

Annual Report

Fiscal Year 2019/20



The BC Oil and Gas Research and Innovation Society (BC OGRIS) is a B.C. based not-for-profit society with membership from the BC Oil and Gas Commission (Commission), Canadian Association of Petroleum Producers (CAPP), and The Explorers and Producers Association of Canada (EPAC).

Vision

To continuously improve the understanding and management of the impacts of oil and gas activities in B.C.

Mission

BC OGRIS supports practical studies and initiatives that develop credible and relevant information to address knowledge gaps to inform environmental, operational and health and safety practices related to oil and gas exploration and development in B.C.

BC OGRIS Report

This report documents the operational and financial achievements for the 2019/20 fiscal year (April 1, 2019 to March 31, 2020) along with an overview of plans for the 2020/21 fiscal year.

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Message from the BC OGRIS Board of Directors

We are pleased to present the BC OGRIS Annual Report for fiscal year 2019/20. This report celebrates some of our accomplishments from what has been a busy and productive year and outlines our plans for 2020/21.

BC OGRIS has a well-earned reputation as a standalone organization with strong governance. BC OGRIS' mission is to support practical studies and initiatives that develop credible and relevant information to address knowledge gaps to inform environmental, operational and health and safety practices related to oil and gas exploration and development in British Columbia.

BC OGRIS has a healthy and diverse range of research projects and initiatives including several involving local Indigenous communities. One of BC OGRIS' largest initiatives, known as the Aboriginal Liaison Program, is working to build knowledge and understanding of regulatory compliance and monitoring of disturbances associated with oil and gas development within Indigenous communities. The program involves training First Nation's members to carry out joint inspections with the Regulator and other government inspectors. Other initiatives include; undertaking pilot projects in restoring orphan wells, and collecting instream data with participation from local First Nation communities to aid our understanding of baseline water quantity. These successful and well subscribed programs are yielding excellent results as well as increasing the communications and relationships between Indigenous communities, government and industry.

Other research activities in 2019/20 included environmental research into induced seismicity, water, air and methane. Research into engineering and safety of pipelines, wells and facilities continued with great interest from our members and contributors.

In addition, we have an exciting opportunity to expand our portfolio of projects and participate in a multi-year initiative to restore legacy disturbances under a Memorandum of Understanding between the B.C. government and industry. This initiative is anticipated to start in 2020/21 and will focus on further enhancing the ecological and cultural integrity within Treaty 8 First Nations territories. Each of these projects are small steps toward better transparency and predictability in the work we do together on the path to reconciliation.

BC OGRIS is governed by a Board of Directors consisting of three directors. The Board of Directors met five times in 2019/20 to select research investments and fulfil duties such as financial and administrative support services for designated projects. The Board places a high value on good governance and maximizing the impact of our contributions by leveraging funding with partners and other research organizations while keeping overhead at three to five percent of project expenditures. Quality assurance over research projects and initiatives to ensure appropriate and applicable research continues to be a high priority for the Board.

During these increasingly difficult economic times, which began with a sharp and sustained fall in commodity prices in 2014, traditional sources of funding have diminished or have disappeared. Commensurately, our ability to sustain support for research will be a function of how we manage BC OGRIS existing funds and availability of new sources of funding. This will be a topic for the Board to discuss as part of our annual strategic review process.

In 2020/21, our operations and management activities will be impacted by COVID-19. We are optimistic our researchers can adapt to provincial health requirements and societal expectations to safely carry out their research activities and deliver on our collective interest to support research and initiatives that provide credible and relevant information so that all can have ongoing confidence in the responsible development of B.C.'s oil and natural gas resources.

Geoff Morrison
Chair, BC OGRIS Board of Directors
October, 2020

Report on the BC OGRIS (2019/20)

Introduction

The BC OGRIS is a professional research organization delivering topical and important information to inform our members and stakeholders on matters related to oil and gas exploration and development in British Columbia. Research is focused on informing environmental, operational practices and health and safety policy matters.

As a not-for-profit society, BC OGRIS receives investments, funds research projects and initiatives and provides governance and quality assurance over projects we support.

