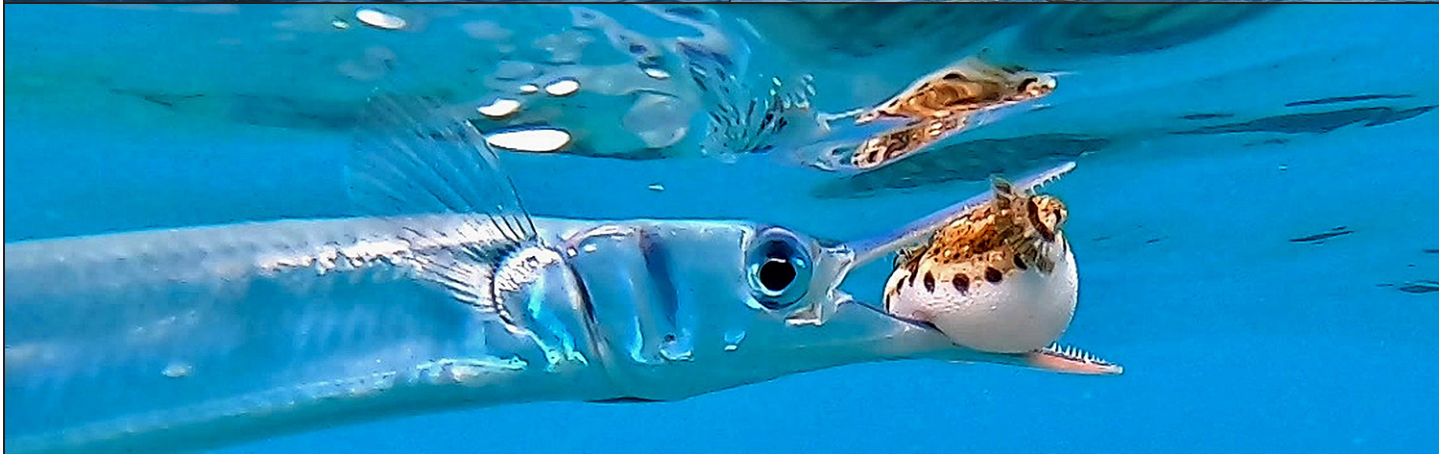


D V E A

NATURE'S NEWSLETTER

ONLINE EDITION



WILDLIFE AND THE ENVIRONMENT



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FRONT COVER PHOTOGRAPHY

Top	© Drawing by Yoke Bauer DiGiorgio
Center Left	© Courtesy of Anderson Cabot Center/ New England Aquarium
Center Right	© Courtesy of Anderson Cabot Center/ New England Aquarium
Bottom	© Colleen McMaken, Photographer

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DISCOVERING NATURE



© Photograph provided by NYS DEC

Observing and Protecting Backyard Wild

(New York State Dept of Environmental Conservation / Wildlife, Fish & Marine Life Newsletter)

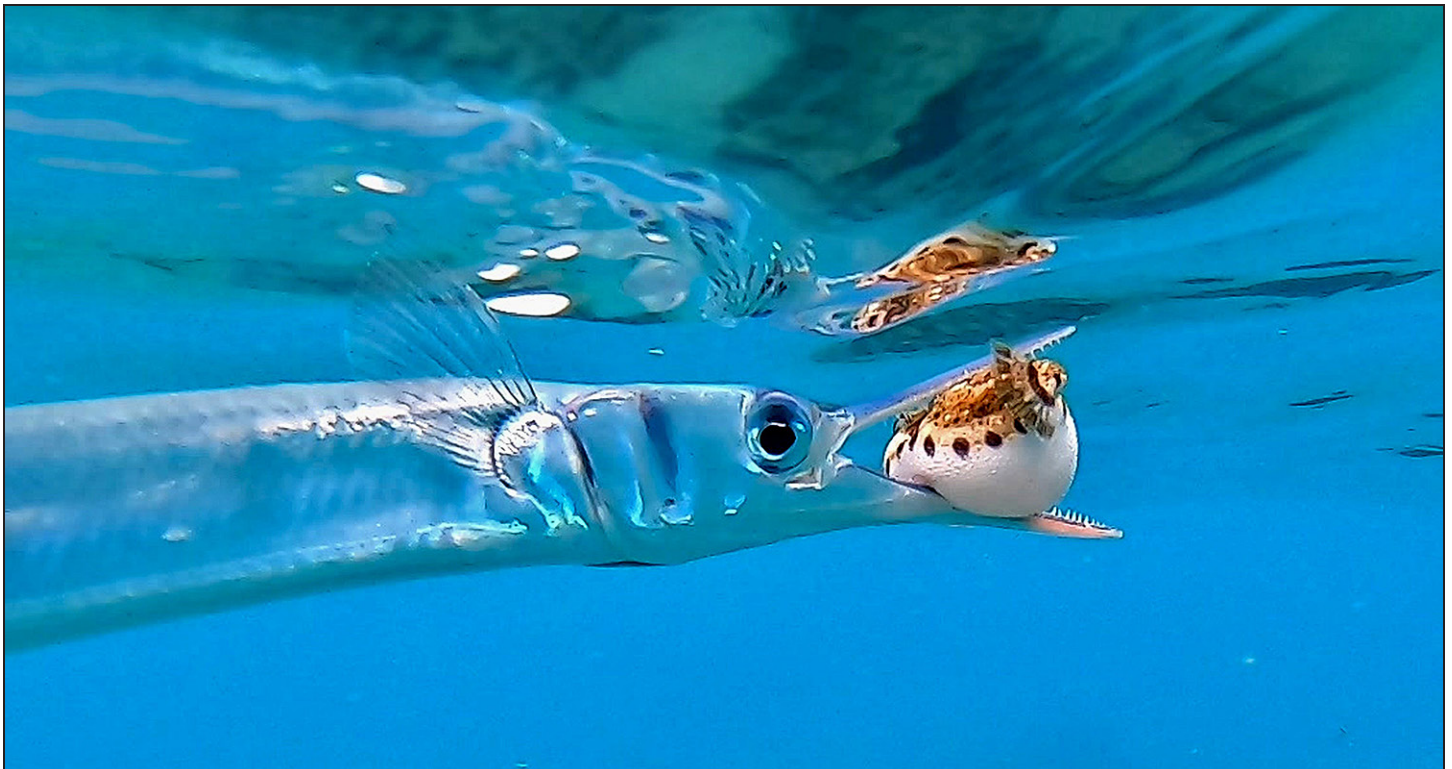
Spring and summer provide a great opportunity to enjoy watching birds and other wildlife from your home and in your yard.

