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NATURE'S NEWSLETTER

ONLINE EDITION



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The Delaware Valley Eagle Alliance

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DISCOVERING NATURE



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JOSHUA TREES AT SUNSET

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The Delaware Valley Eagle Alliance





Bird Count crew pose with a new eagle nest on the north end of Smith island on December 30, 2018.

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BEACH NESTING BALD EAGLES

by Bryan D. Watts, PhD

Director, Center for Conservation Biology

College of William and Mary / Virginia Commonwealth University

Sometimes no matter how long you have worked with a species and no matter how wild you let your imagination run, you just cannot anticipate what they will do next.

The Center for Conservation Biology has mapped and inspected more than 5,000 eagle nests over the past few decades but **we never expected to see them taking up residence on the open beach!** A newly constructed eagle nest was discovered by the Cape Charles Christmas Bird Count crew on the north end of Smith Island on December 30, 2018. The nest was isolated out on the open beach. This nest would later have two eggs and on March 30th the adult was observed brooding small young. Amazingly, on March 1, 2019 Alex Wilke would find a second beach nest with a young eaglet on Ship Shoal Island.



© Alex Wilke, Photographer

Eaglet in a new beach nest found on south Ship Shoal Island by Alex Wilke on March 1, 2019. A horned grebe was the prey of the day in the nest.

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BEACH NESTING BALD EAGLES



Intern handling Nest out on the beach on north Smith Island with adult brooding small eaglets on March 10, 2019.

© Bryan Watts, Photographer

The beach nests discovered in early 2019 represent the 4th and 5th ground nests constructed on the Virginia Barrier Islands in recent years. On April 26, 2013, while flying shorebird surveys along the barrier islands, Bryan Watts and Barry Truitt discovered an eagle nest built on the ground on the north end of Little Cobb Island. On June 5, 2013, while conducting surveys for beach-nesting birds, Ruth Boettcher discovered an eagle nest built on the ground on Cedar Island. On June 1, 2018 Bryan Watts and Bart Paxton, while flying colonial waterbird surveys, located an eagle nest built on a log on the back side of Wreck Island. These previous ground nests were in the dunes or on the back side of the islands. What makes the two new nests different is that they were located between the primary dune and the active surf zone, a position subject to overwash during high tides or storms and a place normally reserved for nesting plovers, terns, and oystercatchers.

As with the other sea eagles, bald eagles are tree nesters. Outside of the treeless Arctic, ground nests are very rare.

Only a few have been found since the late 1800s, and most of these have been on predator-free offshore islands with examples coming from British Columbia, coastal Texas, and isolated mangrove keys in Florida Bay. The ground nests represent a larger movement of nesting eagles from the mainland of the Delmarva Peninsula out to the barrier islands.

On a survey of the islands conducted on March 30, 2019, Bryan Watts and Mitchell Byrd located 14 active nests on the islands including 1 nest on Fisherman Island, 2 nests on Smith Island, 1 nest on Ship Shoal Island, 1 nest on Wreck Island, 1 nest on Little Cobb Island, 2 nests on Hog Island, 1 nest on Revel Island, 2 nests on Parramore Island, 2 nests on Wallops Island, and 1 nest on Chincoteague Island. All of these nests had either young or incubating adults. Despite the abundant prey around the islands, there is little recorded history of eagles nesting on the islands. Prior to 1960 we know of a single record of a pair on Parramore Island. Beginning in the mid-2000s pairs started to nest

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BEACH NESTING BALD EAGLES



Adult attending young on nest built on a log along the edge of the marsh on the back side of Wreck Island on March 30, 2018.

© Bryan Watts, Photographer

on a couple of the northern islands, and by 2010 a pair colonized Parramore Island. By 2011 there were 4 nests on the islands and by 2016 there were 11 nests.

Please remember to always keep a safe distance from active eagle nests – for your safety and to avoid disturbing the nesting pairs and their young. Please also remember that most of Virginia’s barrier islands are owned and managed by The Nature Conservancy, the U.S. Fish and Wildlife Service, and the Commonwealth of Virginia. Use policies and seasonal closures are in place to protect nesting birds – contact the appropriate organization for more information.

THE CENTER FOR CONSERVATION BIOLOGY (CCB)

CCB is a research group within The College of William and Mary and the Virginia Commonwealth University; a group of professionals, students, and citizens dedicated to the vision that the natural environment is an important part of our quality of life. All of our research and operating costs come from gifts, grant awards, and contracts.

For more information: www.ccbbirds.org



Adult attending young eaglet on a nest in the dune of Little Cobb Island.

© Bryan Watts, Photographer



Emma the Purposeful Pointer.

© Photograph courtesy of Chimp Haven

CHIMPANZEE MYTHS AND FUN FACTS

by Jordan Green
Animal Caregiver / Chimp Haven

It's safe to say that caring for chimpanzees – let alone more than 270 of them – is a unique profession! Caregivers are often asked what it is like to work with chimps from friends, family, and sanctuary guests. I surveyed some of our caregivers for their favorite fun facts about chimpanzees are, as well as some myths they'd like busted about the species. Let's dig into some of them below:

Myth: Many chimpanzees know sign language and can be taught to communicate this way.

