

BIOSPHERE INSTITUTE OF THE BOW VALLEY

2019 was an exciting year of growth at the Biosphere Institute, as an expanded team infused new energy into our efforts to empower Bow Valley residents, businesses and visitors to be leaders in wildlife conservation and climate change action.

We launched two community-led climate change programs, engaging hundreds of residents in efforts to create a community-owned solar installation, establish a local renewable energy co-operative, and improve the energy efficiency of our buildings.

We developed a suite of curriculum-based K-9 wildlife and climate change lesson plans, deepened collaborations with Stoney Nakoda Knowledge Keepers, and began to lay the groundwork for a Bow Valley-wide Youth Environmental Leaders Network.

WildSmart continued to expand its reach locally, regionally, and even internationally, serving as a model for brown bear education and community engagement programs in northern Italy.

We welcomed the collaboration of new funders and partners, including the W. Garfield Weston Foundation, Energy Efficiency Alberta, Employment and Social Development Canada, Lake Louise Ski Resort, the Alberta Community and Co-operative Association, University of Alberta, and others. We remain ever grateful for the continued contributions of so many supporters and collaborators in our region.

Please read on to learn more about our 2019 achievements and the community connections that have made them possible. Together we continue to build a culture of caring for our mountain home.

Cheryl Hojnowski

Cheryl Hojnowski, Ph.D.
Executive Director

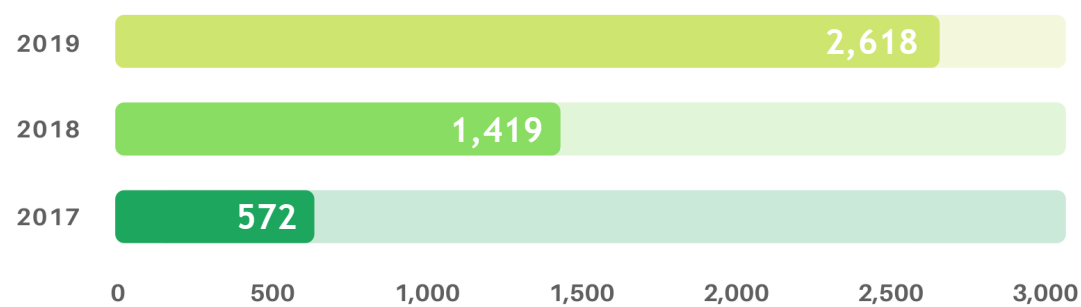
**WILDLIFE
CLIMATE
COMMUNITY**

WILDSMART

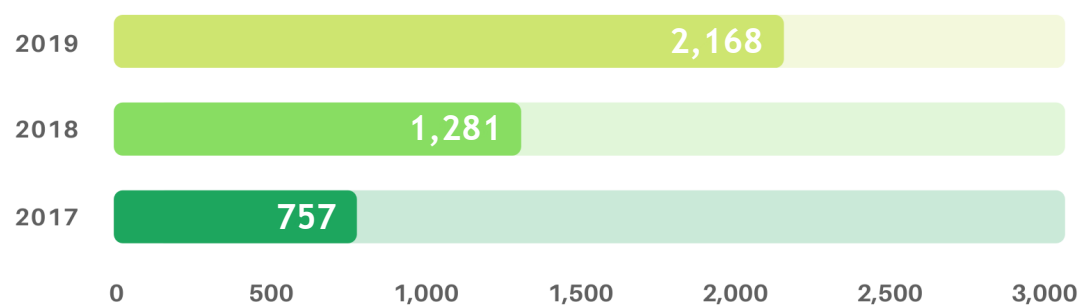
The WildSmart Community Program hit a new outreach milestone, delivering education programs and in-person communications to over 20,000 locals and visitors to the Bow Valley and Kananaskis Country. Attendance at our wildlife safety workshops, experiential bear hikes, and hands-on bear spray trainings nearly doubled, with families, New Canadians, Bow Valley seasonal staff, and personnel at Calgary outdoor stores among diverse audience members.



