ADVENTURE SCIENTISTS

EXPLORE. COLLECT. PROTECT.







2016 HIGHLIGHTS

MISSION & GOALS



Mike Libecki approaches the Daddy/Daughter Towers in Greenland, where he collected both freshwater and scat samples.
PHOTO: MIKE LIBECKI

Mission

Adventure Scientists equips partners with data collected from the outdoors that are crucial to unlocking solutions to the world's environmental challenges.

Goals

1. Be the most efficient provider of hard-to-obtain environmental data that would otherwise be unavailable for conservation.
2. Grow a network of informed advocates who have a deep commitment to conservation after participating in the scientific process.
3. Serve as an invaluable connection between the conservation and outdoor communities.

Dear Friends and Family,



In 2016, Adventurers and Scientists for Conservation (ASC) officially became Adventure Scientists, unveiling a new name, logo and website.

As planned, 2016 marked the third and final year of our Landmark project, which provided American Prairie Reserve with vital wildlife data to help manage and expand the prairie ecosystem in Northeast Montana. Our microplastics program has attracted worldwide attention and is being used by governments and businesses to mitigate microplastics pollution. With our partner at Harvard Medical School, our antibiotic resistance project yielded important results about bacterial diversity. I am proud to add these and many more achievements to our growing legacy of conservation.

In our sixth year, we are just at the beginning of what is possible. Opportunities exist across scientific disciplines, and are coming from government, NGOs, and university researchers alike. With your support in 2016, we hired two new Project Development team members to help us vet incoming projects and make sure that we invest in projects where our network of volunteers are poised to have a lasting impact on the world.

Please enjoy this report and recognize with each page that we could not do this without you. The support of our volunteers, advisors, donors and project partners make this work possible. Thank you for choosing to make a difference!

Cheers,

Gregg Treinish

PHOTO BY GREGG TREINISH

YEAR IN NUMBERS

76

Years contributed by our volunteers to conservation

$8,411,957

Estimated value of our work in 2016

6

Number of project investments

19,264

Total wildlife observations made by Landmark crews on American Prairie Reserve

100M

Estimated total media reach since 2011

PARTNER SPOTLIGHT



Christy Chin
Christy Chin, Managing Partner at the Draper Richards Kaplan Foundation (DRK)

"Adventure Scientists is exactly the type of bold, systemic change DRK seeks to invest in. They have created an innovative tool that leverages a community of outdoor enthusiasts who provide valuable, hard-to-get data that are critical to conservation."

Learning from Experience

After managing more than 100 projects and learning the keys to achieving lasting impacts, we created three main criteria to guide our project selection.

