Florida Fish and Wildlife Conservation Commission

# Living on the Edge: CWCI Newsletter - Fall 2018

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Welcome to the fall 2018 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 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 and conserve and manage coastal ecosystems, while achieving balance between conservation and opportunities for recreation, commercial activities and responsible development.

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# Featured project: Diamondback Terrapin Status Assessment

The diamondback terrapin (*Malaclemys terrapin*) is a once common estuarine turtle that experienced serious declines a century ago from overexploitation as a culinary delicacy. Since then, heavy impacts from habitat loss, drowning in crab traps, road mortality and increasing predation pressure from human-fed predators such as raccoons are thought to have hampered recovery. Continued habitat loss and predicted sea level rise also present significant threats for the future.

The species' range extends along the eastern seaboard of the U.S from Massachusetts southward and around to the Gulf of Mexico to Texas. Florida's coastline, with approximately 20 percent of the total range, is home to five of seven subspecies, three of which are found only in Florida. However, little is known about the status and distribution of terrapins in Florida. While they are abundant in a few locations, much of the state has not been surveyed. At least one significant population is thought to have declined substantially, and research suggests a severe population contraction. Given perceived local-scale declines, stakeholders in Florida have expressed concern over the species' status.

The FWC's Fish and Wildlife Research Institute is collaborating with partners statewide to conduct a biological status assessment of the diamondback terrapin in Florida. With funding from a State Wildlife Grant, the goals of the project are:

1. Conduct mark-recapture assessments at three significant sites to estimate population sizes, sex ratios and age distributions, which will help assess population trajectories, and support assessments of terrapin populations by partners elsewhere in the state;
2. Collect genetic samples from terrapins statewide to validate subspecies taxonomy, assess population-level genetics and estimate effective population sizes;
3. Gather and consolidate existing data, and collect new data in poorly studied areas to map the current distribution of terrapins in Florida;
4. Develop a spatial habitat model to quantify habitat availability;
5. Assess the magnitude of past and future population reductions caused by habitat loss, based on literature that documents historic changes and projects changes into the future, including those associated with sea level rise from climate change.

So far, project staff have developed numerous partnerships, mapped over 5,500 individual sightings, collected more than 300 tissue samples for genetic analysis and initiated a mark-recapture study of a significant population on the east coast of Florida. Staff are preparing to begin field work in south Florida and the Florida Keys during the coming months. When completed, the project will provide data needed by FWC to assess the status and long-term viability of terrapin populations in Florida, and thereby establish meaningful management goals and appropriate regulatory recommendations.

Major partners include Eastern Florida State College; Sanibel-Captiva Conservation Foundation; U.S. Geological Survey; University of Florida; Florida Department of Environmental Protection; North Florida Land Trust; Florida Audubon; Flagler College; Brevard Zoo; and many dedicated volunteers and students.

For more information about this project and to submit diamondback terrapin sightings, please contact Traci.Castellon@MyFWC.com

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## Fall Wildlife Tips: View Migrating Shorebirds from a Distance


Many species of shorebirds and seabirds that nest during the spring and summer in the northern latitudes of North America return south to spend the winter in warmer climates. Some migrate through Florida, an important flyway, during fall (and spring) migration while others remain here all winter. Certain sites in Florida are considered critical staging areas for species that need to rest and feed prior to or during migration. Seabirds and shorebirds use a variety of coastal habitats such as beaches, inlets, mud flats, inshore and offshore waters, and salt and freshwater wetlands. The physical stress of migration, bad weather, inadequate food and stopover sites, and exposure to predators all add to the hazards of migration. Stopover and wintering sites, like the ones in Florida, allow these long-distance travelers to restore energy reserves depleted during this stressful journey.

How to help protect migrating and wintering birds:

- Birds in flight are beautiful. But repeated disturbances can hamper their ability to regain needed energy reserves and harm their chances of survival. Avoid approaching groups of birds feeding or loafing on beaches, mudflats, and other coastal. If birds appear agitated or take flight, you are too close. If possible, **stay back at least 300 feet.**
- Use binoculars or a camera with a zoom lens to observe or photograph birds at a safe distance.
- Seabirds and shorebirds will often concentrate and rest, or roost, on coastal islands, shell rakes or sandbars where they are safe from predators. Preferred roost sites are limited in some areas, especially at high tide, and landing on or approaching these sites forces birds to move to areas that are not as safe.
- Birds respond differently to dogs than they do to people. They fly away from dogs sooner, they go further away, and they are more reluctant to return to the area, which means they have less time for critical activities like finding food. Additionally, when fleeing from dogs, birds burn vital energy. To best protect wildlife, leave dogs at home when going to the beach or coastal waters. If you plan to bring your dog to the beach, go to one where dogs are allowed, follow leash laws and stay well clear of groups of birds. When boating, keep pets on board if possible, or leashed if you get off onto coastal islands.
- Help educate others that forcing birds to fly harms them, and to avoid flushing groups of birds.

