



# CHAPTER 8

## *Public Participation*

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## SNAPSHOT

### *Public participation*

- ✓ Keeping the public informed about, and encouraging involvement in, the 2015 Pennsylvania Wildlife Action Plan will be crucial to the Plan's success.
- ✓ Processes and products are highlighted to demonstrate how the PGC and PFBC have informed the public about the 2005 Plan and revision process leading to the 2015 Plan.

### Inspiring the Public to Action

Success of the 2015 Pennsylvania Wildlife Action Plan (Plan) requires public involvement in its development and implementation. The momentum generated by an informed and motivated public will help determine the eventual accomplishments of the Plan. Public participation is a broad spectrum of engagement, of which awareness is an early stage. Although basic, acknowledging that the plan exists is a necessary phase. For this to occur, the public must be provided opportunities to learn about the Plan and fully understand its significance for the Commonwealth's natural heritage. When this information and resulting knowledge engages the public to learn more about species, habitats, and associated threats, it can inspire engagement in local conservation projects. Pennsylvania has a rich history centered in its natural resources, and thus, protecting and recovering these resources can be a motivating factor to secure this legacy. A knowledgeable and inspired public, with sufficient support, may then be motivated to "take action." Actions can take many forms including direct, on-the-ground activities, such as habitat enhancement projects, or participating in organized wildlife data-collection efforts (e.g., Christmas Bird Counts, Amphibian and Reptile Surveys) (Chapter 4, Conservation Actions). However, supporting the Plan may not involve working directly with animals or their habitats, yet include activities crucial to plan implementation. Actively participating in local government decisions that help protect habitat for a SGCN, or informing legislators about the relevance of fish, wildlife and their habitats to the quality of life for citizens of the state are highly valued initiatives in which the public can be a crucial participant. When these actions are driven by public knowledge of this Plan, they further enhance its implementation and success.

Maintenance and support for public participation will require a broad-based and sustained approach to inform and inspire action. In this chapter, we describe how:

- We have incorporated public participation into this Plan.
- The public has participated in its development.
- We have informed and engaged the public in implementing the 2005 Plan.
- We will build on this participation in implementing the 2015 Plan.



## Best Practices

Discussed throughout this Plan, we have endeavored to implement the State Wildlife Action Plan Best Practices (AFWA et al. 2012). “Best practices” related to public participation can be part of the revision process and plan implementation. In this chapter, directed to supporting *Required Element 8*, we identify where these “best practices” have been adapted for this Plan.

## Public Participation Objectives and Strategies

The significant public role in implementing this Plan is reflected in Wildlife Action Plan Goal 6, which specifically directs that the Plan will: “*Develop a knowledgeable citizenry that supports and participates in wildlife conservation.*” The associated objectives and strategies within this goal are directly tied to public participation. In a complex social setting, bringing the message of this Plan, and enlisting ideas and support, requires a special focus expressed through a common theme of “communication.” Here, we discuss the relevance of public participation to objectives and strategies within Goal 6.

### Enhance coordination among conservation partners to foster a well-informed citizenry.

[Objective 6.1]

Pennsylvania has an active and expansive conservation community, and coordination with these partners will be crucial for effective outreach initiatives to diverse audiences of this Plan. The missions of these partners may vary, ranging from local (e.g., watershed groups, local land trusts) to statewide (e.g., state agencies, non-governmental organizations, institutions and foundations). The Vision and Purpose of the 2015 Plan can unite conservation partners across these roles and missions, because these collective actions will be crucial to securing the ecological integrity of the Commonwealth’s natural resources. Central to this coordination effort will be expanding public awareness and understanding of Species of Greatest Conservation Need (SGCN) and their habitats, associated threats and risks (e.g., climate change, invasive species, pathogens) and ecosystem services (e.g., reduction of floods by wetlands).

Importantly, Pennsylvania’s conservation community is already providing information to the public on critical issues relevant to this Plan. For example, outreach for invasive species prevention is well-underway through the Pennsylvania Invasive Species Council (PISC). Thus, coordination with partners may not be starting specifically with this Plan, but rather continuing to implement existing efforts. Yet, where current initiatives by partners are not in harmony with this Plan, or have not been initiated, we will determine mechanisms for the most effective mutual messaging to the public. The Pennsylvania conservation community has diverse interests in natural resources and issues are evolving. We therefore need to work with established partners and non-traditional groups to encourage their involvement. With clear, concise and engaging messaging, we can support outreach to these partners about this Plan.

As with implementing on-the-ground conservation activities, monitoring the effectiveness of this messaging will be important. Surveys and other analytical tools will provide feedback on the usefulness of this coordination and communication.



## Encourage public input and participation in wildlife management decisions and activities.

### [Objective 6.2]

Although led by the PGC and PFBC, this Wildlife Action Plan is for all of Pennsylvania. Encouraging public input and participation will require communication at multiple scales and through a broad array of media. For example, this communication may be direct one-on-one discussions with private landowners about how to voluntarily maximize benefits for SGCN on their property (e.g., PGC Private Lands Assistance Program) or use of social and web-based media for serving technical resources to large audiences. The types of audiences we need to reach will guide the approaches required to distribute relevant information. We will communicate with the public in ways that are appealing, informative and encourage participation.

## Support conservation outreach initiatives.

### [Objective 6.3]

As expressed throughout this chapter, communication with the public is a common and important activity, and the challenge of effectively expressing complex issues to diverse audiences will require a communication strategy. As part of “best practices” for public participation (AFWA 2012), this strategy will “define objectives for public involvement processes.” It will provide “a clear understanding of the purpose for initiating a public engagement process.” Our communication strategy also will “develop and implement a public participation process that: 1) Identifies key constituent groups/audiences, and 2) Identifies involvement goals appropriate to each audience.”

In 2014, PGC and PFBC staff convened to scope-out components of a communication strategy for the Plan. From these early discussions, we identified potential audiences, types of media, and diverse events where this information could be served. With completion of this Plan, we now have a document from which to develop materials for this outreach and more formally develop the communication strategy. This strategy will provide timelines, benchmarks and opportunities for periodic evaluation. We aim to complete this communication strategy within the first year of Plan implementation. Consistent with the communication strategy, we will provide diverse educational experiences to traditional and non-traditional partners. Multiple media (e.g., social media, web-based, print) will allow us to reach a broader audience than may have been considered in previous years.

## Public Involvement in the Revision Process

### Public Opinion Survey

*Adapted from Responsive Management (2014)*

In 2014, at the request of the PGC, and in cooperation with the PFBC, Responsive Management conducted polling to assess Pennsylvania residents’ opinions on, and attitudes toward, nongame wildlife ([Responsive Management 2014](#)). The polling also included questions to assess public opinions on PGC and PFBC activities, priorities and funding options, and assessed attitudes toward hunting, fishing, and game species. Questions were based on a similar 1996 survey ([Responsive Management 1996](#)) and designed to assess temporal changes in public attitudes on these topics. Fidelity to the 1996 survey was



desired, but questions were updated and revised by the survey coordination team for contextual relevance.

For this telephone survey, a total of 3,660 complete interviews were obtained from Pennsylvania residents 18 years old and older. Sampling was stratified by Congressional District with a minimum of 200 complete interviews per District. Throughout the report, findings of the survey are reported at a 95%

confidence interval. Statewide analysis had a sampling error that did not exceed +/- 1.62 percentage points. Sampling error was calculated with a sample size of 3,660 and a population size of 9,910,224 Pennsylvania residents 18 years old and older.

Here we provide a synopsis of issues considered more relevant to the Plan. However, the report contains other important findings and readers are encouraged to review the entire report ([Responsive Management 2014](#)).

### Perceived Threats to Nongame Wildlife in Pennsylvania

As an open-ended question, Pennsylvania residents were asked to identify the single most-important issue or concern facing nongame wildlife in Pennsylvania today. The top concern identified was habitat loss/fragmentation/degradation (16%), followed by related concerns of urban sprawl/over-development (6%) and population growth (6%) (Fig. 8.1). Other important issues included “pollution in general” (5%), polluted water specifically (5%), and management of threatened or endangered wildlife (4%). Many of these perceived threats align with actual threats identified for SGCN (Chapter 1, Appendix 1.4).

However, nearly one-third (32%) of respondents did not know of a threat, highlighting a topic for more intensive outreach when implementing the 2015 Plan.

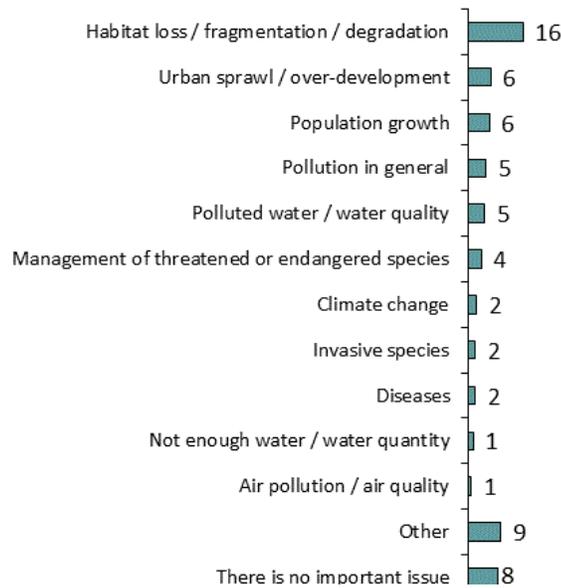


Fig. 8.1. Percent of responses by category when respondents were asked, in their opinion, to identify the most important issue or concern facing nongame wildlife in Pennsylvania today. Survey Questions 8 and 9. (Open-ended; only one response allowed.) Source: Responsive Management (2014).



### Importance of Commission’s Activities

Respondents were presented a list of 11 activities conducted by the PGC and PFBC and asked to rate the importance of each activity as *very important, somewhat important, somewhat unimportant* or *very unimportant*. When asked if these activities were “very important,” responses appeared to cluster into three similar levels of response rates (i.e., tiers). According to respondents, the most important activities of the commissions were addressing wildlife diseases (80% rate this as *very important*) and enforcing wildlife laws (79%) (Fig. 8.2). In the second tier of responses, four activities were considered by two-thirds or more of respondents as *very important*. These included: restoring and improving habitat (73%), addressing invasive species (72%); conservation actions for nongame species at-risk (68%); and educating the public about nongame wildlife (67%). In a third tier, over 50% of respondents indicated purchasing land to protect species that are declining or in need of conservation (59%); and monitoring nongame wildlife populations (53%) were considered *very important*.