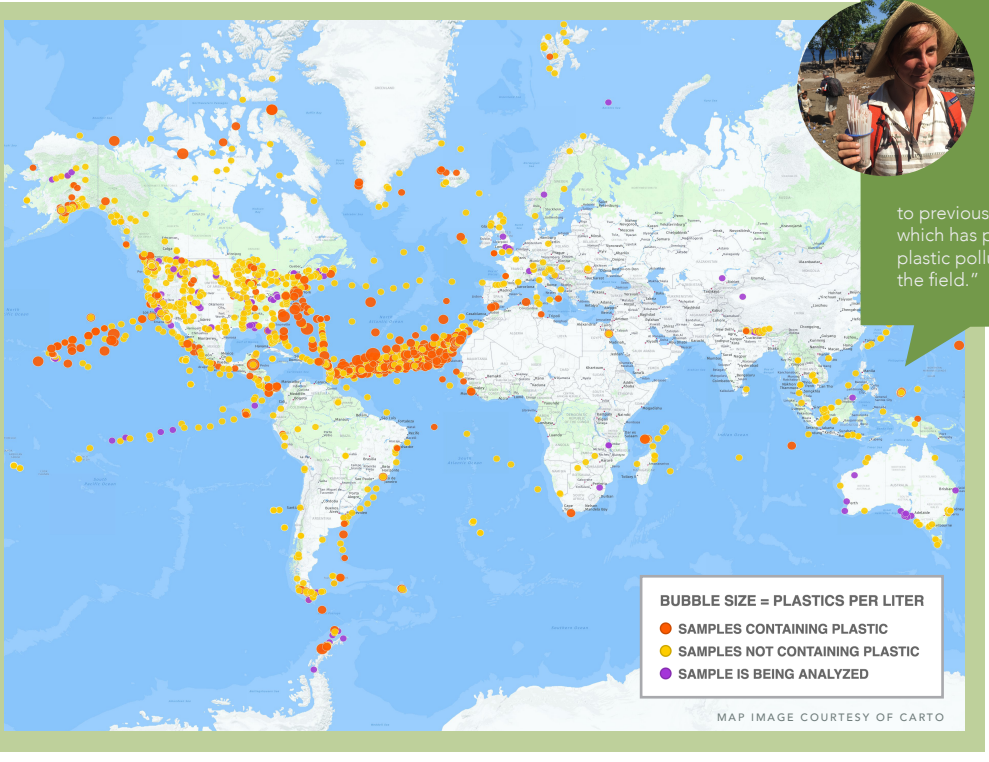
New Project Criteria

1. The project must address an environmental issue to which unlocking a solution has previously been data-limited.
2. There must be a clear pathway from data collection to conservation and management outcomes.
3. There must be a clear need for Adventure Scientists' outdoor volunteers.



PHOTO: MIKE KAUTZ

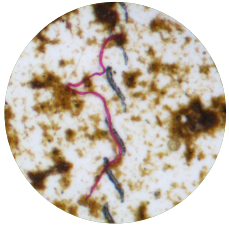
A Global View of Microplastic Pollution



SPOTLIGHT

Abby Barrows
Microplastics Principal Investigator at College of the Atlantic

"By partnering with Adventure Scientists and engaging the outdoor community, I have access to previously unattainable data, which has propelled my research in plastic pollution to the forefront of the field."



Red plastic fiber found in a water sample, as seen through Sara Cathey's microscope. To date, 90% of documented particles have been microplastic fibers.

743
Locations sampled in 2016

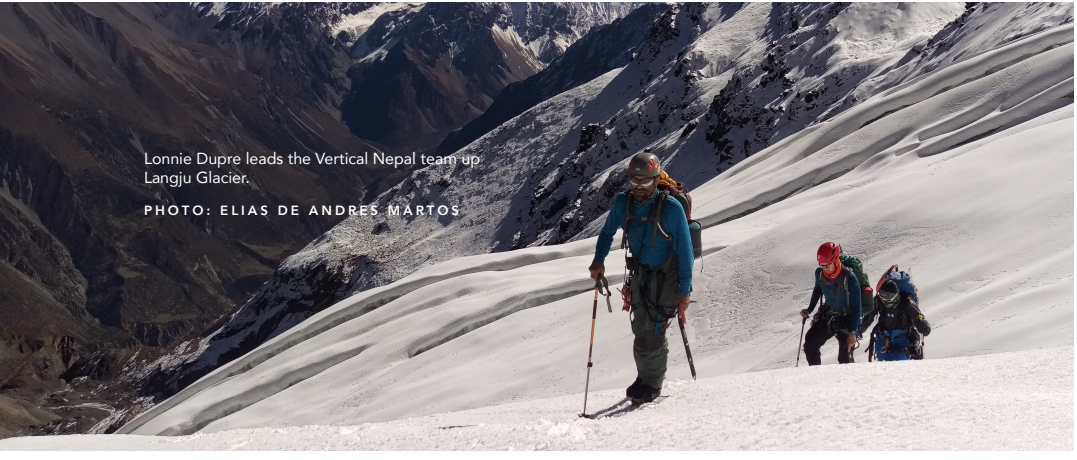
2,294
Total samples processed*

75%
Of those samples contained microplastics

87%
Of marine samples contained microplastics

49%
Of freshwater samples contained microplastics

*As of latest available data (February 2017)



Lonnie Dupre leads the Vertical Nepal team up Langju Glacier.

