2017/2018 ANNUAL REPORT

BRAES
Okanagan Institute for Biodiversity, Resilience, and Ecosystem Services

braes.ok.ubc.ca

I. Walker
BRAES as a place of:

RESEARCH
BRAES is committed to producing world-class research that will distinguish UBC Okanagan as a place of excellence in the fields of biodiversity and environmental sustainability. We are continually striving to enhance our research capacity and impact, locally and globally. In so doing, we increase our ability to train, nurture and empower the next generation of leaders.

INTERNATIONALISM
BRAES aims to be a portal for global engagement, connecting our campus community to the world. Our members currently carry out research on seven continents, with active projects in places such as the Great Barrier Reef, the Galapagos Islands, the Nepalese Himalayas and the South African Succulent Karoo.

LEARNING
BRAES is a place of lifelong learning, creating opportunities for institute members and the broader community to engage in knowledge sharing activities. In addition, through its dedicated research facilities and organization of scientific activities, BRAES provides an enhanced training environment for undergraduate and graduate students.

INNOVATION
Today’s environmental challenges are wicked problems, for which no clear solution exists. By facilitating interdisciplinary collaboration, BRAES creates a place for ideas to incubate, leading to innovative outcomes that respond to the needs and imperatives of today’s society.

ENGAGEMENT
BRAES values community engagement and non-academic partnerships as a means of leveraging the relevance and impact of our work. BRAES members have on-going collaborations with more than 50 government, non-government, community, and international organizations.
BRAES
at a Glance
2017-2018

- 30 faculty members
- Over 170 student and postdoctoral trainees
- 6000 sq. ft. of dedicated research laboratory space
- Numerous affiliated laboratories
- $3.2 million in research funding in 2017-2018
  Of which $2.7 million are directly managed by UBC
- 140 scientific publications in 2017-2018
- Partnerships with more than 55 non-academic organisations
BRAES Highlights
2017-2018

More than 20 MSc, MFA and PhD Graduates

More than 100 events including: research forums, research seminars, invited guest speakers, workshops, research group meetings and social events

Co-hosting conferences and events with partner organizations

More than 1500 attendees to BRAES events from the campus community and the general public

New events led by students such as the Agroecological Exchange.

Web-streaming from UBC Vancouver of the Biodiversity Seminar Series organized by the Biodiversity Research Centre.
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<td>25</td>
</tr>
</tbody>
</table>
BRAES Objectives and Directions 2018-2019

- Continuing to provide an enriched graduate training environment

- Providing support for the activities of new Eminence funded research clusters in areas of strategic importance for BRAES

- Seeking new sources of funding for BRAES operations and laboratory space upgrades

- Increasing the Institute’s national and international visibility through improved communication materials (*website, brochure, newsletters & research profiles*)

- Continued high impact, regionally and globally relevant research
1. BRAES STRATEGIC DIRECTIONS

1.1 Vision
To advance efforts to protect species and ecosystems through interdisciplinary research, training and community engagement.

1.2 Mission
To conduct fundamental and applied research in biodiversity and conservation that has regional and international impact.

To become a leading international centre for the training of highly qualified undergraduate, graduate and postgraduate personnel. These researchers will be uniquely positioned to bridge disciplinary barriers to inform and guide effective conservation research and management strategies.

To foster strategic partnerships with First Nations, government, industry, and non-governmental organizations and to maintain active engagement with community stakeholders through educational outreach and stewardship activities.

1.3 Links with UBCO Research and Strategic Plans
Through our research and community engagement projects in ecology, sustainability and environmental science, BRAES fully supports the UBC strategic vision of pursuing excellence in research, learning and engagement to foster global citizenship and advance a sustainable and just society across British Columbia, Canada and the world.

BRAES Research Activities are strongly aligned with two of the eight areas of research priority identified in the 2009 UBC Okanagan Strategic Research Plan: Managed Land Use, Agriculture and Natural Products and Sustainable Environments and Populations. Our work is also aligned with the emerging Ecological Resilience and Recovery theme of research priority as articulated in the 2017-2022 UBC Okanagan Strategic Research Support Plan. BRAES research output contributes to supporting campus strategic goals of increasing the impact and quality of scholarship and increasing our competitiveness to obtain external research funding.