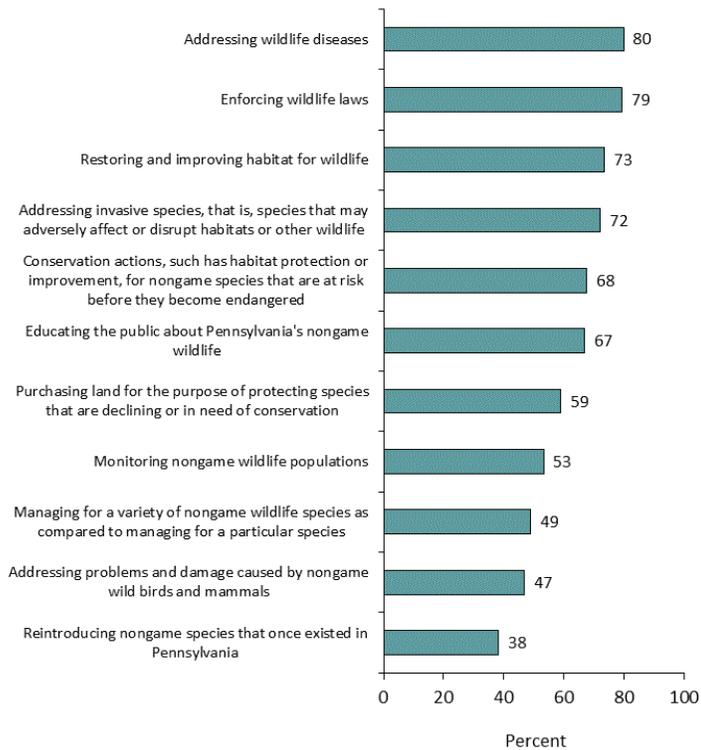


Fig. 8.2. Percent of respondents who think that each of the following is a *very important* activity for the Commissions (Survey Questions 29-39). Source: Responsive Management (2014).

When asked if managing and conserving nongame wildlife is an important or unimportant function of the Commissions, 63% of respondents considered this to be *very important*. When this level of response was compared to a similar question in the 1996 Survey (Responsive Management 1996), the 2014 results showed a 14% increase in responses for this level of importance (Fig. 8.3).

### Opinions on Pennsylvania’s Wildlife Action Plan

As a new question for the 2014 survey and baseline for awareness, only 12% of respondents indicated having heard of the Plan, highlighting a basic need in the forthcoming communication strategy for this Plan.



Following this question, respondents were informed that the Plan contains information pertaining to four main areas: SGCN; habitat conditions where SGCN live; threats to SGCN and their habitats; and conservation actions to lessen those threats. After this information was

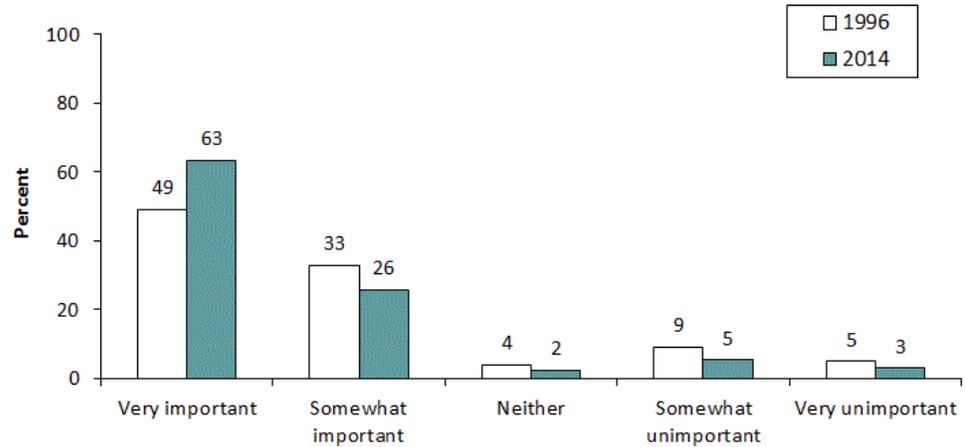


Fig. 8.3. Percent of Pennsylvania residents responding to nongame public opinion survey Question 16: Do you think managing and conserving nongame wildlife is an important or unimportant function of the Fish and Boat and Game Commissions? Source: Responsive Management (2014).

provided to respondents, they were then asked which area they thought was most important. Although responses were distributed among all four areas, the top two were to lessen threats (30%) and habitat conditions where species of greatest need live (29%) (Fig. 8.4).

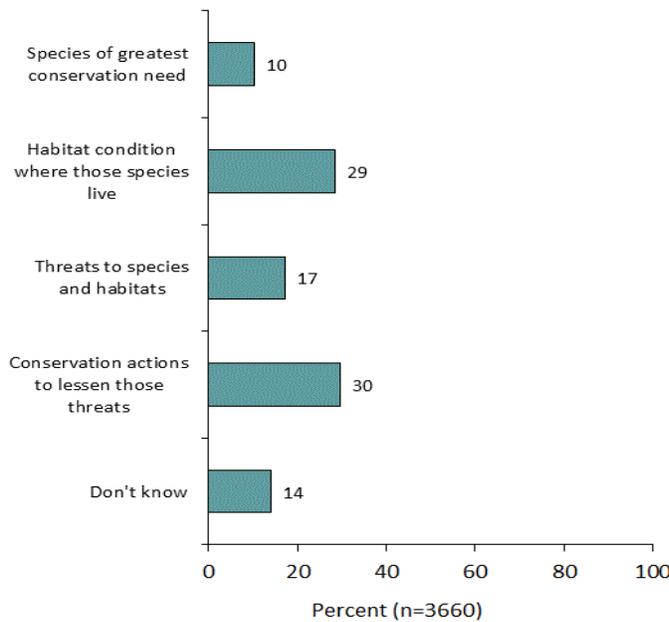


Fig. 8.4. Percent distribution of respondents when asked "Which one of the four main areas addressed in the State Wildlife Action Plan do they consider most important?" Survey question 42. Source: Responsive Management (2014).

### Sources of Information about Nongame Fish and Wildlife

An open-ended question asked Pennsylvania residents where they get information about nongame fish and wildlife. For this question, respondents could identify multiple sources. The top sources are friends and family (22%); the Internet (21%); magazines (19%); and television (17%) (Fig. 8.5). As with other parts of this public opinion survey, this information will be useful when developing the forthcoming communication strategy for this Plan.

### Public Review

Public Review of State Wildlife Action Plans is compulsory for this *Required Element* and is compliant with the AFWA "best practice" which states to "ensure



that the general public has an opportunity to review and comment on the plan before it is submitted. Give 30–60 days for the public-comment period.”

Beginning August 1, 2014, the PGC and PFBC began posting draft materials to their respective websites. These early documents included: Purpose, Guiding Principles, Vision and Goals. These features serve as the basic framework for the Plan; therefore it was important to gather early feedback on these items. Although we had initially scheduled the comment period through September 30, 2014, this was subsequently extended without specifying an end-date. This material was a small part of the overall plan, therefore we did not provide a press release announcing this material, but rather sent notices to the Steering and Advisory Committees and Pennsylvania’s Teaming With Wildlife Coalition and other partners. Access to webpages with this material was available on both agency websites through each agency’s website homepage (Note: this homepage access was temporarily removed from the PFBC website from 05.18.15-06.23.15).

The completed draft plan was posted on the PGC and PFBC websites for a 30-day public review and comment on 12 August 2015 with comments received through 11 September 2015. Readers who wished to provide comments could access an electronic form and, upon submittal, were notified that their comments had been recorded. We also received comments via e-mail and one hand-written letter delivered by the U.S. Postal Service. This public comment period was initially announced through a press release from each Commission’s Press Office (Table 8.1; Appendix 8.1, Exhibits 1, 2). These press releases were then posted to each Commission’s website Home Page and social media (i.e., Facebook page and Twitter accounts). As a result of the press releases, 8 Pennsylvania senators ‘tweeted’ about providing comment on the draft Plan. In addition, the July/August issue of the PFBC Angler and Boater Magazine also contained an article on the Plan revision and included the webpage location where

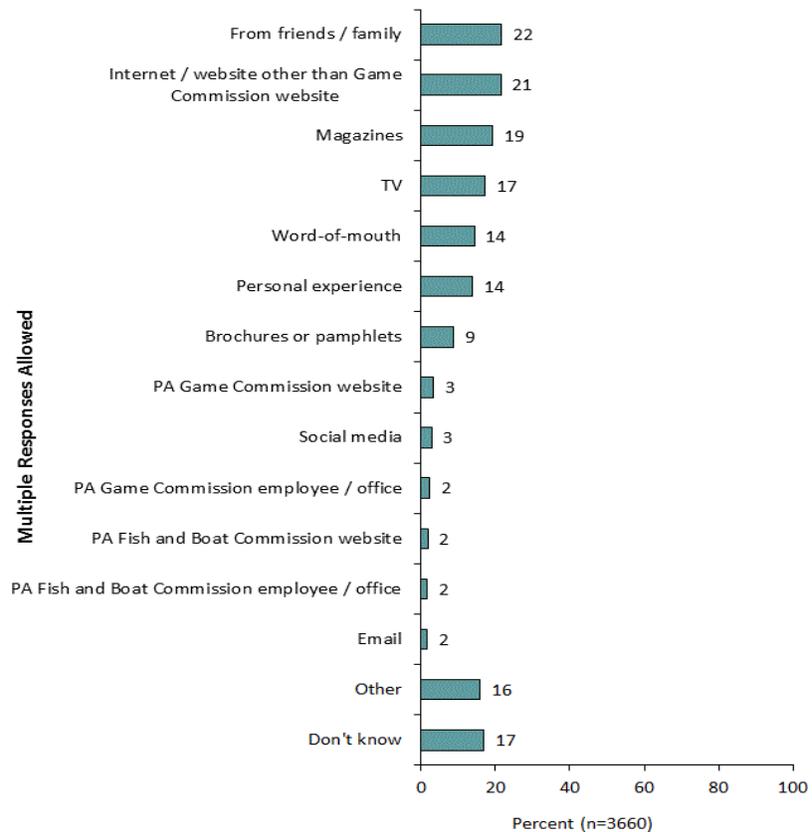


Fig. 8.5. Percent distribution of respondents answering the question "Where do you get your information about nongame fish and wildlife?" Survey question 66. Source: Responsive Management (2014).



readers could provide comments on the Plan. This magazine was distributed during the last week of August and first week of September, so readers would have been notified late in the public comment period. Nevertheless, this publication provided another source and medium by which the Plan and public comment period were announced.