Very few chimpanzees actually know sign language! There have been a small handful of great apes who have been taught some form of sign language or symbols to communicate, but certainly not the majority of the population. This myth probably stems from the many gestures and facial expressions chimps already use to communicate with each other and the deep interest in knowing if our closest living relative could master and use a language familiar to us.

Fun Fact: Chimpanzees are purposeful pointers.

If you've ever pointed a finger to identify something you

want, you are a purposeful pointer! Chimpanzees also fall into this category. They are capable of pointing to an object they want to let someone know that they want it. At Chimp Haven, Emma is infamous for pointing at nearby blueberry bushes or our food storage building any time staff is near in an attempt to acquire some additional snacks.

Myth: Chimpanzees are monkeys.

This is a very common misconception about chimpanzees. Chimpanzees are not monkeys! Most primates fall into two categories: great apes and monkeys. There are many differences between the two, but the easiest way to tell if a primate is a monkey or a great ape is by noting whether or not they have a tail. Chimpanzees, gorillas, orangutans,

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CHIMPANZEE MYTHS AND FUN FACTS



© Photographs courtesy of Chimp Haven

LEFT: Stoic and firm Slim is the alpha of her group of 11 and this is apparent when her groupmates rush to greet her each morning when she makes her appearance at breakfast. **RIGHT:** Ellie is serious and diplomatic in handling disputes amongst her group of seven and is quick to reassure the upset parties and try to restore peace.

and gibbons all do not have tails – making them apes! Monkeys not only have tails, but are usually smaller in size compared to apes.

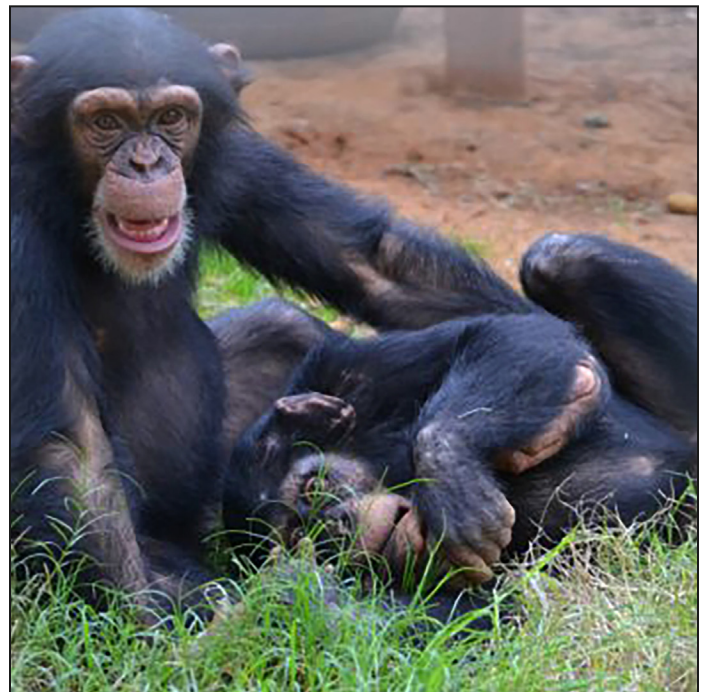
Fun Fact: Not all alphas are male.

Chimpanzee family groups are organized into hierarchies for both males and females. In most chimpanzee troops the leader of this hierarchy, or “alpha” of the group, is male. However, there are some cases when a female will rise through the ranks to become the alpha. Some of our notable “girl bosses” are Slim and Ellie.

Myth: Chimps can smile like humans do.

Chimpanzees have a wide variety of facial expressions but a true smile is not one of them. The expression commonly believed to be a smile – where the lips are pulled back completely to show both the top and bottom teeth – is actually what we call a fear grimace. Chimps make this expression when they are afraid, unsure, stressed, or wanting to appear submissive to a more dominant troop member.

The closest expression chimps have to a smile is a play face. A chimpanzee enjoying a good tickle session with another chimp may show their bottom row of teeth with their mouth open and relaxed. It may even be accompanied by

