State & Tribal Wildlife Grants Annual Summary-2018

Pennsylvania Fish & Boat Commission

Stream (above), snorkelers (right), Brook Floater (far right).
Credit: Mary Walsh (WPC/PNHP)

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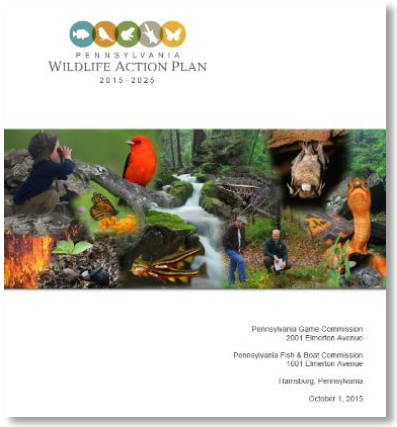
March 2018

PENNSYLVANIA
WILDLIFE ACTION PLAN

GUIDING FISH AND WILDLIFE CONSERVATION: 2015-2025 PENNSYLVANIA WILDLIFE ACTION PLAN

Guiding conservation in Pennsylvania



The 2015 Pennsylvania Wildlife Action Plan is the most current comprehensive assessment of Pennsylvania's species and a blueprint for their conservation. Its development was overseen by the Game Commission and Fish & Boat Commission, whose staff provided leadership and significant technical support. Critical to the revision were conservation partners, including federal and state agencies, universities, research institutions, private and non-governmental organizations, and the public.

You can help!

The 2015 Pennsylvania Wildlife Action Plan was developed to be used by all Pennsylvanians. Though not all conservation actions in the plan can be implemented by everyone, actions are available for people of diverse ages, skill levels, and abilities to directly, or indirectly, help species and their habitats. Suggestions are provided below and in Chapter 4, *Take Action! Get Involved!*

Parts of the Plan

What are major features of the plan? The plan is organized around Eight Required Elements which must be adequately addressed to be approved by the U.S. Fish and Wildlife Service (USFWS). Chapters 1-8 and associated appendices are based on a Required Element.

Eight Required Elements

1-Species	2-Habitats	3-Threats	4-Conservation Actions
5-Monitoring	6-Plan Revision	7-Partner Involvement	8-Public Participation

Getting Started!

Where do I find the 2015-2025 Pennsylvania Wildlife Action Plan (plan)? The plan can be found on the websites for the Fish & Boat Commission (www.fishandboat.com, *Home>Resource>State Wildlife Action Plan*) and Game Commission (www.pgc.pa.gov, *PGC>Wildlife>Wildlife Action Plan*). This summary highlights a few basic features. Can't find what you're looking for? Contact: RA-FBSWAP@pa.gov.

QUESTION	WHERE TO FIND IT?
Where can I find a list of species in the plan?	**Appendix 1.3**

EXAMPLE

SPECIES LISTS

APPENDIX 1.3

Birds
Mammals
Amphibians
Reptiles
Fishes
Invertebrates

Common Name	Scientific Name	Justification
Eastern Hellbender	Cryptobranchus alleganiensis alleganiensis	S2S3, G3
Mudpuppy	Necturus maculosus	S3
Jefferson Salamander	Ambystoma jeffersonianum	S3
Blue-spotted Salamander	Ambystoma laterale	S1, PA Endangered, RSGCN, H threats

PENNSYLVANIA WILDLIFE ACTION PLAN

QUESTION	WHERE TO FIND IT?
Where do I find information about species, habitat, conservation goals, threats, conservation actions, research & survey needs?	**Appendix 1.4 (Species Accounts)** has this information and more. This appendix is arranged by major taxonomic groups: birds, mammals, fishes, amphibians, reptiles, mussels (federal and state-listed).

