

# 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 Ripple Effect: *An update of SoFo's Shark Initiative from the summer of 2015*

by Greg Metzger, Chief Field Coordinator for the SoFo Shark Research and Education Program

The summer issue of the 2015 *SoFo Naturalist* featured an article I wrote introducing you to the Cooperative Shark Tagging Program (CSTP). This program was started in 1962 by the National Marine Fisheries Service to gain invaluable "...information on stock identity, movements and migration, abundance, age and growth, mortality and behavior," according to their website (<http://www.nefsc.noaa.gov>). The program was designed to enlist the help of fishermen to tag and recapture sharks. The data is collected by inserting a small, non-electronic, plastic tag into the shark at the base of their dorsal fin. Upon capture of the shark, the fisherman would fill out the associated card with data, such as species, sex, length, location of capture, as well as overall condition of the shark.



Here is a thresher shark about to be tagged with a CSTP tag off Capt. Greg's boat.



This is the first YOY white shark ever tagged with a satellite tag in the Atlantic Ocean.

We have come a long way in three years!

In the summer of 2015, we fished 54 days between the months of May and August. We tagged and released 50 sharks for the CSTP, which was our goal based on previous catch history. That's 54 days in 4 months...for those of you who spend time on the water you may be saying, "Wow, that is a lot of time," and you would be correct. So, why did we spend so much time along the south shore of Long Island? Our real goal was to catch and tag a "young of the year" (YOY) white shark. We were armed with both the tags given to us by the CSTP and two pop-off satellite tags, which were donated to us by the Large Pelagics Research Center, located in Massachusetts.

On August 26, the line came tight on our fiftieth shark, a four-foot-long female YOY white shark. Upon tagging that fish with one of the satellite tags, we were the first to place such a tag on a YOY white

shark in the Atlantic Ocean! Our press release found its way to the desk of Chris Fischer, founder of OCEARCH, prompting him to call our shark scientist, Dr. Tobey Curtis. After congratulating us on this historic accomplishment, he asked if we would be interested in OCEARCH conducting an expedition during the summer of 2016. The goal would be to target YOY white sharks to help us increase the data known about this stage of their life cycle. We of course accepted.



Chris Fischer, Founder of OCEARCH. Photo Credit Rob Snow

August of 2016 found the OCEARCH crew and fleet, combined with our crew and boat, parked just south and a bit west of Montauk Point Lighthouse. We all had mixed feelings about the likelihood of success of this expedition. White sharks have been caught by scientists off Long Island as far back as the 1950s, and well before that by both recreational and commercial fishermen. Expedition New York was scheduled to last three weeks. The first week began with bad weather and jockeying for what we felt would be productive white shark habitat. Week two started with a great weather window and our first few YOY whites tagged and released! Week three ended the Expedition a day early as we caught and deployed our last of 9 satellite tags. But this was only the start.

The Shark Tracker ([go to OCEARCH.org](http://go to OCEARCH.org)) utilizes a very sophisticated satellite tag to track a shark's movements. In order for scientists to make a statement about the movement patterns of sharks based on the data obtained from this type of satellite tag, a minimum of 20 sharks ideally should be tagged. This was the start of Expedition New York 2017. We needed to tag an additional 11 sharks with those tags, for scientific purposes. We met success! In just three years, we went from 0 white sharks electronically tagged to 21. Our work has provided insight into how they utilize our south shore waters, when they leave our waters in the fall, where some spend their winters, and even that some return the following year. Our work has also shown that the south shore of Long Island is the only confirmed nursery for white sharks in the Atlantic.

*Continued on next page*



Greg's team as they just caught the last shark of Expedition NY 2016. Photo Credit Rob Snow

We owe a tremendous amount of gratitude to all the collaborators and contributors who helped us to accomplish what we have over the past three years. OCEARCH has provided me with the invaluable knowledge needed to continue to target YOY white sharks through the SoFo Shark Research and Education Program. My crew and I now have the skills to catch YOY white sharks consistently, to continue to contribute to the science we have started.

