

HUBBARD BROOK RESEARCH FOUNDATION

**Annual Report
for 2022**



Promoting the
understanding and
stewardship of forest
ecosystems through
scientific **research**
and **monitoring**,
policy outreach,
and **education**





THE HUBBARD BROOK COMMUNITY

For more than six decades, long-term studies of air, water, soils, plants, and animals at the 7,800-acre Hubbard Brook Experimental Forest have led to landmark discoveries including acid rain; the effects of lead, salt, and nitrogen pollution in streams and lakes; and the factors affecting migratory songbird abundance. Hubbard Brook is a network of environmental thinkers, including scientists, communicators, educators, stakeholders, and engaged citizens.

By featuring our partners on the pages of this report, we tell the story of our work through the people who bring the mission to life.



Cover: Brendan Leonardi, Program & Administrative Specialist. Photo by Colleen Leonardi
Above: Tiny frog photo by Miranda Zammarelli

Current Trustees

Charles Driscoll, *Chair*
Syracuse University
Dorothy Behlen Heinrichs, *Vice Chair*
Dartmouth-Hitchcock
John Smitka, *Secretary*
WTP Technologies Ltd.
Michael Shoob, *Treasurer*
Deecie Denison
Tyler Edwards
Peter Groffman
City University of New York
Advanced Science Research Center
at the Graduate Center
Brooklyn College Department of
Earth and Environmental Sciences
Cary Institute of Ecosystem Studies
Ali Jackson
Sciencenter
Roger Larochele
Squam Lakes Conservation Society
Gene E. Likens
Cary Institute of Ecosystem Studies
University of Connecticut, Storrs
Suzanne Pierre
Critical Ecology Lab
Nicholas Rodenhouse
Wellesley College
April Salas
Irving Institute for Energy and
Society at Dartmouth College
Revers Center for Energy, Sustainability
and Innovation at the Tuck School of
Business at Dartmouth College

Anant Sundaram
Tuck School of Business at Dartmouth College
Pamela Templer
Boston University
Harriet Van Vleck
Stan Williams
Norwich, Vermont
Lindsey Rustad, *Advisor*
USDA Forest Service

Staff

Dan Clark
Facility Manager
Sarah Garlick
Senior Director of Science Engagement
Raisa Kochmaruk
Communications Specialist
Anthea Lavallee
Executive Director
Eva Legge
Young Voices of Science Coordinator
Brendan Leonardi
Program & Administrative Specialist
Brenda McCartney
Director of Finance & Administration
Geoff Wilson
Research Space Manager

Hubbard Brook Consortium

The Cary Institute of Ecosystem Studies
Cornell University
Dartmouth College
Syracuse University
University of Vermont
USDA Forest Service/Northern Research Station
Wellesley College

Hubbard Brook Research Foundation

Administrative Offices
30 Pleasant Street, Woodstock, VT 05091
(802) 432-1042

Pleasant View Farm and Mirror Lake Campus

25 Dobson Hill Road, Thornton, NH 03285

Hubbard Brook Experimental Forest

Robert S. Pierce Laboratory
234 Mirror Lake Road, North Woodstock, NH 03262
Operated by the USDA Forest Service

Ian Halm, *Site Manager*
(603) 726-8902

www.hubbardbrook.org



LTERNETWORK
HUBBARD
BROOK



RESEARCH
FOUNDATION

Transitions

After 15 years of service, Dr. Lindsey Rustad stepped down in October as U.S. Forest Service Team Leader for the Hubbard Brook Experimental Forest. Lindsey is now serving as Acting Director of the Northeast Climate Hub, and her long-time Hubbard Brook collaborator, Dr. John Campbell, has stepped into the role of Forest Service Hubbard Brook Team Leader. Thank you, Lindsey, for your remarkable work, including launching Hubbard Brook's ArtSci initiative, shepherding the transition from analog to digital data collection, and envisioning the Ice Storm Experiment, to name just a few in a long list of achievements.

In July, Dr. Scott Bailey assumed a new role as Adjunct Professor at Virginia Tech and, after more than 30 years, stepped away from his role as Geologist for the U.S. Forest Service at the Hubbard Brook Experimental Forest. Scott's many contributions include investigating the interactions among water, rock, and soil; guiding scientific colleagues through the proposal submission process on Hubbard Brook's Research Advisory Committee; mentoring students; and participating actively on Hubbard Brook's Indigenous Knowledge Network Committee. Scott will continue to be involved in the Hubbard Brook Ecosystem Study through his research.

