Florida Fish and Wildlife Conservation Commission

Living on the Edge: CWCI newsletter - Spring 2019

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Living on the Edge

The Coastal Wildlife Conservation Initiative newsletter

Florida Fish and Wildlife Conservation Commission

MyFWC.com

Spring 2019

Welcome to the spring edition of Living on the Edge, the newsletter of the Coastal Wildlife Conservation Initiative! This is a quarterly newsletter to update Florida Fish and Wildlife Conservation Commission (FWC) staff, partners and members of the public about Florida's coastal issues, including current projects and other points of interest. Regular highlights will include featured projects related to coastal wildlife, interviews with our staff or partners, special seasonal considerations, news and events, volunteer opportunities and current funding opportunities. If you are interested in spreading the word about your project or someone doing a fantastic job in coastal conservation, please contact CWCI Coordinator Fara Ilami at fara.ilami@myfwc.com.

The Coastal Wildlife Conservation Initiative is an FWC-led multi-agency strategy to address threats to coastal wildlife and habitats, while also considering human interests and uses of Florida's coastal areas. The goal is a statewide cooperative process to protect coastal wildlife populations, conserve and manage coastal ecosystems, while achieving balance between conservation and opportunities for recreation, commercial activities and responsible development.

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Hot Topic: North Atlantic Right Whales Calving Success

Photo credit: FWC, taken under NOAA permit 20556-01

The North Atlantic right whale (*Eubalaena glacialis*) is one of the most endangered large whale species in the world, with only about 400 individuals left in the population. Although right whales spend much of their time in feeding grounds off the northeastern U.S. and Canada, they regularly migrate down to the coasts of Georgia and northeastern Florida in winter to give birth and nurse their young. Researchers conduct aerial surveys of these calving areas to locate the whales, monitor reproduction and health, and provide vessel strike mitigation. While this year has brought a total of seven new calves, researchers are still concerned that number is not high enough to yield population growth, as more than 16 births per year are needed to increase the population. Between 2017-2019, there have been at least 20 right whale deaths and only 12 births.

The North Atlantic right whale has been listed under the Endangered Species Act since 1973. Plagued by commercial overfishing in the late 1800s, the right whale was brought to the edge of extinction by 1900. Entanglement in fishing gear and vessel strikes are the primary threats to the whales today, as their habitat often overlaps with fishing grounds and major ports. This is why the work that the FWC's Fish and Wildlife Research Institute and other researchers are doing is so important. FWRI scientists conduct approximately 55 surveys lasting about six hours each during the calving season (December-March). The surveys are conducted from about 1,000 feet in altitude and up to 30 miles offshore between Georgia and the Canaveral National Seashore in Florida.

Table 1: Calving female data

Female Catalog #	Age (Years)	First sighted in SEUS	Sighted with calf	Last calved	Number of calves
1204	>37	17-Jan	17-Jan	2013	9
2503	24	12-Dec	25-Jan	2014	4
2791	>22	17-Dec	28-Dec	2009	3
3270	>17	14-Feb	14-Feb	2011	2
3317	16	17-Dec	13-Jan	2016	3
3370	>16	1-Jan	12-Feb	2009	2
4180	>8	5-Feb	5-Feb	N/A	1

Each right whale has a unique and distinct pattern of markings on the top of its head. This hardened skin is called "callosity." Callosity grows on the right whale in many of the places where humans have hair: over the eyes, on the chin, along the upper lip and on top of the head. The callosity is covered with small, white crustaceans called "whale lice" that make the callosity appear white. Researchers at FWRI use these methods to keep track of whales:

- Each right whale located is individually photographed by the aerial survey team.
- The photo is then compared to the photo catalog of right whales. Each right whale has a page with a collection of photographs (much like your family photo album) and a unique number or name.
- If the photo is matched to a whale in the catalog, then the information is added to the history of that individual's sightings.