Please check the SoFo website [www.sofo.org](http://www.sofo.org) for updated information as this research project continues and be sure to join us for

three fascinating shark programs on Saturdays in April, May, and June:

Saturday, April 7 at 1pm – Introduction to the SoFo Shark Research & Education Program, a family program, children ages 6 and older,

Saturday, May 12 at 2 pm – Anyone Want to Catch a Shark?, a family program, children ages 6 and older.

Saturday, June 16 at 2pm – The Science of Shark Research, a family program, children ages 10 and older.

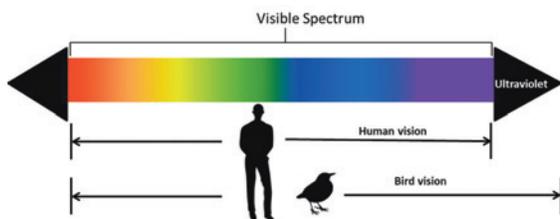
## Footnotes on Nature

### Birds See What?!

by Taylor Ruhle, South Fork Natural History Museum (SoFo) Environmental Educator

Imagine being outside on a spring day: the green grass, the rainbow of flowers, the blue sky, and the birds—well, the birds are a drab mix of browns, whites, and blacks. The colors we see are the same colors other critters see too, right?

Not necessarily. We as humans only have the ability to see the visible color spectrum whereas birds can see an additional range—ultraviolet (UV). Cones in our eyes are responsible for color detection. In humans, three cones are present, whereas birds have four or more depending on the species. This increased number of cones allows their color range to be much larger than ours. Since we lack the fourth cone, it is unknown how colors are actually perceived by birds.



Visible spectrum for humans and birds.

“So why see UV anyway?” you may be wondering. The ability to see in UV provides birds with several advantages. One major advantage is an increased chance to find food. Birds that forage on berries or insects are able to find their food faster and more easily if the food they seek reflects UV light. Flowers appear as a bullseye under UV, directing birds, such as hummingbirds, to find nectar more easily. Birds of prey (or raptors) follow ultraviolet urine trails left behind by rodents to find their food.



Meadow Buttercup under visible light (left) and UV (right). Photo credit Dave Kennard

Birds also use UV to spot predators. For example, a cat hiding in a bush may look very well-hidden to the naked human eye, but to a bird, it may be very visible.

The ability to see the UV spectrum plays an important role in a bird's life — such as during mating, identifying eggs, chicks, and intruders. During mating, a bird can identify another's sex and age based on reflective UV patterns. For example, male and female red-tailed hawks look identical to us, but to each other may look very different. Owls can determine the age of another based on UV patterns on the wings (explained more below). Birds may also be able to identify their own eggs and chicks based on UV patterns. For example, if a parasitic Brown-Headed Cowbird lays its egg in another bird's nest, the parents may be able to identify it as a foreign invader. A bird may also recognize another bird as a threat in its territory.

Aforementioned owls can age one another based on UV wing patterns. Biologists also use UV light reflectance to determine the age of owls. When owls molt their feathers, they do so in sections. New feathers will be filled with pigments (polyphrins) which, when a black light is shone on the feathers, these feathers will appear red to us. If the bird is older, patterns of alternating reds and whites will be visible under a black light.

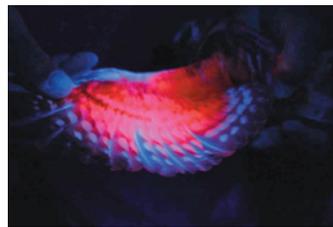


Photo of juvenile Northern Saw-whet Owl wing under black light.

Photo of adult Northern Saw-whet Owl wing under black light.

We can make use of a bird's ability to see UV light to help in their survival. UV decals can be applied to windows to reduce the number of bird strikes, UV reflective collars can be placed on outdoor pets to increase the ability of a bird to see the predator, and birdfeeders can be designed in color patterns that reflect UV light to entice birds.

