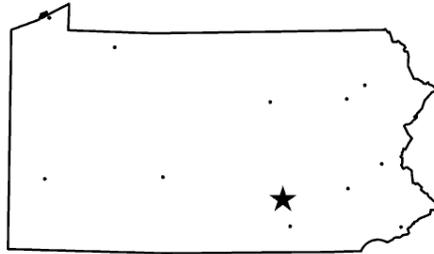


**State Wildlife Action Plan Characterization:  
PENNSYLVANIA**



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## Introduction

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Pennsylvania's landscape consists of a vast variety of topographic and ecological types. Ranging from the Appalachian mountain range to the state's shared coastline of Lake Erie, the lowlands, plateaus and estuaries, Pennsylvania's diversity of physiographical and ecological landscapes is complimented by an equally diverse variety of wildlife species. Pennsylvania estimates that well over 20,000 species of flora and fauna exist within the Commonwealth, a level of diversity with which it boasts "few other states can compare".<sup>1</sup>

The state also holds a diversity of wildlife recreation which has influenced its wildlife action plan. Pennsylvania ranks first in the nation for time spent hunting and third in time spent watching wildlife, following only California and New York<sup>2</sup>. Bird watching is one of the most widely engaged activities among adult citizens within the Commonwealth and the plan acknowledges the economic importance of watch-able wildlife recreation, both in terms of jobs created and income generated through retail sales related to the activity. Pennsylvania also enjoys widespread support from its public in the protection of biodiversity within the Commonwealth, according to various public surveys.

The Comprehensive Wildlife Conservation Strategy (CWCS), hereafter referred to as the plan, was not the Commonwealth's first attempt to plan for biodiversity conservation by far. Pennsylvania enjoyed a relatively good baseline of strategies upon which the plan was built and incorporated and expanded upon elements from existing documents in order to create one comprehensive plan for statewide action.<sup>3</sup> According to state employees involved with implementing the plan, it is a critical feature of their conservation efforts, serving as a key

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<sup>1</sup> Pennsylvania Fish and Boat Commission (PFBC) and Pennsylvania Game Commission (PGC), *Pennsylvania Comprehensive Wildlife Conservation Strategy*, September 2005, 5-4

<sup>2</sup> PFBC & PGC, Chapter 4, 3

<sup>3</sup> The following plans are acknowledged as having informed and being incorporated into the PA CWCS: (1) the Pennsylvania Biodiversity Plan, (2) PGC Strategic Plan, (3) PFBC Strategic Plan, (4) PA Department of Conservation and Natural Resources (DCNR) Forest Resource Management Plan, (5) Partners in Flight Physiographic Area Plans, (6) Nature Conservancy's Eco-regional Plans, and (7) Local and regional plans developed by private interests within the commonwealth "as appropriate" (*"A Note about Incorporated Planning Efforts*, Page ix). ***The CWCS is not intended to replace existing plans, but to serve as a guiding tool for conservations at the statewide level.***

reference tool for actions and the foundation for determining the direction of conservation programs within the state<sup>4</sup>.

The plan has helped to identify research needs within the Commonwealth, an element currently crucial to their biodiversity conservation efforts. It continues to inform decisions on proposals for action within the Pennsylvania Game Commission (PGC) and the Pennsylvania Fish and Boat Commission (PFBC), the two state agencies responsible for the management of Pennsylvania's wildlife and fish and the collaborative developers of the plan<sup>5</sup>. What follows is a brief description of the Pennsylvania's plan organized by the eight elements required in the congressional mandate and an update on what progress has been made towards implementation to date.

## **1. Identification of Species of Greatest Conservation Need (SGCN)**

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The process of selecting priority species in Pennsylvania was undertaken by a number of state agency biologists and taxonomic specialists from partnering universities and conservation organizations under the auspices of the Pennsylvania Biological Survey (PABS). Participating expert advisors were organized into taxonomical technical committees of ten to thirty members within PABS and used a wide range of criteria to identify species for which conservation action was a priority. Beyond identifying these priority species, the PABS technical committees labored to produce detailed individual species assessments that will contribute to the conservation efforts of the Commonwealth<sup>6</sup>. The taxonomic groups for which priority species and Species of Greatest Conservation Need (SGCN) were assessed were Birds, Mammals, Fish, Amphibians/Reptiles and Invertebrates<sup>7</sup>.