Many species of birds will set up nests in shrubs (catbirds and common yellowthroats) and on tree limbs (robins, orioles, or vireos). Chickadees, nuthatches, or woodpeckers may be nesting in tree cavities. These nests may be hard to spot from the ground. Birds such as house wrens, phoebes, and Carolina wrens often get creative and build nests on decks, porches, or sheds. Fields may be habitat to ground-nesting birds, such as bobolinks (<https://www.dec.ny.gov/animals/87396.html>) or Eastern meadowlarks (<https://www.dec.ny.gov/animals/87384.html>). They use these areas to build their nests and raise their young.

Wild animal parents are the best at raising normal wild babies to survive on their own. But every year, many people scoop up young wild animals in the mistaken belief that they are orphaned or neglected. They bring them to a wildlife rehabilitator or worse, attempt to raise them. In many cases, this is unnecessary or even harmful. It is important to be familiar with normal behavior for these animals before assuming that they are in need of help.

White-tailed deer give birth to one or two fawns in April or May. The newborn fawns will be hidden away in tall grass or under bushes while the adults are out feeding. They will lie quietly and often not move to avoid attracting predators. The doe returns to feed the fawn every 4-5 hours, and will sometimes move them to a new location. After a few weeks, the fawns will gain strength and be able to accompany the mother. If you find a fawn alone and quiet but alert and without obvious injuries, it is likely to be perfectly normal. It is best

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Overall Winner, 1st place Flora & Fauna & 1st place People's Choice Award

© Colleen McMaken, Photographer

KEEPING OUR FINS UP IN A PANDEMIC

Nova Southeastern University Sharks

by Shaquilla Hamlett

HCAS SGA Director of Student Activities (2020-2021) / Graduate Student (Marine Biology) / Halmos College of Natural Sciences and Oceanography / Nova Southeastern University / Biology Graduate Teacher Assistant

This time under COVID-19 has been riddled with challenges and a new look at our reality. This has been especially true for the graduate students in the Halmos College of Natural Sciences and Arts (HCAS) at Nova Southeastern University. Students who were accustomed to classes in person and meeting with their lab mates, as they worked on various thesis/capstone projects, suddenly found themselves isolated, and navigating the world of online classes. It became a time of uncertainty as graduation and defence dates were pushed back, and the motivation to work on homework, proposals, and thesis papers dwindled to none.

Despite these challenges, the HCAS Student Government Association fought to still provide opportunities to connect with classmates, if only for a short period of time. Happy Hour meet-ups at local restaurants turned into Order-and-Go meals at the Halmos Oceanographic Campus. Game nights were continued and new speakers from all over the world were introduced thanks to the connection of Zoom calls.

COVID-19 could not thwart even one of the largest events

HCAS SGA INVITES YOU TO THE

ShutterShark Red Carpet 2021

April 9th at 5:30pm

Guest Speaker:
Dr. Guy Harvey!!

Trivia! Prizes!
People's Choice Awards!
Everyone's Welcome!

© Photo courtesy of HCAS

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KEEPING OUR FINS UP IN A PANDEMIC Nova Southeastern University Sharks



© TOP: Rose Leeger, Photographer; LOWER LEFT: Victoria Heller, Photographer; LOWER RIGHT: Shane Wever, Photographer
TOP: 1st Place Camouflage; LOWER LEFT: 1st Place B&W; LOWER RIGHT: 1st Place Anyscapes

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KEEPING OUR FINS UP IN A PANDEMIC Nova Southeastern University Sharks



1st Place Conservation & 2nd Place People's Choice Award

© Jacob Norry, Photographer

of the year: ShutterShark! This is an annual marine science photography contest where participants can submit up to three photos taken in the past year to each of the five categories to win amazing prizes. This event was started by the Halmos College of Natural Sciences and Oceanography in 2008 to increase student involvement in the student community, while also providing an artistic outlet for their marine research and love for the underwater world.

This year for ShutterShark, the option to submit artwork, as well as photographs, was allowed, as long as it was marine themed. The categories were Camouflage, Conservation, Flora & Fauna, Black & White, and Anyscapes. Our judges included an incredible new professor from the university, Dr Lauren Nadler, and prominent artists such as Lureen Ferretti from the South Florida Underwater Photography Society (SFUPS), and Delaware Valley Eagle Alliance's very own, Yoke DiGiorgio. The judges had their hands full choosing from the 54 photographs this year, but in the end thirteen awesome students were chosen to be either 1st, 2nd or 3rd place amongst the five categories. Five other students were recognized as Honorary Mentions, and one student was chosen as the overall winner.

All participants were invited to the Red Carpet for the ShutterShark Award Ceremony on April 9th, where they heard from a remarkable artist, Dr. Guy Harvey! Everyone

in attendance was then able to view all the submissions and voted for 1st and 2nd place for the People's Choice Awards. Although over Zoom, the award ceremony was filled with victory dances and virtual high fives as the winners chose between various prizes including a beach/hiking set and inflatable kayak/paddleboard. The overall winner really took home the prize with the reveal of the newest Nintendo Switch with accessories and three games!

This contest means a lot to me, and to the other students, because it allows us to share our passion for nature and wildlife while also using our creative sides. The capture of wildlife that you normally would not see, not only feels viewers with wonder, but it also brings awareness of the conservation needed for various species. The Conservation category itself, is such an invaluable addition, because it shows how nature has been affected by mankind, whether positively or negatively. This is something close to my own heart since I strive to become an exotic and marine veterinarian with a focus on conservation and rehabilitation.