In the 1980s, photo identifications allowed researchers to determine the whales sighted in northeastern U.S. were the same whales migrating to the waters of Florida to have their offspring. At present, researchers supplement the photo-ID data with genetic information to determine the sex and paternity of calves. The ability to identify individual whales allows researchers to collect an entire life history of each right whale, as they track its movements, including births, deaths, injuries and health.

Your whale sighting reports are important! Thanks to public efforts, several right whale mother-calf pairs were reported along Florida's eastern Atlantic coast this winter. Please continue to report your

whale sightings to 1-877-WHALE-HELP (877-842-5343) or the volunteer sighting network at 1-888-97-WHALE.

FWRI collaborates with NOAA Fisheries, Georgia Department of Natural Resources, Clearwater Marine Aquarium Research Institute (formerly Sea to Shore Alliance) and volunteer sighting networks in Florida to carry out our research activities.

Photographs of right whales: https://myfwc.com/research/wildlife/right-whales/images/

Featured Project: Scallop Restoration in the Florida Panhandle

Bay scallops (*Argopecten irradians*) may have a short life, typically about a year, but they play a big role in the economies of many coastal Florida towns. Unfortunately, scallop populations in the waters off the Florida panhandle have decreased over the past several years. In response, the FWC's Fish and Wildlife Research Institute in 2016 initiated a 10-year project to restore bay scallop populations. The project is funded by restoration money set aside after the Deepwater Horizon oil spill and is intended to increase recreational fishing opportunities in the Florida panhandle. The goal of the project is to increase depleted scallop populations and reintroduce scallops in suitable areas from which scallops have disappeared.

To help restore scallops, FWC biologists annually collect adult scallops from St. Joseph Bay and bring them to a hatchery, which will provide juvenile scallops the following year. These hatchery scallops are then placed in cages at restoration sites in the panhandle. The cages protect the scallops from predators and increase the likelihood the scallops will successfully produce offspring. In addition, underwater scallop "collectors" are also placed at restoration sites to collect wild scallop spat (larvae). The spat then are raised at the Florida State University Gulf and Coastal Marine Laboratory. Once they reach a size of 30mm, they are planted in cages in their bays of origin. Since the project began, FWC biologists have placed about 20,000 scallops in cages in St. Joseph Bay and St. Andrew Bay. In the coming years, biologists plan to expand these restoration efforts to Pensacola Bay and St. George Sound.

Figure 2: Scallop spat in a hatchery

Figure 3: Scallop restoration cages that were distributed to Scallop Sitters

Last year, biologists received a helping hand with the scallop restoration project from volunteers in Gulf County and Bay County. Volunteers first attended workshops in April to receive training as "Scallop Sitters." Participants in the program volunteered to babysit cages of scallops placed in St. Joseph Bay and St. Andrew Bay. Scallop Sitters

placed their cages either off their own private docks or in a location in the bay they could visit using their own kayak or boat. Every month from April to December, volunteers checked the cages, cleaned their scallops and reported on the status of the scallops to FWC biologists. In addition, a lottery was held monthly, with the winning volunteers selected to go out on a boat with FWC biologists to help with scallop restoration. These Scallop Sitters maintained 202 scallop restoration cages containing 4,825 scallops in St. Joseph Bay and St. Andrew Bay! In the first year of the Scallop Sitter program, 194 volunteers participated and contributed approximately 400 volunteer hours to the project!

In addition, the first-ever official “Scallop Rodeos” were held last year in St. Joseph Bay and St. Andrew Bay. Volunteers at the rodeos rounded up 50 scallops each, which they returned alive to FWC staff. At the end of the rodeos, FWC staff placed the collected scallops in scallop restoration cages in the bays. The St. Andrew Bay rodeo was held on July 21, and 57 volunteers collected 553 scallops from the bay. In St. Joseph Bay, the scallop rodeo was held on August 4, just prior to the opening of the 2018 scallop season. Over 100 volunteers helped to collect 1,123 scallops during the St. Joseph Bay scallop rodeo.

