



Photo: Maria Grace

ENDANGERED SPECIES SPOTLIGHT



Drawing: Stephen Alpaugh

Shortnose Sturgeon

The Delaware River provides critical habitat to New Jersey's only endangered fish species – the shortnose sturgeon. The shortnose sturgeon (*Acipenser brevirostrum*) can be found throughout the Delaware River estuary, occasionally entering the nearshore ocean off Delaware Bay. In the U.S., the species occupies estuaries, tidal rivers and bays along the Atlantic Coast from New Brunswick Canada to the St. John River in Florida. It is the smallest of three sturgeon species to occur in the eastern portion of North America.

Sturgeon are often called living fossils since they are among the oldest bony fishes, retaining primitive characteristics such as a heterocercal tail where the upper lobe is larger and contains the upturned end of the spinal column, bony plates known as scutes, and mouth located on the underside of the head. To feed, shortnose sturgeon search the

bottom sediment with whisker-like feelers known as barbells, sucking in crustaceans, mollusks, worms, insects and other organisms with a protractile mouth which can be extended or retracted at will. Shortnose sturgeon reach between 18-22 inches in length when fully grown. As with other sturgeon species, shortnose sturgeon can be long-lived. Females can live as long as 67 years, whereas the oldest known male was 32 years old.

A large portion of the Delaware River's shortnose sturgeon population overwinter between Roebling and Trenton from December to March. In mid-to-late March, most adults move upstream to spawn. Spawning occurs between late March and early May from Trenton Rapids to Scudders Falls. Eggs are found on or near the bottom and are adhesive. They hatch about 13 days after

fertilization. Once sturgeon have spawned, they move downstream to near Philadelphia, where they will stay throughout May. They will then return upstream to the overwintering ground (which are also a summering area) and remain there through summer and winter.

The shortnose sturgeon has been federally listed as endangered since the inception of the Endangered Species Act in 1973. Both shortnose and Atlantic sturgeon once thrived in the Delaware River, occurring in huge numbers that far exceeded those found in the Hudson. According to one author, "the advancing horde could virtually be skimmed off the bottom with seine nets." In the late 1800's populations were all but decimated by the caviar industry. During the American Caviar Rush between 1870 and

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Delaware River Deepening Jeopardizes Rare Wildlife

Just as we protect the rare and imperiled species of wildlife that live, breed and migrate through our state, we also seek to protect the habitats these species depend upon. In this issue of Tracks, we spotlight the shortnose sturgeon. The shortnose sturgeon lives in the Delaware River and, like many other species of wildlife in and around the river, it will be profoundly impacted by the proposed deepening of it. Deepening threatens habitats critical for shortnose sturgeon including shrinking their spawning grounds and directly damaging important life stage habitats. Deepening also requires blasting. Blasting is planned for the winter months when many fish species are absent from the river but when shortnose sturgeon are still very much present. Tests of underwater blasts on fish species like shortnose sturgeon resulted in rates of death not sustainable by a population listed as endangered by the federal government.

Dredging the river to deepen the shipping channel would lead to the reintroduction of chemicals and contaminants into the water column and to bioaccumulation of toxins in top predators like bald eagles and peregrine falcons. Bioaccumulation of toxins from DDT caused the collapse of many raptor species in the 1950's and just as our bald eagles, ospreys and peregrine populations are returning to health, this attack on their habitat will weaken a recovering population and could drive them once more to the brink of extinction from our state.

Dumping dredge spoils on land will also be very harmful to wildlife living along the river. These areas of contaminated spoils become attractive nuisances to wildlife, again exposing them to the toxins. Dredge spoils become another pathway by which toxins can be reintroduced to the River and underground aquifers.

Movement of dredge materials onto Delaware bayshore beaches could lead to loss of horseshoe crab habitat which could in turn accelerate declines in our migratory shorebird populations that are already teetering on the brink. The decline in horseshoe crab populations has already had dire affects on migrating shorebirds, such as the red knot and others dependent upon the eggs or horseshoe crabs during their spring migration. Further damage to horseshoe crab population levels poses an unacceptable risk to the birds at this time when several species are already on the path to extinction because of the horseshoe crab declines.

