

**Response of the
Steering Committee on Post-Secondary Research (SCPSR)
to the Discussion Paper of the New Brunswick
Commission on Post-Secondary Education**

Introduction

The establishment of the Commission on Post-Secondary Education by the Premier of New Brunswick and the Minister of Post-Secondary Education, Training and Labour is an important first step in reshaping New Brunswick's post-secondary education system to meet the challenges of an increasingly competitive global and knowledge-based economy. In their Discussion Paper released on March 8, 2007, the PSE Commissioners identified six areas in which significant changes will have to be made in the Province's post-secondary education system: *Accessibility; Relevance and Responsiveness; Quality and Accountability; Efficiency; Collaboration with Differentiation; and Finance*. Within one of these categories, *Quality and Accountability*, one of the most critical contributions of post-secondary institutions is included: *Research*.

More than 50% of New Brunswick's research is done by its post-secondary institutions, a statistic that immediately highlights the critical significance of post-secondary institutions in driving the province's agenda for economic and innovative growth. Enhancing post-secondary-based research within New Brunswick institutions will not only be a key factor in attracting the best students and faculty to our provincial institutions, but also will provide opportunities for increasing private sector R&D through collaborative research and the commercialization of new ideas, as well as increasing the overall share of federal research transfers to the Province,.

Post-secondary research also trains the next generation of scholars, analysts, and researchers, and produces highly skilled, competitive workers and leaders for the Province. Finally, research emanating from our post-secondary institutions reinforces a provincial sense of pride and identity, developing through creative cultural, social, and historical explorations a stronger sense of who we are as New Brunswickers.

Unless we recognize that there is a strong correlation between investing in post-secondary institutions and their research, and the province's social, human, and economic progress, there is little hope that New Brunswick can forge ahead to achieve the maximum impact that well-funded and focused research can generate.

Recognizing that New Brunswick cannot afford to jeopardize its future by leaving R&D to Canada's large central cities, national and multinational companies, and mega-universities, the post-secondary institutions and other stakeholders in the Province became proactive in 2002 by creating the Steering Committee on Post-Secondary Research (SCPSR). Working under the broad mandate of responding to provincial R&D priorities and the federal *Innovation Strategy*, the SCPSR enhances R&D activity at post-secondary institutions by encouraging institutional collaboration, by coordinating responses to provincial and federal initiatives, by working with the New Brunswick

Innovation Foundation (NBIF) and federal partners such as ACOA to identify and develop new initiatives, and by promoting undergraduate and graduate student recruitment and research. Over the last five years, the SCPSR has been instrumental in developing several new initiatives and in increasing New Brunswick's overall success in securing research funding. Of particular relevance to the work of the PSE Commission is the SCPSR's *Provincial Tri-Council Research Strategy* signed by the Presidents of New Brunswick's four universities and submitted to the Premier on 18 December 2006.

The SCPSR met with the Commission on Post-Secondary Education on March 7, 2007 to present the context within which post-secondary research is currently taking place. As a follow-up to that meeting, and as a response to some of the questions raised by the Discussion Paper of March 8, the SCPSR is proposing a number of strategies designed to stimulate research collaboration and activity in the post-secondary sector. Where relevant, suggested strategies will also be cross-referenced to the SCPSR's *Provincial Tri-Council Research Strategy*.

Suggested Research-Related Strategies:

To dramatically increase R&D activity and success across the province, the SCPSR proposes that the PSE Commission

- Recognize that each one of New Brunswick's post-secondary institutions plays an important, if distinct and proportionate, role in terms of research and innovation activity.
- Maintain or increase current NBIF funding for applied research with commercialization and economic impact potential in New Brunswick's strategic industries.
- Recommend to the provincial government that it allocate at least 23% of the approximately \$19M in dedicated PSE transfer funds that New Brunswick expects to begin receiving from the federal government in 2008-09¹ to a *dedicated provincial fund managed by the SCPSR to enable NB universities and colleges to leverage infrastructure grants and other research-related initiatives*. Currently, post-secondary institutions in New Brunswick face a comparative disadvantage because they lack full provincial support that will enable them to compete in leveraging matching federal funds from granting agencies such as the Canadian Foundation for Innovation (CFI) or the Atlantic Innovation Fund (AIF). For further elaboration, please see the overall research strategy recommendations contained in "Action Plan," Sections 2, 3, and 6 of the SCPSR's *Provincial Tri-Council Research Strategy* document, December, 2006.
- Following the lead of the Province of Quebec, recommend that the Province create an Indirect Costs of Research program for provincially-funded research. According to institutional reports submitted to CAUBO, the provincial government currently invests approximately \$3M/year in research projects at the Province's four public universities. In the same way that the federal initiative of