This year, FWC biologists are again asking volunteers to participate in the Scallop Rodeos and Scallop Sitters program! The Scallop Rodeos will be held in St. Andrew Bay and St. Joseph Bay on July 20 and August 3, respectively. And if you are interested in becoming a Scallop Sitter this year, the only requirements for you to participate in this program are:

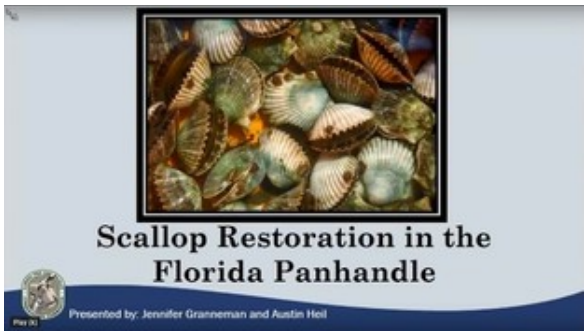
- Live near St. Andrew or St. Joseph Bay from July to December;
- Have access to the bay, either from a private dock, boat or kayak;
- Be willing and able to care for and clean scallops once a month from July to December;
- Attend or view via webinar our scallop restoration workshop in July.

For more information about the Scallop Rodeos or Scallop Sitters programs or to sign up to participate in these programs, please visit our website or email us at BayScallops@MyFWC.com

You can also check out these videos for more information (click images):

Restoration project overview

Restoration project in-depth look



Scallop restoration webinar

Spring Wildlife Tips: Observing Wading Birds

A reddish egret forages along the shore.

The term “wading birds” refers to the many long-legged birds found along wetlands, marshes, ponds, mudflats, beaches and other shallow water areas. Florida’s wading birds, which come in a variety of shapes, sizes and colors, include egrets, herons, spoonbills, storks, ibis and even flamingos. Four species of wading birds are included in Florida’s list of imperiled species: the little blue heron, reddish egret, roseate spoonbill and tricolored heron.

Wading birds are colonial, meaning they prefer to roost and nest in large groups of single or mixed species. Nesting typically occurs from December to July in most parts of the state. Large colonies of nesting birds, called rookeries, can be found on tree islands in both freshwater and saltwater areas. Wading birds may return to the same rookery for nesting for many years, and a single island can sometimes support thousands of nesting birds.

What you can do to help protect wading birds:

- Birds in flight are beautiful, but disturbances can hamper their ability to forage and nest successfully. Avoid approaching birds feeding or roosting. If birds appear agitated or take flight, you are too close! If possible, **stay back at least 330 feet.**
- When viewing wildlife, remember the importance of “passive observation.” This means watching birds as they engage in normal behaviors free from disturbance. Use binoculars or a spotting scope to observe birds more closely. When photographing birds, it’s best to use a camera with a zoom lens for beautiful photos without getting too close.
- Wading birds will often gather in groups to rest (roost) or nest on islands where they are safe from predators. Landing on or approaching these islands too closely will flush birds, causing them to expend important energy or exposing their eggs and chicks to predators.
- Fishing line poses an entanglement risk to wildlife. Cast your line away from birds and shoreline vegetation. Keep bait buckets covered, and don’t feed birds directly or indirectly. Always collect and store loose monofilament line until it can be discarded properly.
- Share your knowledge about wading birds and safe viewing practices with others.

~~Staff~~

Volunteer Spotlight: Lena Dallas

1. **What organization do you volunteer with?** I volunteer for the Florida Fish and Wildlife Conservation Commission on Little Gasparilla Island in Charlotte County in southwest Florida.

