

ARTICLE



ISSUES IN CANADIAN GEOSCIENCE

The Canadian Geological Foundation – Supporting Geoscience in Canada

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ABSTRACT

The Canadian Geological Foundation supports geoscience education, outreach, promotion and public awareness in Canada through grants to organizations and individuals. Project proponents can apply to the Foundation for funding support. The Foundation's members – prominent Canadian geoscientists drawn from diverse backgrounds – review project proposals and allocate available resources annually to projects that meet the Foundation's main objectives. CGF grants support a wide variety of projects, including geoscience books, teacher training, student activities and teaching aids, interpretative displays, conferences, and more. In addition to its general purpose endow-

ments, the Foundation also receives and disburses money for specific purposes, including lecture tours, scholarships, and special projects.

SOMMAIRE

La Fondation géologique du Canada (FGC) soutient des activités d'éducation, de proximité, de promotion et de sensibilisation de la population canadienne aux géosciences en accordant des fonds à des personnes ou à des organismes. Les auteurs de projets peuvent soumettre leurs demandes de subvention directement à la Fondation. Les membres de la Fondation – des géoscientifiques canadiens éminents de divers secteurs des géosciences – étudient les mérites respectifs des propositions reçues et allouent annuellement les ressources financières disponibles de la Fondation en fonction de ses grands objectifs. Les bourses de la FGC soutiennent une grande variété de projets, dont l'édition de livres, la formation d'enseignants, des activités étudiantes et l'élaboration d'outils d'aide à l'enseignement, de kiosques d'interprétation, la présentation de conférences, etc. Outre son fonds de dotation général, la Fondation reçoit et distribue des argents à des fins particulières, comme des tournées de conférences, des bourses d'étude, et des projets spéciaux.

INTRODUCTION

For more than 40 years, the Canadian Geological Foundation (CGF) has played a key role in sustaining geoscience education, outreach, promotion and public awareness in Canada. The CGF was incorporated in 1968 as a charitable organization dedicated to the furtherance of geoscience in Canada. The CGF's vision originated in the Geological Association of Canada

(GAC) and the Foundation was incorporated with three initial members, Eric Evans, Jim Harrison, and Jim Thompson, all of whom were GAC past-presidents.

Although CGF is certainly a child of GAC, it was structured to be at arms length. The members and board of CGF are chosen independently, and are not subject to GAC policies or programs. The CGF's mandate and objective is to address the needs of the geoscience community at large. The GAC applies to the Foundation for grants like any other organization and proposals are evaluated on their merits, in competition with those from a wide range of other organizations and individuals. That being said, the CGF and GAC do enjoy a special relationship; the President of GAC is an *ex officio* member of CGF, and all presidents of CGF have, to date, been chosen from the ranks of GAC Past Presidents.

The CGF has made a significant contribution to geoscience in Canada in its more than 40 years of operation, having awarded almost 400 grants totalling more than \$1.3 million. Despite this record of achievement and support for the geoscience community, the profile of CGF among Canadian geoscientists remains relatively low. Few outside the community of educators, publishers, and outreach/public awareness specialists, who regularly approach the foundation for grants, are familiar with its work.

ORGANIZATION AND STRUCTURE

The membership of the Foundation, prescribed in its by-laws, comprises:

- the President of the Canadian Federation of Earth Sciences,
- the President of the Geological Association of Canada,

- a Director General of the Geological Survey of Canada,
- a geologist who is a Fellow of the Royal Society of Canada,
- two geologists holding positions in separate Canadian provincial/territorial agencies,
- a geoscientist in a department of a Canadian university, and
- such other geologists, not exceeding seven in number, who are members of adhering societies of the Canadian Federation of Earth Sciences. At least two of the group must be associated with industry.

Members elect a President, Treasurer and Secretary, who also serve on the Board of Directors. The board, which must comprise at least 3 and not greater than 7 members, is elected from the membership to manage the Foundation's business. Members and directors serve a 3-year term, which may be renewed for a second term.

Current members of the CGF and its Board of Directors are listed on the Foundation's website [www.canadiangeologicalfoundation.org]. Over the years, the Foundation has benefitted from the wise advice of many eminent Canadian geologists including D.R. Derry, Y.O. Fortier, E.R.W. Neale, W.W. Hutchison, D.J. McLaren, R.A. Price, J.O. Wheeler, and J.C. Sproule.

WHAT DOES CGF DO?