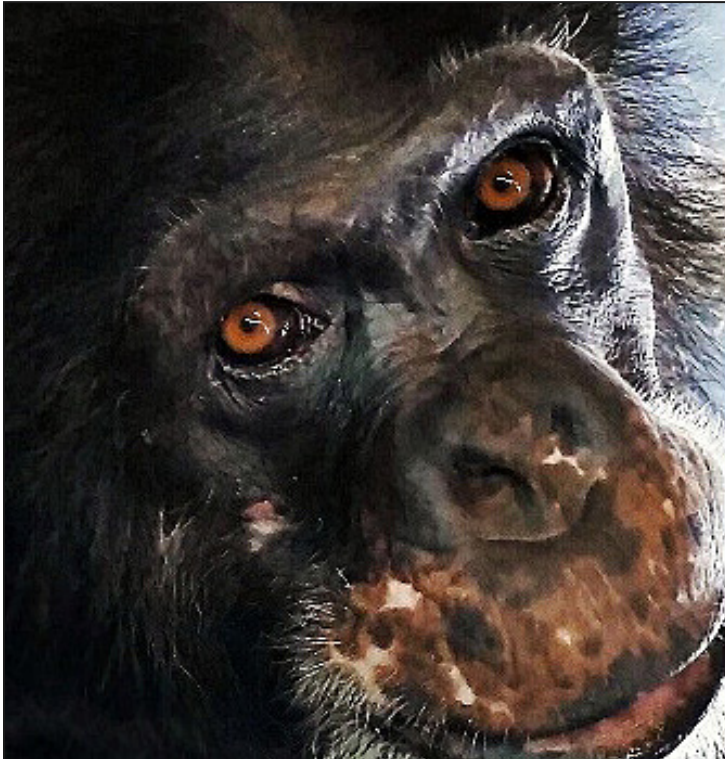


© Photograph courtesy of Chimp Haven

Onyx makes a play face as she and Riley have a play session.

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CHIMPANZEE MYTHS AND FUN FACTS



LEFT: Latoya; RIGHT: Gracie

© Photographs courtesy of Chimp Haven

laughter (one of the best sounds on earth in my opinion). More on that below.

Fun Fact: Chimpanzees laugh.

This is one of my personal favorite facts about chimps. No matter what mood I'm in, hearing our retirees laugh will instantly brighten my day. The laugh of a chimpanzee is breathy and can be subtle or loud depending on the individual. Not every chimp laughs every time they play, which makes it all the more special to hear.

Myth: Chimpanzees only eat fruit and leaves.

Chimpanzees might seem to be herbivores but they are technically omnivores! While they do eat mostly plants and fruit, a very small portion of a wild chimpanzee's diet is meat. Chimpanzees are skilled hunters and male chimpanzees are quite strategic, planning organized hunts to find their catch. At Chimp Haven chimpanzees receive daily protein biscuits instead of meat, and we haven't heard any complaints yet.

Fun Fact: Every chimpanzee is individual in appearance and in personality.

A common question care staff is asked is, "How can you tell them apart?" The answer is: many different ways. The ways one chimpanzee differs from the group are the exact same ways you might differ from your friends. Some chimps have more hair, darker hair, lighter eyes, speckling on their

faces, different shapes of facial features, or even could be taller or larger than their groupmates. For instance, Latoya has a lot of light brown splotches on her face and bright orange eyes, whereas Gracie has a pink splotch on her upper lip and darker brown eyes.

Another thing that makes each chimp an individual is their personality. An example of this could be the rewards used during positive reinforcement training sessions. Chimps have preferred foods, just like humans! Hulk will only train if apples are available, Ellie will not accept dried fruit, and Bryan is fine with just some juice.

We hope you enjoyed this quick look into chimp myths and facts.



Chimp Haven serves as *The National Chimpanzee Sanctuary*, was founded in 1995 in order to respond to the need for long term chimpanzee care. The need for care extended to those chimpanzees no longer used in biomedical research, the entertainment industry or the pet trade.

It's mission is to provide and promote the best care of sanctuary chimpanzees and inspire action for the species worldwide.

For more information: www.chimphaven.org



© John A. DiGiorgio, Photographer

TURTLE ENCOUNTERS

by Yoke Bauer DiGiorgio

Director, Delaware Valley Eagle Alliance, Naturalist, Filmmaker and Author

Early morning and my husband, John and I are up in Maine driving to a spot where we can begin to explore the forest for moose calves. It's the second week in June, perfect time for the cows to bring their newly born calves down from the mountains. As we round a curve along the road a large dark round shadow comes into view just on the edge of the road. We swerved the jeep to the center of the road to avoid hitting whatever it was. Slowing down, we parked along the road, got out and walked back to take a look. As we got closer we realized that it was a huge female snapping turtle depositing her eggs into a hole she had dug. She was well over a foot and a half long. June is also the peek-laying season for snapping turtles. Females travel to a nesting site, which maybe some distance, from water. This one must have come from the small lake just along the road.

We kept our distance as we observed her. Snappers can strike viciously when disturbed and can inflict a serious bite. She directed an egg, which had just dropped, into place by alternating movements of her hind feet. The flexible-shelled

spherical-shaped egg was about two inches around.

Turtles first appeared about 200 million years ago, much earlier than dinosaurs. Today they are found in almost every environment – aquatic, oceanic, and terrestrial – throughout the tropical and temperate zones. Although turtles do not appear closely related to other reptiles, they have dry scaly skin and body temperature that is controlled behaviorally like other reptiles. Whether aquatic or terrestrial, all turtles enjoy basking in the sun.

