

*Environmental Sustainability  
Research Centre (ESRC):  
Annual Report 2012*



# Introduction

The Brock Environmental Sustainability Research Unit (BESRU) was formed in January 2011 within the Department of Tourism and Environment (TREN). In December 2011 BESRU transitioned to the Environmental Sustainability Research Centre (ESRC). ESRC aims to pursue innovative and interdisciplinary/trans-disciplinary research concerning the environment, sustainability and social-ecological resilience. Ultimately, it aspires to contribute to facilitating society's transition towards sustainability.

In May 2011 BESRU developed its first strategic plan. The strategic plan sets forth the guiding direction for ESRC and associated actions to realize its mission. Under the ESRC Rules of Procedures, the Director annually prepares a report to communicate progress towards its goal and to highlight accomplishments/challenges.

This inaugural report is structured into four sections. The first section highlights major strategic accomplishments and challenges during the 2011/2012 academic year. Progress towards actions, identified in the Strategic Plan, is documented in the second section. The third section briefly conveys the financial situation of ESRC. The final section looks forward to the 2012/2013 academic year and identifies emerging opportunities. Appendices are provided to give supplementary details.

## Strategic Accomplishments and Challenges

The overarching mission and associated objectives for ESRC were developed through a strategic planning process. In working to achieve its aim, ESRC upholds and promotes core values of excellence, transdisciplinarity, collegiality and sustainability. The following items highlight the major strategic accomplishments and challenges during the 2011/2012 academic year.

### *Transition from BESRU to ESRC.*

In January 2011 a relatively small group of faculty followed Section 25 of the 2010-2011 Brock University Faculty Handbook to form the Brock Environmental Sustainability Research Unit (BESRU) within the Department of Tourism and Environment (TREN). As a reflection of BESRU's rapid growth and vibrancy as well as changes to Section 25 of the 2011-2012 Brock University Faculty Handbook, application was made to change its status from a Research Unit to a Research Centre. This application drew upon the existing rationale, constitution, structures and membership of BESRU and demonstrated how it fulfills the requirements for a Research Centre as set forth in Section 25 of the 2011-2012 Brock University Faculty Handbook. The application to thus transition from BESRU to ESRC was unanimously supported by the Brock University Senate in December, 2011. A considerable amount of time and effort this year concerned navigating this transition. New rules of procedures were developed and adopted (please see Appendix A).

### *Raising the UNESCO Flag at Brock.*

On January 26<sup>th</sup>, 2011 Brock University raised a United Nations Flag to acknowledge and celebrate its location in the Niagara Escarpment Biosphere Reserve. ESRC coordinated the ceremony and contributed the flag to Brock University. The ESRC sub-committee responsible for making the event possible included: Richard Mitchell, Gary Pickering, Kerrie Pickering and Samantha Purdy. Dignitaries attending the event included: Murray Knuttila, Provost and Vice-President, Academic; Gary Libben, Vice-President, Research; Ian Brindle, former Vice-President, Research; Dunk, and Carol Jacobs, who works in Aboriginal Student Services at Brock. Many students, staff and faculty also attended to celebrate Brock's location.

### *Application for funding a Transdisciplinary Institute or Centre.*

On behalf of ESRC, Diane Dupont, Gary Pickering and Ryan Plummer put forward a letter of intent to the call for forming transdisciplinary institutes or centres at Brock University. The LOI was titled 'Sustainability: A Transdisciplinary Space for Transformative Change' and the summary follows. Concerns about ecological, economic, and social sustainability have moved to the forefront in the Niagara Region, the nation as a whole, and throughout the world. This strategic initiative creates an innovative and transdisciplinary space concerning the environment, sustainability, and social-ecological resilience. The spirit of sustainability science is at the core of this transdisciplinary space as individuals within Brock and beyond endeavour to collaboratively solve complex and uncertain challenges. This problem-solving orientation is focused in key thematic areas in which Brock has considerable expertise as well as the ability to gain international prominence. These include: water resources innovation and resilience; meanings and measurements of sustainability; climate change, adaptation and transformation; science and public policy; and, social justice, development, and health. Ultimately, it aspires to contribute to facilitating society's transition towards sustainability.

