



# 2016 ANNUAL REPORT



State Game Lands 13 - Hal Korber

## Executive Director's Message

These are challenging times for the Pennsylvania Game Commission.

Legislation that would have resulted in the first increase in hunting and furtaker license fees in nearly two decades was introduced, but not called for a final vote, in 2016.

And for Pennsylvania's wildlife and its citizens, the continued lack of that much-needed revenue boost is beginning to have more-obvious negative impacts. In recent years, as this primary revenue stream for the agency lost more and more traction to inflation, we've reduced costs by canceling construction projects, holding off on vehicle purchases, implementing across-the-board budget reductions, eliminating or leaving vacant dozens of positions, and through other measures.

There were many tough decisions made, but we considered each carefully. We identified where we would cut costs by selecting cuts that would have the least impact on Pennsylvanians and wildlife.

Unfortunately, we are now past the point of making the types of cuts that potentially will go unnoticed.

In December, for instance, we announced the closure of two game farms. It's part of a plan to reduce overall costs of our pheasant propagation, and make the program more self-sustaining. It was a decision our finances made necessary, and it will have impacts on our hunters.

But until we are permitted a license-fee increase that will provide additional revenue, other impactful cuts simply are unavoidable.

I cannot more plainly state the urgency of our need for a license-fee increase.

As you turn the pages of this Annual Report, keep in mind the agency's financial challenges and the astonishing ability of its employees to excel in spite of them. Pennsylvania continues to set an example for wildlife management, leading research into how diseases like white-nose syndrome, West Nile virus and mange affect our wildlife; protecting wildlife resources through fair law-enforcement; and providing unmatched hunting opportunities on both public and private lands.

Pennsylvania continues to offer some of the best deer hunting anywhere. And in 2016, a new record archery buck was taken in Clearfield County. As the bear population has continued to rise, so has the number of bear hunters. Pennsylvania's number of turkey hunters is among the highest in the nation. And the number of licensed furtakers continues its upward trend, despite a depressed fur market.

The many accomplishments outlined within these pages are all the more remarkable, when considering the agency's recent financial hardship. It's a testament to the dedicated people who do the job.

I'm proud to work alongside them, and can only hope that our days of having to do so much with so little are near their end.

Sincerely,

R. Matthew Hough  
Executive Director,  
Pennsylvania Game Commission

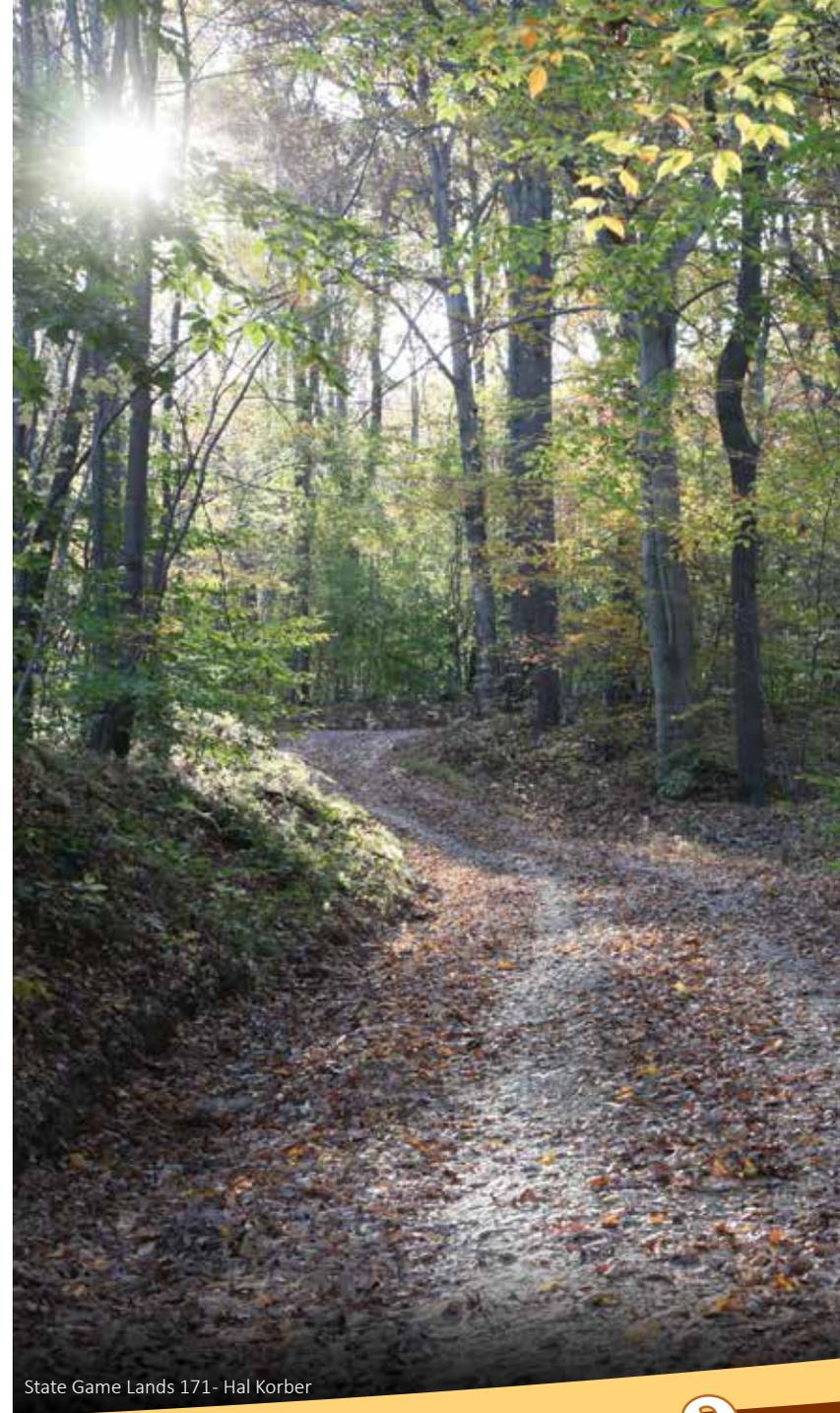


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A .pdf of this document is available at [www.pgc.pa.gov](http://www.pgc.pa.gov). Links to films viewable at [www.youtube.com/pagamecommission](http://www.youtube.com/pagamecommission) are included where this symbol is located throughout the online report.



State Game Lands 171- Hal Korber

# Putting Wildlife First



**Managing 480 species of wild birds and wild mammals,  
and their habitats for current and future generations.**

Insectivorous songbirds like this yellow warbler benefit from wildlife habitats such as shrublands, wetlands, and forests. State Game Lands 95 - Jacob Dingel

## Providing Viewing Opportunities at Middle Creek Wildlife Management Area

The Middle Creek Wildlife Management Area is a mecca for greater snow geese and tundra swans migrating north. They come with the approach of spring, and the convergence of these great white birds at Middle Creek is surely a sight to behold. To catch their sudden rising chatter and natural synchronicity as they alight on or leave Middle Creek's main impoundment is to interface with wildlife in a most unforgettable way. It's something everyone should see at least once.