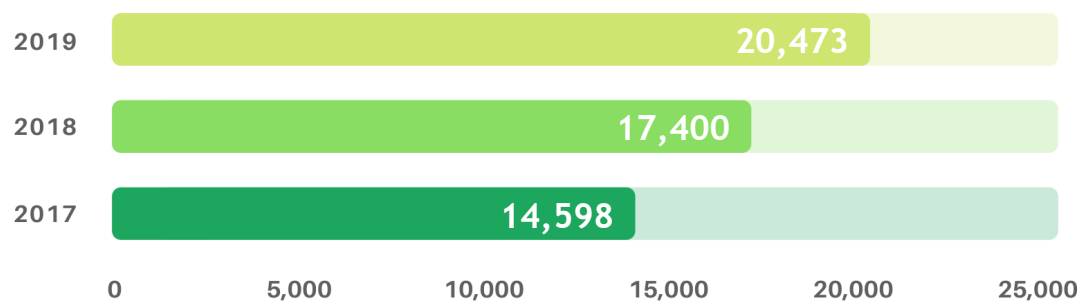
WILDLIFE SAFETY WORKSHOP PARTICIPANTS



BEAR SPRAY TRAINING PARTICIPANTS



TOTAL IN-PERSON CONTACTS



Our wildlife safety and conservation messages reached tens of thousands more via radio, newspaper, and television interviews, social media, brochures, our weekly Bear Report, and visits to our new website, launched in April.

FACEBOOK FOLLOWERS
6,259

BEAR REPORT SUBSCRIBERS
1,960

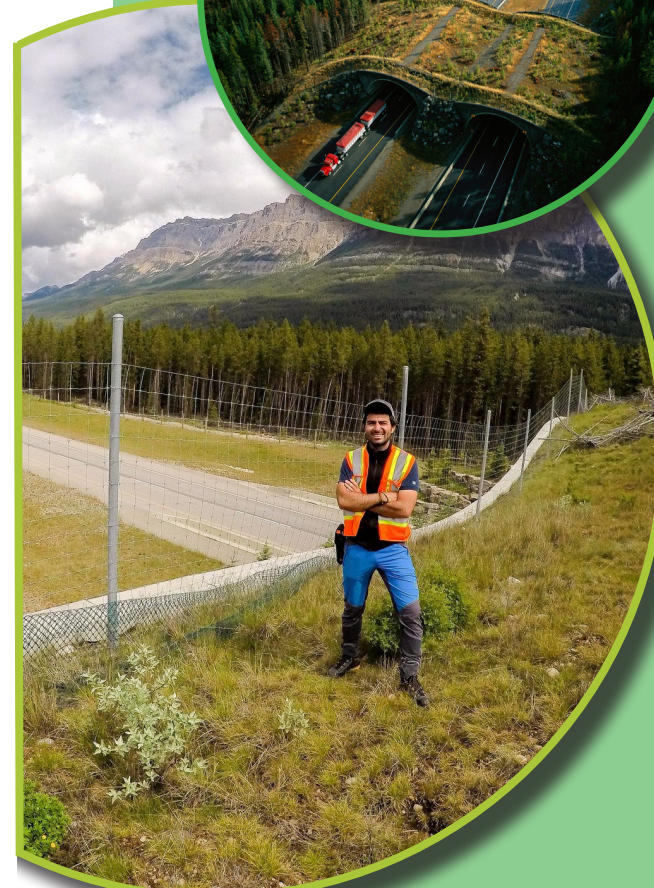
WEBSITE VISITS
51,535

TV, RADIO & NEWSPAPER INTERVIEWS
56

GOING GLOBAL

From April through July, we hosted Italian Masters student Francesco Del Greco, who is looking to WildSmart as a model for developing brown bear education and community engagement programs in his home region of Trento, Italy.

The WildSmart Speaker Series also took an international perspective, with Francesco and local biologist Tony Clevenger each delivering talks about how countries around the world are designing wildlife crossing structures based on what we've achieved here in the Bow Valley.



REDUCING NEGATIVE HUMAN-WILDLIFE INTERACTIONS

WILDSMART

WILDLIFE AMBASSADOR



SANDY LANE

Sandy is proactive. She was used to living near and photographing foxes, raccoons and coyotes in Ontario, but it was a new experience being close to elk and cougars - and having a bear sleep in her yard! An article in the newspaper directed her to WildSmart, where she quickly found in-depth local wildlife information and meaningful volunteer opportunities as a Wildlife Ambassador.

“This experience has given me the confidence to know that I can enjoy the beautiful areas of the valley and even the town, safely. The knowledge, skills and the interactions with visitors and locals that Wildlife Ambassadors experience make this one of the most meaningful of volunteer activities. I feel more at home here with this knowledge.”

COMMUNITY AMBASSADORS FOR WILDLIFE

Every year, our volunteer Wildlife Ambassadors head out on the trails to engage the public in conversations about their role in human-wildlife coexistence. In 2019, the Wildlife Ambassadors welcomed New Canadians among their ranks for the first time.