### *Rapid growth and expansion.*

One of the factors precipitating the move from a research unit to a centre was the rapid growth and expansion. BESRU was initiated by a small collection of faculty within Social Sciences. In the course of this year membership has grown quickly and diversified considerably. ESRC members come from the Faculty of Social Sciences, Faculty of Mathematics and Science, Faculty of Humanities and Libraries. Affiliates include undergraduate and graduate students as well as individuals from government agencies, non-governmental organizations, and universities. Appendix B gives a list of current members.

### *Cancellation of funding by Environment Canada.*

The main source of revenue to support ESRC came from agreements with Environment Canada. These signed agreements were in place from 2010-2015. In October 2011, notice was officially received that Environment Canada was cancelling these agreements. In working with the Brock Office of Research Services, repeated requests to Environment Canada have been made to understand what wrap up costs will be forthcoming. No answer has been forthcoming.

# Progress on our Action Plan

The Strategic Plan set forth anticipated actions from 2011 until 2016. During the 2011/2012 academic year good progress has been made on accomplishing these actions. Table 1 (Activity Plan for Research and Research Development) and Table 2 (Activity Plan for Network Development, Community Engagement/Outreach, and Education) provides a summary of the actions that were identified in the Strategic Plan and that were accomplished this past year.

**Table 1.** Activity Plan for Research and Research Development

## Theme Abbreviations

- Water Resources Innovation and Resilience (**WRIR**)
- Meanings and Measurements of Sustainability (*MMS*)
- Climate Change, Adaptation and Transformation (*CCAT*)
- Science and Public Policy (*SPP*)
- Social Justice, Development and Health (**SJDH**)

(C- complete; IP-in progress; D-delayed; CD-cancelled).

Activity	Lead from BESRU	Theme	Timeline					
			2011	2012	2013	2014	2015	
Adaptation and Impacts Research (LOA)	B. May, R. Plummer	CCAT	CD					
Assessing the Outcomes of collaborative Water Governance: A Canadian Perspective	R. Plummer	WRIR	x	x	x			
Adapting to Climate Change in the Ontario Wine Industry.	G. Pickering	CCAT	IP	x	x	x		
Climate changes and plant responses	L. Vasseur	CCAT	IP					
Creating a Next Generation Policy Delphi	R. Plummer	SPP	x	x				
Creating Networking and Social Learning Strategies in Canadian Biosphere Reserves	R. Plummer	SJDH	x	x	x	x		
Disturbance, invasive species and the threat of climate change	L. Vasseur	CCAT	IP					
First Nations and Source Waters: Understanding Vulnerabilities and Building Capacity for Governance	R. Plummer	WRIR	x	x				
From 'Dam and Divert' to 'Cap and Trade': Water Policy Reform in Irrigation Economies	T. Heinmiller	WRIR	x	x	x	x		
Gestion intégrée et changement climatique des territoires du Golfe du St Laurent	L. Vasseur	CCAT	IP	x	x	x	x	x
Governance for Watershed-Based Source Water Protection in Canada: A National Evaluation	R. Plummer	WRIR	x	x				
Improving Water Governance Through Policy Transfer and Lesson Learning	R. Plummer	WRIR & SPP	x	x				
Long Point Biosphere Reserve Periodic Review	R. Mitchell	SPP	x					

Management of the Ecosystems based on the Communities – towards a durable exploitation of the Resources in Burkina Faso	L. Vasseur	SPP	C					
Managing Natural Resource Recreation for Resilient People, Communities, and Ecosystems	R. Plummer	CCAT	x	x	x			
Modeling Household water and energy retrofit decision-making	S. Renzetti, D. Dupont	WRIR	IP					
Modeling Industrial Water Recirculation Decisions	S. Renzetti	WRIR						
More Value from the Same Water: Maximizing Water’s Sustainable Contribution to the Canadian Economy	D. Dupont, S. Renzetti	WRIR	IP	x				
Niagara Climate Change Project (Grants and Contributions Agreement)	J. Baird, B. May, K. Pickering, S. Purdy, R. Plummer	CCAT	C					
Response of plant communities to extreme events under climate change scenarios	L. Vasseur	CCAT	IP	x				
Using Google Earth to Visualize the Historic Welland Canals and its significance on tourism and environmental change	C. Beard	SPP	IP					
Create a database of Niagara geospatial data for BESRU environmental research	C. Beard	SPP	IP					
Water Regulations: Impact on First Nations Health Equity and Promotion	D. Dupont	WRIR	IP					
Explaining Carbon Pricing Policy: Why Some Jurisdictions Price Carbon and Others Don’t	D. Dupont, T. Heinmiller	SPP	IP	x	x	x	x	
Towards sustainable agriculture in China through the promotion of biodiversity	L. Vasseur	SPP	IP					