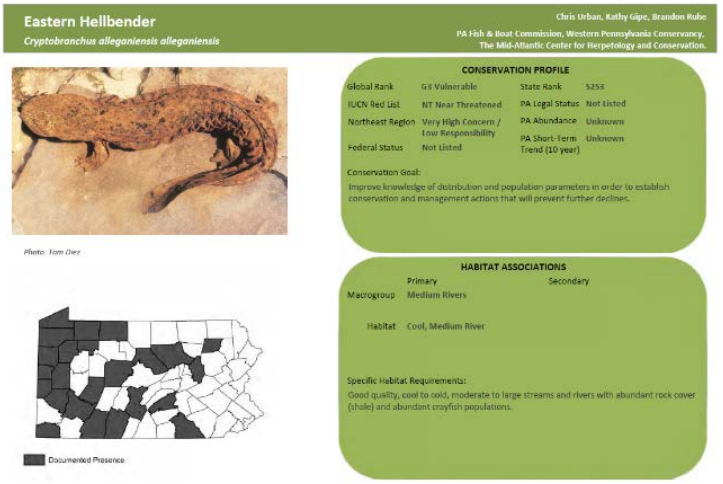
EXAMPLE

SPECIES ACCOUNTS

APPENDIX 1.4C-Amphibians
From the list of Amphibians, select Eastern Hellbender

Digital Image->

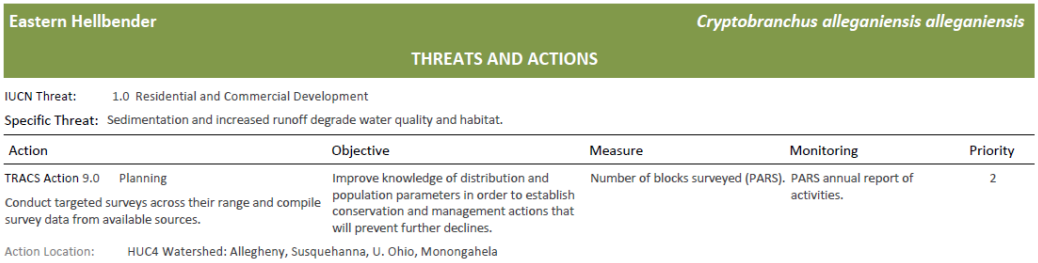
Pennsylvania Distribution->



<-Conservation Status

<-Habitat Requirements

Threats, Actions, Objective, Measure Monitoring & Action Priority →



Eastern Hellbender — *Cryptobranchus alleganiensis alleganiensis*

THREATS AND ACTIONS

IUCN Threat: 1.0 Residential and Commercial Development

Specific Threat: Sedimentation and increased runoff degrade water quality and habitat.

Action	Objective	Measure	Monitoring	Priority
TRACS Action 9.0 Planning Conduct targeted surveys across their range and compile survey data from available sources.	Improve knowledge of distribution and population parameters in order to establish conservation and management actions that will prevent further declines.	Number of blocks surveyed (PARS).	PARS annual report of activities.	2

Action Location: HUC4 Watershed: Allegheny, Susquehanna, U. Ohio, Monongahela

QUESTION	WHERE TO FIND IT?
Where can I find actions to help species and habitats in the plan?	In addition to the Species Accounts, **Chapter 4** is a great place for examples of how to help Pennsylvania's treasured species and habitats. See: *Take Action! Get Involved!*

EXAMPLES

HABITAT MANAGEMENT

- ✓ Plant trees to protect and restore stream banks
- ✓ Control invasive plant species along streams, in forests, and around wetlands

SPECIES & HABITAT MONITORING

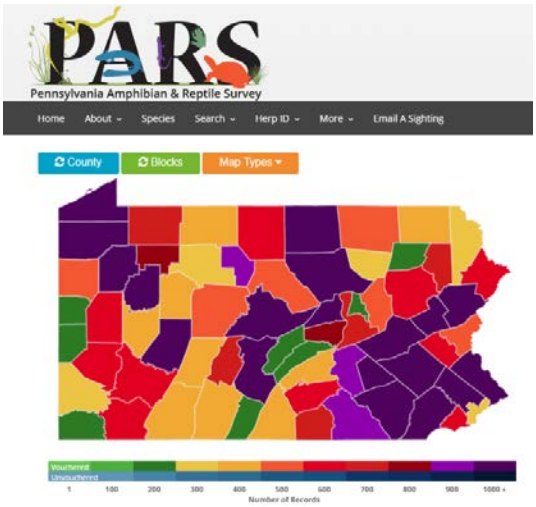
- ✓ Monarch Watch and Pollinator Monitoring
- ✓ Audubon Christmas Bird Count
- ✓ Appalachian Bat Count

PLANNING AND HABITAT PROTECTION

- ✓ Conservation easements to protect riparian buffers, wetlands, forests and other important habitats.