¹ According to the 2004-05 report of CAUBO, approximately 23% of all university expenditures relate to Sponsored Research activity.

the same name is intended to compensate post-secondary institutions for the additional indirect costs of federally funded Tri-Council research, this provincial program would offer a stable 40% indirect costs allocation for any research projects undertaken by post-secondary institutions and funded by the provincial government.

To maximize the research capacity of New Brunswick post-secondary institutions, it is imperative that “stronger bridges” be built (1) between the anglophone and francophone post-secondary systems and (2) between the community college and university systems. There are a number of strategies that could be implemented to fulfill these goals, while maintaining the language integrity of the given institutions:

- Develop a system of institutional sharing in areas such as research laboratories and other infrastructure, course delivery, course credit recognition, co-supervision of graduate students, transfer credit system (such as BCCAT and SaskCAT), etc. The existing two-year exchange agreement between UdM and UNB that will enable BSc Forestry students to take transferable credits on either campus in the language of that campus is one example of a collaborative model that could be further developed on other campuses.
- Develop a New Brunswick Graduate Student Mobility plan that would enable graduate students to take advantage of short-term research or teaching residencies, course work, laboratory facilities, or co-supervision on another campus (in the language of that campus). Again, some initiatives have already taken place using this model: two UNB Biology PhD students have been supervised by a Mount Allison CRC; a UNB engineering student has worked with a thesis supervisor at UdM; a UNB-SJ graduate student has carried out experiments in the lab on the NBCC campus in Grand Falls; the Director of Native Studies at STU is co-supervising a PhD Interdisciplinary student at UNB. Much more could be done were a Graduate Student Mobility plan implemented that would enable graduate programs in the province to make the best use of faculty, library, and infrastructure research capacity for provincial and national research impact.
- While maintaining the language integrity of a specific campus, develop a “proactive plan” to admit qualified faculty from New Brunswick’s post-secondary institutions as full members of the province’s graduate schools, thereby enabling faculty on campuses without graduate schools to apply to funding agencies with full access to graduate students.
- Facilitate life-long learning and encourage new research directions by targeting adult learners and mid-career professionals who may wish to change career directions and enter graduate school. Science-Metrix’s *Environmental Scan for SSHRC’s Doctoral Fellowship Program* in May 2006 revealed that one of the fastest growing PhD enrolment areas is amongst the 55-59 age group.
- Develop funding for a New Brunswick Digital Library system that will allow a distributed network of services to deliver appropriate information to post-secondary institutions and citizens at the place and time that such information is needed. New Brunswick already has connections with innovative bilingual research communication networks because of UNB’s participation in the 5-party

- national consortium *Synergies* and because of the research related to new communications technologies being done at UNB's Electronic Text Centre . A provincial research network of highly developed databases and interfaces could provide New Brunswick's post-secondary community with a valuable infrastructure for research and the distribution of scholarly documents.
- Develop co-location of university and community college campuses to encourage research partnerships, realize articulated program potential, and share research equipment and infrastructure capacity.
 - In partnership with the provincial government, develop a common post-secondary international recruitment strategy to attract Anglophone and Francophone undergraduate and graduate students to the province. Currently, there is no provincial presence in key recruitment areas internationally. Students could be recruited under the provincial banner and then given assistance over a three year period after graduation to find employment and permanent residency status in New Brunswick. This would not only address the challenge of declining enrolments and declining population, but would also bring much-needed new skills, ideas, family affiliations, and cultural diversity to the province. Of particular importance are international graduate students who could be recruited to contribute to R&D in both their graduate work at New Brunswick universities and in the private sector afterwards. This strategy was also recommended in the SCPSR *Provincial Tri-Council Research Strategy* document in December 2006 ("Action Plan," Section 5).
 - Sign memoranda of understanding with targeted countries (francophone and Scandinavian, for example) that would waive international student differential fees for those post-secondary students while studying in New Brunswick's post-secondary institutions.
 - Address the research "gap" in New Brunswick companies (usually smaller businesses compared to those in larger and more industrialized provinces such as Ontario) by creating incentives that will facilitate their interaction with post-secondary institutions, including opportunities for the innovation and commercialization of ideas that will move the province's economy forward. The co-chairs of the 2007 "New Brunswick Reality Report" (The Self-Sufficiency Task Force)² note that industry must develop a culture of innovation in order to create new, increasingly specialized products that will be competitive internationally.

