

BIOSPHERE INSTITUTE OF THE BOW VALLEY

2020 was a year of uncertainty and change, in which we witnessed the astonishing resiliency of our community. When the COVID-19 pandemic hit, the Biosphere Institute had to re-envision community leadership and engagement in the absence of in-person programming. We're proud to say that we found new ways of staying connected to the people and natural spaces closest to us.

At the same time that we transitioned many of our programs to online formats, we also experienced unprecedented growth in visitation to the parks and protected areas surrounding the Bow Valley. This underscored the deep importance of these spaces to the overall health of our communities and our planet, as well as the role that we can all play in working towards solutions.

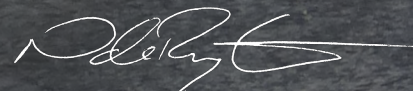
WildSmart reached online and in-person audiences with its wildlife safety and conservation messages, many of whom were first-time visitors to protected areas. We expanded our outreach among newcomers to Canada and non-English-language speakers through translated resources and partnerships with immigration organizations.

Our energy efficiency education project culminated in a series of workshops for Bow Valley residents and a nine-part summit for builders, developers, and tradespeople. The Bow Valley Green Energy Co-operative formalized its governance and identified three potential host sites for solar systems in 2021.

We broadened our suite of curriculum-connected K-9 lesson plans on climate change and human-wildlife coexistence. We tailored programming to an online learning format and collaborated with the Nakoda Youth Council to explore ways to bring the voices of Stoney Nakoda Knowledge Keepers into the classroom.

We extend our gratitude to our funders and partners who supported us through this incredibly challenging year. We are profoundly appreciative to all those who contributed resources, time and expertise to our mission of empowering community leadership on environmental challenges.

It takes an entire community to care for our mountain home. Please read on to learn more about our 2020 achievements.



Nicolaas de Ruyter
Interim Executive Director



**WILDLIFE
CLIMATE
COMMUNITY**

WILDSMART

WildSmart is a proactive conservation program that encourages efforts by communities to improve human-wildlife coexistence.

In 2020 the Bow Valley and Kananaskis experienced dramatic increases in visitation which presented some new conservation challenges and amplified others. WildSmart education and community outreach addressed gaps in knowledge by creating new online offerings that expanded our reach to residents of and visitors to the Bow Valley.



“WildSmart has become an integral part of our community life, helping us all to understand and respect the responsibility that we have to protect the wildlife that live in and roam through this valley.”

John Borrowman
Mayor, Town of Canmore

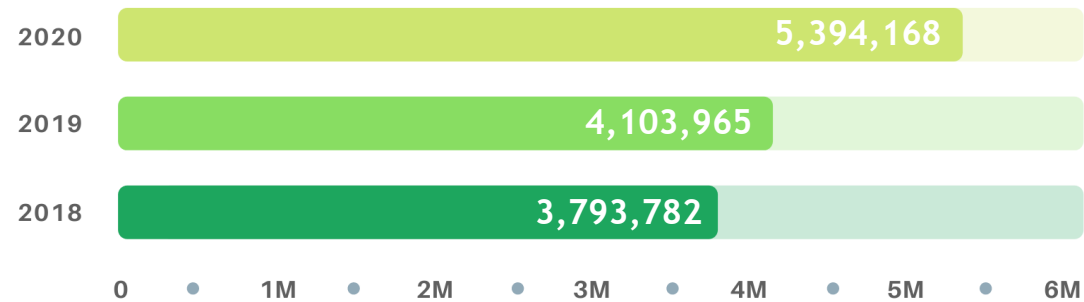
NATURE FOR NEWCOMERS

We expanded our outreach efforts among newcomers to Canada and non-English-language speakers through online workshops with Settlement Services in the Bow Valley, the translation of our Nature for Newcomers brochure and the addition of subtitles in 10 languages to the bear spray training video on our website.