Lastly, BRAES activities are highly interdisciplinary and strongly place-based. Our members practice community-engaged research, working with a broad range of partner organizations, including First Nations, local, regional and provincial governments as well as not-for-profit organizations and the private sector. In all of our projects, BRAES members are seeking to contribute their expertise to advance positive change towards a sustainable world.
2. BRAES OPERATIONS

2.1 Governance

The VP Research at UBC Okanagan appoints the Institute Director who is a tenured Associate Professor or higher rank and who is presently a UBC Okanagan faculty member. The BRAES director reports to the VP Research.

The Director is responsible for coordinating the operations of BRAES, including its administrative staff and budget. The Institute has a Steering Committee that consists of the Director (Chair), the Deans of the Irving K. Barber School of Arts and Sciences (IKBSAS) and the Faculty of Creative and Critical Studies (FCCS), 3 or 4 faculty Institute members and 1 Graduate student member. Faculty steering committee members are elected by the membership for a 3 year period. The graduate student member is elected by other student members of BRAES for a 1 year term.

The Director supervises the Coordinator who is responsible for the day-to-day Institute activities and for planning, coordination, and communication within the Institute.

Current Steering Committee Members:
- Dr. Lael Parrott, Institute Director
- Dr. Michael Evans, Dean’s delegate, IKBSAS
- Dr. Greg Garrard, Dean’s delegate, FCCS.
- Dr. Melanie Jones
- Dr. Bob Lalonde
- Dr. Rebecca Tyson
- Graduate Student: Rachel Field
- Carolina Restrepo-Tamayo, Institute Coordinator

2.2 Membership

As of March 2018 BRAES has about 200 members distributed as follows: 30 Faculty Members, 6 Post-Doctoral Researchers, 50 PhD Students, 45 Masters Students, 59 Undergraduate Students and 10 Technicians (see Figure 1).

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**Fig. 1 : BRAES MEMBERS 2017-2018**

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For a detailed list of faculty members please consult Appendix 1.

2.3 Staff and Administration

The institute has a director who is appointed by the VP Research. Dr. Lael Parrott is the current director.

BRAES has a part-time coordinator who is responsible for planning, coordination, and communication within the BRAES Institute by:

- Organizing BRAES conferences, workshops, training sessions, retreats and annual general meetings.
- Preparing the Institute’s annual activity reports
- Preparing budgets and forecasting requirements
- Facilitating collaborative agreements involving researchers, granting agencies and departments within the institute
- Promoting BRAES research to the broader community, in collaboration with university media relations officers
- Securing industry and other partners of BRAES for long-term collaborations
- Writing grants for BRAES and working with the Development Office to secure external funding for BRAES
- Developing and maintaining the BRAES web site
- Developing an annual budget in collaboration with the institute director
3. BRAES RESEARCH

3.2 Research Themes

BRAES research falls under six inter-related themes (Figure 2).

![Diagram showing inter-related themes]

3.1 Context

BRAES research has focused on identifying and managing species and habitats at risk, understanding and predicting biotic responses to environmental change, and sustaining resources and ecosystem services in natural and managed landscapes.

Our underlying motivation is to increase scientific understanding of ecological systems and to inform management and planning decisions that promote the preservation of biodiversity and ecosystem services in terrestrial, marine and aquatic systems.

BRAES members work from the genetic to landscape scales and use a wide range of field, laboratory and quantitative methods. BRAES facilitates multidisciplinary collaboration, leading to innovative research that transcends traditional approaches to ecology and conservation.