By sharing with everyday people the world around them in a new way, we can make conditions and wildlife more tangible so that their conservation strategies feel more reachable. Our world may never be the same, but what events like ShutterShark showed me, was that even in the darkness there is light, and it has been

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KEEPING OUR FINS UP IN A PANDEMIC Nova Southeastern University Sharks



© **LEFT TOP:** Morgan Short, Photographer; **RIGHT TOP:** Krista Scheuerman, Photographer; **RIGHT LOWER:** Brooke Enright, Photographer;
BOTTOM: Emily Atkins, Photographer

LEFT TOP: 2nd Place Flora & Fauna; **RIGHT TOP:** 2nd Place Camouflage; **RIGHT LOWER:** 3rd Place Anyscapes; **BOTTOM:** Honorary Mention B&W

an honor to watch that light shine through all the HCAS graduate students this year.

Pandemic or not, you can guarantee the students at NSU always keep their fins up!

For Additional Information:

<https://hcas.nova.edu/academics/graduate/index.html>

https://nsuworks.nova.edu/occ_shuttershark/

<https://www.nova.edu/ghoc/index.html>



A breaching right whale.

© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

The Plight of the North Atlantic Right Whale

by Kelsey Howe

Right Whale Research Assistant / Anderson Cabot Center for Ocean Life, New England Aquarium

Working with a critically endangered species can be a tough gig. You experience all the highs and lows along with the entire population: the joy of a new calf sighting, as well as the tragedy of a premature death (almost always caused by humans). Our team at the Anderson Cabot Center for Ocean Life at the New England Aquarium (Boston, MA), has been studying the North Atlantic right whale (NARW) for over 40 years. We have followed matriarchs who have gone on to have a dozen grand-calves, old males first documented in 1956, fan favorites reliably seen every single year, and whales freed from entangling fishing gear slowly recover from their injuries. And we have watched the species' numbers grow, and then decline in recent years. There are currently only about 350 North Atlantic right whales left.

Several hundred years ago, there were estimated to be between 9,000 and 20,000 North Atlantic right whales in the western North Atlantic Ocean. Unfortunately, due to



© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

The NEAq has been doing right whale research from their trusty steed R/V Nereid for 40 years in the Bay of Fundy.

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The Plight of the North Atlantic Right Whale



Right whales engaging in a SAG, or surface active group.

© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

their large blubber stores and tendency to float when killed, they were considered the “right” whale to hunt by 17th and 18th century whalers. By 1935, when whaling right whales was banned, right whales had been hunted almost to extinction. Decades went by with a handful of right whale sightings here and there along the coast, but it wasn’t until the feeding grounds in the Bay of Fundy and the calving grounds off the southeastern U.S. were discovered in the early 1980s, that substantial research on the species truly began.

North Atlantic right whales are just one of three different species of right whales; there are also North Pacific right whales (listed as Endangered by the IUCN) and Southern right whales. North Atlantic right whales are often called the “urban whale” because their primary habitat is along the busy, industrialized eastern seaboard of the United States and Canada. They tend to spend the spring feeding in and around Cape Cod Bay (MA), move up into Canadian waters (Bay of Fundy and Gulf of St. Lawrence) in the summer and fall, and then pregnant females will migrate down to coastal Georgia and Florida in the winter to give birth. Right whales are baleen whales that primarily feed on small zooplankton called copepods. They can grow up to about 50 feet in length and weigh up to 70 tons. They are distinguishable from other baleen species by a lack of a dorsal fin, v-shaped blow, paddle-shaped flippers, and by the presence of callosities on their heads. Callosities are raised and roughened skin patches on right whales’ heads

that are colonized by little white crustacean critters known as cyamids, or whale lice. Every right whale has a distinct callosity pattern, enabling us to identify individual whales, which is crucial for estimating population size and tracking each individual’s life history and health.

When anyone (researchers or the public) takes a photo or video of a NARW, they send it to the New England Aquarium where our right whale research team curates the



© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

“Arrow”, or Eg#3290, and her 2009 calf photographed at the surface on a calm day in the Bay of Fundy.

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The Plight of the North Atlantic Right Whale



© Photo courtesy of Florida Fish and Wildlife Conservation Commission, NOAA Research Permit #15488.

Three NARWs photographed swimming, with a fourth whale seen faintly just below the surface. Notice how all their callosity patterns are unique.

North Atlantic Right Whale Catalog on behalf of the North Atlantic Right Whale Consortium. The Catalog currently contains 768 right whales (dead and alive), more than a million photographs, has more than 500 contributors, and spans from 1935 to the present day. Once we match a photographed whale to a known individual, the sighting is incorporated into the Catalog. As sighting builds upon sighting, this enables us to track the health of a whale over time, their migration patterns, behaviors, entanglement and vessel strike incidents, and calving events, just to name a few. Almost all research on NARWs flows through the Catalog at some point in time.

In the early 1980s when NARW research was just beginning to take off, there were estimated to be only about 250 individuals in the species left. As we learned more and more about them, we also better understood the human threats that they were facing. As NARWs migrate up and down the eastern seaboard, they are in the constant presence and

danger of human activity, particularly entanglement in fishing gear and vessel strikes. For example, almost 9 out of 10 NARWs (87%) have been entangled in fishing gear at some point in their life, and many have been entangled multiple times. In the last few decades, we've attempted to protect this species as best we could:

seasonal vessel speed restrictions were put into place, shipping lanes moved out of critical habitat areas, tweaks to fishing gear were made—and these efforts did help the population grow, although slowly. In 2009, there were a record 39 calves born; and by 2010, population estimates were just under 500, double what they had been 30 years prior. Despite this slow increase, the entanglement problem was getting worse as the breaking strength of fishing rope got stronger. And then their habitat-use and distribution started to shift.