**Table 2.** Activity Plan for Network Development, Community Engagement/Outreach, and Education

**Theme Abbreviations**

- Water Resources Innovation and Resilience (**WRIR**)
- Meanings and Measurements of Sustainability (*MMS*)
- Climate Change, Adaptation and Transformation (*CCAT*)
- Science and Public Policy (*SPP*)
- Social Justice, Development and Health (**SJDH**)

(C- complete; IP-in progress; D-delayed; CD-cancelled).

Activity	Lead	Theme	Timeline				
			2011	2012	2013	2014	2015
BESRU Seminar Series	Lead for each seminar selected at AGM	Theme for each seminar selected at AGM	C	x	x	x	x
BESRU Annual Conference / Event	Lead for each conference / event selected at AGM	Theme for each conference / event selected at AGM	C	x	x	x	x
Science Cafe	L. Vasseur	Theme for each conference / event selected at AGM	CD				

Honorary Doctorate Nomination	R. Mitchell	All	IP				
GIS Day	C. Beard	A mechanism to highlight BESRU research and the use of geospatial data	C				
BESRU Membership	D. Dupont	All	x	x			
BESRU Communications	R. Mitchell	All	x	x	x		
Liaison with Government / Organizations / Partners	R. Plummer	All	x	x	x		
UNESCO Chair Application	R. Mitchell	All	x				
Graduate Program in Sustainability	TBD	MMS		x	x	x	x

While the Strategic Plan offers a useful guide for activities, flexibility to undertake emergent opportunities is also important. Table 3 offers a summary of activities undertaken by ESRC this past year that were not identified in the Strategic Plan.

**Table 3.** Additional Activities Undertaken in 2011/2012

Activity	Lead	Theme	Date
Tourism, Environment and Sustainability presentation for Police Pensioners Association of Niagara	D. Telfer, A. Hashimoto	SPP	April 18, 2012
Growing together: A celebration of Niagara's migrant workers	D. Fancy	SJDH	Sept. 18, 2011
Women and Water Seminar	S. Moore	WRIR & SJDH	Mar. 8, 2012
Raising of the UN flag at Brock University	R. Mitchell	SJDH	Jan. 26, 2012
Observer to the Canadian Commission for UNESCO Annual General Meeting	R. Mitchell	SJDH	June 9-11, 2012
Leading Edge Conference	B. May	SJDH	May 26-27, 2011
Workshop on "Social-ecological Inventories: Building Resilience to Environmental Change within Biosphere Reserves"	R. Mitchell, R. Plummer	SJDH	Mar. 7-8, 2011

## Fiscal Sustainability

Upon forming BESRU, an account was established with the Office of Research Services. This account enables the activities of ESRC. Accounts associated with research agreements are also connected to ESRC. For example, the agreement between Environment Canada and Brock University specifies that ESRC is the designated body for

those funds. In addition, researchers have been successful in 2011/2012 at gaining research grants explicitly connected with ESRC.

A sub-committee has been formed and is working on transitioning the budgetary situation of from BESRU to ESRC. In light of Environment Canada's cancelling the five year agreement, the sub-committee is also now considering issues of fiscal sustainability.

## **Looking Forward to 2012/2013**

The 2011/2012 academic year has been tremendously productive for ESRC. Significant strides have been made towards its aim and substantive progress has been made towards implementing the actions identified in its strategic plan. In embracing opportunities as they arise, ESRC has also embarked on many unplanned actions.

