



Photo: William Dalton

Photo: A.J. Haverkamp

RARE SPECIES SPOTLIGHT

Atlantic Loggerhead Turtle

The loggerhead turtle (*Caretta caretta*) is recognized across the globe as an endangered species. The federal government classifies it as threatened across its range in the U.S., while in New Jersey, the loggerhead is considered endangered. Loggerhead populations are currently a tiny fraction of their historical size

The loggerhead turtle is a large reddish-brown sea turtle with a relatively large head that gives it its name. Adult loggerheads range in size from 33 to 49 inches in shell length and can weigh over 400 pounds. Its limbs, as with all sea turtles, are flattened flippers. The shells of loggerhead turtles are often covered with plants and small animals that hitch a free ride through the oceans.

Loggerhead turtles occur within the warmer portions of the Atlantic, Indian,

and Pacific oceans. In the Atlantic Ocean, they feed from Brazil to Canada. In New Jersey, they have been seen in the Atlantic Ocean as well as in the Barnegat, Delaware, and Raritan bays, usually between the months of May through November.

Loggerheads occupy various coastal habitats from bays and estuaries to the clear waters of reefs. They are frequently seen around wrecks where food is plentiful. Their large heads contain powerful crushing jaws with which they feed on crabs and other shellfish. Adults forage on the ocean floor and can dive over 700 feet deep, remaining under water for up to an hour at a time. They also forage on the surface for jellyfish. Young loggerheads feed primarily on prey concentrated at the surface.

Like all sea turtles, loggerheads lay eggs on land. After mating offshore, they return

to the same area for each nesting to lay clutches of eggs on open sandy beaches above the high tide mark. Along the U.S. Atlantic Coast, the major nesting areas range from Florida to North Carolina, although nesting has been documented as far north as New Jersey with one nesting record from Island Beach State Park. Loggerheads migrate thousands of miles between nesting beaches and feeding grounds.

Female loggerheads become sexually mature between 15 and 30 years. They are reproductively active for about 30 years, but only nest every 2-3 years. They lay between 100 and 120 eggs per clutch. If a clutch of eggs is laid during a period of warmer temperatures, a higher number of females will hatch, and if laid during cooler periods, a higher number of males will emerge.

continued on page 3

CWF Reports on a Breeding Season with Varied Results

Every year we ask our biologists and the biologists of the Endangered and Nongame Species Program (ENSP) to let us know the early results from their projects that manage and protect rare wildlife. (See page 5) These raw results are a first look at the season and allow us to reflect on our successes, challenges, disasters and surprises.

Our work is not predictable, nor is success assured. We face disappointment when our best efforts come to naught because of uncooperative weather or other factors outside of our control. But, through perseverance and innovation, we can conjure conservation miracles and create upward trajectories for population numbers.

The continued positive trend in bald eagle and osprey numbers in our state is one cause for celebration. These gains did not happen accidentally. They came about through years of hard work by ENSP biologists who brought young osprey and eagle chicks into the state, monitored their progress and provided protected nesting areas to allow these species to recover. Conserve Wildlife Foundation staff and volunteers ensured the success of these projects by monitoring every known eagle nest in the state and building and installing osprey nesting platforms along the coast.

We celebrate the recovery of these majestic birds, but we worry about the future of other rare species in our state. Songbirds, like the golden-winged warbler, continue to decline as the fields and forests they depend upon are converted to homes, driveways and roads. As regular readers of TRACKS know, our bats are under a huge threat from white nose syndrome, a fatal disease for which there is no known cause or cure. Beach nesting birds once again faced an unusually wet season with flooding that wiped out entire nesting colonies.

In the unpredictable world of rare wildlife conservation, we take the good news and celebrate, we absorb the bad news and continue — we install the next platform, build the nest predator enclosure and hope next season brings more good news than bad.