Also this year, we said farewell to Gabe Winant, Hubbard Brook's Field Technician for the U.S. Forest Service, after five years of terrific work across a range of research projects and long-term monitoring activities.

In October, we welcomed Garrett Higgins, Hubbard Brook's new Field Technician.

From Our Executive Director

“I don’t know.” The humble beginning of all scientific inquiry.

I recently attended a meeting of environmental scientists who came together to share what they were learning about forest responses to natural and experimental disturbances. It was a collection of razor-sharp scientific minds, and their investigations revealed keen insights, but the questions outnumbered the answers. For each exquisite explanation of cause and effect, a bouquet of new questions and nuances bloomed around it. This is the paradox of science. In a discipline based on precision — classifying, categorizing, and counting — absolute scientific truths and airtight explanations are rare. My favorite scientific theories are flexible and fluid — deepening, evolving, and giving way to new ideas. Scientific dogmas that resist change quickly become brittle and break down.

While it’s tempting to opt for tidy definitions, the rise of non-binary thinking gives us new opportunities to embrace ambiguity. From time to time at Hubbard Brook, we debate whether we are a community of basic or applied scientists. I’ve come to believe the answer is yes to both and every flavor of the rainbow in between. The scientists themselves defy simplistic characterizations and so do the subjects of their study. At Hubbard Brook, an ice storm might trigger a nitrogen pulse through stream water, but not every time, and for a variety of reasons, some of which we understand and others, not so much. There is always more to learn.

We may never crack the code of nature’s infinite complexity, but we can be relentlessly curious in our quest to know more. This is where the magic happens. **To be a scientist is to work in a state of enlightenment and wonder that is both humbling and empowering.** It is also an expression of hope, since scientific results have tremendous potential to unlock environmental solutions, including the 1990 Clean Air Act Amendments following the discovery of acid rain at Hubbard Brook. The search for connections between science and society is what drives our work at HBRF.

As a community of knowledge-seekers, we walk together through this wilderness of questions, carefully unraveling the mysteries of our forest ecosystems as we go. Thank you for joining the adventure!



Anthea Lavallee (she/her)
HBRF Executive Director



In September, Anthea moderated a youth panel on climate activism during the Radically Rural Annual Summit.



April Salas (she/her)

Executive Director, Arthur L. Irving Institute for Energy and Society at Dartmouth College

Founding Executive Director of the Revers Center for Energy, Sustainability and Innovation at Dartmouth College's Tuck School of Business

Inaugural Chief Sustainability Officer, Town of Hanover, NH

Founding Chair of the Community Power Coalition of NH

HBRF Trustee

As an international leader in energy markets and supply chains, April Salas has built a career on recognizing and cultivating connections. Working first for the United Nations and then the U.S. Department of Energy, April conducted large-scale assessments of energy production and use, tracing the connections between access to natural reserves and the ability of countries and communities to, in her words, “uplift themselves.” Now, as Executive Director of the Arthur L. Irving Institute for Energy and Society at Dartmouth College and as Chief Sustainability Officer for the Town of Hanover, NH, April creates new connections across industries, technologies, political parties, and generations to ensure that resources and energy are allocated to the people who need them most. “We need vibrant rural communities,” April said.

April joined the Hubbard Brook Research Foundation's Board of Trustees in 2022, after collaborating with HBRF's Executive Director on a series of high-profile youth engagement events related to climate and energy. “Having our young people being trained in some of the aptitudes Hubbard Brook is known for is what we need most right now,” April said. “By virtue of their own lived experiences, our young scholars can think of climate communication as removing barriers across the aisle.”

April, who speaks French, Spanish, and Arabic, holds an MBA from Cornell University, a Master's degree in International Affairs, Conflict Resolution, and Civil Society Development from the American University of Paris, and a Master's degree in International Security and Economics from L'Institut Catholique de Paris. April's achievements are matched by her charisma, authenticity, and passion for connecting people to the resources they need to live well and to retain their cultural identities.

“ My career in sustainable development was founded on the basis of people — human behavior. That's what inspires me every day.”



