

# SOFO naturalist



Each quarter SOFO features eco-links, written by a member or friend of the Museum. If you wish to submit an article, please contact us.

## eco links

The SOFO Young Environmentalists Society (YES!)

by Mare Dianora, Director, Young Environmentalists Society (YES!)



*Tending to the SOFO YES! Garden.*

In the Winter of 2020, I was asked by the South Fork Natural History Museum if I would lead the Young Environmentalists Society (YES!) for kids ages 10–16 who are interested in a more involved approach to climate change and other environmental studies and issues. My then 10-year-old son, Finny, was asked by the museum to be a founding member of the program. He was very excited to get started and I was honored to lead this group of kids. Together, we planned a hands-on approach to the program with creative projects and ways to explore the local area. The goals were to create a program formulated on experience-based learning, place based-learning, critical thinking processes, and use local activism to develop strategies for individuals and the community. Above all else, my number one goal was to get these kids to be involved with activism and build a strong sense of hope for their future. We focused on solutions and small steps while keeping an eye on the bigger goal.

Our first meeting was in February 2020. The goal for that first workshop was to get to know each other while planting seeds to be starters for our YES! garden. We plotted out an area outside the barn at the museum where we would build raised beds at our next in-person meeting. Except, unfortunately, that day did not come for many months. Soon after we first met, everything shut down because of COVID-19. I was determined to keep the program running, somehow, and we quickly switched everything to Zoom with the help of Melanie Meade, the museum's Education and Outreach Coordinator. I could not have continued the program without Melanie.

In a fortunate turn of events, instead of local speakers, we now had the world as our backyard. With Zoom we could host a speaker from anywhere and weren't bound by geographical location. We also had

several members sign up from other areas as they could now join the program digitally. We Zoomed with *The Story of Stuff Project* in California and with local members from Drawdown East End. We met with a professional environmental educator named Jillian Worssam in Flagstaff, Arizona who guided our group through a book discussion of Ned Tillman's climate fiction novel, *The Big Melt*. Jillian followed that discussion up with a climate challenge for the kids and they presented their projects to her several weeks later. This was the beginning of an amazing relationship and collaboration with Jillian as she has now guided the kids, two years later, through about a dozen books, each with its own climate challenge to follow.



*Summer solstice campout.*

Eventually, my own family of my husband, myself, and two kids took on the task of building the raised beds ourselves in the spring of 2020 while the museum (and much of the world) was shut down. We carefully transplanted those seed starters the kids set up in that first meeting. I sent the group photos and videos of each step of the process. As the world started to open up later in the summer, we had our first in-person meeting since COVID. We had a local artist, Scott Bluedorn, show us his work and talk about his own environmental activism. It was so inspiring and greatly appreciated being together in person again. I was thrilled to see the kids after so many months of digital meetings. Now we had the luxury of being together with unlimited interactions!

Now that YES! has celebrated its two-year anniversary in February of 2022, we have had so many amazing experiences together—hikes, birding trips and lectures, movie nights, a camping trip, a fundraiser to send girls to school across Africa with the Campaign for Female Education (CAMFED), beach clean-ups, environmental art exhibitions, participation in SOFO's Earth Day Celebration, a workshop to design architecture for rising-seas, farm and garden tours, a honey bee lecture, collaborations with the East Hampton Shellfish Hatchery, a pumpkin carving contest, created and hand painted "Pesticide

*Continued on next page*

Continued from page 1

Free” community lawn signs, a tour of the Riverhead Foundation Marine Rescue facility—just to name a few. We have had Zoom calls with book authors; *The Story of Stuff*; organizations; University of Delaware Department of Oceanography in Lewes, Delaware, Billion Oyster Project in New York City, Honolulu Office of Climate Change, Sustainability and Resiliency, Wind Specialist and Meteorologist Charlie Phillips, Prairie Wildlife Research Center in Colorado to discuss the endangered black footed-ferrets, along with Zoom calls with park rangers from several US National Parks.

I am so proud of this group of kids and very grateful to their families for coming along with us on this journey. We have had so much collaborative learning opportunities together and our exploration continues to take us to new places. I have a firm grip on a renewed hope for the future of this planet knowing that kids like these are willing to make sacrifices and face hard work to make a difference in this world!