Middle Creek hasn't always been a point of convergence for greater snow geese returning north to breeding grounds in spring. As recently as the 1980s, only several hundred stopped over on migrations north. That was partly related to Middle Creek's relative newness—built in the early 1970s—and the limited number of greater snow geese in the Atlantic Flyway. Over the last 30 years, things have changed in the flyway and at Middle Creek.

Today, the Atlantic Flyway has a million or more snow geese, and some springs have seen 150,000 to 170,000 snow geese resting at Middle Creek waiting for a stiff southern wind to help them push farther north. The migration stretches from wintering areas in Delaware, Maryland, and Virginia about 2,500 miles north to nesting areas in the Canadian Arctic.

Late February and early March is the time to visit. You'll marvel at the numbers of snow geese and tundra swans and be startled by their synchronized movements.

Middle Creek has a pair of nesting bald eagles, and usually some juvenile eagles hang out in trees east of the main impoundment. Seasonal residents, such as northern harriers and short-eared owls, also frequent Middle Creek at this time, not to mention a variety of ducks and other water birds. Dawn and dusk visitors will enjoy an occasional look at a coyote, beaver, or raccoon, and there's always some whitetails and ringnecks to liven up your trip afield.



Warbler Banding and Nanotags; 3:56

## Osprey Upgraded

In a testament to the Game Commission's wildlife management strategies and the many protections in place for migratory birds, all criteria for upgrading the osprey listing status from threatened to protected as specified in the Pennsylvania Game Commission's osprey management plan were met during the 2016 nesting season. Criteria include a steady or increasing population; existence of at least 50 nesting pairs; and presence of at least 10 nesting pairs within each of four major watersheds. The people of the Commonwealth can experience the excitement of watching wild osprey now more than ever before.



Snow Geese at Middle Creek Wildlife Management Area - Hal Korber



Biologists place a trail camera for woodrat research on State Game Lands 211 - Joe Kosack

## Monitoring Fawn Survival and Predators

Deer biologists continued to capture newborn fawns during 2016 to monitor survival and mortality causes. In two years, 98 fawns have been captured and monitored. This study uses technology and methods employing global positioning system (GPS) collars and vaginal implant transmitters that send electronic messages to biologists when and where fawns are born and die. This technology aids in capture of fawns and in determining cause of death. Results have been similar to the 2000-2001 fawn survival study, which found that roughly half of the fawns survived to an age of at least 6 months. Predation continues to be the leading cause of mortality.

As part of this study, 56 bears were captured. Eleven of these bears were reported taken in the 2016 harvest. A systematic grid of trail cameras was used to assess the abundance of mid-size predators, such as bobcats and coyotes. Black bears, coyotes, bobcats and fishers were detected in all study areas. Bears were the most commonly observed potential fawn predator.

## Spreading the Word about Deer

To learn more about the current research and get the latest updates, follow the Deer-Forest Blog: <http://ecosystems.psu.edu/research/projects/deer/news>.

Public outreach is fundamental to deer management. During the past year, deer biologists have responded to hundreds of questions about the state’s most popular game species. Facilitating these efforts is the “Ask a Deer Biologist” email account. Via this account, the public asks biologists questions about deer or deer management. To provide a portal through which the public can learn about our deer research efforts, Game Commission biologists, in collaboration with the Pennsylvania Cooperative Fish and Wildlife Research Unit, have created the Deer-Forest Blog, which had nearly 2,500 followers at the end of 2016. More than 130 blog articles have been posted since the blog began. The blog received nearly 400,000 page views in 2016.

## Woodrats

Pioneering an effort with the American Chestnut Foundation’s Pennsylvania Chapter, Indiana University of Pennsylvania and Penn State University, the agency is bringing food to the doorsteps of some of Pennsylvania’s woodrat colonies. Woodrats — a state threatened species — were recorded at the three State Game Lands 211 rock piles where biologists had planted chestnut seedlings and established chestnut caches to provide winter food for woodrats. The American Chestnut Foundation provided 11,000 chestnuts and more than 500 chestnut seedlings for the ongoing project. The caches were established to ensure the three treated rock outcroppings provided resident woodrats with a food store to overwinter. The Game Commission also will supply supplemental feed in years when mast production is reduced. The Game Commission’s ongoing fieldwork aims to stabilize Pennsylvania woodrat colonies through habitat treatments at colony locations because colonies don’t readily relocate. It’s an approach that has proven to be successful in recent years in the state’s southcentral counties.

## Treating White-Nose Syndrome

White-nose syndrome has resulted in 90 to 100 percent of bat deaths in some hibernacula. The Game Commission completed field and lab work on two bat studies during this past year. One study examined the effectiveness of PEG8000 powder at preventing infection using direct application to bats and also application to bat roosts. Applying the PEG8000 treatment to bat roosts prevented infection while direct application to bats did not. A second study examined the survival of bats in two age classes of male little brown bats. The study indicated that mortality of adults still occurs from white-nose syndrome infection and that juveniles succumb to the disease faster and at higher numbers than their adult counterparts.



Researchers scan a field for white-tailed deer fawns - Hal Korber

Fawn Predator Study; 3:00



## Northern Bobwhite Quail

Long-term trends in land-use practices across Pennsylvania have resulted in severe loss of bobwhite quail habitat. As a result, bobwhite quail have been extirpated from Pennsylvania. As a first step in restoring this native species, the Bureau of Wildlife Management and Wildlife Habitat Management have developed a habitat model to help identify areas where suitable quail habitat might be re-established and managed within the state. The model performed well when tested against areas in adjacent states known to support wild quail. When applied to Pennsylvania, the model identified approximately 140,000 acres of potentially suitable habitat, primarily in the southcentral and southeastern portions of the Commonwealth. This tool was then used to identify large public land holders in or near these potentially suitable habitat areas where landowner interest in quail restoration was assessed. As a result, a 3,500-acre portion of the Letterkenny Army Depot in Franklin County was found to be the most promising area within which to attempt quail restoration. The Game Commission, Letterkenny Army Depot Natural Resources Division, and Quail Forever are currently developing an implementation plan including habitat management strategies that will lay the groundwork for reintroduction of quail.



Female Northern Bobwhite Quail - Hal Korber

## Canada Goose

Pennsylvania Game Commission personnel and volunteers conduct resident Canada goose banding each year in late June and early July as part of a flyway-wide effort to gather data to manage geese. Banding operations coincide with the time period during which adult Canada geese undergo a complete molt of their flight feathers that renders them flightless for a period of several weeks. By this time of year, most young-of-the-year geese are large enough to carry a leg band, but can't yet fly. Geese are captured and the age and sex of each bird is determined. The birds then are banded and released at the capture site. Each year the Game Commission captures and bands 2,500 to 3,000 resident geese statewide. Banding efforts take place across the flyway. When hunters report harvests of banded geese, biologists gain information necessary to monitor migration patterns, harvest rates, and survival rates. This information provides the basis for development of hunting regulations specific to geographic zones and a means for control of resident goose populations to reduce local nuisance issues while conserving migrant populations more susceptible to over-harvest.