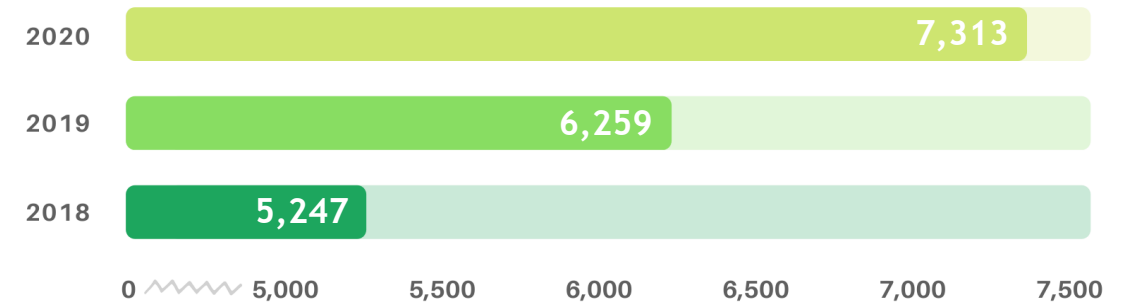
@bvwildsmart

WILDSMART
INSTAGRAM
FOLLOWING
203

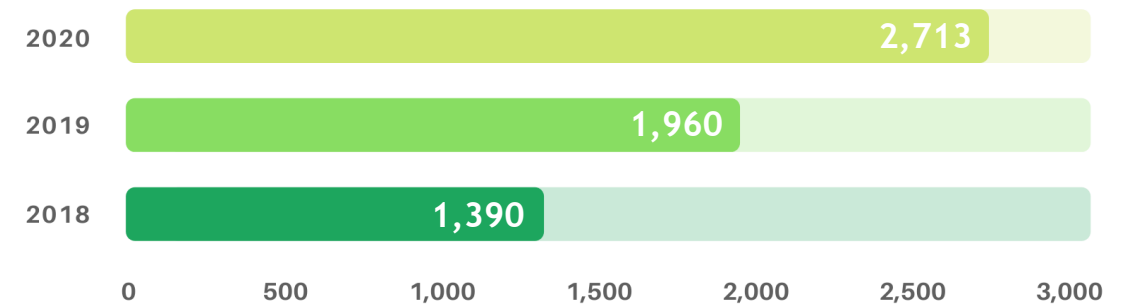
KANANASKIS COUNTRY VISITATION



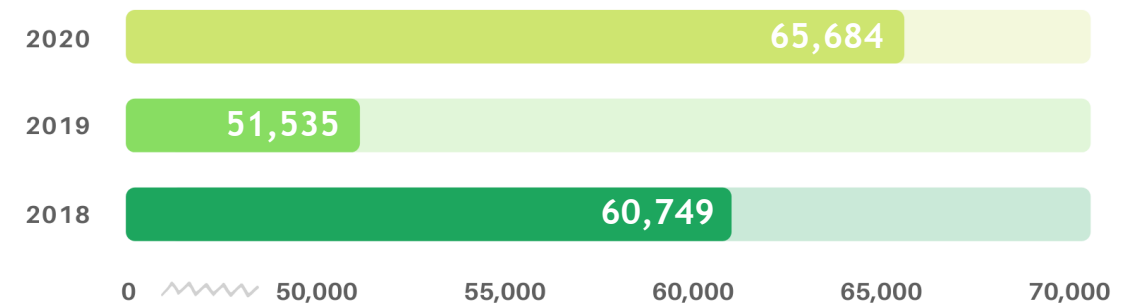
FACEBOOK FOLLOWERS



BEAR REPORT SUBSCRIBERS



WEBSITE VISITS



REACHING NEW AUDIENCES ONLINE

We helped thousands of people make informed decisions about where and how to recreate through our weekly Bear Report. We reached many more people via radio, television, our social media and website and other publications.

We also filled the void of in-person programming with a series of videos that share strategies for avoiding and handling bear encounters.