Conserve Wildlife Foundation Executive Director Margaret O'Gorman holds an osprey chick for banding



(this page) Conserve Wildlife Foundation Habitat Manager Ben Wurst exhibits at the Edward B. Forsythe Wildlife Refuge

(center) Fairview Lake Environmental Trips for Challenge Campers build and install a bat house as part of Conserve Wildlife Foundation's bat research and education program

(far right) CWF Marine Species and GIS Programs Manager Michael Davenport and Dr. Carol Slocum of The Richard Stockton College of New Jersey present their findings at the Biennial Conference on the Biology of Marine Mammals in Quebec City, QC

RARE SPECIES SPOTLIGHT – Atlantic Loggerhead Turtle

Out of every thousand hatchlings, only a few will survive to adulthood. Hatchlings emerge from the nest a few days after hatching, typically during darkness. Once they reach water, males never return to shore, while females only do so to nest. The hatchlings, which are less than 2 inches in size, often float in masses of sea plants (sargassum) for their first 3-5 years. From hatchling to adulthood, a loggerhead increases its weight more than 6,000 times.

Loggerhead turtle populations have declined worldwide due to overharvesting of eggs for food, killing of adults and loss of nesting habitat. Entanglement in fishing nets or marine debris and the ingestion of marine debris represent the most serious threats to their existence and recovery.

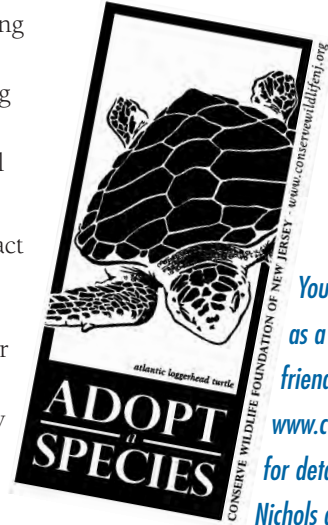
Oil spills, habitat degradation (such as beach development) and collisions with boats present other dangers to the turtles. Eggs can be destroyed by predators, beach erosion, off-road vehicles and flooding by

seawater or excessive rainfall. Beach cleaning operations can destroy nests or produce tire ruts that stop hatchlings from moving to the sea. Beachfront lighting can cause hatchlings to become disoriented and fail to reach the water.

Global warming will also have an impact on these turtles. Sea level rise when coupled with shoreline development may reduce available nesting beaches. Warmer temperatures during incubation will produce more female hatchlings and may cause an imbalance in the sex ratio.

In New Jersey, no-wake zones in our bays and estuaries help minimize the risk of boat strikes to loggerhead turtles in our waters. Designated marine conservation zones provide safe habitat for the loggerhead to forage. Protection of nesting sites along the East Coast is critical to the future of the loggerhead and other marine turtles in our waters. 🐢

written by Michael Davenport

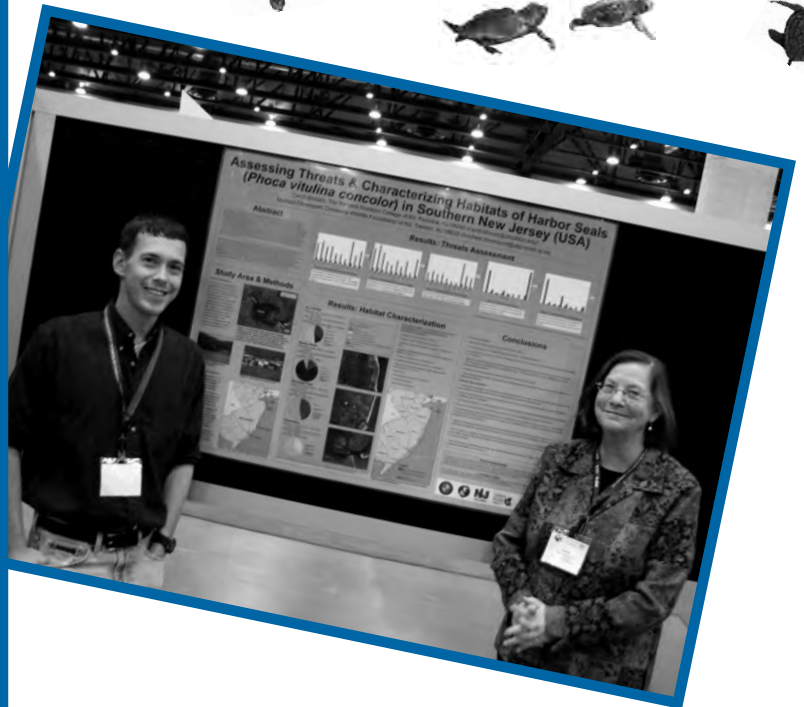


You can adopt a sea turtle as a special gift for a friend or loved one. See www.conservewildlifenj.org for details or call Debbi Nichols at 609.984.6012.

