

**Endangered and Nongame Species Program
Monthly Report for 16 October - 15 November 2024**

Staff:

Kathy Clark, Chief
Christina “Kashi” Davis, Principal Zoologist
Gretchen Fowles, Research Scientist II
MacKenzie Hall, Environmental Specialist II
Emily Heiser, Senior Zoologist
Alex Kisurin, Assistant Biologist/Aquatics
Kim Korth, Assistant Biologist/Planner
Sharon Petzinger, Senior Zoologist
Bill Pitts, Senior Zoologist
Melissa Roach, Biologist Trainee
Kris Schantz, Principal Zoologist
Robert Somes, Senior Zoologist
Brian Zarate, Principal Zoologist
Robert Criollo, CWF Biotics
Daniel Turcios, CWF Biotics

Administration – K. Clark

K. Clark worked on planning and policy issues and regional actions as part of the Northeast Wildlife Diversity Managers technical committee.

Landscape Project –

Staff completed tasks and review of revised Landscape Project mapping. The revision will be released concurrent with the species status changes adoption.

Technical Guidance & Policy/Planning – all staff

Staff reviewed and consulted on DEP land use permit applications, energy project reviews, and internal NHR land projects.

Staff continued to work with the Office of Environmental Review to address issues with DEP units conducting permit and plan reviews. Staff assisted in making suggestions for site remediation rules that would improve compliance with ENSCA.

Biotics Database – G. Fowles

Biotics staff continued the ongoing work of processing rare species data from NJ Wildlife Tracker into Biotics. Biotics staff also continued to work on building species specific range maps for the State Wildlife Action Plan update.

Connecting Habitat Across New Jersey (CHANJ) – G. Fowles, B. Zarate, M. Hall

B. Zarate and G. Fowles attended the NJ Conservation Blueprint Steering Committee meeting and gave a presentation on the CHANJ project and the need for more protection of CHANJ corridors particularly in central NJ and examples of layers available in CHANJ to help with targeting of acquisition.

B. Zarate, M. Hall, and G. Fowles attended the County Engineers Meeting, along with S. Olivera from the Division of Land Resource Protection and gave a presentation on the CHANJ project, with a focus on effective road/wildlife mitigation design.

The CHANJ Team also met with Green Acres to continue to talk through how to continue to collaborate more together and to meet periodically as a check in on progress to date. Green Acres has begun making maps with CHANJ mapping identified in relation to offered parcels for offer packages sent to their negotiators. The CHANJ Team also met with a representative from American Farmland Trust who reached out after the Blueprint Steering Committee meeting, to talk through collaborating more regarding ways in which they might be able to help preserve critical CHANJ areas.

G. Fowles met with other state natural resources and transportation agency representatives on the Northeastern Transportation and Wildlife Conference Steering Committee (NETWC) to talk through the option of putting together a FHWA Transportation Pooled Fund to support NETWC going forward.

Habitat Conservation Management on Public Lands – All staff

No new report.

Species Status Review – K. Clark

The species status changes proposed in June are scheduled for adoption in December.

State Wildlife Action Plan – K. Korth

K. Korth had several meetings with database contractor.

ENSP staff reviewed and edited, by region, the actions submitted by F&W staff, NHP, and partners. Staff used the action template to ensure actions were written consistently. K. Korth worked on a final review--consolidating and editing all actions submitted thus far. K. Korth continues to work on statewide actions and incorporating actions from regional plans, USFWS program plans, and ENSP's federal aid grants.

R. Criollo and D. Turcios revised and presented range maps to ENSP staff that incorporated occurrence data and "likely present" data provided by biologists. Staff approved the layout after minor changes. A meeting to discuss the range maps with Marine Fisheries is necessary as the range map methods used for terrestrial and freshwater fish did not work for marine species.

Purchase order to pay our contractor to complete data management needs and website design was approved. K. Clark, DJ Case, I&E, and OIT staff met to discuss next steps to begin work.