WILDSMART
WORKSHOP
PARTICIPANTS

41

BEAR SPRAY
TRAINING
PARTICIPANTS

24

TOTAL
IN-PERSON
CONTACTS

7,615

TV, RADIO &
NEWSPAPER
INTERVIEWS

34

CREATED BY
WILDSMART
VIDEO VIEWS

27,282

IMPROVING HUMAN-WILDLIFE COEXISTENCE

WILDSMART

WILDLIFE AMBASSADOR

MARYN SIMRAK

Maryn joined WildSmart in order to help transform the narrative around human-wildlife encounters in the Bow Valley. As a Wildlife Ambassador she gets the chance to talk to many trail users, with every conversation a step towards changing this narrative for the better.

Not one to be deterred by restrictions on in-person communication, she turned to Instagram to get her message out.

“When the pandemic hit, I realized that we might go through the whole summer without being able to chat with people face-to-face. I figured we could use Instagram as a way to reach more people online and still deliver our key messages. It’s been a great tool for starting some meaningful conversations, and I hope it’s impact is just beginning!”



“In the summer of 2020, the extremely high visitation to our community resulted in a sharp increase of usage of Quarry Lake Park. Many visitors were unintentionally creating wildlife attractants by not properly disposing of food waste or not keeping clean picnic sites. The Ambassadors were a key player in our efforts to keep Quarry Lake a safe and enjoyable experience for all.”

Whitney Smithers, Town of Canmore, General Manager of Municipal Infrastructure



COMMUNITY AMBASSADORS FOR WILDLIFE

The Wildlife Ambassadors rose to the task of increasing public safety and enjoyment through human-wildlife coexistence education in a year when our partner organizations were unable to fill this need. In addition to in-person trail roves, our volunteers explored opportunities to get their message out to the public through digital platforms such as Instagram, regular contributions to the Bear Report and custom WildSmart face masks.

In direct response to the exploding popularity of local protected areas and the passion of our growing volunteer base, Wildlife Ambassadors will complete trail roves outside of summer months starting in 2021.

WILDLIFE AMBASSADOR VOLUNTEER HOURS
626

WILDLIFE AMBASSADOR CONVERSATIONS WITH THE PUBLIC
6,742

CO-DESIGNING CONSERVATION WITH COMMUNITY MEMBERS

We enhanced community involvement with our Wildlife Ambassadors by hosting seven online workshops. From these workshops, we developed the Trusted Messengers project. This project seeks to formalize collaborative relationships with different trail users in order to navigate coexistence challenges and will be completed in 2021.

SHIFT: CLIMATE TRANSITIONS

The Shift program empowers Bow Valley residents to take action on climate change by reducing their energy emissions, waste production and water use.

With each passing year, the effects of climate change in the Bow Valley grow more pronounced. In 2020 we saw citizens and communities around the world leading the charge to prevent the worst impacts of climate change. Shift promoted local action by organizing community based projects and participatory public workshops.

TOTAL E3 PROJECT REACH 2019-20
74,321

“As someone who is currently planning a major home renovation and as someone who is concerned about energy efficiency and climate change, I was so appreciative of the very informative expert panel discussion on “Efficient Heating and Cooling for your Home.”

Richard Daniel, Energy Efficiency Residential Workshop #2 attendee

E3 EVENT & WEBINAR ATTENDANCE
448

E3 ONLINE RESOURCES ACCESSED
2188

A RESIDENTIAL GUIDE TO
ENERGY EFFICIENCY PROJECT FINANCING

THE BIG QUESTIONS
HOW MUCH DOES IT COST? & HOW CAN I PAY FOR IT?
STEP 1 - GET AN ENERGY AUDIT!

What is an energy audit?

- An energy audit is an assessment that helps you learn how you use energy in your home, determine where it's being wasted and identify opportunities for efficiency upgrades.
- During a professional energy audit, an energy auditor analyzes your energy bills, completes visual mechanical inspections, and may use special equipment, such as a blower door and an infrared camera, to detect sources of energy loss.

Why get an energy audit?

- When you are prepared to make energy efficient upgrades, it can be hard to know where to start. Insulation? Windows? The furnace?
- An energy audit will provide you with a comprehensive home energy report that shows which energy efficiency upgrades are best for your home and your potential energy savings.
- Making energy efficiency upgrades identified in a home energy audit can you save 5-30% on your monthly energy bill.

