



Kestrel Educational Adventures

ANNUAL REPORT

FISCAL YEAR 2012-2013

Delivering integrated place-based education programs that teach ecological literacy and science in a way that is connected with nature and makes learning personally relevant, memorable, and fun for each student



Kestrel Educational Adventures is a 501 (c)(3) nonprofit organization that offers place-based natural science and ecological literacy support for schools, youth groups, & individuals. Students learn science through direct experiences in the natural world. They learn how their own landscape is valuable and unique. We believe in building a better and more sustainable world through excellent, student – centered science education. Our instructors guide students in developing the skills to make and share original discoveries and understand complex natural systems.

Message from the Founder

I spend a lot of time thinking about how Kestrel can best serve our community, and what unique gifts we have to offer. Returning to the organization after a short leave has given me some insight into these questions.

What we do best is help cultivate the core skills needed to become and remain ecologically literate: Sensory awareness, imagination, and systems thinking. We focus on tuning in to the world around us and using it to practice solving real problems and making real discoveries. This helps students to be present in the here and now, as well as to prepare for solving future problems in a rapidly changing world. It requires looking beyond the obvious, seeking patterns others might not have noticed, figuring out how disparate things might be connected, and effectively communicating findings. I believe that being guided through projects involving freedom of discovery in the natural world is the best way to learn all of these skills.

One of our favorite projects is making a handmade, layered ecological map. Our maps show basic landmarks, with living things we discovered and the surroundings in which we discovered them, layered on top. Sometimes we add temperatures, soil types, or shade and sunlight. This kind of project consistently brings all our students, and their teachers, to life. When everyone realizes the answer has not yet been found and that all their contributions will be unique and valued, they begin to poke around, to find things, to follow their own questions, to bring back what they find. They talk to each other, argue with one another, find common ground. These are the true fundamentals of ecological literacy, because students are learning the skills they need to make complex decisions both in the present and in the future.

Our newly assembled Vision Team has spent time discussing how Kestrel can grow from where we are now. I believe it is of fundamental importance that Kestrel connect each group with a publicly accessible, free, wild space near their school or homes. Then, whenever possible, we complete project based work that will raise awareness in the community about the unique aspects of the place. For this reason, our discussions about growing have centered on new ways to connect people with the existing wild lands in their towns. Plans are underway for a Center for Place Connection, to increase our capacity to do exactly that.

Truly, while I often wish for infinite (or even finite) funding, I enjoy being part of this small, agile organization. We have an amazing group of talented people who are open to new ideas, who love to play in the woods with kids, who are connected to nature themselves, and who learn from one another every day.

Thank you for your continuing dedication to Kestrel. Enjoy this year's report, and as always, contact me with your ideas, concerns, and questions.

Sincerely,

Jessica Kagle
Founder /Program Director



Accomplishments

We were successful in reaching many goals for this fiscal year, including:

- Provided natural science programs to over 800 students in six towns
- Established a homeschool science series with consistent attendance
- Reached new school populations at Ayers Ryal Side, North Shore Nursery School, Cuvilly Arts and Earth Center, and Harborlight Montessori School
- Aligned program content more closely than ever before with each school's classroom studies
- Created 5 "Field Trip in a Box" kits for educators and readied them for use
- Consulted on the design of the LookLook Wildlife trading cards by Return Design at Gordon College, now ready for distribution



Program Highlights

Rockport Elementary School Highlights

Rockport South Woods (Town Land)

We continued our tradition of guiding adventures in the town woods for every Rockport Elementary student twice a year. Each grade level studies a different concept that connects their classroom studies with the local wilds. For example, the 4th graders are studying colonists and plants in their classroom. Out in the woods, they create an entire imaginary settlement based on the available types of woods, food bearing trees, and wildlife. The 5th graders explore the cycle of soil and how trees grow and are broken down. They find examples of living and dead trees, and of decomposers, and act out their findings. Each grade's program builds on concepts from the previous year, and helps the students apply their classroom knowledge to a situation that excites them.



Cuvilly Arts and Earth Center

Cuvilly Nature Trail

Thanks to a generous parent donor, we were able to offer three woodland adventures to the Cuvilly preschool throughout this past year. Visits from wildlife and special guest scientists combined to support the program theme of how native and non native animals change with the seasons. We acted out a wildlife story, searched for animal homes, and constructed animal homes. We've never met a group so young that would listen so carefully and then remember everything they heard and use it to explore effectively!