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.



Conserve Wildlife Foundation's New Wildlife Monitoring Tool

Conserve Wildlife Foundation of New Jersey and its partners recently launched a new website, www.Bandedbirds.org to help identify and protect the migration routes and nesting and wintering areas for declining populations of shorebirds that visit our shores every year. The New Jersey and Delaware Divisions of Fish and Wildlife and the New Jersey Audubon Society worked on this effort funded by DuPont's Clear Into the Future initiative.

Through this site, you can report sightings of banded shorebirds and contribute to the international effort to protect and recover red knots, ruddy turnstones, sanderlings and semipalmated sandpipers, who once visited our shores in the hundreds of thousands and now appear every spring in diminished numbers.

Since 1997, biologists have monitored red knots and other shorebirds that migrate through the Delaware Bay each spring. Loss of food resources on the bay has caused shorebird numbers to decline severely and red knot numbers have declined so dramatically that the bird is now a candidate for listing as an endangered species at the federal level.

Over the years, biologists tagged thousands of red knots, ruddy turnstones, sanderlings and semipalmated sandpipers with leg "flags" bearing unique codes. By capturing flag numbers, we

learn about the movements of these populations and fill in the gaps of our knowledge. If we know where the birds are stopping, we can identify threats that impact them and develop actions to protect them.

Leg flags can be identified with spotting scopes by beach-walkers, volunteers, photographers and biologists. Anyone can report flagged shorebirds along their migration route – from South America to the Canadian Arctic. This information is very important as it helps us understand if shorebird populations are recovering or declining and identifies key migration stopover sites critical to these marathon fliers.

www.Bandedbirds.org not only records flag numbers, it provides you with the information to find, record and report flagged shorebirds. It also contains information on the bird's "history," including a map of the places it has been seen. www.Bandedbirds.org allows everyone to participate in the effort to protect these birds.

The shorebirds are in their wintering grounds now, but next spring when you are on the beach, keep your eyes on the shorebirds feeding in the surf. One of them may have a flag and your report will make a world of difference. 🐦



Ruddy Turnstone



Red Knot

Photos: Mark Peck

Get Out and Watch!

For 110 years, volunteers have been counting birds during the annual Christmas Bird Count. From December 14, 2009 through January 5, 2010, you can join tens of thousands of people and help count birds in the longest-running wildlife census that is used to assess the health of bird populations. You must follow a specific set of instructions, but it's easy to participate. You can

count the birds in your backyard from the comfort of your living room or outfit yourself in warm clothes and boots and take an adventure outside to see what you can find in the woods and fields of your neighborhood. For more information and to find the nearest "Count Circle" visit www.audubon.org/Bird/cbc/. If you would like a simple bird guide to help you, please visit our online store at www.conservewildlifenj.org 🐦

New Jersey's Wildlife Populations in Danger: Our 2009 Status Report

Bald Eagles: Record number of 82 nesting pairs, 68 active nesting pairs and 99 young fledged.

Bobcats: Appear to be increasing in suitable habitat north of I-80, but remain vulnerable to loss of habitat and collisions with motor vehicles.

Bog Turtles: More found at some locations while other sites produced few to no turtles. Reports received from states nearby about turtles dying from mysterious causes, but no suspicious cases in New Jersey to date.

Freshwater Mussels: Several new tidewater mucket sites discovered in southern New Jersey.

Habitat Restoration: 250 acres of new grasslands established and 350 acres of hayfields managed to benefit bobolinks, vesper sparrows and grasshopper sparrows. More than 800 tree seedlings planted in lower Cape May County to restore critical habitat for migratory songbirds and other wildlife.

Golden-winged Warblers: 2007 survey indicated a 75% decline in the breeding population since 2000; no change in the breeding population since 2007.

Indiana Bats and all Cave Bats: Deadly White Nose Syndrome affected five hibernation sites in 2009, including the two largest—Mt. Hope and Hibernia Mines. Impact on Indiana bats still being studied.

Migratory Shorebirds: Good proportion of red knots at the Delaware Bay stopover gained the necessary weight to reach Arctic breeding grounds, but a late Arctic spring may have limited breeding success. Numbers of red knots and other shorebirds on Delaware Bay remain low.