New Brunswick needs to invest in research infrastructure and undergraduate/graduate training in order to achieve the global competitiveness sought by the Self Sufficiency Task Force. On a human scale, an intensified relationship between post-secondary institutions and small business could open up job opportunities for the next generation of employees and keep post-secondary graduates in the province. For example, internships for graduate students could enable them to bring a "research culture" into the private sector workplace, but could also lead to the kind of collaboration that will result in their being employed by the company upon graduation. Keeping our brightest young

² Gilles LePage and Francis McGuire, *The New Brunswick Reality Report. Part 1: At the Crossroads*, The Self-Sufficiency Task Force, Province of New Brunswick, January 2007, 12.

researchers in the province to stimulate the economy and invigorate the social fabric through their innovativeness is key to the R&D agenda of New Brunswick.

For further SCPSR strategies on addressing the “research gap,” please see “Action Plan,” Bullets 2 & 3, Section 3, *Provincial Tri-Council Research Strategy*, December 2006.

Other important initiatives that should be considered include the following:

- Initiate a province-wide graduate student matching scholarship (NBRES) that will enable New Brunswick to compete with other provinces by keeping and attracting Tri-Council-funded graduate students by topping up their awards. Currently, New Brunswick’s winners of NSERC, SSHRC, and CIHR fellowships are being lured to Ontario and western universities at least in part by offers to “top up” their awards (many provinces also offer full provincial graduate scholarships, which New Brunswick does not). Were the NBRES scholarships proposed by the SCPSR to be implemented, it would provide the kind of funding support that might help to address this brain-drain and keep some of the more innovative research ideas and commercialization possibilities within the province. See also: SCPSR’s Bullet 1, Section 5, “Action Plan,” *Provincial Tri-Council Research Strategy*, December 2006.
- Recognize the contribution of Arts and Social Sciences research by offering more supportive funding to faculty, senior undergraduate, and graduate students. Arts faculties graduate the economists, historians, political scientists, policy analysts, critical thinkers, clinical psychologists, health analysts, and literary /creative artists that contribute to New Brunswick society, and also generate the kind of research that analyzes economic trends and initiates social change. Currently, Arts and Social Sciences researchers are eligible for only limited NBIF funding. The previously recommended allocation of 23% of the new PSE transfers to the SPSCR will enable it to address the current absence of support for researchers and graduate students in the Arts and Social Sciences .
- Research informs good teaching. The two are intertwined in the minds of the majority of faculty in the province’s post-secondary institutions, whatever their size. In their discussion paper, the PSE commissioners have asked if institutions pay enough attention to teaching how to teach. To this end, the SCPSR would like to note that at least three post-secondary campuses in New Brunswick are currently part of a developing Atlantic Research Consortium for the Advancement of Learning and Teaching. Financial and organizational structures that would support research on the scholarship of teaching in New Brunswick post-secondary institutions would be another strategy that could emerge from the PSE recommendations.
- Provincial Research Networks: The post-secondary sector within the Province of New Brunswick should identify at least three research areas where it intends to become a national leader within the next decade. These networks would cross linguistic and institutional boundaries, and would build on an existing critical mass of appropriate research infrastructure and expertise. As an interim goal,

each of these networks would work to achieve the following within the first five years:

- Double the amount of Tri-Council and overall research activity, as measured in terms of overall research awards.
- Double overall graduate recruitment and triple all sources of funding available to graduate students.

For example, modeled after similar initiatives that have been launched in Quebec and Ontario, a New Brunswick **Consortium for Education Research** would bring together policy and research officials from the appropriate ministries of the provincial government (Education, Post-Secondary Education, Training and Labour, Family and Community Services, Health), researchers and officials from the Faculties of Education of UdM, STU and UNB, and representatives from the following local research centres:

- Canadian Research Institute for Social Policy (CRISP)
- Second Language Research Institute of Canada
- Centre for Research in Youth Science Teaching and Learning (CRYSTAL)
- National Research Council - Institute for Information Technology (NRC-IIT)
- The Early Childhood Centre (UNB)
- Health & Education Research Group (HERG)
- National Adult Literacy Database Inc.
- Centre de recherch  et de d veloppement en  ducation (UdM)
- Centre de ressources p dagogiques (UdM)
- Statistics Canada Regional Data Centre

Researchers would be given improved awareness of and access to government data sets, and would be informed of provincial policy and research priorities. Graduate students would be offered provincial funding for research projects, and encouraged to apply for Tri-Council and other external grants. Research findings and policy recommendations would be shared and discussed through regular conferences and public presentations.

