

PENNSYLVANIA'S STATE WILDLIFE GRANTS PROGRAM SUMMARY

This Wildlife Action Plan promotes and champions Pennsylvanians working together to attain sustainable wildlife populations, communities and ecosystems and to prevent and reverse the declines of species.



Golden Eagle, Todd Katzner/National Aviary



Green Salamander, Tom Diez, PFBC

Susquehanna River-Chickies Rock, Art Michaels, PFBC



Spotted Turtle, Dr. Tim Maret- PA Biological Survey



See: [Pennsylvania's Wildlife Action Plan](#)

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Pennsylvania-A Home for Wildlife

Pennsylvania straddles many ecological systems and exhibits a diversity of habitats supporting species from northern and southern climates, lowlands and uplands, and grasslands and forests. The Commonwealth is at an ecological crossroads and thus plays a pivotal role in conserving many species and habitats, resident and migrant, common and rare. For this reason, the strategies and priorities identified in Pennsylvania's Wildlife Action Plan incorporate the needs of Pennsylvania Responsibility species and their associated habitats.

Pennsylvania's ecosystems include:

- An estuary on the Delaware River,
- Woodlots and wide agricultural valleys in the southeast,
- Deciduous forests from the central ridges,
- Extensive mixed forest of the Allegheny high plateau,
- Glaciated woodlands and wetlands, and
- Lake Erie in the northwest.

Terrestrial Habitats: Predominant are expansive hardwood forests, covering more than 62 percent of the landscape and hosting world-renowned timber and wildlife values. These forests provide critical wildlife habitat for abundant white-tailed deer and a dazzling array of neotropical migratory songbirds.

Aquatic Habitats: The Commonwealth lies within parts of six major river basins: Ohio, Lake Erie, Susquehanna, Potomac, Genesee, and Delaware river drainages, and contains numerous wetlands, nearly 4,000 lakes and more than 83,000 miles of waterways, ranging from high-gradient coldwater streams to large, warm water rivers. These waters support a high diversity of fish, freshwater mussels and other aquatic life, dependent upon Pennsylvania's management and protection efforts.



Planning Approach

The protection and management of Pennsylvania's fish and wildlife, and their habitats, and the incorporation of human interests are the basis for the five guiding principles of the Wildlife Action Plan. These principles include:

- **Conserve At-Risk Species.** Species exhibiting warning signs today at the local level must be conserved before they become imperiled at the regional, national or global level.
- **Keep Common Species Common.** Native wildlife species must be retained in healthy populations throughout their natural ranges to maintain their role in ecological processes.
- **Recognize the Unique Role of Pennsylvania.** Strategies and priorities incorporate the needs of species and their associated habitats for which Pennsylvania holds particular responsibility.
- **Foster Voluntary Partnerships for Species, Habitats and People.** The resources of public and private organizations throughout the Commonwealth must be aware of this effort – common contribution to common values.
- **Develop a Comprehensive Strategy.** The State Wildlife Action Plan strategies and priorities are presented at the species, habitat, and species-suite levels. This framework allows the diverse stakeholders to gather information and provide input regardless of their scale and scope of interest.

Pennsylvania's Wildlife Action Plan was funded by State Wildlife Grant funds provided by the U.S. Fish and Wildlife Service through Grant No. T-08.

Pennsylvania's Wildlife Action Plan

Pennsylvania's Wildlife Action Plan is a major achievement in natural resources management. It serves as a valuable blueprint for agencies and non-governmental organizations to cooperatively and proactively address the concerns of our species of greatest conservation need. Integral to this planning effort are actions to recognize increasing threats to these species such as habitat fragmentation, water quantity and quality, and invasive species. The health of wildlife is often an early indicator of disease and pollution that affects humans. Investing in species of greatest conservation need is a proactive approach to protect both wildlife and humans. The significance of the need is reflected in the number of extant species and the number of species of greatest conservation need (see table at right).

Pennsylvania's Species		
Wildlife Category	Total Number of Species	Species of Greatest Conservation Need*
Mussels	65	41
Snails	>170	52
Crayfish	13	4
Insects	>10,120	312
Fish	194	53
Amphibians	36	10
Reptiles	37	16
Birds	394	44
Mammals	73	13
Totals	>11,102	545
*Excludes species of greatest conservation need listed in the "maintenance" category.		