PHOTO: ELIAS DE ANDRES MARTOS

SPOTLIGHT



Stevie Anna
Vertical Nepal Expedition Member

"I volunteer with Adventure Scientists because it allows me to actively participate in preserving the places I enjoy and love most in the outdoors."

Expedition Spotlight: Vertical Nepal

Finding Microplastics in an Untouched Glacial Stream

In October 2016, Vertical Nepal, working with our Global Microplastics Initiative, discovered evidence of microplastic pollution at the base of the Langju Glacier, a place that had never before seen people. Their discovery raises important questions about how microplastics are transported around the world.

Vertical Nepal traveled to the region, which the Nepalese government had just opened to climbing, in order to attempt a first ascent of Langju Himal (20,885ft). Led by mountaineer and Arctic explorer Lonnie Dupre, Vertical Nepal used this unique opportunity to gather freshwater samples from a remote mountain ecosystem.

Although they did not summit, their incredible discovery gives our investigators and future researchers new insights into freshwater microplastic pollution, making their expedition wildly successful.

Read more about this and other expeditions on our Field Notes Blog, at adventurescientists.org/field-notes.

Addressing a Global Issue Locally



In 2016 we kicked off the second year of our study on microplastic pollution in the Gallatin River at the headwaters of the Missouri River System. We recruited more than 60 volunteers to sample 70 sites in the Gallatin watershed four times a year. In just its second year, this project is already influencing individuals, businesses, and other non-profit organizations.

Local Business Impact

Local brewery, Bridger Brewing, eliminated plastic straws and cups, now uses compostable takeout containers and refills 60-pound jugs of locally sourced honey instead of using single-use plastic tubs. Croakies has improved the manufacturing practices of their belt, dog collar, and leash products with a result of keeping over 200,000 plastic water bottles out of landfills annually. Government partners in and beyond Montana are using these data to address plastic pollution through policy and eduction.

SPOTLIGHT



Jon McFarland
Gallatin Microplastics Volunteer

"I volunteer for Adventure Scientists because I am a firm believer in the power of individual people coming together for a cause, especially one that involves environmental conservation."

PROJECT PARTNERS

PROJECT SPONSORS

PHOTOS: LOUISE JOHNS, KURTIS MINSTER

Turning Data Into Action

After three years of collecting data across the globe, we have assembled the world's largest and most diverse dataset of microplastic pollution. These data have allowed us to impact the following three areas:

1. Advise Governments and Agencies

- The Center for Biological Diversity included our data in reports to the California State Water Board and the State of Washington, advising water policy for these two states.
- Data collected by National Geographic's Pristine Seas expedition was used in a report to the national government of Palau.

2. Guide New Business Practices

- The Outdoor Industry Association's Microfiber Task Force, of which we are a member, has officially listed microplastic pollution as a priority issue, urging the entire industry to reduce plastic pollution.
- Patagonia, Croakies and Sunski Sunglasses have supported our Microplastics Initiative and are committed to reducing plastic waste in their business practices.

3. Lead the Tide of Change

- Our Global Microplastics Initiative has mobilized thousands of volunteers to collect samples on all seven continents and from all of the world's oceans, vastly expanding our conservation constituency.
- International press on our microplastics project has illuminated the widespread crisis of microplastic pollution. Our marine microplastics research is being prepared for publication in 2017, which will further enable policy and mitigation efforts.

SPOTLIGHT



Chris McCullough
Vice President of Marketing at Croakies

"Thanks to Adventure Scientists' microplastics work, we are all more aware of the negative impacts that discarded plastic poses to the entire ecosystem. We were able to keep some waste out of our waterways and landfills by improving our manufacturing practices without compromising the quality of our industry-leading sublimated graphic prints."

PHOTO: LIEBER FILMS



Hitting the Road for Wildlife

Animal-vehicle collisions cost the United States $8.4 billion a year and are a leading cause of mortality for hundreds of species. Our Roadkill Survey aims to prioritize the implementation of mitigation efforts to reduce these impacts, including wildlife overpasses, underpasses, speed limits and signage.

