



ENDANGERED SPECIES SPOTLIGHT



Photo: Brian Zarate

Bog Turtle

Over the past 20 years, the bog turtle population has declined by at least 50 percent, prompting the U.S. Fish and Wildlife Service (USFWS) to list it as federally threatened in 1997. Historically, the bog turtle ranged from upstate New York through Georgia and as far west as Tennessee. The northern range of the bog turtle consists of small, disjunct populations in Connecticut, Delaware, Maryland, New York, and Pennsylvania with more than half of the northern population in New Jersey. Even in New Jersey, a range-wide stronghold for the species, bog turtles have disappeared from more than 50% of their historically occupied sites and have been state-listed as endangered since 1973.

Reaching only 4 inches at maturity, the bog turtle, *Glyptemys muhlenbergii*, is the smallest turtle in North America. These turtles have a moderately domed dark brown shell

and dark brown legs with red or yellow markings, and a distinctive orange patch at the rear of the head. The carapace (top shell) may have a yellowish hue and is weakly keeled along the midpoint. The plastron (bottom shell) is hingeless with yellow markings in the middle. Each scute (or scale) on the shell displays a pattern of concentric circles, or annuli; these ridges can be used to age a turtle, although they are less defined in older adults. Males are distinguished from females by a concave plastron, longer foreclaws, and a thicker, longer tail.

These small, secretive turtles are habitat specialists, inhabiting open, unpolluted wetlands, including spring-fed fens, sphagnum bogs, and wet pastures. Frequently these habitats are linked along streams which create important movement corridors between populations. Bog turtles require both mucky soils with small pools of groundwater and

drier upland areas with low vegetation and sparse tree cover. This habitat allows turtles to thermoregulate by burrowing into the mud or basking on emergent vegetation.

After emerging from hibernation in April, bog turtles spend the majority of the time basking and feeding on seeds, slugs, snails, and other invertebrates. Turtles then mate and females lay 1 to 6 eggs on elevated grassy tussocks in early summer. The eggs are left to incubate in the sun for 6 to 8 weeks and hatchlings emerge in late August. Eggs and juvenile bog turtles are highly susceptible to predation by birds, raccoons, and small mammals, but those that do survive may live over 50 years. As temperatures cool in October, bog turtles will retreat to forested wetland habitats where they hibernate in mucky soils around root systems of trees and abandoned small mammal burrows.

continued on page 3

Hurricanes. Massive flooding. Destructive winds. Angry seas.

The past two years have been beyond challenging for many New Jerseyans – and for many of our rarest wildlife species as well. Migratory shorebirds’ nesting and roosting sites flooded over. Bats have seen a precipitous downfall from white-nose syndrome. Invasive species threaten habitat and survival for many native New Jersey species.

Yet New Jerseyans and Conserve Wildlife Foundation supporters can take comfort in nature’s proven ability to rebound in New Jersey – especially with the leadership of expert CWF and New Jersey Division of Fish & Wildlife biologists. Raptors like the bald eagle, peregrine falcon, and osprey have recovered to again thrive along our waterways, after their numbers had dwindled to scattered pairs just a few decades ago. Bobcats, an endangered species, and bottlenose dolphins, a species of special concern, have increased in recent years to stalk our rugged wilds and swim along our coast, respectively.

The challenges continue. Hurricane Sandy uprooted the lives of countless New Jerseyans, and disrupted many species of wildlife and vital habitat areas as well. Island Beach State Park - where CWF partners with the Division of Parks & Forestry and the Friends of Island Beach State Park to provide nature programming for thousands of visitors – bore the brunt of the storm’s impact, and its rebuilding will require hard work and commitment.

But thanks to so many dedicated individuals, Island Beach will be back in 2013. Visitors will again enjoy its beaches, marshes, recreation opportunities, and barrier beach wildlife. And so the recovery begins.

Many of you have reached out to CWF to ask what you can do to help endangered and threatened wildlife recover across the state. Visit our website to learn more about supporting our work: www.ConserveWildlifeNJ.org. And to learn more about helping people impacted by the storm, please contact the Hurricane Sandy New Jersey Relief Fund.

One thing is clear – New Jersey and our beloved coast will bounce back. Together, we can make sure of it.

