



# The BIOCAP Canada Foundation Activities and Accomplishments January 2002 - March 2006

**THE BIOCAP CANADA FOUNDATION** is a national, not-for-profit research foundation that is building the nation's research partnerships to find biosphere solutions to climate change, clean energy and the economy. Since receiving the first installment of a 4-year, \$10M federal contribution in 2002, BIOCAP has made remarkable progress in building organizational capacity, establishing multi-sector partnerships and multi-disciplinary research networks, leveraging research funding, reporting on research, facilitating networking opportunities through the organization and/or sponsorship of various events, and fostering communications and outreach.

The organization's scope and influence has increased significantly over the past four years. As BIOCAP looks forward, its focus will be to identify and develop solutions to improve the sustainable use of Canada's vast biological resources to create a major renewable energy resource and a healthy environment for Canadians.

The following is a detailed account of BIOCAP activities and accomplishments during the last four years. Each general area of activity (as outlined in the table of contents below) has been organized by: **Focus Area**, the specific areas/goals that the organization has been working towards, **Launch Date**, the date when the specific accomplishment was completed or 'launched', and **BIOCAP Role**, the role that the organization played in attaining the accomplishment. A definition of each of the various roles that BIOCAP has played is outlined below.

Capturing Canada's Green Advantage

TABLE OF CONTENTS	
<b>Building the Organization</b>	pg. 2
<b>Building Multi-Sector Partnerships</b>	pg. 3
<b>Building Multi-Disciplinary Research Partnerships</b>	pg. 5
<i>Funding Proposals</i>	
<i>Network Launches/Partnerships</i>	
<b>Leveraging Research Funding</b>	pg. 6
<b>Reporting on Research</b>	pg. 10
<i>Papers, Reports &amp; Feasibility Studies</i>	
<i>BIOCAP Briefs</i>	
<i>BIOCAP Backgrounders</i>	
<b>Facilitating Networking Opportunities</b>	pg. 12
<i>Workshops</i>	
<b>Fostering Communications &amp; Outreach</b>	pg. 13
<i>Communications Materials</i>	
<i>Events</i>	
<i>Expert Committees</i>	
<i>Speaking &amp; Panel Engagements</i>	
<i>Media &amp; Advertising</i>	

## DEFINITION OF BIOCAP ROLES:

<b>Creator</b>	Responsible for conceptualizing, initiating and completing process or item
<b>Co-Organizer</b>	Co-organizing and running the event with another BIOCAP partner
<b>Design Support</b>	Providing support for the creation of designed elements such as websites, logos etc.
<b>Director</b>	Providing ongoing support, maintenance and direction
<b>Facilitator</b>	Ensuring the smooth delivery of activities towards a specific goal
<b>Funder</b>	Providing cash or in-kind support for research projects
<b>Host</b>	Hosting BIOCAP network websites on <a href="http://www.biocap.ca">www.biocap.ca</a>
<b>Leader</b>	Articulating a vision, offering strategic guidance and funding
<b>Link</b>	Providing a link between partner websites and <a href="http://www.biocap.ca">www.biocap.ca</a>
<b>Manager</b>	Organizing and ensuring the smooth flow of activities on a day-to-day basis
<b>Mentor</b>	Providing guidance and contact information for potential partners
<b>Organizer</b>	Organizing and running the event
<b>Participant</b>	Invited to participate
<b>Partner</b>	Collaborating with other agencies by providing insights and funding when required
<b>Speaker</b>	Invited keynote, plenary or symposium speaker
<b>Sponsor</b>	Providing cash or in-kind support for events
<b>Subject</b>	BIOCAP is the subject of a paper, article or advertisement



# BUILDING THE ORGANIZATION

BIOCAP began eight years ago as a simple but promising idea: Canada’s biological resources could be a valuable asset in the fight against climate change. Dr. David Layzell, a leading biologist at Queen’s University, spearheaded the effort to build BIOCAP from idea to national research organization. Along the way, this process has included attracting sponsors, securing funds, and establishing the necessary infrastructure and internal resources. The organization has a dedicated staff of 11 and an ever-increasing base of activities focused on finding biosphere solutions to climate change, clean energy and economic development.

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>ORGANIZATION CAPABILITY</b>		
Develop “Canada’s Green Advantage” concept	1998	Creator / Director
Establish working relationship with Queen’s	1998, 2001	Creator / Director
Attract industry sponsors (TransAlta, Shell, Suncor)	1999	Creator / Director
Attract government funds (ON, AB)	1999	Creator / Director
Attract NSERC funding	2000	Creator / Director
Establish Research Overview Committee	2000	Creator / Director
Establish Board of Directors	2000	Creator / Director
Incorporate Not-For-Profit Foundation	2000	Creator / Director
Establish offices	2001	Creator / Director
Purchase equipment, contract services	2001	Creator / Director
Hire staff	2001-02-03-04-05	Creator / Director
Secure federal funding	2001	Creator / Director
Create funding agreements	2001	Creator / Director
Establish Research and Development Advisory Councils	2002	Creator / Director
Coordinate external audits	2001-02-03-04-05	Creator / Director
<b>Official launch</b>	<b>2002</b>	<b>Creator / Director</b>
Design and implement financial accounting system	2002	Creator / Director
Establish Investment Policy Guidelines	2002	Creator / Director
Incorporate Charitable Foundation	2003	Creator / Director
Establish Research Funding Accountability Principles and Procedures	2003	Creator / Director
Establish Conflict of Interest Policy and Procedures	2003	Creator / Director
Establish Research Database ( <i>Project Track</i> )	2003	Creator / Director
Develop Audit and Finance Committee Mandate	2003	Creator / Director
Produce annual report on research funding accountability	2004-05	Creator / Director
Renew organizational structure	2005-06	Creator / Director



# BUILDING MULTI-SECTOR PARTNERSHIPS

One of BIOCAP's strengths is its ability to transcend institutional barriers and bring together governments (both federal and provincial) with industry, non-governmental organizations and universities to address issues of importance to the Canadian Environment. During the last several years, BIOCAP has built an impressive list of partners. BIOCAP partners are defined as organizations which are providing cash and/or in-kind contributions to BIOCAP-funded research projects or initiatives.

