



Kestrel Educational Adventures Annual Report

2016-2017

*Inspiring wonder, understanding and connection to the natural world
through playful, outdoor, scientific inquiry.*



186 Main Street, Gloucester, MA • www.kestreleducation.org

From the Founder

Maybe you could add some grasses to your marsh, one first grader offers to another. Are you going put your model in the showcase? another student asks. As I walk around the classroom, observing and assisting students as they craft models of the local forest and marsh, I see them consulting their own journal drawings and field guides, and offering each other feedback.



This is one of my favorite Kestrel days; a day that blends muddy adventures with the joy of creating. As the students form models reflecting their own experiences, I realize how much being invited to create for others matters to them. They work diligently, pondering the best placement of details - spots on clay butterfly wings, ripples on cellophane water. The resulting models are impressive and emotive; they convey the feeling as well as the landscape of the area.

Creating original work that stems from direct experience is a signature of Kestrel's approach. This makes every experience we have in nature personal to each learner. While exploring, there are many exciting sights, sounds, and smells. Perhaps we visited a vernal pond and observed insects, frogs, and salamanders in various life stages, noticing behaviors, body forms, and where they were found. These experiences are an essential step in building an indelible understanding of how natural systems work. Yet, another step is needed. Creating a piece for an audience, based on information collected in the wild, leads learners to assemble parts into a cohesive whole. When we move from having visited a vernal pond to making a field guide highlighting the life cycles of each animal we observed, students develop an understanding of how animals' changing bodies impact their behavior, habitats, and even the ecology of their surroundings.

When we come back inside after a field exploration to make original work, the students open their journals and share their drawings, pass around nuts or plant samples we collected in the field, or review their data sheets. Then we ask a big question, the same question we asked in the field: How do forests provide food for different animals? Or, how does water move and change form? Next, we apply this big question to the specific small place where we stomped, searched and wandered, and the students discuss how they will help others understand how life and earth processes work in this place. As students start to work they are constantly encouraged to reference their own sensory experiences. Very often, it is during the process of creating work for sharing that I witness epiphanies. For example, as they are mapping out the forest, they may notice that most of the chipmunk burrows are under beech and oak trees.

At our annual student work showcase, any student or class is invited to display their work. Coastline maps line the walls, games about animals' senses are set up for play, intricate sculptures adorn our shelving, and homemade field guides are open for perusing. The public is invited in to meet the young scientists and artists who created the work. When I listen as students explain natural processes to adult visitors, these culminating moments of connecting and sharing are, perhaps, the most rewarding moments of all.

- Jessica Kagle
Founder and Program Director

From our Board Chairperson

Kestrel's power, just like the power of our namesake falcon - the smallest falcon - is in our ability to hover and dive deep.

One of our goals this year was to help students "dive deep" into science learning. And dive we did! Our work connected scientists of all ages to the natural world, building their expertise and capacity for inquiry. Kestrel Educational Adventures' unique approach to learning means that the 4-year-olds enrolled in Being Animals get to ask questions and investigate insects through focused observation, imaginative leaps into the natural world and expert conversation with their instructors; new Kestrel instructors are also treated to the chance to learn at their level. Recently trainees spent the day with two Essex County expert naturalists, learning bird identification and herpetology at a level associated with graduate work in natural science and ecology. Veteran instructors challenged themselves in BioBlitzes - gatherings of professional and student naturalists designed to collect usable data about the state of the biome at this moment. For us, diving deep means slowing down, noticing the world and taking the time to observe, be a part of and reflect on our natural world.



Kestrel was heartened to be one of many organizations participating in this year's March for Science. Our commitment to teaching and learning is steadfast, as is our belief in the importance of continuing to promote science and inquiry. We hope to continue our pattern of hovering - reflecting, gathering resources, training staff - and diving deep into the projects such as those you'll see described and reflected in the pages of this report.

-Caitlin Featherstone
Board Chairperson

ABOUT US

Based in Gloucester, Massachusetts, Kestrel Educational Adventures is a 501(c)(3) nonprofit charitable organization specializing in nature-based science education.