The CGF manages its endowment funds so as to annually disburse grants to support a wide range of geoscience projects. The amount of money available for disbursement in any given year is a function of the value of the Foundation's endowments.

The range of activities that can be funded by CGF grants is defined in the Foundation's Letters Patent:

(a) to receive and maintain a fund or funds and to apply from time to time all or any part thereof and the income therefrom for charitable and educational purposes in Canada relating to the science of geology and, without limiting the generality of the foregoing and for the said purposes, for providing assistance in the education of students and for promoting, undertaking, carrying out, encouraging and assisting recognized charitable organizations in promoting,

undertaking and carrying out all phases of study, research and dissemination of knowledge relating to the science of geology;

(b) to do all such things as are incidental or conducive to the attainment of the above objects and, in particular:

(i) to provide assistance to students and researchers for objects set forth in paragraph (a) above by scholarships or otherwise and to effect the publication and dissemination of results of any study or research, all on such terms as in the opinion of the directors of the Corporation will promote the objects of the Corporation;

(ii) to use, apply, give, devote, accumulate or distribute from time to time all or any part of the fund or funds of the Corporation and/or the income therefrom in furtherance of the above objects to or for any charitable and/or educational organization or organizations which in the judgment of the directors of the Corporation will promote the objects of the Corporation.

The Letters Patent were clearly written with the intention of permitting a very broad scope of activities. In practice, CGF has developed granting priorities that focus on projects that broadly address needs in geoscience education, public awareness, outreach and communication.

ORIGINS OF THE FUNDS WITHIN CGF

The CGF was established with a gift of \$250 000 by J. Thayer Lindsley, founder of Falconbridge Ltd., in 1969. Over the years, the Foundation has been sustained and its endowment enhanced by donations from benefactors who want to support and contribute to the furtherance of geoscience in Canada. The CGF currently (early 2010) manages a portfolio valued at approximately \$6.1 million.

Within the CGF, there are a number of funds that are earmarked for different purposes and constitute separate accounts for the purpose of disbursing grants. These are described below, and the general structure of the CGF's endowment funds is illustrated in Figure 1.

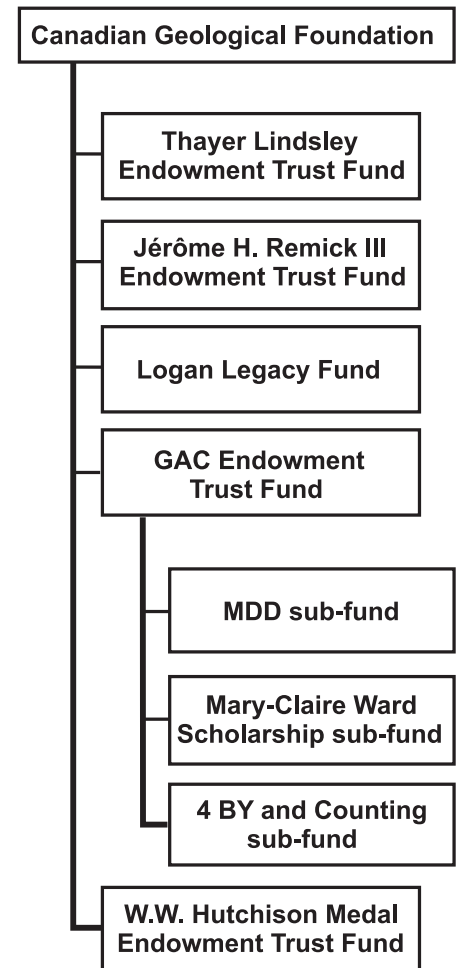


Figure 1. Structure of the CGF Endowments.

The Thayer Lindsley Endowment Trust Fund was the original trust fund of the CGF and remains the Foundation's general purpose endowment fund. It receives any funds donated to the Foundation that are not otherwise earmarked for a special purpose, and its proceeds can be used to support any project that falls within the Foundation's mandate.