K. Korth continues drafting content for the digital-enabled SWAP, including working with seasonals on Species Profiles; and participated in the NE Regional SWAP Coordinator's monthly meeting, and the NE Database Steering Committee Meeting.

HERPTILES

Snake Fungal Disease – K. Schantz

No new report.

Snakes – K. Schantz

The technical committee completed the review of proposals for the Eastern Copperhead Survey Technique Development and Assessment grant. The grant has been awarded to the Friends of Hopewell Valley Open Space. K. Schantz is working with DEP's Grants and Loans office to develop the grant agreement.

ENSP personnel are working with the DEP Bureau of Solid Hazardous Waste to coordinate the timing of a potential landfill closure with an ENSP study to assess the impacts on listed snake species inhabiting the landfill.

ENSP is contracting Tyler Christensen (a copperhead researcher) to conduct field-site visits with Biotics personnel to dens and gestation sites/rookeries he has discovered over the past nine years to GPS the outer boundaries of each complex, encompassing the various den holes and crevices within. During these visits, Biotics personnel will also assist the ENSP in cataloging sites with photographs for future use.

K. Schantz has continued to gather time/mileage sheets from the Venomous Snake Response Team. Additionally, she has been working to update the list of pre-approved venomous snake monitors; personnel deployed during construction and maintenance activities.

SGCN Turtles – B. Zarate and B. Pitts

B. Zarate participated in regional bog turtle calls this month, including kick-off for the coordination of a Hudson-Housatonic Recovery Plan meeting, being planned and scheduled for early/mid-December. These recovery unit meetings are held about once every two years. There were no meetings for wood, spotted, or box turtle this period.

NJ remains interested in applying for a single state Competitive-SWG to continue and expand work on box turtles in the Pinelands region, in coordination with the Pinelands Commission. The NOFO for this grant was announced this period and more detailed planning will take place during the next reporting period.

B. Zarate started review of the draft 2026 Fish Code, in coordination with management and Bureau of Freshwater Fisheries, to update the code in relation to changes to snapping turtle regulations and harvest.

ENSP turtle seasonals began fall wood turtle surveys this period. Standardized surveys are being conducted at three transects this fall as part of our overall demographic assessments where each transect receives nine total visits (3 spring, 3 fall, 3 spring).

The box turtle "re-wilding"/release/repatriation project continued and included ongoing weekly tracking of all released turtles. The warmer weather seems to be keeping turtles active for longer than expected this time of year, particularly towards the end of this reporting period. While a subset of the tracked turtles showed decreased movements week to week, a good portion are still active. All turtles will be tracked to their brumation/overwintering site and then monitored once every 1.5 months over the dormant period. We plan to record data on brumation characteristics, such as depth below ground level sometime in December or January, or absent snow cover. F&W I&E Bureau released a video about the project: https://youtu.be/N_jFt5rKSnk?si=Dtutxy3XA9Ze0SkS.

Eastern Tiger Salamander – B. Pitts

B. Pitts and A. Kisurin met with staff from Cornell University, who have been doing eDNA work in Long Island, NY. ENSP is planning to swab adults this winter to test against NY's assay to determine its suitability for use in NJ. Staff from the Division of Science and Research were also on the call and expressed interest in supporting the project with supplies and staff time.

B. Pitts met with Conserve Wildlife Foundation (CWF) staff to discuss deployment of Visible Implant Elastomers (VIE) at our translocation project site in Cumberland County. CWF staff will contribute supplies (VIE, syringes, gloves, etc.), and assist monitoring water levels.

Monthly regional working group calls resumed in November. State biologists discussed the possibility of forming a regional eDNA project. ENSP will follow up over the winter to determine the scale of the project for the winter of 2025-26.

Diamondback Terrapins - B. Zarate

Coordination calls picked up this month related to the active Northeast RCN terrapin project, specifically Job 1, which is standardized headcount surveys from land or from water. NJ will identify land and water routes for these surveys that will be surveyed primarily by volunteers to generate match for the overall grant.