PENNSYLVANIA WILDLIFE ACTION PLAN

THE ROLE OF CITIZEN SCIENTISTS: HELPING PENNSYLVANIA'S AMPHIBIANS & REPTILES



SUMMARY

Since its introduction in 2013, over 1,600 volunteer citizen scientists have submitted more than 132,000 observations supporting the Pennsylvania Amphibian and Reptile Survey (PARS) project. The success of this project is attributable to an engaged, energetic volunteers dedicated to the conservation of Pennsylvania's amphibians and reptiles.

OBJECTIVE

This project is compiling historical and contemporary amphibian and reptile data with the goal of developing an atlas and a long-term Pennsylvania monitoring program. The project supports the 2015 Pennsylvania Wildlife Action Plan, including: Goal 2-a good scientific foundation for management decisions, Goal 4-strengthening the state's conservation capacity, and Goal 6- developing a knowledgeable citizenry.

To get involved, go to the PARS website: **https://paherpsurvey.org/**
Download the smartphone app. **https://paherpsurvey.org/news/mobile-app-is-here/**

APPROACH

The life-histories of many amphibian and reptile species are complex. This factor coupled with many habitats in a large state requires significant efforts to adequately evaluate the population health of Pennsylvania's frogs, snake, skinks, turtles, toads.

B. Ruhe, MACHAC

Information from museum historical records, biological databases (i.e., natural heritage files), contractor reports for the PFBC, vouchered records from the previous PA herpetological atlases, and PFBC files help build the comprehensive records and known location data.

Citizen scientists and technology are crucial! Advances in smartphone applications, a website, and database have greatly enhanced data storage and retrieval. Coupled with energetic and knowledgeable citizens, understanding Pennsylvania's amphibians and reptiles is greatly enhanced.

STATUS

The Pennsylvania Amphibian and Reptile Atlas is building on 5 years of data-gathering with currently 133,922 records provided by 1,708 contributors. Data compilation is anticipated to require a total of 10 years with a target completion in 2020.

PROJECT

T2-14-R-2. The PA Amphibian and Reptile Survey (PARS). Mid-Atlantic Center for Herpetology and Conservation (MACHAC), Brandon Ruhe and PFBC, Christopher A. Urban.

RECOVERING & CONSERVING PENNSYLVANIA'S IMPERILED AQUATIC SPECIES AND THEIR HABITATS

Since 2001, State & Tribal Wildlife Grants have been crucial to supporting projects to recover and conserve Pennsylvania's imperiled species. This federal funding, provided by the U.S. Fish and Wildlife Service leveraged with non-federal match provided by partners, has been directed to many areas of need including: data collection and analysis, technical assistance, environmental reviews, planning, habitat enhancement, and administrative activities.

FRESHWATER MUSSELS

Species: 50*
Activities: Surveys, environmental reviews, planning

Freshwater mussels are crucial to the ecological health of streams helping to filter nutrients and other materials from water.

FISHES

Species: 65*

Activities: Surveys, environmental reviews, translocation

Pennsylvania fishes are found in many aquatic habitat types from high-gradient headwater streams to large tidal rivers, wetlands and lakes. Pollution and human disturbance of habitats are among the threats to healthy fish communities.

AMPHIBIANS & REPTILES

Species:

- 18 Amphibians*
- 22 Reptiles*

Activities: Surveys, environmental reviews, develop management plans

Species sensitive to environmental conditions such as pollutants, changes in land use, illegal trade.

OTHER INVERTEBRATES *(non-mussel)*

Species: 162 *aquatic species*
(Total Aquatic & Terrestrial-400*)
Activities: Surveys, environmental reviews, species genetics

Native crayfishes, aquatic insects, snails, and other invertebrates are essential for Pennsylvania's aquatic habitats. Pollution, habitat loss are among the threats.