\* A BIOCAP Member denotes a partner who provides financial support directly to BIOCAP, or in-kind support by participating on our Board of Directors

## INDUSTRY PARTNERS

Abitibi Consolidated Inc.	Kingston Process Metallurgy Inc.
AgriBiotics	Lafarge Canada*
Alberta Pacific Forest Industries*	Lignol Innovations Corporation
Arkema Canada Inc	Manitoba Hydro
BC Hydro*	National Utility Investors
BIOX	Neoteric Biofuels Ltd
Boreal Laser Inc.	Okanagan Biofuels
Bowater Inc.	Ontario Power Generation*
Canadian Fertilizer Institute*	Quebec Hydro
Commercial Alcohols Inc.	Philom Bios Inc.
Dofasco Inc*	Reductase Consortium (Ambio, Innovera, Spec)
DuPont	Rio Tinto Iron & Titanium Inc.
Enerkem Inc	Shell Canada*
Engine Control Systems	Suncor Energy Inc*
Environmental Waste International	Syngenta Inc.
Ferti-Val Inc.	Synodon Inc.
Ford Motor Company	Tembec Inc.
Fraser Inc.	TransAlta Corporation*
Fuel Cell Technologies	TransCanada
Hydromantis Inc.	Western Forest Products Ltd
Imperial Oil	Weyerhaeuser Company
International Truck & Engine Company (ITEC)	Zenon Environmental Inc.
Intersan Inc.	

## NGO PARTNERS

Ag-West Bio Inc*	Forest Engineering Research Institute of Canada
Auto21	Green Crop Network
BioProducts Canada	Greenhouse Gas Management Canada
Canada Foundation for Innovation	International Rice Research Institute, Philippines
Canadian Cattlemen's Association	Northern Climate ExChange
Canadian Climate Impacts & Adaptation Research Network	Nova Scotia Federation of Agriculture
Canadian Foundation of Climate & Atmospheric Sciences	Ontario Soil and Crop Investment Association
Canadian Pork Council	Pembina Institute for Appropriate Development*
Canadian Renewable Fuels Association	Pollution Probe*
Centre for Studies in Agriculture, Law and the Environment	Saskatchewan Canola Development Commission
Ducks Unlimited Canada	Soil Conservation Council of Canada
EnergyINet	Sustainable Forest Management NCE
Fluxnet Canada	

\*BIOCAP Member



# BUILDING MULTI-SECTOR PARTNERSHIPS CTD...

## GOVERNMENT PARTNERS

Agriculture & Agri-Food Canada *	Manitoba Conservation
Alberta Agriculture, Food and Rural Development	Ministère du Développement Durable, de l'Environnement et des Parcs du Québec
Biotechnology Research Institute, NRC	National Research Council of Canada
British Columbia Ministry of Agriculture & Agri-Food	Natural Resources Canada*
British Columbia Ministry of Forests	Natural Sciences & Engineering Research Council of Canada (NSERC)
Canada Research Chair	Northeast Science and Information, OMNR
Canadian Biomass Innovation Network (CBIN)	Nova Scotia Department of Agriculture and Fisheries
Canadian Forest Service, NRCan	Ontario Centres of Excellence
CANMET Energy Technology Centre, NRCan	Ontario Forest Research Institute, OMNS
Environment Canada*	Ontario Ministry of Agriculture, Food & Rural Affairs
GHG Mitigation Program, AAFC	Ontario Ministry of Natural Resources
Government of Alberta*	Prairie Farm Rehabilitation Administration, AAFC
Government of British Columbia*	Saskatchewan Research Council
Government of Nova Scotia	Social Sciences & Humanities Research Council (SSHRC)
Government of Ontario*	Toronto Works and Emergency Services
Government of Saskatchewan*	U.S. Geological Survey
Manitoba Agriculture	Wastewater Technology Centre, Environment Canada

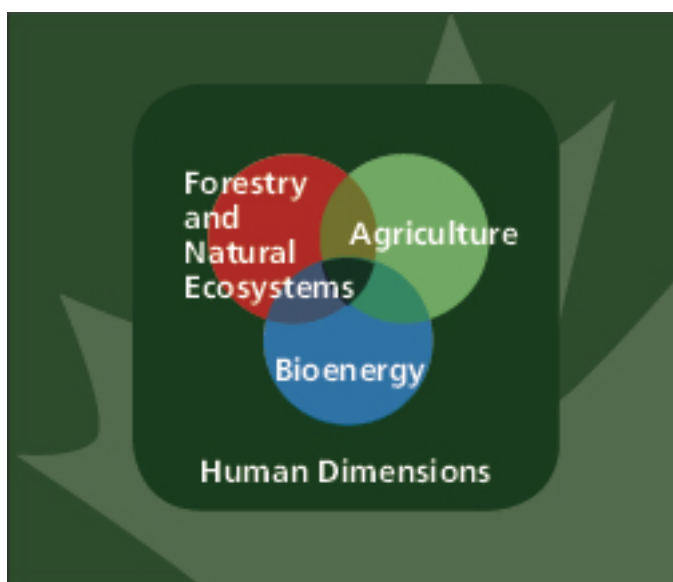
## UNIVERSITY PARTNERS

Colorado State University	University of Calgary
Concordia University	University of Guelph*
Dalhousie University	Université Laval*
Harvard University	University of Lethbridge
International Christian University, Japan	University of New Brunswick
Kyushu University, Japan	University of Manitoba
Lakehead University	Université du Moncton
Laurentian University	University of Ottawa
McGill University	Université du Québec
McMaster University	University of Regina
Memorial University of Newfoundland	University of Saskatchewan
Nova Scotia Agricultural College	Université du Sherbrooke
Queen's University*	University of Toronto
Royal Veterinary & Agricultural University, Denmark	University of Victoria
Ryerson University	University of Waterloo
Saint Mary's University	University of Western Ontario
Trent University	University of Windsor
University of Alberta*	Wageningen University, Netherlands
University of British Columbia	Wilfred Laurier University

# BUILDING MULTI-DISCIPLINARY RESEARCH NETWORKS

BIOCAP has developed a unique model to harness the nation's research capacity and find biosphere solutions to climate change, clean energy and the environment. With its stakeholders, BIOCAP identifies key research priorities and engages highly qualified research personnel from across the country. Once a network framework has been established, research proposals are prepared and the appropriate third-party granting agencies are sourced. After the initiative has received funding, the new national research network is officially launched.