How do I get an energy audit?

- Certified Energy Auditors are available in Calgary (and hopefully soon in Canmore). Click here to see a list of providers.
- Feeling a little strapped for cash? You might be able to identify some problem areas on your own. See our climate news below for "How to give your home an energy audit!"

STEP 2 - EVALUATE YOUR OPTIONS

Talk to your lending provider

- Some banks have specific financing options for energy efficiency and renewable energy upgrades.
- A product supplier may also be able to provide advice on financing options.

Research available rebates

- Local municipalities, the province and the federal government offer different rebate opportunities.
- Sign up for updates from Energy Efficiency Alberta on the Clean Energy Improvement Program.

Create your savings plan

- Prepare or update your household budget.
- Determine appropriate savings goals which are measurable, specific and trackable.
- Review your budget regularly to gauge your success.

2020 Energy Efficiency Workshop Series

Residential Renewable Energy Solutions

With presentations from the Town of Canmore and specialists in geothermal and solar energy.

This is your chance to get your renewable energy questions answered!

Efficient Heating & Cooling for your Home

Take advantage of a Q&A with our expert panel!

Watch presentations from specialists in passive house design and other cutting edge technologies.

Energy Efficiency Financing Solutions

How much will it cost and how can I pay for it?

Hear from a local financial advisor, learn about current retrofit financing programs and upcoming opportunities!

ENERGY EFFICIENCY EDUCATION - E3

In 2019 we spoke with 383 local residents and 36 businesses about the obstacles to maximizing energy efficiency, topics they want to better understand, and their preferred learning formats.

This process informed how we designed a series of education programs in 2020 to help Bow Valley locals learn how to make their homes, businesses and developments more energy efficient. Originally planned as a series of in-person events and workshops, COVID-19 forced us to move a number of these events to an online format.

According to research and methods such as Community Based Social Marketing, addressing barriers is an effective way to encourage action. We assessed the efficacy of this project in increasing knowledge and reducing barriers to energy efficiency. This allowed us to move away from measuring the success of workshops simply based on attendance.

Results from the residential workshops and Summit webinars demonstrated an increased intention to undertake some form of action and a reduction in the perception of barriers among participants, as a result of these events, by an average of ninety-two percent and sixty-seven percent respectively.

Our monthly Shift newsletter offers tips for reducing our personal contributions to climate change. In 2020 it went out to 250 households.

THE BOW VALLEY SUSTAINABLE BUILDING SUMMIT

KEYNOTE SPEAKER
DALE MIKKELSEN: UNIVERCITY
UNIVERCITY: DOING GOOD WHILE DOING WELL

FRANK CRAWFORD: PASSIVE HOUSE ALBERTA
Q & A SESSION WITH A PASSIVE HOUSE DESIGNER

TYLER HERMANSON: 4 ELEMENTS DESIGN
NAVIGATING GREEN BUILDING IN 2020 & BEYOND

DALE MIKKELSEN: UNIVERCITY
SOLUTIONS FOR COST-EFFECTIVE HIGH-PERFORMANCE BUILDINGS

FRANK KERNICK: SPRING CREEK MOUNTAIN VILLAGE
GEOTHERMAL & EXCHANGE IN SPRING CREEK

DR. HENRY TSANG: RAIC & ATHABASCA UNIVERSITY
DESIGNING FOR CLIMATE CHANGE

MATT GRACE & BILAL MAAROUF: INTEGRAL GROUP
SUSTAINABILITY IN THE BUILT ENVIRONMENT

PAUL DENCHUK & MEREDITH HAMSTEAD: THINKBRIGHT HOMES
ENERGY STEP CODES IN THE REAL WORLD

CEOFF DOMEINICO: KCP ENERGY INC
SOLAR, A VIABLE ENERGY SOLUTION TODAY

SHIFT: CLIMATE TRANSITIONS



FOUNDING BOARD MEMBER OF BVGEC



SUE HAYDUK

Sue believes that people can power real change. Through her role with the BVGEC, Sue strives to foster successful partnerships with members, funders, investors and community partners to advance renewable energy projects in the Bow Valley. She knows that when a group of dedicated volunteers put their passion into a project, the results can be transformative.

