# **SECTION 4 - The Need for a Wildlife Action Plan in Pennsylvania**

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and aesthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustees of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

- Article 1, Section 27 of the Pennsylvania Constitution

#### 4.1 BACKGROUND

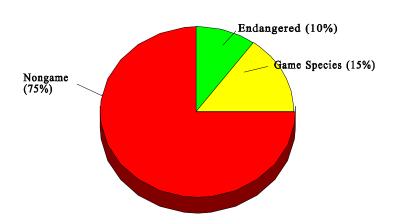
As stated in Pennsylvania's Constitution, the Commonwealth has the responsibility to conserve and maintain its natural resources for the benefit of all citizens, including generations yet to come. Implicit in this responsibility is the need to sustain the state's diverse fish and wildlife populations and ecosystems. The Fish & Boat Commission and Game Commission are responsible for managing all of Pennsylvania's fish and wildlife.

The Fish & Boat Commission and the Game Commission have long relied upon hunting and angling revenues to support species management and habitat protection activities. Hunters and anglers were – and remain – Pennsylvania's first and foremost conservationists, with sporting dollars forming the primary funding source for the protection and management of the Commonwealth's fish, wildlife, and habitats for more than 90 years. Beyond mere financing, however, there exists a historic relationship between hunters, anglers, and the Commissions. Together, sporting organizations, individual sportsmen and sportswomen, and resource managers form a strong constituency of support for fish and wildlife conservation. Today's abundant populations of fish and wildlife are a result of the ongoing relationship between hunters, anglers, and resource managers in support of species management and habitat protection activities.

This relationship, however, has led to inequities in funding and management attention between game species and those species that are not harvested (non-game species). Historically, the Fish & Boat Commission and Game Commission have directed management efforts primarily at 85 species of game animals and sport fish. An additional

27 species receive targeted (albeit limited) management attention and funding because they are classified as state or federally threatened and/or endangered. Little management attention is directed at the remaining 400 species of mammals, birds, fish, reptiles, and amphibians in the Commonwealth. Although non-game species represent 75 percent of Pennsylvania's fish and wildlife, a comprehensive management program that ensures sustainable populations of these species has yet to be developed.

## Pennsylvania's Fish & Wildlife



Pennsylvania is not alone in this discrepancy. Nationwide, management of non-game species has not been a priority of most state fish and wildlife agencies because they lack stable funding to support such efforts. As a result, management efforts devoted to non-game species are largely inadequate to ensure species' continued survival. These species typically receive little or no targeted management attention until their populations are threatened or endangered.

Throughout the country, resource managers are beginning to recognize this problem and are directing more management attention to species that have been overlooked historically. In January of 1996, the Pennsylvania Fish & Boat Commission and Game Commission began the development of a statewide interagency plan to improve

management of species and habitats that historically received inadequate management attention. As part of this ongoing project, this document outlines the need for a Wildlife Action Plan in Pennsylvania. The long-term goal of this project is to implement a comprehensive and ecologically sound program that considers the agencies' traditional and non-traditional constituents while ensuring adequate management attention for all of Pennsylvania's valuable fish and wildlife resources.

#### 4.2. PENNSYLVANIA S VALUABLE WILD RESOURCES

The air is sweet and clear, and the heavens serene . . . Of living creatures, fish, fowl, and the beasts of the wood, here are divers sorts . . .

--William Penn, 1683

Pennsylvania is blessed with a rich diversity of fish, wildlife, and plants. More than 10,000 species of plants and animals are known to exist in the Commonwealth. As inventory efforts continue, it is estimated that the total number of known plants and animals in Pennsylvania will reach 20,000 species. This diversity of species contributes to Pennsylvanians' well being by providing important recreational, economic, and biological benefits to the Commonwealth.