WILDLIFE HIGHLIGHTS

ASSESSING CONSERVATION NEEDS OF EASTERN GOLDEN EAGLES IN PENNSYLVANIA (T-12)

Objective: To determine flight elevations and migration routes of golden eagles in Pennsylvania and identify areas of potential conflict that migrating eagles face from the developing wind energy projects.

This project uses state-of-the-art satellite telemetry to track eagle movements and deliver the information, from free-flying birds, directly to researchers via the Internet. This will provide critical information on flight elevations and routes used by migrating eagles and how they are influenced by topography and meteorology. This study was initiated in November 2006, when two golden eagles were captured near Central City and fitted with transmitters to verify the feasibility of this telemetry project. For this study, the Pennsylvania Game Commission is partnering with the National Aviary, Carnegie Museum of Natural History, and Lafayette College.



Golden eagle with radio transmitter (left)
(Todd Katzner/National Aviary)



Golden eagle, Todd Katzner/National Aviary

These birds have been transmitting signals and their movements can be viewed at www.aviary.org/csr/eaglePA.php.

Since all known eastern golden eagle migratory routes track over the Appalachian Mountains, possibly along, or in close proximity to ridges targeted for wind-power development, the Game Commission must ensure the well-being of this state and federally-protected species- as well as other wildlife- as this growing industry sites turbines between the state's Allegheny Front and Blue or Kittatinny Ridge. Pennsylvania's ridge and valley province plays an important role as a migratory corridor for eastern golden eagles and is anticipated to provide for wind power development.

PADDLEFISH POPULATION STATUS, ABUNDANCE, AND RESTORATION PLANNING (T-13)

Objective:

This project was designed to determine the relative abundance of juvenile and adult paddlefish in the Ohio and Allegheny rivers and to develop a comprehensive Paddlefish Management Plan for Pennsylvania. Through extensive fish sampling, Drs. David Argent and William Kimmel along with technicians from California University of Pennsylvania and assistance from Pennsylvania Fish and Boat Commission biologists, have recently concluded one phase of a project to assess initial paddlefish re-introduction efforts.



Paddlefish held by Dr. David Argent

photo-Justin Welker, California University of Pennsylvania

As contemporaries of the dinosaur, the paddlefish's recovery may serve as an important barometer for the Three Rivers' health. (Dr. David Argent, California University of Pennsylvania)

Key Findings:

- ❑ Prior to this work, there were few known, recent occurrences of paddlefish in these rivers.
- ❑ Free-ranging, sexually mature fish were collected following stocking, but in very low numbers, indicating the potential exists for natural reproduction.

Recommendations:

- ❑ Stock larger fish to minimize predation from walleye and flathead catfish.
- ❑ Concentrate the stocking efforts in suitable habitats.
- ❑ Continue to pursue the development of this fishery and its potential as a sustainable resource in the Commonwealth.



Measuring Paddlefish

photo – Dr. David Argent, California University of Pennsylvania

Pennsylvania's Wildlife Action Plan - Goals for Protection

In collaboration with our partners, the Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission are actively addressing the five overarching statewide goals identified in the planning process. Here are some ways we are pursuing these goals.

GOAL 1: Improve the scientific basis for making conservation decisions for wildlife with special emphasis on species of greatest conservation need.



Hellbender (juvenile)
Dr. Peter Petokas, Lycoming College

Often Species of Greatest Conservation Need (SGCN) are difficult to detect because they are cryptic, in low abundance, are in habitats difficult to sample, or occur in very few known locations. Understanding the population structure, the habitat requirements and other factors affecting their survival are critical information needs for protection and management. In the PA Wildlife Action Plan, these information needs are identified as priorities. Consequently, we are funding several projects designed to assess the status of species or assemblages. Examples include:

- *Eagles Satellite Tracking Of Migrating Golden Eagles*
- *Assessing Paddlefish Re-introduction in Pennsylvania*

Status of the Eastern Hellbender in the W. Br. Susquehanna River (T-34)

GOAL 2: Plan, prioritize, and implement actions that will conserve the state's diversity of wildlife and its habitat.

