

NOVA SCOTIAN INSTITUTE OF SCIENCE SESSION 2005-2006

PRESIDENT'S REPORT

During the past year, members of the Institute have actively engaged in furthering its mandate of promoting science in Nova Scotia. This has been achieved in six ways, by:

- publishing the peer-reviewed Proceedings of the Nova Scotian Institute of Science,
- presenting a program of monthly public lectures by expert Nova Scotian scientists,
- providing financial support for Regional Science Fairs,
- running the annual scientific writing competition,
- running a mentorship program for university science students, and
- developing and actively maintaining the Institutional web site.

For the past several years, the Proceedings have been published under the very able editorship of Dr James E. Stewart who has maintained a high standard. He has been assisted by a dedicated Editorial Board. Jim has informed Council that he wishes to retire in the near future and Council has initiated a process to ensure continuity in this important institutional activity. Council is also aware of changes in the publishing world as the internet becomes more pervasive. The Institute is indebted to Dr Stewart and to members of the Editorial Board for their services.

The Institute sponsored seven public lectures during the past year, all but one of which were held at the Museum of Natural History, which has for some time helped to support Institutional activities. Excellent lectures were given by G. Marangoni (applied chemistry, muds for oil drilling), A. Speers (food science, brewing beer), M. Leonard (biology, communications between birds), S. Murray and A. Guha (pathology, detection and treatment of a virulent form of cervical cancer), C. Watters (computer science, developing improved human interfaces for hand-held computers), R. Côté (environmental studies, integrating industrial and natural ecosystems), D. King (oceanography, developing and marketing biotelemetry systems). The January lecture was held at the University of King's College to which the Institute is indebted for the provision of space.

Attendance at some lectures was disappointingly low. Council has considered the problem, which most likely stemmed from using titles and abstracts supplied directly by the speakers. The seminar coordinator will attempt to develop more publicly attractive titles and abstracts for the next year and Council has run a survey of NSIS members to help determine if seminars are meeting their needs.

Another important activity run under the aegis of the Institute is the financial support given to

Regional Science Fairs in Nova Scotia. This year, the Conseil Scholaire Acadien Provincial and the Mi'kmaq First Nation Boards for the first time sent students to the national science fair and the NSIS provided support to ten science fairs.

The annual Science Writing Competition was organized this year by Ken Adams. An initial flurry of potential entries finally ended with six essays being submitted. Three of these were of a prize-winning calibre, with Robert G. Harris (Acadia University) winning the undergraduate prize, Timothy J. Fedak (Dalhousie University) winning the graduate prize and M. Jason MacDonald (Cape Breton University) receiving an honourable mention in the undergraduate category.

The Mentorship Program, under which younger students are paired with an active research scientist, was continued by Sean Tibbetts. This year, 5 students and 7 mentors have been linked by the program.

The Institute is very fortunate to have the services of an excellent webmaster, John Cordes, who continues to develop the web site so that it not only reflects current activities, but now also has a substantial part devoted to information on the *Proceedings*, as well as historical features of the Institute. A list of past presidents, beginning with the Earl of Musgrave (1862) and the start of a Hall of Fame for distinguished Nova Scotian scientists will no doubt attract the attention of historians. The Institute is indebted to both John Cordes and Past President Carolyn Bird for getting this latter feature on to the web site. Given the explosive growth during the past few years in the dissemination of information over the internet, it is essential that the Institute increase its profile through its website.

In other activities, the Institute co-sponsored, with the Ecology Action Centre, a symposium at St Mary's University on Sable Island and wrote to the Heritage Strategy Task Force of the Voluntary Planning urging continuing support for such science-promoting organizations as the Nova Scotia Museum and the Discovery Centre. Finally, I must thank all members of Council for their diligence and hard work. Special thanks must go to Susan Bjornson who is retiring as Publicity Officer and to Linda Marks who served admirably as Secretary of the Institute.