## Wild Turkey Sighting Survey

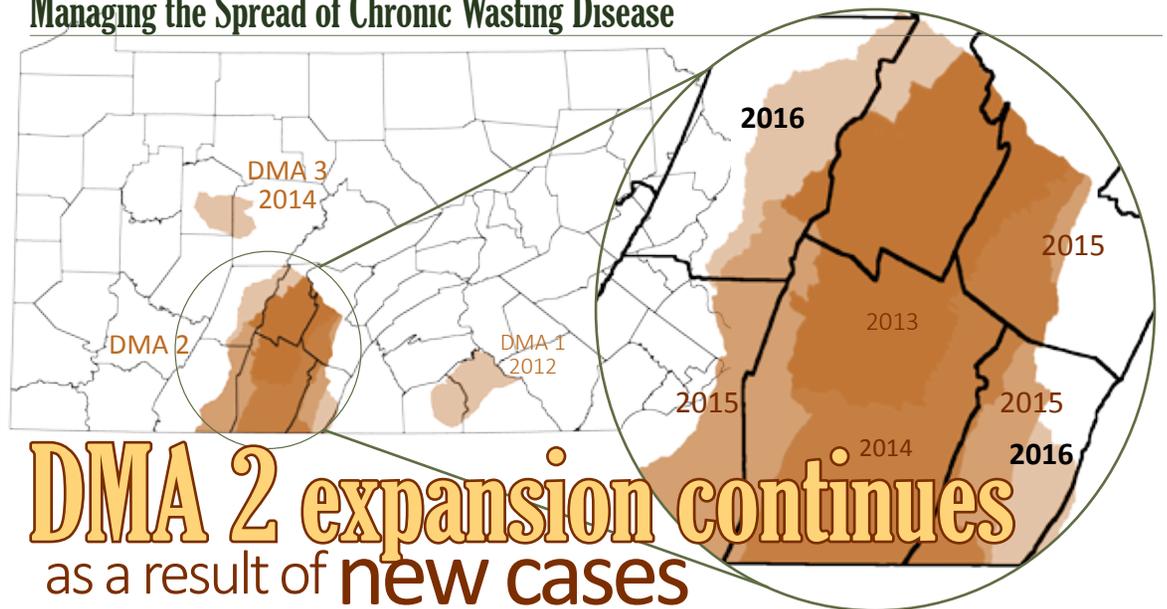
The Game Commission initiated a web-based turkey-sighting survey in 2016. Members of the public were able to go online and enter reports of wild turkeys sighted during the month of August. Date of observation, general location, and number of turkeys seen by age and sex category, along with contact information was gathered from more than 2,400 individual submissions reporting a total of nearly 31,000 turkeys. These data help assess and compare annual variation in turkey reproduction in Pennsylvania to that found in other states in the Northeast that use similar citizen-science-based turkey surveys and help provide a regional view of wild turkey population trends. It also enhances staff turkey sightings that have been collected since 1953. The 2016 reproductive index (poults produced per all hens seen) in Pennsylvania was similar to the regional average of 2.4 poults per all hens.

Annual wild-turkey reproduction is influenced by a variety of factors including spring weather, habitat, winter food abundance, predation, and fall harvest the previous year. In turn, annual survival of poults is a major factor that affects population trends. The 2016 statewide turkey population was estimated at approximately 205,000. This is slightly less than the previous five-year average of 218,000 birds. Pennsylvania's turkey population reached a peak abundance of about 280,000 birds during the early 2000s following restoration efforts involving trap and transfer of birds, habitat improvement, and fall turkey hunting season restrictions. The population subsequently declined sharply to levels below 200,000 before rebounding since 2011.



The agency wildlife veterinarian categorizes samples taken at the elk check station - Hal Korber

## Managing the Spread of Chronic Wasting Disease



Chronic wasting disease (CWD) is a fatal neurological disease of cervids that poses a serious threat to Pennsylvania's deer and elk populations, and to the future of hunting. CWD continues to be a problem in wild deer in southcentral Pennsylvania. Sampling during the past year, has not detected CWD in any new areas of the state.

Pennsylvania's first positive test for CWD was returned in 2012. The disease has since been identified in three areas of the state referred to as Disease Management Areas (DMAs): a captive cervid facility in Adams County during 2012 (DMA 1); multiple free-ranging deer in Blair, Bedford, and Fulton counties between 2012 and 2016 (DMA 2); and two captive facilities in Jefferson County during 2014 (DMA 3). The Game Commission issued executive orders following the first detection to establish regulations to manage the spread of CWD and to intensify surveillance. The orders continue to be updated as new information becomes available. The CWD-positive captive cervid facilities in Adams and Jefferson counties were depopulated and remain under quarantine enforced by the Pennsylvania Department of Agriculture. Despite intensive surveillance, CWD has not been detected in wild deer in either of those counties. Unfortunately, new cases of CWD continue to be detected in wild deer in and around DMA 2. By the end of 2016, 28 wild white-tailed deer had tested positive for CWD within DMA 2, and the boundaries of DMA 2 had been expanded four times based on the identification of new positives, leaving the DMA at 2,846 square miles and encompassing parts of Bedford, Blair, Cambria, Clearfield, Franklin, Fulton, Huntingdon, and Somerset counties. Deer continue to be sampled statewide with enhanced sampling efforts within the DMAs. About 6,000 samples were collected for CWD testing during 2016 representing the greatest number of samples collected in any single year within Pennsylvania. Final test results for 2016 are expected in March 2017. Chronic wasting disease has not been detected in wild Pennsylvania elk.



Grouse hunters assist in West Nile Virus research - Hal Korber

## Ruffed Grouse and West Nile Virus



The Game Commission organized a Grouse Management Coordination Conference in 2016 to address ongoing declines in eastern ruffed grouse populations. This was the first multi-state, grouse-focused meeting held in more than 15 years within the eastern United States. It was attended by 40 biologists from 22 state agencies, universities, and non-governmental organizations.

Attendees recognized a need for multi-state collaboration to understand and possibly stem the ruffed grouse decline. There was agreement that regional assessment of available data is a necessary first step towards meeting current grouse management objectives. As a result, Northeast and Mid-Atlantic biologists have begun compiling data from individual states to better understand the dynamics of grouse declines and identify existing information gaps. Mission-critical priorities identified include: aggressive and targeted habitat management, public outreach, a better understanding of the role of West Nile virus in grouse declines, and a landscape analysis of local-level grouse extinction probabilities.