Deepening will move the River's salt line, threatening to reintroduce oysters to parasites that nearly decimated their populations in recent decades, damaging habitat and threatening reproduction with smothering sediments. The moving salt line, as well as changed circulation patterns resulting from deepening threatens to change freshwater marshes to salt, and to cause the erosion of wetlands that provide key habitat to a wide variety of species.

Many species of wildlife, some of them rare and imperiled, depend on the Delaware River and its environs. Deepening the river will negatively impact their chances of survival.

If you would like to take action on this issue write to your Congressman or Senator and ask them to oppose the Delaware River Deepening.

(Thanks to the Delaware Riverkeeper for helping with this commentary.)

Get Outdoors, New Jersey!

June is Great Outdoors Month and it is a perfect time to explore the natural world in your community. **Get Outdoors, New Jersey** is a new program sponsored by the New Jersey Division of Parks and Forestry in partnership with the Conserve Wildlife Foundation of New Jersey and the New Jersey Division of Fish & Wildlife. Get Outdoors, New Jersey encourages families to unplug from the daily grind and reconnect with the natural world. State parks across the state are hosting fun and interactive outdoor events throughout the month of June. Check out your local state park or forest or visit

www.njparksandforests.org/getoutdoorsnj
for a list of upcoming events.

DID YOU KNOW? Spending time outdoors is vital to our health and well-being. For children, it plays a crucial role in their development. Research on early childhood development proves that unstructured play in a natural setting boosts intelligence, maintains health and well-being, improves concentration, reduces stress, boosts creativity and critical thinking skills, and helps to save the planet. ✨

ENDANGERED SPECIES SPOTLIGHT – Shortnose Sturgeon

1900, stocks of shortnose and Atlantic sturgeon crashed in rivers along the east coast.

Although there are now about 12,000 adult shortnose sturgeon living within the Delaware River estuary, the population faces serious human-induced threats. Water quality contaminants such as endocrine disrupting chemicals (EDCs) have been linked to reproductive and developmental disorders in many fish species. These contaminants were found in shortnose sturgeon tissue collected in 2001 and include PCDDs/TCDFs, DDE,

PCBs and cadmium. Other threats to Delaware River shortnose sturgeon include heavy industrialization and waterfront development, ship/boat strikes, poaching, mortality from commercial

and recreational fishing (bycatch), injury to early life stages from water intake systems, instream construction projects within the spawning area, and dredging, including the ongoing Delaware River deepening project (see *Commentary on page 2*).

Recent work supported by the Endangered and Nongame Species Program (ENSP) confirmed successful reproduction of shortnose sturgeon over an 11 mile reach of the lower non-tidal Delaware River. Researchers identified critical spawning/nursery areas by capturing early life stages (eggs and larvae) using artificial substrates and plankton nets over two seasons. Additional work to determine whether spawning occurs upstream in the Lambertville area, where there is an abundance of suitable substrate and habitat, is scheduled to begin next year. Researchers

will also track juvenile and adult sturgeon fitted with acoustic tags to further determine movement patterns and habitat use in the Delaware River and bay. This new research will supplement existing information on shortnose sturgeon migration and help biologists develop effective protection strategies and ultimately prevent further declines of this fragile species. ✂

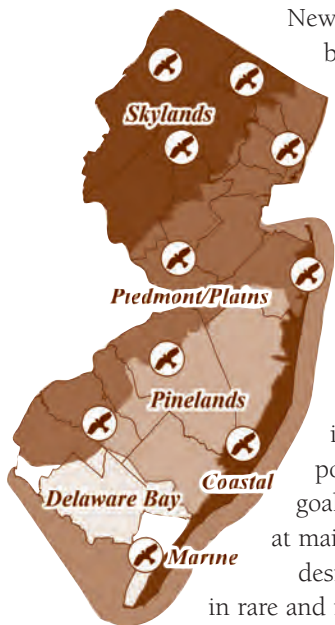
*written by Jeanette Bowers-Altman,
NJ ENSP Principal Zoologist*



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.