David Wheeler
Executive Director



ENDANGERED SPECIES SPOTLIGHT – Bog Turtle



As with most species in New Jersey, habitat loss is the driving force in the bog turtle's decline. The early successional communities where bog turtles reside are especially vulnerable. As development increases, we lose natural disturbances like fire and beavers that maintain and create early successional habitat. Without these influences, woody vegetation matures, changing hydrology and solar exposure. Ditching and draining of these wetlands to create farmland and development not only directly destroys habitat but degrades surrounding wetlands as increased runoff and sedimentation creates ideal conditions for phragmites, reed canary

grass, and purple loosestrife. These non-native plants form monocultures, out-competing the native plant communities that bog turtles depend upon. Fragmentation of habitat and stream corridors may isolate populations, eliminating gene flow, lowering genetic diversity, and increasing vulnerability to extirpation. Loss of these communities also has broader implications, as rare plants like spreading globe flower and showy lady slipper, native pollinators, scrub-shrub/grassland birds, and a suite of reptiles and amphibians all depend upon this early successional habitat.

Fortunately, many simple management tools can maintain and restore these critical habitats. Mechanical removal, wetland approved herbicides, and biological tools, like beetles, can remove woody vegetation and control invasive species. Grazing of cattle, goats, and other livestock can replicate the effects of historic natural disturbances like fire, beavers, and bison that have been suppressed or eliminated with development. By restoring these wetland communities, we also improve water quality, reduce runoff, stabilize buffer areas with native perennials, and reduce invasive plant cover.

Over 70% of the remaining bog turtle sites in New Jersey are on private land. Engaging private landowners in conservation and incentive programs to protect habitat is the best chance these turtles have. Together with USFWS and NJ's Endangered and Nongame Species Program (ENSP), CWF is working to restore and enhance bog turtle habitat in New Jersey by reaching out to landowners with bog turtle sites. CWF biologists visit these high priority bog turtle sites, evaluate the status of the habitat, and perform habitat restoration to benefit the bog turtle. By discussing the importance of bog turtle habitat and incentive programs to protect and restore these habitats, CWF hopes to increase awareness and appreciation of bog turtles while protecting and restoring these rare communities. 🐢

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.

Coming Soon! The Jersey Shore's new "Osprey Cam"

Imagine living with a bird's eye view of both the verdant wetlands of Brigantine and the glitzy Atlantic City skyline!

Osprey chicks nesting at Edwin B. Forsythe National Wildlife Refuge (NWR) grow up with that picture-postcard vista.

In spring, you too can share that view every day – thanks to our planned Osprey Cam! Conserve Wildlife Foundation is partnering with the Forsythe NWR and the Friends of Forsythe NWR to bring this incredible project to life. After a severe decline just a few decades ago, the osprey's strong recovery has become a symbol of New Jersey's coast.

CWF biologist Ben Wurst will install the nestcam this winter, and it will go live in early March 2013 – spotlighting the daily drama of the nesting pair set to a skyline backdrop. Ospreys typically return to New Jersey in mid- to late March, and begin laying eggs in mid-April. Hatching occurs between late May and early June. So stay tuned to www.ConserveWildlifeNJ.org/OspreyCam for updates on this one-of-a-kind nestcam.

CWF is seeking corporate sponsorship for the Osprey Cam, so any companies that would like to be a state leader on this innovative and high-profile project should contact Liz Silvermail at 609.292.3707 or liz.silvermail@conservewildlifenj.org

New Jersey's Wildlife Populations in Danger: Our 2012 Status Report

ALLEGHENY WOODRAT: Annual fall monitoring resulted in the capture of 12 woodrats, 4 less than last year. However, a significant number of traps were disturbed by raccoons which likely contributed to the decline.

BALD EAGLES: 135 territorial eagle pairs were monitored, including 27 newly documented pairs. A record high of 165 young were produced from 119 active pairs.

BLACK SKIMMERS: 2,839 black skimmers nested in 2012, a significant increase from 2011 partly due to survey inconsistencies between years. Nearly the entire state breeding population was concentrated in one colony. Productivity was robust with about 800 chicks fledged.