Respectfully submitted to the AGM

May 1, 2006

J. Stuart Grossert

President NSIS

APPENDIX: MONTHLY LECTURES

- October 3: *What's in a name—especially if yours is mud?*
Gerry Marangoni, Department of Chemistry,
 St. Francis Xavier University
- November 7: *Brewing science: advances and challenges*
Alex Speers, Department of Food Science and
 Technology, Dalhousie University
- December 5: *Begging birds and the evolution of elaborate
 animal signals*
Marty Leonard, Department of Biology
 Dalhousie University
- January 9: *Menopause, aging, atrophy and cancer in the
 gynaecologic tract*
Shawn Murray and Ashim Guha,
 Department of Pathology, Dalhousie University
- February 6: *Information on the move: the user perspective*
Carolyn Watters, Faculty of Computer Science,
 Dalhousie University
- March 6: *Integrating industrial and natural ecosystems:
 the possibilities*
Ray Côté, School for Resource and Environmental
 Studies, Dalhousie University
- April 3: *Development of commercial biotelemetry equipment*
Doug Pincock, AMIRIX/VEMCO Systems, Inc.
- May 1: *Knife, bronzes and life*
Ivar Mendez, Division of Neurosurgery and
 Brain Repair Centre
 Queen Elizabeth II Health Sciences Centre
 Annual After-Dinner Speaker

LIBRARIAN'S REPORT

There are currently one hundred and eighty-eight NSIS exchange partners. Three institutions cancelled their exchange program with us over the past year; including Royal Botanic Gardens, Kew; Netherlands Institute for Sea Research and Nassauischer Verein fur Naturkunde. The number of institutional members remains unchanged from last year and continues to be twenty-seven. Invoices were sent out in February 2006 for institutional memberships and to date we have received payment for eighteen renewals.

In June 2005 Volume 43, Part 1, of the **Proceedings of the Nova Scotian Institute of Science** was published. The Library mailed the issue to exchange partners and institutional members. In addition, we also did the mailing to personal members. Postal charges for distribution of the printed journal cost the Institute \$1436.00 in 2005.

The **Flora of Nova Scotia** by A.E. Roland was reprinted and has a new one-volume format with spiral binding. This title is priced at \$35.00, and thirteen of the fifty available copies have been sold. All remaining copies of the former two-volume format of the **Flora of Nova Scotia** were sold @\$15.00.

Publications continue to be received regularly from our 188 active exchange partners and this material is added on an ongoing basis to the collection. I would like to thank Carol Richardson and the Serials Department staff in the Killam Library who ensure that the NSIS Library operations continue to function smoothly.

Respectfully submitted to the AGM
May 1, 2006
Sharon Longard
Librarian NSIS

EDITOR'S REPORT

The Proceedings of the Nova Scotian Institute of Science Volume 43 Part 1 was published in June 2005. This 75-page issue included three submitted papers, two prize-winning papers from the 2004 NSIS Student Science Awards competition and the report on the NSIS 2003-2004 season.

As the original printings of *The Flora of Nova Scotia* have run out, the Council, in response to a number of requests, has agreed to have it re-produced. This publication prepared by AE Roland and EC Smith was published originally by the NSIS in two parts: Part I The Pteridophytes, Gymnosperms and Monocotyledons in 1966 and Part II The Dicotyledons in 1969 (a total of 703 pages). In the summer of 2005 the two parts were scanned, combined into a single large issue and offered for sale in August 2005. This edition is an exact copy of the original NSIS publication and has received a favourable reception.

Preparation of Volume 43 Part 2 is well in hand. Currently, copy is being prepared for the printing of the galleys. It is anticipated that this issue will be printed and distributed early in the coming summer. The contents will include the long promised written marine science symposium, plus 5 papers from the 2005 NSIS Student Science Awards competition and the report on the NSIS 2004-2005 season.

Respectfully submitted to the AGM
May 1, 2006
James E. Stewart
Editor NSIS

TREASURER'S REPORT

ASSETS:

Bank Account	\$6,355.81	
Petty Cash	<u>0.00</u>	
		6,355.81
Investments		<u>52,529.73</u>
		58,885.54
Account Receivable		58,885.54

LIABILITIES AND NET WORTH:

Accounts Payable		
Science Fair cheques		300.00
Student Writing Competition		850.00
Dalhousie University (Proceedings Mailout)		<u>1436.00</u>
Total Liabilities and Net Worth		56,299.54

INVESTMENTS:

Cash Balance		10,370.51
CIBC Premium T-Bill (short-term)		13,763.22
CIBC Investment Certificate A @4.40% (due Apr 2008)		8,396.00
Can Western Bank Certificate A@3.30% (due April 2006)		10,000.00
Laurention Bank Certificate A @3.675% (due May 2009)		<u>10,000.00</u>
		52,529.73

Revenue

Membership Dues

Individuals	\$2,560.00
Institutions	716.00

AGM (2004) 996.75

Donations 1,098.70

Sales/Page charges

Proceedings	2,113.68
Other	911.00

Interest (chequing acct) 3.40

\$8399.53 Total

Expenditures

Advertisement/promotion \$128.54

AGM (2004) 1,155.43

Office supplies/postage 339.24

Rent (Museum) 150.00

Proceedings 3,950.37

Donations/Prizes 3,350.00

Honoraria 100.00

\$9173.60 Total

Net: (\$774.07)

Treasurer's Report (Continued)**Notes*****Finances***

The Institute's net worth is virtually unchanged from last year (\$56,299.54 compared to \$56,701.99 for the 04-05).