We serve the communities of Rockport, Gloucester, Manchester, Essex, Beverly, Salem, and Reading, among others. Founded to support natural science learning at the Gloucester Public Schools, Kestrel has grown dramatically since it was conceived as an all-volunteer project in 2002. Today we work with dozens of schools representing thousands of students in communities across Eastern Essex County.

Our instructors are well-trained, practiced, professional educators who understand how to guide students to overcome misconceptions, forge deep understanding, think critically and analytically, and create original work. In addition to our work with schools, we offer a menu of youth programs, including after school, homeschool and summer programs, and we also offer professional development for educators. The Get Outside Center (GOC), the physical home of Kestrel Educational Adventures and the Cape Ann Vernal Pond Team, has now been open for 3 years. The GOC reaches people of all ages and experience levels. Visitors come in to connect with our small wildlife, get hiking advice, seek help identifying species, and to interact with our exhibits. Members borrow binoculars, field guides, compasses, and more, to enrich their outdoor experiences.

Kestrel Staff



Jessica Kagle, Program Director Jessica holds a master's degree from Harvard Graduate School of Education, and has a lifelong passion for playing in the woods and along the shorelines. She has 16 years of experience as a professional naturalist and educator, and a great love for the wildlife and lands of New England. She spent five years as a school science teacher, with an emphasis on designing semester long service learning projects with her students. Jessica teaches primarily through asking children to design creations based on real experiences, and by encouraging them to be adventurous and muddy. She loves nothing more than educating people through relationships with wildlife. Jessica founded Kestrel 15 years ago, and specializes in curriculum design for project based learning.



Clayton Kern, Program Coordinator Clay has a deep passion for plants, animals, and fungus, along with an obsession with fossils. He grew up with a strong connection to nature in York County, Pennsylvania and has always enjoyed educating both children and adults. He loves living off what the Earth provides by foraging, hunting, fishing, and gardening. Clay worked for Kestrel for three years as an instructor and Program Coordinator, specializing in survival and marine science classes, and holds a Master of Science degree in Marine and Environmental Biology.



Curtis Sarkin, Instructor Curtis Sarkin received a bachelor's degree in Natural History from UMass Amherst. Before working for Kestrel, he taught hands-on marine science, conducted whale and turtle research, and explored the rainforests and reefs of Central America and Australia. He has been educating the public about local wildlife for over ten years, and enjoys nothing more than when children ask him challenging and thought-provoking nature questions. Curtis serves as the Kestrel science program and nature cabin instructor at the YMCA's Camp Spindrift, and also teaches school and after school programs during the rest of the year.



Amber Espar, Instructor Amber has worked as an environmental educator and community organizer for over 17 years. She has taught programs for ages preschool through high school with Kestrel, Groundwork Somerville, Mass Audubon, the Palo Alto Junior Museum & Zoo, and the Cambridge School of Weston. Amber is part of the True Story Theater company, performing improvisation that celebrates human connection and promotes healing of divides. She has worked for Kestrel as an instructor on and off for over ten years, and especially enjoys bringing improvisation and storytelling into our science programs.



Ben Rossetter, Instructor Ben received a Master's Degree in Education at the Teton Science Schools and Prescott College. After finishing his BA in Philosophy at Hamilton College, he spent the past ten years wandering the country guiding, teaching, skiing, and rock climbing. His thesis and continuing work are based on how to design programs that build deep connections between people and unique natural places. He worked as a STEM program instructor at the Bowditch School this year, as well as instructing on other school programs.



Tracy Bowen, Bookkeeper Tracy is grateful to have grown up in a place and a time where she was free to roam unsupervised in the Great Sippewissett Marsh and play with the animals at neighboring Sacconneset Farm on Cape Cod. She's a great believer in giving kids time to explore nature and in Kestrel's mission; she's hopelessly drawn to working in non-profits. Tracy keeps our finances organized and manages our payroll.



Spencer Taft, Intern Spencer, our summer Get Outside Center intern, is a Biology and Environmental Studies student at Brandeis University, and has been an active member of Students for Environmental Responsibility. He has an insatiable curiosity about the natural world and loves to share everything he knows. Spencer previously interned at Ocean Alliance, and came to us with an interest in learning more about education and wildlife. He is committed to building partnerships among local non profits. While at Kestrel, Spencer designed many hands on activities, stepped up our outreach into the wider community, and brought many people into the center to explore on a daily basis.