“I get excited by meeting people who have the gift of forward thinking. That’s why I followed the Biosphere Institute’s efforts to pursue a community solar project in the Bow Valley and joined the steering committee to bring the Bow Valley Green Energy Cooperative to life. I want to do work that makes a difference. Something that raises the bar on environmental stewardship and makes people stop and say ‘something different is happening here.’”

A BRIEF HISTORY OF THE



BOW VALLEY GREEN ENERGY COOPERATIVE

- APRIL 2019**
The Biosphere Institute of the Bow Valley recruited volunteers interested in supporting a community generation initiative
These volunteers created a dedicated volunteer steering committee
- JULY 2019**
Officially named Bow Valley Green Energy Cooperative
- NOVEMBER 2019**
Successful application made to the Investment Readiness Program and Banff Canmore Community Foundation to facilitate business and financial planning, project development and formalize investment share offerings
- FEBRUARY 2020**
Execution of Community Generation Feasibility Study by the Biosphere Institute
Introduction of BVGEC to the community at an open house
- MAY 2020**
BVGEC is officially incorporated as a cooperative
BVGEC board committees are formalized and actioned
- SEPTEMBER 2020**
BVGEC forms official partnerships with the four solar suppliers who successfully fulfilled a Request for Qualification
- OCTOBER 2020**
Membership and friends framework adopted
Board of directors become BVGECs first official members!
- NOVEMBER 2020**
Pioneer joint BVGEC and host committee formed
Volunteer Friends of BVGEC opportunity opened
- DECEMBER 2020**
Bylaws submitted to Service Alberta
- Coming in 2021!**
Bylaws approval by Service Alberta
Community-wide membership drive



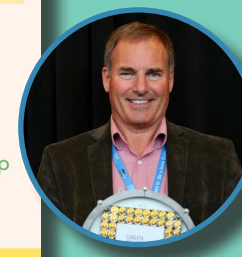
BOW VALLEY GREEN ENERGY COOPERATIVE (BVGEC)

To effectively reduce carbon emissions and tackle climate change, action is required across multiple scales. Community owned renewable energy is one key solution to help mitigate the impacts of climate change via tangible, local led action.

In 2019 the Biosphere Institute completed a feasibility study on the opportunities for installing and financing a community-owned solar installation in the Bow Valley. The interest in the concept was staggering and led to the formation of BVGEC.

In 2020, this team of dedicated volunteers undertook the immense task of finalizing the investment readiness process, including legal incorporation and governance processes.

Work is now underway to begin accepting community investments and flip the switch on the first ever community-owned solar photovoltaic system in our region in 2021. Together we are making renewable energy generation projects a reality in the Bow Valley.



COMMUNITY LEADERSHIP ON CLIMATE CHANGE

FUTURE LEADERS

Our youth education program seeks to build the knowledge, skills and a sense of purpose that students will require to become the next generation of environmental leaders.

This year we incorporated technology in new ways that enabled us to help keep our community connected to the land, despite the absence of in-person experiences. By adapting our programs and offerings we were able to continue facilitating meaningful connections between educators, students and subject matter experts.



“Each year the Biosphere Institute shares inventive activities that capture students’ attention and connect perfectly to our curriculum. This collaboration is a great way for students to connect with their community and to learn to understand and respect the nature and wildlife surrounding us.”

Catherine Gagnon,
Grade 2 teacher,
Elizabeth Rummel School



ONLINE PROGRAM DELIVERY

We adapted to the challenges of the pandemic by offering our programs to teachers online. We delivered online wildlife and climate change programs to over 500 students in Banff, Canmore and Bragg Creek.

The emergence of online learning provides an exciting opportunity to reach a broader audience than previously thought possible.