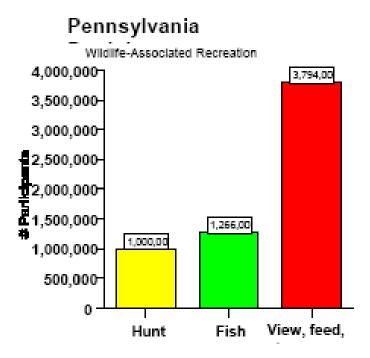
#### **Recreational Values**

While the number of hunters and anglers has been declining across the country for several decades, the number of people involved in watchable wildlife activities like bird feeding and wildlife photography has exploded. Birdwatching is the fastest-growing outdoor pastime in the country, growing 232 percent between 1983 and 2001, according to the latest National Survey on Recreation and the Environment.

This national trend is echoed in Pennsylvania. Pennsylvanians rank first in the nation in time spent hunting and third in time spent wildlife watching. In 2001 (the most recent year for which data exists), about 1 million Pennsylvanians hunted, more than 1.2

million fished, and 3.7 million participated in non-consumptive wildlife recreation, such as viewing, feeding, and photographing wildlife. More than one in four Pennsylvanians actively participates in watchable wildlife recreation. When the number of resident and visiting participants are combined, those who enjoy wildlife viewing in Pennsylvania outnumber the combined populations of Maine and West Virginia!

A recreation participation survey conducted in 1990 revealed that Pennsylvanians spent more time birdwatching and wildlife watching (23.9 activity days per capita) than any other outdoor recreation activity except walking and jogging. In addition, hiking/nature walks showed a greater increase in activity days per participant and a greater increase in activity days per capita over the past 20 years than all other outdoor activities.



# Watchable Wildlife Recreation- Quick Facts!

(Source: Southwick Associates, Inc.)

- More than one Pennsylvanian in four actively participates in watchable wildlife
  recreation, such as viewing, feeding, and photographing wildlife. The state ranks third
  nationally, behind only California and New York, in the number of people participating in
  watchable wildlife recreation.
- Those who enjoy wildlife viewing in Pennsylvania, including residents and visitors, number more than the combined populations of Maine and West Virginia.
- A live webcam showing a peregrine falcon nest on the Rachel Carson Office Building in Harrisburg registered 54 million hits in 2001, making it one of the most popular nature sites on the World Wide Web.
- The number of out-of-state residents who visited Pennsylvania in 2001 to view wildlife outnumbered the residents of Allentown nearly 3 to 1.



(Photo courtesy: Audubon PA)

#### **Economic Values**

With nearly six million Pennsylvanians (nearly 50 percent of the adult population) using and enjoying the outdoors, this activity makes a significant contribution to the Commonwealth's economy. Wildlife-related recreation is an economic heavyweight in Pennsylvania – hunting, fishing, and wildlife watching combined generates nearly \$6 billion in total economic impact each year. In 2001, economic activity associated with hunting and fishing totaled more than \$2.2 billion and \$1.6 billion respectively, while non-consumptive wildlife recreation (viewing, feeding, and photographing wildlife) generated nearly \$2 billion in economic activity. Altogether, wildlife-associated recreation supported more than 50,000 jobs and contributed \$190 million to the Commonwealth's General Fund via state sales and income tax.

While they may not buy rifles or fishing rods, Pennsylvania's wildlife viewers purchase varied equipment to enjoy their pursuits, including: bird seed, feeders, field guides, binoculars, boats, gas, lodging and meals. In fact, the total economic impact of watchable wildlife recreation in Pennsylvania is \$1.98 billion - more than the annual value of dairy products, our state's top agricultural commodity.

Total economic effect of non-consumptive bird and waterfowl recreation alone is estimated at more than \$450 million per year in Pennsylvania. Like other forms of outdoor recreation, non-consumptive wildlife recreation creates significant benefits for communities surrounding the recreation site. As an example, more than 50,000 birdwatchers visit Hawk Mountain Sanctuary in Berks county each year and spend roughly \$3 million in surrounding communities. These birdwatching expenditures are an important source of revenue for more than 200 local motels, bed and breakfasts, campgrounds, restaurants, gas stations, and gift shops.