BIOCAP is building a network of multi-disciplinary research networks in the following areas:



FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>FUNDING PROPOSALS</b>		
Forestry and Natural Ecosystems Proposal	2001	Facilitator, Mentor, Writer
Network Competitions	2002	Leader, Mentor
Bioenergy & Bioproducts Technologies Network of Centres of Excellence	2002	Facilitator, Mentor, Writer
Green Chemistry Network Proposal	2003	Facilitator, Mentor, Writer
Green Crop Network Proposal	2003	Facilitator, Mentor, Writer
<b>NETWORK LAUNCHES / PARTNERSHIPS</b>		
Greenhouse Gas Management Canada Network	2002	Funder, Facilitator, Mentor
Fluxnet Canada Research Network	2002	Funder, Facilitator, Mentor
Sustainable Forest Management Network	2002	Funder, Partner, Mentor
Green Crop Network	2005	Funder, Facilitator, Mentor
National Aquatics Systems & Climate Change Network (emerging)	2005	Funder, Facilitator, Mentor
Landscape Scale Cropping Systems Network (emerging)	2005	Funder, Facilitator, Mentor
Animal Production and Manure Management Network (emerging)	2005	Funder, Facilitator, Mentor
Afforestation and Biomass Crops Network (emerging)	TBD	Funder, Facilitator, Mentor
Bioenergy and Bioproducts Network Cluster (emerging)	TBD	Funder, Facilitator, Mentor
Sustainable Agriculture Research Network (emerging)	TBD	Funder, Facilitator, Mentor
Feedstock Integration Network (emerging)	TBD	Funder, Facilitator, Mentor
Canadian Carbon Plan (emerging)	TBD	Funder, Partner, Mentor

# LEVERAGING RESEARCH FUNDING

BIOCAP's ability to build multi-sector partnerships has translated into an impressive investment to leverage ratio. From January 2002 to March 2006, BIOCAP has invested or committed \$6.8M while leveraging an additional \$31.7M\* (cash) to support network research and strategic grant programs, for a total of \$38.5M.

## Research Statistics Summary 2002 - 2006

No. of university researchers	232
No. of other researchers	111
No. of graduate students	339
No. of Canadian universities	32
No. of international universities**	6
No. of provinces	9
No. of journal articles	152†

\* as of 03/31/06

\*\* in-kind collaborations only

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
------------	-------------	-------------

### RESEARCH PARTNERSHIPS – LEVERAGING GRANTS & PROGRAMS

(Project titles in Italics)

#### **Social Science and Humanities Research Council (Greenhouse Gas Management Canada Network)**

<i>Transformative Change in Biosphere GHG Management</i>	2002	Funder, Facilitator
<i>Socio-economic Research Network on Bio-products &amp; Bioprocesses</i>	2002	Funder, Facilitator
<i>Integrated Analysis of Mitigation Strategies for GHG Emissions from Agriculture</i>	2002	Funder, Facilitator
<i>Institutional Development of a Domestic Emission Trading System that includes Carbon Offsets from the Agriculture and Forestry Sectors</i>	2002	Funder, Facilitator
<i>The Economics of Terrestrial Carbon Sinks: Land use, land use change, and forestry</i>	2002	Funder, Facilitator
<i>Cost-effective Agricultural Management Strategies and Technologies in Mitigation of GHG Emissions</i>	2002	Funder, Facilitator

# Journal Articles<sup>†</sup>: 25 Website: [www.biocap.ca/ghg](http://www.biocap.ca/ghg)

#### **Sustainable Forest Management Network Joint Venture (Sustainable Forest Management Network)**

<i>The influence of forest management, silviculture, and pest management on carbon sequestration</i>	2002	Funder, Facilitator
<i>An integrated bioregional approach to sustainable forest management in the western boreal</i>	2002	Funder, Facilitator
<i>Carbon credit trading: the law, firm behaviour, economics, and landscape impacts</i>	2003	Funder, Facilitator
<i>Role of pest management in sequestering carbon in the 2008-12 Kyoto Commitment Period: integration with CBM-CFS3 and economic analyses</i>	2003	Funder, Facilitator
<i>Old-growth forests in Eastern Canada: exploring tradeoffs among timber, biodiversity, carbon, and public preferences</i>	2003	Funder, Facilitator
<i>Dynamics of Woody Debris in Eastern Boreal Forests: Implications for Carbon and Wildlife Management</i>	2004	Funder, Facilitator
Central Administration of Sustainable Forest Management Network	2002	Funder, Facilitator

# Journal Articles<sup>†</sup>: 8 Website: <http://sfm-1.biology.ualberta.ca>

† Includes published and accepted/in-press peer-reviewed journal articles produced by researchers funded in-part by BIOCAP as of 03/31/06