The Jérôme H. Remick III Endowment Trust Fund was established in 1994, funded by donations, and ultimately an estate bequest, by Mr. Jerry Remick. The objective of this trust fund is to "further the development of geoscience in Canada, and to promote an awareness of the role of geoscience in Canadian society". The main objects, as defined by Mr. Remick, are slightly more restrictive than those of the Foundation's generally. They are listed below in order of priority:

1. To support the production of general-

education geoscience materials that will be of interest to students and the general public, e.g., books, posters, brochures, slides, videos;

2. *To encourage the public awareness of geoscience by supporting awareness activities in Canada, e.g., public lectures, awards, displays;*
3. *To help establish awards and distinctions that will acknowledge outstanding contributions to geoscience in Canada; where appropriate, medals of base metals and silver could complement this objective;*
4. *To support professional geoscientific publications sponsored by non-profit geoscience organizations;*
5. *To encourage the growth of geoscientific knowledge by assisting students and other non-supported geoscientists to participate in technical meetings, field trips and short courses hosted by geoscience organizations; and*
6. *To support any other geoscience activities considered by the CGF Grants Selection Committee to be consistent with the Trust Fund's General Statement.*

The Logan Legacy Fund is dedicated to conservation of the Sir William Logan Collection: rare books, maps and papers originally owned by the founding director of the GSC. It was endowed through the generosity of the GSC and its officers, and is a restrictive fund in the sense that all donations, revenue, and grants are directed toward this single goal.

The GAC Endowment Trust Fund was established in 2003 with monies donated by GAC members. The GAC and CGF are actively soliciting new contributions to the fund with the intention of growing sufficient sustaining capital to underwrite a meaningful grants program. The main purpose of the fund is to support and promote the earth sciences in Canada on a continuing basis, and in particular, to assist with professional development of Canadian geoscientists, public awareness of earth science in Canada, and the education of Canadian geoscience students.

The fund's general purpose endowment is not yet able to sustain a continuing grants program. However, three special purpose sub-funds are also accounted for within the GAC Endowment Trust Fund:

- a subfund for Mineral Deposits Division (MDD), seeded by a

bequest from William Harvey Gross, maintains the Gross Medal which is annually awarded by MDD;

- a subfund for the Mary Claire Ward Scholarship, a partnership arrangement between CGF, GAC, the Prospectors and Developers Association of Canada, Watts-Griffis-McOuat Consultants, and the National Geological Surveys Committee; and
- a subfund to receive donations for the IYPE book project "4 Billion Years and Counting: Canada's Geological Heritage".

The W.W. Hutchison Medal Endowment Trust Fund was established in 2004 with monies donated by friends and colleagues of W.W. Hutchison and members of the GAC. CGF and GAC are encouraging donations to the Fund, the annual income from which supports the annual lecture tours by the GAC Hutchison medalists.

GRANT SELECTION Mechanisms

The CGF publishes a request for grant applications in *Geolog* each year. All the information and documents that a proponent needs to apply for a grant are on the CGF website [<http://www.canadiangeologicalfoundation.org/>]. Applications can be submitted online and must be received by the secretary by March 31 of each year. The Secretary distributes the proposals to the members of the Foundation for review, and the reviews are returned to the secretary, compiled and presented to the grant selection committee, which meets in May as part of CGF's annual general meeting (AGM). Grant selection committee recommendations are then submitted to the Foundation's membership for consideration at the AGM.

All grant proposals approved by the CGF are disbursed from either the Lindsley or Remick Trust Funds. At present, the GAC Endowment Fund cannot support annual grants, but when it is sufficiently capitalized to do so, the grant selection process for these funds will be managed by a separate committee, as dictated by the endowment's terms of reference. This committee will be nominated by GAC,

approved by the CGF Board of Directors, and chaired by a CGF member.

The various special purpose funds and subfunds do not require grant selection processes as the money is intended for a single purpose that was previously approved by the Board of Directors and is compatible with the Foundation's main objects. Disbursements are administered by the Secretary.

Policies

Each year throughout the past decade, the CGF has received requests for funding totalling between \$100 000 and \$400 000. With roughly \$30 000 available for grants in a typical year, this level of grant requests has required diligence in identifying the best projects, selectiveness in deciding which projects are funded, and care about the amount granted to each project. Grant selection in most years has involved a significant paring of requests to match available resources. Although worthy projects have not received funding in some years because of a lack of resources, the need for careful selection has meant that CGF has been able to maintain a very high standard for grant applications and in the projects that receive funding. As a result, the Foundation has a high success rate for projects, with relatively few failing to be completed.

In general terms, the CGF grant selection has tended to favour projects (and this is not an exhaustive list) that:

- have a regional or national significance rather than a purely local impact;
- are squarely within the realm of geoscience (as opposed to a peripheral connection);
- have arranged for additional funding (i.e. the whole cost is not borne by a CGF grant);
- have committed to properly acknowledge the CGF contribution;
- have proponents with a good track record of completing projects;
- can complete the project with a relatively modest grant from CGF; and
- request funds as seed money, which could be returned to the Foundation if the project eventual-

ly recovers its costs (e.g. books).