During the past 30 years, the range of grouse within Pennsylvania has contracted dramatically. Twenty-five percent of the area inhabited by grouse in the 1980s no longer is occupied. Recently, the Game Commission and Penn State University studied the relationship between habitat and West Nile virus in grouse declines. This effort was the first of its kind in the nation and depended on the assistance of grouse hunters. The study confirmed that young forest habitat and West Nile virus may be equally important in determining where grouse populations declined or increased across the landscape. By incorporating these findings into habitat management planning, the Game Commission and partners hope to direct habitat management efforts to areas where grouse populations have the best chance of responding.

## Studying Mange in Black Bear

Mange is a contagious skin disease of mammals caused by one of several species of mites that burrow through the skin of their hosts. Affected animals are extremely itchy and have varying degrees of damage to their skin and hair loss. In severe cases, animals are weak, emaciated, and unaware of their surroundings. Mange infections in these severe cases can be fatal.

Mange in North American black bears historically has been a rare problem involving relatively few bears. Mange began occurring more regularly among Pennsylvania bears in the early 1990s. Since then, it has become a significant disease in several parts of the state. The Pennsylvania Game Commission recently initiated a research project aiming to address some of the questions relating to mange in black bears, including why the disease appears to be increasing within the Commonwealth. Early results have identified the causative mite species as *Sarcoptes scabiei*, which is known to cause mange in several other mammals including red foxes, coyotes, other canids and pigs. Efforts currently are underway to genetically characterize bear mites in order to better understand their origin, and validate diagnostic tests for identifying their presence on bears lacking clinical signs of mange. This information will be critical to defining where the disease occurs in the state and how common mange infection is among Pennsylvania bears. Preliminary results suggest that a commercially available blood test used for mange in dogs also may effectively identify bears that have been infected with *Sarcoptes scabiei*. Studies also are underway to determine how long the mite lives in the environment when it is not on a bear. This information is necessary to understand how this parasite is transmitted in nature and risk factors like recreational wildlife feeding that might increase the rate of infection. Collectively, these data will expand our understanding of the emerging mange problem in Pennsylvania black bears and may uncover new mange management options.



A biologist uses telemetry equipment to locate collared grouse on State Game Lands 176 - Hal Korber

# Improving Wildlife Habitat



A fire crew member tends to a controlled burn on State Game Lands 65 - Hal Korber

**More than 57,000 acres were impacted by habitat improvement projects on state game lands, during 2016.**

## State Game Lands - 1.5 Million Acres and Counting

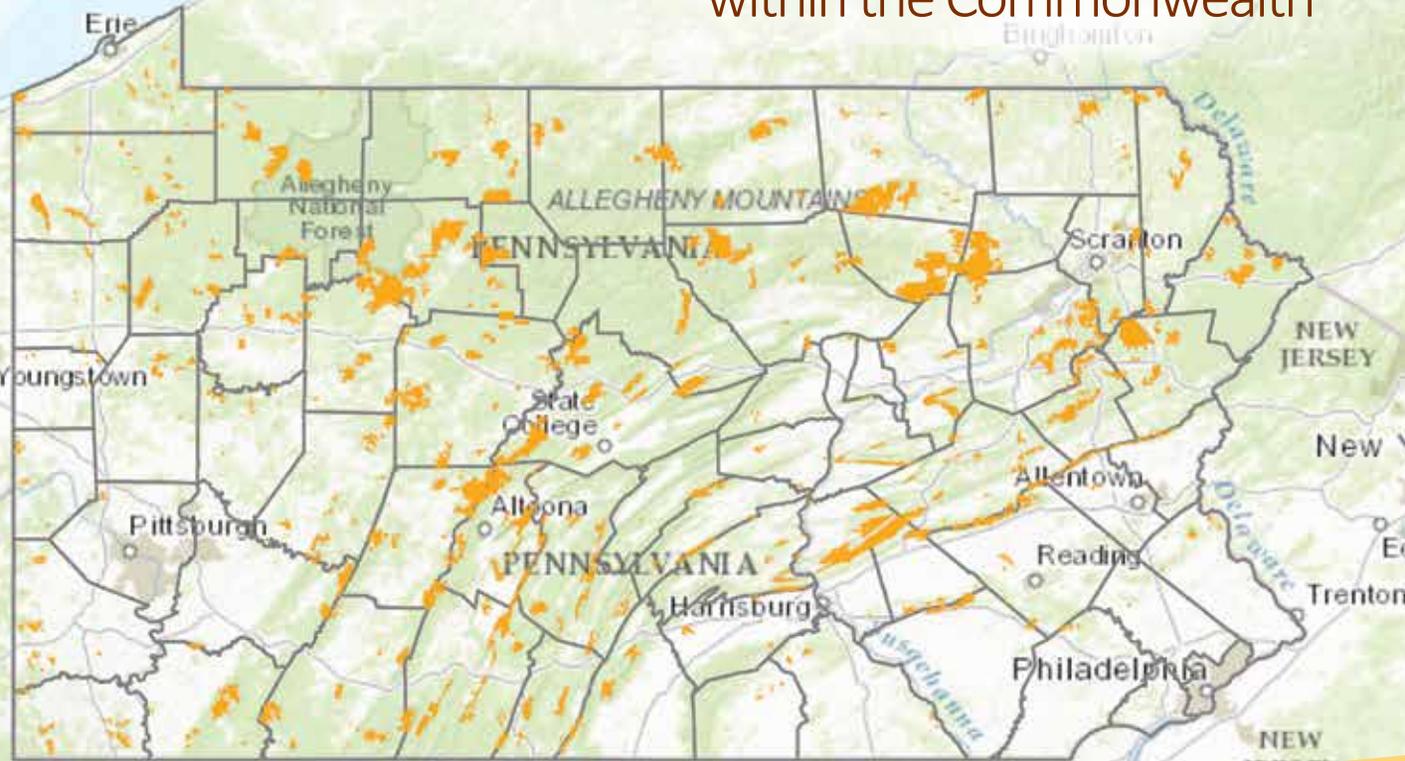
State game lands continue to be one of the Commonwealth's most-valued assets. The Game Commission passed the 1.5 million-acre milestone during 2015. During the 2015-16 fiscal year, 439 acres were added to the game lands system, including one interior and one indenture — each providing improved access — and three additional acquisitions to improve access into existing state game lands. There are 308 separate game lands, spread across 65 of the state's 67 counties. On those game lands, there are 3,871 miles of roads, 368 buildings, 29 public shooting ranges, about 38,000 bridges and culverts, and around 1,500 ponds and dams. Renovation, repair and replacement of this infrastructure will continue to be a challenge for the Game Commission. Local government received \$1,797,902 in payments from the Game Commission to counties, school districts and townships in-lieu-of taxes on state game lands.

Within the first 10 years of its existence, the Game Commission recognized the importance of protecting land in the emerging field of wildlife conservation. Now, the agency's staunch commitment to conserving Pennsylvania's open places has left a wild lands system that was built from the revenue of generations of license-buying hunters and trappers to provide habitat for wildlife, and hunting and trapping opportunities for license-buyers.