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Find us on Facebook  Twitter  Instagram 



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

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

# April, & May, June

## *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 to [sofo@hamptons.com](mailto:sofo@hamptons.com).



*Animals you might see and/or learn about at a SoFo spring program.*

*Great White Shark: Photo credit Terry Goss, Osprey, Red Fox, Yellow Warbler: Photo credit Geoff Clarke*

*Indigo Bunting: Photo credit Gareth Rasberry, Sand Fiddler Crab: Photo credit Geoff Gallice, Eastern Cottontail, Horseshoe Crab: Photo credit Gina Mulhearn*

## SoFo Programs Take Flight

(For a more detailed description of all programs in this calendar, please see the SoFo website)

### Astronomy and Jet Powered Flight

During the 2017 SoFo Thanksgiving Open House, with the assistance of the Montauk Observatory, we explored ground and satellite telescopes, rockets and outer space—the physical space beyond the Earth's atmosphere. Throughout the coming months, Montauk Observatory astronomers will continue to visit SoFo, as they have all winter, for monthly astronomy night “star parties”, where you'll have a chance to observe the night sky through telescopes and binoculars and learn some astronomy as well.

Saturday, April 21, 2018

**Astronomy Talk “Jupiter, King of the Planets” 7pm – 8pm**

**Star Viewing 8pm – 10pm**

to celebrate Earth Day, National Astronomy Day, & International Dark Sky Week

Friday, May 18, 2018,

**Astronomy Talk “Next Stop Mars” 7pm – 8:30pm**

**Star Viewing 8:30pm-10pm**

Friday, June 15,

**Astronomy Night, Star Viewing 9pm – 11pm**

And ... in late June; look for a visit to the East End by a very important NASA astronaut. We will keep you up-to-date about who it is, the dates of his visit, and where he will be speaking. This visit is being arranged by the Montauk Observatory (MO). We at SoFo are very grateful to have established a continuing working relationship with the Montauk Observatory.

### Animal and Aircraft Flight

In this spring Calendar of Events SoFo is focusing on flight from the vantage point of bird flight, insect flight, and aircraft flight—aircraft flight that soars through the atmospheric layers that surround our planet. Join us for the following family programs designed for children, ages 8 and up. Children of all ages may attend the Saturday, June 30 program, a visit to the East Hampton Airport.

Sunday, April 15, 10:30 am

**Birds of a Feather—Features of Flight**

Sunday, April 29, 10:30am

**Let's Make Kites—The Four Forces of Flight**

Sunday, May 6, 10:30am

**The Evolution of Bird Flight! From Dinosaurs to Today**

**A Nature Game**

Saturday, June 2, 10:30 am

**Flight of the Butterfly—Then Build Your Own Butterfly**

Saturday, June 9, 3pm

**The Original Hamptons' Night Life—Nocturnal Insects, Fascinating Fliers**

Saturday, June 30, 10am

**Visit to the East Hampton Airport: A Brief Introduction to Aviation,  
followed by up-close visits to an Agusta Koala Helicopter, a Beechcraft Bonanza,  
a Piper Navajo, and a Dassault Falcon Trijet and more.**

SoFo will continue to investigate the dynamics of flight in the upcoming months and throughout the coming years, because new forms of aircraft flight and voyages into outer space are very much a part of our future. We will also explore biomimicry, ... “an approach to innovation that seeks sustainable solutions to human challenges by emulating nature's time-tested patterns and strategies. The goal is to create products, processes, and policies—new ways of living—that are well-adapted to life on earth over the long haul,”\* as the field continues to advance. \*Biomimicry Institute

# Calendar At A Glance

Key: A—Adults T—Teens C—Children F—Family

A full description of each program and time frame is listed on the SoFo website at [www.sofo.org/calendar](http://www.sofo.org/calendar)  
*Advance reservations are required for all programs.*