2. **What type of volunteer work do you do?** Every morning, I patrol a section of our beach on Little Gasparilla Island during the sea turtle nesting season (May – October). I am on the lookout for crawls and the new nests that need to be marked, staked, documented and the paperwork then sent into the state. In addition to observing new nests on the daily patrol, I am checking on previously documented nests that could have suffered predation from one of the many predators on our island. A nest affected by predation would need to be cleaned and the damage recorded. Between 45 to 60 days after a new nest is recorded, I am looking for signs of hatchlings. After a nest hatches, the nest is dug for inventory and the final results sent to the FWC. I also daily pick up trash on the beach and educate people about the Sea Turtle Patrol.

3. **What coastal projects have you recently participated in?** In addition to Sea Turtle Patrol, I recently have taken on a lot of the volunteer work that is done for the shorebirds nesting on the southern tip of Little Gasparilla Island. I recently was doing a lot of turbidity testing, using a Secchi disc for a plane to take aerial photographs of seagrass beds in our area. During the awful red tides that Florida was experiencing and suffering from, I also got involved with taking water samples. Every couple of weeks, I would send in a sample to the FWC to be tested and receive feedback about our water quality.

4. **How did you get involved in coastal volunteer work?** Living on the island and being so close to marine life it was very easy to get involved. Linda Soderquist was very influential in inspiring me to get involved volunteering with Sea Turtle Patrol. Linda is a longtime resident on Little Gasparilla Island whom I greatly admire. She held sea turtle permit #132 for many years, prior to my mother, Laura Dallas, holding the permit.

5. **How long have you been volunteering in the coastal environment, and what are some lessons you have learned?** After officially getting involved in 2015, I understand so much more about the amazing sea turtles, their nesting habits, predators and all that is involved. You must be very committed and willing to work hard. Often after spending hours on the beach every morning and dealing with many different situations, you ask yourself, “Why do I do all this? Why do I choose to volunteer?” When you are about ready to quit and feel like you have had enough, the baby sea turtles finally start to hatch! It is very exciting and reassuring. I often wonder and get asked if what we are doing is improving the chances of survival for these amazing creatures. I know we really are! It is so worth it after doing so much work on a nest. Maybe that nest suffered many predations, but every time you clean it out and every time less and less eggs are left in that nest. Watching these tiny little creatures crawl out in the vast ocean all by themselves, you think, “I know this nest would not have made it if I had not been there to clean that nest out or I had not been there to tell someone to turn their lights off.”

6. **What do you think is the greatest threat to coastal ecosystems, and what action(s) should be undertaken to address it?** I think the greatest threats are from people. Some people unknowingly are a threat, and others are a deliberate threat. There will never be an ultimate solution to solve all the problems that the coastal ecosystem faces. For example, there will always be poachers, and there will always be those who do something illegal and just don’t get caught, but things can be done to help resolve some issues that people create. I have observed in my few years of volunteering that most people don’t realize they are a threat, and one of the biggest things that can be done to address threats that people cause is simply educating them! Most people have no idea that leaving their outside lights on if their home is visible from the beach can cause many baby sea turtles to become disoriented. Many people who are not familiar with the waters they are boating in do not realize that going outside of the channel markers and going in shallow waters can result in destroying seagrass beds and killing marine life such as seahorses, manatees and green sea turtles. As a volunteer on Little Gasparilla Island, I make it a priority to educate people, and the majority are fascinated to learn

about the animals they may come in contact with as a visitor or resident in Florida and are happy to assist in making sure these coastal animals remain safe and alive!

7. **What is your favorite coastal animal, and why?** The sea turtle is my favorite animal, particularly the loggerhead sea turtle. Sea turtles truly are amazing animals!! They will sometimes travel thousands of miles to return to the beach where they hatched from to lay their nests! When these baby turtles hatch, they are totally independent—they seem so carefree! The loggerhead is one of three sea turtle species that nest on our beaches. A reason I love the loggerhead sea turtle is that even though she is very large, the mother is so delicate when it comes to laying her eggs. You would think she would be cumbersome, but she slowly digs the egg chamber, lays her eggs and ever so carefully covers the nest back over with sand. It is so amazing to watch a nest from start to finish—to see that sea turtle nest, stake it and watch it daily. When that nest hatches, it is amazing to have been there from the beginning!