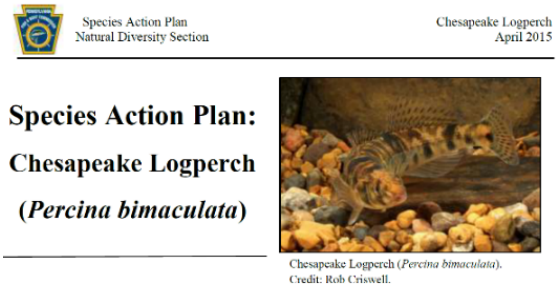
* Number of Species of Greatest Conservation Need in the 2015-2025 Pennsylvania Wildlife Action Plan

PENNSYLVANIA WILDLIFE ACTION PLAN

PLANNING

Activities:

Develop strategic approaches for effective species recovery and management. www.fishandboat.com, *Home>Resource>Species of Special Concern*


Species Action Plan
Natural Diversity Section

Chesapeake Logperch
April 2015

Species Action Plan:

Chesapeake Logperch

(Percina bimaculata)

Chesapeake Logperch (*Percina bimaculata*).
Credit: Rob Criswell.

HABITAT MANAGEMENT

Activities:

- Dam removal and fish passage guidance
- Timber rattlesnake habitat enhancements.

TECHNICAL ASSISTANCE & COORDINATION

Activities: Environmental review, guidance to developers and agencies to minimize impacts to species and habitats

Example-July 2016 to June 2017, Total: 5,486 reviews, consultations, meetings, field views, permits, reports

- Encroachment Applications and Activities
- Municipal, Residual and Hazardous Waste Reviews
- Highway & Bridge Construction and Maintenance Coordination
- U.S. Army Corps of Engineers Projects
- Water Pollution Cases & Unlawful Taking of Protected Aquatic Resources
- Hydropower Development & Instream Flow
- Pennsylvania Natural Diversity Inventory reviews; Special Permits
- Habitat Improvement/Restoration Project Reporting, Planning, Oversight

Before (Left)

After (Below)

Note house as reference

ADMINISTRATION & GRANTS MANAGEMENT

Activities:

- Wildlife Action Plan Implementation
- Fiscal & administrative grant management of internal and external projects.

Contact: Diana Day | Conservation Coordinator
Pennsylvania Fish and Boat Commission
717.346.8137; diday@pa.gov; http://www.fish.state.pa.us

IMAGE CREDITS: *Page 5*-Eastern Pearlshell Mussel, sorting mussels (M. Walsh-WPC), Spadefoot Toad, (B. Ruhe-MACHAC), Timber Rattlesnake data collection (Nevin Welte-PFBC/PNHP); Smallmouth Buffalo (D. Fischer-PFBC); Blue Crayfish (Z. Loughman-E. Liberty University); *Page 6*-Partner consultation (PFBC); Habitat enhancement-Reedsville Dam, Tea Creek (PFBC)

PENNSYLVANIA WILDLIFE ACTION PLAN

SEARCHING FOR IMPERILED MUSSELS: BROOK FLOATER & EASTERN LAMPMUSSEL

SUMMARY

An updated conservation status of the Brook Floater and Eastern Lampmussel in Pennsylvania will be accomplished through review of historical information, field-surveys to fill-in data gaps, models of habitats and species distributions, and evaluation of mussel status assessment criteria.

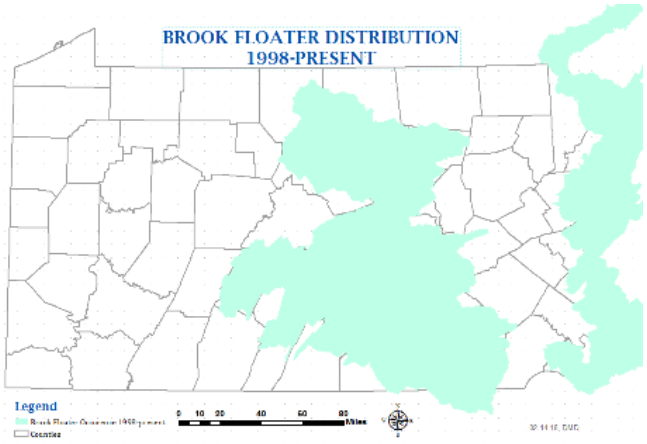
Brook Floater mussels. Mary Walsh (WPC/PNHP)