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## Staff Spotlight: Melissa Tucker

1. **What is your title?** Deputy Director, Division of Habitat and Species Conservation
2. **What organization do you work for?** Florida Fish and Wildlife Conservation Commission

3. **What type of work do you do?** In my current position, I assist staff in achieving their project goals and help set direction for future work. This often means answering policy and funding questions or ensuring that staff are coordinating across program areas.

4. **What project(s) have you recently been working on?** Development of the Beaches Habitat Conservation Plan, Critical Wildlife Areas and implementation of the Imperiled Species Management Plan

5. **How does your work relate to the CWCI?** Many of the projects and policy issues I work on occur in coastal habitats.

6. **How long have you been working in the coastal environment, and what are some lessons you have learned?** Since I started with the FWC in 2005, I've always done some work in the coastal environment. Early on, as a biologist posting and monitoring CWAs and later as the mammal conservation coordinator working on conservation of beach mice and salt marsh mink. As an Assistant Section Leader, I had the opportunity to work on our recent establishment of new CWAs. The coastal system is complex – it's a dynamic habitat that supports a wide range of species with varying needs. Added to that is the great variety of agencies and municipalities with a say in how the beaches are managed and how important the coast is for recreation. For me one lesson is that you have to listen to all of the stakeholders and interested people, because they all have a passion for and interest in our coast, and understanding each other's concerns helps build common ground.

7. **What is your favorite coastal animal, and why?** That's a hard question! I love beach mice and saltmarsh voles, but there is something about a ruddy turnstone that always makes me smile! And oystercatchers and diamondback terrapins … no, I really can't pick a favorite!

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## Critter of the Quarter: Monarch Butterfly

This fall's Critter of the Quarter is the monarch butterfly (*Danaus plexippus*), probably North America's most iconic butterfly due to its familiar orange and black coloration, natural history and fantastic migration phenomenon. Residents and visitors in south Florida can enjoy their non-migratory population of monarchs year-round. However, elsewhere in Florida, monarchs are seen only seasonally. Depending on your location, you may spot some in the spring and summer, but the most reliable time to see monarchs is in October and November as they migrate by the thousands along the coast. This is the long-lived generation of monarchs that emerged from their chrysalises from as far north as southern Canada to fly up to 3,000 miles to overwinter in the sacred fir forests in the Transvolcanic Mountains of central Mexico. You've probably seen photos of monarchs by the thousands hanging on the tree trunks and branches in their wintering ground refuges. A mini-version of this spectacle can sometimes be seen in Florida, if you're lucky enough to find an overnight roost of migrating monarchs. Southern red cedars are especially favored as roosts, but monarchs will also rest on oaks, palms, hollies and shrubs until dawn warms them enough to send them on their continuing journey south. A "pulse" in migration, perhaps generated by a cold front, can result in several hundred monarchs using a particular stopover roost.

Monarch distribution and survival depends on the presence of milkweed, on which the caterpillars feed. Across its extensive range, the monarch uses dozens of milkweed species, most of them in the genus *Asclepias*. Milkweeds are named for the milky sap or "latex" in their leaves and stems, and the sap of most species is toxic and distasteful to vertebrate herbivores because it contains cardenolide alkaloids, also known as cardiac glycosides. However, the monarch and its relatives, the queen and

soldier butterflies, have evolved to specialize on it, sequestering the milkweed toxins in their bodies, and making them, in turn, unpalatable to most predators. The monarch's dramatic (and beautiful) orange and black pattern serves as "warning coloration" to advertise that predators might want to look elsewhere for their meal!

Monarchs are under threat on several fronts, and the total worldwide population, as measured in hectares occupied by those overwintering in Mexico, has been in fairly steady decline. Monarchs were estimated to occupy 2.48 hectares in winter 2017-18, less than half of the long-term average of 6 hectares (albeit much better than the all-time low of 0.67 ha in winter 2013-14, but only a fraction of the 18.19 ha estimated in winter 1996-97!). International partnership efforts by Canada, the United States and Mexico are underway to try to reduce threats to the monarch, reverse its decline and conserve its migration phenomenon. The monarch as a species is not in danger of extinction, but if its total population is reduced too much, its migration phenomenon could be endangered.