Snapping turtles are the largest of the fresh water turtle species. Snappers are one of the few species of turtles that cannot fully retract their limbs into its dome when in danger. Excellent swimmers, they are characterized by massive heads with powerful hooked jaws and long tails. Males typically grow larger than females. They like to rest in warm shallows with only eyes and nostrils exposed. Their diet includes invertebrates, carrion, aquatic plants, fish, birds, and small mammals.

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TURTLE ENCOUNTERS



We continued to observe and photograph her from a safe distance. After several more eggs were deposited, she filled up the hole with the surrounding sandy soil and slowly departed back to the lake.

The tiny turtles that will hatch in September or October have soft shells. To survive and not be eaten by birds or fish, they have to return to water and bury themselves in mud quickly and go into hibernation. While very few snappers make it to adulthood, those that do commonly live more than 30 years.

Observing reptiles and amphibians in the wild, like bird watching, requires skill, practice, patience, and in this case, the luck of timing.

ADDITIONAL RESOURCES:

www.allturtles.com

https://en.wikipedia.org/wiki/Common_snapping_turtle

DID YOU KNOW?

Snapping turtle claws are about as sharp as those of dogs, but cannot be trimmed as can dog claws. Despite this, a snapping turtle cannot use its claws for either attacking (its legs have no speed or strength in “swiping” motions) or eating (no opposable thumbs), but only as aids for digging and gripping.



© John A. DiGiorgio, Photographer



© Emily Gaebel, Photographer

FOREST OF SELF-REFLECTION

by Emily Gaebel

Student / Sullivan West High School, Lake Huntington, NY

The most critical decisions in our lifetime are made when we are merely sitting still, not doing a thing.

Senior year is a stressful time for teenagers. We worry about graduation, sports, friends, classes, and most importantly, college applications. After spending hours, a day contemplating where I will be next year, I am often tempted by the thought of doing nothing at all. Occasionally, I decide to venture out into the woods behind my house and relax in nature. This beautiful clearing, encompassed by birch, maple, ash, locust, and spruce trees, is my favorite place to go when I am feeling overwhelmed by the struggles of everyday life and need a few minutes to calm down.

I, as well as many of my peers at Sullivan West, am fortunate to be surrounded by such a pristine piece of nature. Yet we so often forget to take time to truly value its unmissable

beauty, power, and positive impact that the natural world affords students in Sullivan County.

Walking to my place in nature brings me to a secluded clearing in the woods where the sun slightly peaks through the trees, providing the forest with natural light and warmth. I bring a beach towel to this place and lay down, leaving my phone inside to prevent distractions. I notice the small, curious ladybug that happens to land on my hand; it probably wonders why I am here. I notice the single wild strawberry flower in a ray of light, soon to be some bird's next meal. I notice the plump chipmunk who scurries across the forest floor, maybe on his way to find a snack, but who stops for a few seconds to stare at me before continuing his journey and forgetting the interaction altogether. I notice the way the sun beats down on my skin,

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FOREST OF SELF-REFLECTION



ABOVE and BELOW: © Emily Gaebel, Photographer

filling me with warmth, while it turns my skin red; it will cause pain later, but feels good now. The ground feels firm and cool and leaves crunch as I move slightly to adjust my body into a more comfortable position. The air smells of leaves and dirt.

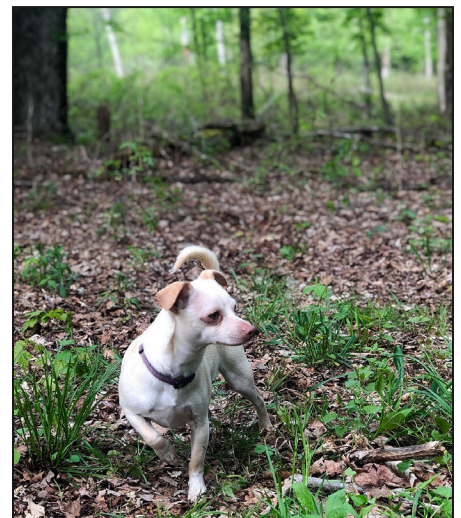
To someone else this clearing in the woods, home to chipmunks, lively squirrels, noisy red-bellied woodpeckers and bright goldfinches, is just a place that seems insignificant and dull, but to me it is a peaceful place I can go when my mind is overflowing with thoughts. The sweet smell of honey locust quickly replaces the stress I felt. A place is not just a pair of co-ordinates, but a landscape people can become emotionally connected to. The place brings tranquility, or it may allow for them to escape the outside world and

only focus on what really matters for a period of time. The spacious clearing in the forest behind my house calms my mind after a stressful day and brings me pleasure. It is meaningful to me because it brings back various memories from my childhood.