Program Highlights

We worked with 23 school and programs, 10 towns and over 2,300 students in programs this year. Read about some of our program highlights!

Marine Explorers April Vacation Program, Bentley Academy Charter School, Salem

Designed to suit the school's needs and fit the natural surroundings, the Marine Explorers program was a four day long intensive science immersion for fifth graders at this Salem Charter School. The Bentley School is situated directly across from several mud flats and beaches near Salem Willows. On the first day, we did team building work and socio-emotional skill building, and then asked the kids to decide on final projects to work towards. They chose to make a field guide and short nature film about the nearby marine life.



For two afternoons, we outfitted the students with mud boots, video cameras, binoculars, nets, and buckets, and explored the shoreline, collecting many creatures. We put together a marine life tank with live fish, barnacles, crabs, and snails. We then spent two days observing the live animals, researching their habitats, and assembling projects. Kids made field guides and edited videos, adding narration describing how loons dive, how barnacles feed, and other animal behaviors. The video and field guides were shared with the class and the general public, and the video is available on our Facebook page and our website.

Reading Public Schools



This year we visited four out of five of the Reading public schools with a brief program on bird life, and developed a more in depth relationship with the Wood End School, where we worked with all of the first graders on a habitat modeling program. The first graders had several hours to experience, observe, and compare woodland and wetland habitats. They looked closely at small creatures and specific plant types, and sketched them in color.

Back in the classroom, they each chose a habitat and a living thing on which to focus. They sculpted the habitats out of clay and then added their chosen living thing, and all of its life needs, such as food or sunlight. Students used their own sketches and the field guides we brought to learn more and to make accurate models of their specific lands and animals.



YMCA Camp Spindrift, Gloucester



Going on our 4th year, Kestrel and YMCA's Camp Spindrift have teamed up for the summer, staffed by instructors Curtis and Clay, as well as an array of special guests; Jessica, Caitlin, and Spencer. Each of the eight weeks, campers of all ages participated in Kestrel adventures that kept to the camp themes. For Water Week, campers created water filters, and used water balloons and saltwater to conduct buoyancy experiments. During Pirate Week they learned compass navigation to find hidden treasure. At other times campers wanted to learn survival skills or go tidepooling just for the fun of it! The Kestrel science cabin was open regularly for campers and counselors to bring their cool discoveries to identify and put on display. Campers brought insects, plants, and nature mysteries, excitedly investigating them using field guides, magnifiers, and microscopes along with the Kestrel instructors.

Kestrel Summer Adventures



The third season of Kestrel's own Summer Adventures programs was our busiest and most enjoyable yet. Our youngest explorers in the Being Animals camp took on life as grassland nesting birds, otters, and coyotes. The blend of stories, games, and wild, muddy explorations was just right for summer mornings. The most popular activity was crafting life sized



homes for the animal of the day and then inventing games in which the campers imagined they belonged to animal families. Our campers also loved netting plankton and fish from the marsh and then observing them back in the barn. Each week, we made unique creations to take home, such as animal burrows and track stories.

Our Survival Rockport campers enjoyed some new additions this year. Campers received a survival kit to keep, with a compass, fire steel, and other essentials. Our new swimming spot at Old Garden Beach offered opportunities for daily snorkeling, and on some days, we swam with good sized fish. In the forest, our campers excelled at completing weatherproof shelters and nurturing cooking fires. Our wildlife studies intensified this year as well, with a full week of science themed survival, including intensive tracking and insect study.



Special thanks to Essex County Greenbelt Association for allowing us to use Cox Reservation in Essex and Gott Lane Woods in Rockport as our summer classrooms, and thanks to Rockport Elementary School for being our extreme-weather shelter!

The Get Outside Center



With improvements to staffing and community awareness, the Get Outside Center has begun to fulfill its founding purposes to a greater extent this year. We saw many visitors become regulars, local social service agencies brought their own clients in routinely, and adults began to use the center as we had hoped, as a jumping off point for adventures and to get more information about wildlife and wild spaces.