Around 2010, the Gulf of Maine (which includes the Bay of Fundy and borders Cape Cod Bay, two historically critical feeding habitats) became the fastest warming body of water on the planet, which has restructured, and in some ways imploded, the entire ecosystem. Most importantly, the presence of copepods, NARW's main prey, began to shift drastically. And where the copepods go, right whales must follow. So right whales began to move into different habitats, such as the Gulf of St. Lawrence and south of Nantucket. Unfortunately, these new habitats did not have the same amount of protections as the Bay of



© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

A NARW photographed severely entangled in fishing gear, with multiple wraps of lines and buoys around its head. Its baleen has been damaged and is now sticking out of the mouth at a weird angle.

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The Plight of the North Atlantic Right Whale



A right whale flukes with a large tanker in the background.

© Photo courtesy of Anderson Cabot Center/New England Aquarium, taken under SARA permit.

Fundy or Cape Cod Bay, so we started to see a drastic rise in human-caused mortality. Since 2017, there have been 34 confirmed NARW mortalities, plus 15 seriously injured free-swimming whales; additionally, it is estimated that only around one-third of NARW carcasses are actually detected. This means that in less than four years we have lost at least 10% of the current population—a horrific number for any species, let alone a critically endangered one.

The current state of affairs has been a big wake-up call for everyone invested in the recovery of this species: researchers, government agencies, NGOs, and industry members. We know there are solutions that could address these threats. They include implementing ropeless fishing (to eliminate vertical line in the water column) and weaker rope (allowing whales a better chance to break out of their entanglements) throughout the right whale's range, as well as enforcing and expanding mandatory vessel speed restriction rules. But implementing meaningful change to policies that will affect the long-held traditions of the fishing and shipping industries is a giant hurdle that we have yet to successfully overcome. So far, there has not been enough political will to push these efforts forward. Unfortunately, NARWs do not live in a giant ocean bubble by themselves, they share it with all sorts of vessel operators and fishers, who also depend on the northwestern Atlantic for their livelihood. The key is to enable humans and NARWs to successfully coexist without causing the other undue harm. Humans have failed at this for centuries and North Atlantic right whales are running out of time.

Can you imagine losing one of the great leviathans in

our lifetime? A loss for which humans would be entirely to blame? Is this our legacy? NARWs have intelligence, emotion, and culture. They are a critical cog in the oceanic ecosystem and we should all want to protect them. We should all want to save them from this path that we have placed them on.

So what can individual people do about it? You can contact your elected officials and ask that they support legislation and other efforts to protect right whales, report right whales if you see them, support and spread science online and to your peers, follow vessel speed restrictions, shop locally and avoid plastic, help fight climate change, know where your seafood comes from and how it is fished, ask your restaurants and grocery stores if they can source whale-safe seafood, and lastly, stay informed and curious. We know what we need to do, so let's get to work.

For additional information:

Our research team: <https://www.andersoncabotcenterforoceanlife.org/rightwhales/right-whales/>

NARW Catalog: <http://rwcatalog.neaq.org/#/>

NARW Consortium: <https://www.narwc.org/>

WhaleMap: <https://whalemap.ocean.dal.ca/>

Links to our social media:

Blog: <https://www.andersoncabotcenterforoceanlife.org/category/right-whale-research/>

Facebook group: [NEAq Right Whale Research Program](#)

Twitter: [@rightwhalescoop](#)

Instagram: [@andersoncabotcenter](#)



A clapper rail pops his head up within the spartina to give me the stink eye for invading his territory to conduct surveys.

© Bryan Watts, Photographer

COMING HOME TO THE MARSHES

by Bryan D. Watts, Ph.D.

**Mitchell A. Byrd Professor of Conservation Biology / Director, Center for Conservation Biology
College of William & Mary**

It is that time of year when the days come on fast. But by the time the sun gathers its strength I have been in the marsh for three hours walking through the pastels of sunrise lighting the marsh grass, listening for the subtle calls of seaside sparrows near their nests and being escorted by the willets that seem to own this marsh.

I am resurveying a series of marshes that I first surveyed during the spring of 1992. The marshes were chosen nearly three decades ago as reference sites for the marsh-bird community within the lower Chesapeake Bay. I have returned to specific points to check on how the marshes are holding up and how well the bird community is faring. It feels like returning home after a long stint away and walking through the house to assess what has changed - visiting with family and friends to hear about how everyone is doing.

Absence has a way of freezing places in our minds eye. We return expecting the furniture to be just as we remember it

from years ago. Returning to these marshes has been a shock. Some things remain the same – the soft texture and hues of the salt meadow hay, male fiddler crabs rushing across the mud waving their fiddles, the stillness of tide pools in the high marsh and the weight of the air hanging over the marsh in late morning. But many of these marshes are unrecognizable to me now. In just thirty years time they have been substantially altered.

The marshes are being changed by forces coming from well beyond their boundaries. The marsh near Pepper Creek once owned by Mrs. Tatterson – a lovely lady who always greeted me and waited with ice tea on her porch to talk birds as I came out of her marsh – is being eroded along the outer edge by waves during storms and high-tide events. The marsh on Dyer Creek once owned by Mr. Bur – a busy waterman who operated pound nets – is now partially buried in sand that has overtopped it. Virtually all

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COMING HOME TO THE MARSHES



Wave action exacerbated by sea-level rise is eroding the outer edge of Mrs. Tatterson's marsh ripping up chunks of peat and pushing them onto the marsh surface. Many exposed marshes have lost considerable surface area to erosion.

© Bryan Watts, Photographer

of the marshes have been invaded along the upland edge by the invasive common reed that is displacing the upper high marsh. This plant, so dominant today, could not be found in most of the marshes thirty years ago. Rising sea-level has made the marshes more difficult to walk through and has favored some species over others shifting the composition of vegetation. If you look closely, you can see signs of the most consequential change – the wrack and high-water marks that show how recent lunar tides have inundated the marsh surface.

