

SCCF MEMBER UPDATE

New FlowCam Will Help Marine Laboratory Scientists Track HABs

Identification of Harmful Algae Blooms with FlowCam Will Aid Lab Scientists in Fieldwork

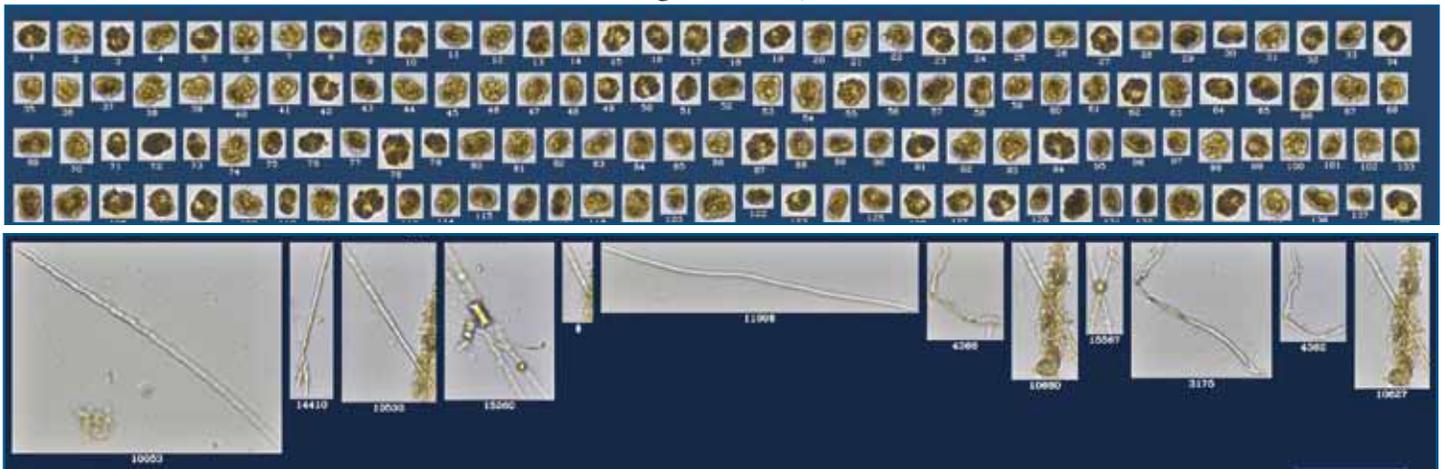
By Eric Milbrandt, Ph.D., Marine Laboratory Director

As part of the effort to increase the analytical research capacity at the Marine Laboratory, a new piece of equipment was added. With a new Marine Laboratory, upgrades and updates were needed to keep up with the growing need for our scientists to track red tide, cyanobacteria, and other marine and freshwater phytoplankton. The new instrument is called FlowCam and it combines a flow cytometer, microscope objectives (lenses), a digital camera and powerful software to distinguish phytoplankton based on their shape.

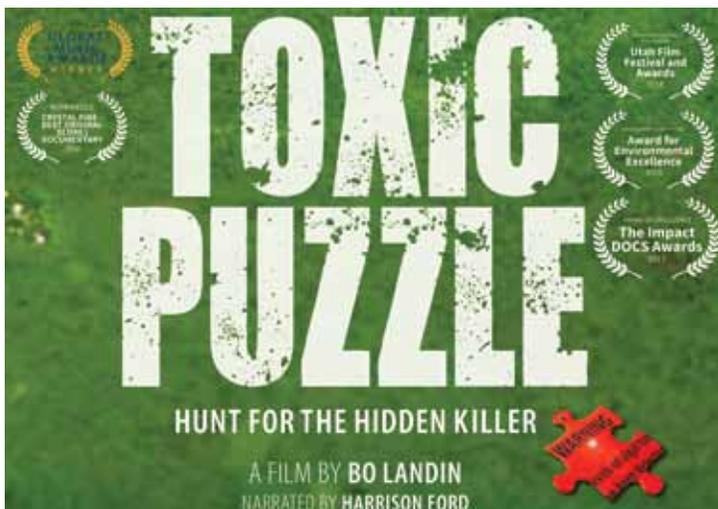
When a water sample is collected by a volunteer or one of the lab staff members, a few drops of fixative (Lugol's)



*Below: Samples showing mostly *Karenia brevis* (red tide) cells, imaged through a 10X lens. Bottom: Samples showing an unusual diatom with long spines that the Lab has not yet identified.*



See Flowcam on Page 2



Join SCCF for a screening of *Toxic Puzzle*, a film about the search for impacts from toxic algal blooms, like the freshwater blue-green algae that plagued the river and lake.