What can Floridians do to help monarchs? 1. Plant native milkweed, safeguard populations of native milkweed (Florida has twenty-one native species) and encourage stores and garden centers to carry native milkweed species. Note that although monarchs use the readily-available tropical milkweed, *Asclepias curassavica*, it is not native to Florida and is problematic. 2. Provide other nectar plants such as narrow-leaved sunflower for monarchs (and other pollinators) year-round and especially during fall migration. 3. Support local and international efforts to conserve monarchs and other pollinators. One threat is monocultural crop agriculture that displaces habitat, uses toxic agrichemicals and plants GMO crops that tolerate herbicides. This poses an immediate threat to milkweed and other host and nectar plants needed by monarchs and other pollinators. Efforts to help monarchs also can benefit native bees, which are in decline as well (some species may already be recently extinct). 4. Get involved with environmental education and outreach. The familiar monarch is an excellent ambassador for invertebrate conservation; it has been referred to as the "gateway bug" to get people interested in the plight of non-furry and non-feathery kinds of wildlife and the importance of habitat protection. Raising butterflies, creating butterfly gardens and tagging monarchs are hands-on ways to learn about wildlife and be engaged in celebrating Florida's biodiversity.

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## Volunteer opportunities

**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.

**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.

**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.

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## Funding opportunities

Horowitz Foundation for Social Policy Applications for Research — The purpose is to support emerging scholars engaged in social policy on contemporary issues. The deadline is **December 1,**

**2018**.

NSF ADVANCE: Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers – The ADVANCE program is designed to foster gender equity through a focus on the identification and elimination of organizational barriers that impede the full participation and advancement of all women faculty in academic institutions. **Letters of intent are due December 12, 2018**. Full proposals are due January 9, 2019.

NOAA Marine Debris Program Research Funding Opportunity — Applications are for research funding in any of three areas of focus: research that explores the ecological risk associated with marine debris and determines debris exposure levels; research that examines the fate and transport of marine debris; and/or research that quantifies habitat impacts resulting from marine debris and the gains in ecosystem services that result when debris is removed. The deadline is **December 14, 2018**.

Temper of the Times Foundation Grants for Environmental Marketing Expenses — The foundation awards grants of up to $15,000 to nonprofit organizations to help underwrite the costs of advertising designed to promote the conservation and restoration of native wildlife, plants, and ecosystems in the United States. The deadline is **December 15, 2018**.

Captain Planet Foundation EcoSolution and EcoTech Grants – Support for youth-led environmental solution-oriented projects or youth-led projects that leverage technology to achieve greater or innovative environmental outcomes. Award amounts are from $500 to $2,500. Applications due **January 15, 2019**.

NOAA Ecological Effects of Sea Level Rise Program – The purpose is to address regional and local effects of sea level rise and coastal inundation through targeted research on key technologies, natural and nature-based infrastructure, physical and biological processes, and model evaluation. The deadline is **January 16, 2018**.

Gulf of Mexico Climate and Resilience Community of Practice Climate Adaptation Projects — The purpose of the available funds is to assist a community in its effort to plan for climate change and natural hazards. Letters of Intent due **January 19, 2019**.

DHS FEMA FY18 Flood Mitigation Assistance — Funds are available to State, Local and Tribal Governments to reduce or eliminate the risk of repetitive flood damage to buildings and structures insured under the National Flood Insurance Program. The deadline is **January 31, 2019**.

DHS FEMA FY18 Pre-Disaster Mitigation — Funds are available to State, Local and Tribal Governments to implement and sustain cost-effective measures designed to reduce the risk to individuals and property from natural hazards, while also reducing reliance on Federal funding from future disasters. The deadline is **January 31, 2019**.

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.

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.

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## Calendar: Upcoming meetings, webinars and events

New Study Highlights Need to Tackle Fisheries and Climate Together, November 15, online webinar

Gulf of Mexico Alliance Wednesday Webinar Series: Harmful Algal Blooms Detection, November 28, online webinar

National Summit on Coastal and Estuarine Restoration and Management, December 8-13, Long Beach, CA

Gulf of Mexico Alliance Coastal Resilience Team Meeting, December 11-13, Austin, TX

Gulf of Mexico Alliance Marine Debris Cross Team Initiative Mid-Year Meeting, December 12-13, Mobile, AL

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## Coastal news snippets

Florida conservation organizations partner to support the recovery of west coast snook populations following red tide event, September 10, 2018

Tiny but mighty: Ocean health depends on bacteria and viruses, so what should managers know about them? September 10, 2018

How can we restore marine ecosystems? Perspectives and tips from global experts, October 15, 2018

FWC, partners discuss enhanced support for continued red tide response, November 1, 2018

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