Pittman-Robertson Funds also have made a difference for state game lands. Since this federal funding began in 1937 as a federal excise tax of sporting arms and ammunition, it has helped finance the acquisition of more than 190,000 acres of state game lands. The agency's commitment to game lands was an initiative that resonated with Aldo Leopold's philosophy on such matters. He believed wild things are taken for granted until progress begins to do away with them. So the Game Commission stayed on the offensive, and the agency's efforts paid huge dividends to wildlife and Pennsylvania.

Conservation partners and unexpected dividends from resource extraction and reclamation would help to put into play a concerted push to acquire more land. With the help of conservation partners, such as the Rocky Mountain Elk Foundation, National Wild Turkey Federation, Western Pennsylvania Conservancy, Indiana Bat Conservation Fund, The Conservation Fund, Wildlands Conservancy and regional land conservancies, as well as bond issues such as projects 70 and 500, and even land donations, the Game Commission continued to add land to its state game lands system during this fiscal year.

More than **1.5 million acres**  
of state game lands  
foster hunting and trapping  
within the Commonwealth





Partnerships with organizations like Ducks Unlimited help the Game Commission magnify its impact and stretch its dollars. State Game Lands 57 - Hal Korber

## Habitat Planning and Development

With each passing year, the challenge to manage the game lands system grows. Forest pests, extreme weather, and manpower and equipment limitations impact the management of game lands. The Bureau of Wildlife Habitat Management actively manages game lands to improve habitat for wildlife, hunting opportunity and hunter access.

Access to state game lands for hunters and trappers is supported by game lands roads, and improvements were made to many roads during the fiscal year. Eleven new bridges were constructed, including eight using Pittman-Robertson funds in five of the six Game Commission regions. The other three were constructed as part of timber sales, with the loggers purchasing the materials. All of the bridges were constructed using Game Commission personnel.

Four projects were completed on Game Commission dams. New aluminum stop logs were installed in the control structures at Cabbage Hollow Dam on State Game Lands 134 in Lycoming County; Alder Marsh Dam on State Game Lands 159 in Wayne County; and Shohola Dam on State Game Lands 180 in Pike County. Sunfish Pond Dam on State Game Lands 46 in Lancaster County was removed and the area restored as a wetland.

Two underground storage tanks were removed from State Game Lands 51 in Fayette County and State Game Lands 14 in Cameron County. These tanks were the last underground tanks owned by the Game Commission.

The agency's Hunter Access Program, with 2.2 million acres enrolled, is one of the largest voluntary public-access programs in the country.

About 1.3 million acres of game lands have been incorporated into a Geographic Information System that is guiding wildlife conservation activities. Agency GIS staff have developed several web-mapping applications to improve customer service and efficiency of operations. They included web-based maps for public land access, private land access, CWD areas, bear check stations, pheasant stocking locations and prescribed burn locations.

## Environmental Planning

During 2016, more than 970 environmental reviews were completed to evaluate projects having potential impacts to threatened or endangered bird or mammal species, species of special concern and their critical or unique habitats. The reviews included 227 for transportation, 209 for energy development, 511 for land development and 23 for mining projects.

## Forests, Oils, Gas and Minerals

Forests require regular attention to ensure the best habitat for the greatest variety of wildlife. During the 2015-16 fiscal year, 6,193 forested acres were harvested to improve habitat on state game lands. Associated services in lieu of cash from timber sales included 53 miles of roads improved, 7.2 miles of roads and 2 stream crossings created, 93 culverts and 7 gates placed, 30 new herbaceous openings created, and 15 new or improved parking lots.

Herbicides were used to treat 5,371 acres, and 936 acres of non-commercial habitat improvement projects, including regeneration treatments, crop tree releases and thinning occurred.

The Oil/Gas and Mineral Development Section completed more than 35 field reviews of existing oil, gas, coal or mineral development leases on state game lands to ensure compliance with the lease conditions and to review potential future recovery activity on state game lands.

## Controlled Burning

Controlled burning is being used more frequently to manage game lands and Hunter Access properties. It is a management tool useful in a variety of habitats from grasslands to oak forests. Last year, trained personnel used controlled burns on 10,570 acres—an increase of around 4,000 acres from 2015.

Controlled burns improve wildlife habitat and hunting opportunity by increasing soft-mast production in shrubs, such as blueberry, huckleberry and blackberry; rejuvenating succulent browse plants preferred by deer and elk; promoting oak habitats and their vitally important acorns, and maintaining grasses and broad leaf plants sought by brooding turkeys and grouse.

Controlled burns are conducted under specific weather and “fuel” conditions to ensure fires of low to moderate intensity (fuel refers to the dried leaves, grasses and brush that are consumed in the fire). Burns often reduce the risk of unplanned wildfires. Controlled burns are conducted by highly trained crews to ensure safety, both for themselves and the public.

Ignition patterns are designed to provide wildlife escape routes as the burn progresses. From fawns to turtles, even the slowest wildlife can reach safety. Before the smoke clears, animals often are seen returning to burned areas. Because peak controlled burning occurs in spring, people are often concerned about impacts to ground-nesting birds like turkeys and grouse. While burns may disrupt a few nests, hens often re-nest and some nests in the burn area may not be harmed. Most importantly, burns occur on less than 10 percent of the landscape. Direct impacts are quite small and benefits of using controlled burns as a management tool far outweigh potential negatives.

## Howard Nursery



More than 15,000 nesting structures and 1.5 million seedlings — including 195,000 seedlings to 966 schools — were distributed from the agency’s Howard Nursery to improve wildlife habitat statewide during 2016.



# Protecting Our Wildlife



The Commonwealth consists of 135 districts, each covering an average of 325 square miles and overseen by a single officer.

Hal Korber

## Wildlife Protection

Pennsylvanians have a shared interest in ensuring our wildlife resources are protected, and that healthy populations are maintained within our state in perpetuity. Over many decades, that interest has built support for the Pennsylvania Game Commission and one of the hallmark services the agency provides—protection to wildlife through the enforcement of wildlife laws.

Prior to the Game Commission’s creation in 1895, the established game laws, seasons and bag limits were without wardens to enforce them. Those laws largely went ignored, and wildlife populations were depleted as a result.

Through the enforcement of game laws, and through sound, science-based management, Pennsylvania became a model other state wildlife agencies strive to follow. More than 120 years later, in these challenging times, the Pennsylvania Game Commission proudly remains efficient and effective, and what some would consider the standard by which similar agencies should be measured.