What does the change in furniture mean to the bird community that depends on the marsh? Although the specific answer to this question must wait for the completion of the forth round of surveys and a full assessment of occupancy, density and trends, some signals have emerged. Some species such as Virginia rail and marsh wren that were once common in these marshes have become uncommon. Other species such as sedge wren and black duck that were uncommon to rare in the



© Bryan Watts, Photographer

A willet perches on a red cedar tree in the high marsh. Willets are the alarms of the marsh following your every move from point to point and letting the entire community know that you are here.

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COMING HOME TO THE MARSHES



A washover fan of sand now covers a significant portion of Mr. Bur's marsh burying marsh grasses, tidal inlets and tide pools previously available to marsh birds.

© Bryan Watts, Photographer

marshes are now absent. The boat-tailed grackle that was commonly observed wading belly deep into tide pools to catch fish has become patchy in distribution. Possibly one of the more telling signals comes from the eastern meadowlark. Although a facultative user of the saltmarsh, the eastern meadowlark was earlier a common component of the high marsh but has yet to be detected in any of the reference marshes this spring.

Was Thomas Wolfe right that “we can never go home again” – that the place that we long to return to only existed during that brief point in time when we fixed it in our minds? For birds what is at stake is not merely a memory frozen in time but actual living breathing populations. Mrs. Tatterson is gone now and the seaside sparrows that we discussed on her porch no longer nest in her marsh. Mr. Bur is also gone and the tide pool next to where he stored his pound poles that supported a large number of foraging shorebirds lies beneath three feet of sand.

The initial marsh bird project was a partnership between CCB, The Virginia Department of Wildlife, the Virginia Institute of Marine science (VIMS) and the U.S. Environmental Protection Agency (EPA). The current follow-up project is a partnership between CCB, VIMS and EPA.

We hope that a more detailed analysis of the ongoing changes experienced by marsh birds may lead to ideas for possible mitigation.



© Bryan Watts, Photographer

A clapper rail nest in a stand of black needlerush. Despite the fact that this nest platform was built more than 1 foot off the surface of the marsh it was washed out during a lunar tide soon after it was built. Repeated inundation of the marshes prevents some species from producing young.



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MISSION OF THE CENTER FOR CONSERVATION BIOLOGY:

CCB's mission is to provide the global community with the information needed to drive thoughtful, science-based conservation, to educate and train the next generation of conservation scientists, and to make lasting contributions to the natural world through critical thinking, innovation, and ground-breaking research.

<https://ccbbirds.org/>



'On the Move'

© Drawing by Yoke Bauer DiGiorgio

View all of Yoke's drawings on Instagram / @yokebauerdigorgio

'ON THE MOVE' Chincoteague Wild Ponies....

Wild ponies and the beach That's what compelled my husband, John, and I to make those first arrangements to travel to Chincoteague and Assateague years ago. The spring and fall round ups are particularly interesting. That's when the Chincoteague Volunteer Fire Company, which owns the ponies, conducts health checks of all of the ponies. And then, of course, there is the annual Pony Swim and Penning in July. Our most memorable times however, were spent in Assateague hiking, kayaking and observing these extraordinary ponies in their in their natural habitat.

Wild ponies have inhabited Assateague Island for over 400 years. Legends suggest that they are the descendants of the survivors of a Spanish galleon which wrecked off the coast of Assateague. This story, has been passed from generation to generation on Chincoteague Island. There have been numerous shipwrecks along the mid-Atlantic coastline. Before modern navigation, ships used lighthouses and the stars to navigate at night. This worked well until a bad storm came up or heavy fog set in, which impaired visibility. Ships sailed off course and hit sandbars along the coast. The large number of shipwrecks, together

with the fact that it was very common for ships to be transporting ponies to the Colonies or South America, makes it very likely that ponies originally got to Assateague from a shipwreck.

The Chincoteague Pony (as they are now called) became an official registered breed in 1994. The average height of a Chincoteague Pony is between 12 and 13 hands (any horse that stands less than 14 hands is considered a pony). They are stocky, with short legs, thick manes, and large, round bellies.

Assateague Island is a harsh environment for the ponies and their diet is limited. They have adapted to the limited diet over the hundreds of years they have lived on Assateague, primarily eating the salt water cord grass that grows in the dunes and marshes. They eat almost all day just to get enough nutrition from this diet to sustain themselves. They also drink twice as much water (fresh, or brackish, water in the ponds and low-lying areas of Assateague Island) as a normal horse. No wonder their bellies appear so bloated.

Two herds of wild ponies make their home on Assateague Island, separated by a fence at the Maryland-Virginia

line. While they appear tame, they are wild, and therefore should not be fed or approached. The Maryland herd is managed by the National Park Service. The Virginia herd is owned by the Chincoteague Volunteer Fire Company. Each year the Chincoteague Volunteer Fire Company purchases a grazing permit from the National Fish & Wildlife Service. This permit allows the Fire Company to maintain a herd of approximately 150 adult ponies on Assateague Island.

The Fire Company controls the size of the herd by auctioning off most of the foals at the annual Chincoteague Volunteer Firemen's Carnival and Pony Auction in July. Approximately 75 percent of the mature mares have foals each year; approximately 70 new foals are born every spring, on the Virginia side of Assateague Island.

Yoke Bauer DiGiorgio
Wildlife Artist / Co-Founder and
Editor Nature's Newsletter /
Co-founder and Director DVEA

ADDITIONAL RESOURCES:

<http://www.chincoteague.com/ponies.html>
<https://www.chincoteaguechamber.com/pony-penning/>



Photographs ©JohnMesseder.com

LEFT TOP: A vernal pool about six-feet across and little more than ankle deep is kept alive by leftover winter runoff and a bed of decaying leaves – a food supply for hundreds of tadpoles and, in an earlier stage, a cloud of mosquito larvae. The tadpoles hatched at the end of March.

RIGHT TOP: The latest crop of tadpoles feed on algae and other detritus on their approximately 17-week passage to a graduation ceremony that will see them leave the pool as frogs.