Dr. Peter M. Groffman (he/him)

Professor, Environmental Sciences Initiative, Advanced Science Research Center, The Graduate Center, City University of New York

Professor of Earth and Environmental Sciences, Brooklyn College

Senior Research Fellow, Cary Institute of Ecosystem Studies

HBRF Trustee

When Dr. Peter Groffman was in high school, he'd walk through the autumn forest, marveling at nature's ability to repurpose and transform matter. "Where do the leaves go?" he'd wonder. "Why aren't they piling up, year to year?" These simple questions inspired Peter to pursue a doctorate in Ecology at the University of Georgia, where he investigated entire ecosystems — how they function and sustain themselves. In 1992, Peter joined the Cary Institute of Ecosystem Studies in Millbrook, New York, and began researching Hubbard Brook's soil microbial ecology and carbon and nitrogen dynamics. In 2016, Peter began teaching and conducting research at the City University of New York Advanced Science Research Center at the Graduate Center and Brooklyn College. Peter provides his students with both freedom and support to work toward their goals, each at their own pace and in their own style. "One of the best things I've learned is to not impose my experience on other people, and that everyone is different, and that if I pay attention [to the students' perspectives], I get better outputs. Instead of giving them rules, I ask how I can be most useful to them."



Raisa Kochmaruk

In 2022 Peter, along with Dr. Pam Templer (Boston University, HBRF Trustee), led the successful renewal of Hubbard Brook's Long Term Ecological Research (LTER) award from the National Science Foundation, coordinating the contributions of more than fifty scientists. His signature leadership approach was evident throughout the LTER proposal-writing process, and Peter welcomed his collaborators to share critiques and opinions to strengthen the proposal and to reflect the voices of the community. Both in his scientific research and in his teaching, Peter strives to create inclusive and positive experiences for all.

Peter gave a *Science Night* presentation, a Hubbard Brook tradition, on the porch at Pleasant View Farm last summer.

"Taking an open leadership approach brings out the best in people and invites them to think about and contribute to the success of the whole."

Raisa Kochmaruk

Sarah Garlick (she/her)

HBRF Senior Director of Science Engagement

Sarah Garlick joined the HBRF team in 2014 as a leader of Hubbard Brook's science outreach initiative. But before coming to Hubbard Brook, she earned a BS in geology from Brown University and an MS in structural geology from the University of Wyoming, all while establishing a reputation as a serious rock climber with an affinity for high places and jagged edges. Sarah got an early start as a science communicator when she was offered a book deal in graduate school and wrote *Flakes, Jugs & Splitters: A Rock Climber's Guide to Geology*, winner of the 2009 Banff Mountain Book Award. Not bad for a rookie communicator with a natural knack for science and a passion for sharing her curiosity! The experience inspired Sarah to learn more about how people use and think about science in their everyday lives. Her next step was an early-career fellowship with NSF's Center for the Advancement of Informal STEM Education, where she reconnected with her former Brown University Professor, Dr. Steven Hamburg, Chief Scientist at the Environmental Defense Fund and then-Chair of HBRF's Board of Trustees. Steve recognized Sarah's talent, and they both saw a natural fit with HBRF's ongoing roundtable dialogue series for engaging scientists and stakeholders. Through this work, Sarah learned the importance of building long-term, trusting relationships, based on mutual respect, listening, and follow-through. Sarah later partnered with social scientist, Dr. John Besley, from Michigan State University, and together they continue to build Hubbard Brook's capacity for effective public engagement strategies that weave together community and scientific perspectives.

In July, Sarah won a \$1.7 million NSF award to advance evidence-based public engagement with science in collaboration with colleagues from Michigan State University, Oregon State University, Catalyst Consulting Group, the Long-Term Ecological Research (LTER) Network Office, Boston University, and the City University of New York, as well as community partners from the Hubbard Brook, Luquillo, and Virginia Coast Reserve LTER sites.

Like the experienced climber she is, Sarah saw her career route and is committed to mastering the increasingly sophisticated communication techniques and skills to go further. It is awesome to see her ascending!

“ This work is about the small moments...when I hear the scientists actively reflecting things that they’ve heard from community members during our engagement events...that’s what this is all about.”