BOG TURTLES: An additional 76 historic bog turtle sites have been evaluated for habitat potential, and restoration efforts continue at priority locations.

EASTERN TIGER SALAMANDERS: Successful breeding was recorded at newly constructed vernal pools in Cape May County.

INDIANA BATS: Numbers remain low at Hibernia Mine with fewer than 10 observed during the 2011-12 hibernation season. Surprisingly, for the second year, pre-hibernation sampling at Mt. Hope Mine recorded 400 Indiana bats, exceeding all other species captured.

LEAST TERNS: 1,146 least terns were present at 20 breeding colonies in 2012, similar to recent years. Productivity was very strong with 538 fledglings produced.

MIGRATORY SHOREBIRDS: Numbers of shorebirds on the Delaware Bay migratory stopover remained at historically low levels. There was an uptick in red knot numbers but ruddy turnstones were at their lowest abundances in 25 years.

OSPREYS: Nearly 600 young were produced, slightly reduced this year due to severe weather. 431 nestlings were banded, a new high.

PEREGRINE FALCONS: 23 known pairs produced 52 young. Average productivity was 2.26 young/active nest, an increase from last year.

PIPING PLOVERS: 121 pairs of piping plovers nested in NJ, which is average for the past two decades. Productivity was very poor at just .70 chicks fledged per pair due largely to flooding.

TERRAPINS: Mortality on Great Bay Blvd. in Little Egg Harbor was reduced by 5% this summer.

Sources: Biologists for Conserve Wildlife Foundation of NJ and NJ Endangered and Nongame Species Program

Moving Forward For Amphibians: Our "Pipe Dream"

CWF has been taking our Amphibian Crossing road rescue project into new realms lately. Once an ambitious "pipe dream", CWF's amphibian tunnels are now a reality. Thanks in large part to an enormous and hardy volunteer fleet, we have mapped out dozens of places across the state where springtime frog and salamander migrations intersect with roads; i.e. places where the animals' forest habitat is on one side of a road and their breeding pool is on the other. We have collected data on amphibian numbers, vehicle traffic, and in some cases, astounding amounts of road kill at these sites. We now have a good handle on where the most urgent problems are now, and we're ready to move to some permanent solutions.

Under-the-road tunnels offer the best shot at getting amphibians safely back and forth across roads. An international company called ACO Polymer Products leads the field in manufacturing special tunnel and fence systems for herptiles. We received a grant this year to complete an ecological design for two high-priority amphibian crossings in Sussex County. Amphibian culverts have been used for decades in Europe – and more recently in a few progressive U.S. states – but our project will be the first of its kind in New Jersey.

Meanwhile, we plan to test some simpler fixes during the 2013 migration. At one site in Passaic County, stormwater culverts already pass under the roadway, sit flush with the ground on both sides, and are not tied into streams. We will set up a drift fence trial to see whether frogs and salamanders can be guided into these existing tunnels. Will they readily pass through? What about on the return migration? Is water flow an issue during the rainstorms that trigger migration? If it all works well, we'll come up with a more permanent retrofit for that site and check another "pipe dream" off our list. 🚀



A female spotted salamander is helped across a road. Under-the-road tunnels would help to alleviate amphibian roadkills during springtime migrations.

f Follow us on Facebook

Join our Cause Protect NJ's Rare Wildlife, www.causes.com/conserwildlife Become our Friend on Facebook, www.facebook.com/conserwildlife


CWF Celebrates the *Return of the Raptors* and Honors Outgoing Executive Director Margaret O’Gorman

Over 100 friends and supporters of Conserve Wildlife Foundation of New Jersey gathered at the Trenton Country Club on Thursday, October 11, for a very special cocktail party and silent auction.

The recovery of New Jersey’s populations of bald eagle, osprey and peregrine falcons is a remarkable success story, and one that would not have been possible without the dedication of Conserve Wildlife Foundation staff and the generous support of so many New Jerseyans. These species were hardest hit by chemical pollution in the 1950’s and habitat loss through the late 20th century. In recent years both the osprey and peregrine falcon populations have continued to grow along with the bald eagle population, which had a banner year in 2012. The number of active breeding pairs reached a historic high of 119 with 165 young birds fledging.