LEFT BOTTOM: The Monocacy River is created from the confluence of Rock and Marsh creeks, in Pennsylvania, and makes its way to the Potomac River and then Chesapeake Bay and the Atlantic Ocean. Here, a formation of sandstone and volcanic diabase form a portion of the east riverbank.

RIGHT BOTTOM: An arched tree seems to form an entrance to an enchanted land of turtles, Mallards, Canada Geese, Great Blue Herons, gophers, Painted Turtles and other residents of the creek.

HUGGING WATER

by Terry W. Burger, *Freelance Writer*

Looking back, John A. Messeder Jr., *Environmental Columnist and Photographer*, has said that writing about nature, and his part in it, always seemed inevitable.

Of course, there were several paths, some of them overlapping, to travel on the way. He spent his early childhood in one of the world's largest cities, his teen years in the Maine woods, then served a career in the U.S. Navy, and has occupied the past 20-plus years wandering the South Mountains of south central Pennsylvania. Despite the roundabout trip, he figures the "scenic route" left him with some important tools for what he does now.

A major source of frustration for him is how the paths his fellow residents on this world need to embrace and understand their surroundings have become cluttered with obstacles.

"I get upset that city kids don't get a chance to get out there," he said, *"and learn to understand the similarities between their own lives and the other beings populating the planet."*

His awareness on that point was gained first-hand. He was born in New York City, where his former-Marine dad was a cop. As the elder Messeder's retirement approached,

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HUGGING WATER



©JohnMesseder.com

A “bale” of Painted Turtles line up for their daily ration of sunshine on a log partially submerged in Marsh Creek. They need the rest after a day of controlling the populations of crawfish, minnows and various invertebrates. s Victoria and Albert Museum, 2012

the family moved to a small town a few miles north of Farmington, Maine.

John was about 10 years old. It was, literally, another world, a teeming wilderness where it was common to find many members of the wildlife population just outside the front door.

To the kid from Manhattan, it was like moving to another planet – or coming home to one.

“I saw a lot of nature while I grew up in those woods,” he said. “Imagine meeting a family of raccoons dened under a huge dead log; or walking around a bend in the driveway and facing a moose and her calves browsing on brush; or swimming at midnight in a 500-acre lake, staring at the stars and listening to three pair of loons holding roll call from nests spread around the shore.”

Diving under water on summer days, he watched the loons and beaver go about their daily chores and grocery collecting. He learned the territorial habits of Chain Pickerel, and where to find trout and White Perch.

It dawned on him that these experiences, however revelatory, all fell under the definition of “normal” to his younger self, and not nearly as special as his later years

have revealed them to be.

Urban living has left too many of us with the feeling that Nature is somehow separate from us, and that has proven to be a dangerous state of mind, Messeder believes. Too often, he says, *“we hear of ideas like ‘our environment’ as though it is separate from us, when in truth we are part of it, along with every other creature that shares it.”*

Some of his friends teasingly call him a “water-hugger,” a moniker he wears with pride. It comes from his membership on the local watershed alliance Board of Directors, which meets monthly.

“Several of us old guys meet for breakfast one morning each week. One week I announced I would miss breakfast for a meeting of the watershed alliance,” he said. “One of the guys declared I was going to ‘hug water,’ the way other people hug trees.”

Respecting water is just another way of going home, he thinks. It should be a natural attitude.

“Like most of us, I spent nine months becoming a functioning being while submerged in water,” he said.

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HUGGING WATER

On a recent expedition with some guests on his home waterway, Marsh Creek near Gettysburg, Pennsylvania, a little girl in the canoe asked her mom if the water in the creek was safe to drink. Messeder drifted into the shallows and pointed out some stonefly and mayfly larva and other small creatures thriving in the sun-dappled water. He explained their role in the ecosystem and said that their presence was a pretty good indicator that the water was potable.

"Some of those bugs cannot live in bad water," he explained.

Messeder calls his excursions *"wandering."* He rarely is in a hurry, and often can be found on the ground, watching life at its foundational level.

For two decades after high school, The U.S. Navy expanded his world.

"I was surprised at how many of my shipmates went to the same ports I did and essentially never left home," he recalled. *"Even on leave, they would hang around near the base and never got to know how one place was different from any other."*

Every chance he had at a port of call, whether to Tokyo, Hong Kong, Hamburg, Nice, Cannes, Torremolinos or Seville, Messeder took cars, buses, trains – even eventually earning a pilot's license so he could go further afield faster – and went wandering.

"I got to know people, learned conversational Spanish and Italian and now-forgotten smatterings of a few other languages, and ate and drank a lot of stuff I was told not to, mostly with no ill effects," he said.

One memorable adventure happened when he crash-landed his little rented airplane in an olive orchard on a mountain somewhere in Spain. Messeder was slightly injured, but a local police official gave him a personal tour of the area, proudly showing off the sights and introducing him around the town.

"I had a great time," Messeder said. *"The plane didn't make out as well."*

In 1974, while stationed with the Navy in Adak, Alaska, he began writing a regular feature for a local paper. He wrote as 'The Old Tundra Stomper,' and sent his weekly offerings on the wings of a Bald Eagle named J. Edgar, a name borrowed from a Mason Williams ballad. Messeder's notes focused mostly on experiences and observations among the World War II artifacts and the Barren Ground Caribou and Ptarmigan that called the island home.

"There is pretty much a straight line between my writing then and now," he said.

Most of the past 20 years he has spent exploring the back



Photographs ©JohnMesseder.com

TOP: Skeleton of an early mill is among several such monuments to an economic system that depended upon area creeks to power manufacturing of lumber and fabrics for European settlers moving into south central Pennsylvania.

CENTER: Millions of years of heat and pressure twist a section of Jack's Mountain into the face of an old man.

BOTTOM: Leaves barely submerged in a vernal pool create color patterns reminiscent of a master painter.