Q&A following the screening with Dr. Larry Brand from the University of Miami Rosenstiel School of Marine & Atmospheric Science, who is interviewed in *Toxic Puzzle*. Dr. Brand has found evidence of BMAA from blue-green algae in crabs, shrimp and other parts of the estuarine food web.

Wednesday, December 12

Doors Open 5:30. Screening at 6. \$10.

Bailey Homestead Preserve Pavilion

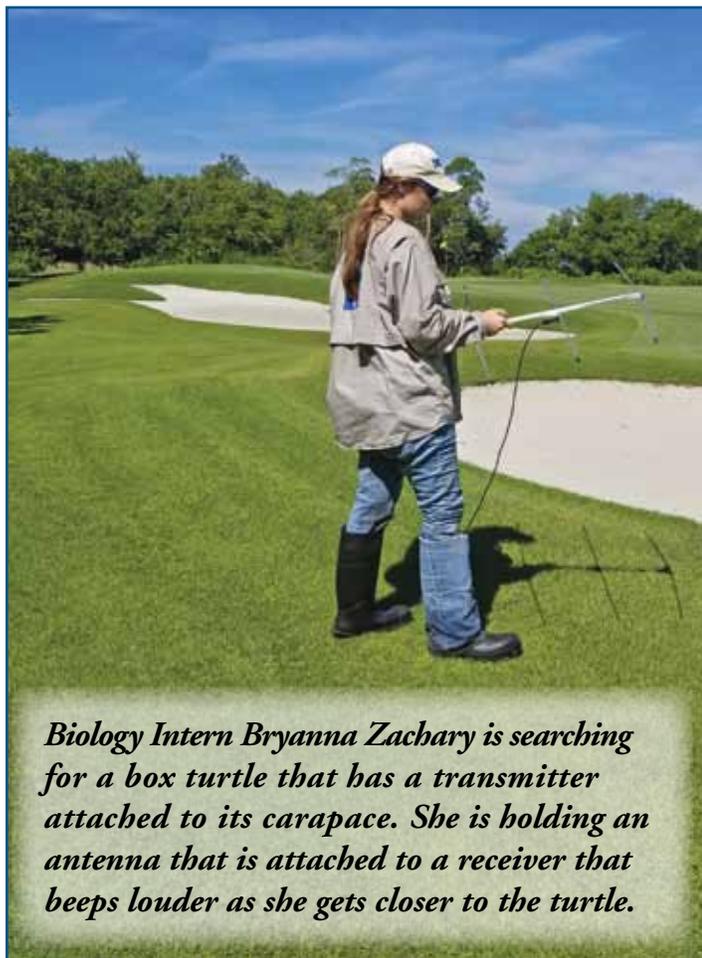
1300 Periwinkle Way

Tickets available through EventBrite. Visit SCCF.org and click on Programs

SCCF Florida Box Turtle Research

By Chris Lechowica, Director - Wildlife & Habitat Management/Herpetologist

Box turtles (*Genus – Terrapene*) are mostly terrestrial, but partially semi-aquatic turtles that inhabit about half of the United States and small parts of Mexico. They are often mistaken for tortoises as they are mostly seen walking around on land. However, many box turtles are quite accustomed to entering and maneuvering through



Biology Intern Bryanna Zachary is searching for a box turtle that has a transmitter attached to its carapace. She is holding an antenna that is attached to a receiver that beeps louder as she gets closer to the turtle.

water bodies. One species in Mexico (*Terrapene coahuila*) is actually totally aquatic. Box turtles are so named because of the ability to close their shell or “box-up” to prevent predators from attacking their head, tail or limbs. These relatively small (5 – 8 in), long-lived (> 100 years old) and omnivorous turtles are known to mostly have small home ranges (1.2 ha). Their main threats are road mortality, predation by coyotes, bobcats, and raccoons, and collection for the pet trade. They are protected from commercial harvest in Florida.