The event not only recognized the success of our growing raptor population but also honored the outstanding leadership of outgoing Executive Director Margaret O’Gorman.

Board Chairman Marty McHugh thanked Margaret for advancing Conserve Wildlife Foundation’s mission to protect New Jersey’s rare wildlife over the past seven years. Under her leadership, the organization strengthened its critical role in ensuring that New Jersey’s wildlife heritage endures for future generations.

We are especially grateful to our corporate sponsors, ShopRite, PSEG, and Anheuser-Busch, for helping to make this event possible. 



Margaret O’Gorman was honored for her leadership of CWF over the last 7 years.



Founding Executive Director Linda Tesauro catches up with longtime Board Member Rick Weiman and biologist Mackenzie Hall.



Cheryl McHugh, Russ Furnari, Chris Sturm, and John Balletto celebrate CWF’s success.



Board Member Eric Sambol and his wife Cynthia welcome new Executive Director David Wheeler (right).

THANK YOU

Return of the Raptors Sponsors



Jan E. Bisco-Werner
Brent Materials Company
FWH Associates, P.A.
Jan and Holly Kokes



Jackson Development Company, LLC
Lillian Lorber Charitable Trust
Pamela and Roland Machold
New Jersey City University



Primo Corp
Trenton Country Club
Rick Weiman
WithumSmith+Brown CPAs

Silent Auction Contributors

Borgata Hotel and Casino
Tom and Barbara Brummer
Kevin and Karin Buynie
Cape May Whale Watcher
Dream Girl Sport Fishing
Herb Houghton
Ideal Image Consulting

Lucy’s Ravioli Kitchen
M Restaurant
Pier 6600 Hotel
Jasna Polana
Radisson Blu Hotel and Spa
ReClaimed
REI

Rutgers University Football
Eric Sambol
Sysco Food Services
Trenton Country Club
Wildlife Unlimited/Salt Marsh Safari
Steve and Cindy Wurst

Hurricane Sandy Storm Report

Assessing the damage to coastal wildlife and their habitat

Hurricane Sandy caused severe damage and devastation to New Jersey homes and businesses, and CWF extends our deepest sympathies for those who lost so much. But we must not forget that wildlife also suffers from the impacts of a hurricane.

CWF beach nesting bird staff conducted wildlife/habitat assessments on beaches from Brigantine to Cape May almost immediately after the storm. Our nesting sites further north in Ocean and Monmouth Counties were still not accessible at that time to evaluate. We assessed nesting habitat for beach nesters, especially piping plover, as well beach/inlet habitat used by migratory shorebirds, particularly American oystercatchers.

As expected, many of our nesting sites and migratory shorebird roosting sites were hit hard by Hurricane Sandy, losing a great deal of sand and suitable habitat. However, in some locations such as Stone Harbor Point and North Brigantine Natural Area, the storm scoured out areas with too much vegetation, which is good for beach nesters as they prefer sparsely vegetated areas. Sand was also pushed back into the dunes to create blowouts and overwash areas that may serve as additional habitat. Many of the areas seem to be very low lying now from the loss of sand and could be more flood prone in the future. Only time will tell if the habitat will build back up enough in time for the next nesting season or if it will have lasting impacts on migratory bird species.


Along the Delaware Bay, Reed's, Cook's and Kimble's beaches lost a great deal of sand - the winds on the front side of the storm pounded southern bay beaches. Eroded beaches on the Delaware Bay is of concern because they may not provide suitable habitat for horseshoe crabs to lay their eggs, and because staging shorebirds rely on this food source, the birds may not be fit enough to complete their migration

to their breeding grounds or successfully breed. A complete assessment of the bay beaches is not yet complete and so it remains to be seen what impact this will have on migratory red knots and other shorebirds in the spring

We have begun assessments for other protected species in the State. The majority of the Northern diamondback terrapin barrier fence for the Great Bay Boulevard project was damaged, but will be repaired before the nesting season begins in May. Most osprey nests appear to have weathered the storm, but some structures are down. We don't have a full assessment of bald eagle nests just yet, but it is still early enough that they could rebuild their nests before

winter breeding season if any were downed during the storm. And there are other concerns like contaminants released into our waterways and the huge amount of debris that has been created along our beaches, bays, and river systems.