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HUGGING WATER



Photographs ©JohnMesseder.com

LEFT TOP: Willoughby Run splits around an island of spring grass. The “run,” another word for a creek, is a tributary to Marsh Creek, carrying water from the west side of Gettysburg on its way to the Chesapeake Bay.

RIGHT TOP: A carpet of moss provides breeding ground for systems of fungus as they build communications networks among the trees that, before they are cut for lumber, sequester tons of CO₂ that otherwise emanates into Earth’s atmosphere.

LEFT BOTTOM: A Water Penny, its exoskeleton bearing patterns reminiscent of Aztec ceremonial decorations, actually is a beetle that does not live in polluted water. **RIGHT BOTTOM:** A Mayfly larva, identified by its iconic triple tail, is another species indicating good quality water. The larva spends most of its time living under flat rocks in the stream floor. Sometime, typically in May, the masses of larvae become adults, pop into the air, and mate.

roads, waters and forests of south central Pennsylvania. He writes a weekly column in the *Gettysburg (PA) Times* about his experiences and discoveries in the region’s South Mountains. His current project is documenting in print, photos and video the multitude of creatures, plants and geologic monuments most of us walk past without seeing.

“If you come back from the woods and your knees and elbows are not dirty and wet,” he asserted, “you didn’t get close enough to the action.”

“I have met hikers on a trail who just walked past a three-foot-high anthill, and did not see it,” he said. “Too often, hikers step along as though they are in a hurry to reach some distant goal. It’s not a race, it’s an exploration.”

Lately, he has been photographing tadpoles in a vernal pool growing into frogs, mosses and fungi blanketing rocks and logs in Michaux State Forest, and crayfish and mayflies along Marsh Creek.

And he rarely gives away the exact locations of his finds, preferring to invite other explorers – especially young people with little experience of life outside their homes – to wander in the woods and meet their neighbors. **The goal is to encourage taking care of air and water – the two most important supporters of life on Planet Earth.**

For more information:

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© Marc Dando Illustration

*Spiny dogfish (Scientific name: *Squalus acanthias*) are small sharks with a long and complex history in U.S. waters. Growing as long as 4 feet, the spiny dogfish has dorsal fins, no anal fin, and white spots along its back. The species name *acanthias* refers to the shark's two spines. These are used defensively. If captured, it can arch its back to pierce its captor with spines near the dorsal fins that secrete a mild venom into its predator. Atlantic spiny dogfish can often be seen hunting prey in "dog-like packs" that can range up into the thousands. They are aggressive hunters and have a sizable diet that can range from squid, fish, crab, jellyfish, sea cucumber, shrimp and other invertebrates.*

SHARKS AT THE FRONTIER OF SCIENCE

FRENCHMAN BAY, MAINE

by Dave Grant

Conservation Director / Shark Research Institute

"The gulls wheel in great circles over the spruce-covered islands that dream in the bay. In storm the islands are fringed with flying white spray, but in these periods of calm, they seem to float on the surface of the sea."

Elizabeth Ogilvie – Pursuit At Sea

Bar Harbor is perhaps the most revered summer vacation destination along the coast of "Downeast" Maine, and summering in the adjacent waters of Frenchman Bay gather perhaps the most underappreciated shark in the world – the spiny dogfish, *Squalus acanthias*. Known locally as the mud shark or horndog, the dogfish is simply considered a nuisance by many fishermen - but not by this biologist!

Edible, with boneless, firm, white flesh, and a source of selenium and vitamins B6 and B12, I have never seen dogfish in the markets here, although it is harvested in great quantities for export to Europe, and supports many commercial gill-net and trawl fishermen in the Gulf of Maine. Marketed under such names as: cape shark and spike dog; in England, it masquerades as grayfish – the healthier half of fish-and-chips. It is even touted online as a popular beer garden snack in Germany, called shillerlocken.

Revisiting Mount Desert Island each year, I am reminded

of my earliest encounters with dogfishes (Other than the dreaded preserved specimen that all biologists have to drag around during their semester in vertebrate physiology!). For our summer oceanography students, the most anticipated experience was to fish these rich waters and tag our catch for long-term studies. We sought a number of tasty gamefish like cod, flounder and pollock, but truth be told, never caught any. What we regularly did succeed in doing was attracting schools of dogfish; and what could be more interesting than that in the era of JAWS?

In some years, particularly the 1980's, dogfish were so abundant that our lines would rarely reach the bottom before hooking one. A veritable shiver of these lovely and graceful fishing companions circling below us in the clear waters is always mesmerizing to students. On rare occasions, when I could sneak bait past the sharks and reach the bottom, we were introduced to what has become my favorite sculpin, the longhorn. Besides being a hardy addition to the aquarium, who cannot appreciate the taxonomist's title for this little armored ground-fish, with its eighteen head-spines and long and descriptive name - *Myoxocephalus octodecemspinosus*.

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SHARKS AT THE FRONTIER OF SCIENCE / FRENCHMAN BAY, MAINE

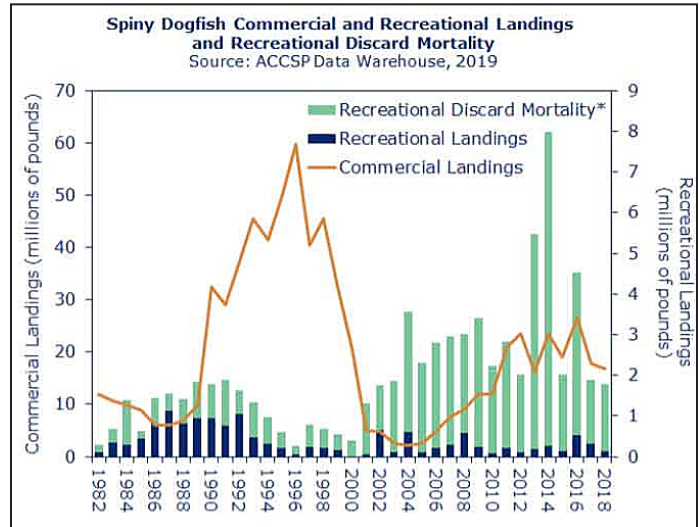
The prerequisite to fishing trips was always a visit to the famous Mount Desert Island Biological Laboratory. Here, and for good reason, the image of a dogfish is imbedded in a mosaic that became emblematic of the investigations using sharks. Researchers would describe the shark's ability to regulate salt in its body, comparisons to human systems, and clues to addressing kidney disease in people. What better creature to experiment with for kidney function, ion levels and blood-pressure issues than an abundant one living in salt water?