# LEVERAGING RESEARCH FUNDING CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b><u>Natural Science and Engineering Research Council Partnership (Strategic Project Grants)</u></b>		
<i>Adapting Forest Genetic Resource Mgmt to Climate Change</i>	2002	Funder, Facilitator
<i>Laser Atmospheric Sensing</i>	2002	Funder, Facilitator
<i>The Development of Methanotrophic Biofilters and Bioreactors to Reduce Point Source Methane Emissions, Sequester Carbon and Increase Soil Fertility</i>	2002	Funder, Facilitator
<i>Dissolved Organic Carbon and Carbon Cycling in Cdn Forests</i>	2003	Funder, Facilitator
<i>Analysis of Forest Biomass and Carbon Stocks using Lidar &amp; Photogrammetry in Support of the National Forest Inventory</i>	2003	Funder, Facilitator
<i>Landscape Scale Measurement and Upscaling of Process-Level Nitrous Oxide Measurements†</i>	2003	Funder, Facilitator
<i>Biodiesel Production from Acid-Catalyzed Transesterification of Waste Oils</i>	2003	Funder, Facilitator
<i>Enhancing Prospects for Higher Value Uses for Bio-Oil</i>	2003	Funder, Facilitator
<i>Production of Biodiesel from Vegetable Oils and Lubricity Additives for Ultra-Low Sulphur Diesel Fuel &amp; of Hydrogen from Byproduct Glycerol</i>	2003	Funder, Facilitator
<i>The Development of a Technically and Economically Viable Pretreatment and Enzymatic Process for the Conversion of Softwood Residues to Ethanol</i>	2003	Funder, Facilitator
<i>Sustainable Biopackaging Materials for Green Technology</i>	2003	Funder, Facilitator
<i>Forest Fertilization and Identification of Microbial Indicators to Enhance C Sequestration and Reduce GHG Emissions</i>	2004	Funder, Facilitator
<i>Application of Bioenergy for the GHG Mitigation in the Iron and Steel Industry</i>	2004	Funder, Facilitator
<i>Biomass-derived High Octane Synfuels from C5 Sugars</i>	2004	Funder, Facilitator
<i>Hydrogen Production from Cellulosic Biomass</i>	2004	Funder, Facilitator
<i>The Development of Value-Added Bioproducts from the Bioconversion of Lignocellulosics</i>	2004	Funder, Facilitator
<i>Temporal Dynamics of Greenhouse Gas Fluxes Linked to Soil Biophysical Processes and Management Practices</i>	2004	Funder, Facilitator
<i>Anaerobic Membrane Processes for Energy Recovery from Wastewater</i>	2005	Funder, Facilitator
<i>Attenuation of Greenhouse Gases Emitted by Landfills Using an Engineered Passive Methane Oxidation Barrier</i>	2005	Funder, Facilitator
<i>Can mixedwood management increase carbon sequestration in the eastern-central boreal shield?</i>	2005	Funder, Facilitator
<i>Development of Tools for Predicting Nitrogen Processes in Agricultural Settings</i>	2005	Funder, Facilitator
<i>Development of Technically and Economically Viable Microwave Pretreatment for Enhanced Biogas Production and Green House Gas Recovery from Municipal Sludge and Agricultural Waste</i>	2005	Funder, Facilitator
<i>Effects of land use change on organic matter fluxes to aquatic ecosystems : the case of forest management and flooded lands</i>	2005	Funder, Facilitator
<i>Identification and Selection of Fast-growing Poplar Genotypes for Sequestration of Carbon &amp; Biomass Production</i>	2005	Funder, Facilitator
<i>Spectroscopic studies and instrumentation to enable accurate simultaneous measurements of sources and sinks of methane, carbon dioxide and nitrous oxide</i>	2005	Funder, Facilitator
<i>Control of bacterial contamination in continuous ethanol fermentation processes</i>	2005	Funder, Facilitator
<i>Biomass Feedstock Integration for an Emerging Bio-Industry in Canada</i>	2005	Funder, Facilitator
<i>Environmental regulation of denitrifying activity in soil producing nitrous oxide and the expression of denitrifier genes in the soil bacteria</i>	2005	Funder, Facilitator

# Journal Articles†: 42 Website: [www.biocap.ca](http://www.biocap.ca)

# LEVERAGING RESEARCH FUNDING CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b><u>Fluxnet Canada Research Network</u></b>		
<i>British Columbia Flux Station</i>	2001	Funder, Facilitator
<i>Boreal Ecosystem Research and Monitoring Sites</i>	2001	Funder, Facilitator
<i>Cross Transect Stable Isotope</i>	2001	Funder, Facilitator
<i>Eastern Peatland Flux Station</i>	2001	Funder, Facilitator
<i>Integrated Modelling and Scaling</i>	2001	Funder, Facilitator
<i>New Brunswick Flux Station</i>	2001	Funder, Facilitator
<i>Ontario Flux Station</i>	2001	Funder, Facilitator
<i>Quebec Flux Station</i>	2001	Funder, Facilitator
<i>Western Peatland Flux Station</i>	2001	Funder, Facilitator
<i>Climate and Hydrology Drivers of the Carbon Balance in Northern Black Spruce Forests</i>	2005	Funder, Facilitator
Central Administration of Fluxnet Canada Research Network	2001	Funder, Facilitator
# Journal Articles <sup>†</sup> : 71 Website: <a href="http://www.fluxnet-canada.ca">www.fluxnet-canada.ca</a>		
<b><u>Green Crop Network</u></b>		
<i>Identification of regulatory genes to improve nitrogen use efficiency</i>	2005	Funder, Facilitator
<i>Identification of regulator genes to reduce N2O production</i>	2005	Funder, Facilitator
<i>Manipulation of rhizosphere organisms to enhance c-sequestration &amp; reduce N2O emissions</i>	2005	Funder, Facilitator
<i>Nitrous oxide emission from the rhizosphere: microbial coordination of sources and mitigation</i>	2005	Funder, Facilitator
<i>N2O from the soil to the atmosphere</i>	2005	Funder, Facilitator
<i>Nitrogen fixation, hydrogen production &amp; N2O emissions</i>	2005	Funder, Facilitator
<i>Manipulating lignin deposition</i>	2005	Funder, Facilitator
<i>Microbial plant growth promotion, rhizosphere carbon cycle and the impact of greenhouse gas emissions</i>	2005	Funder, Facilitator
<i>Microbial control of plant responses to climate change related stress</i>	2005	Funder, Facilitator
<i>Transforming plant carbon into soil carbon: process-level controls on carbon sequestration</i>	2005	Funder, Facilitator
<i>ID &amp; characterization of plant variants exhibiting enhanced photosynthesis &amp; biomass production under elevated CO2, high temperature &amp; drought</i>	2005	Funder, Facilitator
<i>Reverse engineering plant variants for direct carbon sink mgt: Respiratory metabolism of natural plant variants with beneficial growth responses to prolonged elevated CO2 levels</i>	2005	Funder, Facilitator
<i>Protein inhibition of photosynthesis</i>	2005	Funder, Facilitator
<i>Regulation of N-assimilation &amp; biomass production</i>	2005	Funder, Facilitator
<i>Role of the chloroplast PII protein in regulating carbon-nitrogen balance</i>	2005	Funder, Facilitator
<i>Identification of Brassica genotypes &amp; molecular markers for increased seed-oil content</i>	2005	Funder, Facilitator
<i>Investigation of the contribution of oil biosynthetic enzymes to seed oil content in Brassica napus &amp; Arabidopsis thaliana</i>	2005	Funder, Facilitator
<i>The bilateral influence of plant &amp; rhizosphere characteristics in Brassica sp. Varying in seed oil productivity</i>	2005	Funder, Facilitator
Central Administration of Green Crop Network	2005	Funder, Facilitator
#Journal Articles <sup>†</sup> : coming soon Website: <a href="http://www.greencropnetwork.com">www.greencropnetwork.com</a>		
<b><u>Animal Production and Manure Management Network (emerging)</u></b>		
Secretariat Funding: Animal Production and Manure Management Network	2004	Funder, Facilitator
# Journal Articles <sup>†</sup> : 1 Website: <a href="http://www.uoguelph.ca/~apmm">www.uoguelph.ca/~apmm</a>		