Looking ahead to 2020, WildSmart will continue to expand its outreach to New Canadians and foreign-born locals, translating our Nature for Newcomers brochures and a popular bear spray training video into ten foreign languages.

We will also work side-by-side with our dedicated Wildlife Ambassadors to co-design new, community-led wildlife conservation initiatives, and to use social science to better understand the biggest challenge to coexisting with wildlife: human behaviour.

WILDLIFE
AMBASSADOR
CONVERSATIONS
WITH THE PUBLIC
7,438



WILDLIFE
AMBASSADOR
VOLUNTEER
HOURS
877

REDUCING NEGATIVE HUMAN-WILDLIFE INTERACTIONS

BOW VALLEY SHIFT

ENERGY EFFICIENCY EDUCATION PARTICIPANT



DIANA MACGIBBON

Diana was ready for home improvements. She's always been oriented towards being energy efficient, but she was puzzled by the myriad of efficiency options available. The Biosphere Institute's programs helped her understand the opportunities that could align best with her needs, giving her the confidence to move on to the next steps.

"It hit me how little I knew about what makes a home most efficient. I learned that your home is a system; all the elements combine and should be taken into account when making retrofit decisions. Now we have the tools to help us make the right choices for our home."

LOCAL
RESIDENTS
ENGAGED
383

LOCAL
BUSINESSES
ENGAGED
36

"The work the Biosphere Institute is doing related to energy efficiency education is so important. We need to understand how to motivate people to take this type of climate action, what are the barriers to doing retrofits and how can we ensure existing buildings... achieve significant energy savings by 2030."

Lori Rissling-Wynn
Town of Canmore
Sustainability Coordinator

ENERGY EFFICIENCY EDUCATION

The challenge of energy efficiency in buildings led us to new approaches to learning from community members in 2019.

Fifty-seven percent of Canmore's greenhouse gas emissions originate from residential, commercial and municipal buildings. A safe future depends on all of us understanding the options for deep-energy retrofits, renewables, financing, and more.

Through interviews, focus groups, and questionnaires, residents and local business owners told us about the obstacles to maximizing energy efficiency, topics they want to better understand, and their preferred learning formats. We then designed education programs that are directly responsive to their needs and interests, to be delivered in 2020.



We hope that this **participatory learning** approach will lead to greater uptake in energy efficient actions. The final piece of this project is a robust assessment of audiences' knowledge and intended actions after attending our education programs, which will allow us to evaluate our impact.

COMMUNITY LEADERSHIP ON CLIMATE CHANGE

BOW VALLEY SHIFT

CANMORE COMMUNITY SOLAR

Community renewable energy projects are generating excitement around the world, and we learned that the Bow Valley is no exception. From April to December, the Biosphere Institute completed a study of opportunities for installing and financing a **community-owned solar installation** in or near Canmore.

In the space of just two weeks, 154 private residences expressed interest in renting out their rooftops for solar panel installation. Nine commercial property owners also came on board, along with three large property owners outside of Canmore, putting significantly more space on offer. And over 100 Canmore residents expressed interest in investing in a community-based renewable energy cooperative.

Working with dedicated community volunteers, by the end of the year we helped to launch **Bow Valley Green Energy**, which will become Alberta's first renewable energy cooperative outside of Calgary or Edmonton.

In 2020, we will collaborate with Bow Valley Green Energy to ensure three top community solar sites are shovel ready, and to prepare the cooperative to accept its first investments.



“Bow Valley Green Energy ... will enable our community to come together and become a leader in low carbon energy generation. This is a story that we can create here and then share with other communities around the world - a new way to represent our vibrant mountain town - a fun way to talk about ourselves - a better path to our future.”

Jean McAllister,
Dark Horse Company, Canmore



GET READY FOR INTERNATIONAL WINTER BIKE TO WORK DAY!

THINK TIRES!
Wide knobby tires offer more grip. Studded tires are best if you expect icy conditions.



FIT FENDERS!
Prevent back splash from snow & water. Help keep damaging salt off your bike.



BE SEEN!
It's dark out there! Wear bright colours. Use lights, front and back, a steady light provides the best visibility.



BE SMOOTH!
Don't panic! Use finesse when braking & turning. Walk a section if it's too icy. Choose your line.



LAYER UP!
Use different layers to wick sweat, stay warm & keep out the wind & snow. Remember your lower half. Cover up exposed skin & keep your extremities warm.