Jim Surette (both photos)



Henneccys Perez Castro (she/her)

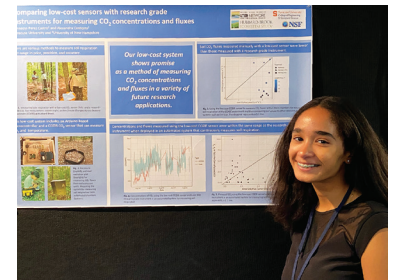
Environmental Engineering Major, Syracuse University, Class of 2025

Participant in Hubbard Brook Research Experience for Undergraduates Program, Summer 2022

Participant in HBRF's Young Voices of Science Initiative, Fall 2022

Henneccys Perez Castro has a bold vision for sustainable, solar-powered hydroponic urban farms! As an undergraduate in the Environmental Engineering program at Syracuse University, Henneccys combines her interests in renewable energy, sustainable resource use, and food equity. At Hubbard Brook, she gained first-hand field experience and learned the fundamentals of ecology. Henneccys spent the past summer as a participant in Hubbard Brook's Research Experiences for Undergraduates (REU) program, working with mentors Dr. Alexandra Contosta from the University of New Hampshire and Dr. Caitlin Hicks Pries from Dartmouth College on a project comparing low-cost sensors with research-grade instrumentation for measuring soil respiration. Henneccys presented her summer work at the Long Term Ecological Research Network's All Scientists' Meeting in Pacific Grove, California, in September, where she won a student poster award.

Growing up in the Bronx, Henneccys was passionate about recycling and frustrated by wasted space and resources. In high school, she petitioned the New York City Department of Parks and Recreation to begin a recycling program in her community. She also designed two miniature, indoor hydroponic farms, eventually scaling up a successful solar-powered prototype that grew produce for a farmstand run by the Food Justice Club of the Mary Mitchell Family and Youth Center. The experience was transformative. Her goals today are to launch a solar company for hydroponic farming and to develop affordable green technologies for addressing urban issues of inequitable access to food. Henneccys explains, "When I'm helping people, I'm satisfied, and if it has to do with the environment, I'm the happiest woman on earth." Henneccys' special combination of advocacy, empathy, justice, and scientific aptitude is an inspiration!



Alix Contosta (both photos)

"At Hubbard Brook, I had to speak in front of the people I wanted to become, and I was nervous. But I knew what I was talking about, having done this research, and while it takes a while to build up the confidence to advocate for myself, my time at Hubbard Brook has helped me to do that."

Welcome to the Woods!

A new initiative of the Hubbard Brook Research Foundation

This fall, HBRF launched an initiative called *Welcome to the Woods (WtW)*. Through a combination of public and private support, we are:

- welcoming refugee families who moved to New Hampshire from Afghanistan, Bhutan, Burundi, the Congo, and Rwanda through a series of guided field trips to forest sites in the White Mountains (this component is in partnership with the U.S. Forest Service and Building Community in New Hampshire);
- laying the foundation for a region-wide incentive program to build affordable housing using **sustainably-sourced, climate-smart wood** products (this component is a program of the Emerging Climate Leaders Collaborative).

A third element of *WtW*, a forest science Zoom curriculum for new landowners in the region, is also in development.

Coming from diverse backgrounds, many new migrants (i.e., Covid, climate, and political) have an appreciation for the peace and beauty

of our rugged, rural Northern Forest but limited experience exploring or managing our wilder landscapes. We can empower their environmental values and nurture a sense of responsibility, belonging, and respect for the forest by providing: guided experiences in nature, expert training in forest essentials, and affordable climate-smart housing.



Photos by Anthea Lavallee

We conducted our first field trip for New Americans on Saturday, September 17 for more than 65 participants (infants to adults) who spoke six native languages (i.e., Dari, French, Kinyarwanda, Nepali, Pashto, and Swahili). Field trip leaders included Amey Bailey, USFS (left); Brendan Leonardi, HBRF (cover); and Building Community in New Hampshire Case Managers, Hussain Amiri (bottom left) and Manju Gurung (bottom right) and Executive Director, Rick Minard (bottom middle).

This program is made possible through the generous support of an Anonymous Foundation and a U.S. Forest Service Urban Connections grant.