Years ago, my sister, Abby, and I used to explore the woods behind our house. I remember it being so much bigger back then. In the springtime, we would find a small trickle of water flowing down towards the field at the end of our driveway. We always found this “stream” fascinating and we would run inside and put on our swimsuits even though the water was not even ankle deep. By summertime the water would be all dried up and we would search everywhere for it, thinking we must have accidentally passed by it already. Back then the

times were simpler, and we lived stress free. Visiting this crucial part of my childhood allows for me to feel so young and carefree once again.

This is also the place that I go to



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FOREST OF SELF-REFLECTION

when my mind is at war with my heart. I go here to forget a bad grade I received in a difficult class. I go here to forget the sadness and pain I felt when a boy broke my heart.

Sometimes I bring my light brown chihuahua, Pika, to this place with me and he runs through the woods, intrigued by every spider web and wandering wood thrush. Pika finds a simple, crunchy brown leaf, but to him it is much more than just a leaf. It is just like him, curious and free, only moments ago drifting through the sky with no direction. He carries the leaf in his mouth as he runs around, occasionally dropping it when he becomes distracted by a fly or the wind blowing through the weeds. Sitting on the towel under the warm sun, watching my puppy run around brings a smile to my face. Nature is taken for granted and overlooked when it should be admired each and every day.

Although this clearing on my family's property is private, there are many just like it throughout Sullivan County. People, especially teenagers, should get outside more in order to explore and truly experience the beauty of the woods instead of "experiencing" it through the screen of a cell phone. Bring a journal, find a fallen log or large rock and make it a personal place to sit down and write a novel.

Nature should inspire art and help guide us as we embark on our next journey. I am reminded of Pico Iyer's TED Talk "Where Is Home." He states that, "It's only by stopping the movement that you can see where to go." Unfortunately, we live in a society where people are constantly on the move. We send email after email and worry about whether or not we will be home in time to watch our favorite reality tv shows. Too often we disregard the world around us and only focus on the things that cause the most stress in life. I have learned that if we take a moment to relax and breathe in nature, we will be able to think more clearly. In these brief moments our mind is given the opportunity to make our most important decisions while we appreciate the beauty and complexity of the natural world.

While some people may already admire the beautiful nature surrounding them, many do not take the time to appreciate it. The stress of everyday life causes many distractions and takes away from what is truly important. We must occasionally take a break from reality and let our minds be free to feel and think. We should strive to have an emotional attachment to a personal place. We rely on our homes and workplaces to fulfill our social and emotional needs. However; nature is central to our well-being and should be sought out by all.

For me, the small clearing in the woods will always be my home away from home.



TOP and CENTER: © Emily Gaebel, Photographer
BOTTOM: Photograph taken by Jeanne Sager and provided by Emily Gaebel

Emily Gaebel is a high school senior in Sullivan County, NY. She participates in a number of school activities such as Student Council, National Honor Society, SADD Club, Science Club, Gardening Club, and she is the Vice President of Student Council. When she is not in the classroom, Emily enjoys painting and playing golf. She will be attending Binghamton University in the fall.



Red Knot (*Calidris canutus*)

© Brad Winn, Photographer

Protecting Shorebirds and their Habitats

by Monica Iglecia

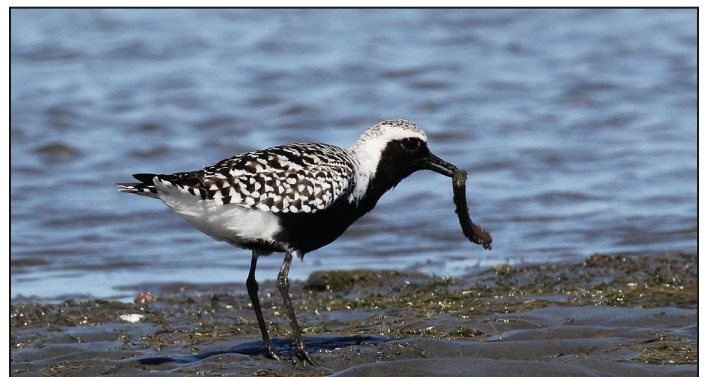
Assistant Director of Shorebird Habitat Management / Manomet

Shorebirds are a diverse group of birds in the order Charadriiformes, which includes sandpipers, plovers, avocets, oystercatchers, and phalaropes. These species are some of the most migratory animals on the planet. Small shorebirds like Semipalmated Sandpipers (*Calidris pusilla*) may weigh as little as an AA battery but they can fly nonstop over countries and oceans for thousands of miles in just a few days. Shorebirds make these large movements so they can find the best places to nest and raise their young. All along their migratory route, shorebirds need healthy wetlands, coastlines, and grasslands to survive.

There are approximately 217 recognized species of shorebirds in the world, 81 of which occur in the Americas for all or part of their lifecycle. Nearly one quarter of all shorebird species (52 species) nest in North America, and another 35 species breed in Central America, the Caribbean, and South America.

Did You Know? Much like a car carries its own tank of gas, shorebirds have their own fuel reserves - the fat they carry on their bodies. Shorebirds gain fat by eating worms, insects, crabs, crab eggs, and other invertebrates. Some species, like Red Knot (*Calidris canutus*) gain so much fat in preparation for migration that they double their weight!