Program Highlights

Manchester Essex Regional School District (MERSD) Highlights

Manchester Memorial to Dexter Pond (MECT), Essex Elementary to Chebacco Woods



We were truly impressed with the inquiry skills and conceptual knowledge the MERSD 3rd grade students brought to our two part adventure program this year. Many of the students had already thoroughly studied insect life cycles in their classroom, and knew all about different kinds of metamorphosis. They understood how water, too, moves through cycles. Beginning from these points, we pushed the students to find many real examples of pond life in different stages, and categorize them by how dramatically they changed throughout their lives. The focus was on noticing specific details such as eye

shape and location, wing position, and colors, and comparing adults and young. We were all amazed to find baby turtles in the pond, along with transforming froglets, and larval and adult dragonflies and damselflies. Another favorite challenge was imagining being young animals finding their way to their birth location. This was simulated through handing each student a photo taken at a special spot at the field site, and having the group work together to find the location using landmarks and plant types as clues. All the students also worked in small teams to use natural objects to build and follow small boats, learning about pond outlets and water cycles in the process. At the end of the two part program, students were able to connect life cycles and water cycles, giving examples of how both water and animals moved and changed along their journeys.

Ayers Ryal Side School

Green's Hill, Beverly (town land)

The Ayers Ryal Side Elementary School in Beverly is situated just above the Bass River and salt marsh. The Green's Hill town nature reserve begins at the school's parking area. The 1st grade students were studying habitats in the classroom. To build on this, we embarked on an adventure to visit three different habitats all within Green's Hill, and record types of plants and animals in each one. As this was the first time any of the students, teachers, or Kestrel staff had studied Green's Hill, we were all learning together. We found chickadees at the edge of the forest, black cherry trees and sowbugs in the young forest, a special salt-marsh-specific mussel, and cormorants in the marsh. In our closing discussion back in the classroom, students referred to drawings they had made in their journals. They were able to describe how the differences in habitats connected with the kinds of wildlife they found.



Program Highlights

Harborlight-Stoneridge Montessori School *Endicott College Woodlands*

Three groups from grades K through 2 participated in our two part vernal pond story mapping and exploration program this year. The students became characters in a story about an amphibian migration night, then met some of our live native creatures. Following observing the animals and imagining their lives based on their features, we began making a storytelling map. The map showed a vernal pool and amphibian habitats around it. Students then made up stories detailing the realistic journeys each kind of animal might take to get from its upland habitat to the pond. Creating these stories imparts the idea that vernal ponds are deeply connected to the habitats around them, as are the corridors between the upland habitats and the ponds. A few days later, all the students journeyed to a vernal pond in their local woods. They discovered a surprising variety of animals hiding beneath the waters, and returned full of enthusiasm.



North Shore Nursery School, Glen Urquhart School Nature Trail

North Shore Nursery School holds week-long theme camps during vacation weeks. Our instructors visited the school's Turtle Camp for a morning. Live turtles and other animals excited the children, and prepared them for a creative movement game exploring the lives of turtles; their foods, predators, and changes from hatchling to adult phases. The children were quick to point out how colors, shapes, and sizes changed as turtles matured. Following the game, we all went out into a light rain on the surrounding trail, and investigated streams, a freshwater marsh, and meadows looking for suitable turtle habitats. While we didn't find any turtles, we found stream caddisfly larva and other intriguing insects, and baby salamanders. We also encouraged the students to use their new understanding of turtle lives to guess where turtles might be hiding.

Pathways for Children, Dogtown



The Pathways for Children afterschool club joined us for their annual vernal pond adventure. This year, we met them at the Babson Museum entrance to Dogtown, an area rich in habitat variety. We divided the group and took turns exploring the critters of the large open meadow, and those of the small, forest-fringed vernal pools. The children were thrilled with even the smallest discoveries of millipedes and insects, and drew them each in detail before using their own drawings to look up the species in books. In the vernal pools we found salamander eggs, and a multitude of fairy shrimp. The children had never seen anything like these translucent, upside - down swimmers, and delighted in watching them.