Conservation Biology

Conservation biology focuses on the identification and description of habitats necessary to support species at risk, and the development of scientific tools to support the conservation of these habitats. BRAES researchers use a range of tools to examine how species may respond to changing environments, habitat loss, and modified landscapes. The results of this research are applied to address the effectiveness of conservation laws and policies and to inform decision-makers on how best to conserve biodiversity in terrestrial, marine and freshwater ecosystems.
Landscape and Natural Resource Management

Research under this theme integrates ecology with human impacts on the landscape, searching for the most environmentally sustainable methods to use our natural resources. Projects include studying the impacts of forestry on forest hydrology and biodiversity, ecological restoration following human disturbances, modeling the impacts of land use change on key ecosystem services, advanced agro technology, and land use planning to sustain biodiversity.

Water Conservation & Quality

Water provisioning is a key ecosystem service on which humans depend and which is critical to supporting all terrestrial life-forms. Research in this area focuses on sustaining this ecosystem service by enhancing the quality of the terrestrial and aquatic environments that filter and modulate fresh water supplies. Projects include studies of ecotoxicology in aquatic ecosystems, water quality monitoring, and relationships between land use and water quality and availability.

Computational Ecology

Research in computational ecology combines quantitative methods with data to model and describe population and community dynamics in time and space. Methods range from statistical modeling of diversity and heterogeneity to the development of dynamic models using analytical or simulation-based approaches. These tools can be used to predict the effect of natural or human-caused disturbances on species and ecosystems or to predict the spatial spread of an invasive species across a landscape, for example. This theme reflects the strong links in BRAES between the mathematical and ecological sciences, leading to development of innovative methods in environmental modelling and data analysis.

Social-Ecological Systems

This theme lies at the interface between the environment and society. The study of social-ecological systems relates to how humans shape and are reshaped by their natural environments, and includes the study of cultural perceptions of the environment. Research under this theme explores the nature of social-ecological resilience, adaptation of human communities to environmental change, and how cultural representations of nature influence human behavior.

Biodiversity and Ecological Interactions

This theme involves the study of the inter-relationships between biodiversity and ecosystem processes, from genetic to ecosystem and landscape scales. BRAES researchers working under this theme study diverse questions related to community assembly, invasive species, population dynamics and ecological connectivity, for example. A strong emphasis within this theme is on soil microbiology: understanding the contribution of mycorrhizal fungi and other micro-organisms to soil fertility and nutrient cycling in natural and agro-ecosystems. The fundamental work carried out under this theme provides the scientific foundation for conservation, restoration, and management efforts and for understanding relationships between biodiversity and ecosystems services provisioning.
3.3 Record of Publications, Students and Research Funding 2017-2018:

- More than 140 scientific publications
- 80 publications in peer reviewed journals
- 20 other publications, 40 accepted publications
- $3 million in external research funding and $0.2 million in internal (UBC) funding
- More than 160 student members and 80 other students co-supervised by our faculty members
- More than 45 student awards in different categories
- Over 100 scientific presentations to local, national and international audiences

FIGURE 3: BRAES RESEARCH RECORDS 2017-2018

See Appendix 2 for a selected list of publications

Table 1: Sources of external funding:

<table>
<thead>
<tr>
<th>Funding Organization</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSERC</td>
<td>24.3%</td>
</tr>
<tr>
<td>Agriculture and Agri-Food Canada</td>
<td>13.1%</td>
</tr>
<tr>
<td>Canada Foundation for Innovation</td>
<td>7.3%</td>
</tr>
<tr>
<td>BCKDF</td>
<td>5.5%</td>
</tr>
<tr>
<td>SSHRC</td>
<td>4.0%</td>
</tr>
<tr>
<td>Canada Research Chairs</td>
<td>3.4%</td>
</tr>
<tr>
<td>Habitat Conservation Trust Fund</td>
<td>3.0%</td>
</tr>
<tr>
<td>Liber Ero Foundation</td>
<td>2.5%</td>
</tr>
<tr>
<td>Nunavut Arctic College</td>
<td>2.5%</td>
</tr>
<tr>
<td>Others</td>
<td>17.2%</td>
</tr>
</tbody>
</table>

* Sources: RISE and members annual reports.