Since 2013 we have recruited cyclists and runners around the world to document roadkill incidents. Adventurers use smartphones to photograph and record GPS waypoints of each roadkill sighting, providing much-needed data for our partner scientist at the University of California-Davis Road Ecology Center. Our partner will use this dataset to document the species most affected and identify roadkill "hotspots" to better inform mitigation efforts.

PROJECT PARTNERS

University California-Davis Road Ecology Center

Tamara Perreault rides the Icefields Parkway in Canada while collecting roadkill data.

PHOTO: DANNY WALDEN

Leaving a Legacy of Conservation

In December 2016, Adventure Scientists concluded Landmark, a three-year partnership with American Prairie Reserve. While living and working on the prairie in Northeastern Montana, our Landmark crews collected data that allowed American Prairie Reserve to:

- Make informed fencing decisions to maximize wildlife permeability.
- Guide prairie dog and endangered black-footed ferret restoration efforts.
- Establish baseline data to measure future progress on restoration goals.
- Increase social tolerance of wildlife.

In three years, our volunteer crews contributed **3,326 days** for American Prairie Reserve...that's over **nine years!**

Crews recorded **19,264** wildlife observations while walking **5,375** miles and checking **1,293** camera traps.

SPOTLIGHT



Dr. Kryan Kunkel
Director of Wildlife Restoration and Science

"Adventure Scientists' ability to seamlessly manage diverse volunteers and collect quality data in a challenging environment allowed me to focus on species and habitat management implications."

PROJECT PARTNER

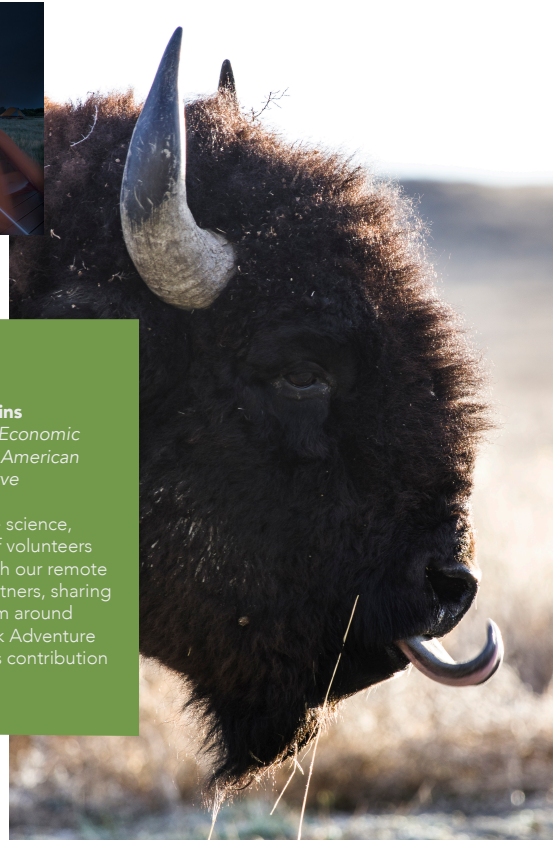
AMERICAN PRAIRIE RESERVE

PHOTO: RHYS MORGAN









A Global Coalition of Advocates

In the years to come, Landmark's legacy will reach far beyond the applications of its wildlife data.

In total, **83** crew members from **nine countries** and **27 U.S. states** came to live and work on the prairie.

Those crew members have become a global coalition of advocates that will continue to spread the importance of native grasslands and the principles of conservation wherever their future endeavors may take them. After working on our projects, our volunteers overwhelmingly tell us that they are now more likely to pursue careers in conservation.

SPOTLIGHT



Laura Huggins
Manager of Economic Initiatives at American Prairie Reserve

"Beyond the science, this group of volunteers engaged with our remote ranching partners, sharing ideas and inspiration from around the world. We can't thank Adventure Scientists enough for this contribution to conservation!"