Florida box turtle (*T. carolina bauri*) is native to the Florida peninsula and many of its islands, including Sanibel and Captiva Islands. SCCF has been monitoring this species for over 15 years by measuring and marking individuals (with notching and microchips) that are found incidentally, not from formal surveys. Currently, there are over 350 box turtles in the database from Sanibel and Captiva, with many recaptures (a couple from turtles not seen in around seven or eight years). The data shows that box turtles on Sanibel and Captiva are larger than those on other islands in Florida, such as Egmont Key. Actually, the average size (CL = carapace length) of box turtles on these islands is larger than most mainland populations. It is of no surprise that the state record for a Florida box turtle is held by a Sanibel turtle (2016) at 188 mm in CL. This record broke the original record (1984) of 187 mm that was also from a Sanibel turtle.

Starting in 2018, the SCCF Wildlife & Habitat Management (WHM) department began a radio telemetry project comparing home ranges of box turtles on Sanibel Island in three different habitats: Gulf Beach Ridge Zone,

Continued right

FlowCam -- Continued from Page 1

is added to preserve the sample. The number of *Karenia* (Red Tide) or other phytoplankton species is enumerated by Rick Bartleson or one of the other staff members using a microscope. The sample is loaded onto a counting chamber and the number of cells is counted and reported in cells per liter.

The same water sample can now be loaded into FlowCam (1 mL). The sample is drawn through a 100 micrometer and the cells are drawn through individually or as individual colonies. A digital camera through a 10X objective is triggered when the cells come through and a digital library of particles is created. The software can then be used to

statistically compare and group particles that have similar appearances and shapes. Eventually, libraries can be created to automatically sort and count the particles.

With this instrument, we will be able to better track Harmful Algae Blooms and phytoplankton throughout the estuary and Gulf. Since phytoplankton are an excellent indicator of nutrient pollution, the Lab and staff are now better equipped for understanding the causes of bloom events.

The FlowCam was purchased from the SCCF capital campaign to furnish and equip the new lab facility. Thank you to all who contributed to the campaign.

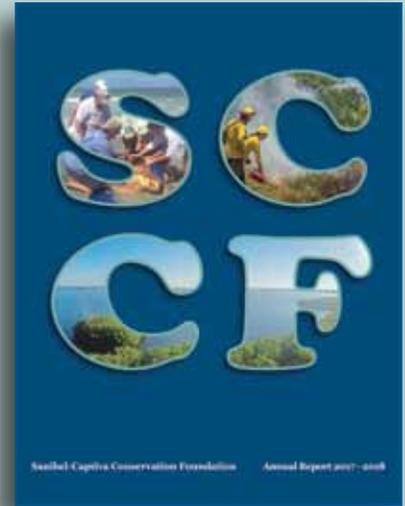
'Tis the Season

'Tis the Season we ask our members to include SCCF in their end-of-tax-year giving. You can provide much-needed operating support to all our program areas by making a tax-deductible gift to the Annual Fund Drive.

Please give at www.sccf.org or by using the reply envelope in the recently mailed FY2017-2018 Annual Report. For questions, including how to give securities, please contact Cheryl Giattini at 395-2768 or cgiattini@sccf.org.



Once again this year, SCCF has been awarded the coveted Four Star rating from Charity Navigator, one of only four environmental organizations in Florida so honored.



Box Turtles -- Continued from left

Mid-Island Ridge Zone, and golf course. The turtles are found using transmitters and a receiver two times a week. Their GPS locations are plotted in ArcGIS and minimum convex polygons are created to provide a visual of their approximate home range. Comparisons are made between sexes (males usually have larger home ranges), habitats, and time of year. Home ranges will also be compared to other populations in Florida from islands (barrier islands vs continental islands) and the mainland.

The late George Campbell, a Sanibel wildlife writer and enthusiast, referred to these turtles as "the jewel of Sanibel fauna" in his writings. Back in the 1970s and 1980s he referred to them as previously common and now rare due to extensive road mortality. Their populations are hanging on to this day, so please watch the roads and slow down for these gentle and extremely long-lived reptiles. *Box turtle sightings on the islands can be reported to the SCCF Wildlife & Habitat Management department at 239-472-3984 or clechowicz@sccf.org.*



Right: This female Florida box turtle (T. c. bauri) is temporarily held as the epoxy holding the transmitter is allowed to dry... and then off she goes!