We have observed great depth of interaction, with many visitors staying for an hour or more, interacting with all of our resources. We received many more invitations to community events than we had previously, and were able to build strong partnerships with nearby community organizations. We were also able to host preschool classes throughout the fall and winter, using the center's resources and the local area as program assets. As we had hoped, many of the Get Outside Center's visitors enrolled in our Programs and/or became members. We logged approximately 800 drop-in visitors and another 150 participants in our general public events.

One of our favorite events of the year, the **Student Work Showcase** in the spring was an opportunity for our students to share their work with the general community, and to find out what other young students are creating. As most of our adventures culminate in projects, having a public event allows us to ask the students whether they want to create for an audience, and to imagine wonderful ways to enlighten that audience with their creative pieces. This year, we had detailed field guides to the life stages of Beverly vernal pond creatures, a video about Salem's coastal wildlife, tideline maps of Conomo Point in Essex, and over a hundred small models of the habitats and wildlife of the Bass River in Beverly. This year we combined our showcase with a belated ribbon cutting for the Get Outside Center, and talks by our students about their involvement with Kestrel. We had a great turnout and students' pride in their work was evident.



Accomplishments

Goal from last year: Continue to expand program reach. Develop partnerships with more Essex County schools and other youth organizations. Reach more grade levels within partner schools.

- Added Reading public schools to our partner districts
- Expanded to Middle School in Rockport Public Schools
- Included 5 additional Salem Schools for a total of 6 schools served with after-school and in-school programs in the City of Salem in grades 1-5
- Added third grade to our work with Manchester-Essex Regional School District
- Collaborated with art teacher at Shore Country Day on multi-day insect project
- Partnered with Project Fun and Sparkify to provide inclusive programming for families and youth



Goal from last year: Continue to increase program depth. Increase the average number of contact hours we spend with each student.

While the majority of programs increased in depth, our total average contact hours continues to hover between 6 and 8. Hundreds of students engaged in science work for between 12 and 30 contact hours with Kestrel Staff.

Goal from last year: Develop and implement effective tools for assessing student growth in science skills, conceptual understanding, and care for the natural world.

- Compiled data from students measuring understanding of ecological knowledge and science skills before and after contact with Kestrel; conducted reflection on effective measures of assessment
- Identified partner organization, Blue Lotus, to pursue work on assessment and evaluation

Goal from last year: Increase the effectiveness of the Get Outside Center as a service for connecting people with the local natural world. Increase visibility and visitation. Hold an increased number of events in the Get Outside Center. Provide services targeted to adults.

- Held steady the number of visitors to Get Outside Center over the course of the year; doubled attendance at events such as Student Work Showcase
- Doubled summer visitors to the Get Outside Center
- Increased length and depth of internships from 4 weeks part-time to 10 weeks full-time

Students and Schools

Beverly

Ayers Ryal Side Elementary School
 Cove Elementary School
 Moraine Farm Waldorf School
 Shore Country Day
 Brookwood School