PHOTOS: BRADY ROSS, MORGAN CARDIFF, ELI ALLEN



Karin Mullendorf collects a scat sample in Patagonia.
PHOTO: HUGO ESPINOZA

Antibiotic Resistance through Scat

Impact: We furthered our partner's efforts to isolate the genes responsible for antibiotic resistance in hopes of one day being able to turn them off in a clinical setting.

Scope: In 2016, adventurers collected over 100 scat samples from Alaska to Afghanistan, which will be analyzed by Dr. Michael Gilmore and his team at Harvard Medical School, in order to find a common ancestor of the Enterococcus bacteria.

PROJECT PARTNER

Harvard Medical School

Freshwater Availability

Impact: We recruited mountaineers to gather snow and ice samples from glaciers above 15,000 feet in order to document the rate of glacial thinning caused by climate change.



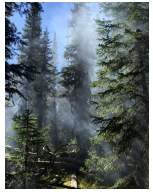
Collecting a snow & ice sample on Mt. Vinson in Antarctica.
PHOTO: LISA WHITE

Scope: Snow and ice samples collected by mountaineers were used by our partner scientist, Dr. Natalie Kehrwald, to determine that glaciers are melting faster than previously predicted due to top-down (in addition to bottom-up) glacier melt. This has massive implications for billions of people that rely on glacier-fed rivers for their water supply and will allow governments to better prepare for the reality of massive droughts they will face in decades to come.

For more information on Adventure Scientists' past projects, please visit our website at **adventurescientists.org/past-projects.**

THE YEAR AHEAD

Adventure Scientists has developed the following projects planned to launch in 2017:



Combating Illegal Timber with Genetics

Beginning in 2017 with big leaf maple (Acer macrophyllum), we will begin collecting tree samples to establish an intraspecies DNA reference library. Once completed, this library will enable applications like electronic DNA identification, giving consumers and other stakeholders the power to scan furniture, building materials and other products to identify timber species, their origins and whether they were legally or illegally harvested.

PROJECT PARTNERS

NM State University · World Resources Institute · DNA 4 Technologies



Conserving Biodiversity - Pollinators

Pollinator data are crucial in shaping land management strategies, including fire and grazing, as well as habitat restoration. While the decline of monarch butterflies and some bumblebees are well documented, the status of many backcountry pollinator species are unknown, leaving a major data gap in understanding wild pollinator populations.

To fill this gap, we are establishing the first large-scale backcountry dataset that identifies butterfly abundance, diversity and distribution as well as plant phases across remote portions of their ranges. This project will begin in 2017 to collect data on mountain butterflies throughout the Western United States.

SPOTLIGHT



Dr. Katy Prudic
Partner Scientist at the University of Arizona

"Working with Adventure Scientists allows us to discover what butterflies are doing in the backcountry and how that affects butterflies in the frontcountry. It also helps us validate our predictive models, giving us a more powerful conservation tool."

PROJECT PARTNERS

The University of Arizona · eBird · USA National Phenology Network

PHOTOS: COLLEEN FERRIS, KATY PRUDIC, JEFF OLIVER

MEET THE TEAM



Gregg Treinish
Executive Director
Gregg constantly motivates staff, volunteers and partners with his unmatched passion for conservation and his ability to hit any Katy Perry note.



Mike Quist Kautz
Program Director
Fueled by peanut M&M's, Mike uses his ever-present focus and persistence to oversee the operation and completion of our projects.



Barbara Friedsam
Director of Corporate Partnerships
Bringing great hugs and outreach experience, Barbara has helped establish and manage strategic relationships with key corporate influencers.



Merrill Warren
Operations and Development Manager
Merrill's diligence, organization and positivity has enabled Adventure Scientists to bloom into a global force of change. When not napping, her office dog Hugo, can be found licking the walls and greeting visitors.



Colleen Ferris
Landmark Program Manager
This year, Colleen used her field ecology training, environmental education experience and gumbo-mud driving abilities to manage the Landmark project to completion.



Aisling Force
Project Development Coordinator
Aisling has been instrumental in shoring up project development efforts by securing new, exciting projects for 2017. She keeps the office refreshed with homebrewed kombucha.