Annual Meeting & 4th Annual Brush of Excellence Award

Please join us on Tuesday, December 11 at 4:30 p.m. at the Naure Center for cocktails, the Annual Members Meeting and the presentation of the 4th Annual SCCF “Ding” Darling Brush of Excellence Environmental Art Program Award. All of our supports — members, donors and volunteers — are invited to hear a recap of the year and to vote on nominees. And to have a chance to meet incoming CEO Ryan Orgera and to bid farewell to retiring CEO Erick Lindblad. The four nominees to be voted on are Sandy Gross, Tom Libonate, Ran Niehoff and Don Rice.

Former but long-time Sanibel resident Ikki Matsumoto has been named the 4th Annual SCCF “Ding” Darling Brush of Excellence Environmental Art Program Award recipient. He will be honored for his beloved illustrations and prints of island critters. Ikki simplified founding Trustee Ann Winterbotham’s original drawing of the SCCF logo pelican and island — and his logo image is still in use today. Ikki’s wife Polly Matsumoto will accept an honorarium funded by the Koss Family in memory of Kip Koss, Darling’s grandson and torchbearer. Prior honorees were Jaye Boswell, Clyde Butcher and Jim Sprankle.



Polly Matsumoto with the whimsical print by Ikki Matsumoto. There will be a drawing at SCCF’s Earth Day event.

SCCF Group Travels to Costa Rica For a Sea Turtle Adventure

By Gwenda Hiatt-Clements, Trustee Emeritus

Photos by Phil Weyman

Sixteen SCCF sea turtle program participants traveled to Tortuguero, Costa Rica in late September for a once-in-a-life time experience. Tortuguero is the most important nesting site in the western Caribbean for the endangered green sea turtle and significant populations of leatherback and hawksbill turtles.

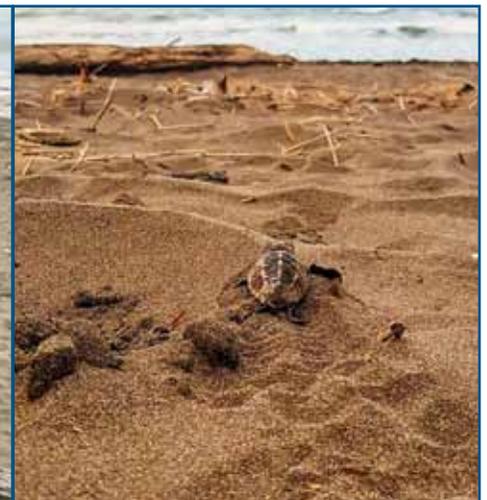
Lead by biologist and SCCF Sea Turtle Program Coordinator Kelly Sloan, the group included Barbara Bluedorn, Dean and Mayri Caple, Diane Clarke, Heidi Denis, April Fleming, Gwenda Hiatt-Clements, Tina James, Nancy Riley, Darlene Rizzo, Kerry Salatino, Susan Smith, Phil and Tina Weyman, and



Above right: Dean Caple practices measuring a green sea turtle model to know what to do on his night beach patrol.

Below left: The entire group of travelers gathered on the beach for the inventory of a hawksbill sea turtle nest.

Right: A hawksbill hatchling heads to the ocean.



Yali Zawady. Sloan arranged the trip organized by Holbrook Travel and their local representative, Stefanie Plein, who is an SCCF sea turtle volunteer.

During their one-week excursion, they assisted researchers at the Sea Turtle Conservancy, the oldest sea turtle organization in the world, founded in 1959. The group members were trained by the Conservancy staff in measuring and assessing the nesting turtles to have a hands-on experience. The group was divided into smaller groups to walk three different five-mile stretches of the soft, volcanic sand beach from sunset to midnight.

“It was amazing to see so many sea turtles on the beach. There was a time when two were coming up to nest and two were going back to the ocean. Then there were 10 to 15 already nesting on the beach,” said Nancy Riley.

Sea Turtle Conservancy staff and interns who led the small groups only stopped to record data on turtles who were just beginning the nesting process. At that point, one of the SCCF adventurers could lie down behind the nesting green sea turtle with an outstretched, gloved hand and catch and count the number of eggs dropped into her nesting pit. The turtle was also measured, checked for carapace damage, and tagged if no previous tags were on its flippers. The nest is not marked with signs as on our local beaches. Researchers use triangular measurements with tags on vegetation and distance to the nest.



Through education by the Sea Turtle Conservancy and the rangers at the Tortuguero National Park, poaching of eggs still happens but is not a major consideration. The greatest threat to the nesting turtles today is the adults being attacked by an expanding jaguar population. Also, local stray dogs will dig nests for the eggs.

