth Trek projects anywhere in the world. It’s a win-win situation with the scientists getting data and the participants having an opportunity to do science. More information is available from Gary at glewis@geosociety.org. GSA has great educational resources at: <http://www.geosociety.org/educate/>.

Mining Matters (Laura Clinton): This program, run by the Prospectors and Developers Association of Canada (PDAC), has had another busy year giving workshops to about 300 teachers. They released, in time for the 2007-2008 academic year, a poster showing the impact of metals/minerals in daily life using a snowmobile as the centrepiece. They held a First Nations Career Camp for the first time ever, with 30 youth in attendance. They are making a concerted effort to connect with First Nations communities and are hoping to set up an Education Committee in Quebec shortly. They are also looking for partners through CGEN to organize local workshops across Canada; anyone interested in this opportunity should contact Laura at pdacmm@pdac.ca. Mining Matters has an excellent newsletter, full of news and

resources at <http://www.pdac.ca/miningmatters/teachers/index.html>.

NWT Geoscience Office (John Ketchum): This group continues to have a strong outreach focus, with two geoscientists (Diane Baldwin and Donna Schreiner) on staff dedicated to outreach. Key initiatives include the Community Mapping Program, which hires 5-6 students in a community to do geoscience observations and measurements for a two-week period with a view to producing a map of local geology; the Prospecting Training Program, which owing to a dearth of prospectors has morphed into a continuing education program for people interested in geoscience; and the Grubstake Program, which provides grants to prospectors to carry out geoscience work. The NWT Geoscape poster has been recently completed and is available, along with many other resources at: <http://www.nwtgeoscience.ca/outreach/index.html>.

International Polar Year (Tania Demchek): IPY has an exciting roster of activities, opportunities and materials aimed at educators. A call for proposals to “improve capacity of teachers to teach earth sciences” closed on January 15. This will include full-time funding and a travel budget for a teacher to work out of the NWT office and visit northern communities to help teachers with the new geology-rich curriculum for NWT. Lots of other good opportunities can be found at the IPY website: <http://www.ipy.org/index.php?/ipy/audience/C27/>.

Saskatchewan Geological Society (Kate MacLachlan): See Appendix 1 for a full report of this very active group’s highlights from 2007. They also provided funding for the local geology book “Stones of Saskatoon,” and are involved in the development of a similar book for Regina.

Canadian Council of Professional Geoscientists (Ollie Bonham): This group is a new member of CGEN. As the national body representing the profession of geoscience across Canada, CCPG and the constituent provincial/territorial groups are acutely aware of the need to maintain and build Canada’s professional capacity, by ensuring that youth are attracted to careers in the geosciences. A key activity in this regard is the careers in geoscience materials available on their website at: <http://www.ccpge.ca/profession/index.php?lang=en>. CCPG is involved with National Geoscience and Engineering Week (previously Engineering Week), and the provincial/territorial groups carry out a range of activities for K-12 students including career fairs, community awards, fliers and magazine articles, awareness advertising, etc.

Lithoprobe (Ron Clowes): Lithoprobe continues to have a solid presence in education and outreach, with a page about the program in a new textbook “Experiential Science 10 – Terrestrial Systems,” the re-issue in soft-cover of the children’s book “Lithoprobe: Dancing Elephants and Floating Continents” with its accompanying teacher’s guide by Stella Heenan (downloadable from <http://www.lithoprobe.ca/>), and a planned 2-3 page write-up in “Four Billion Years and Counting.” Plans for a popular book on Lithoprobe aimed at an interested adult audience are well in hand. The working title is “Ghost Mountains and Vanished Oceans: North America from Birth to Middle Age,” and discussions with Key Porter are scheduled in the next few months to see if they will publish it.

Carl Wieman Science Initiative (Ron Clowes): This is a new program at the University of British Columbia that we should keep an eye on. With funding of \$12 million, its focus is to improve science education, and the UBC earth and ocean sciences group has been very active with it. More information is at <http://www.vpacademic.ubc.ca/CarlWieman/>.

Mineral Resources Education Program of B.C. (Sheila Stenzel): Another very active group, with a big

impact in B.C, MREPBC provides instructional courses and activities for teachers and students in the form of special programming at the Cordilleran Roundup and during Mining Week on the grounds of the Vancouver Art Gallery and field trips throughout the year and throughout the province. Career awareness is a growing priority, and work experience programs are in development. MREPBC also provides a wealth of resources, both print and online. A new product is a careers-oriented activity book entitled “I’m an Exploration Geologist” that supplements the K-3 curriculum. Single copies are free to teachers, and provided at cost (\$.50/copy) in bulk and to other groups. The newsletter, which has a mail out of 7,000, is available online at http://www.bcminerals.ca/files/teacher_resources.php.

B.C. Curriculum (Erica Williams): Anyone wishing a copy of Erica’s “A Critical Analysis of K-10 Earth Science in B.C.” should email a request to her at ewilliams@sd43.bc.ca/

Canadian Society of Petroleum Geologists (Greg Lynch via email): See Appendix 2 for an article about CSPG’s outreach program.