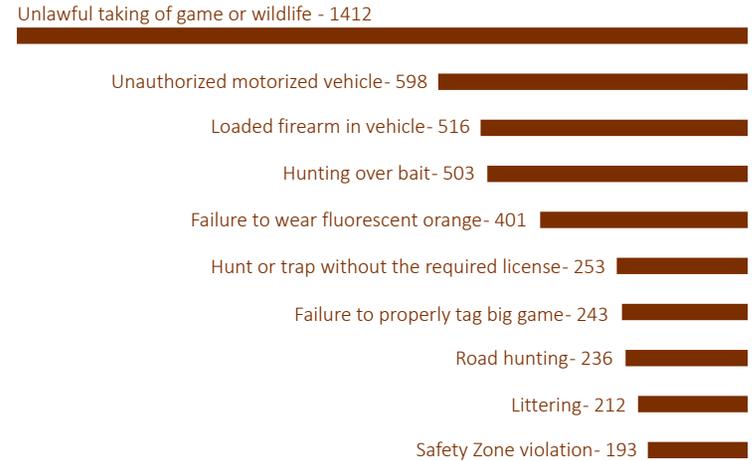
The battle to protect Pennsylvania’s wildlife wages on. Wildlife crimes remain a problem. During the 2015-16 license year, Wildlife Conservation Officers filed more than 1,400 charges related to the unlawful taking of game or wildlife in the Commonwealth, a slight decrease from last year’s 1,500.

Officers also continue to prosecute higher numbers of cases involving hunting through the use of bait. The 503 baiting charges filed during the 2015-16 license year is an increase from the previous year’s total of 468, which was an increase from 311 during 2012-13.



More than 360 citizens dedicate their time and efforts to help protect the Commonwealth’s wildlife resources as deputy wildlife conservation officers - Hal Korber

## Top 10 violations 2015-16



## Wildlife Conservation Officers

There are 127 full-time wildlife conservation officers with 14 vacant districts and more than 365 part-time deputies serving the Game Commission. Each wildlife conservation officer has a coverage area of about 335 square miles. In addition to their law-enforcement duties, officers serve as local ambassadors of the Game Commission in communities throughout the Commonwealth. They help manage hunter education classes and teach school students about wildlife issues.

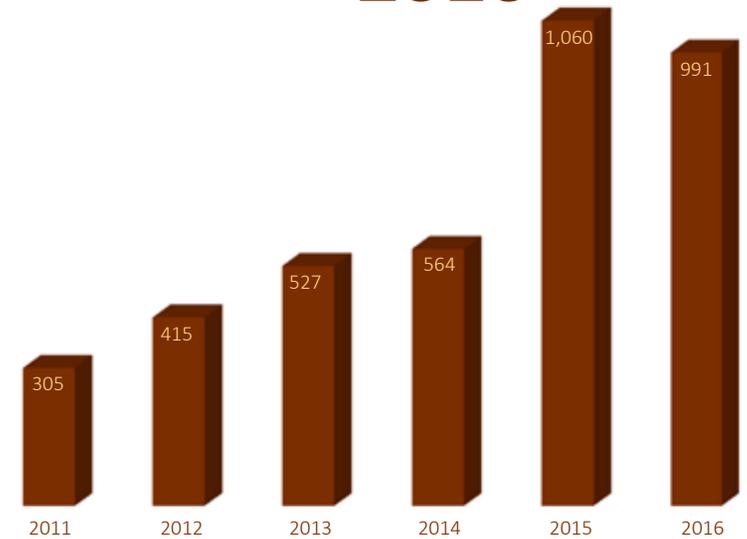
Game Commission officers conducted 212,490 enforcement contacts in the past fiscal year, a decrease of about 5,000. There were 21,249 violations detected, for which officers issued 12,679 warnings and filed 8,570 prosecutions. The ratio of warnings to prosecutions demonstrates the fairness and firmness of our officers.

Five complaints were filed against employees of the Game Commission in the most recent year, the agency’s Professional Responsibility Coordinator reported. After investigations into the complaints, none were sustained. Countless agency employees in the performance of their duties regularly are praised by the public.



Tracy Graziano

# 991 violations detected during Operation Talon 2016



## Operation Talon

In its sixth year, Operation Talon continued to prove its effectiveness in detecting poaching and other illegal activity. The multi-agency law-enforcement initiative includes officers from the Game Commission, Fish and Boat Commission, Department of Conservation and Natural Resources, and Pennsylvania State Police. Each year, since 2011, those officers have dedicated long work hours to the initiative. During the two-week operation in 2016, 398 officers spent 10,974 man hours on Operation Talon. The results included 991 enforcement contacts that lead to the initiation of 434 prosecutions and 557 warnings — a tribute to the concentrated effort and cooperation of the agencies that took part, and the dedication of the officers who carried out the work.

## Operation Game Thief

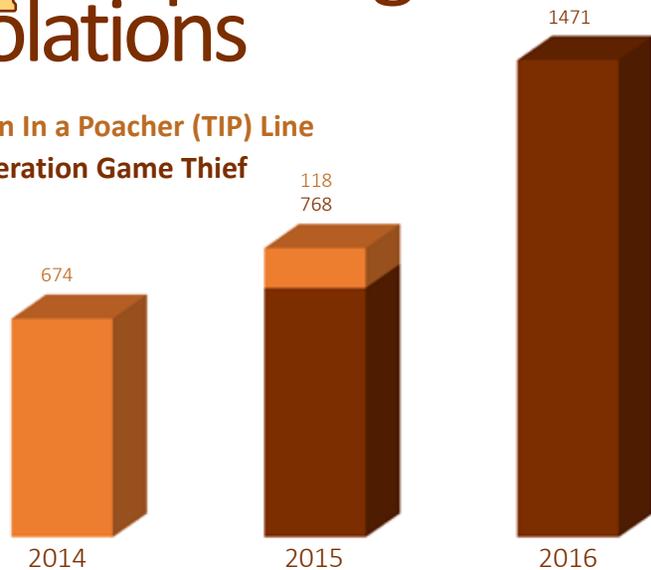
In the fall of 2015, the Game Commission transitioned its method of receiving wildlife crime tips from the Turn In a Poacher (TIP) Line to Operation Game Thief. Operation Game Thief has increased the ease and efficiency in reporting confidential tips about wildlife crimes. The hotline continues to resonate well with the public and maintains an average time of 21 minutes between a tip coming in and an officer being dispatched in the incident.

Report wildlife crimes by calling the Operation Game Thief toll-free hotline at 1-888-PGC-8001 or filling out an Operation Game Thief form online. The form is available from the Game Commission's home page at [www.pgc.pa.gov](http://www.pgc.pa.gov) or from the Operation Game Thief page directly at <http://bit.ly/PGCOGT>.