In order to further classify priority species within the state, Pennsylvania created a color-coded, five-tiered classification system. Identified priority species were placed into categories based on the severity of imperilment, vulnerability, and rarity, among other characteristics (Table 1).

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<sup>4</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>5</sup> The five guiding principles of the plan can be found on page 5-3 of the CWCS

<sup>6</sup> The compilation of the expert Species Assessments is available in Appendix 3 of the PA CWCS.

<sup>7</sup> In fact, the plan has spurred the creation of the first snapshot of the status of invertebrates in the Commonwealth.

**Table 1: PA 5-Tier Priority Species Classification System**

<p><b>Tier 1-Immediate Concern (Red):</b> Federal and State endangered or threatened species (including proposed species); Federal pre-listed species and species under review in the Northeast region; etc.</p> <p><b>Tier 2-High Level Concern(Orange):</b> Nationally or Regionally significant species which are vulnerable in Pennsylvania, including small, localized vulnerable populations; limited dispersal species; fragmented/isolated populations; and species in need of additional research which are likely to be declining</p> <p><b>Tier 3-Responsibility Species (Green):</b> Species which have their core populations in Pennsylvania; or &gt;5-10% of the regional population resides in Pennsylvania (these species may be common in the Commonwealth, but Pennsylvania holds itself responsible for maintaining the population due to the proportion of the total population which resides within the Commonwealth</p> <p><b>Tier-4 Pennsylvania Vulnerable (Blue):</b> Species which are most at risk in Pennsylvania, but not at the regional, national or global level. Genetic analysis may be conducted to determine if sub-species are genetically unique to Pennsylvania</p> <p><b>Tier 5-Maintenance Concern (Black):</b> Species which are fairly secure, but for which some management is recommended (such as flagship species and indicator species for high quality habitat)</p>
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Of interest in the classification system--and Pennsylvania's plan in general-- is the emphasis on the unique role that the Commonwealth plays in the protection of species within its borders, which the plan refers to as Responsibility Species. For some of these species, 90% of the worldwide population may reside within the Commonwealth and although the species might be common in the state, Pennsylvania has recognized its responsibility for ensuring adequate protection of these species in its plan.

In classifying Species of Greatest Conservation Need (SGCN), the Pennsylvania plan required that a species meet two criteria: (1) Imperilment and (2) Responsibility. Therefore, SGCN must fall within both the Responsibility Species category and one of the other four categories in order to be classified as a SGCN within the Commonwealth. The purpose of these criteria was to direct funding and actions towards not only the species with the most pressing vulnerabilities, but also those for which Pennsylvania plays a key role in protecting<sup>8</sup>.

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<sup>8</sup> An interesting side note: While the PFBC has jurisdiction over aquatic invertebrates, no state agency has jurisdiction over the protection of terrestrial invertebrate species. The SWG-funded statewide assessment of invertebrates (which comprises Appendix 5 of the CWCS) was the first statewide assessment of invertebrate conservation needs conducted by a state agency. Invertebrate Responsibility Species were also identified in this effort.

## 2. Identification of Key Habitat and Community Types

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Habitat in Pennsylvania is dominated by forests, with over 62% of the state in forest cover. Assessments of the habitat types within the commonwealth were a collaborative effort between PGC, PFBC and the Department of Conservation and Natural Resources (DCNR)<sup>9</sup>. Though Pennsylvania took both a species and habitat-based approach, much of the focus of the plan was around habitats due to the Commonwealth's emphasis on a multi-species approach to conservation, though appendix 3 of the plan contains species-specific conservation need assessments of every priority species. Throughout its assessment of habitats, the Pennsylvania plan utilized a GIS mapping system and trend data to produce visual imagery of the location of specific habitat types, patch sizes, and land-use patterns and trends within the Commonwealth.

Eleven major habitat types are identified in the plan and the majority of the remaining document is organized around these habitat types<sup>10</sup>. Terrestrial habitat types within the plan are identified primarily on a coarse scale based on type of land cover (Such as "riparian thickets" or "deciduous forest"), whereas aquatic habitats were delineated based on biophysical features<sup>11</sup>. For each habitat type, priority species associated with that habitat type are listed by their Tier categorization.