LESSON PLANS

We created an additional 14 lesson plans on biodiversity, sustainability and climate change. These have been designed to provide teachers and students with the necessary background information to tackle meaningful stewardship projects in their communities. They strive to break content into manageable pieces that address bigger questions and examine how our actions affect the environment.

We believe that developing a culture of stewardship starts at an early age with a sense of wonder for the natural world. As of 2020, 21 lesson plans are now available to educators on our website.



IN-PERSON
PARTICIPANTS
126



INSPIRING A LIFE-LONG CONSERVATION ETHIC

FUTURE LEADERS

ENVIRONMENTAL EDUCATOR & TEACHER

ANDREA BARNES

Andrea has worked as an environmental educator for the past 25 years. In that time, she has helped to get countless students outside to learn on the land.

In the spring of 2020 she found herself in uncharted territory when her teaching practice moved to a completely online format. Andrea reached out to the Biosphere Institute for support and together we adapted climate change programming to this new situation.

“The Biosphere Institute has become an organization that teachers turn to for enriching experiences to learn, act, and engage in and with our Earth. I am most grateful for their expertise and the online climate change lesson plans that I used to supplement the inspiring and thoughtful presentation.”



“How else do we learn about our world than to spend time in it?”

Lynn Martel,
Mountain Writer and
Photographer



“[We must continue] to work to understand, to discover and respect what’s out there.”

Colleen Campbell,
Artist and Naturalist

FOR THE LOVE OF THE LAND

We created a number of informative videos featuring local subject matter experts, including artist and naturalist Colleen Campbell and mountain writer and photographer Lynn Martel.

These resources are a starting point for fostering ongoing collaborative relationships between teachers and experts and showcasing community talent and love for this landscape. We expect to publish several additional videos in early 2022.



YOUTH LEADERS IN ACTION

We continued to build skills and knowledge among young environmental leaders in our community through a collaboration with the *Canadian Rockies Youth Summit*.

Work began on a series of online workshops for 2021 that will lay the foundation for youth action projects. Each workshop will welcome different Indigenous voices, with topics ranging from ways of engaging with place to identifying environmental issues.

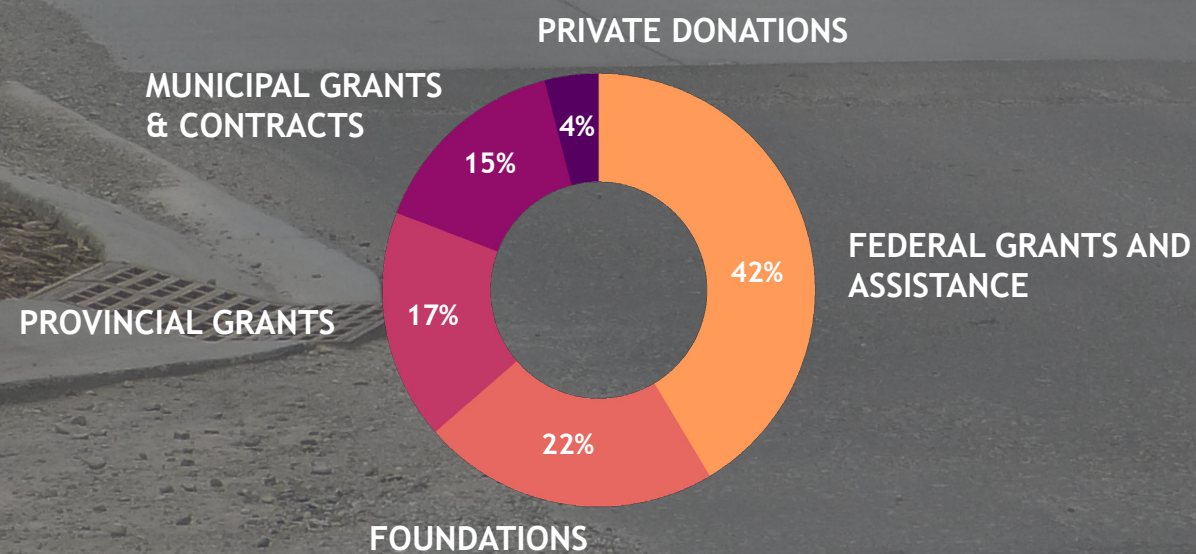
INSPIRING A LIFE-LONG CONSERVATION ETHIC