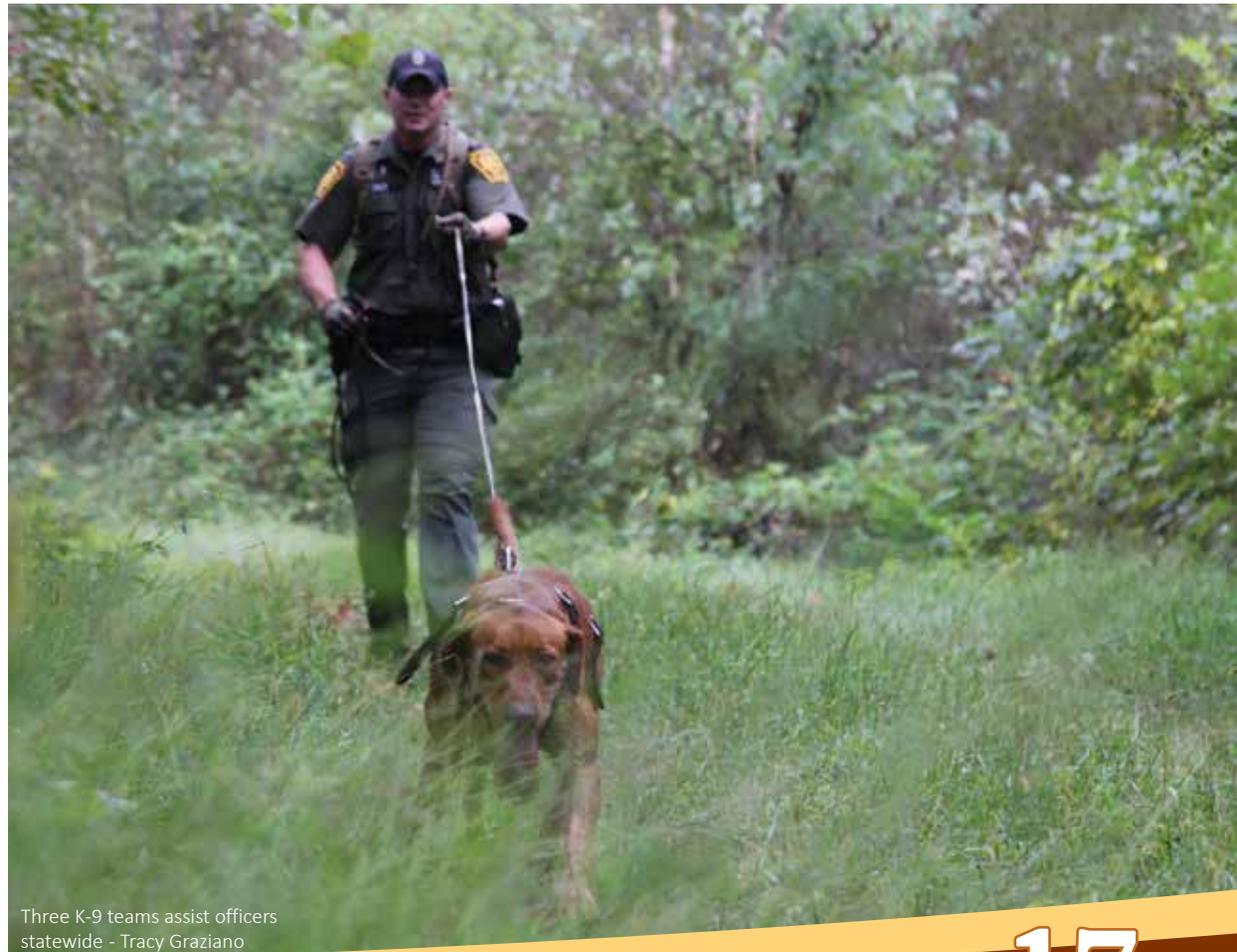
## Tips reporting violations

■ Turn In a Poacher (TIP) Line  
 ■ Operation Game Thief



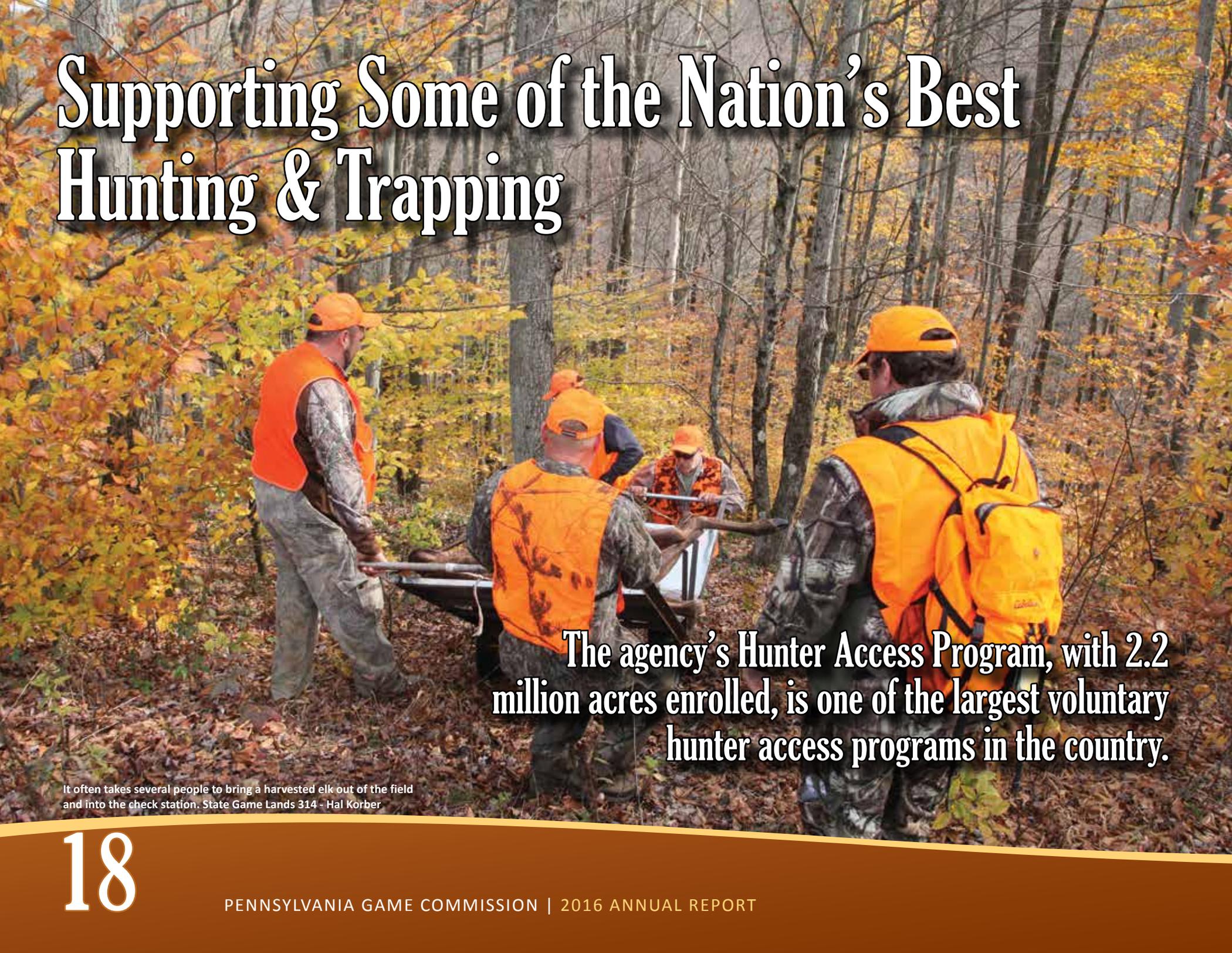
## K-9 Unit

Three Labrador retrievers and their handlers, comprising the Game Commission's K-9 Unit, completed their basic training during 2016. They are trained to standards established by the North American Police Work Dog Association in the areas of article searches, wildlife detection and human tracking. During the year, they were deployed 67 times to support investigations involving safety violations, unlawfully-killed game, and night-time poaching. The teams were instrumental in tracking and apprehending a person hunting under the influence of alcohol and locating a stolen handgun with a silencer that was discarded by a felon being approached by officers at a state game lands shooting range. The unit's skills and training are recognized by local and state police, and teams were requested on several homicide and attempted-homicide cases. Agency K-9 teams proved to be valuable public outreach tools, providing 42 educational programs in diverse settings, including State Police Camp Cadet, county conservation camps, National Night Out events and middle school career days throughout the year.



