



Photo: © Bruce Irschick, www.flickr.com/photos/irschick (whale breaching)

ENDANGERED SPECIES SPOTLIGHT

Humpback Whale (*Megaptera novaeangliae*)

By Michael Davenport

Humpback whales are a favorite amongst whale watchers due to their acrobatic, highly visible surface activities and their tendency to stay close to the coast.

The first time I encountered a humpback whale, I never even saw it. Instead, I heard and felt it. I was aboard a 12-foot boat directly over a submerged humpback off the coast of Maui. Placing my ear on the floor of the boat, I could hear and feel the vibrations of the whale singing below. I knew this whale was a male as only male humpbacks sing, often in long complex songs, and only within their breeding grounds.

Humpback whales spend their spring, summer, and fall feeding in cold, high-latitude waters where prey is plentiful. During the winter, most individuals migrate to

warm-water breeding grounds to mate and give birth—a round-trip of up to 10,000 miles. Since prey is scarce in these breeding grounds, the only individuals feeding are newborn calves on their mother's milk. The whale I heard off Maui probably migrated from the coast of Alaska where he spent his summer feeding.

In the Northwestern Atlantic, humpbacks migrate between feeding grounds off New England and eastern Canada and breeding grounds in the West Indies. This migration route passes through New Jersey's ocean waters and some humpbacks swim very close to our shore to feed on small fish like herring and sand lance.

Humpbacks may use several fascinating hunting methods, including "bubble netting." To begin, a group of whales dives below



Photo: © Michael Davenport

a school of fish and use their blowhole to blow bubbles in a circular pattern. As the bubbles rise, they form a "cage" around the fish, causing the fish to school within a tighter formation. Finally, the whales swim upward through the bubble net with their mouths wide open, capturing a large mouthful of fish.

Humpbacks grow up to 60 feet and weigh 40 tons. Their long flippers are knobbed along the leading edge, distinguishing them from other large whales. Humpbacks also have knobs, or tubercles, on their chins and snout, giving them a somewhat grizzled look. They are generally dark above and white below. Their dorsal fin is variable in appearance.

When humpbacks dive, they roll their backs until their tail flukes rise out of the

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40 Years of the Endangered Species Act

Our skies are empty. We see no soaring silhouettes of bald eagles, or dazzling attacks of peregrine falcons on the hunt.

Our forests are tame. Gone are bobcats, barred owls, treefrogs, and so many other

creatures that bring us the true feeling of wilderness.

Our coastal waters are void. Sturgeon, seals, dolphins, and whales no longer enliven our waters, and red knots, least terns, and diamondback terrapins are missing from our beaches and marshland.

This nightmare nearly happened. In fact, it was in New Jersey's – and America's – forecast, were it not for the Endangered Species Act.

2013 marks the 40th Anniversary of that national treasure, and our state is so much the richer for it. Our Conserve Wildlife Foundation biologists – working closely with the State Division of Fish and Wildlife – have helped New Jersey become a national leader in preserving and restoring our at-risk wildlife species. Our biologists go to every length to fulfill that promise.

- *They build nesting platforms and protective barriers for creatures large and small.*

- *They hike through muddy, mosquito-ridden marshes in search of elusive species.*
- *They brave the heights of skyscraper roofs to band at-risk raptor chicks.*
- *They restore habitat in urban, suburban, and rural areas across the state.*

Conserve Wildlife Foundation biologists – in combination with our dedicated volunteers – are the living embodiment of the Endangered Species Act. And we are working now to make sure the next 40 years prove as effective as the first 40 years.

It won't be easy with the challenges ahead. Climate change is making its presence felt more than ever these past few years, both along the coast and inland. Invasive species impact every single habitat in New Jersey, and new diseases pose grave threats to many of our native species (see below story). Our densely populated state places constant pressure on habitat for many species.

Now more than ever, wildlife needs our help in New Jersey and beyond. Let's make sure we share our future with our beloved wild friends. There are so many ways to help – contact us to learn about them.

David Wheeler,
Executive Director

Another Wildlife Disease: On the Hunt for *Ranavirus* in New Jersey

By MacKenzie Hall

Wildlife diseases seem to be cropping up all around, doing vast damage to populations and undermining other conservation efforts. Diseases can spread quickly and leave few survivors in their wake – as we've seen recently with White-nose Syndrome in bats.

A recent disease to cause great concern is *Ranavirus*. *Ranavirus* is a genus of DNA viruses, three species of which are known to infect amphibians (Rana is latin for "frog"). The virus causes skin ulcerations and organ hemorrhaging, especially in amphibian larvae (tadpoles). For wood frogs and other susceptible species, *Ranavirus* can kill nearly 100% of larvae within just a few days – usually right before metamorphosis. Some reptile species such as the Eastern box turtle are also hit hard by the virus.