For a selected list of our members projects please go to appendix 4

3.4 Space and existing resources

A CFI grant was secured in 2004. This helped support the construction of the 3rd floor of the Science Building, including about 6000 square feet of BRAES laboratory facilities that are equipped with state-of-the-art instrumentation. More specifically, the facilities include: Molecular Lab, PCR Product Room, DNA Sequencing Room, Prep Room, Clean Cold Room, Dirty Cold Room, Equipment Room, Dirty Ecology Lab, Microscope Room, Culture Room, Computing/GIS Room, Physiology Lab, and the Radiation Lab.

These facilities are being used by BRAES members to conduct their research and to accomplish the BRAES mission. BRAES members have been very productive in 2017-2018 with about 150 publications and over $3.0 million in grant funding. This level of productivity would not be possible without the
facilities.

3.5 Partnerships

BRAES values partnerships within the University and with government, non-government, community, and international organizations. Partnerships include activities such as joint research projects, funding agreements, student supervision, dissemination or application of research.

Below, we list a few of the groups with whom we have established collaborations:

Within The University of British Columbia
- Institute for Community Engaged Research—ICER (Okanagan)
- BC Regional Innovation Chair in Water Resources and Ecosystem Sustainability (Okanagan)
- Beatty Biodiversity Research Centre (Vancouver)
- Centre for Applied Conservation Biology (Vancouver)

Canadian governmental agencies
- Environment Canada
- Canadian Wildlife Service
- Parks Canada
- Agriculture Canada
- BC Ministry of Forest, Lands and Natural Resources Operations
- BC Parks
- Canadian Food Inspection Agency
- Department of Defense
- City of Armstrong
- Natural Resources Canada
- Regional District of Central Okanagan
- City of Kelowna
- District of Lake Country
- Okanagan Basin Water Board
- BC Ministry of Agriculture
- Canadian Department of Fisheries and Oceans

International governmental agencies
- US National Park Service
- US National Forest Service
- Montana Fish, Wildlife and Parks
- US Department of Agriculture
- L’Institut National de la Recherche Agronomique (France)

Not for profit organizations
- Island Conservation
- Okanagan Basin Water Board (OBWB)
- BC Wildlife Federation
- Conservation Northwest
- Okanagan Collaborative Conservation Program (OCCP)
- South Okanagan Similkameen Conservation Program (SOSCP)
- Wildlife Conservation Society
- American Museum of Natural History
- Water Stewardship Council
- Nature Trust of BC
- Great Northern Landscape Conservation Cooperative
- British Columbia Institute of Agrology Okanagan Chapter

Private sector
- Tolko
- Tree Fruit Growers Association Dobson Engineering Ltd.
- Summit Environmental
- Summerhill Winery
- Ecoscape Environmental Consultants Ltd.
3.6 Interdisciplinary Research

BRAES researchers work in a range of environments and locations around the globe. They maintain active affiliations with many partner organizations, including government ministries and NGOs. BRAES is committed to promoting research partnerships and carrying out interdisciplinary research that will directly inform environmental policy and management decisions.

Affiliated research groups and laboratories:

- Biodiversity and Landscape Ecology Research Facility
- Complex Environmental Systems Laboratory
- The Ecological and Conservation Genomics Lab
- Fragment Analysis and DNA Sequencing Services (FADSS)
- Forest and Mycorrhiza Ecology & Ecophysiology Research Group
- Soil Microbial Ecology Group

3.7. Research Groups within BRAES

Our Institute has formed thematic research groups that meet every week to present their recent work, to discuss research papers of interest, or to have invited guests present their work.

The current groups are:

Vertebrate Conservation Discussion Group

The group is formed by: Dr. Karen Hodges, Dr. Michael Russello, Dr. Jason Pither, Dr. Adam Ford, and their lab members. This group meets weekly from September through April.

Computational Ecology Research Group

The group is formed by: Dr. Lael Parrott, Dr. Rebecca Tyson, Dr. Robert Lalonde, Dr. Jason Pither and their lab members. The group meets weekly through the academic year.