For Priority species associated with each habitat type, more detail is given about each individual species' habitat requirements. An example of this can be seen below:

### **Seasonal Wetlands**

*Western Chorus Frog* (PA Vulnerable Species)

**SPECIFIC HABITAT REQUIREMENTS:** Open palustrine emergent wetlands mixed with small, shallow areas of temporary standing water in forest areas.<sup>12</sup>

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<sup>9</sup> For complete information on each habitat type, including its present distribution and historic trends, habitat quality, and other information pertaining to habitats, see Appendix 2 of the CWCS

<sup>10</sup> See Chapters 11-22

<sup>11</sup> The broad category of streams and rivers was broken down into sub-categories based on localized watersheds. Further, streams were then categorized by size. The exception to this classification scheme occurred in wetland habitat descriptions, which were also classified by vegetation type.

<sup>12</sup> PFBC & PGC, Chapter 14, p.14

Pennsylvania used an eco-regional framework in its descriptions of the presence of Priority species within each habitat type. The plan also identifies the presence of Priority species by physiographic area. This information is made available in the form of tables for each habitat type.

On a side note, though habitat information is well formed in the plan for all habitats, information pertaining to wetland habitat is relatively more detailed. This may be due to the fact that a large number of Pennsylvania's Priority species are associated with wetland habitats and the state has lost half of its wetland habitat to date.

### **3. Identification of Threats to Species and Habitats**

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Threats are addressed in the plan under *Part II: Habitat Narratives and CWCS-Priority Species*. A general overview of the threats identifies “habitat loss due to sprawl” as the number one threat to wildlife and habitats statewide, closely followed by “habitat fragmentation”<sup>13</sup>. Other statewide threats listed include non-native species, declining water quality and quantity, lack of forest regeneration, disturbance of habitat and indirect habitat degradation. More specific discussions of these threats are found in each habitat section.

The threats addressed in the specific habitat assessments are listed in general ecological terms (i.e. forest fragmentation or changes in soil chemistry) and then described in more detail. The specific causes of each listed ecological threat are identified and discussed within the unique context of each habitat. This was useful because the causes of habitat fragmentation in one forest type, for example, may not be the same as those contributing to fragmentation in another. Threats were also specified for individual species in the Species Assessments in Appendix 3.

Among some of the more interesting threats listed in the plan are “genetic isolation and inbreeding” mostly due to fragmentation, changes in soil chemistry due to “acid rain deposition”- Pennsylvania identifies itself as rating highly amongst the states receiving acid rain deposits- and “predation by domestic pets”.

Though there was not a formal quantitative ranking system for threats in the plan, the language used to describe certain threats alludes to their importance in the eyes of the plan's creators. Overall, the language concerning the ranking of threats is inconsistent throughout the

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<sup>13</sup> The plan states that approximately 350 acres of habitat are lost per day in the Commonwealth.

plan's habitat assessment. Some threats are described with more vague language such as "one of the most serious threats to Pennsylvania's forests is...", while other threats are described with more specific language such as "the second most serious threat facing..."

#### **4. Description of Conservation Actions for Species and Habitats**

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The discussion of conservation actions within the plan touches on numerous options for action throughout the state, and it is possible to find almost every type of conventional conservation action referred to somewhere in the plan. Actions are linked to the eleven habitat assessments in the plan, listing specific actions for each habitat. The plan emphasizes a multi-species based approach to conservation actions, seeking to affect numerous individual species at a time through targeted actions at the habitat or species-suite level. This approach is intended to most efficiently utilize the state's limited financial and human resources.

The conservation actions were organized into "high priority" actions, to be implemented within 1-5 years, and "priority" actions, to be implemented within 5-10 years. Additionally, priority actions within the plan are identified at the habitat, species suites, and species levels.

As with many state plans, there appears to be a disconnect between the recognized highest threats and the identified highest priority conservation actions within the plan. According to the plan, the most important threats to the state of Pennsylvania are habitat loss and fragmentation due to uncontrolled urban sprawl, suggesting a greater need for emphasis on actions that would affect land-use within the Commonwealth<sup>14</sup>. However, the most frequently noted and highest ranked actions within the plan revolve around conducting further research on species and habitats. This disconnect may be related to the fact that the Pennsylvania fish and wildlife agencies have limited influence over land use practices. The high presence of research-based actions within the plan may also reflect what the agencies have the most ability to influence.

The importance of engaging private landowners in conservation actions is emphasized throughout the plan, as more than 85% of Pennsylvania's land area is in private ownership<sup>15</sup>. The plan identifies a number of different mechanisms to encourage landowners to participate in

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<sup>14</sup> PFBC & PGC, Chapter 11, p. 3

<sup>15</sup> PFBC & PGC, Chapter 11, p. 12.

conservation actions, including compensation for the opportunity costs involved in participating in voluntary easements and cost sharing opportunities. To further encourage collaboration, every action listed in the plan is followed by a list of coordinating state, federal and NGO partners.