Program Highlights

Homeschool Groups

Kestrel held 16 Homeschool Science adventures over the course of the past year. In the fall, we conducted an 8 week series of inquiry classes leading children from ages 2-11 through the development of open ended inquiry skills. Each week, we began with a big science question and explored a different land reservation to find answers. Examples of some of the questions are: What lives underground, what lives in the water, and how can we tell what was here before we arrived? The students learned to select equipment, plan their study, collect information, and report back in mini science conferences. They learned to

make connections between where they were, and what was found. During one late fall bird - themed adventure, we watched mallards and catbirds and robins, discovered other animals, and then created a map to show what landmarks and habitats surrounded each finding. The students used the map to tell the story of all their findings and the patterns they uncovered. In the spring, a 7 week series on photosynthesis and energy use was headquartered at Glen Urquhart School (GUS). Students planted mystery seeds and documented their growth with sketches, tracked the opening of buds on different wild plants, and made bracelets to show the chemical process of photosynthesis. We then moved on to explore how energy stored by photosynthesis is released. We did this through watching wildlife, comparing metabolisms with stethoscopes, watching fire releasing energy from wood, and feeding turtles. A grand play and song session in the GUS greenhouse wrapped all our new understandings into one lovely performance.



Special Programs

LookLook Cards



www.takealooklook.com

Led by Tim Ferguson Sauder, Return Design at Gordon College completed a two year design project this summer. Tim and his college students invented a set of trading cards designed to encourage knowledge about the natural world, as well as outdoor exploration. The 72 LookLook cards each feature a local animal depicted with an original drawing. Each card includes some standard information about the animal, such as its size, habitat, lifespan, and an indicator of the amount of energy required to sustain each individual. With a \$15,000 grant from Sappi Paper, Return Design had over 6,000 sets of cards printed. These will be distrib-

uted through Kestrel's programs, as well as sold at some local stores. Kestrel's game maker team has designed a storytelling game that uses the cards to teach both simple and complex interconnections within ecosystems.

“Field Trip in a Box” Kits

Thanks to a grant from the Francis R. Dewing Foundation, we have put together five kits designed to support educators in using outdoor spaces for teaching. The idea of these kits is that they are the antithesis of traditional kit-based teaching. The kits don't prescribe a particular curriculum or information. Instead, inside each box is the equipment needed to lead you to an endless world of original discoveries. This includes supplies that will enrich outdoor teaching possibilities and are expensive or hard to find, such as good binoculars, submersible GPS units, high zoom cameras, soil meters, butterfly nets, bug houses, realistic rubber animal feet, field guides, and lots more. These kits will be available for loan to school groups after participating in a Kestrel program, and to all others for a small rental fee.



Website/Vision Re-Vamp

When Kestrel first opened, our only program was Ponds in the Classroom, a creative exploration of vernal pool wildlife and the animals' migration. Now that we have grown to include more programs as well as promotion of unique science teaching methods, it was time to update our materials and work on our long term plan. Over the summer, we completely overhauled the website, adding pages highlighting our teaching philosophy, a page about kestrels, and links to registration for all our programs.

Vision Team

We have also established a Vision Team to work on developing and implementing our immediate and long range plans. The team is comprised of parents and educators who would all love to see significant connection between the natural world and academic content in local schools. They would also like to see school be as engaging and enjoyable as possible and believe in Kestrel's methods as a way to get there. The committee meets monthly and provides direction and guidance to the Kestrel staff. Fun is a core requirement of each meeting, because we practice what we preach.

Students/Schools Served

Beverly

Ayers Ryal Side Elementary School
Harborlight-Stoneridge Montessorri School
North Shore Nursery School

Manchester/Essex

Essex Elementary School
Manchester Essex Memorial Elementary School
Brookwood School