To meet their daily needs and survive their annual migrations, shorebirds rely on a mix of habitats ranging from arctic tundra, wetlands, grasslands, beaches, lake edges, salinas, and even agricultural lands. Many shorebird species nest in the Arctic, a place with rich food resources in summer but too cold to live in year-round. After the breeding season, they flee the cold north and fly south to spend the winter in warmer places that have plentiful food, such as the Caribbean islands, Central and South America. Some species, like the White-rumped Sandpiper fly as far south as the southern tip of South America to spend



© Kim Stark, Photographer
Black-bellied Plover (*Pluvialis squatarola*) with Annelid (segmented worm)

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Protecting Shorebirds and their Habitats

the nonbreeding season. During migration, shorebirds stop at wetlands and coastlines to rest and refuel. They will not return to the Arctic until the next summer. Other shorebird species, like Wilson's Plover, tend to stay in the same region all year long or travel short distances between breeding and nonbreeding areas.

Tragically, much of the land that shorebirds rely on for feeding, nesting or raising their young has been destroyed, damaged, or mismanaged. Wetlands and beaches are among the most highly threatened places throughout the world, and shorebirds depend upon them year-round. The loss or reduction of habitat, even at just one site, can have cascading effects that impact populations. The data that Manomet and other scientists collect show shorebirds undergoing some of the most significant declines of any bird group globally. **Some shorebird species including Red Knot, Semipalmated Sandpiper, and Whimbrel (*Numenius phaeopus*) have declined more than 70% in the last 30 years. Manomet and partners are working to reverse these declines.**

For over 40 years Manomet has been a leader in shorebird research and conservation. Our Shorebird Recovery Program works across the Western Hemisphere to conserve and protect shorebird populations through science, habitat management, and site-based conservation. Our efforts help build lasting connections within communities and between countries to maintain and restore at-risk shorebird populations.

For example, our Habitats for Shorebirds Project works with partners to improve habitats that will support healthier shorebird populations. We teach land managers, wildlife biologists, and community leaders about shorebirds and the role that individual areas can have in providing the needs of these super-migrant birds throughout the year. Through educational workshops and by improving habitats we are able to increase the acres of wetland, grasslands, and coastlines that shorebirds rely on to survive. By working with partners across the Americas, we are able to better identify and reduce the pressures that affect shorebird populations at key sites.

The efforts of the Habitats for Shorebirds Project translate into stewardship of more than 3.7 million acres and have helped improve habitat and support conservation actions on more than 100,000 acres benefiting at least 50 shorebird species throughout the Americas. These acres provide improved safety, food, and resting areas for north- and southbound shorebirds as they fly between nonbreeding and breeding areas.

In February 2019, the Habitats for Shorebirds Project teamed up with BirdsCaribbean to host a workshop at Puerto Rico's Cabo Rojo National Wildlife Refuge, a site



Wilson's Plover (*Charadrius wilsonia*)