Table 8.1. Distribution of announcements on the draft 2015 Pennsylvania Wildlife Action Plan for the public comment period (12 August through 11 September 2015).

	PGC	PFBC	Total
Direct recipients of press releases <sup>a</sup>	3,250	1,500	4,750
Facebook friends	95,000	19,750	114,750
Twitter followers	6,500	4,000	10,500
Agency updates email lists <sup>b</sup>	39,000	n/a	39,000
Number webpage views <sup>c</sup>	1,944	2,283	4,227
PFBC Angler and Boater Magazine	n/a	14,000 <sup>d</sup>	14,000
<b>Other</b>			
PA Chapter American Fisheries Society			100
PA Chapter of The Wildlife Society			240

<sup>a</sup>Based on Press Secretary distribution list; <sup>b</sup>Email contacts maintained by PGC or PFBC for citizens who sign-up voluntarily to receive agency updates. PGC included the Watchable Wildlife and News Release email lists; <sup>c</sup>2015 State Wildlife Action Plan unique webpage views on each Commission’s website; <sup>d</sup>Paid subscribers.

### Native American Tribes

As noted in Chapter 7, Partners, there are no federally recognized Native American Tribes that manage or administer programs that significantly affect the conservation of Pennsylvania’s SGCN or their habitats. However, Native American Tribes have a rich historical and cultural relevance to the Commonwealth and given this perspective, during the public comment period, we reached out 18 Tribes or affiliates through direct electronic correspondence (Table 8.2).

Table 8.2. Native American Tribes to which correspondences were sent regarding announcement of the draft public comment period for the 2015 Pennsylvania Wildlife Action Plan.

Absentee Shawnee Tribe of Oklahoma	Lenape Nation	Shawnee Tribe <sup>a</sup>
Cayuga Nation	Oneida Indian Nation	St. Regis Mohawk Tribe
Catawba Nation <sup>b</sup>	Oneida Nation of Wisconsin <sup>b</sup>	Stockbridge-Munsee Band of the Mohican Nation
Delaware Nation of Oklahoma <sup>b</sup>	Onondaga Nation	Tonawanda Band of Seneca Indians of New York
Delaware Tribe of Indians <sup>b</sup>	Seneca Nation of Indians <sup>b</sup>	Tonawanda Seneca Nation <sup>b</sup>
Eastern Shawnee Tribe of Oklahoma <sup>b</sup>	Seneca-Cayuga Tribe of Oklahoma	Tuscarora Nation

<sup>a</sup>Initial correspondence sent 08-27-15; <sup>b</sup>One or more correspondences were returned as undeliverable.



**Summary of Public Comments**

We received 292 comments from 46 individual respondents or persons affiliated with an organization (Table 8.3). Comments were submitted either via email or comment forms accessible from each Commission’s 2015 State Wildlife Action Plan webpage. Of the comments received, 247 were identified as potentially relevant, or not duplicative, and provided primarily technical and editorial suggestions. These comments improved the Plan by identifying text that was either incorrect, unclear, or required additional information; we especially focused our attention on these items. Several suggestions were beyond the immediate scope of Plan development, but will be considered during Plan implementation (e.g., additional, recommendations, analyses and communication strategies). Comments deemed not directly relevant to the Plan were primarily on topics related to hunting regulations and fisheries management.

Table 8.3. Number of public comments received and organizations providing comments on the draft 2015 Pennsylvania Wildlife Action Plan, 08.12.15 through 09.11.15.

Webpage and email comments	291
USPS	1
<b>Total</b>	<b>292</b>

- American Rivers
- Marcellus Shale Coalition
- Pennsylvania Forest Products Association
- The Nature Conservancy
- The Wildlife Society
- Trout Unlimited, Pennsylvania Council
- Western Pennsylvania Conservancy

Twenty respondents provided comments, but no substantive recommendations. One email noted problems with accessing the comment form. Follow-up correspondence provided guidance, but no further correspondence was received from the user. Another user called also expressing difficulty with the website, and provided hand-written comments, noted in Table 8.3. He was offered a hard copy of the document, but declined. During and following the public comment period, we reviewed the entire draft Plan, updating text, figures, tables, and references as needed, often in response to public comments received.

**Outreach Initiatives**

Developing and maintaining awareness of the Pennsylvania Wildlife Action Plan is an ongoing process, and during development of this Plan, the PGC and PFBC provided information to the public in a variety of formats. Here we summarize activities to involve and inform the public in development of this Plan.

**Distribution of Agency Information to the Public**

Plan information has been provided through formats familiar to PGC and PFBC constituents. These media are in support of a “best practice,” where information is provided following the “state’s public notification and comment period processes, such as commission meetings and hearings.”

As this Plan was nearing completion, in June 2015, a presentation was provided by the PGC Plan coordinator to the PGC Board of Commissioners that was also webcast. This presentation included a brief tour of the *Eight Required Elements* and the products of the planning process. Similarly, in July 2015, the PFBC Fisheries Bureau Director provided an update on the Plan at the PFBC Board of Commissioners meeting. Notices of these materials are part of the publicly available agenda. Publications and announcements provided by the Commissions’ helped to inform the public about both



implementation and revision of the 2005 Plan. Here, we provide an overview of these publications and activities.

### **Pennsylvania Game News**

The PGC publishes the *Pennsylvania Game News*, with a distribution of approximately 73,000 printed copies, of which 39,261 are paid subscriptions; newsstands approximately account for 8,278; 12,373 copies for farm-game, safety-zone & forest-game cooperators; for schools & libraries, 4,548 copies are provided; and for Hunter-Trapper Education 2,117 copies. Recent publications relevant to either the 2005 Plan, or development of the 2015 Plan, include:

August 2013

#### ***Taking Action for All Wildlife: A comprehensive plan for the management of wildlife statewide***

Summary: The Pennsylvania Wildlife Action Plan and State & Tribal Wildlife Grants Program work in synchrony with each other. The Wildlife Action Plan is required for receipt of State & Tribal Wildlife Grant funding, and the funding is used to implement the Plan. Highlighted are several projects implemented to address goals and objectives of the Plan.

(Appendix 8.1, [Exhibit 3](#))

April 2015

#### ***An Ounce of Prevention is Worth a Pound of Cure***

Summary: Outlining the Pennsylvania Wildlife Action Plan, this article highlights State & Tribal Wildlife Grant funded projects that are successfully protecting Pennsylvania's birds and mammals. Among the projects discussed are the Second Breeding Bird Atlas, Barn Owl Conservation Initiative, and two projects that address needs of the Allegheny woodrat.

(Appendix 8.1, [Exhibit 4](#))

### **Pennsylvania Game Commission Research Briefs**

June 2014: ***Project SNOWstorm***: Research on snowy owls in Pennsylvania

July 2014: ***Keeping Common Species Common***: Role of the Plan and current activities to help recover species.

March 2015: ***Neotropical Returns***

Tracking neotropical migrants using light-sensitive geolocators.

April 2015: ***Hanging with the People***

Recovery of the Osprey in Pennsylvania  
(Appendix 8.1, [Exhibit 5](#))



### Pennsylvania Angler and Boater

The PFBC publishes the *Pennsylvania Angler and Boater Magazine* six times annually with a distribution to 14,000 paid subscribers and 20,500 recipients of the electronic version. For each issue, select articles are provided on the PFBC Website without a subscription. Recent publications relevant to either the 2005 Plan, or development of the 2015 Plan, include:

September/October 2013

#### State Wildlife Action Plan: Identifying Threats to Pennsylvania's At-Risk Aquatic Species

Summary: Environmental threats to Pennsylvania's species and habitats are highlighted to bring awareness to readers about the diverse and complex resource concerns affecting Pennsylvania's natural resources.

September/October 2014

#### State Wildlife Action Plan: Identifying Conservation Actions to Protect Pennsylvania's At-Risk Species

Summary: Despite the many threats identified in the 2013 article, the public and conservation community can take action to reduce or eliminate these threats. A general table of conservation actions and threats illustrates potential actions which could be applied to address a general threat.

July/August 2015

#### The Pennsylvania Wildlife Action Plan – a lifeline for the Commonwealth's imperiled species

Summary: Following previous Plan-themed articles, this article described the State Wildlife Action Plan, its purpose and an overview of the revision process. The issue with this article was distributed during the public-comment period (late August/early September) thus allowing a limited time for readers to review the Plan and provide comments.

### Reports by the PGC and PFBC

The PGC and PFBC developed materials on a regular basis; summarizing progress for a broad range of biodiversity conservation initiatives. For the PGC this is typically provided through Annual Wildlife Management Reports. To illustrate the breadth of topics, the [2013-14](#) reports, which were the most currently available at submission of this Plan, included the following projects:

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Pennsylvania Game Commission Wildlife Management Annual Reports for 2013-2014

[70004](#) - Colonial Nesting Bird Study

[70007](#) - Surveys of Terrestrial Mammal Species of Special Concern

[70008](#) - Summer Bat Concentration Survey/Appalachian Bat Count

[71040](#) - Golden-winged Warbler Comprehensive Monitoring and Management

[71101](#) - Bald Eagle Breeding and Wintering Surveys

[71401](#) - Indiana Bat Hibernacula Surveys

[71402](#) - Indiana Bat (*Myotis sodalis*) Summer Roost Investigations

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[71801](#) - Allegheny Woodrat Surveys  
[71501](#) - Peregrine Falcon Investigations  
[71701](#) - Osprey Nest Surveys  
[72302](#) - Wetland Nesting Bird Surveys  
[79701](#) - Private Landowner Assistance Program  
[79801](#) - Barn Owl Conservation Initiative

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Additionally, the PGC Wildlife Diversity Division produces an Illustrated Annual Report each year that briefly, and stylistically, highlights these projects and more. Copies are provided to each Congressional office and made available to the public through the PGC Website.