Gloucester

Pathways for Children-Gloucester

Rockport

Rockport Elementary School

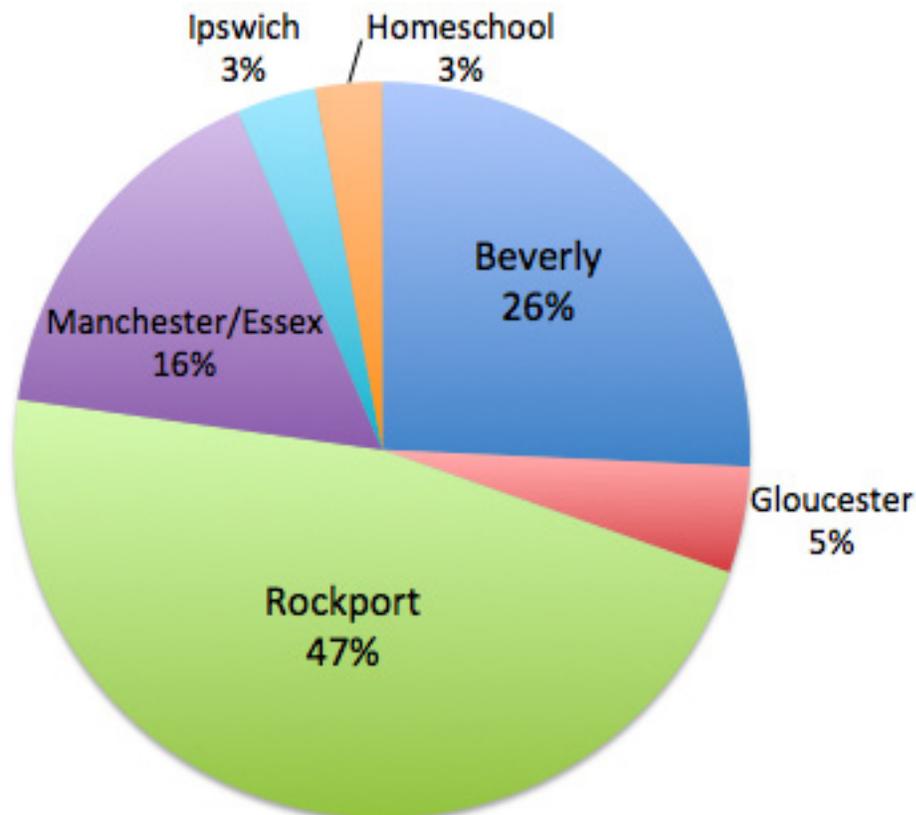
Ipswich

Cuvilly Arts and Earth Center



Students Served, By Town
Total: 855*

**Note: This number does not reflect that we worked with many students more than once in the year.*



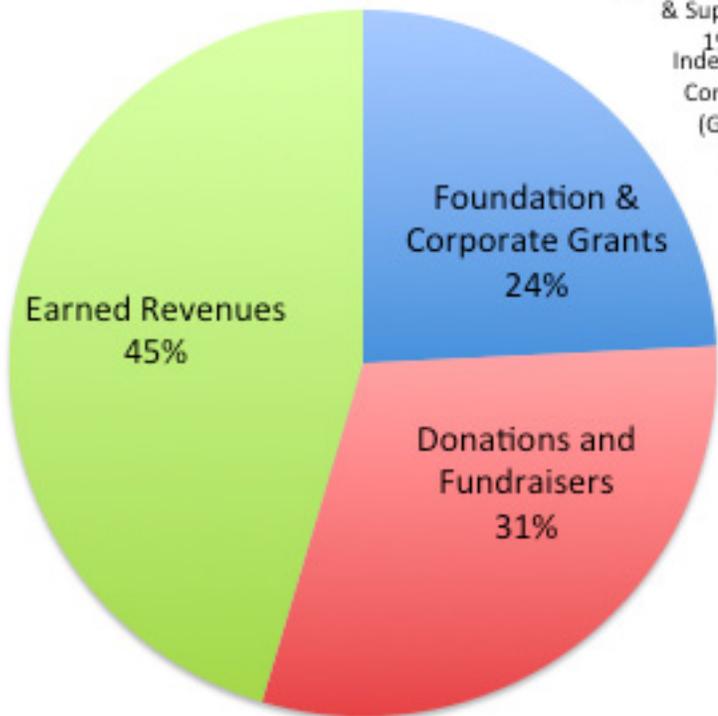
Financial Report

Foundation & Corporate Grants	6,995
Donations and Fundraisers	8,780
Earned Revenues	13,106
Total Income	28,881