In 2019/20, BC OGRIS supported research in three broad funding areas described further in this report:

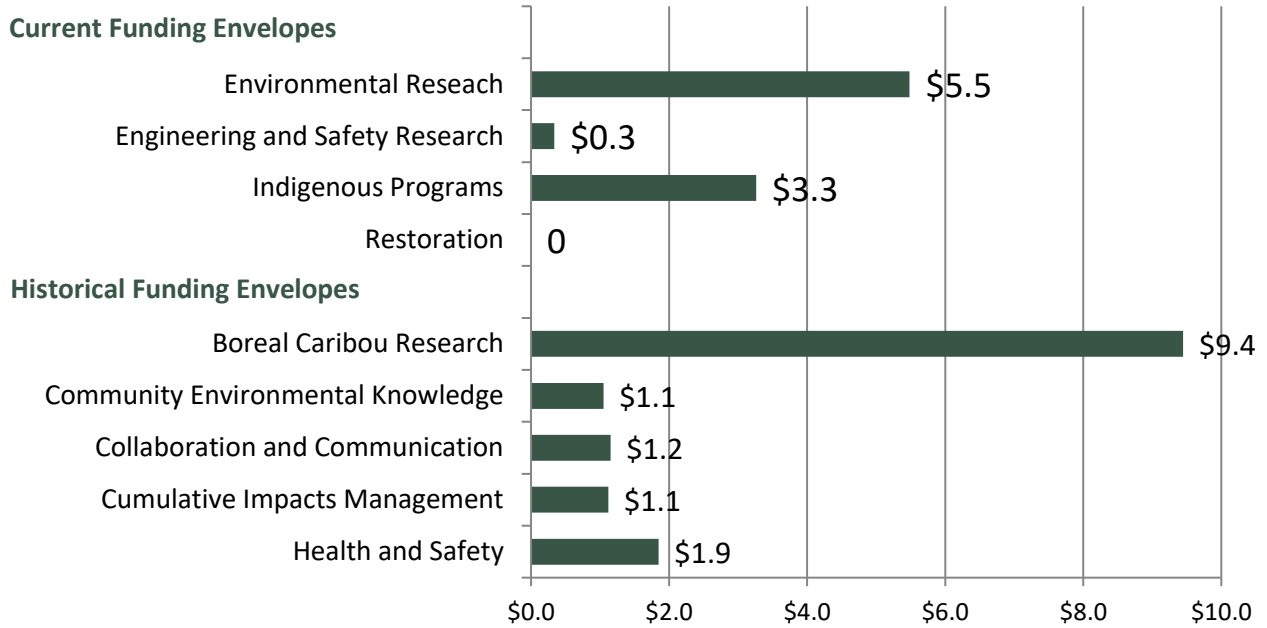
- **Project activity**—in total, 20 projects were active compared to 30 the year previously. Eight new projects were approved for funding while 18 projects were completed.
- **Proposal activity**—all projects funded by BC OGRIS require a proposal. Fourteen proposals were received with eight accepted and six declined. Most of the proposals declined were outside of our funding priorities or better funded by other organizations.
- **Communication activity**—included three presentations at conferences and webinars and one journal submission along with posting final reports from all projects on the BC OGRIS website.

BC OGRIS' support of the Boreal Caribou research under the B.C. government and industry Memorandum of Understanding (MoU) completed in 2018/19. A small amount of communication activity incurred in 2019/20 to disseminate findings and accomplishments. This included a summary video that is available on the Boreal Caribou section of the BC OGRIS website.

Projects

The chart below summarizes investment since inception in 1999 under the Science, Community and Environmental Knowledge (SCEK) Fund and BC OGRIS. The following pages summarize projects and initiatives, by funding area that were undertaken in 2019/20. More information on these projects, initiatives, and completed projects can be found on the website at: www.bcogris.ca.

Investment To-Date (Millions)*



* Since project expenditures commenced in 1999.

Environmental Research

Addressing knowledge gaps related to the impact of oil and gas activities on methane, air, water and seismicity.

Expenditures (2019/20) (000s)	Projects (2019/20)	Partnerships (% BC OGRIS funding)	Planned Expenditures (2020/21) (000s)
\$517	11	62%	\$621

Sample projects (2019/20)



Seismic Array Network program:
installed seismograph station
(courtesy Geoscience BC).