Clearly, wildlife-associated recreation is an important economic engine in Pennsylvania. Wildlife-associated recreation also serves as a low-cost, high-benefit sector in Pennsylvania's economy. This is especially true when one considers that the Fish & Boat

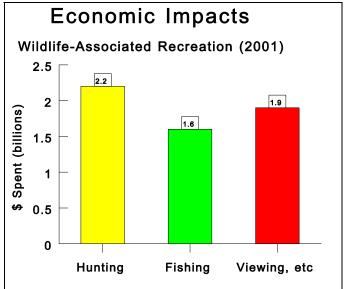
Commission and the Game Commission – the agencies responsible for managing fish and wildlife - do not draw from the state's General Fund when managing our wild resources.

# Watchable Wildlife Economics – Quick Facts!

(Source: Southwick Associates, Inc.)

- In 2001, watchable wildlife recreation generated twice the value of all cattle and beef produced by Pennsylvania's farms, and three times the total spent nationally by moviegoers to see 2001's top-grossing film, "Harry Potter and the Sorcerer's Stone."
- Watchable wildlife generated \$70 million in state sales and income taxes, \$87 million in federal taxes, and \$962 million in retail sales, (including \$96 million for bird seed and \$16 million for food, travel and lodging) in 2001.
- Watchable wildlife recreation supports almost 19,000 full- and part-time jobs with wages of more than \$509 million. It supports more workers in Pennsylvania than are employed nationally by Sunoco, a PA-based Fortune 500 company.
- Wildlife viewing expenditures in 2001 in Pennsylvania were nearly a third greater than all of the money spent nationally on skiing and snow-boarding
- Watchable wildlife recreation overwhelmingly benefits rural communities, often at times of the year when other income sources are low.

equipment.



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# **Biological Values**

Pennsylvania's natural communities perform vital ecological functions such as photosynthesis, climate regulation, nutrient cycling, erosion control, soil formation, pest control, pollination, and water purification and storage. Through these processes, Pennsylvania's wild species contribute to the maintenance of ecosystems that support human life.

In the interrelated web of Pennsylvania's wild resources, obscure species are the foundation upon which well-known, charismatic species rely: meadow voles feed birds of prey and furbearers; countless terrestrial insects support wild turkeys, grouse, pheasants, and songbirds; aquatic insects form the mainstay of trout populations; "forage" fish feed sportfish, and; diverse plant communities support a host of herbivores from chipmunks to elk. Across Pennsylvania, the survival of game birds and mammals, sportfish, and "showy" wildlife - that collectively support a \$5.8 billion annual industry - is dependent upon the continued well-being of some of our most obscure, least understood species.

Unfortunately, habitat changes that have occurred since the settlement of Pennsylvania have taken their toll on the Commonwealth's fish and wildlife. During the past 300 years, 156 plant and animal species have disappeared from Pennsylvania, and another 351 species have become threatened or endangered. Thus, 507 species (13 percent of Pennsylvania's plants and animals) are threatened, endangered, extirpated, or extinct. Although Pennsylvania still enjoys a rich diversity of fish and wildlife, many species have already been lost and many more are in jeopardy (Table 4-1).

Because fish and wildlife are so valuable to humans in so many ways, declines in numerous populations are a reason for concern. Some wildlife, such as the northern bobwhite quail, have declined so rapidly that they are in danger of disappearing entirely. These Immediate Concern species require immediate conservation action. Others, including the wood thrush, remain widespread but deserve attention to prevent continued decreases. The sobering state of the Commonwealth today is that most fish and wildlife species currently enjoying population increases are exotic invaders from other countries, or species

that are undergoing population explosions due to a lack of predators or other population control mechanisms.