Ospreys: 476 nesting pairs reported, up 14% since the 2006 survey. Population increasing to former levels before the impact of DDT and habitat loss.

Peregrine Falcons: Slight increase to 24 nesting pairs, but number of young fledged per pair was lower than normal. No young produced from four nests along the natural cliffs in northeastern New Jersey.

Piping Plovers: Breeding population remained low (107 pairs statewide), but the number of chicks fledged increased to one per pair.

Shortnose Sturgeons: Estimates suggest Delaware River population is stable, but portions of spawning habitat are vulnerable to proposed river construction projects.

Silver-bordered Fritillaries (butterflies): New sites surveyed in northern New Jersey yielded good numbers. Found to be active at one new site and several known sites in central New Jersey.

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

Golden-winged Warbler



Photos: Paul Hernandez

Conserve Wildlife Foundation Helps Eaglecam To Take Flight

New Jersey's EagleCam provides inspiration and educational content for teachers who want to bring New Jersey's wildlife into their classrooms.

During the nesting season, which runs roughly from December to late July, the EagleCam, located on Duke Farms in central New Jersey, allows viewers an up close and personal view into the lives of a pair of bald eagles as they breed, incubate, and raise young. It is a perfect tool for teaching about a variety of topics including animal behavior, bird biology and natural history, endangered species, food webs, contamination, and more. It can be used in many different subject areas including science, social studies, language arts, and technology.

One great way to use the EagleCam in the classroom is to teach about the scientific method. As students watch the activities of the birds onscreen, they ask important questions. What do they eat? How long does it take for the eggs to hatch? How long does it take for the chicks to fly? The scientific method – asking questions, performing background research, creating a hypothesis, conducting an experiment, analyzing your results, and forming a conclusion – allows students to engage in a deeper way and become wildlife scientists doing real life research. This research can provide answers to questions that even our wildlife biologists are asking.

Teachers – log on today and engage your students in learning about endangered wildlife right here in New Jersey. Look for

lesson plans and other educational content on our website at www.conservewildlifenj.org beginning January 2010. This project is a collaboration between Duke Farms and Conserve Wildlife Foundation of New Jersey. ↗



Bald Eagle

Help Conserve Wildlife Foundation Save the Diamondbacks

Diamondback terrapins are a species of special concern in New Jersey. Every year hundreds of females fall victim to cars as they cross roads to lay eggs. We want to protect the terrapins from cars and you can help us do it.

Diamondback terrapins are beautifully marked turtles that live in New Jersey's coastal marshes. Their numbers have declined dramatically due to poaching and habitat loss. In New Jersey, there are only a few places where they live and reproduce successfully. One of these places is the marsh surrounding Great Bay Boulevard near Tuckerton in Ocean County.

Female diamondbacks use the sandy embankments bordering the road as nesting sites, often crossing the road to deposit their eggs. During the summer, this busy road brings people to marinas, crabbing and fishing areas, and wildlife viewing places. An alarming number of female diamondbacks are killed each year. Many are killed at night when it is difficult to see them. As females continue to be destroyed, it will be impossible for the terrapins to survive in this marsh, moving them one step closer to extinction in New Jersey.



Photo: Ben Wurst

Diamondback Terrapin

We have a plan to save the diamondbacks and you can help. This winter we are asking all our supporters to help us raise funds to build a barrier fence along Great Bay Boulevard. A similar fence constructed along a roadway in Cape May County recently reduced female terrapin deaths by about 84 percent.

The project will cost \$17,000 and will stop the terrapins from crossing the road at the most dangerous points. The barrier fence will encourage female diamondbacks to nest on the embankment closest to the point where they came ashore. With your support, we can rally our volunteers to install the fence this winter and have it in place for the 2010 nesting season.

It's within our power to make a big difference in the future of these small creatures. Can you help us protect the diamondbacks?

They are an important part of New Jersey's wildlife heritage that we can't afford to lose. Please add your check or credit card number to the enclosed envelope and write the words "Terrapin Fence" in the Special Donation section. Thank you! ↗

BEHIND THE SCENES

Maria Grace

What is the best thing you get to do?

Going out in the field with our biologists is a BIG perk. I have been lucky enough to hold red knots, bald eagles, ospreys, and bog turtles. It makes it so much easier to teach people about our work and New Jersey's wildlife when you've had a chance to get up close and personal. If everyone had a personal wildlife experience, our job would be a lot easier.