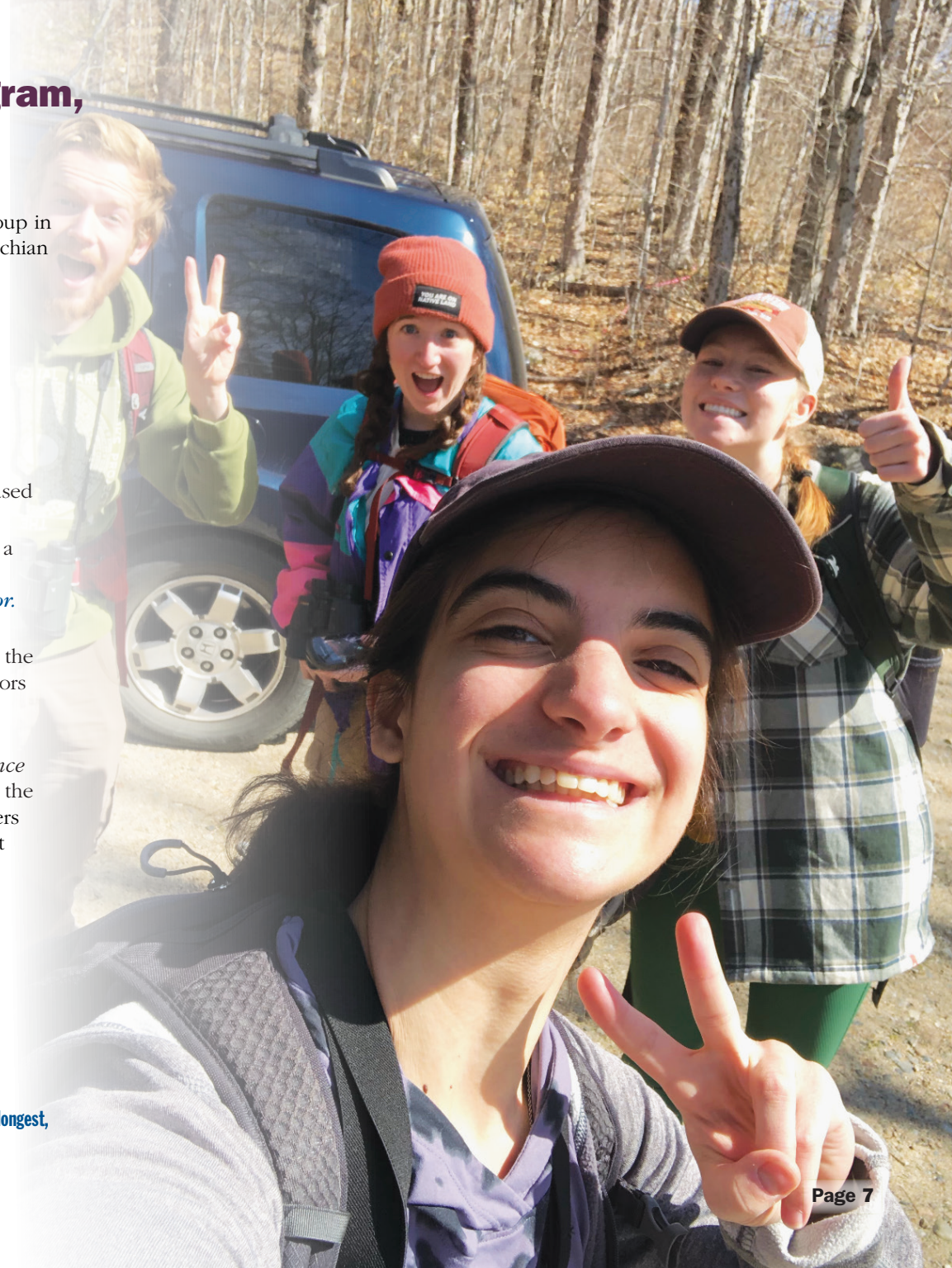


Hubbard Brook Science, Program, and Community Updates

Working together over the past year, the HBRF team:

- 🍃 launched a Climate Change Communications Working Group in partnership with Hubbard Brook investigators, the Appalachian Mountain Club, and the Mount Washington Observatory;
- 🍃 collaborated with academic partners and Tribal leaders on Year Two of the Indigenous Forest Knowledge Fund of the Northeastern States Research Cooperative;
- 🍃 co-hosted with the British Consulate-General in Boston a briefing for Climate and Energy Officers across the British Consulate-US Network. We shared research relevant to the COP26 declarations on forests and land use to build diplomatic relationships around climate science, nature-based solutions, and forest health;
- 🍃 connected with reporting staff at the *Concord Monitor* for a story on the Hubbard Brook Nitrogen Oligotrophication (snow-shoveling) experiment <https://www.concordmonitor.com/snow-soil-climate-change-45345050>;
- 🍃 facilitated a series of focus groups for a project funded by the Northern Borders Regional Commission to identify indicators of community resilience in the Northern Forest region;
- 🍃 conducted Year Two of our new communications training initiative for environmental students, *Young Voices of Science (YVoS)*. On June 25, YVoS participant Sam Anderson from the University of British Columbia published his op-ed “Glaciers are Western Canada’s best friends. We’ll need them against climate change — just as much as we’ll need each other” in *The Globe and Mail*;
- 🍃 presented our youth training, public outreach, and DEI initiatives at the August Ecological Society of America Conference and at the September All Scientists’ Meeting of the NSF’s Long-Term Ecological Research Network.

Photo of the 2022 Ovenbird Crew. Hubbard Brook is home to one of North America’s longest, continuous migratory bird studies.



Transformation on the Main Stem of the Hubbard

Hubbard Brook often means one of two things: the place — the 8,000-acre research forest tucked into a valley in the White Mountains — or the scientific enterprise, the long-term ecosystem study and the societal interface work of the Hubbard Brook Research Foundation. But it is also a brook. Hubbard Brook flows east from Mounts Cushman and Kineo to the Pemigewasset River. Something remarkable has happened to Hubbard Brook in the last few years. It likely began when a big, old tree, probably a yellow birch, undercut along the river bank, toppled into the brook in the upper valley. The snag caught other snags. Other sticks and logs fell into the channel, and the mass of wood locked itself together into a logjam. And then the beavers arrived. The beavers, who had long occupied smaller streams in the area, seized the opportunity to construct a dam across a river the size of the Hubbard. The dam now diverts water over the river banks, feeding a network of side channels and beaver ponds. “It is spectacularly complex,” says Dr. Denise Burchsted, a geomorphologist who has been observing the site since 2015. We tend to envision rivers as free-flowing channels, Denise explains, but that ideal is actually a highly altered, highly managed system. “Naturally, a river will have leaky dams all over the place and not be free flowing. [It will] be blocked up by logs and beavers and wander around in these multiple channel threads.” This natural complexity has profound ecological effects, from biogeochemistry, to food webs, to climate change. “By holding the water back, [a beaver pond] is recharging the groundwater,” Denise says, which can allow cooler water to flow downstream. “It changes everything. The differences are profound and really fascinating, and we still have a lot to learn about it.”



“We tend to envision rivers as free-flowing channels, but that ideal is actually a highly altered, highly managed system.”

~ Denise Burchsted

Time lapse video of the
Hubbard Brook beavers





THANK YOU FOR YOUR SUPPORT

The following list gratefully acknowledges donors who contributed to Hubbard Brook between 10/1/2021 and 9/30/2022

Stewardship Circle

Honoring those who made unrestricted contributions of \$1,000 or more

Anonymous
Chris Barton & Sarah Tebbens ²
The Bio X Cell Fund of the
NH Charitable Foundation
The Jack and Dorothy Byrne Foundation
The Cashdan/Stein Great Grandmother
Fund of the VT Community Foundation
Deecie Denison
Charles & Kimberley Driscoll
Peter & Helen Fahey
Timothy & Lois Fahey ⁹
Freeman-Martin Family Fund of the
NH Charitable Foundation
Paul & Veronica Guyre
Dorothy Behlen Heinrichs
& Jay Heinrichs
Timothy Ingraham
Kinder Family Fund of the
NH Charitable Foundation
Robert H. Koppe
James W. La Baugh ⁵
Gene E. Likens Fund, Renaissance
Charitable Foundation ⁵
Wilhelm Merck & Nonie Brady
Ron Miller & Jackie Fischer
Don Nelson ^{4, 5}
The New Hampshire Charitable
Foundation
Lynn Peterson
Carol Pierce ⁷
Sydney Pierce & Tim Zimmer ⁷
The Grace Jones Richardson Trust
Melinda Richmond Fund of the
NH Charitable Foundation
David & Barbara Roby
Lindsey Rustad & Lou Zambello
Larry & Eleanor Spencer
Andria & Trevor Staniec
Sheryl Sturges & Jonathan Deull ^{1, 10}
Anant Sundaram & Faith Beasley
The Stan and Jenny Williams Family
Fund of the NH Charitable Foundation