OUR SUPPORTERS

Alberta Ecotrust
 Alberta Environment and Parks
 Anonymous
 Banff Canmore Community Foundation
 Boston Pizza Foundation
 Calgary Foundation
 Employment and Social Development Canada
 Energy Efficiency Alberta
 Investment Readiness Program
 Kodiak Wildlife Products Inc.
 Lafarge Canada
 Municipal District of Bighorn
 National Science and Engineering Research Council
 Rotary Club of Canmore
 Sandy Lane
 TD Friends of the Environment Foundation
 Town of Canmore
 Wes and Pat Campbell
 Weston Family Foundation

*We are incredibly appreciative of all our supporters!
 Please note that only private donations >\$1k have been listed here.

2020 REVENUE SOURCES



OUR PARTNERS



4 Elements Integrated Design
 Acuity Projects
 Athabasca University
 Bow Valley Builders and Developers Association
 Bow Valley Credit Union
 Bow Valley Green Energy Cooperative
 Bow Valley Power
 Brightside Mechanical
 Canmore Plumbing and Heating
 Community & Cooperative Counsel
 Enmax
 Front Point Consulting
 Genworth
 Hellbent Geothermal
 HSS Design Build
 Integral Group
 Jen Feikes Consulting
 KCP Energy
 Map Energy
 Passive House Alberta
 Royal Architectural Institute of Canada
 SAIT: Southern Alberta Institute of Technology
 Spring Creek Mountain Village
 Stephanie Jackman Consulting
 ThinkBright Homes
 UniverCity - Simon Fraser University

OUR REACH



Biosphere Institute staff delivered WildSmart, Shift: Climate Transitions and Future Leaders Youth Education programs for dozens of organizations in the Bow Valley and Calgary in 2020, including:

- Alberta Environment and Parks - Alpenglow - Alpine Club of Canada -
- Banded Peak School - Banff Community High School -
- Banff Elementary School - Bow Valley Builders and Developers Association -
- Bow Valley Climate Action - Bow Valley Immigration Partnership -
- CAMBA: Canmore & Area Mountain Biking Association -
- Canmore Collegiate High School - Canmore Nordic Centre Trail Hosts -
- Canyon West Condominium - CRPS Online Schooling -
- Discover Banff Tours - École Notre-Dame des Monts -
- Elizabeth Rummel School - Grizzly Paw Brewing Company -
- Kananaskis Public Safety - Our Lady of the Snows Catholic Academy -
- Parks Canada - Ralph Conner Memorial United Church -
- Seattle Woodland Park Zoo - Settlement Services in the Bow Valley -
- Société de parents pour l'éducation francophone de Canmore -
- St. Michael's Anglican Church - Tourism Canmore Kananaskis -
- Town of Canmore Big Fun Camps -



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.

2020 EXPENSE BREAKDOWN

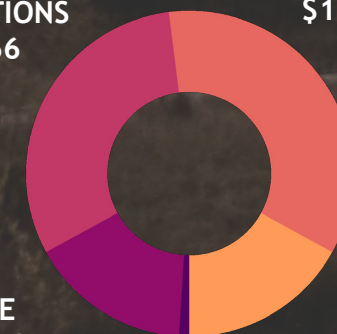
SHIFT: CLIMATE TRANSITIONS
\$123,166

WILDSMART
\$139,747

FUTURE LEADERS
\$64,112

COMMUNITY MONITORING
\$4,463

ADMINISTRATION, MANAGEMENT & FUNDRAISING
\$68,041



2020 EFFICIENCY SUMMARY

WILDLIFE, CLIMATE & EDUCATION PROGRAMS

83%

17%

ADMINISTRATION, MANAGEMENT & FUNDRAISING