The types of projects that have generally been assigned a high priority by CGF (again, this is not an exhaustive list) include:

- projects that promote public recognition of the value of the geological sciences to society;
- summer institutes for training high school science teachers in the earth sciences;
- preparation of career booklets in the geological sciences;
- preparation of general geology textbooks, displays, videos and films emphasizing Canada and involving national co-operation;
- projects that request partial financial support for the publication of special scientific papers involving national cooperation;
- national seminars and conferences aimed at furthering the application of geological sciences to the national development of natural resources; and
- financial assistance to geological societies in co-operative projects of national and long-term significance.

As a rule, the CGF has declined to fund research activities or salaries for proponents or their employees.

HISTORICAL PERSPECTIVE Who Has Received Grants?

Information on grants approved by the CGF since 2000 can be found on the CGF website. Between 2000 and 2009, the CGF disbursed a total of \$420 345 in 125 grants. The average grant during that time was just over \$3300 and the average total annual disbursement just over \$42 000. Note that these figures are influenced by the significant increase in funds approved at the 2009 annual meeting (see below). If 2009 is not included, the average grant is about \$2800 and the average yearly total about \$33 000.

Figure 2 shows a breakdown of the types of applicants who have received grants. Perhaps not surprisingly, the largest beneficiaries are geoscience societies (e.g. GAC, the Atlantic Geoscience Society (AGS), the Mineralogical Association of Canada (MAC), PDAC) that have ongoing programs in continuing education, out-

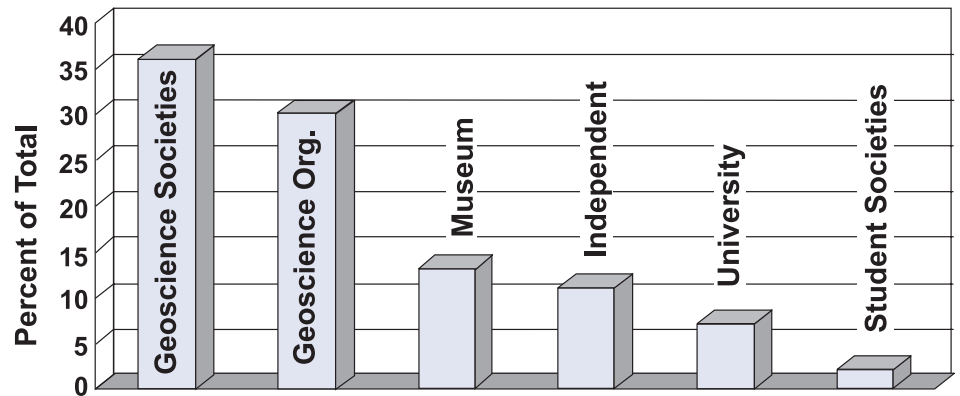


Figure 2. Distribution of CGF grants from 2000 to 2009 by organization type.

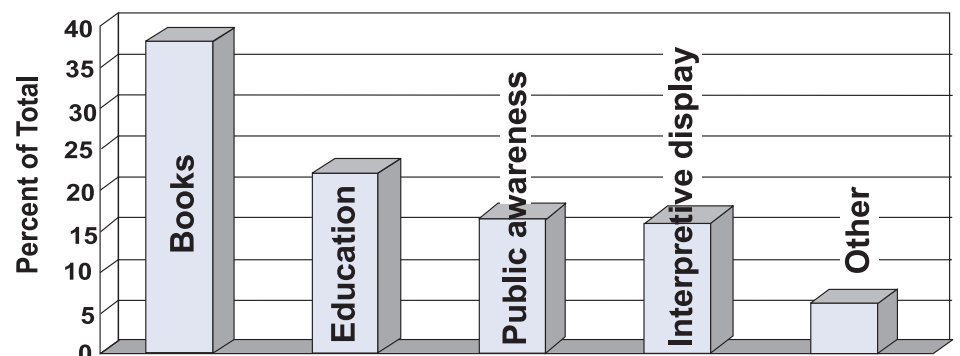


Figure 3. Distribution of CGF grants from 2000 to 2009 by project type.

reach and geoscience publications, as well as a history of success with CGF and its grants. Geoscience societies received about 36% of the total (GAC and its Sections/Divisions were recipients of about 15%). Other geoscience organizations (e.g. non-chartered organizations like the Canadian Geoscience Education Network (CGEN) and the International Year of Planet Earth) account for about 30% of the total, followed by independent project proponents, museums, universities, student societies and municipalities.