Soil Microbial Ecology Group

The group is formed by: Dr. Louise Nelson, Dr. Melanie Jones, Dr. Dan Durall, Dr. Miranda Hart, Dr. John Kllironomos and their lab members.
4. BRAES ACTIVITIES

4.1 Speaker Series, Seminars, Workshops, Conferences and Forums

4.1.1 BRAES partners in the classroom speakers series

This speaker series brings BRAES’ non-academic partners to campus to speak about the work they do and the challenges and issues they face in their professions. The talks are held during scheduled undergraduate class times so that our undergraduate students have the opportunity to interact with scientists and practitioners working in non-academic environments. All BRAES members and the general public are also invited to attend. An informal networking session follows each talk to facilitate discussion and interaction with the speaker.

4.1.2 Distinguished Guest Speakers

BRAES hosts 2-3 distinguished scientists per year to speak on environmental topics of broad interest. The guest stays on our campus for about a week to have the opportunity to interact and meet with our members, and deliver a public talk.

4.1.3 Research Seminars

In addition to our distinguished speakers series, BRAES organizes research seminars, where other academics visiting our campus present their research to our members and the campus community.

4.1.4 Workshop Series

The series includes a succession of workshops that are offered during the school year on relevant topics of interest to researchers in the university community and BRAES partner organizations.

4.1.5 Biodiversity Research Seminar Series streaming from the Biodiversity Research Centre in Vancouver

In January 2016, BRAES began a partnership with the UBC Biodiversity Research Centre to stream to our campus their renowned Biodiversity Research Series. Every Wednesday at noon the Centre hosts invited researchers in biodiversity to speak in the Beatty Auditorium at the UBC Biodiversity Museum. From September 2017 through April 2018, we were able to stream from UBC Vancouver 23 presentations and we had 2 live presenters in Kelowna that were streamed into the Beatty Auditorium. Based on this success, we will continue working together with the Biodiversity Research Centre for the 2018-2019 academic year.
4.1.6 Okanagan Research Forum

BRAES and its partner organizations host every two years the Okanagan Research Forum. The next Forum will take place in December 2018.

The most recent forum took place on December 2016 with the topic “Building a Resilient Okanagan Community”.

In 2018, the forum topic will be: “Eating the Okanagan, Exploring Change in our local food systems”. The event will be hosted by the UBC Institute for Biodiversity, Resilience, and Ecosystem Services (BRAES) and the UBC Institute for Community Engaged Research (ICER), in collaboration with partner organizations. The Forum will encourage knowledge sharing and dialogue between UBC Okanagan researchers and the broader community, including government and local organizations. This year’s theme is a particularly relevant topic for the Okanagan considering the pressures agricultural producers in the region face due to climate change, population growth, consumption, production and changes in land use.

4.1.7 Agroecological Exchange

The 2018 Central Okanagan Agro ecological Exchange was a very successful event cosponsored by BRAES, The Central Okanagan Food Policy Council, The Okanagan Fruit tree project among others.

The event was lead and developed by BRAES graduate students, with attendance of more than 65 participants, including community members, farmers, students and researchers.
This was an engaging event that improved connectivity between UBCO and the local community. For researchers, this was an opportunity to do some great local outreach, sharing their knowledge in their subject area with farmers and community members. For those involved in local food production, this was a great opportunity to find out what kind of agricultural research is going on at UBCO and pose ideas and questions specific to the problems they face day to day. The goal was to share the attendees’ collective agro ecological knowledge. This event will be hosted again in 2019.

4.1.8 BRAES Posters Hall

The BRAES posters session was launched in March 2017, as part of Celebrate Research week. Since this time, the hall in the Science building on the 3rd floor, features posters from all our members; the hall is updated with new posters frequently.

4.1.9 BRAES Social Events

Once or twice a year our institute hosts a social event where all our members have the opportunity to share stories and successes in an environment different than the research one. Last year BRAES hosted one social event at the end of April.