For some wildlife species, there is good news as well. CWF staff conducted American oystercatcher surveys as a significant number use New Jersey beaches for roosting during the fall and winter. Luckily, approximately 900-1,000 American oystercatchers were still using our southern coastal inlets after Sandy, about the same number of birds observed the week before the storm. We also observed an abundance of migratory songbirds which were taking shelter and fluttering through the back dune/bayberry habitat right after the storm. This was a good reminder of the value of New Jersey coastal habitat for songbirds as they migrate down the coast.

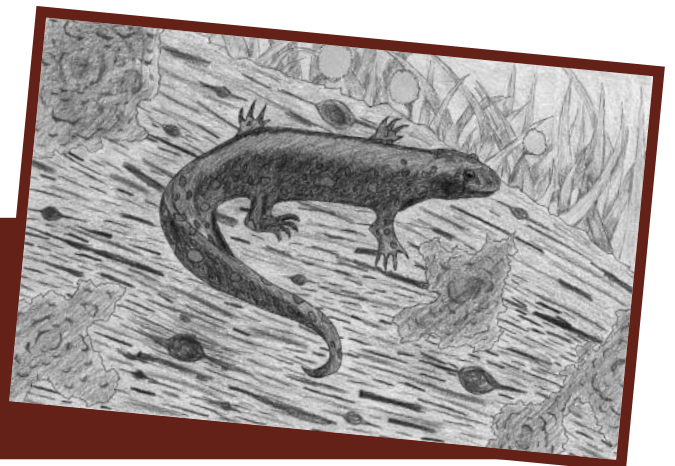
We hope to conduct further assessments to gain a better understanding of the short- and long-term impacts to wildlife from Hurricane Sandy and how that may affect conservation and recovery effort for these species moving forward. 



CWF biologist Stephanie Egger surveys beach nesting bird habitat after Hurricane Sandy

Attention 5th Graders Species Edge On The Edge Art & Essay Contest is Open

Choose an endangered animal that lives in New Jersey – draw a picture and write a short essay about it and send it in. It's free to participate. Get your contest kit today at www.ConserveWildlifeNJ.org. Deadline has been extended to February 15th, 2013.



BEHIND THE SCENES

Nelson Melendez, CWF Intern

Nelson came to CWF in the winter of 2011, helping us with various research, biotics, education, and administrative projects. He graduated from Drew University in May 2011 with a degree in Biological Anthropology (aka Human Evolution). CWF thanks Nelson for his hard work and is excited to offer new internship positions for the winter and spring semesters. Contact Maria Grace at (609) 984-0621 to apply.

What is the best thing you get to do?

As an intern for CWF, it has been great to be able to work with many of our biologists and see what they do on a daily basis. Being able to assist with conservation projects and see the positive impacts that they provide for the species involved, has been very rewarding.

What is the best thing anyone ever taught you?

My parents taught me when I was young to never give up and always work hard, even when something seems difficult in life.

What wildlife “lives” in your office?

At my “real” job for the New Jersey Exotic Permits office, we confiscate many potentially dangerous animals, including young alligators, poisonous snakes and even the occasional crocodile, and relocate them to safe areas to live.

What is one thing you learned working here that surprised you?

One thing I learned was that when seals migrate, they stop in New Jersey around the Sandy Hook area. I did not know that we have seals in the winter!

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

I think I would want to be a professor of Biological Anthropology (aka Human Evolution).

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

I would be an Osprey because I think it would be really thrilling to be a bird of prey and live close to the ocean. 🦅



CWF Board of Trustees

Martin McHugh - Board Chair
McHugh Environmental Associates, LLC

Joanne Z. Bruno
New Jersey City University

David Chanda
NJ Division of Fish & Wildlife

Robert H. Coleman
Church & Dwight Co., Inc.