FRIDAY FEBRUARY 8TH 2019
LEARN MORE: WINTERBIKETOWORKDAY.ORG

Over 1,100 Canmore and Banff households received the monthly **Shift newsletter** in 2019, with each issue focused on practical tips to reduce your climate footprint.

The two-year **Next Steps** project also concluded early in the year, resulting in CO₂ reductions equivalent to taking 52 passenger cars permanently off the road.



COMMUNITY LEADERSHIP ON CLIMATE CHANGE

YOUTH EDUCATION

DEVELOPING A STRATEGIC VISION FOR OUR EDUCATION PROGRAMS

PARTNER CONSULTATIONS



We spoke with 14 educators from 10 organisations including the Alberta Council for Environmental Education, Alberta Environment and Parks, Parks Canada and local schools in Banff, Canmore, Exshaw and Morley.

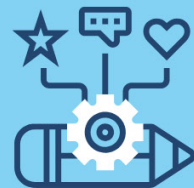
UNDERSTANDING TEACHERS

What did we learn from our consultations?

- Teachers need free or low-cost programs
- Curriculum integration is critical
- Lesson plans should be open-access



GUIDING PRINCIPLES



- Connecting learning to our local landscapes
- Blending Indigenous ways of knowing
- Fostering interdisciplinary approaches
- Civic engagement

EDUCATIONAL METHODS

- Inquiry-based learning: Encouraging students to generate the questions and hypotheses
- Project-based learning: Empowering students to lead real-world projects



BUILDING COMMUNITY NETWORKS

We are actively engaging with:



- Indigenous & non-Indigenous youth
- Teachers
- Traditional Knowledge Keepers
- Conservation professionals
- Local, regional & international educators

STRATEGIC PLANNING

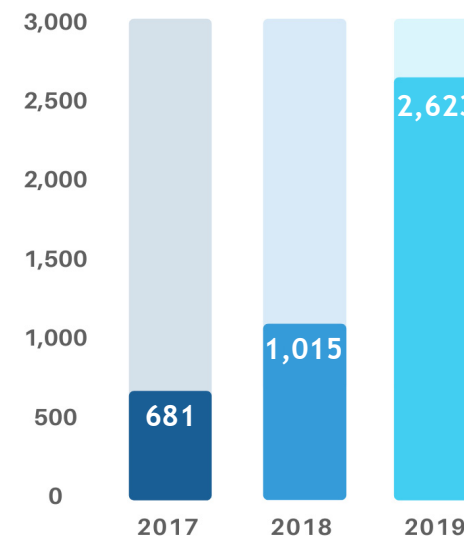
Our team crafted a vision for K-12 wildlife and climate education that focuses on building knowledge and skills, blending Indigenous and Western ways of knowing, and fostering leadership.

BUILDING KNOWLEDGE & SKILLS

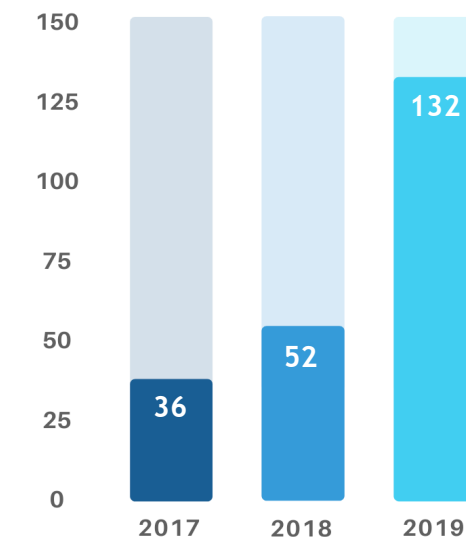
We completed ten all-new wildlife and climate change lesson plans – each directly aligned with Alberta science and social studies curriculum outcomes, and complete with learning objectives, background stories, audiovisual materials, and guides to community action projects. We expect to publish an additional 14 lesson plans in 2020.

We delivered our wildlife and climate change programs to over 2,500 students in 13 schools in Banff, Canmore, Exshaw, Morley, and Bragg Creek, more than doubling our reach among local children.

NUMBER OF PARTICIPANTS



NUMBER OF CHILDREN'S PROGRAMS



WEAVING WAYS OF KNOWING

We hosted a Bear Sharing Day that brought Grade 5 students, teachers and parents from Canmore and Exshaw schools together with seven Indigenous Knowledge Keepers to share stories about people's relationship to nature and each other.

Exshaw School student Ambrielle told us she felt like an "expert" teaching students from Lawrence Grassi Middle School about the role of bears in our local ecosystems.