Building upon Goal 1, projects are underway to manage habitats for enhancing survival of two high-priority Pennsylvania species, the eastern massasauga rattlesnake and bog turtle. For the massasauga, through findings from State Wildlife Grant-funded projects, we now have a more complete understanding of the current distribution and habitat conditions. Complementary studies will incorporate the knowledge of massasauga habitat requirements to experimentally assess effectiveness of management practices.

GOAL 3: Develop a knowledgeable citizenry that supports and participates in wildlife conservation.

Developing a Conservation Assembly: Maintaining a dialogue with constituent groups is vital for continued success in implementing Pennsylvania's Wildlife Action Plan. In Pennsylvania, non-governmental organizations, along with support from agencies, have outlined a process for a statewide wildlife summit or "Conservation Assembly" which will use the Wildlife Action Plan as the foundation for this information exchange. Funding is being



Yellow warbler, Joe Kosack, PGC

Movement and habitat usage by the eastern Massasauga rattlesnake in Pennsylvania (T-17)



Radio-tracking massasauga rattlesnakes



Massasauga rattlesnake

photos-
Matt
Kowalski,
Western
Pennsylvania
Conservancy

sought from a variety of sources to fully develop this effort which will include a series of regional meetings and a statewide convention. This ongoing communication will help maintain Pennsylvania's Wildlife Action Plan as an operational instrument of conservation.

GOAL 4: Ensure necessary resources are available to conserve Pennsylvania's wildlife.

The Pennsylvania Wildlife Action Plan provides the foundation for coordination with other agencies and non-governmental organizations. Funding for SWG project implementation is bolstered through collaboration with other agencies (e.g., USDA-NRCS programs such as WHIP, WRP, CREP), non-governmental organizations (e.g., American Rivers) and local agencies. For example, dam removal to enhance fish passage and improve habitat can benefit species of greatest conservation need. Proposed projects include collaboration with the PA Department of Conservation and Natural Resources for habitat improvement in lakes and the use of volunteers for implementation. The contribution of thousands of volunteer hours by the state's birders links this expertise with needed statewide surveys of breeding birds, wintering eagles, and others.

GOAL 5: Expand and improve coordination of public agencies and other partners in wildlife conservation planning and implementation.

The Wildlife Action Plan serves as a blueprint for conservation actions and for focusing planning, research, and implementation priorities. This focus is a key communication tool with other agencies, research institutions, and organizations. Other programs such as the U.S. Fish and Wildlife Service, Landowner Incentive Program (LIP) and national efforts such as the National Fish Habitat Action Plan incorporate the tenets of the State Wildlife Grant Program into their initiatives. Overall, this plan helps us fulfill our responsibility to conserve wildlife and the places where it lives, for future generations.

HABITAT HIGHLIGHTS

Habitat Conservation and Management

A critical component of species protection is habitat protection and management. The goals for habitat include:

GOAL 1: Improve the Scientific Basis for Making Conservation Decisions for Wildlife, with Special Emphasis on Species of Greatest Conservation Need.

A project recently initiated to determine the extent of habitat for species of greatest conservation need, is based in geographic information systems (GIS) and will provide a more precise delineation of the preferred habitats for high-priority species. These “conservation polygons” will provide resource managers with the information needed to protect and manage these critical habitats and associated species, thus increasing the efficiency of conservation funds to specific areas.

GOAL 2: Plan, Prioritize, and Implement Actions that will Conserve Pennsylvania’s Diversity of Wildlife and its Habitats.

Regionally, Pennsylvania, along with 12 other northeastern states and the District of Columbia, are collaborating in a Doris Duke-funded “Habitat Mapping and Classification” project administered by the National Fish and Wildlife Foundation in support of each states’ Wildlife Action Plan. This project will compile data and standardize an approach for terrestrial and aquatic habitat classification in the northeastern United States, providing important information for species management.

GOAL 3: Develop a Knowledgeable Citizenry that Supports and Participates in Wildlife Conservation.

The Pennsylvania Game Commission has established, and the Pennsylvania Fish and Boat Commission is currently developing, a Private Land Habitat Assistance Program focused on species of greatest conservation need and their habitats. These programs, funded with State Wildlife Grant and Landowner Incentive Program funds, are critical to implementing management actions.