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

I drive a lot to present educational programs. The more people that I educate the larger my carbon footprint becomes. Like most things in nature, it is about finding balance. I wish I could figure out a way to not drive so much but still reach as many people as we do. Maybe CWF should buy a segway?

What delights you in your daily work?

Working with such a dedicated group of individuals inspires me. I have never met such a passionate and hard working group of people.

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

A chef – I love to cook and eat good food, but I hate cleaning up. Being a chef would allow me to get someone to clean up for me.

What is the best thing anyone ever taught you?

The most important advice that I received in regards to learning about the natural world came from my

husband Sean – be aware of yourself within the world and how others (including animals) perceive you. Once you increase your awareness and allow yourself to become still, you will be amazed at what presents itself.

If you could be one animal (that lives in New Jersey, of course) what would you be and why?

I always wonder what a bird must go through during migration and so I think I would want to be a bobolink or a red knot. These bird species migrate tremendous distances – what do they see and experience on their trek around the planet? I would love to find out.

What were you doing before you answered these questions?

Putting the finishing touches on the 2010 Species on the Edge Calendar – Don't you want to see the outcome? Get your copy today! ✈



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Explorations

In addition to TRACKS, we also produce an electronic magazine called Explorations. This e-magazine tells more stories about New Jersey's wildlife, enabling us to take advantage of electronic communications to present more full-color photographs and more links to information. The most recent edition of Explorations featured a report from Conserve Wildlife Foundation's statewide Global Warming meeting, two stories about protecting beach nesting birds from CWF seasonal assistants, and an article about helping the last colony of Allegheny wood rats in New Jersey.

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

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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.

TRACKS TRACKS

CONSERVE WILDLIFE FOUNDATION OF NEW JERSEY • VOL. 02 NO. 04



PHENOLOGY FUN



Phenology is the study of the timing of natural events. The word comes from a Greek word that means "coming into view." Events like the first openings of leaf and flower buds and the first calls of frogs and toads are all considered phenological events. The timing of these events indicates local and global weather and climate changes, as well as other changes to the landscape and habitat. These events are also fun for you and your family to discover and record.

Share your seasonal observations by visiting our blog at www.conservewildlife.blogspot.com

December

First week: Harbor and harp seals begin arriving at their wintering areas. They use small islands along the coast of New Jersey.

Fourth week: Bald eagle pairs begin courtship rituals and nest rebuilding. Their displays can be quite spectacular, with the pair locking talons and tumbling towards the ground.

January

First week: Eastern tiger salamanders begin breeding in vernal pools in southern New Jersey.

Third week: Long-tailed salamanders mate in underground tunnels near freshwater springs. The female will secure her clutch of eggs to stones or wood within the water. She will lay about 90 eggs.

February

Third week: Bald eagles begin laying eggs. Clutches can be one to three eggs. Incubation lasts approximately 36 days.

Bobcats begin breeding. Breeding will continue into April. The gestation period for bobcats is about 60 days.

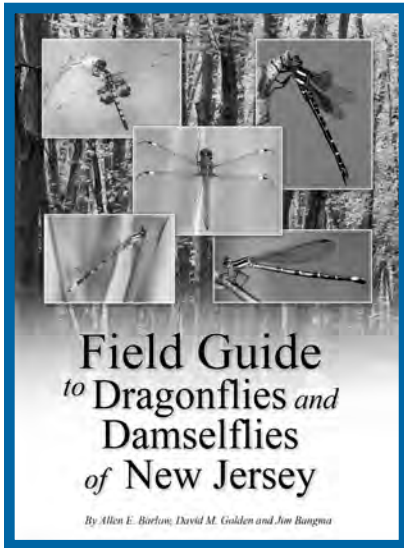
Fourth week: Wood frogs may be heard calling from their vernal pools. They are the earliest frog to call in New Jersey. Have you heard the quacking call of *Rana sylvatica*?

CONSERVE WILDLIFE FOUNDATION'S HOLIDAY MERCHANDISE

The holiday season is nearly upon us. Show the wildlife lover in your life that you not only care about them, but that you care about the animals in nature as well. Your gift supports our work protecting New Jersey's rare wildlife.