# LEVERAGING RESEARCH FUNDING CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b><u>Landscape-Scale Cropping Systems Network (emerging)</u></b>		
<i>Integrated Catchment Monitoring of GHG Emissions in the Prairies Pothole Region – Saskatchewan Site</i>	2002	Funder, Facilitator
<i>Integrated Catchment Monitoring of GHG Emissions in the Prairie Pothole Region - Manitoba Site</i>	2002	Funder, Facilitator
<i>Long-term Greenhouse Gas Flux Monitoring Site at Elora, Ontario</i>	2002	Funder, Facilitator
Secretariat Funding: Landscape-Scale Cropping Systems Network	2004	Funder, Facilitator
# Journal Articles <sup>†</sup> : coming soon Website: <a href="http://www.lsrq.ca">www.lsrq.ca</a>		
<b><u>Research Integration Program</u></b>		
<i>A conceptual comparison of bioenergy options for using BC's mountain pine beetle infested wood</i>	2005	Funder, Facilitator
<i>Combined forest management effect on landscape carbon stock changes in west-central Canada</i>	2005	Funder, Facilitator
<i>Threats and impacts of exotic pests under climate change: implications for Canada's forest ecosystems and carbon stocks</i>	2005	Funder, Facilitator
<i>Economic, environmental and social benefits of 2nd generation biofuels in Canada</i>	2005	Funder, Facilitator
<i>Adapting forest management to the impacts of climate change in Canada</i>	2005	Funder, Facilitator
<i>Policies to stimulate biofuel production in Canada: Lessons from Europe and the United States</i>	2005	Funder, Facilitator
<i>Whole farm modeling to evaluate economic and production implications of BMP's designed to reduce GHG emissions – Case study of dairy production in coastal British Columbia</i>	2005	Funder, Facilitator
<i>A critical cost-benefit analysis of oilseed based biodiesel in Canada</i>	2005	Funder, Facilitator
<i>The potential for agricultural greenhouse gas emission reductions in the temperate region of Canada through nutrient management planning</i>	2005	Funder, Facilitator
<i>Benefits and costs of shifts to biomass crops – Producer and public perspectives</i>	2005	Funder, Facilitator
<i>Cost benefit of biomass supply and pre-processing enterprises in Canada</i>	2005	Funder, Facilitator
<i>Optimum sizing for anaerobic digestion</i>	2005	Funder, Facilitator
<i>Offsets for carbon sequestration in agricultural soil and tradable emission permits for large final emitters</i>	2005	Funder, Facilitator
<i>Disputes and dispute resolution in the offset system</i>	2005	Funder, Facilitator
<b><u>Other Research Grants / Short Term Contracts</u></b>		
<i>Nitrogen Cycle - Special Research Grant for the CEO and Research Director</i>	2002	Funder, Facilitator
<i>An Assessment of the Opportunities and Challenges of a Biobased Economy for Agriculture and Food Research in Canada</i>	2002	Funder, Facilitator
<i>Technical and Economic Analysis of Alternative Processes for Agriculture Waste Fueled Solid Oxide Fuel Cell</i>	2003	Funder, Facilitator
<i>Direct Synthesis of 1,3-Propane Diol from Glycerol using Transition Metal Based Ionic Hydrogenation Catalysts</i>	2003	Funder, Facilitator
<i>Property Rights and Contracts for Carbon Sequestration</i>	2003	Funder, Facilitator
<i>Beneficial Management Practices to Reduce Greenhouse Gas Emissions and Increase Carbon Sinks in Canadian Agriculture</i>	2003	Funder, Facilitator
<i>Forest Carbon Management in Canada</i>	2003	Funder, Facilitator
<i>Chemrawn Congress on GHG Mitigation Strategies</i>	2003	Funder, Facilitator
<i>Biomass to Hydrogen via H<sub>2</sub>S</i>	2004	Funder, Facilitator
<i>Atmospheric Exchange of Methane and Nitrous Oxide in Canadian Forest Soils</i>	2004	Funder, Facilitator
<i>Enabling Biodiesel Fuel Use for Sustainable Mobility</i>	2004	Funder, Facilitator
<i>BIOS: Forest Biomass Opportunity Supply Model for Ontario</i>	2004, 2005	Funder, Facilitator
<i>Land use changes, greenhouse gas emissions, and C budgets in hybrid poplar plantations</i>	2005	Funder, Facilitator
<i>British Columbia's beetle infested pine: biomass feedstock for producing power</i>	2005	Funder, Facilitator
<i>Feedstock availability and power costs associated with using BC's beetle infested pine</i>	2005	Funder, Facilitator
# Journal Articles <sup>†</sup> : 5 Website: <a href="http://www.biocap.ca">www.biocap.ca</a>		



# REPORTING ON RESEARCH

In addition to supporting network research and strategic grant programs, BIOCAP frequently engages in or provides support for studies that address strategic opportunities for biosphere-related solutions to climate change, clean energy and the transition to a bioeconomy.