April

## 2-6 Spring School Recess Outdoor Programs 10:30-11:30am

For Children of All Ages

2 • Monday: Springtime Nature Scavenger Hunt

3 • Tuesday: The Great Bird Migration Challenge

4 • Wednesday: The Osprey's Obstacles Adventure

5 • Thursday: Snapping Turtle Survival Game

6 • Friday: Wild Rascal Relay

7 • *Maria Merian, 17th Century Artist, Scientist, Adventurer*: F/C6+ • 11am  
 CMEE & SoFo—Children's Book Talk for Budding Biologists

7 • Introduction to the SoFo Shark Research & Education Program: F/C6+ • 1pm

7 • Oyster Growers & Consumers, What You Need to Know! A/T • 5-7pm

8 • Come Draw with Us! A/T • 1pm

14 • SoFo Cleans the Beach—Montauk: Cosponsored CCOM & MOI: F • 8-9am

14 • *Mr. Seahorse*—Story, Craft, & Feeding SoFo's Seahorses: C 3-5 • 10:30am

14 • Amphibian Encounter with SoFo at Quogue Wildlife Refuge: F • 1-2pm

15 • Birds of a Feather—Features of Flight: F/C 8+ • 10:30am

## 20-22 Earth Day Celebration & Wellness Weekend

Most activities outdoors, weather permitting. In case of rain, starred (\*) activities will be indoors, but activities marked (\*\*) will be cancelled.

20 • Friday:  
*The Healing Power of Nature* with John P. Cardone 7pm  
 Book Talk & Signing: A/T

21 • Saturday:

• SoFo Cleans the Beach at Sagg Main Beach: F 9-10am

• Family Yoga in Nature with Laura Berland, Senior Yoga Instructor (\*) 10:30-11:30am

• Family Nature Walk in Vineyard Field (\*\*) 11:30am-Noon

• Bay Burger "Grab & Go" Sandwiches & Salads Noon-2pm

& Joe & Liza's Ice Cream, available for purchase (\*)

• Children's Nature Scavenger Hunt & Prizes (\*\*): C 5+ 1:30-2:30pm

• Make a Recycled Tin Can Planter (\*): F 1:30-2:30pm

• Tick-Borne Illness Talk by Stony Brook (\*): A/T 2:45-4pm

Southampton Hospital Resource Center (Info table all day)

• Astronomy Talk "Jupiter, King of the Planets": F/C 8+ 7-8pm

Cosponsor, Montauk Observatory

Star Viewing with Montauk Observatory Astronomers (\*\*): F 8-10pm

Honoring National Astronomy Day, International Dark Sky Week

22 • Sunday:

• Birding with Joe Giunta—Spring Migration: A 8am

• Nature Walk, SoFo to Mashashimuet Park (\*\*): A/T 11am-1pm

Optional bus pick-up back to SoFo 1pm

BYO Picnic Lunch at Mashashimuet Park (\*\*): A/T 1-2pm

Nature Walk, Mashashimuet Park to SoFo (\*\*): A/T 2-4pm

• Documentary *Racing Extinction* PG13 – Fee \$7 5-6:30pm

28 • Nature & Bird-Watching Cruise with Frank: A/C 10+ • 9:45am-1pm

28 • Sounds of Spring—Who's Calling in My Backyard? F • 10:30am

29 • Let's Make Kites—The Four Forces of Flight: C 8+ • 10:30am

29 • Full Pink Moon Hike in Vineyard Field: F • 8:30pm

- May*
- 5 • Ninth Annual Peconic Family Fun Day at CMEE: Free Kids Carnival • 10am-Noon
  - 5 • Come Draw with Us! A/T • 1pm
  - 5 • The History of the Oyster in New York: A/T • 5pm  
East Hampton Shellfish & Education Directive Lecture
  - 6 • The Evolution of Bird Flight Game – From Dinosaurs to Today: C 8+ • 10:30am
  - 12 • SoFo Cleans the Beach—Montauk: Cosponsored by CCOM, MOI: F • 8am-9am
  - 12 • Every Tree for Itself, or Not! F/C 6+ • 10:30am  
Play the Special SoFo Game, “How to Be a Healthy Tree”
  - 12 • Anyone Want to Catch a Shark? F/C 6+ • 2pm
  - 13 • Today is Mother’s Day! Make Lunch for Mother Raccoon: F/C 3-5 • 10:30am
  - 18 • Astronomy Talk—”Next Stop Mars”: F/C 8+ • 7-8:30pm  
Star Viewing with Montauk Observatory Astronomers: F • 8:30-10pm
  - 19 • Nature Paddle Down the Peconic River with Mike: F • 9am-1pm
  - 19 • Beach Walk—Dr. Keith Serafy, Marine Invertebrate Zoologist: A/C • 10am-Noon
  - 19 • *Bees Buzz But That’s Not All*—Storytime & Craft: F/C 5+ • 10:30am
  - 20 • On The Trail of Ants—Ant Study Workshop: F/C 3-5 10:30am
  - 26 • Andy’s Annual Salamander Seining ... & Some Frogs Too: F • 10am
  - 26 • Fish Lab: Fantastic “Flying” Fish, Let’s Make One: F/C 8+ • 1pm
  - 27 • Fundraiser—East Hampton Shellfish Enhancement & Education Directive • 1-3pm  
to Benefit East Hampton’s Oyster Garden Initiative
  - 28 • Can You Escape from the Woods? Workshop, compass included: C 8+ • 10:30am
  - 29 • Full Flower Moon Hike in Vineyard Field: F • 9pm
  - 29 • Citizen Science—Horseshoe Crab Survey with Cornell Coop Extension: A/T • 10pm

- June*
- 2 • Birds of the Meadow & Woods: A/T • 8am  
Walk honoring the memory of Eric Salzman, Birder, Composer, & SoFo Board Member, cosponsored by Eastern Long Island Audubon Society
  - 2 • Flight of the Butterfly, Amazing Aerialists: Hands-on Workshop: F/C 8+ • 10:30am
  - 3 • Come Draw with Us! A/T • 1pm
  - 9 • SoFo Cleans the Beach—Montauk: Cosponsored by CCOM & MOI: F 8-9am
  - 9 • Intro to Drawing for Children: Texture—Fur, Feather, Scales, & Skin: C6-12 • 11am
  - 9 • Intro to SoFo’s Farm Tours—Be a Locavore, What’s It All About? A/T • 1pm
  - 9 • Nocturnal Insects—The Original Hamptons’ Night Life: F/C 6+ • 3pm
  - 10 • Who’s Under That Log? Let’s Find Out—Hands-on Workshop: F/C 6+ • 10:30am
  - 13 • Birding with Joe Giunta—Breeding Warblers: A • 8am
  - 15 • “Star Party”—Star Viewing with Montauk Observatory Astronomers: F • 9-11pm
  - 16 • Intro to Drawing for Children: Drawing Flowers & Trees: C6-12 • 11am
  - 16 • The Science of Shark Research: F/C 10+ • 2pm
  - 23 • Nature Paddle at Northwest Creek with Mike: F • 9-11am
  - 23 • Intro to Drawing for Children: Favorite Woodland Animals: C6-12 • 11am
  - 23 • Come Draw with Us: A/T • 1pm
  - 24 • Let’s Create—Nature-Inspired Art: F • 10:30am
  - 27 • Full Strawberry Moon Hike in Vineyard Field: F • 9pm
  - 30 • East Hampton Airport Visit: F • 10am  
Flight introduction followed by up-close visits to an Agusta Koala Helicopter, a Beechcraft Bonanza, a Piper Navajo, and a Dassault Falcon Trijet and more.