4.1.10 Partnership with BC Institute of Agrologists (BCIA)

Every year as part of our partnership with the BCIA, both organizations cohost different events. During the 2017-2018 academic year BRAES and BCIA organized two events, on October 20th the workshop: “Watershed, fish and stream habitats: Water systems in boreal tropical forests” with about 40 participants, and on March 13 we cohosted the workshop: “Macrophotography of microscopic things” with 30 participants. This is a very important partnership for the Institute and we are working together in planning new events for the 2018-2019 academic year.
### Table 2: Summary of BRAES Events, 2017-2018

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th># of Events</th>
<th>Speaker</th>
<th>Type of Event</th>
<th>Event Name</th>
<th>Attend-ants</th>
<th>Virtual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>Jul-20</td>
<td>1</td>
<td>Dr. Justin Travis</td>
<td>Invited Speaker</td>
<td>Towards and improved forecast for Biodiversity under Climate change</td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Jul-21</td>
<td>1</td>
<td>Dr. Greta Bocedi</td>
<td>Workshop</td>
<td>Introducing Range Shift: a platform for spatial, ecological and eco-modelling</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Oct-20</td>
<td>1</td>
<td>Various</td>
<td>Workshop</td>
<td>Watershed, fish and stream habitats water systems in boreal and tropical forests</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>2017</td>
<td>Nov-30</td>
<td>1</td>
<td>Dr. Colleen St. Clair</td>
<td>Distinguished Guest Speaker</td>
<td>Proactive Use of Reactive Behavior could enhance wildlife management</td>
<td>38</td>
<td>60</td>
</tr>
<tr>
<td>2017</td>
<td>Dec-05</td>
<td>1</td>
<td>Dr. Toby Spribille</td>
<td>Guest Speaker</td>
<td>How did lichen body plans evolve</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Jan-18</td>
<td>2</td>
<td>Craig Pettitt</td>
<td>Film + Presentation</td>
<td>Primeval: enter the Incomparable</td>
<td>108</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Jan-25</td>
<td>1</td>
<td>Dr. Tom Sullivan</td>
<td>Invited Speaker</td>
<td>Salvage Logging and habitat Creation with woody debris: T conserve or not?</td>
<td>24</td>
<td></td>
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<tr>
<td>2018</td>
<td>March</td>
<td>3</td>
<td>Various</td>
<td>Educational Walks</td>
<td>Birds, bugs and botany</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Mar-07</td>
<td>1</td>
<td>Dr. Patricia Bowen</td>
<td>Classroom speaker Series</td>
<td>Use of drones and sensors to monitor and manage vineyards</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Mar-13</td>
<td>1</td>
<td>Various</td>
<td>Workshop</td>
<td>Macrophotography of Microscopic Things</td>
<td>28</td>
<td></td>
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<tr>
<td>2018</td>
<td>Mar-28</td>
<td>1</td>
<td>Dr. Nate Swanson</td>
<td>Distinguished Guest Speaker</td>
<td>Investigating tree community structure and dynamics: from phylogenies and traits to transcriptomes</td>
<td>65</td>
<td>75</td>
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<tr>
<td>2018</td>
<td>Apr-08</td>
<td>1</td>
<td>Various</td>
<td>Workshop</td>
<td>Agroecological exchange</td>
<td>65</td>
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<td>2017-2018</td>
<td></td>
<td>25</td>
<td>Various, see list attached</td>
<td>Biodiversity Seminar Series</td>
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<td></td>
<td>325</td>
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<tr>
<td>2017-2018</td>
<td></td>
<td>36</td>
<td>Computational Ecology Research Group (CERG)</td>
<td>Research Group Meetings</td>
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<td>288</td>
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<td>2017-2018</td>
<td></td>
<td>24</td>
<td>Vertebrates Research Group</td>
<td>Research Group Meetings</td>
<td></td>
<td></td>
<td>240</td>
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</tbody>
</table>

| | Sub totals | 1317 | 135 |
| | TOTAL | 1452 |

100 Events
4.2 Outreach Activities

Website

The Institute has an active website that is updated regularly with new information and activities. The website can be found here: http://BRAES.ok.ubc.ca/

Outreach Activities:

BRAES, as stated in its goals, is working more and more with non-academic partners. During 2017-2018 BRAES co-hosted several events with partner organizations, see table 2 on page 18 for more information about our events.

