

SOFOnaturalist



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

A Season on Alewife Creek

by Peter Topping, Peconic Baykeeper

When I was a kid growing up on the East End, spring was a favorite time of year. My mother would make a “Spring List” in early March and post it on the refrigerator. Each list item found first earned a quarter for the finder and, more importantly, bragging rights in the family for the year. Being especially fond of aquatic ecosystems, the arrival of the alewife, for me, was the most anticipated and my father would bring my sister and me down to the Noyac Road “alewife drain”—often under the cover of darkness—with a high tide to look for them.

The alewife (*Alosa pseudoharengus*) is a diadromous fish from the herring family. Diadromous means that they can move between salt and freshwater! Alewives spend the majority of their lives in ocean waters off the continental shelf, where they live in large schools and feed on zooplankton. Beginning at around four years of age, males and females will make their way inshore and “run” up small, unimpeded streams and rivers to spawn in the lakes and ponds where they were born. If they are lucky, they may live to repeat this journey several times in their lives.



Alewife swimming up Noyac Road culvert on its way to spawn in Big Fresh Pond

On Long Island, this run typically happens from mid-March until May depending on water temperature, with each female alewife laying up to 250,000 eggs. Of these, few are likely to survive to make the return journey. The young will spend several months in freshwater before making their way downstream in late summer or early fall to venture out into the ocean, where the cycle will begin again. During their life cycle, these fish will become a vital food source for countless organisms in freshwater, marine, and terrestrial ecosystems, including osprey, herons, otters, raccoons, dolphins, and many more!

Historically, alewives were relied upon by both Native Americans and early European settlers as an easily obtained source of protein, bait, and even fertilizer. Streams and rivers along the Atlantic coast would run silver with these fish every spring, and anyone with a net



Osprey with alewife

could catch them. I would venture to say that the majority of East Enders today have never heard of them! Sadly, many streams on Long Island and elsewhere that once hosted runs of alewives are no longer passable due to development. Combined with overfishing and habitat loss, this has designated them as a “threatened species” in New York State. Fortunately, there is an ongoing effort to restore alewife habitat throughout Long Island through the placement of fish passages, improving culverts, and, in some cases, the removal of dams. Downtown Riverhead’s Grangebél Park is one such example of a fish passage that now allows thousands of fish to make their way up the Peconic River to reach suitable spawning habitat. More fish passages allowing additional access further upstream are also being planned.

Southampton’s Alewife Creek (where I first observed these fish as a child) currently hosts the largest unimpeded run of alewives on Long Island. While there is a culvert at Noyac Road and another at North Sea Road, this stream is still passable to these fish as they move into Big Fresh Pond to spawn. The Town of Southampton has future plans to improve the Noyac Road culvert so that it is more passable to alewives, especially on lower tides. I have been working with some volunteers to monitor this important run of fish since mid-March, and it has been exciting to see how truly resilient these fish are. In addition to counting fish passing upstream to gain a better understanding of the current run size, I have also seen osprey, herons,



Peter and kids looking for alewives

Continued on next page

Continued from page 1

egrets, bald eagles, and raccoons relying on this seasonal feast. Hopefully, a greater awareness for alewives and their importance to the ecosystem will inspire more projects to restore historic alewife spawning runs and our streams will run silver once more!

Peter Topping grew up on the East End of Long Island, where his interests revolve around exploring the natural environment, particularly our waterways. As the Peconic Baykeeper, he works to ensure the protection of our fishable, swimmable, and drinkable waters.

Harmful Algal Blooms

by Jackie Avignone, South Fork Natural History Museum Environmental Educator

Locals and travelers alike are drawn to Long Island for its beautiful beaches, fishing communities, and overall maritime culture. The marine ecosystems that bring people to Long Island are ironically being degraded by increased population Island-wide. As the number of inhabitants on our island soar, so does one of the main causes of harmful algal blooms in our aquatic ecosystems—nitrogen loading from wastewater.

Anthropogenic sources are among the most common causes of the buildup of nutrients in coastal environments. Through the exploration of the water quality and health of aquatic flora and fauna by local scientists, the majority of the embayments of Long Island have been proven to be plagued with harmful algal blooms. Often asso-



Aureococcus anophagefferens, an algal species that can cause brown tides. Credit: Greg Workman



An example of cyanobacteria, blue-green algae

ciated with waters afflicted with harmful algal blooms are hypoxic zones, loss of habitat, acidic pH levels, and an overall decrease in shellfish populations as well as fish populations.