MAMMALS

Bobcat Project – G. Fowles

There were 4 reported roadkilled bobcats during the reporting period. Staff were able to collect two of the carcasses. Necropsies were performed and samples taken. Fifteen tissue samples (including 5 from a collaborator in NY) and 13 scats were sent to the National Genomics Center for Fish and Wildlife during the reporting period for genetic analysis. About 60 canines were extracted from bobcat jaws collected over the past two years in preparation to be sent to Mattson's Lab for aging.

Rodenticide results were received from the PA Animal Diagnostic Laboratory System from bobcat liver samples collected during necropsy between 2021 and 2024. E. Miller and G. Fowles compiled the results and sent along to collaborators at UNH to provide an update of previous results sent to incorporate into a regional analysis of rodenticide exposure amongst mesocarnivores in the Northeast region. Frequency of exposure has increased in the last 4 years compared to previous years.

G. Fowles coordinated with the BWM in preparation for furbearer trapping season and bobcat response. G. Fowles also met with E. Miller regarding additional health assessment measures that could be collected from bobcats.

G. Fowles attended The Wildlife Society meeting in Baltimore and was co-author on a poster presented by a University of Delaware graduate student entitled "Use of highway underpasses by bobcats in New Jersey." G. Fowles also participated in a Conservation Dog working group and symposium led by the new working group.

G. Fowles wrote a summary of bobcat research in New Jersey for the new State Museum exhibit and provided research materials for display.

Bat Conservation – M. Hall

With the recent federal endangered listing of Northern Long-eared Bat and the proposed endangered status of Tricolored Bat, M. Hall met with regulatory staff and researchers at the NJ Pinelands

Commission to share natural history details, known occurrence areas in NJ, and an overview of research and conservation projects for these species. The Commission's research team offered to assist with acoustic data collection within under-surveyed parts of their jurisdiction to help fill in knowledge gaps for these two bat species (and others), so ENSP is coordinating a plan with them.

We also had meetings with the USFWS NJ Field Office and NJDEP's Watershed & Land Management staff regarding the Service's guidance and NJDEP's review of land use applications related to Northern Long-eared and Tricolored Bats.

M. Hall and K. Clark met with staff of the NJ Forest Service and USFWS to discuss next steps toward developing a Bat Habitat Conservation Plan for state-owned and state-funded forest management activities in NJ. The process is expected to take approx. 5 years and will create workable and predictable restrictions around imperiled bats, like avoiding certain activities during the pup-rearing season, protecting roost trees and hibernation sites and promoting habitat enhancement.

Allegheny Woodrat – G. Fowles

G. Fowles attended The Wildlife Society Meeting in Baltimore and was co-author on a podium presentation given by a Towson University geneticist, entitled "Detecting Sex-biased Dispersal Amid Human-mediated Gene Flow in Allegheny Woodrats." G. Fowles also went on a tour, along with other members of the regional woodrat working group, of the new captive breeding Allegheny woodrat facility at the Maryland Zoo in Baltimore.

BIRDS

Colonial Waterbirds – C. Davis

C. Davis finalized the results of the spring aerial survey and expects to post it on the website within the next few weeks. She finished working with the Division of Science and Research on a separate report on a select number of colonial waterbirds, which is the Department's Environmental Trends report. C. Davis continued to work on spatial data from this survey, completing the dataset which will be entered into Biotics. She continued to work on the dataset that will be entered into the AKN (Avian Knowledge Network) for the regional survey effort across the coast.

C. Davis and E. Heiser also continued to work on planning efforts for a habitat enhancement project in Hoboken for Common Terns nesting in an urban environment.

Beach-Nesting Birds - C. Davis & E. Heiser

The 2024 Beach-Nesting Bird Reports were published in early November. The reports can be found on the NJFW website on the [Beach-Nesting Bird page](#). In summary, 89 pairs of Piping Plovers nested in New Jersey (the lowest recorded pair number since intensive monitoring began in 1987).