Watershed and Stream Health Assessment project:
collecting stream health indicator data
(courtesy Integra Forest Consulting)

Seismic Array Network

Maintaining a network to collect and analyze data on induced seismic activity in northeast B.C. The analysis provides information to continue the safe and responsible development of B.C.'s natural gas resource.

Fugitive Gas Migration

Identifying and evaluating factors affecting the likelihood of gas migration to occur at wells in northeast B.C.

Watershed and stream health assessments

Collecting stream health indicator data at strategic sample locations across selected high risk water management basins in northeast B.C.

Groundwater chemistry baseline

Collecting and analyzing groundwater data from domestic, industry and provincial observation monitoring wells to inform groundwater assessments in northeast B.C.

Methane research

Supporting research under the BC Methane Research Consortium—including an inventory of methane emissions from storage tanks and compressor seal vents; top down and bottom up comparison of methane emissions and performance of enclosed combustors.

Environmental Research (Cont.)



Air Monitoring Network program:
air monitoring environmental laboratory
(courtesy B.C. Ministry of Environment).



Aerial Methane Emissions Survey project:
using gas mapping LiDAR
(courtesy Carleton University)

Pressure, stress, and fault slip risk mapping in the Kiskatinaw Seismic Monitoring and Mitigation Area (KSMMA)

Studying induced seismicity in the KSMMA—
including better delineation of pore pressure
and effective stress compartments
("terranes") and how they might be related
to sealing or hydraulically conductive faults.

Air Monitoring Network

Capturing and monitoring air quality data as a
base case for characterizing regional air
quality in northeast B.C.

Baseline Water Quality Data

Collecting streamflow data for use in planning
oil and gas activities—with participation from
local First Nation communities.



Baseline Water Quality Data project:
collecting streamflow data
(courtesy: BC Oil and Gas Commission)

Plans for 2020/21

- Support funding of methane research under a MoU with the BC Methane Research Consortium.
- Continue funding the Seismic Array Network and other multi-year projects under the seismicity research theme.
- Continue funding the Air Monitoring Network.
- Solicit proposals from qualified experts in key knowledge gaps of water and air.

Engineering and Safety Research

Addressing knowledge gaps in engineering and safety in the areas of pipelines, wells and facilities.

Expenditures (2019/20) (000s)	Projects (2019/20)	Partnerships (% BC OGRIS funding)	Planned Expenditures (2020/21) (000s)
\$221	7	69%	\$147

Sample projects (2019/20)



Best Practices for Earth Dam Construction and Maintenance in Northeast B.C. project (courtesy University of British Columbia)



Productivity of Agricultural Land After Restoration project: collecting soil samples (courtesy: University of Manitoba)

Risk Assessment Tool for Pipelines with Corrosion and Earthquake Risks

Developing a tool to assess the risk to pipelines from the combination of corrosion and earthquakes—for consideration in managing pipelines for the natural gas sector.

Best Practices for Earth Dam Construction and Maintenance in Northeast B.C.

Establishing best practices for the design and construction of earth dams used by the oil and gas industry in northeast B.C.

Productivity of Agricultural Land After Restoration

Collecting and analyzing data on the reclamation of pipelines on agricultural land and the long term changes in soil health and soil productivity.

Ambient noise factors

Identifying ambient noise from major roadways in areas where well site development exists or may occur in the future around residential developments.

Geohazard Mapping for Risk Management

Developing a publicly available landslide susceptibility map showing where landslides are likely to be present or occur in the future.

Plans for 2020/21

- Continue supporting multi-year projects in engineering and safety around pipelines, wells and facilities.

Indigenous Programs

Building relations and common understanding by engaging Indigenous peoples in the oversight of resource development and management activities.