In selecting among submitted project proposals, the conservation coordinators of the PFBC and PGC consult with agency personnel who identify multiple focal areas for the current year. Proposals are then quantified by a 100 point ranking system that determines which projects will receive funding. Proposals which address any of the current year's focal areas are ranked higher and given priority consideration in the selection process.

## **5. Proposed Plans for Monitoring Species, Habitats and Conservation Actions**

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Pennsylvania's plan includes a monitoring component and goals for future monitoring needs within four categories, including: (1) Inventory (2) Long-term trend data, (3) Spatial patterns in abundance and (4) Productivity. The plan also stressed the need for coordinated monitoring which prioritizes monitoring efforts based on a species' place in the Conservation Priority Tiers discussed in the above section on Element one, among other activities<sup>16</sup>.

Achieving monitoring goals for widely distributed species was considered to be best handled at a larger scale than possible within state lines, which may explain the limited information on monitoring available in the plan.<sup>17</sup> However, the plan acknowledges the need for multi-state and regional coordination in monitoring efforts due to the necessary scale of information gathering and analysis and it also mentions agencies at the national level which are participating in the monitoring efforts.

The plan also states that "Coordinated multi-state or regional monitoring efforts would be a high-priority outcome of the national CWCS effort".<sup>18</sup> Throughout the plan, several specific opportunities for coordinated monitoring are identified, such as coordinating with the National Wetland Inventory to monitor losses and restoration of shrubby and forested wetlands<sup>19</sup>.

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<sup>16</sup> See Chapter 23, p. 3 for a full description of the coordinated monitoring approach

<sup>17</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>18</sup> PFBC & PGC, Chapter 23, p. 4

<sup>19</sup> See Chapter 23, p. 4-6 for more examples

Adaptive management is also addressed in the discussion of monitoring needs as a tool for improving conservation actions. The plan discusses adaptive management of various habitat types; prioritized implementation actions in this field mainly involve the assessment of habitat quality and quantity at five or ten year intervals with the goal of informing future management decisions. The plan does not elaborate on the management strategies which will be tested in the adaptive management programs.

However, state officials noted that plan implementation is still in the stage of gathering valuable information on species suites and habitats within the Commonwealth and they are not yet prepared to begin adaptive management programs<sup>20</sup>. In the opinion of a representative of PFBC, many of the species for which actions are being taken are in need of immediate conservation action such that running an adaptive management program, taking around five years to complete, would take too long to effectively protect the species<sup>21</sup>. Success in plan implementation is primarily to be measured by changes in target population trend data, according to the plan.

## **6. Procedures for Strategy Review**

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Element six, review, is the least addressed of the eight required elements in the state plan. In the section on the overall goals of the plan, the implementation of the operational plans was to be evaluated on a semi-annual basis, but the reality of the frequency of actual review may differ from this initial goal. Under listed progress on the abovementioned goal, the plan states that the document will be assessed at an interval not to exceed ten years<sup>22</sup>. However, in many of the specific monitoring goals, a time frame of around three to five years is employed. The plan does not go into very much detail about the review process, nor do they indicate under what conditions a review would be automatically triggered.

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<sup>20</sup> There is at least one initial study of Adaptive Management underway to identify the most efficient means of habitat modification for suitability to Massasauga Rattlesnakes, a species of Immediate Concern, but this project was not identified as a pure adaptive management project.

<sup>21</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>22</sup> PFBC & PGC, Chapter 9, p. 6

## 7. Coordination with Federal, State and Tribal Agencies

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Coordination is addressed throughout the plan in the listing of conservation and monitoring priority actions. There is a high level of focus on coordinating with federal, state and local organizations throughout the plan. Coordinated efforts involve agencies, various institutions and NGOs (utilized primarily for their areas of expertise) and private partners to pool valuable resources and skills around priority conservation actions within the Commonwealth.

Partners and outside agencies are explicitly linked to actions listed in the plan to the fullest extent possible. Projects currently underway clearly list the partners involved in implementation, while specific implementation actions listed in the plan are followed by a list of coordinating agencies and groups categorized by affiliation with federal, state and private organizations.