**SAVE THE DATE**

***SoFo's 29th Annual Summer Gala***  
**Saturday, July 14, 2018**

*Benefiting SoFo Educational, Environmental Programs  
& Initiatives*

**HONOREES**

Educational Visionary Courtney Ross, Founder of the Ross  
Institute, Ross School, and the Ross Learning System  
and

Environmental Leaders Don Church and  
Russell Mittermeier of Global Wildlife Conservation

**CHAIRS**

Sammi & Scott Seltzer and Patsy & Jeff Tarr

**HOSTS**

Leslie Clarke, Alex Guarnaschelli and Debra Halpert

6-7pm VIP Cocktail Reception featuring Tasting Menu created  
& presented by acclaimed Chefs & Restaurateurs

7-10pm Main Reception featuring live entertainment, a silent &  
live auction, an Honoree tribute, a buffet dinner, and dancing.

Please contact Director of Development Diana Aceti to  
reserve your tables and tickets, to donate to our auctions, and for  
sponsorship opportunities. [daceti@sofo.org](mailto:daceti@sofo.org), 631.537.9735,  
<http://sofo.org/summer-gala/>.

**Book Your Special Event at SoFo**

We are happy to announce that we are offering our beautiful  
grounds as an ideal setting for your next special private reception  
or corporate event for up to 300 guests. See the SoFo Website for  
more information.

Please contact Director of Development Diana Aceti at  
[daceti@sofo.org](mailto:daceti@sofo.org), 631.537.9735.



*Photo Credit Michael Heller*

***Grant Award to SoFo  
for Professional Weather Station***

Thanks to the public funding provided by the 2017 Suffolk  
County Omnibus Grant, visitors, elementary and high school stu-  
dents, atmospheric scientists, and weather enthusiasts will have an  
opportunity to gather data from SoFo's newly purchased state-of-  
the-art Capricorn FLX Weather Station.

This modular weather station enables users to retrieve and store  
data as it monitors, in real time, wind speed and direction, tem-  
perature, rainfall, relative humidity, and barometric pressure as well  
as other meteorological factors. Data from the weather station will  
be available for viewing on a display console in the museum.

Thank you to County Executive Steve Bellone, Legislator Bridget  
Fleming, and everyone at Suffolk County Parks and Recreation  
for awarding SoFo this grant. The weather station widens local ac-  
cess to important data which will help in measuring our daily  
weather conditions and help us to determine the meteorological  
aspects of climate change in our area. The weather station also  
broadens SoFo's ability to provide environmental education to all  
those in range of our museum and the World Wide Web.

You will be advised when the new weather station is up and running.



*SoFo's Capricorn FLX Weather Station.*

*the*  
**Nature**  
*clubhouse*

At the SoFo Thanksgiving Open House—Outer Space, The Next  
Frontier—we asked children to write (supposing that space aliens  
read English) or illustrate a question or message to a space alien.

Among the questions we received, these were the most frequently  
asked:

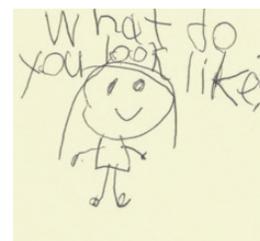
- Do you wear clothes? • Do you have a name?
- Do you listen to music? • What do you eat?
- What planet are you from? • Are you a boy or a girl
- Are you real?

Among the messages to the space alien, we were really partial to  
these:

**I hope someday aliens and people could meet!**  
**Welcome!**

Among the drawings, these seemed to ask an important question:

This is me!



*Continued on  
back page*

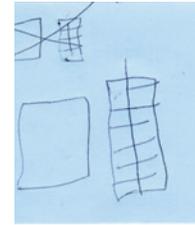
Is this you?



Or, is this you?



We are certain that the information embedded in the following messages is important.



Unfortunately the code that they are written in cannot be read by Earthlings at this time. If you can break the code, we would be very interested in learning their meaning. Please contact Human Lifeform Carol, at SoFo's somewhat secret location; N40°56.875', W72°17.929'- or at sofoedcomdir@optonline.net.

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South Fork  
Natural History  
Museum (SoFo)

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