BRAES Outreach at a Glance

BRAES members were involved many other activities such as conference presentations, invited talks, meetings and workshops, media interviews and publications among others:
5. BRAES CONTACT INFO

For general information or inquiries about BRAES, please visit our website at: http://braes.ok.ubc.ca/ or contact:

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Email: lael.parrott@ubc.ca

Or

Carolina Restrepo-Tamayo
Coordinator, The Okanagan Institute for Biodiversity, Resilience, and Ecosystem Services
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Email: carolina.restrepo@ubc.ca
APPENDIX 1: BRAES FACULTY MEMBERS

- John Braun, Arts and Sciences
- Sylvie Desjardins, Arts and Sciences
- Aleksandra Dulic, Creative and Critical Studies
- Michael Deyholos, Arts and Sciences
- Daniel Durall, Arts and Sciences
- Sylvia Esterby, Arts and Sciences
- Adam Ford, Arts and Sciences
- Greg Garrard, Creative and Critical Studies
- Kevin Hanna, Arts and Sciences
- Miranda Hart, Arts and Sciences
- Karen Hodges, Arts and Sciences
- Nancy Holmes, Creative and Critical Studies
- John Janmaat, Arts and Sciences
- Melanie Jones, Arts and Sciences
- Laura Hooker, Arts and Sciences
- John Klironomos, Arts and Sciences
- Robert Lalonde, Arts and Sciences
- Karl Larsen Thompson Rivers University
- Bruce Mathieson, Arts and Sciences
- Susan Murch, Arts and Sciences
- Louise Nelson, Arts and Sciences
- Lael Parrott, Arts and Sciences
- Michael Pidwirny, Arts and Sciences
- Jason Pither, Arts and Sciences
- Scott Reid, Arts and Sciences
- Michael Russello, Arts and Sciences
- Rebecca Tyson, Arts and Sciences
- John Wagner, Arts and Sciences
- Ian Walker, Arts and Sciences
- Adam Wei, Arts and Sciences
APPENDIX 2: BRAES SELECTED LIST OF PUBLICATIONS 2017-2018


APPENDIX 3: BRAES SELECTED LIST OF PRESENTATIONS 2017-2018


2. Wei, Xiaohua, an invited presentation at Guangxi Institute of Botany (GXIB), Guangxi Zhuang Autonomous Region and Chinese Academy of Sciences, August 15, 2017, “Research design”

3. Wei, Xiaohua, an invited presentation at Chinese Bamboo Center, Beijing, June 4, 2017, “An ecological perspective on forest-water relationship”

4. Abby Wang and Xiaohua Wei, a poster at American Geophysical Union conference, in Dec. 11-152017, New Orleans, USA, “The effects of thinning on forest carbon and water coupling in a young lodgepole pine forest.”


### APPENDIX 4: BRAES SELECTED LIST OF FUNDED RESEARCH PROJECTS

Source of information: RISE

<table>
<thead>
<tr>
<th>PI Name</th>
<th>Sponsor</th>
<th>Amount Funded 2017-2018</th>
<th>Project Start</th>
<th>Project End</th>
<th>Project Title</th>
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<tr>
<td>Braun, John</td>
<td>UBCO IKE Barber School of Arts and Science</td>
<td>$5,000.00</td>
<td>01/09/2014</td>
<td>30/06/2019</td>
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<td>$14,000.00</td>
<td>01/09/2014</td>
<td>31/03/2019</td>
<td>Smoothing and Bootstrapping with Application to Forest Fire Modelling</td>
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<td>$27,606.93</td>
<td>12/12/2016</td>
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<td>(FiCoGEN) - application to the ground transportation industry</td>
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<td>The dynamic cell wall of plant fibers</td>
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