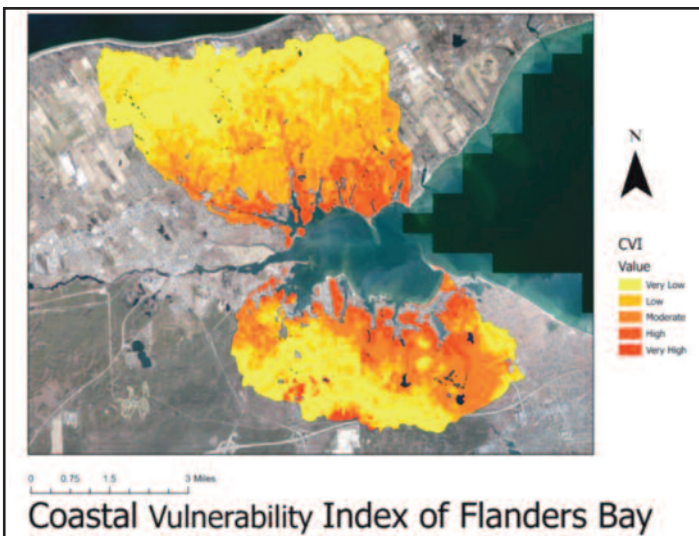


Happy campers at summer solstice campout, left to right, Sam, Sofia, Oliver, Phobe, Anya, Finny and Ollie - Lucas not pictured.

## Footnotes on Nature

### Geographic Information Systems

by Olivia McGranaghan, SOFO Environmental Educator



Geographic Information Systems, or GIS, is a tool used to analyze data through the use of maps. Fields such as socioeconomics, public health, crime, natural disaster preparedness, and urban planning can all utilize geographic information systems to display relationships

amongst a geographic location for planning or analytical purposes. Within urban and environmental planning fields, GIS can be used to model 3-dimensional structures of proposed cities, towns, or buildings to monitor how potential structural changes may affect the surrounding areas prior to their implementation. Data modeling storm surge events or predicting sea level rise can then be used in conjunction with 3-dimensional models of coastal cities to display potential outcomes of these events. Within the environmental field, issues such as habitat degradation due to human influence or climate change can be examined and a causation and solution can often be derived. Many maps produced through geographic information systems frequently make use of statistical analyses that can be used to display a story on a map that may not necessarily be explicit when just examining raw data. Meteorological data utilizes geostatistical analyses to predict occurrences such as precipitation or acid rain likelihood.

One of the first instances of GIS use—mapping—was in 1854 during the cholera epidemic in England. Running water and sewage systems were not yet commonplace in England during this time; instead, untreated waste was dumped into rivers, streets, and cesspools. Drinking water was collected through water pumps on the street.

In 1854, this epidemic spread to Soho, a suburb of London. At the time, people believed that cholera was spread through the air. Yet, physician John Snow believed it was spread through the water due to the use of water pumps on the street. More specifically, John Snow believed the popular Broad Street Pump to be the source of the epidemic in Soho. To prove his theory, Snow collected data, monitoring which individuals had become sick with cholera and which water pumps they most frequently utilized. He had found that cases of cholera were higher amongst those that both lived and worked near Broad Street and was able to eliminate other pumps as a possible source of contamination. He displayed this data on a paper map to prove his theory to citizens and government officials. This early use of GIS by Snow proved that the Broad Street pump was the source of the cholera outbreak, resulting in its shutdown and the new understanding that cholera is spread through contaminated water. This ultimately led to improved water and waste management systems within cities and a greater understanding of the importance of public health.

Today, maps derived from geographic information systems often result from computer programs such as ArcGIS, QGIS, and TerrSet, where spatial and statistical analyses can be performed to analyze collected location data that also consists of qualitative or quantitative attributes. In the fields of conservation and environmental science, GIS is often utilized for invasive species management and to monitor its impact on native species, comparing population changes over time, the impact of sea level rise on various habitats, or issues such as habitat fragmentation and destruction due to natural disasters or man-made causes. GIS is also used as a platform to track the migration of individual animals within a species, as seen with SOFO’s Shark research program, where maps display the movement of these sharks over a series of time.

It’s never too early to teach the concepts of Geographic Information Systems (GIS) to children. Join Olivia on December 11 at 10:30AM for a program, designed for children ages 7 and older, entitled *Introduction to GIS Map Making: Design Your Dream Village*. As with all SOFO young children’s programs, this is not a drop-off learning experience. We ask that a parent or caregiver attend the program with the child. This might very well be a learning experience for the adult as well as the child.



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A full description of each program is listed on the SOFO website:

[www.sofa.org/calendar](http://www.sofa.org/calendar)

# October, November, & December

*To ensure the safety of our visitors, we will follow all COVID-19 safety protocols and are dependent on the State's changing guidelines.*

**For SOFO members: programs are free, unless otherwise stated.**

Level of membership indicates the number of people entitled to a free program.