8. **Do you have a message you would like to share with readers of this newsletter?** Everybody can make a difference. As a 16-year-old, I can contribute my time, knowledge and energy to help some awesome creatures. Nobody is too young to make a difference! Something as simple as picking up your trash—or even trash that does not belong to you—and making sure it gets to a trash can is important. We want to make sure that the coastal ecosystem is always here and healthy! Always treat those who are turtle patrolling with kindness. Many are volunteers who are giving their time to make sure that the amazing animals on the planet are protected. We want future generations to be taught to respect the environment and to be able to enjoy it!

~~Critter~~

Plant of the quarter: Sea Oat

If you grew up along Florida's coast or spent any time vacationing there, you likely heard several admonitions uttered by adults: "Don't go in the water until one hour after you've eaten" and "Stay out of the sea oats, they're protected!" While the former is an old wives' tale, supported by no medical evidence, the latter is sound common sense supported by coastal science and Florida law (section 161.242, Florida Statutes). A common native beach plant throughout most of its range, the sea oat (*Uniola paniculata*) is extremely important in stabilizing beach sand, building protective dunes and providing food and cover for wildlife.

Sea oats are found on sandy beaches and barrier islands along the Gulf and Atlantic coasts of the southeastern United States from Virginia to Texas and portions of Mexico, the Bahamas and Cuba. Sea oats are a long- lived, slow growing grass, with graceful seed stalks which can reach heights of over six feet. The leaves reach approximately 24 inches in length and are about one-inch wide, tapering towards the end. The blades are green but can be brown and curled at the end. In the summer months, seeds are produced in large seed heads or panicles (hence the species name) on long stalks. As with the tips of the leaves, the arching seed stalks change from green to brown as summer wanes. Sea oat seeds are dispersed by wind and small animals like beach mice. Sea oat plants also spread vegetatively by budding at the stem. Sea oats have extensive root rhizome systems. The plant develops a thick network of roots as it grows upward with the dune.

The ecology and form of the roots and stems make *Uniola paniculata* an extremely important plant in coastal systems. Sea oats trap wind-blown sand grains at their base, which aids in formation of dunes. Accumulation of sand stimulates further growth of the plant, with side shoots sprouting up through the sand. In this manner, sea oats create and stabilize dunes and can build the dune upward one foot per year. Loss of sea oats and other coastal vegetation leads to erosion and loss of the protective dunes.

Areas behind well-developed dunes are buffered from damage by hurricanes and other storms. It is for this reason that the state of Florida has enacted dune protection measures. Many coastal communities are restoring dune fields by actively planting sea oats to facilitate dune growth.

By stabilizing and building dunes, sea oats help ensure suitable nesting habitat for sea turtles. The green turtle, a threatened species of sea turtle, regularly nests in the dunes among sea oats. In addition to their role of dune creators, sea oats are also an important food source for many denizens of the beach and dune system, such as red-winged black birds, native sparrows and songbirds, marsh rabbits and beach mice, several of which are federally listed as threatened or endangered.

As environmentally conscientious citizens, we can encourage state and local governments as well as homeowner associations to plant esthetically pleasing sea oats that will build our dunes, protect property and enhance wildlife habitat. We also can add our voices to the chorus of previous generations and shout “STAY OFF THE DUNES!”

Volunteer opportunities

Eyes on Seagrass – Citizen scientists needed to survey seagrass and seaweed in Charlotte Harbor, with training starting April 11. For more information, contact Staugler@ufl.edu.