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>PAPERS, REPORTS &amp; FEASIBILITY STUDIES</b>		
Canada's Green Advantage	2001	Creator
A Canadian Biomass Inventory - Feedstocks for a bio-based economy	2003	Creator
An Assessment of the Opportunities and Challenges of a Biobased Economy for Agriculture Food Research in Canada	2003	Creator, Leader
Canadian Biodiesel Initiative: Aligning Research Needs and Priorities with the Emerging Industry	2004	Creator
British Columbia's Beetle Infested Pine: Biomass Feedstocks for Producing Power	2004	Partner, Facilitator
Proceedings of the First Meeting of the Animal Production & Manure Management Network	2005	Funder, Facilitator
Feedstock Availability and Power Costs Associated with Using BC's Beetle Infested Pine	2005	Partner, Facilitator
Trip Report: Site Visit to Alholmens 240MW Power Plant, Pietarsaari, Finland, August 29 to September 2, 2005	2005	Partner
A conceptual comparison of bioenergy options for using BC's mountain pine beetle infested wood	2006	Funder, Facilitator
Combined forest management effect on landscape carbon stock changes in west-central Canada	2006	Funder, Facilitator
Threats and impacts of exotic pests under climate change: implications for Canada's forest ecosystems and carbon stocks	2006	Funder, Facilitator
Economic, environmental and social benefits of 2nd generation biofuels in Canada	2006	Funder, Facilitator
Adapting forest management to the impacts of climate change in Canada	2006	Funder, Facilitator
Policies to stimulate biofuel production in Canada: Lessons from Europe and the United States	2006	Funder, Facilitator
Whole farm modeling to evaluate economic and production implications of BMP's designed to reduce GHG emissions – Case study of dairy production in coastal British Columbia	2006	Funder, Facilitator
A critical cost-benefit analysis of oilseed based biodiesel in Canada	2006	Funder, Facilitator
The potential for agricultural greenhouse gas emission reductions in the temperate region of Canada through nutrient management planning	2006	Funder, Facilitator
Benefits and costs of shifts to biomass crops – Producer and public perspectives	2006	Funder, Facilitator
Cost benefit of biomass supply and pre-processing enterprises in Canada	2006	Funder, Facilitator
Optimum sizing for anaerobic digestion	2006	Funder, Facilitator
Offsets for carbon sequestration in agricultural soil and tradable emission permits for large final emitters	2006	Funder, Facilitator
Disputes and dispute resolution in the offset system	2006	Funder, Facilitator
Exploring the Potential for Biomass Power in Ontario: A Response to the OPA Supply Mix Report	2006	Creator
Developing a Bioenergy Strategy for Canada: Challenge Dialogue	2006	Co-Creator

# REPORTING ON RESEARCH CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
------------	-------------	-------------

## BIOCAP BRIEFS

<i>Understanding Varying Year-to-year Greenhouse Gas Increases –Issue 1</i>	2004	Creator
<i>Biomass Energy: A Smart Energy Alternative For Future Canadians –Issue 2</i>	2004	Creator
<i>A Cleaner Biodegradable Fuel for Canadians: Canada to see the emergence of a biodiesel industry –Issue 3</i>	2004	Creator
<i>Domestic Emissions Trading: A means of reducing greenhouse gases - Issue 4</i>	2004	Creator
<i>Carbon Sequestration in Agricultural Soils: Characteristics of emission trading contracts –Issue 5</i>	2004	Creator
<i>The Straight Story on Methane Emission From Cows –Issue 6</i>	2004	Creator
<i>Fuelling Up For Technology Development: Rising oil prices sparks innovation and investment in alternative transportation fuels - Issue 7</i>	2004	Creator
<i>A Consequence of Climate Change: Insect infestations destroying Canada's forests – Issue 8</i>	2004	Creator
<i>Meeting Electricity Demand with Biopower –Issue 9</i>	2004	Creator
<i>Will Canada's Peatlands Help or Hinder in the Fight Against Climate Change: Climate sensitivity and carbon cycling in the Mer Bleue bog –Issue 10</i>	2005	Creator
<i>Figuring Croplands into Climate Change: Better farming practices can reduce emissions of a potent greenhouse gas –Issue 11</i>	2005	Creator
<i>Clear-cuts in a Changing Climate: The long-term implications of forest disturbance on carbon cycling –Issue 12</i>	2006	Creator
<i>A Biodiesel Breakthrough: Value-added coproducts can improve the economics of a climate friendly fuel –Issue 13</i>	2006	Creator
<i>Impacts of Climate Change on Boreal Forest Regimes: The implications for regional and global carbon budgets and global warming –Issue 14</i>	2006	Creator

## BIOCAP BACKGROUNDERS

<i>BIOCAP-Sustainable Forest Management Network Joint Venture on Biosphere GHG Management: A BIOCAP Forestry Initiative</i>	2004	Creator
<i>Fluxnet Canada Research Network</i>	2004	Creator
<i>The Human Dimensions of Biosphere Greenhouse Gas Management: A BIOCAP-SSHRC National Network</i>	2004	Creator
<i>Carbon Sinks: How forests and farmlands can help fight climate change</i>	2004	Creator
<i>Biomass: Key to a clean energy future</i>	2006	Creator
<i>Air Quality: Energy from biomass can clean our air</i>	2006	Creator



# FACILITATING NETWORKING OPPORTUNITIES

**BIOCAP plays a significant role in bringing together multi-disciplinary researchers, policy makers and members of industry. Such face-to-face interaction ensures that key research needs are addressed, strategic opportunities identified, and collaborative relationships formed.**

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>WORKSHOPS (PARTIAL LIST ONLY)</b>		
Bio-based Economy Workshop	2001	Participant
Fluxnet Canada Workshop	2001	Participant
Climate Change GHG Sources and Sinks	2001	Co-organizer
Bioproducts Leaders Forum	2002	Co-organizer
Forest Carbon Management Pilot Series Meetings	2003	Co-organizer, Sponsor
Sustainable Forest Management Network Workshop on Forest Carbon Management	2003	Organizer
Afforestation and Agroforestry Workshop	2003	Organizer
Greenhouse Gas Management Canada Network Annual General Meeting	2003	Organizer
Green Crop Workshops	2003, 2005	Organizer
Animal Production and Manure Management Network: Development Workshop	2004	Organizer
Greenhouse Gas Management Canada Policy Forum	2004	Organizer
Canadian Agri-Food Research Council (CARC) Workshop	2004	Participant
Landscape Scale Cropping System Workshop	2004	Organizer
Bioenergy and Northern Communities	2004	Organizer, Sponsor
Canadian Biodiesel Research Initiative Workshop	2004	Organizer, Sponsor
Pork Technical Working Group - Developing a Hog Lagoon Quantification Protocol	2004	Participant, Sponsor
GHG Summit Research Priorities Workshop	2004	Leader, Sponsor, Participant
BIOS Spatial Analysis Tool (BSAT) Workshop	2004-05	Participant, Leader, Sponsor
Fluxnet Annual General Meeting	2004-06	Organizer, Participant
2nd APMM Network Workshop: Supporting Measurements Required for Evaluation of Greenhouse Gas Emission Models for Enteric Fermentation and Stored Animal Manure	2005	Organizer
Feedstock Integration for the BioIndustry in Canada	2005	Organizer, Sponsor
Agricultural Sustainability in a Changing Climate - National Agriculture Workshop	2005	Organizer
National Aquatic Systems and Climate Change Workshop	2005	Organizer
3rd APMM Network Workshop: Towards measurement and reporting standards for greenhouse gas fluxes from animal production and manure management	2006	Organizer
ISTMM III: Managing Nutrients and Biomass for a Sustainable Rural Economy	2006	Participant, Sponsor
Engineering Institute of Canada Climate Change Technology Conference	2006	Co-organizer, Sponsor