© Brad Winn, Photographer



Puerto Rico workshop group photo

© Manomet and BirdsCaribbean



Birding at Combate Beach, Puerto Rico

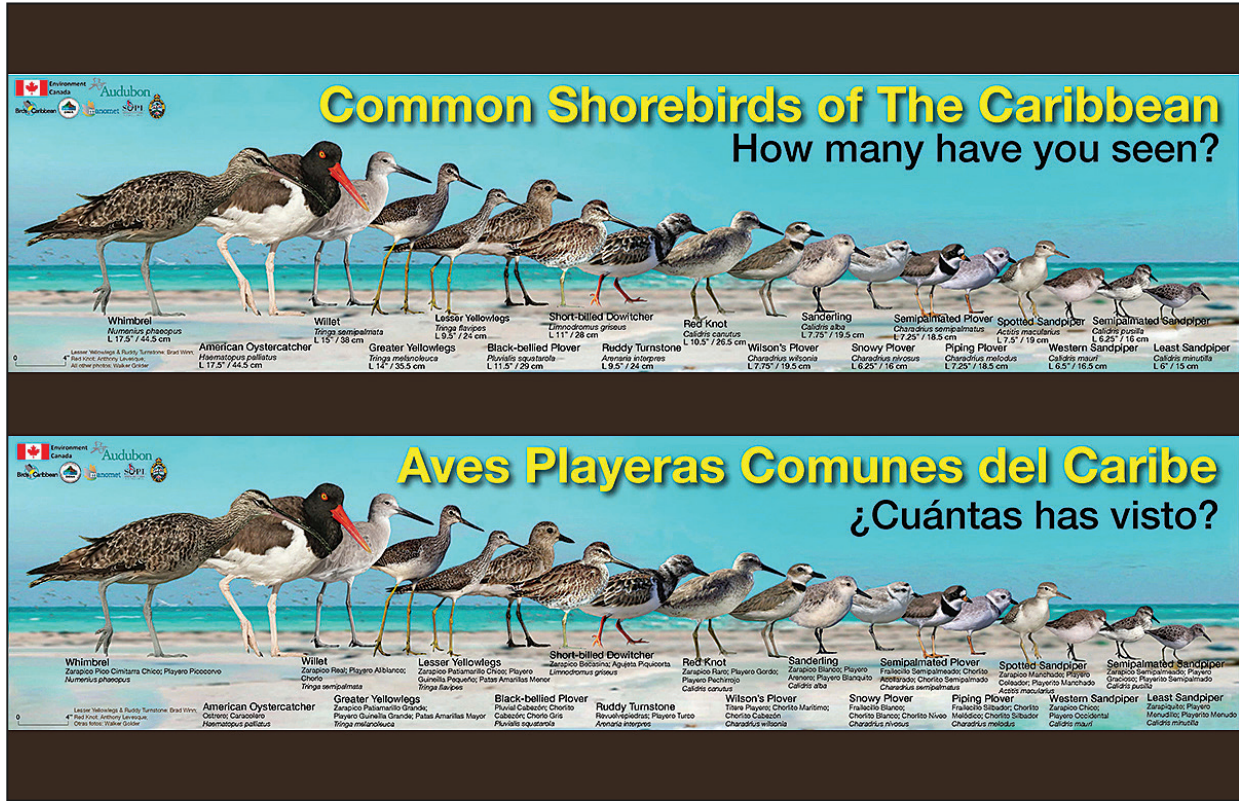
© Monica Iglecia, Photographer

of Regional Importance within the Western Hemisphere Shorebird Reserve Network.

More than 30 conservationists from 14 island nations across the Caribbean participated in this multiday event to learn and share information about how to protect shorebirds. Participants learned how to monitor birds and collect important information that helps track species populations regionally and internationally. They also learned how different threats affect shorebirds and strategies for

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Protecting Shorebirds and their Habitats



Shorebird identification posters;

© Manomet and BirdsCaribbean

conducting conservation activities and improving habitat management. All of this led to a deeper understanding of the birds' ecology and conservation needs.

More than 60 shorebird species have been observed in the Caribbean and at least 20 species are commonly seen. Frequently seen shorebird species in Puerto Rico and the greater Caribbean's beaches and wetlands range from the large-in-size Whimbrel and Greater Yellowlegs (*Tringa melanoleuca*), to medium-sized species like Ruddy Turnstone (*Arenaria interpres*) and Black-bellied Plover (*Pluvialis squatarola*), to small species like Piping Plover (*Charadrius melodus*) and Least Sandpiper (*Calidris minutilla*).

Field trips during the workshop around Cabo Rojo to local freshwater wetlands, salt ponds, and beaches, offered participants opportunities to identify birds and practice estimating the number of birds in a flock. "The workshop was amazing!" said Zoya Buckmire of the Grenada Fund for Conservation. "We went to a variety of wetland habitats from salt ponds to lakes. We got to see many different birds and learned some fantastic techniques for identifying and counting them."

For more about Manomet / Manomet's Habitats for Shorebirds Project:

www.manomet.org
www.manomet.org/project/habitats-for-shorebirds

WHAT YOU CAN DO TO HELP SHOREBIRDS

The challenges facing shorebird populations today can feel overwhelming. With so many daunting hurdles for these birds, what can one person do to help? The truth is that there are many actions you can take to support these beautiful birds. Here are a few suggestions:

- You cannot protect what you don't know about! Get to know the birds and other wildlife that use nearby beaches or your local wetland.
- Take a child outside. Introducing them to birds will help them grow up to appreciate the sounds of sandpipers overhead, help them connect to the cycles and seasons of migration, and can help build the culture of supporters that it will take to protect these birds.
- Make beaches safer for nesting and resting birds. Don't let your dog run loose, don't drive on the beach, obey sanctuary and refuge signs. The birds and other wildlife thank you.
- Plastic waste can kill or entangle shorebirds and other animals. You can be the solution to plastic pollution! Participate in a local beach or wetland clean up. Pick up loose trash. Put garbage in its place. Avoid using single-use plastic.
- Keep your cat indoors and encourage your friends and family to do the same.

These easy-to-do actions contribute to shorebird conservation. When others see you doing these activities, they will be inspired to follow along.



There are many different types and sizes of bands. Note the use of a silver colored band for the Bald eagle chick during a spring nesting season. Colors may vary by state

© John A. DiGiorgio, Photographer

ABOUT BIRD BANDING

People have been banding birds for centuries. Bird banding is the universal technique for studying the movement, survival and behavior of many species of wild birds (waterfowl, webless, raptors, etc.). The US Department of the Interior and the Canadian Wildlife Service jointly administer the North American Bird Banding Program. In order to accommodate the variety of bird species in North America, there are many different types of bands that are used, and they come in many sizes.

The most common type is the “butt-end” band. A round band made of a hard metal (like stainless steel) with two edges that butt evenly together when closed, butt-end bands are used on birds that would otherwise outlive their bands or are found in harsh environments like salt water.