The good news is our efforts to restore our aquatic ecosystems are not futile! Clam populations have profoundly expanded, eelgrass beds have gained hundreds of acres, and there were no brown tide blooms in our bay in 2018 according to Dr. Christopher Gobler. Dr. Gobler's 2019 State of the Bays lecture reflects that supportive efforts of the restoration of our bay include retrofitting septic tanks with nitrogen-removing biofilters, eelgrassbed expansion, enhancement of bivalve shellfish population levels, and continued monitoring.

Understanding and appreciating the delicate balance of our ecosystem is the first step toward preserving it. Efforts that can be made on the homestead are conscious utilization of fertilizers, proper disposal of pharmaceuticals, and upgrading of sewage waste-management systems. A great way to get involved for individuals of all ages is to reach out to local conservation organizations to volunteer!

On Wednesday, July 17, at 7pm, at the South Fork Natural History Museum, Jackie will present an in-depth program on Algal Blooms—What Are They/Environmental Impacts/How You Can Help! We hope you can join us for this important talk.

SOFO news



CELEBRATING 30 YEARS

CELEBRATE THE WONDERS OF THE WILD

AT SOFO's 30th ANNIVERSARY GALA BENEFIT

30 Years of Nature Conservation, Education & Exploration Empowering Families to become Responsible Stewards of our Planet

Honoring DR. DEMIAN CHAPMAN, TRAMMELL S. CROW & GREG MANOCHERIAN

SATURDAY, JULY 13, 2019

6PM - 11PM



**The South Fork Natural History Museum's
Most Important Benefit of the Year**
Benefiting SOFO's Educational & Environmental Programs & Initiatives

**CHAIRD BY CAROLE CRIST,
GEORGIA & DR. GERRY CURATOLA,
ERIC GOODE, APRIL GORNIK & ERIC FISCHL,
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**VIP Cocktail Reception 6PM-7PM
Benefit Party, Honoree Presentation,
Dinner & Dancing 7PM-11PM**

CATERING BY ELEGANT AFFAIRS CATERING

Surprise Guests • Live Band • Silent & Live Auctions

**VIPTABLES • TICKETS • SPONSORSHIPS
SPECIAL AFTER PARTY (DRINKS & DANCING) TICKETS**

**Contact Diana Aceti at daceti@sofo.org
631.903.7217 • 631.537.9735 • www.sofo.org/summer-gala/**

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www.sofa.org email: sofo@hamptons.com

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

www.sofa.org/calendar

July, August, & September

Museum Admission & Program Information

SOFO Members

Admission to the Museum is free. Programs are free unless otherwise specified.

Advance reservations are required for all programs.

Non-Members

Museum Admission Only – Adults \$10, Children \$7.50 (Ages 3-12),

Ages 2 and under free

Museum Admission and Program – Adults \$15, Children \$10 (Ages 3-12),

Ages 2 and under free

Advance reservations are required for all programs.

To make reservations and find out about meeting places, please call SOFO at 631.537.9735
or email sofo@hamptons.com.

Special Programs

Saturday, August 10 at 10am for Adults & Teens

Birding with Frank: Shorebirds at Shinnecock Bay—Walk Co-leader, Professional Bird Photographer

On this birding outing a professional bird photographer from the International Center of Photography will accompany Frank and teach, those who are interested, the fine points of bird photography. See back page of Calendar At A Glance for more information.

Wednesday, August 14 at 6pm for Adults & Children 8+

SOFO's Shark Research & Education Program Team

Unlock the Mysteries of the Long Island White Shark Nursery

Cohosted by Dr. Tobey Curtis, Lead Scientist, and Greg Metzger, Field Coordinator

Be sure to join us at SOFO when the Shark Research & Education Program Team share their 2019 findings.

A full description of each program is listed on the
SOFO website: www.sofa.org/calendar

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.sofo.org/calendar.

Advance reservations are required for all programs.