Lionfish Removal and Awareness Festival & Emerald Coast Open Lionfish Tournament– Join in the community event at the HarborWalk Village in Destin, Florida to enjoy family-friendly activities, booths, lionfish fillet, live music, and the tournament on May 18-19. For more information, contact Lionfish@MyFWC.com or call 850-487-0554

Florida Shorebird Alliance – Volunteer to assist with shorebird monitoring, stewarding, posting sites, and helping rooftop nests in St. Johns, Volusia, and Brevard Counties. The monitoring portion occurs from March until August. For more information, contact logan.mcdonald@myfwc.com or andrea.perevra@myfwc.com

Smalltooth Sawfish – From March to September, volunteer to assist in deploying gill nets and random sampling from small boats in Port Charlotte. Opportunity is physically demanding and requires ability to lift over 50 lbs. For more information, contact brendan.oconnor@myfwc.com

Marine Stock Enhancement Research – Volunteer to help with outreach and education events at the Stock Enhancement Research Facility, located at Port Manatee. For more information, contact gina.russo@myfwc.com

Marine Mammal Pathobiology Lab – Volunteer to help with routine cleaning, data entry, observing marine mammal necropsies, field response and assisting with educational materials in St. Petersburg. Volunteers should note that work may involve dealing with animals in various states of decomposition. For more information, contact brendan.oconnor@myfwc.com

Red Tide Offshore Monitoring Program – Volunteer to collect offshore water samples from coastal Florida counties, especially in the southwest and along the east coast, to help FWRI scientists monitor Florida red tide. For more information, contact RTOMP_coordinator@MyFWC.com

Scallop Sitter Program – Beginning in April, volunteer in St. Joseph and St. Andrews Bays to care for a cage of scallops by checking on them and cleaning them once a month until January. For more information or to sign up, visit https://myfwc.com/research/saltwater/mollusc/bay-scallops/restoration/sign-up/

Shorebird Stewardship – Volunteer to help with sharing information and showing beachgoers nesting shorebirds from a distance through binoculars and birding scopes, from April through September. For more information, contact emily.hardin@myfwc.com

Oyster Reef Restoration– Volunteer to help with various surveys to assess the progress of the artificial oyster reefs, from August through October. For more information, contact emily.hardin@myfwc.com

Diamondback Terrapin Monitoring – Volunteer to help with spotting terrapins in the wild on your own time using the iNaturalist App to send photos and notes to FWC biologists. For more information, contact emily.hardin@myfwc.com

Reporting – Report a fish kill, dead or injured manatee, dead or injured sea turtle, observations of horseshoe crab mating, mink sightings, right whale sightings, and smalltooth sawfish sightings.

Funding opportunities

NFWF Coral Reef Conservation Fund 2019 Request for Proposals — Grants are available to projects geared to improve the health of coral reefs and coral reef ecosystems and will be awarded to reduce land-based sources of pollution, advance coral reef fisheries management, support recovery and resiliency of coral reef systems and improve watershed management planning. Pre-proposals are due **March 7, 2019**. Full proposals are due **May 9, 2019.**

Wildlife Conservation Society's Climate Adaptation Fund – Grants available to conservation non-profits geared toward projects responding to the consequences of climate change on both wildlife and people. Pre-proposals due **April 5, 2019.**

Gulf of Mexico Alliance 2019 Gulf Star Program: Economic Impacts of Water Quality Issues in the Gulf of Mexico – Funding available for interdisciplinary team willing to collect, synthesize and share information about harmful algal blooms and their impact on a variety of fields. Applications due **April 15, 2019.**

Gulf States Marine Fisheries Commission Marine Aquaculture Pilot Projects – Funding available for projects about marine aquaculture and address one of the GSMFC goals. Applications due **April 15, 2019.**

NOAA Coastal and Marine Habitat Restoration Grants– Grants available for community-based restoration projects in coastal and marine habitats. The deadline is **April 16, 2018.**

The National Fish and Wildlife Foundation– Funds available to support derelict fishing gear removal efforts and innovation in gear technology. The deadline is **April 25, 2018.**

The Conservation Alliance Grants – Funds are available to any project devoted to lasting wild land or waterway protection with grassroots community involvement and recreational benefit. The deadline for nominations is **May 1, 2019** and for proposals is **June 1, 2019**.