**For SOFO non-members: there is a fee.**

Please contact us at: [info@sofo.org](mailto:info@sofo.org) for fee information or refer to the SOFO website at: [www.sofa.org](http://www.sofa.org).

If you are not already a member we invite you to join the museum.

Find out about membership levels at [www.sofa.org/membership](http://www.sofa.org/membership).

For full information on the South Fork Natural History Museum (SOFO), including entrance fees and hours of operation, please refer to the website: [www.sofa.org](http://www.sofa.org).



## *Help to Brighten the Holiday Season for Survivors of Domestic Violence*

The Retreat will be the recipient of SOFO's 2022 Holiday Drive through their annual Adopt-A-Family Holiday Program.

New, unwrapped toys, games, and gift cards as well as gift wrap paper and ribbon will be gratefully accepted at SOFO from October 1, 2022, until November 30, 2022.



### *About The Retreat*

The Retreat provides free and confidential services to anyone who has experienced abuse by a partner, family member, or friend. Services include a 24-hour hotline (631-329-2200) individual and group counseling, legal advocacy and assistance, emergency shelter, and violence prevention education programs for all ages.



# Calendar At A Glance

Key: *A*—Adults *T*—Teens *C*—Children *F*—Family *AA*—All Ages

A full description of each program is listed on the SOFO website at [www.sofa.org/calendar](http://www.sofa.org/calendar).

*Advance reservations are required for all programs.*

## October

**Saturday, October 1, 10AM:** Annual Salamander Log Rolling: F

**Saturday, October 1, 6PM to Sunday, October 2, 8AM:** F/C7+

Nocturnal Animals of the South Fork—Bonfire and Overnight Campout

BYO Camping Equipment

Overnight Campout Optional – program Saturday 6-8PM

**Saturday, October 8, 10AM:** SOFO Beach or Trail Cleanup: AA

**Saturday, October 8, 10AM-1PM:** 25th Anniversary Celebration of the Long Pond Greenbelt: AA

**Sunday, October 9, 10:30AM:** Crustacean Temptation: C5+

**Sunday, October 9, 7PM-8PM:** Full “Hunter’s Moon” Hike: AA

**Saturday, October 15, 8AM:** Birding with Joe Giunta—Fall Migration at Promised Land: A

**Saturday, October 15, 10AM:** SOFO Young Birders Club Meeting: Ages 8-18

**Saturday, October 15, 10AM:** Tour of the Mabel and Vincent D’Amico Studio and Archives: A/T

**Sunday, October 16, 10:30AM:** Great Outdoor Nature Scavenger Race: F

**Saturday, October 22, 9AM-11AM:** Nature Hike—Along Part of the Paumanok Path: A/T/C10+

**Saturday, October 22, 1PM:** Introduction to Animal Sign: A/T/C5+

**Sunday, October 23, 1PM:** Secrets of Fall Leaf Colors: Experiments and Art: F/AA

**Saturday, October 29, 10AM:** SOFO Young Environmentalist Society (YES!) Meeting: Ages 10-16

**Saturday, October 29, 10:30AM:** Japanese Paper Folding with Origami master Shrikant Iyer: A/T/C8+

**Saturday, October 29, 1:30PM:** Wildlife Walk at Camp Hero, Montauk: A/T

## November

**Saturday, November 5, 10:30AM:** Let’s Collect Fall Foliage to Make a Thanksgiving Wreath: F/C5+

**Saturday, November 5, 1PM:** Wilson’s Grove Nature Exploration: A/T/C5+

**Sunday, November 6, 10:30AM:** Lizards vs. Salamander: C7+

**Wednesday, November 9, 5:30PM-6:30PM:** Full “Frost Moon” Hike: AA

**Saturday, November 12, 10AM:** Beach or Trail Cleanup: AA

**Saturday, November 12, 10:30AM:** Create Your Own Animal Superhero Story: F/C5+

**Sunday, November 13, 10:30AM:** Exploring the Walking Dunes—In Search of Wild Cranberries and Carnivorous Plants: A/T/C5+