A BEAUTIFUL GIFT! Adopt a Species

Give the gift that gives twice. Through our new Adopt a Species program, you can choose from twelve animals including the vibrant blue-spotted salamander, the always popular bald eagle and the enchanting loggerhead turtle. We have an animal for every lover at a price that fits every budget. Along with an artistic certificate, your symbolic adoption comes with a cool decal, a colorful bookmark and information on your chosen species. To view these beautiful animals, please visit our website: www.conservewildlifenj.org/support/cwfstore.html



NEW! Dragonfly and Damselfly Field Guide

*One of our most exciting new publications, that was two years in the making, is the **Field Guide to Dragonflies and Damselflies of New Jersey**. This guide has 334 full-color photographs of 182 species of either dragonflies or damselflies. In the guide, there is helpful information about when and where you can find each species and how to recognize them purely by their behavior. You will also get tips on how to photograph these beautiful creatures. This comprehensive guide is great value for the price.*

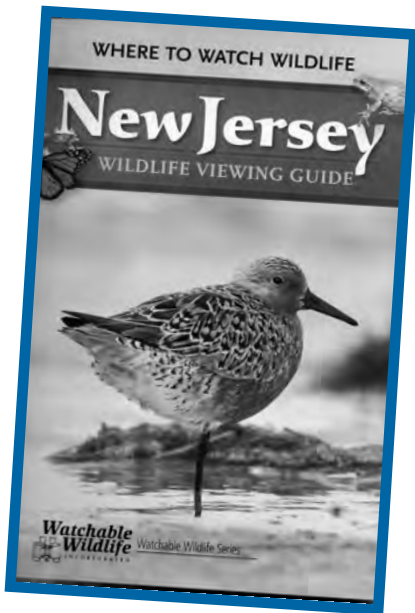
\$29.95

COLORFUL! Species on the Edge Calendar 2010

Our wonderful, colorful calendar is once again hot off the presses just in time for the coming New Year and the gift giving season. It celebrates our state's rich biodiversity with artwork and quotes from 5th grade students across the state. All those who treasure the outdoors and our biodiversity will appreciate the Species on the Edge Calendar.

\$10.00





NEW! Wildlife Viewing Guide

*New Jersey features some of the most beautiful and distinct landscapes in the country. Its diverse habitats mean unique wildlife viewing for you! Use the new edition of the **New Jersey Wildlife Viewing Guide** on your next exploration of our incomparable state. The book is your key to a world of alluring animals and great outdoor experiences.*

Features:

- Detailed descriptions of 104 unique sites and the wildlife you may find at each
- Beautiful photographs of the sites and animals
- Tips for your best chance to see New Jersey's wildlife
- A three-tiered location rating system, identifies the "can't miss" sites
- Site features, driving directions, contact information and more!

\$14.95

FASCINATING! Butterfly Guide

*The **Pocket Naturalist Guide to New Jersey's Butterflies and Moths** is another must-have reference guide for beginners and experts alike. Whether you're on a nature hike or in your own backyard, you'll want to take along a copy of this indispensable guide. This pocket-sized, folding guide highlights up to 150 species and provides an introduction to moths and butterflies. Each is laminated for durability. (3 1/2" X 8 1/4" folded, opens to 22" X 8 1/4", color illustrations, map).*

\$5.95



FOR ALL THE FAMILY! CWF T-shirts

Our redesigned Adopt a Species program has become so popular that we redesigned our t-shirts, too! And this time, we thought of the ladies who like a more tailored fit. Don't worry, we didn't forget children either. We now have t-shirts for the whole family. For the ladies, the emerald green will be nothing less than flattering, and for both the men and children, we have the popular forest green. And we didn't stop there—we now have long-sleeve t-shirts, too. Each t-shirt features 12 of New Jersey's rare species in the beautiful design shown below. For the ladies, the artwork is on the back of the shirt, and for the men's and children's sizes, the artwork is on the front.

Men's long-sleeve \$16.00

Ladies \$14.00

Men's short-sleeve \$13.00

Children's \$12.00



To receive your merchandise by the start of Hanukkah, please place your order as soon as possible. To guarantee delivery by Christmas, please place your order by Thursday, December 17th. To order any of the items shown, please visit our website: www.conservewildlifenj.org/support/cwfstore.html or call Debbi Nichols at 609.984.6012 to place your order over the phone. We accept all major credit cards.