MEET THE TEAM



Nicholas "Rusty"' Rustigan
Technology Systems Manager
Rusty has led our Salesforce integration and continues to streamline technology across the entire organization. The office soundtrack is always fresh thanks to his taste in music.



Victoria "V" Ortiz
Marketing Manager
V brings her social media savvy, a writer's wit and years of environmental outreach experience to the team. This year, she added mountain biking to her resume.



Katie Holsinger
Microplastics Project Manager
With incredible storytelling skills and conservation background, Katie has quickly energized our microplastics project. Her own adventures are based out of a customized sprinter van 'The Bean.'



Abby Barrows
Microplastics Principal Investigator
When not knee-deep oyster farming, Abby has helped shape the science and methodology of microplastics research worldwide.



Sara Cathey
Microplastics Lab Analyst
Trading salsa for seafood, Sarah relocated from Texas to Maine to apply her attention to detail and lab skills, enabling us to process an impressive amount of microplastics data.

Also, we want to thank Emily Stifler Wolfe, Jenna Walenga, Ryan Rock, Alex Hamilton, Kelsey Brasseur and Jeff Miesbauer for their hard work in 2016. We also want to thank Kelsey Dzintars for her help completing this report.



Board of Directors

Gib Meyers
Christy Chin
Gregg Treinish

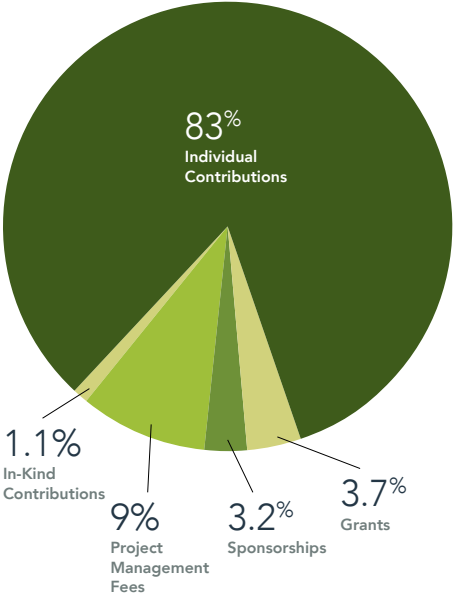
Advisory Council

Jon Bowermaster
Anthony Lee
Alan Eustace
Trip Jennings
Sy Kaufman
Christopher Michel
Celine Cousteau
Frazier Miller
Geoff Pampush
Bill Unger
Enric Sala

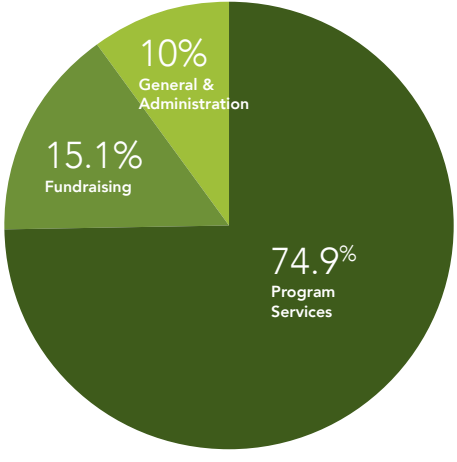
PHOTO: ELI ALLAN

FINANCIALS

Sources of Revenue and Support



2016 Expenses



INCOME	
Contributions	$1,187,189
Grants	$54,000
Sponsorships	$46,200
Project Management Fees	$128,735
In-Kind Contributions	$16,337
Total	**$1,432,461**
EXPENSES	
Program Services	$563,262
Fundraising	$113,824
General & Administration	$74,747
Total	**$751,833**
Liabilities for 2017	$150,905
Beginning 2016 Assets	$115,193
Change in Assets	$673,068
Net Assets	**$788,261**

GIVING PARTNERS - THANK YOU FOR YOUR SUPPORT
WE COULDN'T DO IT WITHOUT YOU!