**Saturday, November 19, 10AM:** SOFO Young Birders Club Meeting: Ages 8-18

**Saturday, November 19, 10:30AM-Noon:** Nature Walk on the Montauk Seal Haul Out Trail:  
A/T/C10+

**Saturday, November 19, 3PM:** Bird Banding—What’s it all about?A/T/C8+

**Friday, November 25, 7PM:** Owling with Joe Giunta: A

**Saturday, November 26, 10AM:** SOFO Young Environmentalist Society (YES!) Meeting: Ages 10-16

**Saturday, November 26, 10:30AM:** 2.4 Mile Habitat Walk at Mashomack Preserve: F/C8+

**Saturday, November 26, 10AM-4PM:** SOFO’s Free Annual Thanksgiving Open House: AA

December

**Saturday, December 3, 10AM:** Seashells of the South Fork: A/T18+

**Sunday, December 4, 11AM:** Seal Walk at Cupsogue Beach County Park, Westhampton: A/T/C6+

**Wednesday, December 7, 5:30PM-6:30PM:** Full "Cold Moon: Hike: AA

**Saturday, December 10, 8AM:** The Black-capped Chickadee—Up Close and Personal: A/T/C8+

**Saturday, December 10, 10AM:** Beach or Trail Cleanup: AA

**Saturday, December 10, 10:30AM:** Annual Decorate a Holiday Tree for the Birds: F

**Saturday, December 10, 1:30PM:** Nature Walk Along the Trails of Morton Wildlife Refuge:  
A/T/C8+

**Sunday, December 11, 10:30AM:** Introduction to GIS, Map Making: Design Your Dream Village:  
C7+

**Saturday, December 17, 9AM-10:30AM:** Grassland to Grassland Hike—Vineyard Field to  
Poxabogue County Park: A/T/C10+

### Winter School Break

**One Hour Outdoor Nature Adventures for Children of all Ages  
In Vineyard Field, the field behind the museum, with the  
SOFO Environmental Educators**

**10-11AM**

**Monday, December 26** Tracks? Scat? Whose that?

**Tuesday, December 27** Who Eats Who?

**Wednesday, December 28** Winter Nature Walk and Scavenger Hunt.

**Thursday, December 29** Where Do Bugs Go in Winter?

**Friday, December 30** Winter Wonderland Walk.

*Some of the animals you may see in SOFO's autumn programs*



*Harbor seal credit: Amanda Boyd USFWS*



*Black-capped chickadee  
credit: Dan Pancamo Photography*



*Great horned owl  
credit: Missouri Department of Conservation Staff*



*Spotted salamanders credit: SOFO*



*Hermit crab credit: Eric Heupel*



*Little brown bat credit: Ann Froschauer USFWS*



## The Osprey Chronicles

by Melanie Meade, SOFO Education and Outreach Coordinator



*Osprey chick waiting to be fed by its mother.*

An osprey nest platform, located just behind the barn, has been at the South Fork Natural History Museum (SOFO) for 12 years. Numerous pairs of osprey have occupied it. But this year, for the first time, the SOFO ospreys have successfully fledged one chick, and its first flight was the weekend of July 8-10, 2022.

Ospreys are long-distance migrants. They spend winter months along the coast of Central and South America and summer months along the shorelines from Long Island to Maine, as well as on inland freshwater ponds and lakes. The adult males arrive first, in mid-March, and choose the nest site. Females arrive shortly after and are the chief nest builders. These nests consist of sticks gathered from the ground along with those broken off trees by the birds' talons while in flight. The nest is lined with soft grasses and sometimes contains odd bits of plastic the birds pick up along with nest materials from the shore. The female will lay two to three eggs, one or two days apart. Then incubation lasts from 38 to 42 days. Once the eggs hatch the adults are busy as they feed and care for the young ospreys. Around Long Island, the male catches fish like menhaden—a large herring—and brings them to the nest where the female tears the food into small pieces for the chicks. Both their summer and winter habitats provide plentiful fish for this exclusively fish-eating bird of prey species, whose other name is fish hawk. Young ospreys grow quickly and after 55 days of constant feeding they are ready to take their first flight.

Chicks become ready to fly as they exercise their wings while still in the nest, until their wing muscles are strong enough to fly or fledge. The juvenile osprey will remain near the nest with the parents feeding it for a few more weeks until by late August or early September the adults will head south once more. The young birds linger into September, honing their fishing skills before they too head south to their winter habitats.



*Female (left) and male (right) ospreys arriving in mid-March.*

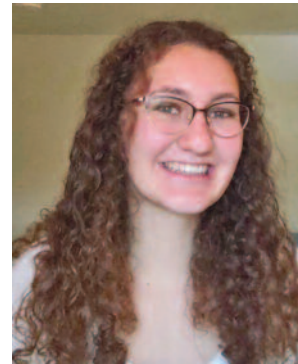
## SOFO Welcomes Two New Environmental Educators

We are delighted to welcome two new Environmental Educators to the SOFO staff, Emily Zabusky and Olivia McGranaghan. You may have already met them if you visited the museum this summer.