Want to help wildlife?

Attend a Wildlife Action Plan Implementation Workshop



New Jersey's Wildlife Action Plan is the blueprint which federal, state and non-profit organizations follow in order to advance rare wildlife conservation across the state through species management, habitat restoration, research, and education. The Plan was developed by the Division of Fish and Wildlife, with help from the general public, conservation groups like Conserve Wildlife Foundation of New Jersey, and other stakeholders. It identifies the threats facing our wildlife populations and establishes long-term goals and conservation actions aimed at maintaining those populations. It is designed to provide anyone interested

in rare and imperiled wildlife with an opportunity to take action and is organized by breaking the state into Landscape Regions which are further divided into Conservation Zones. The 6 Landscape Regions are: Coastal; Delaware Bay; Marine; Piedmont Plains; Pinelands; and Skylands.

Conserve Wildlife Foundation is working with the Endangered and Non-game Species Program to implement the Plan by holding ten workshops this year throughout the state. The objective of these workshops is to assist individuals and organizations currently or planning to carry out projects related to wildlife conservation, education, research, or management within New Jersey understand how their projects may implement the actions specified within the Plan.

Workshop participants will learn more about the Plan and how, by implementing the goals and objectives of the Plan, they may be able to connect their projects with potential sources of funding. Participants will also identify potential partnerships and learn about other projects happening in their region. Ideally, workshop participants should attend the workshop(s) held within the region where their projects occur. This way, biologists may answer questions specifically regarding that region's portion of the Plan.

The half-day workshops are free, but space is limited, so please register early. If you are interested in attending a particular workshop, please contact Mike Davenport at 609-292-3795 or via email to Michael.davenport@dep.state.nj.us. ✂

More information regarding the workshops including dates and locations for workshops, can be found at www.conservewildlifenj.org/protecting/wap/wap_workshops

Conserve Wildlife Foundation Presents Fifth Annual *Women & Wildlife Awards*



Annette Scherer, Senior Fish and Wildlife Biologist with the US Fish and Wildlife Service, receives her award from Larry Niles, Conserve Wildlife Foundation of NJ Consultant and former chief of the NJ Endangered & Nongame Species Program.



Marie Springer, Founder and President of Friends of Walkkill River National Wildlife Refuge, with fellow Friends volunteer Suzanne Murrell

Thank you to our Sponsors of the 2010 Women & Wildlife Awards

Amy S. Greene Environmental
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Princeton, NJ

House Party Supports Terrapin Project

Avid wildlife conservationist and Conserve Wildlife Foundation supporter Geoff Peters hosted a party at his Princeton home to benefit the Terrapin Project. The money raised will be used to install barrier fencing alongside Great Bay Boulevard in Little Egg Harbor. This will significantly reduce the number of terrapin road kills by forcing the terrapins to use the creeks to move from one side of the road to the other and providing a place for them to nest alongside the fence. Over \$2,000 was raised. Conserve Wildlife Foundation is grateful for members like Geoff who open up their homes to introduce friends and neighbors to our organization's important work. Please contact Liz Silvernail, Director of Development, at 609-292-3707 if you, too, would like to host a party to benefit our hands-on efforts to protect New Jersey's rare wildlife. 🦎



Scott and Hella McVay and Kristina and Charles Miller learn more about the Terrapin Project.



Executive Director Margaret O'Gorman presents an Osprey Adoption Certificate to host Geoff Peters to thank him for hosting the party.

Species on the Edge Art & Essay Contest

The winners of the 2010 Species on the Edge Art & Essay Contest have been chosen! From 2,000 entries, 19 winners (one from each participating county) were selected depicting some of New Jersey's rarest wildlife residents from the Northeastern beach tiger beetle to the bald eagle and bobcat. The Contest connects 5th grade students to the rare wildlife that live in their communities and empowers them to take steps to protect these wildlife species.