Mohamed bin Zayed Species Conservation Fund — Grants of up to $25,000 will be awarded in support of plant, animal, and fungi species conservation efforts without discrimination on the basis of region or selected species. The deadlines are three times a year: February 28, **June 30**, and October 31.

Alcoa Foundation Grant Program – Sustainability is a major focus promoting 1) the prevention of and resilience to climate change and 2) the restoration and preservation of biodiversity. Grants are awarded on a rolling basis.

BoatUS Foundation Grassroots Grants Program – Provides grants up to $10,000 to nonprofit organizations, boating clubs and student groups for projects that promote safe and/or clean boating. Applications are accepted year-round.

David & Lucile Packard Foundation – Grants are made for charitable, educational or scientific purposes, primarily from tax-exempt charitable organizations. Grants fall under several categories including climate, ocean, land, science, and conservation.

DOI FWS 2019 National Fish Habitat Action Plan — Funding available for projects that include minimizing the establishment, spread, and impact of aquatic invasive species. Specifically, aquatic habitat conservation projects under this program must protect, restore, and enhance fish and aquatic habitats. No posted deadline.

George & Miriam Martin Foundation Grants – The focus of the foundation is river and watershed conservation. Grants range from $1,000 - $200,000. There are no deadlines.

Natural Hazards Center Quick Response Grant Program — This program provides small grants to help eligible researchers travel to disaster-stricken areas and document disaster before memories fade and physical evidence is erased. Submit a complete proposal as soon as possible after a disaster occurs. Grant proposals are evaluated and awarded on an on-going basis.

Rockefeller Family Fund – Grant-making currently has an environment program focus on the challenges of climate change with an emphasis on public education. Letters of inquiry may be submitted at any time.

Surdna Foundation Grantmaking – Grant-making to nonprofit organizations in the priority areas of Sustainable Environments, Strong Local Economies and Thriving Cultures. Letters of inquiry may be submitted at any time.

Waitt Foundation Rapid Ocean Conservation (ROC) Grants – This opportunity provides small grants with a quick turnaround time for solutions to emerging conservation issues. The funding cycle is open to new applications. Proposals are reviewed monthly on a rolling basis, although some applications take additional time to evaluate.

Wells Fargo Environmental Grant Program – Environmental grant program focuses on addressing local environmental priorities in communities and providing support that fosters innovation to help accelerate a “green” economy. One letter of inquiry per year per organization is accepted.

Calendar: Upcoming meetings, webinars and events

OceanVisions2019 - Climate Summit, April 1-4, Atlanta, GA

5th International Conference on Marine Mammal Protected Areas, April 8-12, Messinia, Greece

National Adaptation Forum, April 23-25, Madison, WI

National Watershed and Stormwater Conference, April 29-May 2, Charleston, SC

Florida Coastal Management Program Meeting, May 1-2, Pensacola, FL

Florida Marine Science Educators Association Conference, May 2-5, Crystal River, FL

GODAE OceanView Symposium: OceanPredict ’19, May 6-10, Halifax, Canada

Association of State Floodplain Managers Annual Conference, May 19-23, Cleveland, OH

Coastal Sediments Conference, May 27-31, Tampa, FL

Capitol Hill Ocean Week, June 4-6, Washington, D.C.

Gulf of Mexico Alliance All Hands Meeting, June 10-13, Gulf Shores, AL

Natural Hazards Research and Applications Workshop, July 14-17, Broomfield, CO

National Marine Educators Association Conference, July 21-25, Portsmouth, NH

Coastal news snippets

Research Study Says Regulatory Changes Needed to Ensure Sustainable Fishing of Queen Conch in The Bahamas, February 18, 2019

FWC Commission addresses shore-based shark fishing concerns with new regulations/educational component, February 20, 2019

Mangroves and seagrasses are key nurseries in coastal habitats, March 27, 2019

Rebuilt Wetlands Can Protect Shorelines Better Than Walls, April 2019