One of the investments matured in February and will be reinvested shortly along with a second investment that is maturing at the end of April.

I have learned from Sharon Longard that the cost for mailing out the Proceeding in Fall 2005 was not invoiced. The amount (\$1436.00) is listed under accounts payable.

We have applied for a \$1000 grant from the Museum (Province Nova Scotia). In addition we have applied for a sales tax rebate for charitable organizations amounting to about \$1900.

The annual writing competition saw three prizes given out amounting to \$850. We also donated \$100 to each of the 10 regional science fairs.

I would like to thank Michael Falk and Robert L. White for the informal audit of the NSIS finances which showed a discrepancy of only a few cents. Thus the report stands unchanged.

Membership

Current membership is 126 members:
~ 117 Regular members
~ 5 Student members
~ 4 Life members

Respectfully submitted to the AGM,
May 1, 2006
Stephen Ewart
Treasurer
NSIS

Instructions to Authors

The *Proceedings of the Nova Scotian Institute of Science* publishes papers in English or French. Manuscripts must be typewritten double-spaced with 4 cm margins. Disk copies in Word or WordPerfect are preferred, but must also be accompanied by three paper copies of the manuscript. An abstract of no more than 200 words, free of formulae, must be included at the beginning of the paper, followed by key words or phrases. This should be followed by an introduction, methods, results or observations, discussion and references. In some cases a combination of these sections may be more effective. Underline only material to be set in italics, and use capital letters only when the letters or words should appear in capitals in the printed paper. Layout and style should follow that used in recent volumes. Each page of the manuscript should be numbered, the first page carrying only the title, authors' names and affiliations and any necessary footnotes. Spelling should follow that of Webster's Third New International Dictionary. Abbreviations, nomenclature, and symbols for units of measurements should follow international recommendations. SI units should be used whenever possible. Use day-month-year sequence for dates. Do not use periods after abbreviations. Photographs should be mounted on Bristol board ready for reproduction. Prints must be of high quality on glossy paper with no space between those mounted in groups. Color illustrations will be accepted at the discretion of the Editor. The cost of color reproduction is borne fully by the authors who must submit a statement accepting this responsibility. References are to be collected at the end of the paper and referred to in the text by inclusion of the author's name and year of publication. The list of references should be consistent with the following examples:

- Periodicals** Nielsen KJ, Franz DR (1995) The influence of adult conspecific and shore level on recruitment of the ribbed mussel *Geukensia demissa* (Dillwyn). *J Exp Mar Biol Ecol* 188:89-98
- Books** Cushing D, Walsh J (1976) The ecology of the seas. WB Saunders Company, Toronto
- Papers from books or symposium proceedings** Lee GF (1975) Role of hydrous metal oxides in the transport of heavy metals in the environment. In: Krenkel PA (ed) Heavy metals in the aquatic environment. Pergamon, Oxford, p 137-147
- Pers. comm.** Smith AJ (2001) (Nova Scotia Department of Agriculture, Halifax) Personal communication

Tables should be numbered consecutively in bold-faced Arabic numerals and must have brief titles that are self-explanatory; each table must be typed on a separate page.

Illustrations are to be numbered consecutively in Arabic numerals. Captions should be self-explanatory and typed on a separate page. Two paper copies of each are required even when they are embedded in an electronic file. All lines in drawings must be of suitable thickness to reproduce well when published in the *Proceedings*. Similarly, letters and symbols in drawings should be at least 2 mm high when reduced to the size used in the *Proceedings*.

Page Charges. Currently a charge of \$25 per page is levied to help defray the cost of publication. This amount is charged to the institution or a contract supporting the research reported in the published paper. In no case will acceptance of the paper be dependent upon payment of the page charges.