To see the winning artwork and read the essays please visit

www.conservewildlifenj.org/education/winners/

"Bats are not dirty and creepy and we do not do anything bad to people. In fact, we are an important part of the world's ecosystems. We help people by eating insects such as flies and mosquitoes. Imagine how many harmful insects there would be flying around if we were not around?" - Evelyn Siao writing about the Indiana Bat

"Another reason that I'm endangered is when I look for food I have to go outside the forest. When I went looking for a slimy slug I crossed racecar highway. I almost got run over by 73 vehicles! It was really dangerous. I have to admit though that that slug was so slimy and delicious. One time when my mother and all hers friends went to lay their eggs at the vernal pool, she almost got ran over by a lot of vehicles. Out of 984 of her friends, only 235 survive..."

- Mikayla DeSantis writing about the blue-spotted salamander

"If you were to hike out to a wet, marshy meadow in summer, you would see butterflies darting around. You would see the reflective, shiny silver spots on their hind-wings glinting in the sunlight. Those would be silver-bordered fritillaries, rare butterflies that are found in areas such as central Alaska and southeastern Canada, as well as New Jersey."

- Cindy Song writing about the silver-bordered fritillary butterfly

Species On The Edge



Zachary Dowbnia,
Peregrine Falcon



Diego Nicolalde,
Northeastern Beach Tiger Beetle

In Memoriam: Dr. Carol Slocum



It is with deep regret that we acknowledge the passing of Dr. Carol Slocum on Sunday, April 25, 2010. Carol was a professor within the Marine Sciences Program at the Richard Stockton College of NJ and taught there for three decades. She was the leading expert on seal behavior and ecology in New Jersey, having conducted surveys at the state's largest seal colony with her students since 1994. Carol devoted over 30 years to the service of science and wildlife conservation and was an active and helpful partner to Conserve Wildlife Foundation of New Jersey as well as the state's Endangered and Nongame Species Program. She played a vital role in identifying threats to marine mammals within New Jersey as well as recommending potential solutions to addressing threats to these animals. She will be missed by many in the conservation community.

Conserve Wildlife Foundation staff extend their condolences to Carol's family.

Beaches Are For Plovers Too!

At Conserve Wildlife Foundation, we head to the Jersey Shore before the season starts. We're not going there to stake a good spot on the beach or be first in line for the saltwater taffy. We are going to the Jersey Shore to help protect our wonderful beach nesting birds from the crowds and pets that will soon descend on their carefully chosen nest sites.

Piping plovers, least terns, black skimmers and American oystercatchers all arrive in New Jersey from their wintering grounds when New Jersey's beaches are gleaming and empty of summer sun seekers. From their birds' eye view as they travel along the coast, the beaches look like perfect places to scratch out a depression in the sand and lay their eggs.

But just as the female settles in to incubate the eggs, Memorial Weekend arrives and suddenly the empty stretches of sand are teeming with tourists and the former oasis of calm is now a dangerous place for these imperiled birds. Beach visitors can cause the birds to fly off their nests if they get too close - unleashed pets can do the same. Predators can take advantage of the confusion and swoop in to steal eggs or chicks when the parent birds are distracted.

Piping plovers are federally endangered birds which mean they could become extinct across their entire range in the U.S. Least terns and black skimmers are state endangered meaning their continued existence in New Jersey is in peril. American oystercatchers are considered to be species of special conservation concern and in need of protective action in New Jersey.

Because these populations have the same needs as our human populations, we take action every spring to protect nests and nesting areas and are on hand throughout the summer to help people learn about these beautiful birds and what they can do to help them avoid harm.

In the spring, we rush to the beaches early and help find piping plover nests and least tern and black skimmer nesting colonies. We put up a fence around the colonies and exclosures around the nests. These installations help people see where they shouldn't walk and, in the case of exclosures, help keep predators from stealing the eggs.

Throughout the summer, we deploy stewards to the beaches to tell beachgoers the story of these beautiful birds and let them know how they can protect them by not disturbing them and not



Photo: Bill Dalton

Support our beachnesting bird project and help save piping plover chicks!

letting their pets roam freely. Every disturbance is an opportunity for a predator to steal an egg or chick. Every egg and chick is precious to these populations.