July

- | | | |
|----|--|------------|
| 6 | • U.S. Coast Guard Station Shinnecock, Annual Open House—Family Fun Day! AA • | 10am-3pm |
| 8 | • “They Called it Red Gold”—Walk & History of the Long Island Cranberry Industry, with John Turner Cosponsor: Peconic Land Trust • | 10-11:30am |
| 13 | • SOFO’s 30th Anniversary Summer Gala Benefit—30 Years of Nature Conservation, Education & Exploration, Empowering Families to become Responsible Stewards of our Planet • | 6-11pm |
| 16 | • Lost Ladybug Search Continues at Quail Hill Farm: AA • | 10am-Noon |
| 16 | • Full Buck Moon One-Hour Hike with Friends of the Long Pond Greenbelt • | 9pm |
| 17 | • Algal Blooms—What Are They/Environmental Impacts/How You Can Help! A/T • | 7pm |
| 18 | • COME DRAW WITH US! A/T15+ • | 10am-1pm |
| 20 | • SOFO’s Young Birders Club: T/C8-18 • | 10am |
| 20 | • Tour of Conscience Point Shellfish Hatchery: A/C8+ • | 10:30am |
| 20 | • On the Beach with the Atlantic Marine Conservation Society—Sea Turtles & Marine Debris: A/C8+ • | 6pm |
| 21 | • Make Your Own Fish-Print T-shirt: A/F • | 10:30am |
| 21 | • On the Beach—Plovers, Terns, & Other Shorebirds: A/C8+ • | 2pm |
| 23 | • Engineering Workshop—Build an Underwater Remote Operated Robot with OceansWide: C9+ • | 10am-4pm |
| 24 | • Lyme & Tick-Borne Disease Support & Advocacy Meeting • | 6:30pm |
| 27 | • All About Long Island’s White Shark Research: AA • | 10am |
| 27 | • Art Hike for Tick-Bite Safety & Awareness—Poster Contest Winner: F • | 10am-2pm |
| 27 | • SOFO’s Shark Research & Education Program Talk—Westhampton Beach Public Library • | 4pm |
| 28 | • Salt Marsh Safari at Munn Point Preserve—Beach Walk: AA • | 10:30am |
| 28 | • Birding with Frank at the Long Pond Greenbelt Nature Center: A/T Cosponsor: Friends of the Long Pond Greenbelt • | 2pm |
| 28 | • Summer Beetles, Bees, & Butterflies of Vineyard Field—Field Walk: AA • | 3pm |



*Black Swallowtail Butterfly on Swamp Rose Mallow
Credit: Xylia Serafy*

You can see Swamp Rose Mallow in SOFO’s Native Butterfly Garden and, if you are lucky, you might see a Black Swallowtail Butterfly nectaring on the mallow. SOFO has published free checklists of native South Fork butterflies and wildflowers. Pick one up on your next visit to the Museum.

August

- | | | |
|----|--|-------------|
| 3 | • Dragonfly/Damselfly Walk & Identification: A/C8+ • | 10:30am |
| 3 | • Pond Life Exploration—Hands-on & Up Close: AA • | 2:30pm |
| 4 | • Meet the Reptiles & Amphibians of SOFO: C3-5 • | 10:30am |
| 10 | • Birding with Frank: Shorebirds at Shinnecock Bay —
Walk Co-leader, Professional Bird Photographer • | 10am |
| 10 | • Sunlight & Shadow—Building Your Own Sundial: F/C6+
Cosponsor: Montauk Observatory • | 2:30pm |
| 10 | • SOFO Cleans the Beach at Gibson Beach: AA • | 6pm |
| 11 | • Wildlife Rehabilitation Basics—How You Can Get Involved! A/C8+ • | 10:30am |
| 13 | • Seahorse Survey at Tiana Beach with Cornell Cooperative
Extension: A/C8+ • | Noon-2pm |
| 14 | • Meet SOFO's Shark Research & Education Program Team—
Unlocking the Mysteries of the Long Island White Shark Nursery: A/C8+ • | 6pm |
| 15 | • Full Sturgeon Moon One-Hour Hike with Friends of the
Long Pond Greenbelt • | 8:30pm |
| 17 | • Marine Biology Boat Trip—Hands-on Trawling
with the Experts: A/C8+ • | 9:45am-1pm |
| 17 | • SOFO's Young Birders Club: T/C8-18 • | 10am |
| 18 | • Meet the Reptiles & Amphibians of SOFO: C6-8 • | 10:30am |
| 22 | • COME DRAW WITH US! A/T15+ • | 10:30am-1pm |
| 24 | • Exploring Vernal (Temporary) Ponds—Ecology Walk: A/C6+ • | 10:30am |
| 24 | • Aldo Leopold's Land Ethic— <i>Green Fire</i> documentary,
<i>A Sand County Almanac</i> & the Development of
Modern Environmental Ethics: A/T • | 7pm |
| 28 | • Lyme & Tick-Borne Disease Support & Advocacy Meeting • | 6:30pm |
| 31 | • Snapping Turtles—Andy's Prehistoric Monster Hunt: F • | 10am |