Gloucester

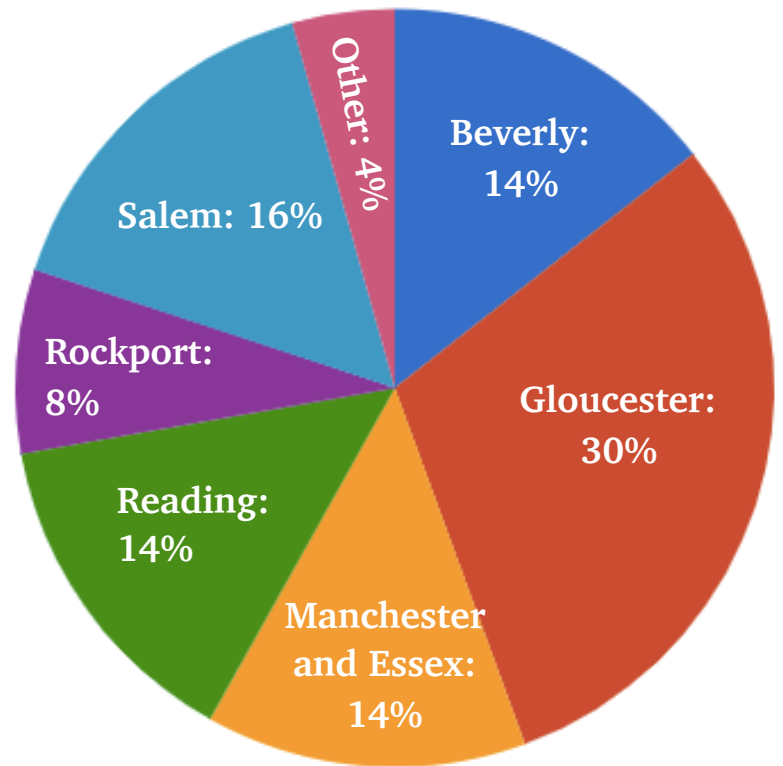
Camp Spindrift
 Pathways for Children

Manchester/Essex

Essex Elementary School
 Magic Years Preschool
 Manchester Memorial School

Reading

Joshua Eaton Elementary
 Birch Meadow Elementary
 Alice M. Barrows Elementary
 Wood End Elementary



Rockport

Rockport Middle School

Salem

Horace Mann Laboratory School
 Bates Elementary
 Witchcraft Heights Elementary
 Bentley Academy Charter School
 Expanding Horizons Program
 S.T.E.M. Magnet Program @ Witchcraft Heights
 and Nathaniel Bowditch School



We also provide programming to homeschooled children from a variety of other towns.

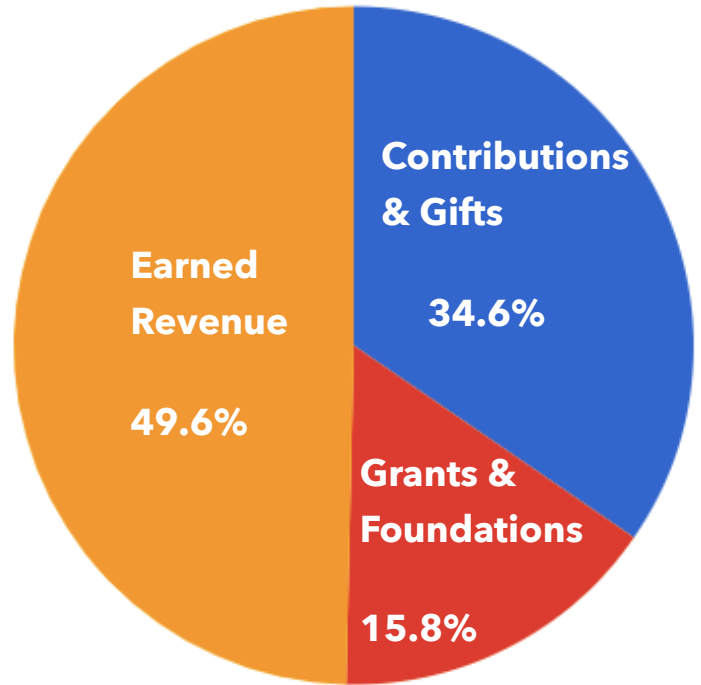
Financials

9/1/16 - 8/31/17

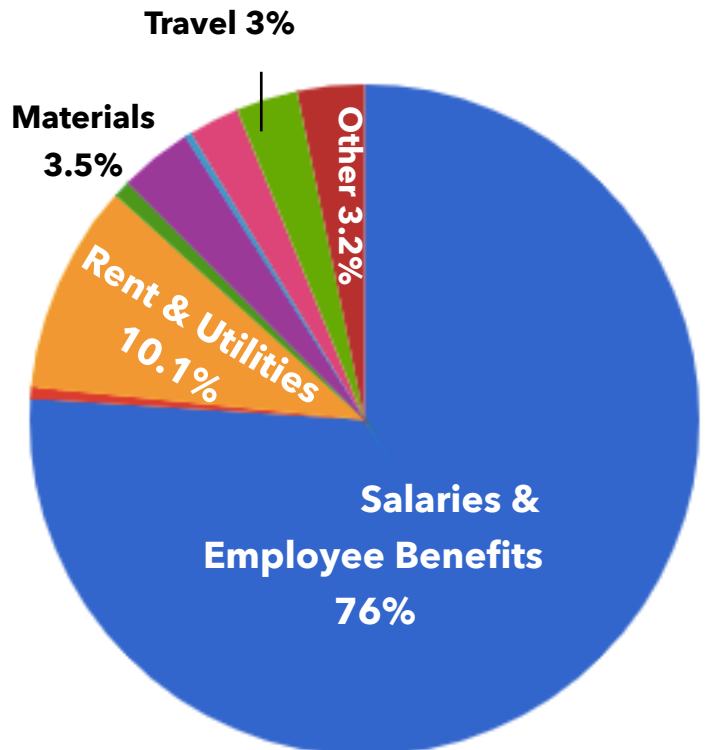
Income	
Contributions and Gifts	\$46,191
Grants and Foundations	\$21,075
Earned Revenue	\$66,317
TOTAL INCOME	\$133,583