# FOSTERING COMMUNICATIONS & OUTREACH

Generating an awareness of Canada’s “green advantage”, and ensuring that research results and insights are communicated back to stakeholders in a language that is relevant for policy and investment decisions is one of BIOCAP’s most important roles. BIOCAP accomplishes this by producing relevant communication materials, hosting and facilitating events, providing staff to participate in expert committees and providing staff to participate in a large number of related events as an invited speaker. Examples of these activities are outlined below.

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>COMMUNICATIONS MATERIALS</b>		
Produce annual reports	2002-06	Creator / Director
Produce BIOCAP brochure (renewal)	2002 (2004)	Creator / Director
Develop BIOCAP website (renewal)	2002 (2003-06)	Creator / Director
Produce <i>Backgrounders</i> on research networks and strategic topic areas	2002-06	Creator / Director
Establish/facilitate network websites		
<i>Fluxnet Canada Research Network</i>	2002	Link
<i>Sustainable Forest Management Network</i>	2002	Link
<i>Greenhouse Gas Management Canada Network</i>	2003	Designer Support / Host
<i>Animal Production and Manure Management</i>	2005	Link
<i>Landscape Scale Cropping Systems Network</i>	2005	Funder, Link
Establish Contact Database	2003	Creator / Director
Produce <i>Carbon Copy</i> newsletter	2003	Creator / Director
Produce <i>Technologies of Renewable Energy</i> Primer	2003	Creator / Director
Design and produce BIOCAP tradeshow display	2003, 2005	Creator
Produce <i>Bioproducts</i> Primer (hard copy and DVD)	2004 (2005)	Creator / Partner
Produce weekly news digest <i>In the News</i>	2004-06	Creator / Director
Produce BIOCAP Briefs on research results	2004-06	Partner
Produce Stakeholder Leaflet	2005	Creator
Produce Activities and Accomplishments document	2005-06	Creator
Produce Stakeholder Package	2005-06	Creator
Produce BIOCAP Insights documents	2005-06	Creator
Produce Stakeholder Feedback document and package	2005-06	Creator
Produce BIOCAP Bulletin	2005-06	Creator
Produce BIOCAP Briefing documents	2005-06	Creator
Produce BIOCAP Deliverables document	2006	Creator
Produce BIOCAP Investments document	2006	Creator



# FOSTERING COMMUNICATIONS & OUTREACH CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>EVENTS</b>		
Climate Change Technology Conference	2001	Organizer, Sponsor
Environmental Education and Communication Network Annual Conference	2002	Organizer, Sponsor
BIOCAP Annual General Meetings		
<i>Kingston</i>	2002	Creator, Organizer
<i>Ottawa</i>	2003	Creator, Organizer
<i>Montreal</i>	2004	Creator, Organizer
<i>Toronto</i>	2005	Creator, Organizer
Environment Minister David Anderson at Queen's	2003	Facilitator
David Suzuki at Queen's	2003	Facilitator
Other Queen's events	on-going	Facilitator
BIOCAP First National Conference - Capturing Canada's Green Advantage: Biosphere Solutions for Climate Change and the Economy	2005	Creator, Organizer
BIOCAP Reception hosted by Peter Milliken, Speaker of the House of Commons	2005	Co-organizer
COP 11 Side Event: <i>A Canadian Model for Global Adoption: Partnership Building for Biosphere Solutions to Climate Change</i>	2005	Creator, Organizer
COP 11 Parallel Event: <i>Capturing Canada's Green Advantage: Towards a Sustainable Bioeconomy</i>	2005	Creator, Organizer
Bioeconomy Showcase	2005	Creator, Organizer
A Growing Energy Strategy: Workshop of the National Dialogue on Bioenergy	2006	Leader, Organizer, Partner
Research Integration Forum	2006	Creator, Organizer

## EXPERT COMMITTEES

Greenhouse Gas Mitigation Advisory Committee	2002-05	Participant
Expert Committee on GHGs and C Sequestration	2002-05	Participant
North American Carbon Program	2003-04	Participant
Canadian Standards Association Climate Change Advisory Committee	2003-06	Participant
Sustainable Development Technology Canada - Research Priorities in Biofuels	2004	Participant
Pork Technical Working Group	2004-06	Participant
Beef Technical Working Group	2005-06	Participant
Manure Processing Technical Working Group	2005-06	Participant
Soils Management Technical Working Group	2005-06	Participant
Federal Working Group on Bioproducts	2005	Participant
North American Carbon Program	2005	Participant
National Round Table – Energy & Environment Experts Meeting	2005	Participant
NSERC Target Area Focus Group on Environment	2005	Participant
BioEconomics Strategic Planning Group	2005	Participant
G8 Gleneagles 2005 - Climate Change, Clean Energy & Sustainable Development	2005	Participant