The PFBC has reported progress on State & Tribal Wildlife Grant Projects through the [State Wildlife Grants Annual Summary Documents](#). In addition to updates on specific projects, articles in the [2013](#), [2014](#), and [2015](#) summaries discussed Plan revision, and role of the Plan in conserving aquatic resources. Information on implementing and revising the Plan also has been noted in PFBC 2014-Quarterly Reports ([Q1](#); [Q2](#); [Q3](#)) and [2014](#) Annual Report.

## Plan Implementation and Public Participation

### Legislative Updates

As expressed in the 2005 Plan, Goal 3, and 2015 Plan, Goal 6, *develop a knowledgeable citizenry that supports and participates in wildlife conservation*, recognizes the significance of providing to the public, information about Pennsylvania's Plan. To support this goal, we have informed legislators by participating in the Association of Fish and Wildlife Agencies (AFWA), annual Teaming With Wildlife (TWW) Fly-In in Washington, D.C. This event is an opportunity to keep legislators informed about State & Tribal Wildlife Grant-funded projects and the importance of this work to help secure the Commonwealth's fish and wildlife resources. Statewide maps and summaries generated by the PGC and PFBC highlight the broad scope of work conducted under this program ([Appendix 8.2](#): Exhibits 1, 2). We anticipate maintaining this communication as part of implementing the 2015 Plan.

### State Wildlife Grants Call-for-Projects

The PGC and PFBC developed a total of 110 State and Tribal Wildlife Grant-funded projects as part of planning, implementing, and revising the 2005 Plan (details in the Introduction Chapter). For these projects, funds were directed to support agency staff, but also to projects conducted by partners. Recognizing the scope of tasks to be conducted, coupled with limited staff capacity, the agencies engaged the public through "Calls-for-Projects" (Table 8.4) which resulted collectively in 50 grantees between FY2001 and 2014. Although grantees were often partners, these announcements informed the public about priorities currently being addressed in the 2005 Plan. Through these announcements, the public was made aware of the Plan and current resource needs.

### Amendments to the 2005 Pennsylvania Wildlife Action Plan

In the introduction of this Plan, we described three Amendments to the 2005 Plan, of which two amendments: 1) Addition of native eastern brook trout (*Salvelinus fontinalis*) and 2) Addition of American shad (*Alosa sapidissima*) were considered "major" amendments. As such, a public-comment



period was required, and for these amendments a total of 126 comments were received, demonstrating public involvement in the revision process.

Table 8.4. Years during which the PGC and PFBC conducted public calls-for-projects.

Year	PGC	PFBC
2001 <sup>a</sup>	●	
2002 <sup>b</sup>	●	
2003 <sup>b</sup>	●	
2004 <sup>b</sup>	●	
2005 <sup>b</sup>	●	
2006 <sup>b</sup>	●	
2007 <sup>c</sup>	●	●
2008	●	●
2009		
2010	●	●
2011		
2012	●	●
2013		
2014		●

<sup>a</sup>Pre-State and Tribal Wildlife Grants (Wildlife Conservation and Restoration Program-WCRP).

<sup>b</sup>Program administered by PGC, but Call-For-Projects may have included PFBC initiatives.

<sup>c</sup>Joint Call-For-Projects.



## Appendix 8.1 Exhibit 1.

PGC announcement of a public comment period for the full draft 2015 Plan.

Release #053-15

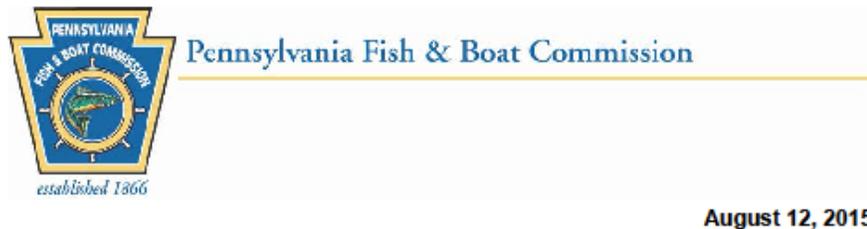
The screenshot shows a news release page on the Pennsylvania State website. At the top, there is a banner image of several ducklings on a log, with the Pennsylvania Game Commission logo on the left. Below the banner is a navigation menu with links for HOME, HUNT/TRAP, WILDLIFE, EDUCATION, GENERAL STORE, SELF-HELP, ABOUT US, RESOURCES, and THE LAW. The main content area features a 'FOR IMMEDIATE RELEASE' notice dated August 12, 2015, followed by the title 'PUBLIC CAN COMMENT ON PENNSYLVANIA'S WILDLIFE ACTION PLAN' and a sub-headline 'Draft of 2015-2025 update can be found online, comment accepted through Sept. 11'. The text of the release discusses the Pennsylvania Game Commission and Fish and Boat Commission seeking public input on the draft 2015-2025 Wildlife Action Plan. It includes quotes from Game Commission Executive Director R. Matthew Hough and PFBC Executive Director John Arway. A 'Quick Clicks' sidebar on the right lists various links such as 'News Releases', '2015-16 Seasons & Bag Limits', and 'Antlerless Deer Licenses & Applications'. At the bottom of the page, there is a URL and a timestamp.

http://www.portal.state.pa.us/...state.pa.us/publishedcontent/publish/markingsites/game\_commission/content/resources/newsreleases/newsrelease/articles/release\_053\_15.html[8/28/2015 9:22:01 AM]



## Exhibit 2.

PFBC announcement of a public comment period for the full draft 2015 Pennsylvania Wildlife Action Plan.



### Commissions Seek Public Comments on Pennsylvania's Wildlife Action Plan

HARRISBURG, Pa. (Aug. 12) –The Pennsylvania Game Commission and Pennsylvania Fish and Boat Commission (PFBC) are seeking public input through Sept. 11 on the draft 2015-2025 Pennsylvania Wildlife Action Plan.

The draft plan and comment forms can be found at: <http://fishandboat.com/swap2015.htm>. Questions can be directed to the Game Commission at [WildlifePlanCmnts@pa.gov](mailto:WildlifePlanCmnts@pa.gov) or to the Fish and Boat Commission at [RA-FBSWAP@pa.gov](mailto:RA-FBSWAP@pa.gov). Use "SWAP" in the subject line.

The purpose of the Pennsylvania Wildlife Action Plan is "to conserve Pennsylvania's native wildlife, maintain viable habitat, and protect and enhance Species of Greatest Conservation Need." First developed in 2005, the plan has been the Commonwealth's blueprint for managing and protecting imperiled species. As required by Congress, State Wildlife Action Plans must be revised no less than every 10 years. For the past 10 years the Pennsylvania Wildlife Action Plan and associated funding from State and Tribal Wildlife Grants have been crucial for protecting and recovering imperiled species and their habitats.

"State Wildlife Action Plans (SWAP) are designed to help keep our common native species from becoming more rare," said PFBC Executive Director John Arway. "For rare species already listed as threatened or endangered, the plan is a framework to assist with their recovery. The SWAP is a unique opportunity to plan how we can work together to protect, conserve and enhance not only our diverse fish and wildlife resources but also the habitats that allow them to continue to live and survive on our Commonwealth's lands and in our waters."

"Pennsylvania's Wildlife Action Plan is a commitment to maintaining the Commonwealth's vast diversity of native wildlife, something we are bound to preserve in accordance with our state constitution," added Game Commission Executive Director R. Matthew Hough. "It isn't enough to say we will. We are bound by our constitutional promise to generations yet to come and our conservation ethic to manage all of the state's natural resources wisely. This plan helps us do that, and it ensures our efforts will be in step with the federal government and other states."

Bringing together conservation agencies and organizations from across the Commonwealth, for nearly three years the Game Commission, Fish and Boat Commission, and their partners have compiled and analyzed information related to species, habitats, threats, conservation actions to address the threats, and monitoring of these species and habitats. The revised draft plan has identified 884 species including 90 birds, 19 mammals, 18 amphibians, 22 reptiles, 85 fishes and 450 invertebrates that require attention.

A State Wildlife Action Plan approved by the U.S. Fish and Wildlife Service is required for states to receive State & Tribal Wildlife Grant Program funds. The Pennsylvania Wildlife Action Plan is scheduled to be delivered to the U.S. Fish and Wildlife Service by Sept. 30, 2015.

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#### Media Contacts:

Our Mission:

[www.fishandboat.com](http://www.fishandboat.com)

*To protect, conserve and enhance the Commonwealth's aquatic resources and provide fishing and boating opportunities.*



### Exhibit 3.

Taking Action For All Wildlife: A comprehensive plan for the management of wildlife statewide. Article published in the *Pennsylvania Game News* about the Pennsylvania Wildlife Action Plan.



**By Nate Zalik  
and  
Cathy Haffner**

**P**ENNSYLVANIANS love wildlife and the numbers prove it! In a national survey of hunters, anglers and wildlife watchers, published by the U.S. Fish and Wildlife Service in 2012, Pennsylvania ranks in the top five for states with the highest number of in-state hunters and wildlife watchers (775,000 and 3,598,000 respectively). With a mission to manage all wild birds, wild mammals and their habitats for this and future generations, the Game Commission takes these statistics to heart. How do we ensure all citizens of the Commonwealth have the opportunity to enjoy all wildlife? Luckily, we have a plan and way to execute it.

The State Wildlife Action Plan,

developed and implemented jointly with the Fish & Boat Commission and hundreds of partners, is a comprehensive blueprint for wildlife conservation action in Pennsylvania. It provides proactive prescriptions for preventing further species endangerment, which is a more affordable approach than waiting until critical care is needed to bring a species back from the brink of extinction. Finalized in 2005, the plan identifies and prioritizes species of greatest conservation need, evaluates habitat conditions, determines threats to species and their habitats and outlines priority conservation actions to address the threats. Pennsylvania was not alone in developing a State Wildlife Action Plan. All states and U.S. territories compiled these comprehensive wildlife conservation strategies when Congress created the State Wildlife Grants Program in 2001.



prove habitat for one of Pennsylvania's most striking species of songbirds. The golden-winged warbler is a bird that inhabits young forests, in association with other wildlife such as the ruffed grouse, American woodcock, eastern whip-poor-will and Appalachian cottontail. White-tailed deer and black bears also will use the young forests created through this project. To date, more than 2,000 acres have been marked for timber harvests to create young forest habitat on state game lands.