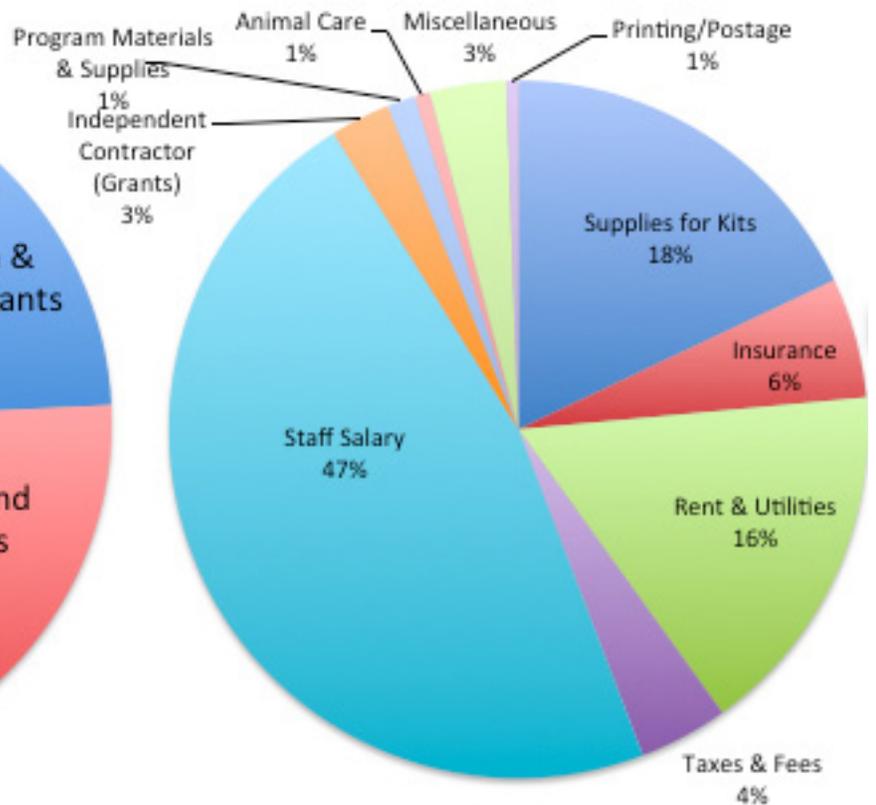
Supplies for Kits: Grant funded	5,055
Insurance	1,568
Rent & Utilities	4,656
Taxes & Fees	1,160
Staff Salary	13,208
Independent Contractor (Grants)	780
Program Materials & Supplies	367
Animal Care	201
Miscellaneous Admin	991
Printing/Postage	158
Total Expense	28,144
Net Income	737



Income



Expenses



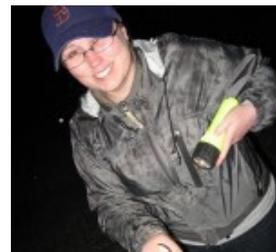
The People of Kestrel, FY 2012-2013



Jessica Kagle - Founder, Co-Program Director, Special Projects Coordinator
Jessica holds a Master's Degree from Harvard Graduate School of Education and has a lifelong passion for playing in the woods. Jessica has 15 years of experience as a professional naturalist and educator and a great love for the wildlife and lands of New England. She is the author of *Exploring Natural Connections*, a book of playful games and creative activities immersing young people in nature. Jessica can often be found bicycling around New England or standing out in the rain watching frogs and salamanders.

Corinne Brauer - Co-Program Director

Cori has a B.A. in Biology from Drew University and has completed an M.S. in Natural Resources from the University of Vermont. She has worked for MassAudubon for several years. Cori spent six months working with a wildlife rehabilitator in Connecticut to care for sick and orphaned New England wildlife. From these experiences she feels that contact with wildlife and nature are extremely important for children.

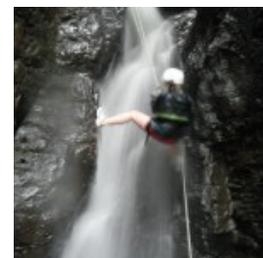


Amber Espar - Instructor

Amber has worked as an environmental educator and community organizer for over 12 years. She has led nature programs with the Massachusetts Audubon Society, directed an elementary school gardening and nutrition program with Groundwork Somerville and facilitated several tropical ecology trips in Central America with high school youth. Also passionate about improvisational dance and movement, she hopes to create a dance piece about salamander migration.

Rebakka Milles - Instructor

Rebakka has always loved the woods and spent much of her childhood playing among the trees. She wrote her undergraduate thesis on the importance of children connecting with, and viewing themselves as part of, nature. Rebakka has had the opportunity to work for several wonderful environmental organizations and plan to continue helping kids find their love and passion for the outdoors.



Board of Directors 2012-2013

Anna DiPerna (Chair)
Ann Misuraca (Treasurer)
Emily Kahn (Clerk)
Robert Waldner
Caterina Misuraca
Rick Roth



In Memoriam:

On March 11, 2013 we lost a treasured board member, Bob Waldner. Bob's wisdom and advice were deeply valued by the team. He brought us his perspective as a successful business person, active Ipswich community member, and life-long nature lover. Bob truly understood the importance of connecting children to nature. He grew up spending much time in the woods as a child, and his experiences led him to volunteer with several nature-based nonprofit organization as an adult. We were proud to have him on our board, and will remember him always.