Major Donors

*Honoring those who made
unrestricted contributions between
\$500 and \$999*

Anonymous (2)

Edward Ames ^{4, 5}
Benevity Company Match
Judy Boohar ⁵
Frank & Mardi Bowles
Jessica & George Golumbeski
Christine Goodale
Steven Hamburg
Anthea Lavallee ⁶
Karin Limburg & Dennis Swaney
Gary Lovett & Janet Allison
Douglas & Lillian Ryan ¹
Paul & Susan Schwarz
Joyce E. Scott
Scott & Kristine Sillett
Mike & Jean Smith
John Smitka & Amy Bormann ¹

Donors

*Honoring those who made
unrestricted contributions
up to \$499*

Anonymous (2)
Will & Alicia Abbott
Susan Arnold
Audubon Miami Valley
Scott & Amey Bailey
Ruth J. Ballmer
Patricia Barker
Posy Bass & Henry Taves
Charles Bering
Karen Blandino ⁶
Genevieve & Rev.
Dr. Samuel Bombara ⁶
Rebecca Bormann & Gary Oehlert ¹
Elizabeth Boyer
Boxford Trails Association/Boxford
Open Land Trust
Judith & James Brown
Philip Browne
Susan Buck ⁸
John Campbell
Zoe Cardon & Andrew Dolan
Casco Bay Newcomers Club
Sally & David Cedarholm ⁷
Center for Sustainable
Organizations
Lynn Christenson & Alan Tousignant
Thomas Christopher
Robert & Anne Cochran
Jacquie Colburn
Ronald & Lorraine Daigle ³

R. Laurence Davis
Scott G. Dietrich
Paul Doscher
Peter, Kathy, & Josef Drexel
Durgin & Crowell Lumber
Deborah Fargione ⁵
C. Anthony Federer ⁷
Carolyn Fine Friedman
& Jeremiah Friedman
Larry & Anne Forcier ^{1, 5, 7, 9}
Kenneth Foreman & Anne Giblin ⁵
Isabel & John Freeman
Jameson French
Sarah Garlick
Ellie Gordon
Jonathan Gottscho
David Goudy & Susan Gallagher
Jean Govatos
Linda Graham
Evan S. Griswold
Peter Groffman & Katherine Bishop
Tom & Maria Gross
Hailman Family Charitable Fund,
Stifel Charitable
Ian & Jessica Halm ⁶
Robert Hansen
David George Haskell
John & Joanna Hawkins
David & Kathy Hooke ⁹
George & Janet Hooper
James & Nancy Hornbeck ⁷
Pamela Hunt
Robert Jones ⁷
Susan & Herbert Karsten ⁶
Kevin & Punam Keller
George Kimball &
Susan Bryant-Kimball
Mary Margaret & Phil Koppers
Krusi-Harris Family Fund of
the VT Community Foundation
Dale Lambert ⁶
Roger & Jennifer Larochelle
Brendan Leonardi
Lynn Leopold
Vincent & P Judy Levassaur ⁶
James N. and Jane B. Levitt
Charitable Fund of the Greater
Kansas City Community
Foundation
Gene E. Likens
Juhani Linnainmaa