Expenses	
Salaries, employee benefits	\$98,520
Professional & Contractual Fees	\$725
Rent, Utilities and Maintenance	\$13,107
Fundraising	\$1,081
Program and Office Materials	\$4,511
Marketing and Promotion	\$434
Insurance	\$3,198
Program Travel Expenses	\$3,868
Other	\$4,185
TOTAL EXPENSES	\$129,089
Net for the year	\$4,494

INCOME



EXPENSES



Goals for 2017 - 2018

- Increase public support for and visibility of the Get Outside Center through expanded internships, Open Houses, Sponsorships, and Student Work Showcases
- Provide professional support and development for staff on social emotional learning and environmental behavior impact
- Draw on expertise of partner organizations and individuals to train staff in documentation and assessment of student work and learning
- Continue to expand grade-levels of programs in partner schools and reach community members outside our historic age ranges, including teenagers, preschoolers and adults



Supporters

Grants, Foundations, and Corporate Donations

Name	Amount	Program
The Education Foundation for Rockport	program fees	Rockport Middle School
Forest Foundation	\$5,500.00	Summer GOC Intern
New England BioLabs Foundation	\$5,000.00	Salem Programs
Dusky Foundation	\$3,000	General organizational support
Project Fun	\$2,800.00	Family Program
New England BioLabs Corporate	\$2,500.00	Essex County programs
Captain Planet Foundation	\$2,475.00	Millbrook Pond Wildlife Relocation & Study Project
Institution for Savings	\$2,400.00	Rockport Middle School 6th grade
Manchester-Essex Conservation Trust	\$740.00	MERSD Transportation costs
Awesome Gloucester Foundation	\$1,000	Binoculars to help create a classroom set
Toad Hall Bookstore	\$400.00	Binoculars to help create a set



Get Outside Center Sponsors for 2017 - 2018

\$2,000+

Sam Park & Co, LLC



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Ronnie and Kenneth Kagle

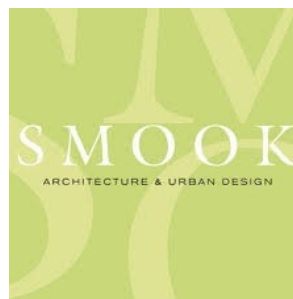
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Joseph Muzio

Kathryn Withers

up to \$99

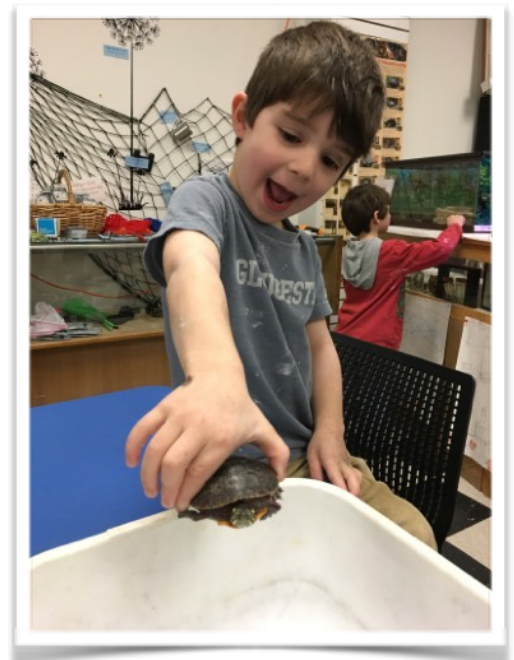
Ann Banks

Tracy Bowen

Theresa & William Byrne

Sharon Kunkel

Candace Martinez



Individual Donors

We would like to appreciate the support of the following donors:

\$2,000 +

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Plough in the Stars
Farm

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Deirdre Mulligan

William Taylor

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Ronnie & Kenneth Kagle

Helen Featherstone

\$150 - \$499

Margaret Hanna

JoeAnn Hart & Gordon Baird

Noel Mann



Individual Donors (cont.)

up to \$149

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Steward Outdoor	Ted "Frederick" Tarr	
Nancy Tharler	Jennifer Woodin	
Laurie Wilczynski Zollo		

Thanks also to Chipotle for hosting a fundraising evening.



Special Thanks

Volunteers and In-kind Donations:

Thank you Torey Adler, Colleen Anderson, Tracy Bowen, Jeff Cochand, Rick Doucette, Kim Edelman and Phil Baroana, Benjamin Flemer, Herlihy family, Beth and Andy Knox, Maritime Gloucester, McAllister Family, Mark McDonough (and the Serenitee Restaurant Group), Rob Newton and the Cape Ann Cinema and Stage, Rick Roth and The Cape Ann Vernal Pond Team, Jim's Bagel Shop, William Taylor, Christine Kaye, Danielle Demetri, Brian Windmiller and Emilie Schuler, and many others too numerous to mention, who provided advice, support, and inspiration this fiscal year.

Board of Directors

Caitlin Featherstone (Chair)

Anna DiPerna (Treasurer)

Emily Kahn (Clerk)

Jeff Denoncour

Deirdre Mulligan

Rick Roth

**An extra special thank you to
our indispensable Get
Outside Center Volunteers:**

Alex Kleros

Elizabeth MacDougal

Nicole Vasopoli

Peter Warny

Katherine Withers

and

Get Outside Center Intern

Spencer Taft.



Our Favorite Places Online Auction

We were thrilled to continue our online auction this year, focusing on our favorite local businesses, artists, places, and people. The auction was a huge success thanks to our donors, and the many enthusiastic bidders. Thank you all. And please continue to support our favorite places - we know you'll love them as much as we do!

12 Oak Growth and Renewal	Edible Arrangements	Organic Garden Cafe
7 Seas Whale Watch	Eileen Mahoney	Pamplermousse
A New Leaf	Essex Shipbuilding Museum	Pleasant Street Tea Company
Amy Conant	Faith Ostan Hall Photography	Rebecca Carson
Animal Crackers	Firenze Trattoria	Refind Boutiques
Anmol India	Folkmanis Puppets	Savour Wine & Cheese
Ben Flemer	Freddi Triback	Siam Delight
Bit Bar	Fusion Andina	SummerQuest at the Crane Estate
Bose	Gemma Flavin	Superfine
Boston Red Sox	Gloucester Uechi Karate Academy	Susan Hedman
Cake Ann Bakery	Goodlinens	Jean Nichols
Cala's Food and Spirits	Grace Murdoch	The Cabot
Cape Ann Brewing Company	Green Meadows Farm	The Castle Board Game Cafe
Cape Ann Cinema and Stage	Harry's Pizza and Deli	The Cheese Shop of Salem
Cape Ann Coffees	Hauswitch	The Monarch Gardener
Capt. Bill & Sons	Jean Nichols	The Pewter Shop
Carl Gasowski, Photographer	Jimmy Tarantino	Todd's Auto Repair
Cha Cha La Mer	Kaihlansen Gallery	Treetop Yoga
Chapman's Greenhouses & Gardens	Kathie Babcock	Trustees of Reservations
CinemaSalem	Latitude 43	Village Silversmith
Coffee Time Bake Shop	Linda Sylvester	Virgilio's Italian Bakery
CinemaSalem	Lopardo Family	Warren Rhodes
Common Crow	Manchester By The Book	Wild Oats Health Food Store
Coveted Yarn	Maritime Gloucester	Willow Rest
David FitzSimmons	Michelle Crosbie	Zen Animal Massage
Deborah Coull Salon	New England Soup Factory	Zumi's Espresso
Deirdre Mulligan	Nor'east Cleaners	
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