Productivity was low at 0.54 fledglings/pair (the federal recovery goal is 1.50 fledglings/pair). The majority of birds are concentrated on federal lands which both suffered pair declines and poor productivity in 2024. NJFW-monitored sites on municipal and state lands fared better than federal sites but these sites are unable to maintain a viable population without significant habitat restoration and regulatory protective efforts in the future.

Colonial nesting species such as Black Skimmers and Least Terns were concentrated at only a handful of sites in 2024 which continues to be concerning for managers. Black Skimmers were found breeding at three sites in 2024, the lowest ever recorded since 1976. Black Skimmer productivity was moderately high this year with few issues at sites. The bulk of the population is located at Horseshoe Island. Least Terns were spread across 11 nesting colonies which is the lowest recorded for this

species since 1976. Productivity was low with the most fledglings coming from The Nature Conservancy property at South Cape May Meadows.

American Oystercatchers are intensively monitored in the state due to their prevalence at highly recreated and disturbed municipal beaches. The species fared well with 207 pairs monitored across the Atlantic beach-strand, Delaware Bayshore and a handful of marsh-nesting sites (the majority of Oystercatchers nesting in the marsh are not monitored). Productivity was high for this species at 0.51 fledglings/pair (recovery goal set by the American Oystercatcher Working Group is 0.50 fledglings/pair).

The annual statewide Beach-Nesting Bird meeting, organized by ENSP staff, will be held on December 17, 2024. A comprehensive report on nesting and the management of Horseshoe Island will be available in early 2025.

Bald Eagle Monitoring - M. Roach

While the breeding season does not officially begin until Jan. 1, Bald Eagles are already beginning the early stages of nesting. There have been multiple reports of territory disputes (with eagles talon-locking and falling onto the ground or into water) and nest maintenance (bringing in sticks).

Four more eagle necropsies have been completed. Two deaths were from electrocutions; two were from impact or fight trauma.

The final details of the annual eagle report are being wrapped up.

Peregrine Falcon Monitoring – M. Roach

No significant updates.

American Kestrel – B. Pitts

B. Pitts installed two new nest boxes with staff and volunteers from Readington Township as a part of their multi-year project to install 20-50 new nest boxes on township properties and Preserved Farmland throughout the Township.

Osprey Monitoring – M. Roach

No new update.

Other Raptors – M. Roach

As migration continues, there have been more reports of injured or dead raptors.

M. Roach spent a number of days at the Cape May Raptor Banding Project station with project president P. Napier, learning about the project and getting hands-on experience with a number of species including Sharp-shinned Hawk, Cooper's Hawk, Northern Harrier, and Red-tailed Hawk.

Migratory Shorebirds – B. Pitts

No new report.

Secretive Marsh Birds – C. Davis and E. Heiser

C. Davis and E. Heiser held a NJ Black Rail & Saltmarsh Sparrow meeting on November 13. The meeting provided updates on ongoing work with Black Rail and Saltmarsh Sparrow for partners

across the state. It was a good forum for information sharing on new and novel techniques to monitor secretive species and their habitat, and a recording of the meeting can be found [here](#). C. Davis finalized a report on Black Rail for the 2024 field season and expects to post it on the website soon.

Scrub-shrub/Open Field birds (GWWA) – S. Petzinger

S. Petzinger virtually attended the monthly GWWAG (Golden-winged Warbler Working Group) meeting.

S. Petzinger completed and submitted the summarized NJ golden-winged warbler (GWWA) data to USFWS to inform the GWWA Species Status Assessment.