Golden-winged warblers hold special significance in the State Wildlife Action Plan as part of a group of species labeled "Pennsylvania responsibility species." The biologists, sportsmen and conservationists who worked together on the plan recognized Pennsylvania's key role for the persistence of certain species. These responsibility species have core populations or significant proportions of their regional populations in Pennsylvania. In the case of golden-winged warblers, nearly 10 percent of the world's population

exists in Pennsylvania. Other examples of responsibility species include the scarlet tanager (nearly 20 percent of the world's nesting population in Pennsylvania), a striking bright red bird with black wings found in forests, and the Allegheny woodrat (greater than five percent of the world's population is here), a native mammal found in rugged, rocky habitats. Because Pennsylvania is a stronghold for these species, we have a high responsibility to properly manage the habitats upon which these species and many others depend.

The state threatened Allegheny woodrat is a seldom-seen native mammal that has its largest colonies in central and southwestern Pennsylvania. Unlike introduced Norway rats, which often live near areas of human habitation or waste-disposal sites, Allegheny woodrats are found in remote, rocky areas including cliffs, rock outcrops and caves. Despite their preference for habitats that traditionally had little direct impacts by people, woodrats have



disappeared from many areas that they formerly inhabited, and Pennsylvania now represents the northeastern extent of their range. State Wildlife Grants have aided in developing and sharing management recommendations with natural resource professionals across the state. Currently, two State Wildlife Grants projects are underway to improve the outlook for woodrats. Researchers at Indiana University of Pennsylvania will study the genetic effects of small populations, and a captive breeding program at Delaware Valley College is designed to enhance existing populations or to restore woodrats to areas that they formerly inhabited.

The Henslow's sparrow, a secretive bird of open grasslands, is another responsibility species in the State Wildlife Action Plan, with nearly 10 percent of the species' breeding population in Pennsylvania. To protect habitat for this and other grassland-nesting birds and provide additional recreational opportunities, the Game Commission purchased 2,254 acres of reclaimed surface mines using State Wildlife Grants funds to create State Game Lands 330 (Piney Tract) in Clarion County. This reclaimed surface mine area provides some of the most important habitat in Pennsylvania for Henslow's and grasshopper sparrows, and other grassland species, such as the state endangered short-eared owls. For this reason, the Piney Tract is designated as an Important Bird Area of global significance. Since the purchase of the site, the Game Commission has partnered with Audubon Pennsylvania to remove woody vegetation to further improve the habitat for grassland birds. As a result, nests have been found in areas not previously used by grassland birds

for nesting, demonstrating the effectiveness of habitat management efforts.

Partnering with universities, other state agencies and nonprofit organizations has been a large component of the State Wildlife Grants Program's success. These partnerships help extend the reach of State Wildlife Grants by providing financial support for larger and more diverse projects than the Game Commission would be able to undertake on its own. The program requires 35 percent of project costs come from nonfederal sources. Together, the Game Commission and its partners have contributed more than \$10 million toward State Wildlife Grants projects to improve conditions for Pennsylvania's wildlife.

So far, we've described conservation actions taking place on public lands. However, nearly 80 percent of Pennsylvania is privately owned. So how can the Pennsylvania Wildlife Action Plan and the State Wildlife Grants Program improve habitat on these lands? The





Private Landowner Assistance Program was designed to do just that. The agency's six regional wildlife diversity biologists provide habitat planning services—at no charge—to landowners. These biologists have developed more than 1,000 plans to improve forest, grassland, scrubland, wetland and agricultural habitat for species of greatest conservation need since the program began in 2004.

Effective conservation planning on both private and public lands requires a thorough knowledge of species distribution and abundance. Thanks in large part to State Wildlife Grants funding, we now have a better understanding of Pennsylvania's nesting bird populations than ever before, with the publication of the Second Atlas of Breeding Birds in Pennsylvania in 2012. Nearly 2,000 volunteers surveyed nesting birds across the state between 2004 and 2009 as a follow-up to the first atlas completed in the early '90s. The ability to look at changes in habitat conditions and bird populations over the past 20 years will help inform conservation and management decisions for the next decade, particularly as we revise the State Wildlife Action Plan by 2015.

The Game Commission and the Fish and Boat Commission are contributing to conservation actions carried out beyond Pennsylvania's borders as well. Pennsylvania, along with 12 other northeastern states and the District of Columbia, pool a percentage of their annual State Wildlife Grants funds toward regional conservation projects. These funds have led to advances in mapping northeastern wildlife habi-

tat, investigating potential impacts of climate change on species of greatest conservation need, and enhancing our understanding of white nose syndrome, a disease killing populations of cave-hibernating bats in Pennsylvania and rapidly spreading in North America.

Together, the State Wildlife Action Plan and the State Wildlife Grants Program have accomplished much for wildlife and wild places in their relatively brief existences. Species surveys, habitat management, and land acquisition projects have improved the future for Pennsylvania's wildlife, the habitats on which it depends—and ultimately, our quality of life. However, the future of these types of projects is uncertain. Despite being the primary funding source for the Game Commission's Wildlife Diversity Program and similar programs nationwide, continued funding for State Wildlife Grants is not guaranteed. The program is subject to annual appropriations by Congress, and funding has been cut by 33 percent from 2010 levels. With budget battles occurring with increasing regularity in Washington, program funding is in jeopardy of being reduced further or cut altogether. You can take action for all wildlife by telling your congressional representative that State Wildlife Grants funding is an important annual investment and makes sense. Future generations will thank you for it.

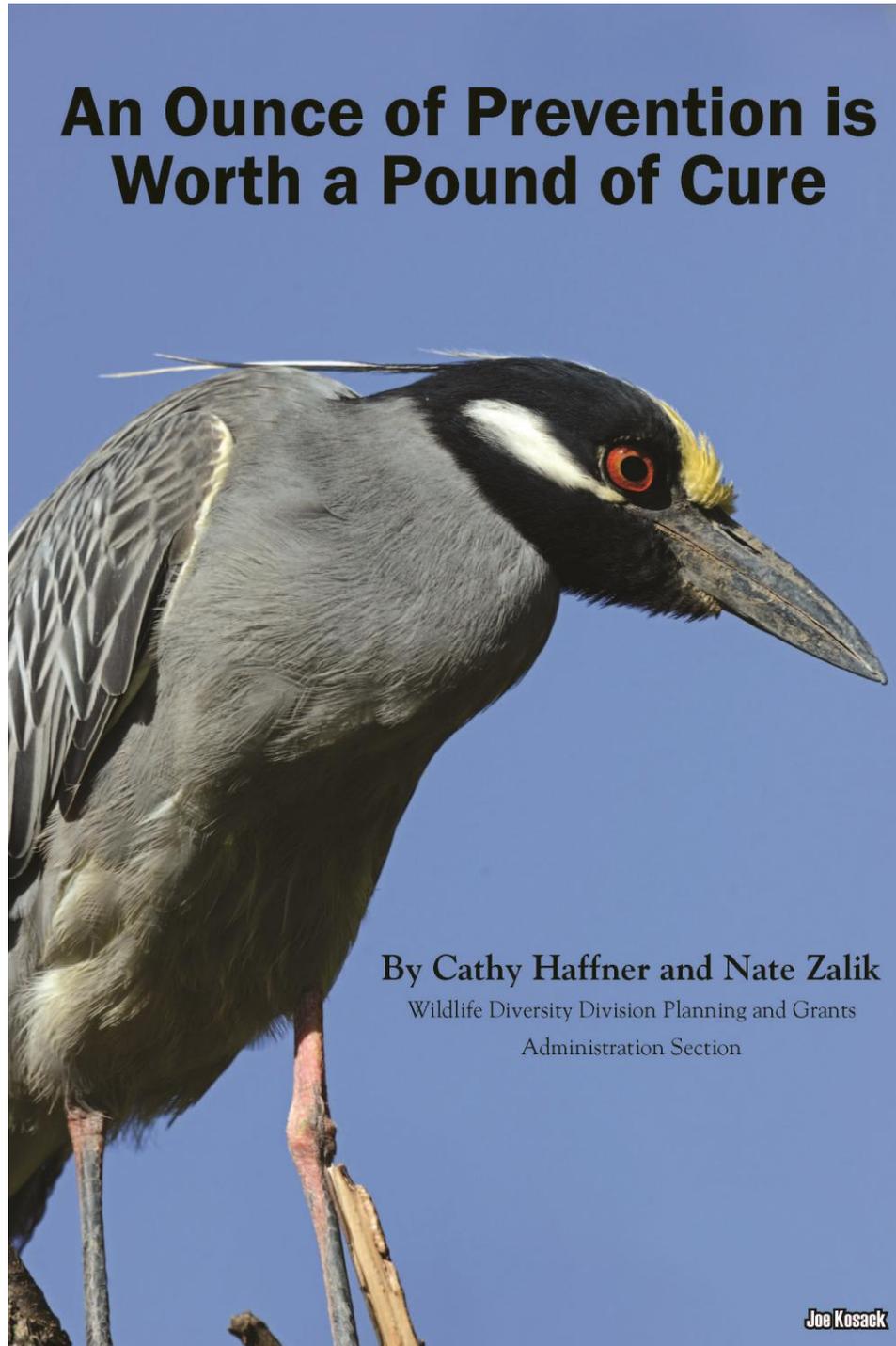
Nate Zalik is the PGC's State Wildlife Grants Program Coordinator and Cathy Haffner is the agency's Wildlife Action Plan Coordinator.





**Exhibit 4.**

Article published in the *Pennsylvania Game News* about the Pennsylvania Wildlife Action Plan. An Ounce of Prevention is Worth a Pound of Cure.





*Benjamin Franklin may have been referring to fire safety when he wrote that refrain centuries ago, but the concept also certainly can be applied to wildlife management.*

**O**UR CONSERVATION history is riddled with lessons learned the hard way and costly recovery efforts.

Take, for example, the iconic passenger pigeon that went extinct, by our hand, just more than a century ago.

In the 1800s, it was inconceivable that this vastly abundant bird could ever be driven to extinction. Historic accounts describe a ‘blackening of the skies’ and ‘shuddering of trees’ as the estimated 3 billion to 5 billion birds flew overhead on their way to nesting sites in the northeastern deciduous forests, including Pennsylvania.