## 8. Public Participation

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The plan defined stakeholders as “decision-makers, land managers, scientists, private landowners and conservation organizations across the Commonwealth who collectively have the ability to meet the plan’s ambitious goals for fish and wildlife conservation”<sup>23</sup>. In coordination with the Pennsylvania Biodiversity Planning Partnership, sixteen stakeholder focus groups were conducted throughout the planning process for the CWCS. The topics addressed in these focus groups included:

- ❖ *What are the five most and least important issues relative to biodiversity in Pennsylvania?*
- ❖ *What role should your organization play in biodiversity conservation in PA?*
- ❖ *What is the participant’s vision of the best achievable condition of biodiversity in Pennsylvania in the year 2013?*
- ❖ *What format should the plan be in? Should the plan include maps? If yes, what types?*

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<sup>23</sup> PFBC & PGC, Chapter 24, p. 6.

Approximately 240 individuals representing various organizations participated from across the state in these events<sup>24</sup>. One of the main methods for public participation in the planning process was the submittal of public comment cards, which were made available at a wide range of events where stakeholders were anticipated to be present and were also available online to anyone. Throughout the process, 680 public comment forms were completed within the Commonwealth, with every county being represented by at least one comment form.

Public opinion was solicited throughout the planning process in the form of focus groups, public hearings, comment opportunities and opinion surveys administered by state agencies. One survey was used to determine public support for possible mechanisms to bring funding to conservation programs. Another survey identified what types of conservation actions were considered important to Pennsylvania's citizens<sup>25</sup>. The planners also conducted surveys of PFBC and PGC staff members to determine what actions were deemed important by staff within the agencies. This information, along with the advice of the taxonomic technical committees and partner agencies, was used to drive the process of plan development. Phase two of the stakeholder involvement process seeks to involve stakeholders in the fine tuning of the CWCS at the physiographic area level.

## **Overall Impressions and Discussion**

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One of the most noteworthy aspects of Pennsylvania's Wildlife Action Plan is the involvement of stakeholders in the implementation of the plan. Pennsylvania's model of partnering with local and statewide conservation interests to support high-priority projects has been held up as a national model by the Association of Fish and Wildlife Agencies. Pennsylvania, due to its land area and population size, ranks among the top six states in SWG funds received, obtaining nearly \$10 million in new funding for conservation programs through the program.

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<sup>24</sup> The plan includes a list of stakeholders who participated in these focus groups. The list includes PA agencies like PFBC, PABS and DCNR; the Southeastern Pennsylvania land trusts, the Pennsylvania Biodiversity Partnership Board (a partnership of government agencies, industries, private landowners and conservation organizations), the Pennsylvania Association of Environmental Professionals, and the Pennsylvania Association of Environmental Educators.

<sup>25</sup> See *Chapter 7: Public Involvement* for more information on the public opinion surveys.

Stakeholders are solicited to develop projects which address high-priority topics. Historically, this has been achieved through an annual “Call for SWG Projects” mass media campaign complete with direct mailings of the materials to more than 800 conservation organizations, sportsmen’s clubs and individual citizens. More recently, this information is distributed through a press release, posting on each Commission’s website, and for PFBC, direct e-mail to over 1400 individuals or organizations.

Individual citizens and conservation groups are also enlisted in the monitoring and collection of data within the Commonwealth through several projects, including the Important Bird Areas (IBA) and Important Mammal Areas (IMA) programs, the Seasonal Pools Registry, Breeding Bird Atlas, and Herpetological Atlas<sup>26</sup>. These programs encourage stakeholder involvement in on-the-ground actions that draw on the unique size of the non-consumptive wildlife recreation community within the Commonwealth and connect stakeholders to the selection of focal habitat areas for directed priority actions.

## Implementation

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### *Overview*

Since the Pennsylvania plan was approved by the Fish & Wildlife Service two years ago, Pennsylvania agency personnel characterize the progress that has been made in implementation as moderate. There have been significant new initiatives in the agency as a result of the plan, as well as new conservation outreach and training. Personnel at PFBC and PGC feel that they have been addressing the most urgent issues and high priority SGCN well in the last two years. They noted, however, that SWG funding is not enough to reach many of the CWCS Priority species or to approach the plan in a truly comprehensive manner. There is still a backlog in helping species in the greatest need within the state, which is preventing the Commonwealth from being as proactive as they would like to be with the use of SWG funding<sup>27</sup>.