David Jenkins
*NJ Division of Fish & Wildlife
Endangered and Nongame Species Program*

Theodore J. Korth, Esq.
Hess Corporation

Theresa Lettman
Pinelands Preservation Alliance

Eric Sambol
Sambol Construction

Christine Sturm
New Jersey Future

Richard Weiman, Jr.
GAF

CWF Staff

David Wheeler
Executive Director

Michael Davenport
Marine Species and GIS Programs Manager

Karena DiLeo
Assistant Biologist

Stephanie Egger
Wildlife Biologist

Maria Grace
Education and Outreach Manager

MacKenzie Hall
Wildlife Biologist

Brian Henderson
GIS Specialist

Gail McMaster
Office Manager

Todd Pover
Project Manager, Beach Nesting Birds

Liz Silvernail
Director of Development

Larissa Smith
Assistant Biologist

Ben Wurst
Habitat Program Manager

Explorations

In addition to TRACKS, we also produce an electronic magazine called Explorations. This e-magazine tells stories about New Jersey's wildlife, enabling us to take advantage of electronic communications to present full-color photographs and links to more information. The most recent edition of Explorations features reports about Return of the Raptors, the problem of marine debris, and the banding of piping plovers.

If you would like to subscribe to Explorations, please send your email address to info@conservewildlifenj.org and put "Explorations" in the subject line.

Conserve Wildlife Foundation of New Jersey
P. O. Box 420, Mailcode 501-03E
Trenton, NJ 08625-0420
609.292.1276
www.ConserveWildlifeNJ.org

NONPROFIT ORG
US POSTAGE
PAID
TOMS RIVER, NJ
PERMIT 177

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.



Use your Smart Phone to scan this code for more information about *Conserve Wildlife Foundation of New Jersey.*

TRACKS TRACKS

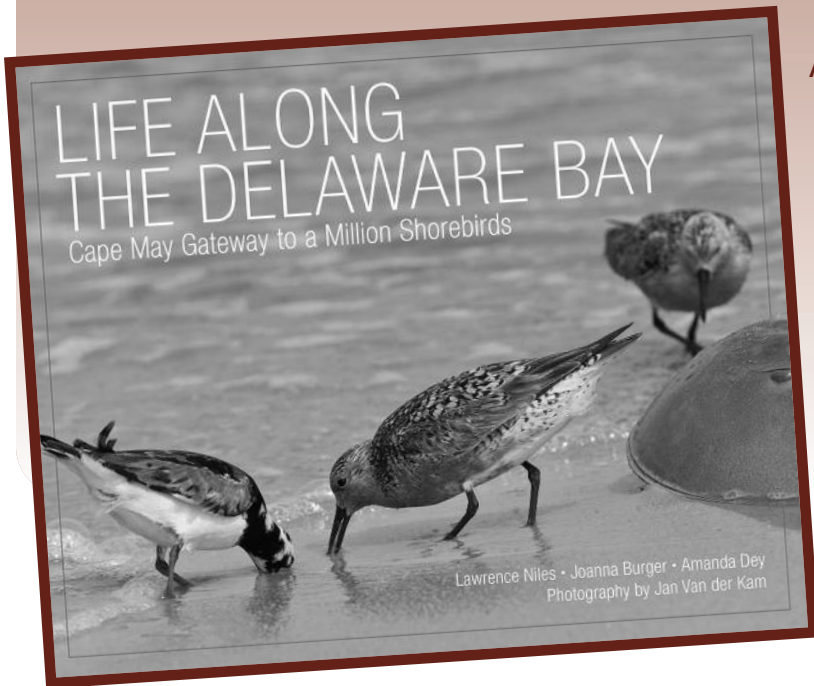
CONSERVE WILDLIFE FOUNDATION OF NEW JERSEY • VOL. 05 NO. 03



Shop CWF This Holiday Season

When you purchase gifts from Conserve Wildlife Foundation, you show your friends and family that you not only care about them, but you care about wildlife too. Your gift supports our work to protect New Jersey's rare and imperiled wildlife.

Visit www.ConserveWildlifeNJ.org to check our unique Adopt A Species Program and other great gift ideas!



AT THE TOP OF YOUR LIST – Life Along the Delaware Bay

Written by CWF partner Larry Niles, in concert with Joanna Burger and Amanda Dey, and illustrated with beautiful images by renowned photographer Jan Van der Kam, this fascinating book celebrates the second largest and most diverse bay on the East Coast and the natural phenomena that make this place special. Over 300 stunning color photographs capture the beauty of this unique treasure.