Mass die-offs have been reported in North and South America as well as Europe, Asia, and Australia. Scientists have implicated

Ranavirus in die-offs of more than 20 amphibian and turtle species across 25 states.

However, little is known about *Ranavirus* distribution and impact in the Mid-Atlantic region. So, New Jersey is now participating in a multi-state survey to uncover some answers. The project is led by Scott Smith of the Maryland Department of Natural Resources, who coordinated a Regional Conservation Needs (RCN) grant to fund the field work and lab tests. Our staff biologists are doing most of New Jersey's field surveillance, with support from the Endangered and Nongame Species Program. Pennsylvania, Delaware, Virginia, and Maryland will be surveyed as well.

Because wood frog larvae are so susceptible, this screening project focuses on 30 randomly chosen wood frog breeding ponds (mostly vernal pools) across each of the five states. All ponds are on

ENDANGERED SPECIES SPOTLIGHT – Humpback Whale

water before sinking beneath the surface. The underside of each humpback's flukes is unique and scientists use photographs of them to track individual whales over years and across oceans. Because of this, they are one of the best studied whale species.

Grooves on the underside of their throat and belly enable humpbacks to expand their bodies to swallow enormous amounts of water and food. Instead of teeth, its mouth has great plates of horny baleen which extend from the upper jaw. After swallowing a large gulp, they use their tongue to push the water through the baleen to strain out the food.

Like the other great whales, humpbacks were hunted to near-extinction. Commercial whaling ended in 1966 and in 1970 humpbacks were listed as federally endangered. New Jersey added humpbacks

to their endangered species list in 1973. Although their numbers have rebounded better than some other whale species, they have not returned to their pre-whaling level.

Despite the ban on hunting, humpbacks still face a number of threats, all of which are caused by humans. The greatest threats to humpbacks are entanglement in fishing gear and ship strikes, but offshore development, pollution and oil spills, overfishing of prey species, and climate change destroy habitat and displace whales. Noise pollution from ship traffic, offshore construction, or use of active sonar by the military may negatively impact whales by disrupting behaviors associated with communication, feeding, navigating, and other activities.

Despite all these challenges, humpback whales are increasing in abundance throughout much of their range. There is still no

commercial hunt for humpback whales although several countries are interested in hunting them again. The population today remains endangered and any such hunt would set back decades of recovery. ✈



Created by Michael Davenport, CWF

ENDANGERED OR THREATENED

What's the difference?

An endangered species is in danger of becoming extinct throughout all or most of its range. A threatened species is likely to become endangered in the foreseeable future.

state-owned open space lands. We first confirm that wood frogs are breeding at every study pond, then monitor the growth of larvae. Samples are collected just before metamorphosis, and labs will run DNA and pathology tests for *Ranavirus*, while we continue to monitor the ponds for die-offs (and hopefully find none).

As always when studying a dangerous disease, we have to be vigilant not to help it spread. *Ranavirus* is transmitted through soil, water, and direct contact with an infected individual. Field surveyors will follow decontamination procedures to keep clothes and gear clean between sites.

By the way...New Jersey had a head start going into this survey. Our vernal pool and amphibian breeding records are way ahead of the other four states, thanks to projects like the Vernal Pool Survey, New Jersey Herp Atlas, and Calling Amphibians Monitoring



Wood Frogs, as well as other amphibian and reptiles species, are susceptible to a new wildlife disease, *Ranavirus*.

Program. These programs have been around for more than a decade, and many of you have fueled them. You don't always know how or when, but good proactive data always finds a use! ✈

Newark Students Enjoy Island Beach through WILDCHILD Program

By Maria Grace

On a beautiful day in June, 50 fifth grade students from Ann Street School in Newark arrived at Island Beach State Park to learn about the beach and bay and get up-close and personal with some wildlife that resides at the park.

This program, the WILDCHILD Urban Initiative, generously funded by PSEG, seeks to connect urban kids with the wilds of New Jersey.

Prior to the students' visit to Island Beach State Park, Maria Grace, CWF's Education & Outreach Manager, led an introductory program at Ann Street School, prepping the students for the experience. Ann Street School was chosen as the pilot school to participate in the WILDCHILD Urban Initiative because of their long term participation in the Species on the Edge Art & Essay Contest. Sharon Cardoso, Ann Street School Science Teacher, has incorporated the contest into her curriculum and has produced several winners and runner-ups. This year, 25 students entered the contest and one, Roslynn Jumbo, took first place for Essex County.

The students already were excited about wildlife, and now CWF could connect them a bit more closely with it. They spent time on the beach, looking for shells and other wildlife signs.

They went seining in Barnegat Bay discovering the many different creatures such as blue claw crab, flounder, killifish, moon snails, and more that make their home in the Bay.