Membership and interest in ESRC is on an upwards trajectory. Several applications are being presently being prepared for submission. Some of these applications are substantial in size (e.g., Water Economics Policy Governance Network, Sustainability: A Transdisciplinary Space for Transformative Change) and if successful will shape the future of ESRC. The program sub-committee has started to investigate the formation of a graduate program and works towards a submission in the next academic year. While, addressing long-term funding issues brought about by Environment Canada's withdrawal poses a noteworthy challenge, the 2012/2013 academic year appears to be full of promise for ESRC.

# Appendix A: ESRC Rules of Procedures (as of March 7, 2012)

## I. ESRC's Mission & Objectives

- 1.1. The Environmental Sustainability Research Centre (ESRC) pursues innovative and interdisciplinary/trans-disciplinary research concerning the environment, sustainability and social-ecological resilience. Ultimately, it aspires to contribute to facilitating society's transition towards sustainability.
- 1.2. The basic objectives of ESRC are as follows:
  - 1.2.1. To encourage interdisciplinary, trans-disciplinary, integrative, and environmentally oriented research by faculty, librarians, and students.
  - 1.2.2. To cultivate and mobilize networks at local through international scales that foster generation of innovative knowledge and make possible information dissemination about the environment.
  - 1.2.3. To engage with communities of practitioners and policy makers to foster knowledge impacts at local through international levels about the environment.

## 2. ESRC Committee

- 2.1. The ESRC Committee (hereafter 'the Committee') is the core constituent body of ESRC, comprised of all ESRC members in good standing (see section 6.0 below for the eligibility and procedural requirements of ESRC membership). All ESRC members in good standing have the right and obligation to participate in Committee affairs.
- 2.2. The Committee will meet no less than once per term. Meetings of the Committee can be called at the discretion of the ESRC Director or through petition by at least half of the ESRC membership. Two weeks' notice must be given before each Committee meeting.
- 2.3. All meetings of the Committee will follow Robert's Rules of Order in its proceedings.
- 2.4. Every member in good standing of ESRC has one vote in Committee proceedings. Committee votes may be conducted in-person or electronically, at the discretion of the Director. For in-person votes, quorum for the Committee is a simple majority of the ESRC membership. For electronic votes, no quorum rule applies since all members will have an opportunity to vote. Unless otherwise indicated in these Rules and Procedures, decisions of the Committee will be taken by simple majority vote.
- 2.5. The Committee has the following rights/duties in ESRC governance:
  - It will elect the members of the ESRC Executive
  - It will advise the ESRC Executive on the activities and strategic direction of ESRC
  - It will review the annual report of the ESRC Director
  - It will receive and review reports from the ESRC Advisory Committee
  - It will amend the ESRC Rules and Procedures, as necessary

## 3. ESRC Director

- 3.1. The ESRC Committee will be chaired by the ESRC Director (hereafter 'the Director') or his or her designate.

3.2. The Director will normally serve a three-year term which may be renewed.

3.3. The Director will be selected through the following procedure:

3.3.1. During the fall term of the final year of a Director's term, the Committee shall record a vote indicating its choice for the next Director.

3.3.2. This choice will be forwarded to the Dean of Social Science who may consult further.

3.3.3. The Dean will forward the results of the vote and his/her recommendation to the President who will appoint the next Director.

#### **4. ESRC Executive**

4.1. The ESRC Executive (hereafter 'the Executive') is the core executive body of ESRC. Any member in good standing of the Committee can make nominations and stand for election to the ESRC Executive. All positions on the ESRC Executive (except the Director – see section 3 above) are elected by simple majority vote of the Committee.

4.2. All members of the Executive are entitled to one vote in its proceedings, and Executive decisions are determined by a simple majority vote. Quorum for the Executive is four members.

4.3. All meetings of the Executive will follow Robert's Rules of Order in its proceedings.

4.4. The Executive is comprised of the following positions and terms:

- Director (three-year term)
- Secretary/Treasurer (two-year term for the first holder, then a three-year term thereafter)
- Research Coordinator (two-year term for the first holder, then a three-year term thereafter)
- Communications Coordinator (three-year term)
- Program Coordinator (three-year term)
- Member-at-Large (one-year term for the first holder, then a two-year term thereafter)
- Member-at-Large (two-year term)

4.5. The positions of the Executive will include the following duties:

##### **4.5.1. Director**

4.5.1.1. Develop, implement and monitor a strategic plan for ESRC, in consultation with the Committee, the Executive, the Advisory Committee, and the Dean of FOSS.