The causes of population declines among fish and wildlife are numerous; but the loss, modification, degradation, and fragmentation of habitat almost always play a major role. Threats to habitats come primarily from intensified land-use practices in agricultural and forested regions and from other impacts associated with human population growth.

Because fish and wildlife habitats are directly affected by human use of the land, the health of Pennsylvania's fish and wildlife is in our hands. We have a stewardship responsibility for maintaining healthy populations of still-common species in addition to preventing extinctions. For though our understanding of the wild systems of Pennsylvania is greater now than it ever has been, no one knows what a continued loss of species would mean for the Commonwealth's interrelated web of life.

"The outstanding scientific discovery of the twentieth century is not television, or radio, but rather the complexity of the land organism. Only those who know the most about it can appreciate how little is known about it. The last word in ignorance is the man who says of an animal or plant "what good is it?" If the land mechanism as a whole is good, then every part is good, whether we understand it or not. If the biota, in the course of aeons, has built something we like but do not understand, then who but a fool would discard seemingly useless parts? To keep every cog and wheel is the first precaution of intelligent tinkering.

- Aldo Leopold, Essays on Conservation from Round River

Table 4-1. Percent of Pennsylvania\*s native species that have been lost from the Commonwealth or are in danger of becoming so. (Source: PA Biological Survey)

	TOTAL SPECIES			
TAXON	FOUND WILD IN PENNSYLVANIA*	ENDANGERED OR THREATENED	EXTINCT OR EXTIRPATED	% Lost or in Jeopardy
Mammals	73	6	11	23
Birds	394/186**	16	5	11
Amphibians	36	4	1	14
Reptiles	37	5	2	19
Fish	217/160**	43	12	34
Invertebrates Mussels	11,722?? 65	144 18	37 20	?? 58

<sup>\*</sup> Totals include native and non-native species.

The Federally Threatened eastern bog turtle



(Photo courtesy: PA Fish and Boat Commission)

<sup>\*\*</sup>The higher number includes species that visit Pennsylvania but are not year round residents.

## 4.3 THE STATUS OF PENNSYLVANIA'S NONGAME FISH AND WILDLIFE

"We in the United States have been slow to learn that our wildlife, like other forms of natural wealth, must be vigorously protected if we are to continue to enjoy its benefits."

Rachel Carson

For a state that served as the center of the country's industrial revolution and ranks sixth in population size, the existence of large expanses of wild areas and possession of a diverse assemblage of flora and fauna is unique. Pennsylvanians can still thrill to the sight of a branch-antlered bull elk in the morning mists. More residents each year hear the shrill kak-kak-kak of a bald eagle as it soars above the rocky shoreline of the Susquehanna River. The health of Pennsylvania's wild resources is testimony to the value, hard work, and stewardship ethic invested by the state's citizens, conservation organizations, and natural resource agencies during our Commonwealth's history.

However, many non-game populations are considered *species of special concern*; species that are threatened, endangered, or in danger of becoming so. The Game Commission has jurisdiction over 56 species of special concern. With the inclusion of aquatic invertebrates, the Fish & Boat Commission has management responsibility for 95 species of concern. In addition, an unknown number of terrestrial invertebrate species are endangered, threatened, or in immediate jeopardy. Currently, no state agency has jurisdiction over these species. Even where management jurisdiction is clearly assigned, most species of special concern are not receiving the management attention required to halt or slow population declines. Until recently, a lack of funding forced wildlife managers into a reactive situation where species had to decline to the point of being threatened or endangered before funding was available to manage them.