“Lock-on” bands are used for birds like hawks and owls. They are specifically designed to prevent these birds of prey from opening or damaging the band with their strong bills. The band is like a normal butt-end band with two flanges of metal. The longer flange is folded over the shorter flange, effectively “locking” the band in place. The band is made of relatively soft aluminum and can be removed by the

bander, but not by the bird.

“Rivet” bands, made of harder metal than the lock-on band (but not stainless steel), are used for eagles. These bands have two short flanges of metal that project out from the seam where the two ends of the band meet and are side by side when the band is closed with a hole for a rivet. The band is riveted in place. Color bands are used to identify individual birds visually. The use of colored leg bands can be coordinated internationally between the US and



© John A. DiGiorgio, Photographer

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ABOUT BIRD BANDING

Canada, or only locally depending on the species. Eagles and Peregrine Falcons may have colored leg bands with engraved codes.

Bird banding requires the capturing of a wild bird and placing a uniquely numbered band, or ring, on one of its legs. The bander records where and when each bird is banded, how old it is, what sex it is, and any other information and sends the data to the Bird Banding Laboratory. When banded birds are captured, released alive and reported from somewhere else, we can reconstruct the movements of the individual bird. For example, a species may go south in one pathway and return north by another pathway. Nesting and wintering grounds have been located for some species, and specific nesting grounds have been connected to specific wintering areas.

The U.S. Fish & Wildlife Service and its partners manage migratory birds based largely on routes the birds follow as they migrate between nesting and wintering areas. The "Flyway System" has been used for managing migratory birds since 1950.

Based on those routes, four administrative Flyways were established in North America to facilitate management of migratory birds and their habitats. - Atlantic, Mississippi, Central and Pacific. Banding data helps biologists predict the impacts of "harvest" and other "take", as well as develop an understanding of environmental factors that drive migratory bird populations.

Banding raptors help biologists answer questions about raptor movement and ranges, as well as insight into causes of raptor injuries and deaths.

Banding data is also instrumental in the development of Adaptive Harvest Management (adopted by the USFWS in 1995, the concept of adaptive resource management for regulating duck harvests in the U.S.) and are used by biologists to set annual waterfowl hunting regulations.

Banding provides important data on bird species and increases our knowledge and understanding of birds, their habits and assists in their management and conservation.

RESOURCES:

https://www.usgs.gov/centers/pwrc/science/bird-banding-laboratory?qt-science_center_objects=0#qt-science_center_objects

<https://www.fws.gov/birds/surveys-and-data/bird-banding.php>

<https://www.fws.gov/birds/management/flyways.php>

<https://www.parksconservancy.org/programs/raptor-banding>

<https://ccbbirds.org/what-we-do/research/species-of-concern/virginia-eagles/eagle-band/>



© John A. DiGiorgio, Photographer
There are many different types and sizes of bands. Note the use of a colored band for the Peregrine chick during a spring nesting season

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DISCOVERING NATURE



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JOSHUA TREES AT SUNSET

Sunset in the high desert of California and the Joshua Trees (*Yucca brevifolia*) stand tall and golden.

The Joshua tree is found only in the Mojave Desert of southwest California, Nevada, Utah and Arizona at elevations from 2,000 to 6,000 feet; it survives in areas with cold winters, hot summers and little precipitation. An evergreen tree-like plant with clusters of waxy, needle-shaped leaves, it can grow up to 40 feet tall and live up to 150 years.

The Joshua tree is an important part of the ecosystem, providing habitat for numerous birds, mammals, insects, and lizards. It is pollinated by the female pronuba Moth (*Tegeticula*), who lays eggs in the tree's flowers which in turn produce green-brown fruit. The moth larvae feed on the seeds in the fruit. White-tailed antelope squirrels also feed on the seeds. The Joshua tree's life cycle begins with the rare germination of a seed (its survival dependent upon well-timed rains). Sprouts usually grow up from within the protective branches of a shrub. Young sprouts may grow quickly in the first 5 years, then slow down considerably thereafter.

Native American Indians recognized the Joshua tree years ago for its useful properties: tough leaves were worked into baskets and sandals; and flower buds and raw or roasted seeds made a healthy addition to the diet.

The Joshua tree, a story of survival and resilience, bestowing the majestic beauty and character of the American Southwest. If you are out west, be sure and visit the Joshua Tree National Park in California.

Current Conservation Status: The Joshua tree is under review for "threatened" status as the survival rate of seedlings has decreased dramatically due to climate change

RESOURCES:

- <https://www.nps.gov/jotr/index.htm>
- <https://www.desertusa.com/flora/the-joshua-tree.html>
- <https://www.visitcalifornia.com/destination/spotlight-joshua-tree-national-park>

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working towards the conservation of our wildlife and natural resources

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

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Design: Yoke Bauer DiGiorgio / Nature's Art Productions LLC
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