4.5.1.2. Act as a liaison between government agencies, organizations and partners and ESRC.

4.5.1.3. Chair regular ESRC meetings; interact with the Committee and Advisory Committee; supervise ESRC staff.

4.5.1.4. Provide a written report and presentation to the Committee, the Advisory Committee, and the Dean of FOSS annually. The report and presentation summarizes the activities of ESRC and seeks advice on future strategic directions. It will be distributed at least two weeks before the annual meeting.

##### **4.5.2. Secretary/Treasurer**

- 4.5.2.1. Records minutes at meetings of the Executive and the Committee.
- 4.5.2.2. Maintenance of financial records and production of annual financial report.
- 4.5.2.3. Maintenance and updating of ESRC Rules and Procedures.
- 4.5.3. Research Coordinator
  - 4.5.3.1. Source research opportunities and facilitate the formation of research teams to make funding applications in the key thematic areas of ESRC.
  - 4.5.3.2. Serve as liaison between the Committee, the Executive, the Advisory Committee, faculty, Office of Research Services, government agencies, and other participating agencies.
  - 4.5.3.3. Maintain a database on research activities of ESRC members.
  - 4.5.3.4. Receives membership applications and presents them to the Executive.
- 4.5.4. Communications/Partnership Coordinator
  - 4.5.4.1. Contribute to the design and creation of communications and public relations tools; coordinates meetings among community, faculty, research teams, and support staff.
  - 4.5.4.2. Ensure communication within ESRC and facilitate knowledge mobilization to the various audiences (e.g., researchers, policy makers, community members etc.) about ESRC research and its implications.
  - 4.5.4.3. Oversee and update the ESRC website, as necessary.
- 4.5.5. Program Co-ordinator
  - 4.5.5.1 Oversee and co-ordinate applications for Programs
- 4.5.6. Members-at-Large
  - 4.5.6.1. Represent concerns of the Committee to the Executive.
  - 4.5.6.2. Contribute to the workings of the Executive, as appropriate.

## **5. ESRC Advisory Committee**

- 5.1. The ESRC Advisory Committee (hereafter ‘the Advisory Committee’) is a consultative body that advises the Committee on the strategic direction of ESRC. It is chaired by the Dean of Social Sciences, and is comprised of up to five other members of the business, government, NGO, and/or academic communities. Members of the Advisory Committee sit for three-year terms.
- 5.2. Members of the Advisory Committee may be nominated by any member in good standing of the Committee, and appointments to the Advisory Committee are made by simple majority vote of the Committee.
- 5.3. The Advisory Committee will meet at least once each academic year, and meetings of the Advisory Committee are called by the chair (the Dean of Social Science).
- 5.4. The rights/duties of the Advisory Committee include the following:
  - To review the annual report of the Director and evaluate the strategic direction of ESRC
  - To report annually to the Committee on the strategic direction of ESRC

- To provide advice to the Executive, as requested by the Executive
- 5.5. Members of the Advisory Committee may sit as observers on the Committee and the Executive, but they do not have nominating or voting rights on either of these bodies.

## **6. ESRC Membership**

- 6.1. Membership in ESRC is open to all members of the Brock academic staff who can make a demonstrable and positive contribution to ESRC's mission and objectives.
- 6.2. The process for becoming a member of ESRC is as follows:
- Prospective applicants must submit a CV and a one to two page state of intent – outlining the relevance of their research to ESRC and their planned contribution to ESRC – to the Research Coordinator.
  - The Research Coordinator shall bring forward all membership applications to the Executive at its next scheduled meeting, where membership decisions will be decided by a simple majority vote.
  - The Research Coordinator shall notify each applicant of the results of the membership vote.
- 6.3. All members of ESRC may resign their membership through a letter of resignation to the Research Coordinator.
- 6.4. Members of ESRC whom the Executive have determined to have become inactive (i.e., they have not participated in the Committee or other ESRC activities for at least two years) or to have acted contrary to the mission and objectives of ESRC, may have their membership cancelled through the unanimous vote of the Executive.
- 6.5. All membership decisions of the Executive (new membership approvals, new membership rejections, and membership cancellations) can be overridden by the Committee through a two-thirds majority vote.