Nevertheless, it took only 40 years of unregulated market shooting to cause the demise of this keystone species and plentiful food source in the wild, and less than half that time for the last of the species to die in captivity.

Lesson learned.

Soon thereafter, wildlife laws were introduced to prevent future extinctions, but they came too late for some species.

But it’s not all bad.

On a brighter note, America celebrated the removal of the bald eagle from the federal endangered species list in 2007 and, just last year Pennsylvanians celebrated the recovery of this national symbol in our state.

The bald eagle’s tremendous recovery from the brink is a testament to how removing threats like DDT, direct

persecution and poor water quality, and working together can result in success.

The total cost of bald-eagle recovery at the national level was significant.

The species first received protection in 1940, equating to decades of persistent, targeted efforts to prevent this species from extirpation in the lower 48.

Reactive conservation efforts take considerable staffing and resources to accomplish; and you typically start with the odds stacked against you.

What if we noticed problems in the eagle population before it was in need of costly emergency-room care and began to address them – proactively?

This concept was realized in the 2000 congressional legislation that created the State and Tribal Wildlife Grants Program.

This made available – for the first time in history – funding to states explicitly for “programs that benefit wildlife and its habitat, including species that are not hunted or fished.”

A state’s eligibility to receive these funds was contingent upon approval of a State Wildlife Action Plan that identifies species in greatest need of conservation, the extent and condition of their habitats, lists threats to the species or their habitats, and prioritizes conservation actions to address the threats.

It is a proactive approach to conservation, and the nation’s core program

**The photo of the yellow-crowned night-heron on the opposite page was taken in Harrisburg, one of the only places in Pennsylvania this state-endangered species nests.**



The *Second Atlas of Breeding Birds in Pennsylvania* determined that Northern parulas are expanding their range in Pennsylvania at a time when other songbirds are losing ground.

for preventing species from becoming endangered.

Pennsylvania's Wildlife Action Plan, a joint effort with the Pennsylvania Fish & Boat Commission, was approved by the U.S. Fish and Wildlife Service in 2006, and thus made Pennsylvania eligible to receive on average \$1.8 million annually to implement the plan. Funding is split equally between the Fish & Boat Commission and Game Commission.

These funds are not assured each year, however, Congress in every budget cycle determines if states will receive them.

The Game Commission since 2002 has been using State Wildlife Grant Program funds, matched by non-federal dollars, to address stated goals and achieve conservation actions described in the plan for species in greatest need. A few examples follow.

#### *Second Breeding Bird Atlas*

One of the guiding principles of the Pennsylvania Wildlife Action Plan is to keep common native species common. This concept moves us beyond rarity and reactive approaches. Of course, we still take conservation actions for the rare species, but State Wildlife Grants provide states the opportunity to investigate potential problems and seek to lessen them. Indeed one of the goals of our Wildlife Action Plan is to improve the scientific basis for making conservation decisions.

Perhaps no State Wildlife Grant-funded project has gathered as much baseline information on the state's wildlife as the *Second Atlas of Breeding Birds in Pennsylvania*. Conducted from 2004 to 2009, nearly 1,900 volunteers and a handful of staff systematically searched the state to document the status of the state's breeding birds.



The result was an astonishing 854,773 bird records documenting 190 breeding bird species. The atlas contains a map of each species' distribution across the state, as well as estimates of population size for select species. By comparing the results from those of the first Pennsylvania breeding bird atlas, conducted from 1983 to 1989, we can see how the distribution of the state's birds have changed over a 20-year period.

For example, not only did the results show that fewer areas were occupied by ruffed grouse, a forest inhabitant, than during the 1980s, but that losses were especially great in the southwestern and southeastern portions of the state.

These types of data are invaluable to conservation planning and

management efforts. For example, the mandatory 10-year revision of Pennsylvania's Wildlife Action Plan is currently underway. The detailed, state-level data that we have on the

state's breeding birds is a main source of information for updating the list of Species of Greatest Conservation Need, and in assessing threats to those species. Management actions, such as providing young forest habitat for the

ruffed grouse, can be targeted to areas where they are most needed.

#### ***Barn Owl Conservation Initiative***

Barn owls were widely distributed across the state during the first Pennsylvania breeding bird atlas, with the greatest concentration in south-



Barn owl distribution dropped from 56 counties to 30 from the first breeding bird atlas to the second. It is a species of greatest conservation need in the Wildlife Action Plan.



central and southeastern areas.

However, the second atlas showed that barn owls had declined by more than 50 percent since the 1980s, with range retractions occurring in southeastern and western Pennsylvania.

Barn owls use hayfields, pastures, and meadows to hunt for small rodents.

These habitats are being lost primarily to development and conversion to row crops, but also from abandoned farmland reverting to forest.

Additionally, suitable nesting sites are reduced as old, open barns and silos are becoming less common on the Pennsylvania landscape.

To help prevent further population decline of this maintenance concern Species of Greatest Conservation Need, in 2005 the Game Commission began the Barn Owl Conservation Initiative supported by State Wildlife Grant funding.

The Barn Owl Conservation Initiative's goal is to secure the species' future in the state.

The Game Commission's six regional wildlife diversity biologists monitor known nesting locations and search for new or unknown nest sites to understand the species' distribution and abundance.

Where barn owls are found or where suitable habitat exists, wooden nest boxes are installed to provide safe, secure nesting locations.

More than 200 nest boxes have been installed and more than 1,600 barn-owl nestlings have been individually identified with small metal leg bands (i.e., banded) since the program began.

In 2013, nest boxes housed 57 of the 75 known active barn owl nests.

Banded owls later found nesting or dead provide data on the birds' lifespan and dispersal distance.

This initiative isn't just about working with owls, however.

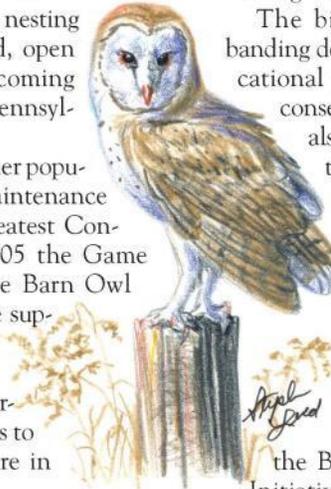
Working with the public also is a big component.

Reports of barn owls provided by the public are very valuable to locate new nesting sites.

The biologists give several banding demonstrations and educational programs on barn owl conservation each year. They

also provide recommendations to landowners on improving grassland habitat to benefit barn owls, as well as other grassland species.

By improving foraging and nesting habitat, and by educating others about the species, the Barn Owl Conservation Initiative is working to ensure that this 'farmer's friend' remains a part of Pennsylvania's farmland and grassland habitats.



### ***Allegheny Woodrats***

Allegheny woodrats are native to Pennsylvania and are currently considered threatened at the state level, and an immediate concern species in the State Wildlife Action Plan.

Formerly found as far northeast as western Massachusetts and Connecticut, woodrats have disappeared from New England and New York, and Pennsylvania now represents the



The state-threatened Allegheny woodrat has drawn considerable management attention over the past decade as its range has withdrawn from states north of Pennsylvania.

northeastern extent of the species range, although the species also has declined here.

Pennsylvania therefore represents the “front line” in preventing further range retractions, which, if they occurred, could lead to the species landing on the federal endangered-species list.

Unlike introduced Norway rats, which live near areas of human habitation, especially urban and agricultural areas, Allegheny woodrats are limited to rocky areas such as cliffs, rock outcrops, and caves.

As these habitat features are not continuously distributed across the landscape, woodrats often exist as distinct populations that might be separated by some distance from the next closest population.

As woodrat numbers have declined, this population structure means that

the animals increasingly live as small, isolated populations; a scenario that sets up the potential for inbreeding and reduced survival and reproductive success.

Because of that, the Game Commission in 2012 chose to use State Wildlife Grants Program funding to support two projects to address this threat.

Indiana University of Pennsylvania initiated a genetic study of woodrats in the state. This study aims to identify populations that suffer from reduced genetic diversity, and therefore might be vulnerable to further population declines or collapse unless reintroductions or translocations are undertaken to improve genetic diversity.

Conversely, those populations found to be genetically stable will likely benefit from other management techniques, such as habitat improvement.

At the same time, Delaware Valley



College began an Allegheny woodrat captive-breeding program with 10 woodrats formerly held at Purdue University. The goal is to raise woodrats for release into the wild, especially in areas that suffer from low genetic diversity or at sites that historically were occupied but no longer harbor populations.

Combined with habitat management, these two projects will help to conserve this inhabitant of the state's most rugged terrain.

### *The Future*

The legislation creating the State and Tribal Wildlife Grants Program was a turning point for state agencies and U.S. territories; it provided the opportunity to take cost-effective proactive measures to conserve species and their habitats, rather than reacting to crises.

As we reflect on the centennial of one of the most notable extinctions in

our history, and the 40th anniversary of the federal Endangered Species Act (2013), we contemplate the vision for wildlife – and wildlife management – into the future.

The State Wildlife Action Plan has been a foundational document for guiding research and management of fish and wildlife in the Commonwealth since 2005.

As we update the plan for 2015 through 2025, we aim to continue this success to achieve healthy native wildlife populations, communities and habitats in Pennsylvania for this and future generations. 

*Cathy Haffner is the Wildlife Diversity Conservation Planning Coordinator and Nate Zalik is the Wildlife Diversity Grants Coordinator in the Wildlife Diversity Division of the PGC Wildlife Management Bureau.*



The bald eagle's return from the brink of extirpation in Pennsylvania – down to only three nests in the early 1980s – is one of the Commonwealth's best conservation success stories.



## Exhibit 5.

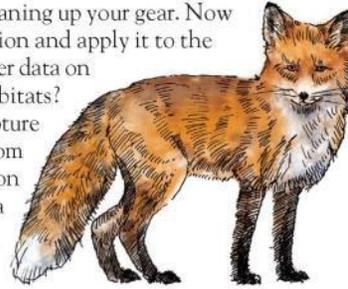
PGC Research Briefs relevant to the Pennsylvania Wildlife Action Plan.