American Eel Inventory in Delaware River tributaries (T-31)

Photos-Dr. Richard Horwitz, Academy Natural Sciences of Philadelphia



CONSERVING PENNSYLVANIA'S PRAIRIE WILDLIFE

Overview: Purchase of a nationally recognized Important Bird Area (IBA) to conserve grassland birds, particularly the Henslow's sparrow.

One of the largest recent acquisitions undertaken by the Pennsylvania Game Commission, the purchase of a reclaimed coalmine in Clarion County known as the Piney Tract, was accomplished with the assistance of State Wildlife Grant funds. This area, containing extensive fields reclaimed in grass, has long been known to support extensive populations of grassland birds, notably the national "Watch List" bird, the Henslow's sparrow. This unremarkable little sparrow is declining nationally, listed as endangered or threatened in almost every state in which it occurs (except Pennsylvania), and fairly common on the Piney Tract and other reclaimed surface mines because of the extensive mixed grasses surviving on the resulting landscape. This property has been recognized nationally as an Important Bird Area and has benefited from significant improvements brought about through mine reclamation rules promulgated over two decades ago. The site now hosts a diversity of wildlife.

In partnership with a broad local coalition led by the Alliance for Wetlands and Wildlife, this project addressed a long-standing conservation objective. With conservation measures now underway, the Piney Tract contributes to national efforts to arrest the Henslow's sparrow precipitous decline and attempt to avoid future listing.



Henslow's Sparrow, photo-Merilee Janusz

Conservation of the Piney Tract is really a catalyst for management of similar sites and models conservation action for other inevitable landscape changes.
(Dan Brauning, PA Game Commission)

Critical grasslands and prairie habitat protection through acquisitions (T-22)

6/7/2002

SEASONAL POOLS-VITAL HABITATS FOR WILDLIFE



Autumnal pool, Stony Mt.,
photo-Jack & Sally Ray

See Pennsylvania Seasonal Pools Registry at:
(<http://www.paconserv.org/rc/sp/>)



Marbled salamander,
photo-Jack & Sally Ray

Objective: This project is documenting locations of temporary or seasonal wetlands and the species associated with them.

Seasonal pools are depressions in the forest that fill with water as the result of precipitation, runoff or snowmelt and tend to be relatively small. The Pennsylvania Seasonal Pools Registry is a citizen-based effort to document locations of temporary or seasonal wetlands and the species associated with them. The registry is an important step toward understanding Pennsylvania's ephemeral wetland habitats. The information will be available to researchers who study seasonal pools and to landowners and agencies who manage them. Three species of mole salamanders encountered in seasonal pools are the marbled salamander, the spotted salamander, and the

Jefferson salamander. They are all considered indicator species. Other seasonal pool indicators are the wood frog and the eastern spadefoot toad. In addition to the amphibians, small crustaceans known as fairy shrimp are another indicator species. One common species in Pennsylvania is the springtime fairy shrimp.

Project Accomplishments to date:

- As of December 2006, volunteers and experts submitted 1,336 pools to the registry program.
- Developed downloadable & on-line registry forms for the public.
- Conducted literature reviews, hosted expert roundtables and conducted various outreach efforts to the public.
- Developed scientific methods and survey forms for PA Natural Heritage Program staff.
- Conducted field surveys of seasonal pools to confirm seasonal pool sites, assess habitat, inventory species, map pool locations, etc.

Web-based Registry and Study of Seasonal Pools in Pennsylvania (T-24) (Courtesy of Betsy J. Leppo, PA Natural Heritage Program).

Primary Conservation Challenges for Pennsylvania's Wildlife

A. HABITAT: Maintain and improve existing habitat quality by minimizing habitat fragmentation and loss of wetlands, and improving forest regeneration.

B. WATER: Expanding human population and habitat degradation from urban and industrial uses places demands upon surface water and groundwater, instream flows, and water quality.

C. INFORMATION: Basic data gaps need to be addressed and include: Population structure and distribution, factors affecting habitat quality, species response to habitat management.

D. FUNDING: Develop stable funding sources to address species of greatest conservation need. Stable funding will be critical for maintaining current implementation successes.

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