Wandering around the park, the students were lucky enough to find a box turtle and a diamond-back terrapin, two turtles that make their home in the park. Both of these turtles are Species of Special Concern. These reptiles are lucky enough to live in Island Beach State Park but they still have many challenges to deal with such as vehicles (both on the road and off the road) and litter. Always able to find a teachable moment, the staff at IBSP and CWF offered important information about protecting these animals for the future.

After lunch, the students got up close and personal with the ospreys of Island Beach State Park, observing them in person and online thanks to the OspreyCam sponsored by Friends of Island Beach State Park.

The day will not be forgotten by the students and staff at Ann Street School, as well as the staff at CWF and IBSP. Plans to continue the WILDCHILD Urban Initiative are in the works... It proved to be a valuable experience for all involved, connecting people with the Wilds of New Jersey. 🐡



Students from Ann Street School in Newark participated in the WILDCHILD Program hosted by Island Beach State Park. They got up close to box turtles and diamondback terrapins, and searched for shells and other wildlife signs. This program was generously funded by PSEG.

2013 Species on the Edge Art & Essay Contest

By Maria Grace

The *Species on the Edge Art & Essay Contest* is a celebration of children and the rare wildlife that share our great state. Open to all 5th graders throughout the state, the contest encourages students to learn about the wildlife living right here in New Jersey and it challenges them to come up with creative ways to help protect the wildlife that shares our forests, fields, wetlands, and waters with us.

In February, thousands of entries flooded the CWF offices in Trenton from students hopeful that their artwork and essay, depicting an endangered species living in New Jersey, would be chosen as a winner from their county. Judges were invited to view the artwork and read the essays. It was a tough job but after a day of hard work and discussion, they emerged with the best artwork and essays from across the state. Thanks to PSEG and our other sponsors, these children and their winning pieces help us to tell the stories of our rarest wildlife residents and better engage everyone in keeping New Jersey's wildlife in our future.

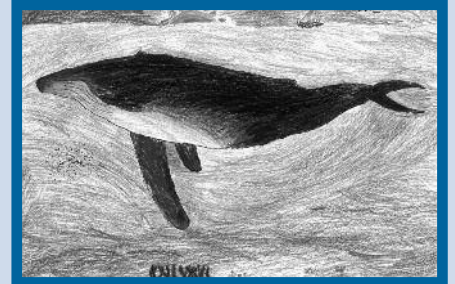
The winning entries include the artwork to the right, but visit our website to see the other winners and read the essays:

www.conservewildlifenj.org/education/edge

Thank you to the major sponsors of the Species on the Edge Art & Essay Contest: PSEG, Church & Dwight, Subaru, NJEA, Atlantic City Electric, and ShopRite

Species On The Edge

Passaic County
Jeff Zheng
Randall Carter School,
Wayne
Humpback Whale



Atlantic County
Lilynn Custodio
Reeds Road School,
Galloway
Golden-winged Warbler



CWF Builds New Habitat for Shorebirds & Horseshoe Crabs

By David Wheeler & Larry Niles

Last October, Superstorm Sandy battered the Delaware Bayshore. The storm raised the prospect of a catastrophic failure of horseshoe crab breeding and a further erosion of the Bay's migratory shorebird population. Indeed, we learned this past December that Sandy had wiped away 70% of New Jersey's horseshoe crab habitat. The future for those crabs and the endangered shorebirds that rely on them looked bleak.

But we couldn't let decades of New Jersey-led global advocacy and research be swept away in that rising tide. Our only alternative was daunting: the first-ever restoration of horseshoe crab habitat, along over a mile of Delaware Bay beachfront, in less than four months. In short, it was the trifecta: a conservation challenge with a high price tag, an imminent deadline, and few precedents. Failure was a very real possibility.

Thanks to funding from the New Jersey Recovery Fund and other vital partners, this shorebird season instead became one of the best in recent Delaware Bay history, an extraordinary achievement that would have seemed unimaginable just a few months ago.

Conserve Wildlife Foundation, working with American Littoral Society and others, not only restored Sandy-ravaged beaches – we actually improved them. Horseshoe crabs bred in surprisingly high densities this spring. Shorebirds arrived in New Jersey from their wintering areas in South America to find abundant horseshoe crab eggs on our newly restored beaches. The birds fattened up on the eggs and left for the Canadian Arctic in excellent condition.

Our impacts were dramatic:

- We removed 822 tons of rubble, pilings and old bulkheads from targeted beaches – much of which would have posed insurmountable obstacles to horseshoe crabs seeking to breed.
- We trucked in 38,907 tons of sand – in 1,517 truckloads – and restored five different beaches. By using different techniques, we can now evaluate which offers the best habitat for horseshoe crabs.
- We laid 214 tons of crushed asphalt and 3,047 tons of crushed concrete to build a road to Moore's Beach to get the rubble out and the sand in, always mindful of the ticking timeline that marked the start of the shorebird season. This road also provides much-appreciated access to this long-forgotten bit of Bayshore beach for residents and tourists.
- And we worked closely with federal, state, and local agencies to ensure all necessary permitting and coordination was in place.