September

- | | | |
|----|--|-------------|
| 1 | • Late Summer Beetles, Bees, & Butterflies of Vineyard Field—
Field Walk: AA • | 10:30am |
| 7 | • Birding with Frank to Celebrate World Shorebirds Day: A/C8+ • | 9am |
| 8 | • Bay Seining with Al Daniels—Up-close Look at Marine
Creatures of the Bay: F • | 10am |
| 11 | • Lyme & Tick-Borne Disease Support & Advocacy Meeting • | 6:30pm |
| 14 | • COME DRAW WITH US! A/T15+ • | 10:30am-1pm |
| 14 | • Biologist Dr. Keith Serafy Leads a Beach Walk at Circle Beach: AA • | 2pm |
| 14 | • SOFO Cleans the Beach at Long Beach: AA • | 6pm |
| 14 | • Full Harvest Moon One-Hour Hike with Friends of the
Long Pond Greenbelt • | 7:30pm |
| 20 | • The Autumn Equinox—Talk & Star Viewing with the Montauk
Observatory: A/T/C10+ • | 7-9pm |
| 21 | • SOFO's Young Birders Club: T/C8-18 • | 10am |
| 21 | • Tie-Dye with a Twist—Nature Walk & T-shirt Printing: F • | 10:30am |
| 22 | • Birding with Frank in Montauk—Fall Migration: A/C8+ • | 9am |
| 25 | • Lyme & Tick-Borne Disease Support & Advocacy Meeting • | 6:30pm |
| 28 | • Nature Walk with Frank—SOFO to Mashashimuet Park: A/T • | 10am |
| 29 | • Paddling the Peconic River with Melanie—
BYOK, kayak or canoe: A/C10+ • | 9-11am |

Birding with Frank: Shorebirds at Shinnecock Bay—Walk Co-leader, Professional Bird Photographer from the International Center of Photography: Saturday, August 10 at 10am for Adults & Teen

SOFO is pleased to partner with Southampton Arts Center and the International Center of Photography, who are co-presenting the National Geographic Photo Ark Exhibition of Photographs by Joel Sartore at Southampton Arts Center. The exhibition highlights Sartore's images from his multi-year effort to raise awareness of and find solutions to some of the most pressing issues affecting wildlife and their habitats. The project aims to document every species living in the world's zoos and wildlife sanctuaries, inspire action through education, and help save wildlife by supporting on-the-ground conservation efforts.

As a result of SOFO's partnership with Southampton Arts Center and the International Center of Photography, this year's Birding with Frank—Shorebirds, on Saturday August 10 at 10am at Shinnecock, will have a special added feature. Frank will be joined by a professional bird photographer from the International Center of Photography who will teach the fine points of bird photography to anyone on the walk interested in photographing birds. Be sure to sign up early for this walk, as it will be very popular. Sign up either by calling SOFO at 631.537.9735 or emailing sofo@hamptons.com. To find details about the walk, go to <https://sofo.org/calendar/>.

The Photo Ark exhibition at Southampton Arts Center (SAC) is on view this summer from Thursday, June 27 through Sunday, September 8. For more information about the exhibit and Sartore's work, please go to SAC's website: <https://southamptonartscenter.org/event/national-geographic-photo-ark-exhibition-joel-sartore/>. To learn more about the International Center of Photography, please go to the Center's website: <https://www.icp.org/>. This walk is free to SAC members. Below are some of the birds you might see, and photograph, on this walk.



Ruddy Turnstone – Credit: Peter Wallack, Whimbrel – Credit: Mike Baird, Plover and Chicks – Credit: Kaiti Titherington/USFWS, Greater Yellowlegs – Credit: Dick Daniels, Oystercatcher, and Sandpiper – Credit: dfaulder

A Wish List from *SOFO's Shark Research & Education Program*

There are a variety of shark species found in New York's productive coastal waters. Sharks play very important roles in our ocean ecosystem but face a variety of threats from human activities. SOFO is supporting research and education efforts to help conserve the sharks found in our waters, with a focus on our unique local population of young white sharks.

In order to give you a better understanding about sharks and our Research and Education Program, SOFO installed a new exhibit about the subject in 2018—its goal is to help you learn about the ecology and conservation of Long Island's local shark species. This one-of-a-kind exhibit brings visitors virtually face-to-face with these important marine predators. It incorporates scientific data drawn directly from our team of collaborating scientists. The interactive exhibit—designed for children and adults—includes a Virtual Shark Tagging Experience, satellite tracking maps, photos from the field, and biological information about our local sharks.

Wish List:

2019 marks the fifth year of this very successful and important project, which has been featured in peer-reviewed scientific publications and has had wide media coverage. As the project has grown, the needs of the SOFO marine science team doing this research are increasing, and additional equipment is required. The fieldwork season begins in May and ends in September. In August of this year there will be a special one-week expedition in Montauk. The following is a wish list of equipment needs for the program's summer 2019 activities. These items will help us to better document our science activities and provide new and exciting content for the shark exhibit, website, educational programs, and other outreach efforts.