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<sup>26</sup> The IMA program is a national pilot based off of the success of the IBA program and is expected to become a national model in the coming years.

<sup>27</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

Both the state agencies and stakeholder organizations agree that the plan has changed the way that conservation takes place within the state. There was no “comprehensive” plan in PA before the CWCS, which has expanded and formalized previous planning works to include non-consumptive species and a more comprehensive approach. Some believe that this new comprehensive approach has helped to increase the amount of research and conservation actions within the state<sup>28</sup>.

**Successes:**

- Expanding capacity to do additional work in private lands management, survey and monitoring
- Increased focus and attention directed at species in the Immediate Concern and High-Level concern conservation tiers, PA Responsibility Species, and habitats of conservation concern
- Completing the first CWCS amendment.

**Challenges:**

- Communication with the public, staff and researchers; asserting importance of CWCS to conservation stakeholders
- Limited and annual nature of SWG funding constrains length of projects, monitoring, building capacity

Prior to the plan, individual species and endangered sites were addressed through a triage approach. Now, the plan has broadened the scope of conservation to the statewide level and contributed to more strategic and diverse actions conducted on broader landscapes<sup>29</sup>. An emphasis on habitats in addition to species in discussions of state priorities has been another adjustment in state implementation as a result of the plan. In addition to the strategic changes to implementation brought about by the plan, SWG funds have made the Commissions more visible in the eyes of non-government conservation organizations by broadening perceptions of the Commissions beyond traditional views and towards a reputation as more comprehensive and collaborative conservation agencies<sup>30</sup>. The plan has also increased synergy between NGOs and the state agencies for conservation actions, according to one NGO staff member<sup>31</sup>.

<sup>28</sup> Representative of a Pennsylvania Conservation NGO, Telephone interview with Ashley Lowe, October 10, 2007. Ann Arbor, MI.

<sup>29</sup> Representative of a Pennsylvania Conservation NGO, Telephone interview with Ashley Lowe, October 10, 2007. Ann Arbor, MI; Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>30</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>31</sup> Representative of a Pennsylvania Conservation NGO, Telephone interview with Ashley Lowe, October 10, 2007. Ann Arbor, MI.

In addition to these changes, Pennsylvania has become the first state to develop an amendment to the original plan. PA plans to submit the first amendment to USFWS of any original plan. This amendment which was submitted in the fall of 2007, requests the addition of native Eastern Brook Trout (*Salvelinus fontinalis*) as a SGCN in the state as part of a regional collaboration to conserve the species<sup>32</sup>. As part of developing this amendment, the PFBC helped lay the foundation for a model process to which other states wishing to amend their plans could refer in the future.

## **Monitoring**

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Monitoring the success of implementation projects has yet to take place within the state. Agency representatives feel that the Commonwealth is still firmly in a ‘catch up’ phase of trying to get immediate research and implementation attention to highest priority species and habitats<sup>33</sup>. The agencies feel as though the annual nature of SWG allocation makes it difficult to establish the kinds of long-term monitoring projects that would be most useful to future implementation. While most comprehensive or long-term monitoring projects currently seem impractical at the current time, the agencies are currently working towards monitoring their implementation efforts in a more organized way. The state agencies are in the early stages of creating a tracking system for projects that relate to the plan. Agency representatives expect the system to be very helpful in terms of reviewing implementation progress in the future.

## **NGO Reaction to the Plan**

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While NGOs applaud the approach of prioritizing species and setting out specific conservation actions that were brought about by the plan, they also shared some constructive criticisms of the project selection process. The annual ranking of project proposals awards extra points to projects that involve priority habitats, which change every year. The agency coordinators believe that focusing on a different habitat each year will allow the limited SWG

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<sup>32</sup>Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>33</sup>Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

funds to be spread among more high-priority needs in the long run<sup>34</sup>. But to some NGOs, this process presents a challenge since organizations must adjust their planning and proposal writing each year to address the changing priorities. One NGO staff member stated that the annually shifting priority habitats “keeps organizations guessing” as to what their project focus should be because they are not introduced to partners early enough in the process<sup>35</sup>. Informing implementation partners of the changing priorities earlier in the process would help organizations predict the types of projects they should pursue for the upcoming year.