Vincent Lunetta
Olive MacGregor ⁵
Nisa Marks
Mary Martin
Peter Martin & Lynn Freeman
Jane Masters
Kendall Mattson ⁶
Mark Mattson
Brenda & Pat McCartney
Dan McConvey
Diane McKnight & Larry Esposito
Peter & Carolyn Mertz
Peter E. Moore
Joshua Newton
NH Gives – NH Center for Nonprofits
Clifford Ochs
Andrew Papalegis
Henry Parker
Benjamin Peierls & Karin Howe
Heather Pembroke & Tom Pichler
Ralph & Christine Perron ⁷
Bryant Pierce ⁷
Afshin Pourmokhtarian
Emily Preston
Chester & Carolyn Reynolds
Peter & Deborah Rhoades
Wanda Rice
Christopher & Leslie Rimmer
Nicholas Rodenhouse
& Marianne Moore
Laura Rolnick
Julia & Albert Rosenblatt
Richard Saltzman
Judith Saum
Jill & John Schiffman
Peter Severance
Jamie Shanley ⁹
Karin P. Sheldon
Shell Oil Company Foundation –
Employee Match
Abigail Smitka
Jane S. Sokolow ^{1, 5, 9}
Frank & Elizabeth Stevens
Allan Strong
Sharon J. Surra
Roger & Ann Sweet
Martha Talbot
Elise & Tig Tillinghast
Matt Vadeboncoeur
Rick Van de Poll
Harriet Van Vleck

Rhoda Walter ⁵
Suzanne Wapner
Zachariah & Anne Watson
Scott Wayne
Curt & Kathy Welling
TA Welman
Eric Werme
Jo Ann Whitehead & Bette Jo Green ⁵
Bruce G. & Betsy Whitmore
Russ Wilder
Stan & Jenny Williams
Geoff Wilson
Stephen & Maureen Wilson
The Wooster Family ⁶

Document Archive Fund

Peter Martin & Lynn Freeman
Nicholas Rodenhouse &
Marianne Moore
Michael ShooB & Judy Yocom

Outreach, Education, Facilities, & Strategic Planning

An Anonymous Foundation
The Bailey Charitable Foundation
The Canaday Family Charitable Trust
The Cotyledon Fund
Sidney Craven
Deecie Denison
DnD Charitable Fund of the NH
Charitable Foundation
The National Science Foundation
Squam Lakes Conservation Society
USDA Forest Service

¹ In memory of F. Herbert Bormann

² In tribute to Alice Dietrich

³ In memory of Polly Frost

⁴ In honor of Gene E. Likens

⁵ In memory of Phyllis Likens

⁶ In celebration of Don Mower's
70th birthday

⁷ In memory of Robert S. Pierce

⁸ In memory of Deborah Johnson Pyles

⁹ In memory of Tom Siccama

¹⁰ In honor of the Patricia Patterson
Sturges Family

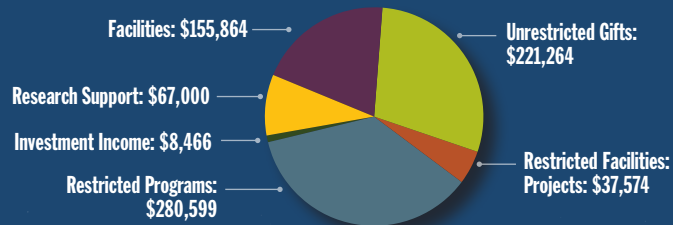
We are grateful for support from the
U.S. Small Business Administration
Paycheck Protection Program.

The NH Sustainable Forestry Initiative
Implementation Committee is pleased
to support Hubbard Brook's research
and education mission.

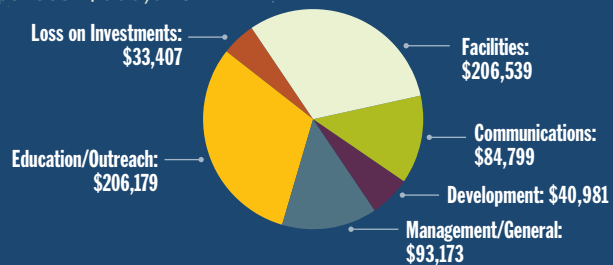
Hubbard Brook Research Foundation

October 1, 2021 – September 30, 2022

Revenues: \$770,767*



Expenses: \$665,078



* Includes Paycheck Protection Program

It was wonderful to have our facilities filled with teams of researchers again last summer! We are grateful to the many supporters and neighbors, including the Frost Family, who made it possible for HBRF to own and operate essential housing, storage, and lab spaces for our vibrant research community.

Right: Raisa Kochmaruk in Pacific Grove, California, participating in the 2022 All Scientists' Meeting of the NSF's Long Term Ecological Research (LTER) Network
Photo by Tim Whiteaker of Beaufort Lagoon Ecosystems LTER