- Project SNOWstorm
- Keeping Common Species Common
- Neotropical Returns
- Hanging with the People

# Research Briefs

**Mammal Mission:** Performing a mammal survey can be a lot of work. Days are spent preparing the site and all sorts of equipment for the survey, followed by completing the survey and cleaning up your gear. Now consider what is typical for a specific location and apply it to the entire state. How tough would it be to gather data on all mammal species in the state's varied habitats?

The scale is as large as can be; numerous capture and discovery techniques will be used, from trapping cryptic species to collecting data on the more noticeable ones. Collecting data for Pennsylvania's soon-to-be-launched Mammal Atlas project will be a daunting task. In coming months, this ambitious project should be underway, and there will be many ways for all residents to be involved. In fact, we'll be depending on your help. Whether it's photographing mammals you observe afield or around your home, or snapping a picture of what your cat has brought home or an animal you find dead, the agency is looking for your involvement. Stay tuned for more details, and know that we're counting on your help!



– **Greg Turner, Endangered and Threatened Mammals Biologist**

**Project SNOWstorm:** Our recent winter is one that will not be soon forgotten in the birding community. We experienced a tremendous influx of snowy owls – a large, white arctic breeder that usually reaches northern Pennsylvania in small numbers during winter. This year, dozens of snowy owls were seen throughout Pennsylvania, and many more in neighboring states. This “irruption” to the Lower 48 has provided ornithologists an exceptional opportunity to further understand the behavior and condition of these owls during the winter months. Project SNOWstorm was organized by Scott Weidensaul and David Brinker to catch a few of these birds in several states to assess their body condition and affix a small GPS unit to relay the birds' position. I had the opportunity to participate in catching one of these owls just a few miles from my house. After finding one owl – appearing like a large snowball on the tip of a tree branch – another was spotted on the ground less than 100 yards away! The trap was set. We waited patiently with the frigid, blustering wind whipping across agricultural landscape, while the owls looked inquisitively at the bait. One flew toward the trap and landed just a few feet away. Would this be my chance of a lifetime – to see this arctic beauty up close? It was our lucky night. Both owls were captured and released without problem. Although they were too light for



a GPS unit, they were weighed, measured and marked with a metal leg band for future identification prior to release. The owls remained in the immediate area and continued to be seen by many birders. Visit [www.projectsnowstorm.org](http://www.projectsnowstorm.org) to learn more about this work.

– *Cathy Haffner, State Wildlife Grants Planner*

**Annual Resident Goose Banding:** Late June and early July is when agency personnel and volunteers conduct annual resident goose banding. Banding operations occur at this time because it is when adult Canada geese undergo a complete molt of their flight feathers, rendering them flightless for a period of several weeks. Most spring-hatched juveniles also are large enough to carry a leg band, but not yet developed enough to fly. Each year, the Game Commission captures and bands 2,500 to 3,000 resident geese statewide. Geese are typically captured by herding them into an open area and then surrounding them with a number of 10-foot by 4-foot panels, and then bringing them together to enclose the geese in a pen. Following their capture, the age and gender of each bird is determined. Aging is fairly easy based on body size and feathering. Birds are generally categorized as “after hatch year” (adults) or “local” (juveniles). However, gender determination is a different story. Because both male and female geese look similar, a cloacal examination is required to determine the gender. If you have never seen this performed, I assure you, when you do, you won’t forget it! After the age and gender is determined, the bird is banded and released at the capture site. Waterfowl banding or marking is an important tool for biologists. Banding recovery data is used to: calculate annual harvest and survival rates; document the harvest distribution in the state and flyway; show how changes in hunting regulations influence survival and harvest rates, and follow annual movement patterns.



– *Jeremy Stempka, Game Bird Biologist*

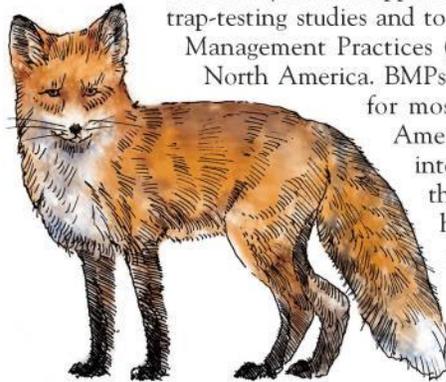
**In Deep:** Spa treatments while on the clock? With winter temperatures bitterly cold, stepping into a cave is almost like stepping into a steamy sauna. Unfortunately, as biologists we can’t sit down and relax. Our goal is to count the bats that are using these caves or tunnels during the winter. It isn’t as hard as finding a needle in a haystack, but some bats, such as the eastern small-footed bat, can really tuck themselves into cracks. And those cracks may be down narrow passages or beyond underground streams. Surveys began in January and continued through the middle of March, with a goal of surveying certain caves once every two years. These surveys allow us to see population trends and continue monitoring the effects of white-nose syndrome. So, we go to squeeze through cracks, through the mud and water to our underground spa, and all for the conservation of our bats.

– *Lindsey Heffernan, Endangered and Threatened Mammal Biologist*



# Research Briefs

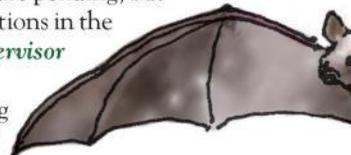
**Trap Testing Continues:** Since 1998, the Pennsylvania Game Commission has worked cooperatively with the Association of Fish and Wildlife Agencies and the Pennsylvania Trappers Association to conduct standardized trap-testing studies and to promote the development of Best Management Practices (BMPs) for trapping furbearers in North America. BMPs for trapping have been developed



for most furbearers occurring in North America, and have been incorporated into trapper-education programs across the country. Trap-testing efforts also have played a role in the legalization of new devices to capture and restrain furbearers. For example, the legalization of cable restraints to harvest foxes and coyotes was a direct result of the BMP trap-testing process. Trap-

testing field research has been designed to evaluate efficiency, selectivity and humaneness of live-restraining devices for furbearers throughout North America. Field work for trap testing in Pennsylvania is coordinated by the PGC, but is performed by cooperating trappers who test devices on actual traplines. Trappers are accompanied by technicians who are randomly assigned trap types at each set, record set conditions, visitation, trap performance and capture characteristics. All target animals are dispatched, labeled, frozen and evaluated by trained veterinarians to assess injuries. This past February, two trapper-technician teams tested several cable-restraint systems to evaluate their efficiency and performance restraining red fox. BMP protocols specify that at least 20 specimens must be captured and evaluated for each device tested. Despite difficult winter conditions, the two teams captured 55 red foxes, which were recently sent to Missouri for injury evaluation. The results from this year's testing are pending, but they will help us to further refine cable-restraint regulations in the future. – *Matt Lovallo, Game Mammals Section Supervisor*

**Keeping Common Species Common:** Addressing the conservation needs of 88 percent of birds and mammals not hunted or trapped in Pennsylvania is a daunting task. Not all of these species require specialized attention, but those that do are prioritized in the State Wildlife Action Plan. The State Wildlife

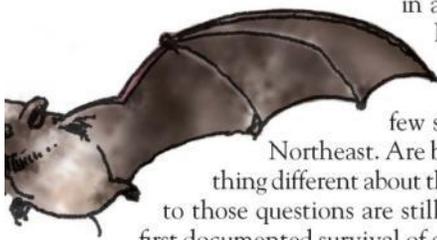




Grants Program, an annual allocation from Congress, provides funding to take action for these species before they become so rare the U.S. Fish and Wildlife Service must protect them under the Endangered Species Act. Taking care of these species before they reach that point is similar to treating an illness at your doctor's office before it becomes more serious and requires an emergency-room visit; a more cost-effective approach. Each year, we travel to D.C. with several statewide conservation partners to discuss with Pennsylvania members of Congress the successes achieved for priority species and their habitats through annual grant funds. On this year's trip, our agency and Indiana University of Pennsylvania Research Institute received a State Wildlife Action Plan Partnership Award from the Association of Fish and Wildlife Agencies. On the web, go to Google, search for our "Wildlife Diversity Illustrated Annual"

and check out how the agency's Wildlife Diversity Program is helping to monitor and conserve wildlife and its habitats for this and future generations.  
 – *Cathy Haffner, Wildlife Diversity Conservation Planning Coordinator*

**Bats Offer a Sign:** During a winter as cold as 2013-14, moving farther north might not seem like the best decision. But, if you are one of the 2 percent of the cave bats surviving in the Northeast, going where other survivors are might be just the ticket. This is exactly what we found with one bat from southeastern Pennsylvania. We have been studying the declines of bats from the disease called white-nose syndrome since 2009. In recent years, we have found only about 125 federally endangered Indiana bats during winter surveys in hibernation sites, down from slightly more than 1,000. This species sometimes travels hundreds of miles between winter hibernation sites and summer sites. In August 2013, I was working near Reading, Berks County, with a Game Commission and Western Pennsylvania Conservancy crew mist-netting bats at one of the few known active summer locations used by Indiana bats. We caught and banded a juvenile female Indiana bat. In March 2014, colleagues in New York state found her hibernating



in a mine in Ulster County. Her migration from Berks County to where she spent the winter was about 130 miles – bearing northeast – and it connects Pennsylvania bats to one of the few significant hibernation sites remaining in the Northeast. Are bats seeking out other survivors? Is there something different about this specific site that helps bats survive? Answers to those questions are still to be determined. Regardless, obtaining our first documented survival of a juvenile Indiana bat gives us hope that other juveniles are surviving, too. We also hope she returns to Berks County for many years to come. – *Greg Turner, Endangered and Threatened Mammals Biologist*



# Research Briefs

**Neotropical Returns:** Tracking the annual travels of migratory birds can identify threats they face. Are they spending winters in tropical areas experiencing rapid deforestation or drought? Is habitat being lost at their stopover areas? Our ability to determine the migratory paths and wintering grounds of small songbirds has increased dramatically in the last 10 years. Researchers



used to rely solely on bird banding to track migrants, which required that birds be recaptured or found dead in a different location than where they were banded. For small birds, such as warblers, getting a band return is a rare event indeed. Even then, we only learn where the bird was on that day, with no information on the route it took to get there, or how long it remained in the area. Satellite transmitters provide precise location data at regular time intervals, but they are too heavy to place on small songbirds. Recently, devices called light-level geolocators have been used in studies of songbirds. These devices are lightweight and can be carried by some of our smallest species. They work by recording light levels throughout the day. From this information, day length, sunrise and sunset times can be calculated. In turn, we can determine the bird's approximate latitude (from day length) and longitude (from sunrise and sunset times). However, the devices don't transmit data – it's stored in the unit. So to retrieve the data, the bird must be recaptured the following year when it returns to its breeding grounds. In 2014, the Game Commission used Pittman-Robertson funds to support a project examining migratory pathways of cerulean warblers, which have experienced long-term declines across their range. Researchers at Indiana University of Pennsylvania, Arkansas State University, and the U.S. Forest Service-Northern Research Station affixed geolocators – weighing less than a quarter of a penny – on the backs of 10 cerulean warblers in northwestern Pennsylvania. The team will be back out in the woods in the spring of 2015 attempting to recapture these birds and discover where they traveled while away from their Pennsylvania breeding grounds.