## **7. Amendment of ESRC Rules and Procedures**

- 7.1. Amendment of the ESRC Rules and Procedures can be proposed by any member of the Committee and must be passed by a two-thirds majority vote of the Committee.

## **8. ESRC Affiliates**

- 8.1. Individuals and groups who are not members of the Brock academic staff may participate in ESRC activities through ESRC affiliation. ESRC Affiliates (hereafter the 'Affiliates') may be community members, students, businesses, NGOs or researchers from other universities who can make a demonstrable and positive contribution to ESRC's mission and objectives.
- 8.2. Affiliates may participate in all ESRC activities and may attend meetings of the Committee, but they may not vote in Committee proceedings nor may they stand for election or hold office in the Executive.
- 8.3. The process for becoming an Affiliate is as follows:
- Prospective Affiliates must be nominated by a Committee member.

- Prospective applicants must submit a CV and a one to two page state of intent – outlining the relevance of their research to ESRC and/or their planned contribution to ESRC – to the Research Coordinator.
  - The Research Coordinator shall bring forward all membership applications to the Executive at its next scheduled meeting, where membership decisions will be decided by a simple majority vote.
  - The Research Coordinator shall notify each applicant of the results of the membership vote.
- 8.4. All Affiliates may resign their membership through a letter of resignation to the Research Coordinator.
- 8.5. Affiliates whom the Executive have determined to have become inactive (i.e., they have not participated in the Committee or other ESRC activities for at least two years) or to have acted contrary to the mission and objectives of ESRC, may have their affiliation cancelled through the unanimous vote of the Executive.
- 8.6. All affiliation decisions of the Executive (new affiliation approvals, new affiliation rejections, and affiliation cancellations) can be overridden by the Committee through a two-thirds majority vote.

# Appendix B: List of Current Members

<b>Members</b>	
<b>Name</b>	<b>Department</b>
Julia Baird	Tourism and Environment
Colleen Beard	Map Library
Danuta DeGrosbois	Tourism and Environment
Diane Dupont (Program Coordinator)	Economics
David Fancy	Dramatic Arts
Atsuko Hasimoto	Tourism and Environment
Tim Heinmiller	Political Science
Marcia Jacklin	Library
Wendee Kubik	Women and Gender Studies
Brad May	Tourism and Environment
Shannon Moore	Child and Youth Studies
Richard Mitchell	Child and Youth Studies
Gary Pickering	Biological Science & Mathematics and Science
Ryan Plummer (Director)	Tourism and Environment
Steven Renzetti	Economics
Andrew Spiers	Tourism and Environment
David Telfer	Tourism and Environment
Liette Vasseur	Biological Sciences
<b>Advisory Committee</b>	
<b>Name</b>	<b>Affiliation</b>
Murray Claman	Department of Bioresource Engineering, McGill University
Don MacIver	Environment Canada
Jay Parmer	HR Carbon
Åsa Gerger Swartling	Stockholm Environmental Institute and Stockholm Resilience Centre, Stockholm University
<b>Affiliates</b>	
<b>Name</b>	<b>Affiliation</b>
Oliver Brandes	POLIS Project on Ecological Governance, University of Victoria; Department of Environment & Resource Studies, University of Waterloo; Forum for Leadership on Water (FLOW-Canada); and Centre for Global Studies, University of Victoria
Adam Fenech	University of PEI
Yvonne Hopkins	Aquatic and Terrestrial Biologist with the Town of Fort Erie
Kerrie Pickering (Project Manager)	Department of Geography, Brock University
Samantha Purdy	Department of Tourism and Environment, Brock University
Romila Verma	University of Toronto

**FOR MORE INFORMATION  
ABOUT ESRC, PLEASE  
VISIT OUR WEBSITE:**

[HTTP://WWW.BROCKU.CA/ENVIRONMENTAL-SUSTAINABILITY-RESEARCH-CENTRE](http://www.brocku.ca/environmental-sustainability-research-centre)