



# Wildlife Diversity Program

# 2020



PENNSYLVANIA  
WILDLIFE ACTION PLAN

**Highlights!** Rare wetland bird populations documented, new responses developed to combat a devastating bat disease, and improving public information tools for conservation.

These are some of the diversity solutions to broad challenges faced by the wildlife in our care. After **20 years** of support from State Wildlife Grants, we have celebrated major successes and face the continuing challenges.

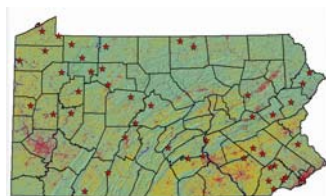
## Wildlife movements tracked with Motus network

Wildlife migration is almost magical! Millions of birds, bats, and even insects move annually between summer and winter homes, sometimes over thousands of miles. Our ability to



conserve these species requires an understanding of the threats they face throughout their annual cycles. The Motus Wildlife Tracking System (Motus), established in 2013 by Birds Canada, is providing new tools to reveal the secrets of migration through a network of receiver stations tuned to detect radio-transmitter nano-tags ([Motus.org](http://Motus.org)). We have

partnered with the Northeast Motus Collaboration by adding 45 towers to this international network of nearly 600 active receiver stations. We innovated the placement of lines of towers across



Pennsylvania to intercept tagged animals moving along the Appalachian Mountains. Similar tower arrangements are being deployed in New England and the US Midwest.

Endangered northern long-eared bats found here in summer appeared to remain through the winter! Tags also lead to possible new Indiana bat hibernacula. Over 70 species (birds, bats, and butterflies) have been detected by Pennsylvania



receivers; each adding to our understanding of the marvels and risks of migration. Two wood thrushes tagged on winter homes in Nicaragua were detected in Elk County the following spring. We can better protect thrushes knowing where they spend the winter months.



Blake Goll, Willistown Conservation Trust

Declining shorebirds, like the dunlin (*shown to below*) were tracked flying over Pennsylvania between their Delaware Bay stopover sites and Arctic breeding grounds. The Motus network has



recorded millions of wildlife locations, and continues to generate more movement discoveries with new tags coming to a tower near you! This research will inform conservation practices.

Our team is developing educational materials. The Motus Education ([motus.org/education](http://motus.org/education)) program brings the exciting, real-world science and interactive tracking of the Motus Wildlife Tracking System to the classroom. Program materials offer a progression of interactive activities, providing a context for bird migration and science through a conservation lens. The activities are teacher-facilitated, and can be delivered as a package, or adapted to meet STEM requirements for K-12 education and student interests.



Scarlet Tanager, Jacob Dingel, PGC

Hundreds of species need conservation attention and navigating all of their needs is daunting. Our Wildlife Action Plan map, the **Conservation Opportunity Area Tool**, integrates the needs of over 510 species down to 10-acre locations. Habitat requirements and suggested conservation actions digest this vast information for everyone. Major data updates were completed last year; use of this tool is growing rapidly. Check it out at [WildlifeActionMap](http://WildlifeActionMap).

## Marsh Bird Survey

### A Community Science Initiative

Surging interest in outdoor activities during 2020 helped fuel remarkable participation in a challenging survey of secretive marsh birds. Wetland habitats support many of



Least Bittern nest

Pennsylvania's endangered and threatened species, but these species (bitterns, rails, grebes, and gallinules) are rarely reported because they call infrequently, and inhabit dense, often

inaccessible, emergent wetlands. The difficulties in monitoring wetland bird populations makes our 2020 Marsh Bird Survey such a roaring success. We deployed new technology to engage community scientists and

Game Commission staff, including a custom smartphone application with mapping and data recording tools. The project turned out to be the ideal pandemic activity – socially distanced and close to home. The result was completion of nearly 1000 surveys, detection of eight secretive species, and documentation of many important wetland habitats. Endangered species were found in locations never before reported, such as a least bittern nest found on a State Game Land in Lycoming county. This survey provided one of the most comprehensive assessments of the distribution and abundance of Pennsylvania's rare marsh bird species including eight Species of Greatest Conservation Need and three Pennsylvania endangered species.



Least Bittern, Jacob Dingel, PGC

## QUICK TAKES

↪ For the 4th year, the federally endangered **piping plover** nested successfully at Presque Isle State Park. The nesting female, along with the 4 chicks, were color banded for future identification. One of those color banded young was spotted wintering in Florida (*photo inset*).



@ Danny Sauvageau

↪ Pennsylvania's first ever "standard" **North American Wetland Conservation Act** grant received tentative approval. Submitted by Ducks Unlimited, partnering with the Game Commission and others, the \$1 million award will enhance or restore 1,675 acres of wetland habitat across northern Pennsylvania.

↪ **Wood Thrush project** – A 3-year study of management practices in mature forests is coming to an end. Two graduate students tracked bird populations and nesting productivity to understand the long-term declines in wood thrush populations. Baseline surveys were established at experimentally manipulated forests to fine-tune recommendations for private forest landowners.

### ↪ Woodrat habitat

was enhanced with 278 dump truck loads, totaling 924 tons of large rocks, donated by PennDOT to three sites in southern Huntingdon



County. This newly created habitat provides connectivity for active woodrat sites. The site will be monitored with baited camera traps.

### ↪ Preserving bat populations.

We are pioneering another response to White Nose Syndrome, the devastating bat disease, . A familiar compound, Poly-Ethylene Glycol 8000 (PEG 8000), is being tested to treat mines used by bats for hibernation. PEG 8000 stresses the fungi, thereby preventing its growth,

and reducing the spread of WNS in

hibernating bats.

Preliminary results found a 65% reduction in infected bat wing tissue at treated sites over 2 years. This gives bats a leg up in surviving the disease.

We plan to expand the effort to other sites.