What Were The Grants For?

Figure 3 shows the distribution of CGF grants between 2000 and 2009 according to the type of project. The majority of the grants fall into four broad categories that reflect the granting priorities of the CGF Board of Directors over the past decade.

Books

Grants and seed funding for geoscientific publications was by far the largest component of the CGF granting over the past decade (~38%). The CGF has

supported a wide variety of geoscience publications, ranging from technical to popular. These include several purely technical publications (e.g. the GAC publication *The Dynamics of Epeiric Seas*, and the *Atlas of Migmatites* published by MAC), textbooks (e.g. GAC's popular *Facies Models*), guidebooks to parks (e.g. Ross and Ireland's *Geology of Mount Robson Provincial Park*) or popular areas (e.g. Peter Russell's *Field Guidebook to the Geology and Scenery of Manitoulin Island*, and John Greenough's *Geology of the Kelowna Area*), urban building stone guidebooks (e.g. *Saskatoon's Stone: A Guided Tour of the Geology and History of Stone Architecture in Saskatoon*, by Kim Mysyk and Christine Kulyk; *Rebuilt in Stone: Geology and the Stone Buildings of Saint John, New Brunswick*, by Randall Miller; and *Walking Guide to Ottawa's Building Stone*, by Quentin Gall), rock and mineral collecting guides, and popular science books. The CGF has played a significant role in financing the International Year of Planet Earth project "*Four Billion Years and Counting: Canada's Geological Heritage*", through two significant grants and provision of

a dedicated subfund to receive third party donations towards the book's cost.

Educational Resources for Students and Teachers

The CGF is a consistent contributor to education programs for teachers and students. These grants take many forms, of which the most visible is probably the Foundation's significant contributions over several years to the EdGEO program for teacher education. The Foundation has also supported teacher enrichment programs in other venues (e.g. the Yoho-Burgess Shale Foundation; Pacific Museum of the Earth; teacher attendance at the Yellowknife GAC meeting). It has contributed to geoscience programs at a number of summer camps for children (e.g. Bearpaw Institute of Palaeobiology, Science Council of Manitoba), educational materials and activities for students, and educational materials developed by the PDAC through their 'Mining Matters' program.

Public Awareness

The CGF recognizes a wide range of public awareness initiatives as one of its core functions. Examples include the publication of posters intended for a public audience (the Southern Saskatchewan *Geoscape* poster, MAC's *Minerals of Canada*, and Geoheritage of the Saint John Region), and the development of web-based outreach materials (e.g. a recent grant to the IYPE legacy website). The CGF has also contributed to the development of the Waterloo Geo Time Trail and the popular Halifax Harbour video produced by the AGS.

Interpretative Displays

Contributions to interpretative displays are a significant area of CGF funding support. The beneficiaries of these grants are mainly museums and other interpretative facilities that focus on geoscience or have a significant geoscience component. The CGF has supported acquisition of fossil resources for museums (e.g. the Earth Sciences Museum at University of Waterloo, and the Miller Museum of Geology at Queen's University), and the acquisition of display cases and materials for existing fossil and rock/mineral

resources at a number of facilities. The CGF has been an important contributor to geoscience interpretative programs and displays at a number of museums, as well as interpretative facilities such as Science North in Sudbury, Parc Archeologique de la Pointe Buisson, and the Johnson GEO CENTRE in St. John's, NL.

Other Grants

The Foundation has, at various times, supported student geological conferences in both the Atlantic and Western provinces and remains very open to grant requests from student societies to support their educational activities. The Foundation has also supported some aspects of larger conferences, in particular the partial funding of keynote speakers or materials that provide a geoscience component to conferences that are not otherwise predominantly geological (e.g. the 2004 Limestone Barrens conference in Corner Brook; the 2005 Geoarcheology conference in Saint John). The CGF has also been involved in helping support prizes that recognize excellence in geoscience.