Another area which has been prioritized by the current Government of New Brunswick, and in which post-secondary institutions in New Brunswick have cultivated significant strengths in research networking, is in **Environmental Research**. In addition to the provincial departments of Environment, Fisheries, Natural Resources, and Tourism and Parks, three universities name the environment as a focus area in their strategic research plans and have nominated Canada Research Chairs and other non-CRC chairs accordingly. The New Brunswick Community College system also continues to build training and research programs in Environmental Technology and Forestry, and our post-secondary institutions have developed leading-edge environmental research infrastructure at the following:

- Canadian Rivers Institute
- Centre de recherche en sciences de l'environnement
- l'Institut de recherche sur les zones c ti res
- Centre de conservation des sols et de l'eau de l'est du Canada
- Centre for Coastal Studies & Aquaculture
- ACWERN
- Limerick Pulp & Paper Research & Education Centre

- Coastal Wetlands Institute
- Energy and Efficiency Conservation Agency

This network of research chairs, research centres, and training programs has generated a critical mass of infrastructure and expertise, with the potential of making New Brunswick an internationally recognized centre in environmental research. In the face of mounting global environmental challenges, including climate change, resource use, and renewable energy, New Brunswick's universities and colleges are poised through provincial research networks to provide solutions in the form of knowledge and highly-skilled workers.

In “Regions and Universities Together Can Foster a Creative Economy,” Richard Florida has argued that “human creativity has replaced natural resources and physical capital as the predominant driver of economic growth.”³ Including science, technology, arts, culture, entertainment, law, finance, health care, and education under his definition of the “creative sector,” Florida has advocated the importance of post-secondary institutions in advancing technology, attracting talent to a region, and producing a “tolerant social climate”.⁴ Whether looking at the economic impact of immigration, the contribution of culture and creativity to civil society, or the association between technology and regional innovation, **Regional Studies** in a competitive global environment is one of the dynamic research network synergies that New Brunswick’s post-secondary researchers have developed. Their initiatives include interactions between the following centres:

- New Brunswick and Atlantic Studies Research and Development Centre (STU)
- Centre d’études acadiennes (UdM)
- Institut canadien de recherche sur les minorités linguistiques (UdM)
- Institut canadien de recherche sur le développement régional (UdM)
- Centre for Canadian Studies (MtA)
- Rural & Small Town Project (MtA)
- Electronic Text Centre (UNB)
- Atlantic Canada Portal (UNB)
- Muriel McQueen Fergusson Centre for Family Violence Research (UNB)

New Brunswick’s post-secondary institutions are poised to collectively explore the relationship between human capital, economic growth, and community development, and have created a model for others to follow in regional studies through the publication of nationally-respected journals such as *Acadiensis* and by committing Canada Research Chairs to various aspects of regional studies.

During the past two years, New Brunswick’s post-secondary institutions have outpaced their competitors across the country in the expansion of their research and innovation capacity.⁵ This remarkable achievement has been accomplished because we have collaborated and partnered: post-secondary institutions and campuses throughout the Province, and the faculty and student researchers employed there, are finding more and more innovative ways to work with each other and with government and the private

³ Richard Florida, “Regions and Universities Together Can Foster a Creative Economy,” *The Chronicle of Higher Education*, 15 September 2006, B6.

⁴ *Ibid.*

⁵ According to Research InfoSource, NB’s increase in overall university research revenue was double the national average in 2004 and more than triple the national average in 2005.

sector. If our institutions can be given the recognition and funding that is needed from government, the SCPSR will have the tools it needs to continue to build our provincial capacity in R&D, while also focusing on our areas of excellence. We are convinced that there is no limit to what this Province and its post-secondary institutions can accomplish in the future; the decline in undergraduate enrolments, which many seem to view as a negative, can easily evolve into the positive of expanded graduate enrolments and enhanced research excellence and graduate student capacity.