The crabs and birds may not have given much thought to how the beaches were restored – their concerns were more basic:

Can I lay my eggs on these beaches?

Can I find and consume enough horseshoe crab eggs to survive?

Those answers were a resounding Yes!

With the shorebirds and crabs moving on until next year, the human residents of the Delaware Bayshore can now enjoy these newly restored beaches for recreation. And Conserve Wildlife Foundation will continue assessing the beaches to make sure that red knots and horseshoe crabs will always be welcome in New Jersey's Delaware Bayshore. 🦋

Dr. Larry Niles managed this restoration project on behalf of Conserve Wildlife Foundation of New Jersey. Dr. Niles has led the protection of red knots and other at-risk migrating shorebirds for over two decades.

Horseshoe crabs return to Moores Beach as the beach restoration is completed. After Superstorm Sandy destroyed many Delaware Bayshore beaches, Dr. Larry Niles and CWF led the restoration of these beaches just in time for the annual horseshoe crab spawning and shorebird migration.

Photo: © Still Life Projects



BEHIND THE SCENES – Gabrielle Flora

Gabby is a Trenton office intern, helping with education and fundraising. She gets out of her cubicle in Trenton every once in a while, going to Island Beach State Park to help with the administration of the Parks Partnership. Gabby graduated from Rutgers University in January, with a degree in Journalism and Media Studies from the School of Environmental and Biological Science and a minor in Environmental Policy, Institutions, and Behaviors. To pay the bills, Gabby works at 10th Avenue Burrito Company in Belmar. Go and visit (just NOT on Taco Tuesday)!

What is the best thing you get to do for your job?

At CWF, I got to photograph kids from Ann Street School (Newark, NJ) while they learned about the wildlife at Island Beach State Park (which just happens to be my favorite local beach). At my full-time job as a waitress at 10th Avenue Burrito Company in Belmar, I get to taste test new margarita ideas.

What is the worst thing you have to do for your job?

Commuting from Brick Twp. to Trenton is definitely the worst thing I have to do for CWF. The worst thing as a waitress at 10th Ave Burrito? Taco Tuesday.

If you could be one animal (that lives in NJ) what would you be and why?

It's a toss-up between a black bear and my Miniature Pinscher puppy, Einstein. The bear because hibernation sounds fantastic, and Einstein because he is just so spoiled, I can't imagine a better life!

If you couldn't do what you are doing now, what profession would you attempt?

If I were a halfway decent mathematician, I'd have majored in astrophysics. Space is just so cool!

What is one thing that most of my co-workers don't know about me?

Most of my co-workers at CWF don't know that my three biggest fears are tsunamis, spiders, and infants. At 10th Ave, most of my co-workers don't know that when I notice them not recycling, I pick through the trash to recycle for them.

What delights you in your daily work?

At CWF, I love that I get to write as often as I do. It keeps my writing skills limber and proves that I don't really need Algebra equations in the real world. At 10th Ave, I really enjoy listening to The Beastie Boys on a daily basis.

What is the best thing anyone ever taught you?

I wish I had something more sentimental to say here, but the best thing anyone ever taught me was the difference between Poison Ivy and Virginia Creeper. ✈



Gabrielle Flora, CWF Intern

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Our mission is to protect and preserve the rare and imperiled species of wildlife that live, breed, and migrate through our state by restoring habitat, managing species, educating and engaging citizens, and conducting research.



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UPCOMING EVENTS

Harvest the Bay Festivals, Island Beach State Park

Bring the entire family to Harvest the Bay Days to explore the natural resources of Barnegat Bay. Learn about fish, crabs, and clams. Enjoy hands-on activities, nature programs, and fresh seafood.

Upcoming Harvest the Bay Festivals:

Tuesday, July 23, 3 to 7pm
Tuesday, August 20, 3 to 7pm
Saturday, October 12, 12pm to 5pm

**Visit www.conservewildlifenj.org
for additional information, updates,
and reservations**

New Jersey WILD Outdoor Expo

Celebrate the state's bountiful natural resources and rich outdoor heritage. The event is held from 10 a.m. to 5 p.m. daily at the Colliers Mills Wildlife Management Area in Jackson Township, Ocean County.

Saturday, September 14
Sunday, September 15
For more info, visit www.wildoutdoorexpo.com

Women & Wildlife Awards, Trenton Country Club

Join us for this special cocktail party and silent auction to celebrate and recognize outstanding women for their contribution to New Jersey's wildlife.

Thursday Evening, October 10