OBJECTIVE

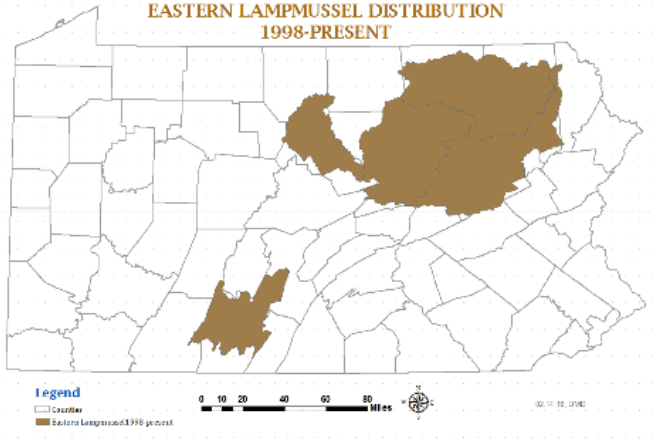
This project is designed to assess the distribution and watershed-landscape characteristics for the Brook Floater (*Alasmidonta varicosa*) and Eastern Lampmussel (*Lampsilis radiata*) in the Delaware, Potomac and Susquehanna River basins in Pennsylvania. The project also supports the 2015 Pennsylvania Wildlife Action Plan by providing information to: Conserve Pennsylvania's native wildlife and its habitat by implementing conservation actions in the plan, specifically identifying were conservation actions should be implement (Goal 1, Strategy 1.2.1). Further, this work will help provide the critical science-based information necessary for guiding management recommendations (Goal 2, multiple strategies).

APPROACH

Securing Brook Floater and Eastern Lampmussel populations requires current, science-based information to guide conservation measures. Recent evaluations of Brook Floater in the eastern U.S. show its range has significantly declined compared to historical records. Globally, on a scale from G1 (most imperiled) to G5 (least imperiled), Brook Floater is considered "globally vulnerable" (G3). On a similar scale for state assessments, in 12 states where it occurs, or was historically found, the Brook Floater is ranked as "critically imperiled" (S1), "imperiled" (S2) or extirpated. Similarly, the Eastern Lampmussel is ranked "critically imperiled" (S1) or imperiled (S2) by most states in its US range. This State Wildlife Grant project is designed to provide information to resource managers about the distribution and current status of both species in the Commonwealth. Assessment of the Brook Floater and Eastern Lampmussel in Pennsylvania is a multi-faceted approach including reviewing information gaps in the distribution, conducting surveys, developing models of the species' habitat, and evaluating the conservation status for both species.



Distribution of Brook Floater based on data from 1998 to present.
Source: Mary Walsh, WPC/PNHP



Distribution of Eastern Lampmussel based on data from 1998 to present. Source: Mary Walsh, WPC/PNHP

STATUS

Searching for mussels

Initially, tasks have focused on evaluating information of known occurrences of these mussels. Records dating back decades, as well as more recent studies, were evaluated to assess changes in distribution of these species. This information was then used to develop a list of streams with likely habitat and to prioritize survey sites. In 15 streams with Brook Floater or Eastern Lampmussel habitat, mussel surveyors searched for freshwater mussels, documenting the entire mussel community and the presence or absence of Brook Floater and Eastern Lampmussel. Beyond these occurrence surveys, additional streams with known Brook Floater occurrences were surveyed to evaluate their density. This information can help determine the health of the population.

How are searches conducted?

Snorkelers searched sandy runs, fast flowing riffles and backwaters for live mussels and shells in standardized, timed surveys. Mussels were measured and photographed before they were returned to their habitats. From these surveys, the presence and counts of mussels are used to update the existing occurrence information.

Eastern Lampmussel. Mary Walsh (WPC/PNHP)

What are the current findings?

This project is not yet completed, but surveys to-date show that Brook Floater and Eastern Lampmussel are not detected in many of the streams where historically found.

What's next?

Maps and information about habitat associations with the freshwater mussels in species distribution models created by this project will supplement the field surveys. Distribution models will associate the occurrence of Brook Floater and Eastern Lampmussel with features such as geology, water quality, land use, and watershed features. The variables most influential in the models provide keys to deciphering habitat needs of the species and guiding development of conservation actions. Maps of the best predicted habitats can then be applied to species management plans.

PROJECT

F16AF00452. Distribution and Status of Brook Floater and Eastern Lampmussel in Pennsylvania's Atlantic Slope. Western Pennsylvania Conservancy (WPC), Mary Walsh and PFBC, Robert Morgan.