One gift of \$1,328 will enable us to purchase all of these items. See below the price of each item, if you prefer to donate individual items.

All financial and in-kind donations to our Shark Research & Education Program will be added to our donors' 2019 annual appeal contributions.

Thank you,

Frank Quevedo, Executive Director, South Fork Natural History Museum (SOFO)

Items needed:

2 – GoPro HERO7 Silver — Waterproof Digital Action Cameras with Touch Screen 4K HD Video 10MP Photos – Item Price: \$215 each, for the two \$430; price as listed on Amazon Prime as of May 30, 2019

1 – Olympus TG-5 Waterproof Camera with 3-Inch LCD, Red – Item Price: \$399; price as listed on Amazon Prime as of May 30, 2019

1 – GoPro Fusion 360 Waterproof Digital VR Camera with Spherical 5.2K HD Video 18MP Photos – Item Price: \$499.99; price as listed on Amazon as of May 30, 2019



White Shark Credit: Chris Paparo @fishguyphotos

Growing Green Plants with Aquaponics

by *Melanie Meade, South Fork Natural History Museum (SOFO) Education & Outreach Coordinator*

SOFO's new aquaponics exhibit was designed and built by high school students in the Environmental Science class at Bridgehampton High School, with guidance from their teachers, Natalia Nichols (Science) and Judiann Carmack-Fayyaz (Environmental Design/Technology), and the assistance of SOFO Executive Director Frank Quevedo and Education & Outreach Coordinator Melanie Meade. Funding for this project was provided by a grant from the Town of Southampton.

The exhibit is designed to educate and inform visitors to the South Fork Natural History Museum about a growing industry—aquaponics technology. Aquaponics is a way of growing herbs, lettuces, kale, and other green plants both indoors and outdoors without soil. A blend of aquaculture—growing fish in water-tank systems—and hydroponics—growing green plants without soil—aquaponics techniques give a fast, high rate of plant yield while using very little space and electrical power and no fertilizers or pesticides. As a hyper-local farm-to-table model, aquaponics culture of human foods is one method that could help reduce human impacts on the environment by reducing agricultural needs for space, fertilizers, pesticides, and energy.

The aquaponics exhibit at SOFO demonstrates the natural processes at work behind the science of aquaponics technology. The interdependency of animals and plants is visually represented by the cyclic nature of nitrogen-based plant nutrients: the fish produce nitrogen-based waste products, which are then carried by the water to the plants to be taken up by the plant roots. Artificial lighting provides sunlight, and ambient air provides carbon dioxide to complete the requirements needed for plant growth. The only addition needed to make the system sustainable is food for the fish.

Visitors to the exhibit will develop an understanding of aquaponics methods in general and an awareness of the increasing role of technology in the business of hyper-local food sourcing. Please visit the museum this summer for a more detailed explanation of this example of smart farming and an opportunity to see the completed aquaponics exhibit.



SOFO's new Aquaponics Exhibit under construction by Bridgehampton High School's Environmental Science class: from left to right: Gylia Dryden, Jordan Gant, Jaeda Gant, Yaritza Huacan, Christopher Rodriguez, Esefania Bonilla, Melissa Villa, and (not pictured) Jamie Fairchild, Student Advisor

Welcome to the SOFO Board of Directors

Steven McKenna & Dr. Russell Mittermeier

Steven McKenna is the CEO and publisher of Dan's Hamptons Media (a division of Manhattan Media), an unrivaled combination of print, websites, live events, and a suite of digital, mobile, and social marketing solutions. His varied background in finance, strategy and planning, development, operations, marketing, and sales management has given him a rounded operational business view. Over the past seven years, he has developed and executed a wide range of creative growth strategies to double the company's revenues and set it up to thrive well into the future.

Dr. Russell Mittermeier, Chief Conservation Officer of Global Wildlife Conservation, is a longtime member of the IUCN Species Survival Commission's Steering Committee and, since 1977, Chair of SSC's Primate Specialist Group. A primatologist, herpetologist, conservationist, and author, he leverages his experience to protect wildlife and wildlands. A recipient of the coveted Indianapolis Prize in 2018, Russ is a world leader in biodiversity and tropical forest conservation.

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The *SOFO Naturalist* is published
quarterly as a benefit of membership

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U.S. Postage Paid
Permit #5
Bridgehampton,
NY 11932