Authors are responsible for editing the galley proofs. Orders for reprints, in addition to the 15 supplied gratis to the corresponding author, must be received when the galley proof is returned.

Papers should be sent to the Editor: JE Stewart, Department of Fisheries & Oceans
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Dartmouth, NS, Canada B2Y 4A2
E-mail: stewartje@mar.dfo-mpo.gc.ca

Recommandations aux auteurs

Le *Proceedings of the Nova Scotian Institute of Science* publie des articles en anglais ou en français. Les documents soumis doivent être dactylographiés à double interligne avec des marges de 4 cm. On préfère recevoir le texte sur disquette en format de traitement de mot Word ou WordPerfect ainsi que trois copies imprimées. Au début de l'article, on exige un résumé n'excédant pas 200 mots, sans formules et suivi de mots ou d'expressions clés. Cette partie devrait être suivie par l'introduction, les méthodes, les résultats ou observations, la discussion et les références bibliographiques. En certain cas, il sera peut-être plus efficace de combiner quelques parties. Soulignez seulement ce qui devrait paraître en caractères italiques et écrivez avec une majuscule seulement ce qui devrait être imprimé en majuscule. Les détails de présentation et de style devraient suivre un numéro récent de la publication. Chaque page de l'article devrait être numérotée et la première page ne portera que le titre, les noms d'auteurs, leurs adresses respectives et toute note infrapaginale qui s'imposera. L'orthographe doit suivre Le Grand Robert et les accents doivent être insérés sur les majuscules. Les abréviations, la nomenclature et les symboles seront conforme aux recommandations internationales. Où possible, utilisez le Système international d'unités. N'ajoutez pas de point aux abréviations. Les photographies devraient être montées sur une carte Bristol prêtes à reproduire. Les épreuves doivent être de qualité supérieure et aucune espace devrait séparée une collage d'un groupe de photographies. Les illustrations en couleurs seront acceptées comme l'éditeur scientifique jugera à propos. Les coûts de reproduction en couleurs seront aux frais des auteurs qui devront émettre une déclaration acceptant cette responsabilité. Les références bibliographiques devraient paraître à la fin de l'article et devraient être citées dans le texte à l'aide des noms d'auteurs et de l'année de publication. Veuillez, s'il vous plait, abréger les titres des journaux selon le 'BIOSIS Serial Source', dernière édition, et respecter strictement le format PNSIS (voir les exemples suivants).

Périodiques	Nielsen KJ, Franz DR (1995) The influence of adult conspecific an shore level on recruitment of the ribbed mussel <i>Geukensia demissa</i> (Dillwyn). <i>J Exp Mar Biol Ecol</i> 188: 89-98
Livres	Cushing D, Walsh J (1976) <i>The ecology of the seas</i> . WB Saunders Company, Toronto
Articles de livres ou de compte rendu	Lee GF (1975) Role of hydrous metal oxides in the transport of heavy metals in the environment. In: Krenkel PA (ed) <i>Heavy metals in the aquatic environment</i> . Pergamon, Oxford, p 137-147
Communication personnelle	Smith AJ (2001) (Nova Scotia Department of Agriculture, Halifax) Personal communication

Les tableaux doivent être numérotés de façon continue en chiffres arabes et en caractères gras. Chacun doit comporter un bref titre qui s'explique de soi même et doit être dactylographié sur une page distincte.

Les illustrations sont numérotées en chiffres arabes selon leur ordre séquentiel. Les légendes devraient s'expliquer de soi même et devraient être dactylographiées sur une page distincte. On exige deux copies imprimées de chaque illustration même quand elle fait partie d'un fichier électronique. L'épaisseur des lignes sur une illustration doit être suffisante pour que la reproduction soit nette à la grandeur de la publication. De façon semblable, le lettrage et les symboles des illustrations devraient être au moins 2 mm de haut quand elles paraîtront dans le *Proceedings*.

Frais de publication. Des frais de 25,00 \$ par page sont présentement imposés afin de subvenir une portion des frais de publication. Ce montant est imputé à l'institution ou au contrat qui appuie la recherche présentée dans l'article. L'acceptation de l'article pour publication ne reposera jamais sur le paiement des frais de publication.

Les auteurs sont responsables pour la revue des épreuves en placard. On doit recevoir les commandes pour des tirés à part, en plus des 15 qui sont fournies gratuitement à l'auteur correspondant(e), quand vous retournerez les épreuves à placard.

Soumettez vos articles à l'éditeur scientifique:

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