THE REMICK BEQUEST AND THE FUTURE OF CGF

The CGF has benefitted substantially from the dedicated efforts and contributions of many prominent Canadian geoscientists over the years. The most significant recent benefactor of the Foundation was certainly the late Jérôme Remick III. Jerry Remick was a geologist who spent his professional career with the Ministère des Ressources naturelles et de la Faune de Québec. He was an ardent supporter of the GAC and a renowned numismatist with a lifelong passion for collecting and studying coins and medals. Many readers will be familiar with his name in connection with GAC's Remick Poster Awards, which were established through his generosity.

The Jérôme Remick III Endowment Trust Fund of CGF was created in 1994, and by 2004 the fund contained more than \$600 000. His abiding interests in student activities and in promoting the public awareness of science are reflected in the terms of reference for grants from this fund. Jerry Remick passed away in early 2005, and bequeathed his coin and

medal collection to the CGF. The coin collection has brought more than \$3.4 million to CGF, more than doubling the Foundation's endowment and providing CGF with the opportunity to play a much more significant role in the Canadian geoscience community in future years.

The realization of the value of Remick's bequest creates both opportunities and challenges for the CGF. The opportunities, of course, stem from the increased ability and responsibility of the Foundation to provide grants for more and larger worthy geoscience projects. The impact of the Remick bequests on CGF granting abilities is readily seen in just the past two years (i.e. during the time in which the various allotments of the bequest money were deposited with the Foundation). In the years 2000 to 2007, the average yearly disbursement for grants was just over \$30 000. In 2008, the Foundation disbursed almost \$55 400; in 2009, \$123 200. Between 2000 and 2007, the average grant was about \$2800; in 2009, it was almost \$6500. In the future, the CGF will be in a position to annually grant as much as \$160 000. This will provide opportunities for significant changes in the nature of projects that can be considered for funding, and in the number of grants that can be considered in any given year.

The improved circumstances of the Foundation also present some challenges. The increased granting capability may result in an increased workload, as more groups and individuals are encouraged to apply for grants, which could pose challenges for effective and timely management by an all-volunteer board. It will be important to ensure that the current high standard of proposals is maintained and that grant selection procedures are updated to ensure fairness and due diligence in the evaluation process, particularly for the larger grant requests. Finally, it is important that the CGF retain the confidence and attention of individuals and groups that require only small grants. Such groups, and such projects, are the lifeblood of the geoscience community's education and outreach efforts, and it is important to CGF that they continue to come to the Foundation for support.

At its 2009 AGM in Toronto, the members and directors of CGF agreed on some preliminary steps to adjust procedures and policies to deal with the Foundation's improved circumstances. Details of these changes have been posted on the CGF website (there may be further adjustments in future years as we gain experience). The CGF grant system will be restructured with the objective of ensuring that money is set aside for small grants, allowing for larger grants than we have normally been able to consider, and making provision for multi-year grants. Starting in 2010, grant proposals will be classified in three groups for grant selection purposes.

- Small <\$10 000
- Medium \$10 000 – \$ 30 000
- Large >\$30 000

A proportion of available money will be provisionally set aside for each category each year. Projects will, therefore, be competing with projects seeking a similar level of funding. The larger the grants, the fewer will be awarded in a given year.

Some of CGF's procedures will be adjusted to ensure continued quality of projects, rigor in application and review, and a manageable burden on CGF volunteers. We will continue to encourage the use of web-based templates for applications and will develop a new budget template which will allow grant selection committee members to quickly and easily evaluate the budget aspects of a proposal (unclear or ambiguous budget information remains one of the chief complaints of application reviewers). During the coming year, new guidelines will be developed for large and multi-year grants, which will be subject to a more rigorous application and selection procedure. Finally, we will be looking at various ways to relieve some of the burden of grant application and review from the shoulders of the Secretary.

Increased efforts will be made to provide clear information to the geoscience community concerning our resources, guidelines, and procedures; to enhance our visibility in the geoscience community; and to increase the number and quality of grant proposals. We will be initially focusing on developing a new colour brochure for wide-

spread distribution, and on updating our website with current information.

We welcome feedback from the geoscience community as we work to provide ever-improved support for geoscience in Canada. We will be developing a web-based feedback tool for the CGF website and seeking advice in other ways, regarding how we might better serve the geoscience community. We look forward to continued interest by geoscientists, and to thoughtful and imaginative project proposals that will contribute to increased visibility and public approval for the contributions of geoscientists across the country. Finally, we welcome the opportunity to add value to the efforts of those dedicated and enthusiastic individuals who work for the betterment of geoscience in Canada.