This project is an intensive one. It's carried out by CWF staff and volunteers who spend hours on beaches along the Jersey shore. They look out for these birds and check the nests constantly. They worry about storms and beach raking and careless visitors. They talk to anyone who will listen about the plight of the plover and the amazing wonder of the black skimmer. They will share identification tips and even show people where they can watch the birds without disturbing them.

We are proud of our work on the beach nesting bird conservation project and hope you are too. Your support helps us spend hours on the beaches protecting, engaging and educating. Your financial contribution allows us to cover a lot of ground and connect a lot of volunteers to the effort. It is a challenge every year to maintain this level of intense management but we do it and we do it thanks to our supporters.

As you dust off your beach chair, buy your beach tags and prepare for summer visits to the Jersey Shore, consider contributing to support Conserve Wildlife Foundation in its efforts on behalf of the little birds you'll be sharing the beach with.

P.S. Just use the envelope in the newsletter and indicate your support for beach nesting birds. 🐦



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BEHIND THE SCENES

Larissa Smith, Assistant Biologist

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

The worst part of my job is picking up dead bald eagles which have been reported to us. It is always sad. I also pick up injured eagles, but most times they have a chance to recover and be released.

What is the best thing you get to do?

Being out in the field is always better than sitting at the computer! While checking and posting eagle nests I get to see some pretty and interesting parts of southern New Jersey.

What delights you in your daily work?

I get to work with a group of very dedicated volunteers. I am always amazed at the time and effort people are willing to give our programs.

What is the one tool or resource that makes your job easier?

I don't know what I would do with out e-mail. I am in contact with a lot of volunteers and being able to send out e-mail makes communications a lot easier. I can send out e-mails to a large group of people at once. If I had to call each person it would take up all my time. Plus it cuts back on the amount of paper used when sending letters!

What is the best thing anyone ever taught you?

My parents have volunteered in their community since I can remember. I've learned from them that it is very important to give back by volunteering. Find something that you are passionate about and get involved!

What wildlife "lives" in your office?

Well not right in the office, but outside my window I have a bird feeder. It's always interesting to see the birds it attracts along with Cooper's hawks, squirrels and a fat little ground hog.

What were you doing before you answered these questions?

I was on the phone talking with one of the eagle project volunteers. They were reporting a possible new eagle nest. ✈



Larissa Smith

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* featured reports about Nesting Platforms for Peregrine Falcons, Results from the 2009 Summer Bat Count, and an article about being a Bald Eagle Nest Monitor Volunteer.

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.

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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.

June

First week: Shorebirds begin to leave Delaware Bay for their breeding grounds in the Arctic.

Bats begin to form maternity roosts throughout New Jersey. Females will give birth to one pup. Young bats develop quickly and will be able to fly in about 4 weeks. *Do you know the location of a summer bat roost? Participate in the Summer Bat Count!*

Second week: Peregrine falcon chicks start to fledge, or fly for the first time.

Fourth week: Shortnose sturgeon have migrated to their summer grounds, near Trenton.

July

First week: Blue-spotted salamander larvae begin leaving vernal ponds and disperse to their terrestrial locations in mature hardwood forests.

Second week: Osprey chicks begin fledging. In New Jersey, ospreys nest along the Atlantic Coast from Sandy Hook to Cape May, and along the Delaware Bay and River in Cumberland, Salem, and Gloucester counties.

Fourth week: The timber rattlesnake breeding season begins. Breeding will continue throughout August and into early September.

Female red knots begin their southbound migration from their Arctic wintering grounds.

August

Second week: Wood turtles begin to hatch. Hatching will last through the last week of August. If the young turtles survive, they may live 20 to 30 years.

Third week: Songbirds begin to arrive and pass through the Cape May peninsula on their southbound migration.

Fourth week: Timber rattlesnake females who bred the previous year, begin giving birth to live young. Timber rattlesnakes have soft egg casings that form inside the female. When the young are ready to be born, the egg casings break open and the female gives birth to live young. Hatching will continue through early September.

Bog turtle eggs begin to hatch after an incubation period of 48 to 58 days.