In summary, competition with blue-winged warblers (BWWAs) is not the likely cause of GWWA breeding population declines in NJ. Instead, urban development and natural succession, which have caused the loss of suitable nesting and post-fledging habitat, were likely the main causes of the GWWA population declines and shifts in the breeding distribution in NJ. These declines were likely exacerbated by lower productivity rates (average 0.95) in powerline rights-of-way (ROWs), where the majority of GWWAs nested as the other areas with suitable nesting habitat were lost, which was further complicated by hybridization with BWWAs. The lack of suitable post-fledging habitat within dispersal distance of existing nesting habitat likely reduced juvenile survival, thus reducing the likelihood of new breeding adults returning to NJ the following spring. During years when weather events or other factors resulted in higher adult mortality rates during migration or wintering, the reduced number of adults returning to their breeding territories coupled with a reduced number of juveniles surviving likely resulted in a sharp decline in breeding adults from one year to the next.

Natural succession, lack of forest disturbances, and forest mesophication have altered and continue to alter the forest composition and structure unfavorably for breeding GWWAs in NJ. Because of the lack of large, privately-owned parcels and the difficulty in implementing forest management on public lands, conservation efforts to create GWWA habitat in NJ were generally small in size (<10 ac) and scope (<50 ac created each year). Because of that, while the conservation efforts implemented to address the loss of GWWA breeding habitat helped to slow the GWWA population decline in NJ, these efforts were not enough to reverse declines.

If nothing changes to facilitate the creation of GWWA nesting and post-fledging habitat in NJ, the breeding population will become extirpated and have little chance to recover. Other species dependent on similar habitats, such as Canada warblers, Kentucky warblers, prairie warblers, and even blue-winged warblers, will also continue to decline.

Regional & National Bird Coordination – S. Petzinger

S. Petzinger virtually attended the quarterly CWTG (Cerulean Warbler Technical Group) meeting.

S. Petzinger virtually attended the monthly AMJV (Appalachian Mountain Joint Venture) bird monitoring meeting.

S. Petzinger updated the movements of Wood Thrush nanotagged in NJ during the breeding season. By 10/26/24, 17 of the 20 tagged individuals had begun migration, and seven were detected in Belize.

INVERTEBRATES & AQUATICS

Butterflies, Dragonflies and other Insect Species – R. Somes

R. Somes met with seasonal and State Park staff to plan Frosted Elfin Management work for the 2025 field season in several locations in Cape May County. We conducted habitat assessments of several potential management sites.

R. Somes attended an Appalachian Grizzled Skipper Conservation Working Group meeting to plan work for the 2025 field season and review the results of the 2024 field season. R. Somes attended the Annual Meeting of the Newark Entomological Society.

Pollinators – R. Somes

R. Somes met with NJ State Forest Service staff to plan work for the 2025 planting season. We also met to discuss pollinator habitat management at the State Nursery.

Freshwater Mussels – R. Somes, A. Kisurin

A. Kisurin conducted investigative field surveys at locations with historical and recent observations of Paperpond shell (*Utterbackia imbecillis*). Surveys conducted in Howell Township found individual Paperpond shell valves alongside large populations of invasive Apple snails (*Ampullariidae sp.*), a common aquarium species known for dominating waterbodies. Surveys conducted in Middlesex NJ identified Paperpond shell valves and healthy populations of Giant Floater (*Pyganodon grandis*), a recently discovered species in the Raritan/Millstone drainage, present. Additional locations that were not conducive to surveys this time of year due to issues like dense leaf litter and active harmful algal blooms will be revisited.

R. Somes met with Hackettstown State Fish Hatchery staff to survey the site for freshwater mussels. Extensive surveys of the ponds and impoundments failed to detect any mussel populations at the site.

eDNA TECHNOLOGY – A. Kisurin

A. Kisurin participated in the monthly Government eDNA Working Group (GEDWG) meeting, which included discussions on vernal pool inhibitors and eDNA signatures in preparation for the upcoming Tiger Salamander (*Ambystoma tigrinum*) eDNA project. Preparation for the project includes a comprehensive literature review of established methodologies for analyzing eDNA signatures in Pinelands vernal habitats, which are characterized by humic acids known to inhibit eDNA detection. Additionally, feasibility and cost analyses are being conducted to refine the project's scope and identify the research questions that can be effectively addressed.