$50,000 - $100,000
The Draper Richards Kaplan Foundation
Lindmor Foundation
National Geographic Society
Gib & Susan Myers

$20,000 - $49,999
Alan Eustace & Kathy Kwan
Anonymous
HerRay Foundation
Peak Design
William H. Donner Foundation

$10,000 - $19,999
Clif Bar Family Foundation
George & Susan Matelich
Tomchin Family Foundation
The Dorothy Jordan Chadwick Fund

$5,000 - $9,999
Bill Unger
Klean Kanteen
Osprey Packs
Sunskis
The Houston Family Foundation

$1,000 - $4,999
Alan & Ronna Treinish
Amatics CPA Group
Bozeman Area Community Foundation
Chris & Nora Hohenlohe
Croakies
Crutcher Family Foundation
Eaglemere Foundation
GoPro
Gregg Treinish & Whitney Metzger
Grendel Burrell
Josh & Sarah Dickinson
Kaufman Family Foundation
Lexie Codd
Marcie Rothman
Outdoor Research
Seymour & Pearl Moskowitz
State of Montana
William & Elizabeth Patterson Foundation

$500 - $999
Angela Bohlke
Frazier & Tia Miller
Mark Rowland
Rochester Area Community Foundation
Shray Family Fund
Teresa Luchsinger
Tony Stayner & Beth Cross
Urs Höelzle & Geeske Joel

$100 - $499
Barbara Friedsam & John Egan
Ben McCarthy
Brian Himes
Briana Seapy
Bruce Balan
David Fowler
Erica & Tucker Cunningham
Errol & Ellen Brick
George Scribner
Greg Symmes
Janet Kempff
Jenny Chatman
Kay Murphy
Kelsey Brasseur
Mason White
Matt & Sarah Skoglund
Michael Gaulke
Page Dabney
Patricia Folsom
Quixote Expeditions
Richard Warren
Robert & Janie Rutman
Sarah Belk
Terry and Tina Haight
Tim & Trish Preheim
William Robberson
Your True Nature

<$100
Abbe Gloor
Alison Williams
AmazonSmile
Ana Caskin
Andres Durstenfield
Andrew Reidy
Annie MacWilliams
Barbara Lamont
Berenike Steiger
Brendan Lutz
Carol Patterson
Charlie Goodson
Christopher Acord
Cristee Hutchens
Damon Yeh
David Howe
Devin Loertscher
Douglas Flynn
Elizabeth Case
Emily Gamm
Erik Ahl
Erin Cooper
Evan Center
Gannett Foundation
Heidi Weber
Irina Rodina
Jack Magullian
Jaime Jacob
James Walseth
Jason Bates
Jennifer Presler
Jeremy Wei
Johannes Walter
John Francis
John Soltys
Justin Divine
Karl Heinmiller
Katie Plumb
Kenneth Schulman
Laura Hitt
Leah & Nathaniel Shoaff
Lewis Reiniong
Linda Shafran
Madeleine Kornfield
Marilyn Jo Rochelle
Martin Coleman
Molly O'Connor
Nathan Tester
Nathaniel Goertz
Noa Bruhis
Patrick J Casey
Paul Paresi
Peter Gil-Montllor
Rainpix Inc.
Rob Scott
Sarah Shirk
Sayde Ridling
Selfworks
Selina Smith
Spencer Plumb
Steve Weileman
Suzanne Kanick
Tammy Tomich
The Michael Myers Experience
Timothy Bransford
Tyler Alves
Varoon Bashyakarla
Westley Dang
Whitney Rush
Will & Alyssa Hitchcock



Mike Libecki and his daughter, Lilliana, trekked 150+ miles into the Khumbu/Solukhumbu/Sagarmatha Zone in Nepal, where they collected microplastic and scat samples.

PHOTO: ANDY EARL

ADVENTURE SCIENTISTS

EXPLORE. COLLECT. PROTECT.

Adventure Scientists
PO Box 1834
Bozeman, MT 59771

406.624.3320
info@adventurescientists.org
www.adventurescientists.org

COVER PHOTOS: MIKE KAUTZ, JOE KLEMENTOVICH, KIRRA PAULUS