Looking forward, we plan to deepen our collaboration with the Nakoda Youth Council, including by facilitating ongoing cross-cultural sharing days and bringing Elders into the classroom.



"Thank you for your wonderful visit! The kids loved learning about respecting wildlife and were talking about bears for the rest of the day."

Kelsie, Kindergarten teacher,
Elizabeth Rummel School

INSPIRING A LIFE-LONG CONSERVATION ETHIC

YOUTH EDUCATION

A FUTURE CHANGEMAKER

PHILLIP

Philip is a facilitator. From making meaningful impacts as a member of Canmore Collegiate High School's Green Club to his aspirations as a future Green Party MP, he thrives on bringing people together to realize their awesome group potential. The Biosphere Institute's programs help Philip and other local students to extend the reach of their environmental actions beyond school walls to provide not just hope, but measurable benefit to the entire community.

"I don't know how to tell people that it's cool to be an environmentalist, but it is. It requires strong-minded individuals and kids to step out of their comfort zones. It makes me feel good when a project I worked on helps others say "This is something I'm proud of and it made me happy!" It's not only hope, but seeing things happen around you and seeing things being done."

INSPIRING A LIFE-LONG CONSERVATION ETHIC

INSPIRING A LIFE-LONG CONSERVATION ETHIC

FOSTERING LEADERSHIP

We were humbled to lead a session about translating knowledge into action at the Canadian Rockies Youth Summit in Jasper, which brought together high school students from ten communities to discuss the future of our national and provincial mountain parks.



"I was at the Youth Summit and was strongly influenced by your talk ... Together, we have decided to start a podcast about the environment and how youth and citizens can get involved."

Ava & Samantha,
Calgary high school students



Locally, we began developing plans for a Youth Environmental Leaders Network that will connect students and conservation professionals, with the goal of carrying out wildlife and climate action projects in Bow Valley communities.

OUR SUPPORTERS & PARTNERS

Town of Canmore
Municipal District of Bighorn

Energy Efficiency Alberta
Alberta Environment and Parks

National Science and Engineering Research Council (NSERC)
Employment and Social Development Canada

Calgary Foundation
W. Garfield Weston Foundation
TD Friends of the Environment Foundation
Rotary Club of Canmore
Banff Canmore Community Foundation
Alberta Lottery Fund

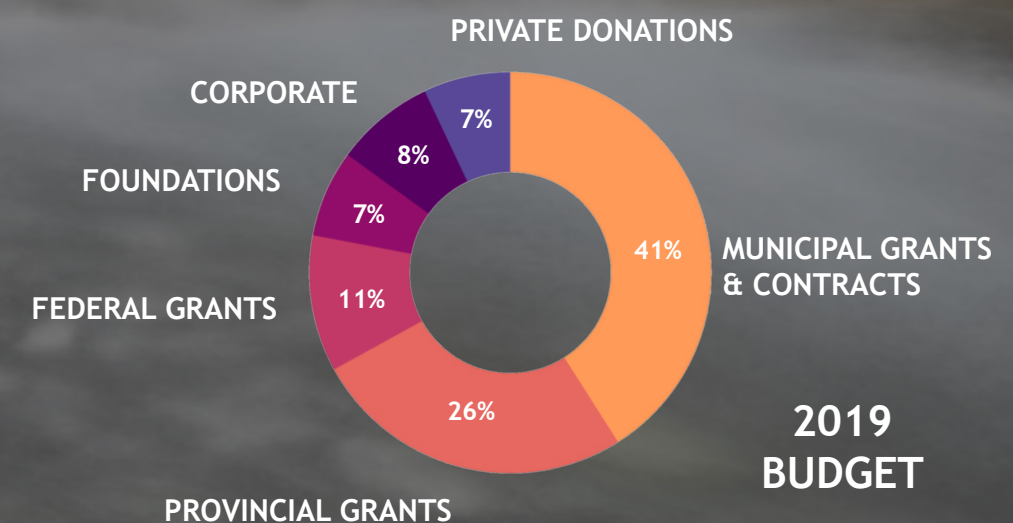
Lafarge Canada
Kananaskis Improvement District
Boston Pizza
Kodiak Wildlife Products Inc.
The Bear Minimum
Lake Louise Ski Resort
IGA Banff

KCP Energy
Alberta Community and Co-operative Association
ISL Engineering
Bow Valley Builders and Developers Association