Goals for Fiscal Year 2013-2014

- Support our client schools in teaching place based units that center on student projects
- Enhance the greater public's understanding of local ecosystems
- Establish district-wide programming at 2 or more new districts
- Establish and pilot professional development workshops
- Build and deepen partnerships with like minded community groups
- Begin offering open enrollment programs for individual youth
- Continue to expand programs throughout the seasons
- Establish school-based after school programs
- Support use of Field Trip in a Box Kits for educators
- Provide more levels of possible connection with students - from one hour to 8 week programs
- Develop a new long term vision plan for Kestrel and begin implementing it

Grants and Corporate Donations

Thank you for your support!

New England Biolabs Corporate Donation \$2,000

Francis R. Dewing Foundation \$4,995

Some school programs were specifically sponsored by local foundations. Thank you!

Manchester-Essex Conservation Trust:
Paid school fees for Manchester and Essex public school programs

Rockport Education Foundation:
Paid school fees for Rockport Elementary School programs



Supporters

Kestrel Educational Adventures wishes to acknowledge the support of the following donors and sponsors who made contributions during the 2012-2013 fiscal/program year.

Tracy Bowen
Alice Brickner
Anna DiPerna
Mark DiPerna
Paul and Mary DiPerna
Margaret Flowers
Jessica Kagle
Ralph Kagle
Kenneth and Ronnie Kagle
Emily Kahn
Kaplan Matching Gifts

Landmark School
Frederick Martin
Joe Muzio
Mel Stern
Bruce and Suzanne Miller
Deirdre Mulligan
Gavin and Andrea Mulligan

Special Thanks (Volunteer help and In-kind donations)

The KEA Board of Directors, Rob Newton and the Cape Ann Community Cinema, Terry Moody, Sara Hoff, Tim Sauder, Molly Gould, Rick Roth and The Cape Ann Vernal Pond Team, Glen Urquhart School, Mark McDonough, Zumi's Cafe in Ipswich, Benjamin Flemer, Jeff Cochand, Caitlin Featherstone, Torey Adler, Kim Edelman, Vittoria Rosati, Ken Kagle, Animal Crackers, Colleen Anderson, Cathie Hull, the First Unitarian Universalist Church of Essex, Vickie Cataldo and many others too numerous to mention, who provided advice, support, and inspiration this fiscal year.



Benefit Concert 2012 Supporters

We'd also like to thank the sponsors and donors of the Kestrel and Cape Ann Vernal Pond Team Annual Benefit Concert. Every year we work in collaboration with the Cape Ann Vernal Pond Team to throw a concert to raise money and increase awareness of our programs, while also having a lot of fun. This past year was our most successful concert yet!

Sponsors

\$300-\$500

Richard DiPerna and Jean Nichols

Landmark School

www.landmarkschool.org

Cape Ann Savings Bank

www.capeannsavingsbank.com

Geoffrey H. Richon Co

www.ghrichon.com

New England Herpetological Society

www.neherp.com

\$100-\$299

TD Bank

www.tdbank.com

Rockport National Bank

www.rockportnational.com

Animal Crackers

www.visitanimalkrackers.com

Granite Savings Bank

www.granitesavingsbank.com

Zumi's Cafe

www.zumis.com

The Building Center

www.bcgloucester.com

Raffle/Auction Donors

Boston Classical Orchester

Cakes By Sonja

Cape Ann Brewing

Cape Ann Pizza

Cape Pond Ice

Captain Bill's Whale Watch

Centraal Cycle

Changing Tides at Ace

Hardware

Chris Wood, Artist

Colleen Anderson and Mike

Clay

Common Crow

Crackerjacks

Deborah Coull Salon

Essex Massage Center

Essex Wine and Spirits

Fortune Palace

Good Harbor Graphics

Halibut Point Restaurant

Hess Gas Station

Highwave

Jalapenos

Nick Taormina

Periwinkles Restaurant

REI

Ryan and Wood Distillery

Sean Hurley – Artist

Seven Seas Whale Watch

Shannon Cronin Photography

Shea's Riverside Restaurant

The Car Shop, Inc

The Village

Trustees of Reservations,

Crane Beach

Two Sisters Restaurant

Wenham Museum