Dogfish were also used to search for a cure for cystic fibrosis, detecting marine toxins, and identify a drug to help repair damaged heart tissue. Sharks also produce squalamine, a secretion with strong antibiotic characteristics and something showing promise as an anti-cancer agent. Most recently, MDIBL researchers are making discoveries in regenerative medicine, cellular and molecular biology, and training thousands of students each year. Our short visits would leave a lasting impression, and great appreciation of the noble dogfish we were likely to encounter the next day.

Recreational catch and commercial landings were low and about equal in the 1980's when I first fished this area, but the commercial take nearly tripled to 60-million pounds in the late 1990's, before plunging ten years later. The population has recovered somewhat since 2004, but throughout the period, "discard mortality" of fish released remains high – about 20%. This always was a consideration regarding any fish we handled, so they would quickly be returned to the water after being tagged. Dogfish are fairly long-lived – up to 40 years – so hope springs eternal, and we are waiting patiently for any tag returns.

Over the years in Maine, I have continued to gather information about dogfish, and am always on the lookout for local lore. This year, as luck would have it, a coworker of Maliseet descent – one of Maine's four Native American nations – patiently shared language information. When asked about his tribe's name for shark, he reminded me that his family was from an inland group, and I should inquire with the coastal people, the Passamaquoddy. (However he did add that they "had a name for whale and seal ... and for some reason ... monkey".) My quest ended at the Abbe Museum in Bar Harbor, where I finally found *ksapitimeqsis* – small shark

Around Labor Day, before I return home and before the dogfish emigrate to their wintering grounds south of Virginia, I will take advantage of one of those glorious periods of calm out on Frenchman Bay; and venture out to try and catch a cod or even a halibut. The captain will tease us and quip "It's not the size of the catch, but the quality of the experience" and "You should have been here yesterday... AND tomorrow", but I will be satisfied with whatever we see and catch - especially the worthy little *ksapitimeqsis*.



NOTE: Article first appeared in the Summer 2021 issue of the Shark Research Institute Newsletter.
For prior issues: <https://www.sharks.org/newsletters>



**SHARK RESEARCH
INSTITUTE**

ABOUT THE SHARK RESEARCH INSTITUTE

The Shark Research Institute (SRI), a multi-disciplinary nonprofit 501(c)(3) scientific research organization, was created to sponsor and conduct research on sharks and promote their conservation.

Founded in 1991 at Princeton, New Jersey, USA, SRI has field offices in Florida, Pennsylvania and Texas, as well as, Australia, Canada, Ecuador, Honduras, India, Mexico, Mozambique, Seychelles, South Africa and the United Kingdom.

The population served includes the scientific community, individuals and organizations concerned about the health of our marine ecosystem, and marine resource users - subsistence fishermen, sport divers, and the dive tourism industry.

SRI works to correct misperceptions about sharks and stop the slaughter of 100 million sharks annually. A primary goal is creating value for sharks as sustainable natural resources for the dive tourism industry, particularly in developing countries. By so doing, a steady revenue stream is also generated for local fishers that might otherwise slaughter the sharks for immediate gain.

Current projects include visual and satellite tracking, behavioral and DNA studies of sharks, environmental advocacy, publications and public education.

For more information: <https://www.sharks.org/>

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DISCOVERING NATURE



© Susan L. Shafer, Photographer

Observing and Protecting Backyard Wild

to keep children and pets away. Observe from a distance over a period of hours. Adult does may not approach if people are close by.

Cottontail rabbits are born with no fur and closed eyes, but mature to independence at only 4 weeks old. The mother may only return at dawn and dusk to a shallow nest in the ground to feed her young. The rest of the time, they are covered over with grass. If you are not sure the mother is returning to the babies, you can put some leaves or light sticks over the grass covering. Then check back to see if the nest has been disturbed. If you see a rabbit that appears very small, but has its eyes open and is hopping around outside the nest, it is likely independent.

Songbirds spend about two weeks in the nest being fed from dawn to dusk by their parents. At about 2 weeks, they will make their first attempts at flying. Disturbing the nest close to this time can spook them to leave before they are ready. This puts them at greater risk. This is a difficult period for young birds, when they are vulnerable to predators, pets and well-meaning humans. During the next few weeks, they will develop their flying skills and muscles by jumping and making short flights. They may spend short periods on the ground, or on low branches of shrubbery. They may be easy to approach, and have little fear of people. However, their parents keep a close watch, continuing to feed them as they move around. It is often possible to hear the young birds and their parents vocalizing to each other and, with patience, observe feeding. If a young bird is alert, fully feathered and moving around, and parents are in the vicinity, watch from a distance and do not intervene.

For more information visit:

<https://www.dec.ny.gov/animals/6956.html>

<https://content.govdelivery.com/accounts/NYSDEC/bulletins/2da0d29>

(or your regional wildlife agency)

THE DELAWARE VALLEY EAGLE ALLIANCE

*working towards the conservation of
our wildlife and natural resources*

The Delaware Valley Eagle Alliance is a 501 (C)(3) not-for-profit organization with a mission to increase awareness, understanding and promote conservation of our wildlife and the natural environment. We accomplish this through our publications, projects and programs.

We believe that raising awareness and understanding will change attitudes toward conservation and our natural resources.

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We are available to work closely with biologists and conservation groups to document ecological and wildlife research on sensitive and endangered wildlife and environmental issues.

We collaborate with communities and other organizations to develop and organize wildlife and environmental educational and entertaining programs.

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