Other Agenda Items

The reports of the President, Secretary-Treasurer, IYPE and CGEN’s core programs (Careers In Earth Science website, EarthNet, EdGEO, Geoheritage Project, Geoscape and What on Earth) and the discussion of follow-up to the Yellowknife Outreach Workshop and CGEN priorities 2008-2009 will be recorded in the minutes of the Annual General Meeting, May 29. The rationale being that there will be overlap in the items from both meetings, and a single report will be more comprehensive and less repetitious.

Christy Vodden
May 14, 2008

SGS EDUCATION AND OUTREACH COMMITTEE (SGS EOC)

EOC Chair: Kate MacLachlan

Members: Fran Haidl

Jeff Coolican

Melinda Yurkoski

Sean Bosman

Dave MacDougall

Geoscape sub-committee Chair: Fran Haidl

Teacher Workshop Chair: Melinda Yurkowski

It has been a busy year for the EOC and as chair of the committee I would like to thank all the committee and sub-committee members and volunteers who have helped to undertake our various activities and produce this report. I look forward to serving as chair again in 2008.

Sub-committee reports:

Geoscape Southern Saskatchewan

The *Geoscape Southern Saskatchewan* team successfully recruited an experienced teacher to develop new lesson plans in 2007; 17 lesson plans have been submitted to date. It is anticipated that review of ten of these lesson plans by volunteer geoscientists and engineers will be completed in early 2008 with the remainder to be finished in June. The Geosapesask website is currently being revamped. Once this task is completed, new lesson plans and other information will be posted on the site as they become available.

Teacher Workshops

On April 5, 2007 the SGS education and outreach committee participated in “Assist 2007” at University of Regina. SGS volunteers hosted two sessions for 3rd year Educations majors, which introduced basic geological concepts such as the rock cycle, plate tectonics, and rock and mineral identification. Emphasis was placed on the activities that they could use in the classroom, and was supplemented with a resource binder for the students to take home with them. Forty-eight students attended, with Melinda Yurkowski, Jeff Coolican and Dan Kohlruss delivering the presentations.

In 2007 the committee agreed to participate in Showcase 2008, a 2-day, province-wide, teachers conference taking place both in Saskatoon and Regina. The SGS will be organizing nine 2 hour workshops aimed at providing teachers with some background knowledge and take home resources focused on linking geosciences to both the K-9 and high school curriculum. We are in the process of putting together Saskatchewan focused materials to include in the resource binders. If anyone is interested in participating in the presentation of the workshops or manning the SGS booth at the convention, please contact Kate MacLachlan.

Public Lectures

This year at the 20th SGS Annual School Lecture series on April 26th, Ingrid Pickering from the Synchrotron in Saskatoon delivered her presentation entitled: “*Canadian Light Source Synchrotron, Murderous Molecules and Poisonous Plants*” to over 600 students in both the Public and Separate school systems. Her presentation focussed on the science behind the synchrotron and some of the applications and, in particular, the work she has been doing on arsenic in drinking water in Bangladesh and parts of India and the possible solutions found in Saskatchewan crops. The feedback from the students and teachers from both school boards was highly positive.

Ingrid also spoke to the general public at the Science Centre in the evening, to a smaller audience, which provided plenty of opportunity to for Ingrid to address all the questions from the audience.

Once again the SGS funded a public lecture in association with the Geological Survey Open House. Dr. Ellen Morris Bishop from Oregon Paleo Lands Institute in Fossil Oregon gave a talk entitled: Ancient Climates, Future Challenges: Lessons from the geologic record, which was well fairly well attended. It seems however, topics such as diamonds, dinosaurs and planets draw by far the biggest crowds.

Other

Several members of the SGS helped Ecole Connaught Community School with their Playground Project, which involved a medicine wheel defined by glacial erratics from the area. Kate MacLachlan, Janet Campbell and Jennifer Smith provided a brief description of the rocks types, where they might have come from and how they got there.

Dave MacDougall has agreed to undertake the research for a “Stones of Regina” book similar to the one that was recently produced for Saskatoon. Dave has also agreed to run two walking tours based on his research, in conjunction with the Association of Professional Engineers and Geoscientists of Saskatchewan AGM, which will be held in Regina in early May 2008.

Respectfully submitted,

Kate MacLachlan
EOC Chair

Outreach Critical to Earth Sciences and Petroleum Geology
For the November 2007 issue of the Reservoir
By Greg Lynch, CSPG Assistant Outreach Director

Inevitably you find yourself in a situation where you have to explain to friends and relatives what it is you do in your work as a geologist. Or maybe you have been put on the spot while hiking in a group when confronted with an interesting landform? Most people are naturally interested and want to know more, and geologists by nature are equally enthusiastic and up to the task. Nonetheless, we sometimes find it difficult to communicate some of the basics, and to do justice to what is a truly fascinating realm of science. Geology can be an abstract topic to a public that has had little or no exposure. And indeed, geologists do see the world through different eyes. Recently, I found myself trying to explain the occurrence of Devonian coral reefs five kilometers below the Alberta foothills, garnering the response "wow, that water sure was deep". Anyhow, try as I might to tell my Aunt Lilly about the exploration process and what it is we do, I think she still pictures me as a gas pump attendant in a NW Calgary service station.