The SCCF group was also able to experience a special day-time sea turtle event. Sea Turtle Conservancy staff conducted an inventory of a hatched hawksbill nest. They tallied the number of hatched and unhatched eggs and discovered six live hatchlings in the nest. The staff released them and everyone gathered on the beach and watched as they all successfully made their way to the ocean.

Tortuguero is accessible only by boat or small aircraft. The town, vacation lodges and the Tortuguero National Park are connected by a series of natural canals.



The group enjoyed two days of boat trips spotting local wildlife including spider, howler and white-faced capuchin monkeys, numerous tropical birds, reptiles and even a three-toed sloth.

Sloan said, “I had the most amazing time exploring Costa Rica with our SCCF travel group! It was so much fun going back to where I first fell in love with sea turtles 12 years ago.”

Top left: A three-toed male sloth eyes the photographer. Above: SCCF sea turtle volunteers, their guide and Sea Turtle Conservancy staff gather for their first night patrol. Below left: White-faced capuchin monkeys entertained the group when a large group was spotted eating palm fruit on the river bank. Middle: A mother spider monkey carries her baby on her back as she swings through the trees. Right: Howler monkeys woke the group up each morning with sunrise at their lodge.



Members are invited to join Erick Lindblad and Ryan Orgera at a “Meet and Greet with the CEOs” Open House from 2-4 p.m. on Saturday, December 8 at the Bailey Homestead Preserve.

A Fond Farewell to Kristie Anders

Over 200 members and friends gathered on the porch at SCCF's Nature Center to bid a fond farewell to Education Director Kristie Anders on Wednesday, October 31. The date also marked the 51st anniversary of the founding of SCCF.

"Without Kristie, I might not have been here at all," said Erick Lindblad. Back in the early '80s we worked together at Sea Camp in the Keys. She moved on and landed on Sanibel at the J.N. "Ding" Darling National Wildlife Refuge. When SCCF was searching for an Executive Director, she sent me the notice, which ultimately led to my hiring." In 1988, Erick brought Kristie over to SCCF.

"In those early years, there was just a handful of us, doing everything from programs and land acquisition to fundraising. Kristie was interested in local history and became one of the go-to people on the islands for the history – especially the conservation history – of both Sanibel and Captiva.

"Kristie pioneered several island groups, among them the island Realtors®, the Captiva Historical Society and Captiva Cruises, where she developed the docent program – with SCCF volunteers – for the popular Wildlife & Adventure Cruise."

Current Trustee and former President Paul Roth added (through a note read by Erick), "What Kristie has contributed to the education of so many through the years about the natural world and our responsibility to it is without peer. Her passion, her outstanding ability to communicate, and her wonderful gift of storytelling are traits that few people have, and she has used them to make a difference.

"She will be greatly missed."

Concluding, Erick said, "Kristie has helped to define what the Foundation has become. She has provided me with a great sounding board when we were trying to make the right decision on difficult issues. She has also become a long-time friend. We are losing a great historical resource, a valued team member, a gifted teacher, and a friend.

"As she makes this transition into a life that is a little less hectic, we wish Kristie and Red all the best for a long and joyful future."



Left: San-Cappers singing a marvelous tribute to Kristie to the tune of "Favorite Things" from the Sound of Music. Below: New Captiva Cruises owners (and long-time employees) Bob Rando at the podium, with Brad Junghans and Jenny Rando (in blue T's behind Kristie).

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
2	3	4	5	6 Turtle Tracks-10	7	8 Meet CEO's at Bailey Homestead 2-4 pm
9	10	11 Panther Corridors-10 Annual Meeting Brush of Excellence Presentation: 4:30-6:30 at the Nature Center	12 Toxic Puzzle Screening at Bailey Homestead Preserve-6pm. See Pg 1.	13 Turtle Tracks-10	14	15 Audubon Christmas Bird Count -Meet at Nat Ctr - 8 am
16	17	18	19	20 Turtle Tracks-10	21	22
23	24	25	26	27	28	29
-----CLOSED FOR THE HOLIDAYS-----						
30	31	CLOSED FOR THE HOLIDAYS				