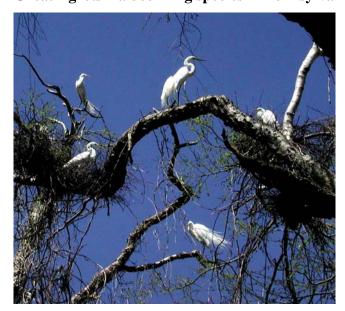
Beginning in 2000, however, the U.S. Congress created the State Wildlife Grants (SWG) program and began appropriating funds to the states for the management of species of greatest conservation concern. Congress recognized that early intervention at the state

level was the only hope for stopping and reversing species declines that lead to a federal Endangered Species designation. Early-intervention opportunities exist for many species that are heading toward endangerment. Although early intervention is more effective and less expensive in the long run than waiting for these species to become threatened or endangered, the Commissions lacked the resources to practice such efforts prior to the creation of the SWG Program.

It has become increasingly clear that comprehensive management efforts must be implemented by the Fish and Boat Commission if populations of non-game fish, reptiles, amphibians, and aquatic invertebrates are to be stabilized. Thirty-four percent of Pennsylvania's native fish species have been lost or are in jeopardy of being lost. The number of fish species occurring in 38 of 50 headwater streams in north-central Pennsylvania has declined during the past 25 years. Amphibian populations have demonstrated nearly global declines. Fifty-eight percent of Pennsylvania freshwater mussels have been lost or are in jeopardy of being lost.

Likewise, the Game Commission's current management program is inadequate to counter the threats facing Pennsylvania's birds and mammals of special management concern. Nearly all of the songbird species that rely upon large grasslands, farmland, and other early successional habitats are declining throughout the Northeast. In addition, many songbirds that require large expanses of mature forest for successful breeding are in decline. Pennsylvania serves as a national stronghold for many of these species, such as the scarlet tanager, but careful management of intact forest stands is required for this to continue to be the case. All of Pennsylvania's bats have undergone population declines from historic levels as a result of the loss of both summer and winter habitats. Even some of Pennsylvania's most common, "keystone" mammals are experiencing population declines: the loss of abundant meadow vole populations through conversion of wild hay fields and succession of old-field habitats has likely contributed to secondary losses in barn owls, short-eared owls, and other predators that rely upon meadow voles as dietary mainstays.

Now that dedicated funding is available, the Game Commission and Fish and Boat Commission are better positioned to stem declines among non-game species. Traditional fish and wildlife management programs must be expanded to include historically overlooked species - and additional revenues must be forthcoming - if the Commissions are to meet the management challenges of the future while protecting Pennsylvania's diverse array of species for the benefit of present and future generations.



Great Egrets – a declining species in Pennsylvania

(Photo Courtesy: Cal Butchkoski, PGC)

### 4.4 PROTECTING PENNSYLVANIA S NONGAME RESOURCES

"Wildlife management is not restricted to game management, though game management is recognized as an important branch of wildlife management. It embraces the practical ecology of all vertebrates and their plant and animal associates. While emphasis may often be placed on species of special economic importance, wildlife management along sound biological lines is also part of the greater movement for conservation of our entire native fauna and flora.

- The Journal of Wildlife Management, 1937 Issue #1, page 1. \_\_\_\_

Pennsylvania owes the preservation its rich diversity of non-game fish and wildlife largely to the efforts of its natural resource agencies. Many activities conducted by the Commissions benefit both game and non-game species. Such activities in the Fish & Boat Commission include water pollution investigations, levying fines for water quality violations and fish kills, wetland encroachment enforcement, and the long-term monitoring of water quality. Game Commission activities that benefit non-game species include land acquisition; habitat improvements on State Game Lands and private lands enrolled in agency programs; nest box construction and placement; and levying fines for illegal dumping. In addition, both Commissions engage in law enforcement relating to threatened and endangered species, present education programs that discuss issues affecting non-game as well as game species, and relay information on non-game species in *Pennsylvania Game News* and *Pennsylvania Angler & Boater*.

While non-game species have certainly benefited from game management activities, single-species management (and habitat management directed at game species) <u>can</u> have negative consequences for non-target species. For example, establishing tree harvests within large blocks of mature forest may be deleterious to forest-dwelling songbirds that rely upon intact forest for successful nesting. Introducing fish to lakes and ponds that did not historically contain them can have serious negative impacts on amphibian populations. In most cases, the impacts of current management practices on non-target species have not been studied and remain unknown.