Pennsylvania has not created or mapped priority conservation areas in their plan; an action that some NGOs believed would be helpful in implementation. Agency staff noted the difficulty of creating a useful geographical representation of state priorities due to the wide variety and distribution of priority species and habitats within the state. As a PFBC representative comments, “It’s hard because priority areas are determined by species. You could almost cover the entire state with priority areas, depending on which species you include”<sup>36</sup>. The state agencies maintain that they have a good handle on priority areas and habitats at the species level, which has informed their priorities. They are also using partners like the Nature Conservancy, which has data and GIS, to conduct a preliminary GIS analysis. Additionally, the currently underway Northeast Regional effort to classify habitats consistently across state lines with the intention of mapping and monitoring habitat change should benefit the Pennsylvania process in the future.

## **How Has Funding for Non-Game Wildlife Changed?**

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To date, leveraging funding for non-game wildlife conservation has changed for the better as a result of the plan and agency personnel acknowledge that it has been very useful for leveraging funds within the state<sup>37</sup>. One of the main ways that the plan helps to leverage money

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<sup>34</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>35</sup> Representative of a Pennsylvania Conservation NGO, Telephone interview with Ashley Lowe, October 10, 2007. Ann Arbor, MI.

<sup>36</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>37</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

is through 3<sup>rd</sup> party organizations providing additional funding resources to meet the SWG 50/50 match requirement. For NGOs, referencing the plan by including SGCN and other plan concepts in their grant proposals has helped partners to leverage funds from institutions and other funding sources as well<sup>38</sup>. Referencing the plan has also helped the Pennsylvania agencies when working with other federal agencies<sup>39</sup>.

In terms of SWG funds and their uses, the plan has had some influence on agency activities. Before, SWG funds served as a resource only to pass through to partners since the agency did not have enough human resources to conduct the conservation projects themselves. Now, SWG funds are also being used to build capacity within the agencies and they have become more active in setting priorities and trying to steer the focus of partners' projects<sup>40</sup>.

As an example of building capacity, there have been some organizational changes within the PFBC and PGC. The PGC has developed a regional program titled The Private Lands Assistance Program which allocates biologists for each region in the Commonwealth to write management plans for private landowners wishing to improve wildlife habitat, conduct ground level outreach, and direct landowners toward funding opportunities<sup>41</sup>. In a separate effort through the PFBC titled the Regional Biologist Program, six habitat biologists are currently working at the local level with watershed groups, funded partially by SWG funds. These programs have been an innovative success so far, providing a service to citizens within their own districts and communities, while providing land use and land management benefits to priority species.

***Challenge:***

SWG Funding is allocated on a reimbursement basis, which has eliminated lots of potential partners (such as smaller organizations and local organizations) which may have great project ideas but are unable to come up with the funding up front.

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<sup>37</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>38</sup> Representative of a Pennsylvania Conservation NGO, Telephone interview with Ashley Lowe, October 10, 2007. Ann Arbor, MI.

<sup>39</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>40</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

<sup>41</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.

## External Changes

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External changes in politics and world events have influenced the implementation of Pennsylvania's plan to some extent. Spurred by increased political encouragement of wind development in the state, wind energy corporations in Pennsylvania have expanded their operations within the last two years especially. This rapid development has expanded the scope of the threat posed to bird and bat species at a faster pace than was originally anticipated by the agencies and has led to a hindrance of plan implementation goals by forcing the agency to act reactively to the increasing threat. The PGC has had to hire employees specialized in wind issues and shift their ornithologist personnel to work on the issue as well<sup>42</sup>. The relationship between climate change and wildlife health may influence agency efforts at a scope that was not foreseen at the time of plan development. The Commissions will continue to incorporate such emerging issues into their implementation of the plan in the future.

## Conclusion

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Though the plan is still in the early stages of implementation, the monitoring and review processes may be areas to consider building upon in the future. Developing further detail in these areas, as well as a comprehensive plan for carrying out the adaptive management programs mentioned in the monitoring section will help the agencies continue to make the most out of their conservation efforts through the plan.

It is obvious from the plan and from speaking with agency and non-agency staff that the plan has had a positive effect on non-game conservation in Pennsylvania. The Commonwealth is proactively using the plan to direct and inform conservation actions within the state. Through their model process of partner involvement and the great resources of the state and its citizens, Pennsylvania is efficiently and effectively applying SWG funds for biodiversity conservation.

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<sup>42</sup> Representatives Pennsylvania Game Commission and Pennsylvania Game and Boat Commission, Telephone interview with Ashley Lowe, October 1, 2007. Ann Arbor, MI.