CALOOSAHATCHEE OXBOW & RIVERLORE CRUISE

Come with us to experience the historic meanders of the up-river Caloosahatchee on this 2.5-hour cruise guided by Rae Ann Wessel. Friday cruises departs at 1 p.m. and return by 3:30 p.m.; Saturday cruises depart at 9 and return by 11:30. Both depart from the W.P. Franklin Lock & Dam Park off SR 80 in Olga. *Friday cruises: January 25, February 1, March 1, March 29. Saturday cruises: February 16, March 16, April 13 and May 11. Space is limited. Advance reservations and payment required. Register online: from sccf.org, click on Resources upper right and follow Oxbow Cruise dropdown. \$45 per person.*

FLORIDA PANTHERS AND WILDLIFE CORRIDORS

Florida panthers are the rarest mammals in North America – and their future depends on wildlife corridors. While not found on Sanibel, they play an important role in maintaining the ecosystems of Southwest Florida. The last few years have seen record-breaking panther deaths, but there is hope

in protecting their habitat and allowing the elusive cat to spread north into its historic habitat. Prior to joining SCCF, Alexis Horn ran the Sierra Club's Florida Panther program. Learn what makes Florida panthers unique and why they are so vital to our environment. *Tuesday, December 11 at 10 a.m. in the SCCF auditorium. Cost of the program is \$5 per adult, with members and children attending for free.*

TURTLE TRACKS

Sanibel Island had one of the first sea turtle monitoring programs in the country. Learn about the life cycles and habits of the sea turtles and shorebirds that nest on our beaches, SCCF's monitoring activities, and what we are doing to protect them. You can also learn more about the devastating impacts on sea turtles of this past summer's Red Tide, when 192 dead sea turtles washed up on island beaches between July and September. *Thursdays at 10 a.m. in the Nature Center auditorium, except Thanksgiving. Free to members and children, \$5 for non-members.*

Meet New Garden Center Intern Elise Irland

Elise has been vacationing to Sanibel Island for her entire life from northeast Ohio. Her Grandmother has a wonderful condo on the island and has encouraged the family to take part in the wonders of Sanibel. Growing up Elise was always interested in the outdoors and nature and has tried to make a career out of that passion. She was a conservation corps member with the American Conservation Experience in California and the Southeast. From that she learned a lot about native plants, trails, and recreation. She then began working for the U.S. Forest Service on a botany crew in California pulling invasive species and identifying sensitive species. Most recently, she spent her summer in Washington state outside of Seattle and Mt. Rainier using a chainsaw on a trail crew in the Mt. Baker-Snoqualmie National Forest.

She is very excited and honored to work for SCCF Native Landscapes and Garden Center. She can really stand behind the mission of helping Sanibel plant and maintain native plants. She can't wait to learn more about the people and the plants that brings the Sanibel community together. The SCCF community and even the Sanibel community seem like a wonderful thing to be a part of and she is excited to be a piece in that puzzle.





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P.O. Box 839
Sanibel, FL 33957

December 2018 Member Update



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SCCF Nature Center

3333 Sanibel-Captiva Road
(1 mile west of Tarpon Bay Road) / P.O. Box 839, Sanibel 33957

SCCF Nature Center and Main Telephone:

(239) 472-2329 Fax: (239) 472-6421 www.sccf.org blog.sccf.org

Native Landscapes & Garden Center: (239) 472-1932 (at the Bailey Homestead Preserve)

Marine Laboratory: (239) 395-4617

Wildlife & Habitat Management: (239) 472-3984

SCCF is dedicated to the conservation of coastal habitats and aquatic resources on Sanibel and Captiva and in the surrounding watershed through:

- Environmental Education
- Land Acquisition & Stewardship
- Marine Research
- Natural Resource Policy
- Native Landscapes & Garden Center
- Sea Turtles & Shorebirds
- Wildlife & Habitat Management



Nature Center Hours:

Monday - Friday 8:30 a.m. to 4 p.m. from October - May
8:30 a.m. to 3 p.m. from June - September

Native Landscapes & Garden Center Hours:

at 1300 Periwinkle Way, Bailey Homestead Preserve
Monday - Friday — 8:30 a.m. to 5 p.m.
Saturday from 10 a.m. — 3 p.m. (January through April)

Visit our Nature Center

- Trails & Observation Tower
 - Education Center
- \$5/adult, children under 17 free, members free.

Find the latest real-time water quality readings from our RECON sensors at www.recon.sccf.org

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Sanibel-Captiva Conservation Foundation, 3333 Sanibel-Captiva Road, P.O. Box 839, Sanibel, FL 33957 Tel. (239) 472-2329 www.sccf.org