Among many things, CSPG Outreach involves promoting geosciences to the general public, and strives to place petroleum geology within that context. In this we are all ambassadors. Why is this important? Three things come immediately to mind: geology as a career choice (succession), general public awareness (policy), and esthetics (culture). With regards to the first item the widely held consensus is now that the availability of qualified manpower, or "human capital" is the single biggest obstacle to sustenance, never mind growth. Tried to hire anyone lately? The old saying "good help is hard to find" has been replaced by "impossible to find". Like many of my colleagues I stumbled into geology only after taking it as a first year elective while at University, and then switched my major. Unfortunately this haphazard approach is way too late in the recruitment game, and is not a viable means to ensure adequate replacement. Relative to other disciplines in science geology is at a distinct disadvantage because it is given limited exposure at either primary or secondary school levels. How is an individual supposed to choose geology as a career path if he or she has never been exposed to it? Nonetheless, geology has held its own just because it is such an exciting topic, and because of its central importance to a country such as ours with its vast landmass and seaways. The allure and intrigue of fossils, strata, gems, volcanoes, earthquakes, glaciers, resources, the planets, the outdoors and the environment, just to name a few, has continued to draw people to geology. CSPG Outreach strives to maintain Earth Sciences in the public eye, and give it a profile.

So what are we doing? CSPG-Outreach has a large and ambitious program which is run by an enthusiastic and dedicated group of volunteers. The program has grown substantially over the past few years, and the scope of activities ranges from local to national. With this the November issue of the Reservoir I can point to a specific event taking place this month, the annual Honorary Address. Keeping in step with this year's national Arctic theme, the Jubilee Auditorium is booked November 21 with a double bill comprising slide shows by well known Arctic explorer Jeff MacInnis, and Director of the Arctic Institute of North America Benoit Beauchamp. It promises to be an entertaining evening with stories of human endurance, adventure, and including scientific marvels from a unique portion of our planet. Attendees are invited to bring a friend or youngster, enjoy the talks and mingle amongst the displays during intermission. But the big excitement actually happens during the daytime presentations when primary school students are bused in from Calgary and outlying areas, packing the Jube with a broiling mass of young explorers - Outreach at its finest !

The Student Industry Field Trip, or SIFT as it known, celebrated its 30th anniversary this year, incredible. This has been a hugely successful program, and after thirty years the CSPG can now gaze upon its legacy. Numerous SIFT alumni are well entrenched in positions of all levels across the industry, and the program continues to attract new students each year. Although the trip takes place during two weeks in May within plains and Rocky Mountain regions of southern Alberta and BC, it is national in scope in that students from across the country have a chance to participate. To celebrate the 30th Anniversary of SIFT, a short promotional film clip of this year's trip was produced to distribute to the schools, and captures the excitement and trip highlights. At the other end of the spectrum, just initiated this year, and like SIFT also the brainchild of Bill Ayrton (the creativity never stops), is the new "100 Jobs" program. This is to act as a match-maker between job seeking students and companies looking for help, very practical.

The Outreach program is also directly involved in the school system, from Kindergarten to grade twelve (K12 program), all the way up to the University level (University Outreach, student awards and scholarships). In spring, CSPG volunteers enter the classroom for geology show and tell sessions, and are received by highly receptive and appreciative audiences. Others have the opportunity to show young students around the displays and trade floor at the CSPG convention. At the top end University Outreach is a truly national program supporting student chapters from across the country, as well as regional student-led geoscience conferences. Many have told me of the positive impact the student chapters and conferences have had on their development, in some cases giving individuals a first chance to show their stuff in public, developing confidence and a sense of belonging.

You might by this point be wondering how your Society pays for all of this? Although the modest revenue streams of the CSPG cover some costs, a very substantial amount of fundraising is required each year to maintain these programs. Essentially, solicited donations from companies big and small, as well as from individuals make Outreach work. For companies, participating in a named funding program provides visible advertisement, as well as a handy tax break. However raising funds is an ongoing preoccupation which saps much of the energy from the hard working CSPG staff. Consequently a campaign has been initiated by the CSPG-Trust to raise the appropriate funds, to be held in trust, which will finance our programs and liberate staff to focus on delivering these programs. You will hear more about the CSPG-Trust in the months ahead.

Well, as all geologists do, now for the arm-wave. At this stage in history hydrocarbons essentially occupy the root position at the base of the economic food chain - much else is a derivative or dependant thereof. For better or for worse oil also has its sway in world politics, and is of concern to the global environment. Well, guess what discipline and profession occupy a role of central importance in all of this? That would be geology and geologists. Only problem is there seems to be very little awareness of this association outside of our small circle. This is why it is critical that CSPG-Outreach programs continue to evolve so that we can elevate and support our profession beyond the confines of our Society, to the benefit of the greater public.