With more than 1,000 animals and plants already listed as federally threatened or endangered, proactive wildlife management at the state level is our best hope for aggressively stopping and reversing fish and wildlife declines. Investing management resources *before* a species declines to the point of being "federally endangered" is far more effective than waiting until the populations need expensive "emergency room care" through the Endangered Species Act.

This is the challenge the Commissions have undertaken through the State Wildlife

Grants Program. Working with conservation partners across the Commonwealth, the agencies have started directing non-game management attention to declining species before they require protection under the federal Endangered Species Act. Currently, the Commissions have projects underway that will:

- Assess the distribution and abundance of declining species such as the Appalachian cottontail and northern flying squirrel before they reach federally endangered status.
- Develop methods to restore species into appropriate habitat before they become endangered.
- Gauge the success of reintroduction efforts of the river otter and paddlefish.
- Identify Important Bird and Mammal Areas to target for protection and management before such protection involves impacts to development projects.

Our Commissions must continue to build upon the successes of Pennsylvania's SWG program by adopting a Wildlife Action Plan. Aside from being a Congressional requirement, a Comprehensive Strategy will enable the Commissions to provide comprehensive management and protection of both game and non-game species, meet public demands for wildlife-associated recreation opportunities, and fulfill legislative mandates to preserve, protect and manage all of the fish and wildlife resources of the Commonwealth. While broadening our efforts will bring new challenges, it will also provide an opportunity to increase the base of support for Pennsylvania's wildlife, wildlands, and conservation programs.

#### 4.5 MEETING THE CHALLENGES OF TOMORROW

As far back as 1933, the 'father' of modern wildlife management wrote that the objective of wildlife conservation programs should be:

"To retain for the average citizen the opportunity to see, admire, and enjoy, and the challenge to understand, the varied forms of birds and mammals indigenous to his state. It implies not only that these forms be kept in existence, but that the greatest possible variety of them exist in each community."

-- Aldo Leopold, *Game Management* (1933)

Although Pennsylvania's natural resource agencies are being faced with management issues of growing scope and complexity, and threats to our wild resources continue, there is much cause for optimism. Survey results indicate that Pennsylvanians care deeply about the Commonwealth's wild resources, recognize the importance of many aspects of fish and wildlife management, and are very supportive of the Commissions' management activities. At the same time, the Commissions are entering an era of resource management in which managers have the sophistication to manage for a diversity of species rather than focusing only upon large, conspicuous, or economically valuable species.

In short, the time is right for Pennsylvania to develop a Wildlife Action Plan: agencies enjoy the public good will and support needed to move into this new arena; the public is interested in Pennsylvania's wild resources and hungry for additional educational and recreational opportunities, and; Pennsylvania's non-game fish and wildlife remain, for the most part, secure enough that our Commissions can move into this new phase of management and learn as we go without being forced into the high-stakes, reactive position created by crisis situations.

The components of a Wildlife Action Plan should include conservation, education, and recreation priorities. The conservation priority should be to strive to maintain viable, self-sustaining populations of all native species with an emphasis on those whose numbers or habitats are in decline. Conservation projects should be primarily habitat-based and community-oriented rather than species-specific, with their purpose being to prevent species from becoming threatened, endangered, or extirpated. The education priority should be to promote the public's knowledge and appreciation of the broad spectrum of species, habitats, communities, and wildlife-associated activities in the Commonwealth. The recreation priority should be to meet the increasing demand for wildlife-associated recreation activities in a manner that will not adversely impact native species and their habitats. To achieve these objectives, a coordinated and concerted effort will be required by the conservation

organizations involved with managing Pennsylvania's natural resources and the citizens of the Commonwealth. This first-draft WAP is designed to begin techniques.