Expenditures (2019/20) (000s)	Projects (2019/20)	Partnerships (% BC OGRIS funding)	Planned Expenditures (2020/21) (000s)
\$1,378	2	100%	\$2,087

Sample projects (2019/20)



Aboriginal Liaison Program Participants
(courtesy: BC Oil and Gas Commission)



Indigenous Restoration (Pilot) Projects:
seedlings ready to be slung into orphan pilot
sites
(courtesy: Fort Nelson First Nation Orphan Well
Pilot Project)

Aboriginal Liaison Program

Providing funding support for initiatives involving Indigenous peoples carrying out stewardship and monitoring programs. This includes activities to improve collaboration and communication between industry, regulators, government agencies, and Indigenous peoples.

Indigenous Restoration (Pilot) Projects

Providing funding support for fostering collaboration with Indigenous peoples on restoration practices and identifying opportunities to incorporate traditional knowledge and Indigenous peoples in restoration activities.

Plans for 2020/21

- Continue funding programs.

Future Programs

In 2020/21, BC OGRIS plans to start funding restoration programs under an initiative between the B.C. government and Industry to undertake restoration projects such as restoring historical linear features.

Financial Report (2019/20)

Results of Operations

In 2019/20, we received contributions from the B.C. Ministry of Indigenous Relations and Reconciliation (MIRR) and the B.C. Ministry of Forests, Lands, Natural Resource Operations and Rural Development (MFLRNORD) for specific initiatives in the Indigenous Programs funding area. Discussions continue about longer term funding as BC OGRIS supports larger and longer term projects requested by our members and contributors. Previous sources of funding includes contributions from industry and government as well as levies on production volumes and fees from well licence applications—as part of industry's commitment to responsible development and the Commission's mission to protect public safety, safeguard the environment and respect those individuals and communities who are affected.

A summary of financial activity in fiscal year 2019/20 is shown below. The activity is broken down by funding areas with the Operating Research Fund column representing all the funding areas except the Caribou Research Fund. The annual financial audit of the BC OGRIS was completed by external auditors. Copies of the audit statement and the audited financial reports are available on the BC OGRIS website at <http://www.bcogris.ca/about>.

Statement of Financial Position (as at March 31, 2020)

	Operating Research Fund (000's)	Caribou Research Fund (000's)	Total
Assets			
Current assets			
Cash & cash equivalents	\$ 6,919	\$ 541	\$ 7,460
Accounts receivable	1,068	—	1,068
Total Assets	\$ 7,987	\$ 541	\$ 8,528
Liabilities and fund balances			
Current liabilities			
Accounts payable	\$ 1,276	—	\$ 1,276
Holdback payable	—	—	—
Deferred contributions	4,867	—	4,867
Sub-total	\$ 6,143	—	\$ 6,143
Fund Balances			
Caribou	—	541	541
Operating	1,844	—	1,844
Sub-total	\$ 1,844	\$ 541	\$ 2,385
Total Liabilities and Net Assets	\$ 7,987	\$ 541	\$ 8,528

Statement of Operations and Changes in Fund Balances (for year ending March 31, 2020)

	Operating Research Fund (000's)	Caribou Research Fund (000's)	Total
Revenue			
Interest	\$ 97	\$ 6	\$ 103
Contributions	2,110	—	2,110
	\$ 2,207	\$ 6	\$ 2,213
Expenses			
Project costs	2,116	—	2,116
Professional services	83	3	86
Management fees	24	—	24
Extension and communication	—	—	—
Other expenses	7	—	7
	\$ 2,230	\$ 3	\$ 2,233
(Deficiency) excess of revenue over expenses	(23)	3	(20)
Fund balance, beginning of year	1,867	538	2,405
Fund balance, end of year	\$ 1,844	\$ 541	\$ 2,385



BC Oil and Gas
Research and Innovation Society

In Closing

From our beginning in 1999, we have supported close to 170 projects ranging in size from short studies and reports to multi-year projects and initiatives involving multiple researchers and organizations. In the last eight years, our level of activity in funding research has steadily increased to reach record numbers of projects and initiatives supported.

We thank all our stakeholders, researchers, technical reviewers and administration team for their assistance in delivering these research projects and initiatives. Your support and assistance enable us to meet our goals and deliver findings that address important knowledge gaps in environmental, technical and social aspects of oil and gas development in B.C.

Comments and questions on this report and/or the BC OGRIS can be sent to info@bcogris.ca.