– *Nate Zalik, Wildlife Diversity Grants Coordinator*



**More Is Better:** Most waterfowl biologists rely on one banding period just before hunting season to estimate annual waterfowl survival, harvest rates and seasonal movement patterns. However, for certain species, including black ducks, more specific



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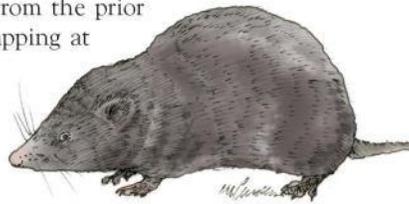


**Hanging with the People:** The osprey is considered a threatened species in Pennsylvania, recovering from extirpation after a re-introduction program by East Stroudsburg University from 1980 through 1996. Ospreys were released at places like Pocono Lake, the Tioga County reservoirs, and Moraine State Park. The use of DDT was the chief culprit for the decline of this species, but persecution and water pollution also played a role. The Game Commission monitors the nesting population of this charismatic fish-eating raptor, but does not conduct a full state survey every year. The last time we conducted such a thorough survey, we found 115 nests in 2010 and have recorded a few nests in the years since then. There were 99 nests located in 2013, even without a full survey effort. Staff, cooperators and volunteers

have helped conduct these surveys. Most ospreys in Pennsylvania nest near still water, especially reservoirs, rather than running water. They nest near human-made bodies of water and build their nests on human-made structures, such as nest platforms and communication towers. Osprey nests also tend to be clustered; four counties were home to 66 percent of the nests counted in 2010. This may, indeed, be the “people’s fish hawk;” it has dealt well with a human-altered landscape and might have recovered enough to be upgraded from threatened to secure status soon.

– *Doug Gross, Endangered and Threatened Birds Section Supervisor*

**Tailgating?** Twice a year, mammalogists from across the state, including the Game Commission and other agency biologists, university professors, and various other researchers, get together to discuss Pennsylvania’s nongame and endangered mammal issues and current topics, in what is called the Mammal Technical Committee of the Pennsylvania Biological Survey. Last fall’s meeting was held at the Elk Country Visitor Center in Benezette. After the meeting, a few Game Commission biologists took advantage of this gathering to take a look at some of their small-mammal catches from the prior week. These specimens were caught while trapping at State Game Lands 312 and the Hickory Run State Park boulder field – both within the Northeast Region – to inventory which species occur there for a larger Mammal Atlas project spanning all of Pennsylvania. It didn’t





take long before we – and one university professor – had shrews, voles and mice lined up on the tailgate of an agency pickup. Visitors to the center walking by our tailgate examination appeared particularly curious and maybe amused by our mouse-sorting. After all, we did have them arranged by color, tail length and species and grouped accordingly. You could tell we were all enjoying ourselves, since this quick “few minutes” of examination took the better part of an hour when all was said and done!

– *Mike Scafini, Endangered Mammals Specialist*

**Why Your Input Always Matters:** The Bureau of Wildlife Management annually mails out several harvest and human dimensions surveys to Pennsylvania’s hunters and trappers. Harvest surveys ask a randomly selected pool of hunters and trappers for a summary of their hunting and trapping participation, effort, and harvest during the previous season. Respondents can reply to our surveys through the Game Commission’s newly implemented Internet survey system or by standard mail. After allowing time for response, we estimate the number of hunters and trappers pursuing each species, total days and trap-nights, and total number of each species harvested statewide and in each Wildlife Management Unit. Biologists rely on these data to monitor trends and to inform their management recommendations. While our harvest surveys encompass many species, our human dimensions surveys typically are focused on a particular species. For human dimensions surveys, our objective is to examine hunter opinions, attitudes and knowledge. Sometimes these surveys are part of a broader research project; we can assess the effects of management strategies on wildlife populations, and hunters’ opinions toward those strategies. We might ask survey recipients why they hunted for a certain species, which parts of the season they hunted, their satisfaction with their hunting experience, or what aspects of the hunting season they liked or disliked. By adding a social component to our research, we can improve our management recommendations. We are grateful that a majority of hunters and trappers take the time to respond to our surveys. It shows us their vested interest in the wildlife resource. If you receive a survey, we ask that you kindly respond, even if you don’t feel the survey necessarily applies to you. For our harvest surveys, even if you didn’t hunt the previous season or didn’t harvest anything, please let us know that on the survey, as it is still important information that we use. In our human dimensions surveys, if you don’t pursue the species that the survey is about, or simply don’t have an opinion one way or the other, please respond to the survey accordingly, as we will still include your response when we are examining the data. The responses to our surveys are completely confidential, and only summary results are provided in internal reports and those that are made available on our website.

– *Joshua B. Johnson, Wildlife Biometrician*





## Appendix 8.2

### Exhibit 1.

Distribution of State & Tribal Wildlife Grant projects administered by the PGC.

**STATEWIDE PARTNER PROJECTS**  
 Pa.'s Second Breeding Bird Atlas  
 Clases Along the Flyway  
 Database of Pa. Mammal Specimens  
 County Inventories of Pa. Vertebrates of Special Concern  
 Invertebrates of Special Concern  
 Web-Based Registry of Seasonal Pools  
 Habitat Profiles for Terrestrial Forest Types  
 Conservation Planning Polygons  
 Little Brown Bat Genetics  
 Geospatial Habitat Condition Analysis  
 Avian Diversity and Abundance in Core Forests



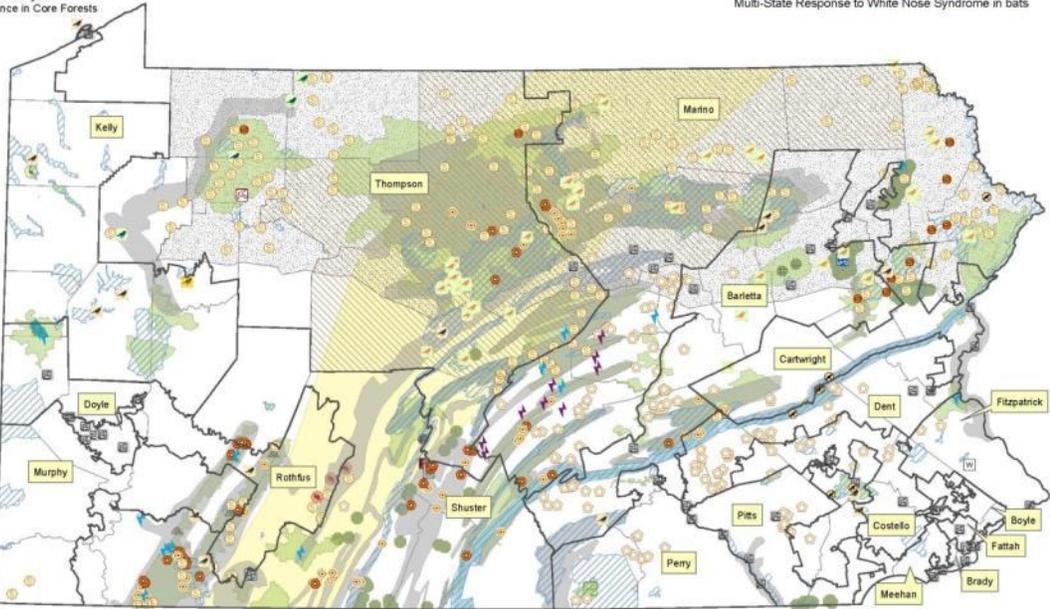
**PGC STATE WILDLIFE GRANTS PROGRAM**  
**Conservation Partner Projects**  
**Private Landowner Assistance Program**  
**Multi-State White Nose Syndrome Response**

**PRIVATE LANDOWNER ASSISTANCE PROGRAM**  
 by PGC region through December 31, 2014  
 Northwest: over 185 plans for more than 22,176 total acres  
 Northcentral: over 270 plans for more than 35,380 total acres  
 Northeast: over 170 plans for more than 34,340 total acres  
 Southwest: over 190 plans for more than 44,960 total acres  
 Southcentral: over 170 plans for more than 27,200 total acres  
 Southeast: over 290 plans for more than 33,170 total acres  
 STATEWIDE: over 1,275 plans for more than 197,260 total acres

**NORTHEAST & MID-ATLANTIC STATES + WISCONSIN**  
 Multi-State Response to White Nose Syndrome in bats

**LEGEND**

- WMS Response Research Sites
- WMS Wakefield Colony Monitoring
- Important Bird Areas
- Marcellus Shale Gasification Effects
- Allegheny Ridge Habitat Use by Birds
- Golden Eagle Migration Corridor
- Broad-leaved Forest Terrestrial
- Pennsylvania Palms Monitoring
- Great Lakes Status and Response
- Golden-crowned Kinglet Habitat Management
- Common Nighthawk & Screech Owl
- Spotted Owl Habitat Use by Priority Birds
- Pine Tree Grassland Restoration
- Pymatung Terraces Restoration
- Important Historical Areas
- Allegheny Woodrat Habitat
- High Quality Woodrat Habitat
- Allegheny Woodrat Woodlands
- Allegheny Woodrat Caprine Breeding
- N. Flying Squirrel Search Sites
- N. Flying Squirrel Active Sites
- Bat Mortality & Wind Farms
- Bat Wind Mortality Subacute
- Small Faced Bat Tuberculosis
- Bat Mortality Cloning
- Proter Population Study
- Lead Shrike Grasslands
- Delaware Hawk Study Area
- Priority Species Habitats
- PLAP Barn Owl Conservation Initiative





**Exhibit 2.**

Distribution of State & Tribal Wildlife Grant projects administered by the PFBC.