Bow Valley Climate Action

University of Alberta

Canadian Tire
Switching Gear
Of Cabbages and Kings Pottery
Canmore Mountain Market
Banff Centre for Arts and Creativity
The Grizzly Paw Brewing Company
Roam Transit
Elevation Place
Kumpfy Shoes
Stonewaters
Nourish Bistro
Rebound Cycle

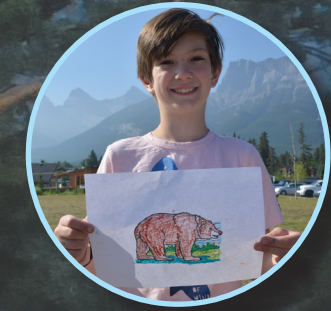


OUR REACH

Biosphere Institute staff delivered WildSmart, Bow Valley Shift and Youth Education programs for dozens of organizations in the Bow Valley and Calgary in 2019, including:

- 878 Banff/Canmore Squadron, Royal Canadian Air Cadets -
- Alberta Environment and Parks - Alix-MAC School - Alpenglow -
- Alpine Club of Canada - artsPlace - Animal Lovers Camp -
- Banded Peak School - Banff Adventure Canoe Guides -
- Banff Community High School - Banff Elementary School -
- Banff Hospitality Collective - Banff Plumbing Company -
- Bow Valley Builders and Developers Association -
- Bow Valley Climate Action - Bow Valley Parent Link - Bow Valley SPCA -
- Bow Valley Waste Commission - Brightside Mechanical -
- Campers Village - Canmore Collegiate High School -
- Canmore Community Daycare - Canmore Hotel and Lodging Association -
- Canmore Museum and Geoscience Centre - Canmore Plumbing and Heating -
- Canmore Seniors Association - Century 21 Nordic Realty -
- Chiniki Community College - Coast Hotel - Creekside Villa -
- CrossFit Canmore - Delta Lodge Kananaskis - Devonian Properties -
- Distinctive Homes - Downtown Canmore Business Association -
- École Notre-Dame des Monts - Elizabeth Rummel School - Exshaw School -
- Fairmont Banff Springs - Fairmont Chateau Lake Louise -
- Grande Rockies Resort - Grizzly Paw Brewing Company -
- Holiday Inn Canmore - HSS Design Build -
- Inside Education Generate Conference - Interpretive Guides Association -
- Lake O'Hara Lodge - Lawrence Grassi Middle School - Lululemon Banff -
- MAC Fans and Furnaces - Mike's Electric - Morley Community School -
- Mountain Equipment Coop - Nakoda Elementary School -
- Our Lady of the Snows Catholic Academy - Oxford Properties -
- Paintbox Lodge - PEKA Professional Property Management Ltd -
- Reliance Asset Consulting - Re/Max Alpine Realty -
- Rocky Mountain Soap Company - Rotary Club of Canmore -
- Royal LePage Rocky Mountain Realty - Rundle Mountain Cycling Club -
- Russell & Russell Design Studios - Settlement Services - Solar Alberta -
- S2S Electric Ltd - Silver Creek Lodge - Solara Resort & Spa - Sporting Life -
- Spring Creek Residents and Staff - Stoney Health Services -
- Tanner Properties - The Bear & Bison Inn - The Lodges at Canmore -
- Tourism Canmore Kananaskis - Town of Canmore Big Fun Camps -
- Town of Canmore Out of School Camps - Wild Rose Electric -

SUPPORT THE BIOSPHERE INSTITUTE

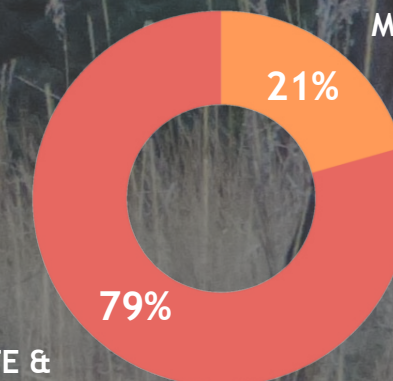


The Biosphere Institute is a registered charity. We are funded entirely through donations, grants and contributions from the community.

To support us, please visit our website
<https://www.biosphereinstitute.org/donate>

Or contact:
Suite 201, 600a 9th Street
Canmore, Alberta T1W 2T2
Phone: (403) 678-3445 x 4

Tax receipts for donations are provided.



WILDLIFE, CLIMATE & EDUCATION PROGRAMS

ADMINISTRATION, MANAGEMENT & FUNDRAISING

2019 EFFICIENCY