# FOSTERING COMMUNICATIONS & OUTREACH CTD...

## FOCUS AREA

## LAUNCH DATE

## BIOCAP ROLE

### **SPEAKING & PANEL ENGAGEMENTS UNDERTAKEN BY BIOCAP STAFF** (Partial list only)

Climate Change Action Fund Workshop, Ottawa	2002	Speaker
Canadian Agricultural Research Council Workshop	2002	Speaker
Poplar Council of Canada	2002-03	Speaker
Agriculture International Biotechnology Conference	2002	Speaker
Forum on Climate Change, Kingston	2002	Speaker
Alberta Ingenuity Fund – Climate Change Research Meeting	2002	Speaker
Bacon & Eggheads Parliamentary Lecture Series, Ottawa	2003	Speaker
International Energy Agency Conference, Paris	2003	Speaker
World Forestry Congress, Quebec City	2003	Speaker
Royal Society of Canadian Symposium: The Carbon Cycle, Ottawa	2003	Speaker
American Iron & Steel Institute (AISI) Workshop, Cleveland	2003	Speaker
Agricultural Policy Framework Overview, Ottawa	2003	Speaker
Grain Growers Meeting, Fredericton	2003	Speaker
BioProducts on the Hill, Ottawa	2003	Speaker
Biobased Energy Systems & Technologies Workshop, Hull	2003	Speaker
Green Power Canada Workshop, Montreal	2003	Speaker
North American Carbon Program, Washington, D.C.	2003	Speaker
Organisation for Economic Co-operation and Development (OECD) and International Energy Agency Conference, Paris	2003	Speaker
Environment Canada Workshop on Energy Research & Development, Toronto	2003	Speaker
Canadian Bioenergy Meeting, Vancouver	2004	Speaker
Canadian Society of Agricultural Engineers and American Society of Agricultural Engineers, Ottawa	2004	Speaker
Natural Resources Canada Bioenergy and Biomass Meeting, Ottawa	2004	Speaker
Canadian Fertilizer Institute, Niagara-on-the-Lake	2004	Speaker
Ontario Ministry of Agriculture and Agri-Food, Guelph	2004	Speaker
Canadian Steel Producers Association and Natural Resources Canada Large Final Emitters Group, Ottawa	2004	Speaker
Hydrogen Project, Melbourne Australia	2004	Speaker
Statistics, Science & Public Policy, Herstmonceaux Castle, UK	2004	Speaker
Bioeconomy Workshop, McGill University, Montreal	2004	Speaker
Forest Advisory Committee, Edmonton	2004	Speaker
Canadian Agricultural Research Council AGM, Ottawa	2004	Speaker
Canadian Grain Growers Association AGM	2004	Speaker
United Nations Framework Convention on Climate Change (UNFCCC) Tenth Conference of the Parties (COP10), Buenos Aires, Argentina	2004	Speaker
Plant Canada, Edmonton	2005	Speaker
House of Commons Standing Committee on Environment and Sustainable Development, Ottawa	2005	Speaker
Atlantic Agriculture Science and Technology Workshop	2005	Speaker
Canada Grains Council AGM	2005	Speaker
Canadian Biomass Innovation Network and ExCo Meeting, Ottawa	2005	Speaker
Carbon Sequestration Policy Forum, Toronto	2005	Speaker
G8 Workshop on Innovation and Research in Energy, Oxford, UK	2005	Speaker
Pollution Probe Green Power Workshop and Public Forum	2005	Speaker
Climate Change Central: Carbon Connections, Calgary	2005	Speaker
Natural Resources Canada Side Event at COP 11, Montreal	2005	Speaker
Environment Canada at COP 11, Montreal	2005	Speaker
New Generation Environmental Technologies Workshop, Kingston	2006	Speaker
Energy Leaders Roundtable, Toronto	2006	Speaker
Forest Leadership Conference	2006	Speaker
Eastern Ontario Caucus Meeting	2006	Speaker



# FOSTERING COMMUNICATIONS & OUTREACH CTD...

FOCUS AREA	LAUNCH DATE	BIOCAP ROLE
<b>MEDIA AND ADVERTISING</b>		
Science Advisory Committee for TV series on climate change	2001	Member
<i>Globe and Mail</i> Climate Change Supplement Two advertisements featuring "Did You Know" bioenergy and GHG facts 600 word editorial "Canada's Green Advantage" by David Layzell December 2004	2004	Subject
<i>Energy Evolution</i> ( <a href="http://www.energyevolution.ca">www.energyevolution.ca</a> ) Five articles in January and February 2005, two articles in January 2006	2005-06	Subject
<i>Business Edge</i> ( <a href="http://www.businessedge.ca">www.businessedge.ca</a> ) Article featuring BIOCAP Conference, Feb. 17, 2005	2005	Subject
<i>Ottawa Citizen</i> (mention in article "Tales from the cores" by Margaret Brady, March 2005	2005	Subject
<i>Ottawa Citizen</i> Article "Going Kyoto" by Margaret Brady, April 2005	2005	Subject
Contact Canada <i>Bioproducts Guide</i> One advertisement featuring "Did You Know" bioenergy facts Organizational and research information about BIOCAP Canada Foundation 600 word editorial "Canada's Green Advantage" by David Layzell	2005	Subject
<i>Ontario Agrologist Magazine</i> Article "Using Canada's green advantage to combat pollution", Fall 2005	2005	Subject
<i>Research Money</i> Article "BIOCAP seeking funding increase as support of alternate energy research soars", Nov. 7, 2005	2005	Subject
<i>Vancouver Sun</i> Article "New life for dead wood: beetle killed trees suggested as potential fuel for biomass power plant", Nov. 8, 2005	2005	Subject
<i>Globe and Mail</i> Article "Clean energy gets push", Nov. 25, 2005	2005	Subject
<i>Prince George Citizen</i> Article "Beetle wood could fuel power plant", Jan. 5, 2006	2006	Subject
<i>CKNW Radio (Vancouver)</i> "BC's dead trees could supply fuel for power plant", Jan. 6, 2006	2006	Subject
<i>CBC's The National</i> "Conservative Cuts to Climate Change Funding" Television interview, April 5, 2006	2006	Subject
<i>Toronto Star</i> "Studies Fuel Kyoto Hopes for Tories", April 10, 2006	2006	Subject
<i>Hill Times</i> Advertisement, April 24, 2006	2006	Subject

## The BIOCAP Canada Foundation

156 Barrie Street, Kingston, Ontario K7L 3N6

Phone: (613) 542-0025 Fax: (613) 542-0045

Email: [info@biocap.ca](mailto:info@biocap.ca)

Web: [www.biocap.ca](http://www.biocap.ca)