Emily and Olivia join our already well-established, superb team of educators; Melanie Meade, Education and Outreach Coordinator, Crystal Possehl-Oakes, Environmental Outdoor Education Specialist, Jake Kushner, Environmental Educator, Reptile and Amphibian Specialist, Rob Gelling, Environmental Educator and Aquarist, and LeighAnn Montaglione and Sandra Reyes, Environmental Educators.



*Emily*



*Olivia*

### *Here's a brief message from Emily and Olivia.*

Hello!

My name is Emily Zabusky. I joined the South Fork Natural History Museum as an Environmental Educator on June 1st, 2022. I majored in Coastal Environmental Science at Flagler College, located in St. Augustine, Florida, and graduated with a Bachelor of Science degree. In college, I spent most of my time out in the field studying coastal processes, marine biology, gopher tortoises, and dolphins. During my free time at college, I volunteered at Sea Turtle hospitals along the east coast of Florida and interned at the Jacksonville Zoo working with Gorillas. When I'm not working with animals, I like to travel and go hiking. But ever since I was little, I loved to learn about animals. I attended many nature camps growing up, and from that point on, I knew exactly what I wanted to do in the future. I'm excited to be part of the SOFO team.

Hello!

My name is Olivia McGranaghan. I graduated in May of this year from the State University of New York at Stony Brook, Long Island, and joined the SOFO staff in June. I received my degree in Environmental Studies with a concentration in Ecology, along with my minors in Geospatial Science and English. In my free time, I enjoy running, biking, hiking, swimming, and reading. In the future, I hope to use Geographic Information Systems (GIS) as a way to protect endangered species through the study of habitat degradation and climate change. You can read my article on GIS in the Footnotes column of this copy of the SOFO Naturalist.





## Ham Radio, *Still Relevant*

by Mare Dianora, Director, Young Environmentalists Society (YES!)



Amateur Radio is a form of communication to reach someone locally, across the world, or even into space. The Federal Communications Commission (FCC) in the United States and the International Telecommunication Union (ITU) worldwide assign frequencies for these types of communications. To become a “ham” or amateur radio operator, you must pass a test to receive a license. Amateur Radio can also be used in times of emergency when local phone and/or internet systems are down. For more information on how these emergency systems are in place, please visit: <http://www.arrl.org/ares>

In June of 2022, the Young Environmentalists Society (YES!) hosted my dad, Mario Dianora, a ham radio operator since 1960, to give us a demonstration of all of the possibilities of what a ham radio operator can do. This program was open to SOFO members and to the public, as well. The project involved an elaborate system of antennas and wires installed up in the trees at the museum ahead of the workshop. Mario had arranged for his friend outside of Philadelphia to be available to communicate with us during the workshop and it was amazing to see them go back and forth in Morse code faster than we could comprehend.

### Ham Radio Communications Checklist

- |           |  |
|-----------|--|
| Telephone | <input type="checkbox"/> Wires down.             |
| Cellphone | <input type="checkbox"/> No service.             |
| Internet  | <input type="checkbox"/> Unreliable.             |
| Twitter   | <input type="checkbox"/> Unavailable.            |
| Ham Radio | <input checked="" type="checkbox"/> Operational. |

Need we say more? credit: [www.hiphamshirts.com/](http://www.hiphamshirts.com/)



*Ham radio program at SOFO*

In 1991, the Morse code requirement was lifted but most ham radio operators today still have some interest in studying code.

Amateur Radio can be more than just a hobby, it can be a lifestyle. My childhood geography lessons were keeping track of where the other hams were that my dad spoke to around the globe on his giant world map in his radio room in the basement. Each conversation was carefully logged into a notebook and a postcard soon arrived in the mail with that operator’s “call letters” which you are assigned when you pass your license test. I would arrange these cards in a box by country and continent.

Anyone can pass the ham radio test and there is no age limit. You can learn more about amateur radio or what the requirements are to study for the exam, by visiting [www.hamradioprep.com](http://www.hamradioprep.com) or the site for the American Radio Relay League which is the national association of amateur radio: [arrl.org](http://arrl.org). There is so much more to this means of communication.



*Mare and Mario setting up the ham radio antenna wire.*

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## SOFO Mission

The mission of the South Fork Natural History Museum (SOFO) is to stimulate interest in, advance knowledge of, and foster appreciation for the natural world with special emphasis on the unique natural environment of Long Island's South Fork.

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South Fork  
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