Three K-9 teams assist officers statewide - Tracy Graziano

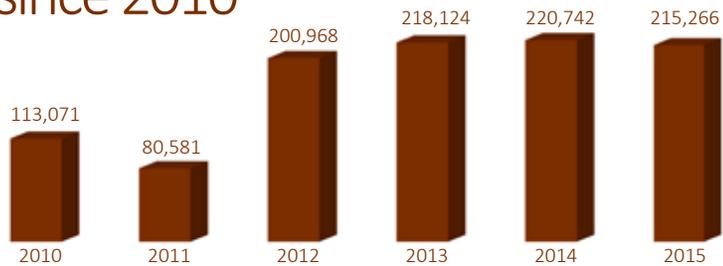
# Supporting Some of the Nation's Best Hunting & Trapping



The agency's Hunter Access Program, with 2.2 million acres enrolled, is one of the largest voluntary hunter access programs in the country.

It often takes several people to bring a harvested elk out of the field and into the check station. State Game Lands 314 - Hal Korber

# 1,048,752 pheasants released statewide since 2010



## Pheasant Propagation

The pheasant propagation program continues to provide a popular service to hunters. The agency's four game farms produced 215,266 pheasants for the 2015-16 hunting season releases. According to the Game Take Survey, 86,349 hunters hunted pheasants during 394,141 hunter-days during the 2015-16 license year.

The pheasant propagation program is important in that it provides enhanced hunting opportunities for junior hunters who are the future of Pennsylvania hunting. During 2015-16, 15,270 pheasants were released for junior pheasant hunts at designated, advertised sites. Another 1,425 birds were distributed to 31 club-hosted hunts for nearly 700 junior hunters.

During the regular fall season, 189,148 birds were stocked in the preseason and four in-season releases. An additional, 9,423 hens were released for the late small game season within wildlife management units open to harvest both male and female pheasants.

In addition, 2,550 eggs and 7,418 hen chicks were sold during the 2016 production season. The Game Commission donated 7,630 day-old pheasant chicks to sportsmen's organizations to raise and release on lands open to public hunting.

A major effort focusing on cost reduction and increased efficiency in operations resulted in plans to eliminate breeder flocks and hatchery operations for the 2017 production season. A successful experimental purchase of 15,300 day-old chicks from a private breeder was completed as a step in the direction of purchasing all chicks for the 2017 production cycle.





White-tailed deer - Hal Korber

## Big Game Scoring Program

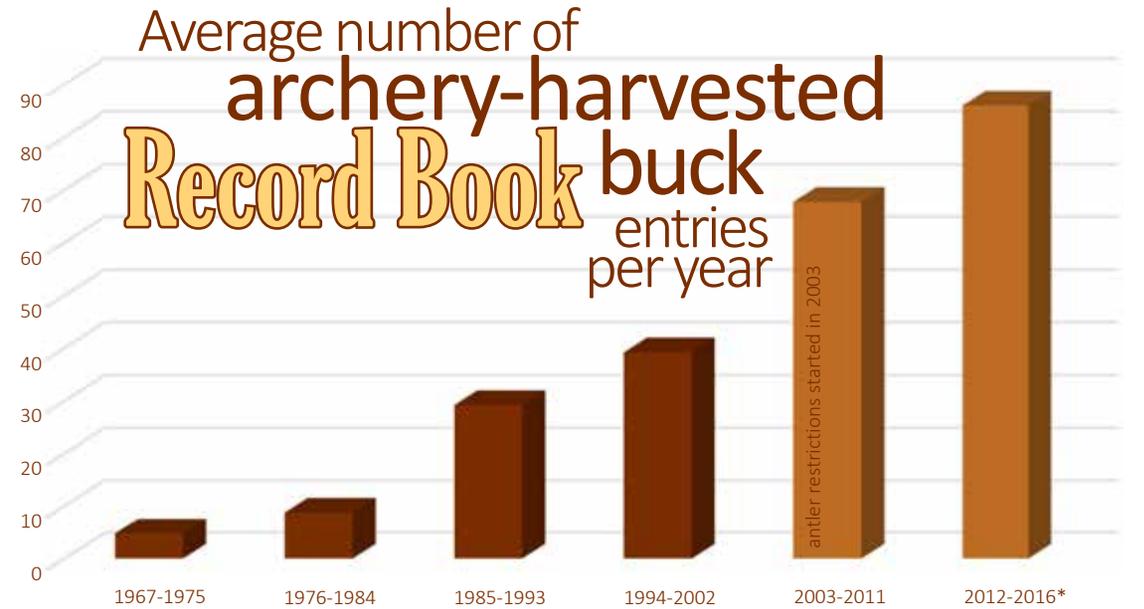
Pennsylvania has always been a buck factory, and antler restrictions have helped to improve the size and quality of bucks within the Commonwealth. Since the implementation of antler restrictions, in 2003, more than 1,000 bucks taken by a bow have been entered into Pennsylvania's record book.

Pennsylvania is faring pretty well on the national level for trophy bucks. Over the past six years, about 575 deer entries — 125 last year alone — have been added to Pennsylvania's Big Game Records listings.

Once again in 2015-16, Bradford County remained the top producer of record-book bucks, with Allegheny County second. However, record-book racks are coming in from all over the state, including the "Big Woods" northern tier of Pennsylvania. The most notable entries in the 2016 Big Game Records book include a new No. 11 in the nontypical-firearms category for a buck taken in Bradford County in 2015 that scored 200-7/8 inches. There also was an impressive nontypical taken with a bow in Monroe County that placed 20th all-time and scored 179-6/8 inches. Another amazing trophy added to the records is a buck taken with a bow in Fayette County by a female hunter on Jan. 2, 2016 that scored 162-5/8. The buck's 10-point rack had 25-inch main beams and was very symmetrical.

And more recently, a deer measured in Harrisburg is the largest buck ever taken in Pennsylvania with archery equipment, and is the third largest buck listed in the state records. The 228-6/8-inch buck was taken in Clearfield County.

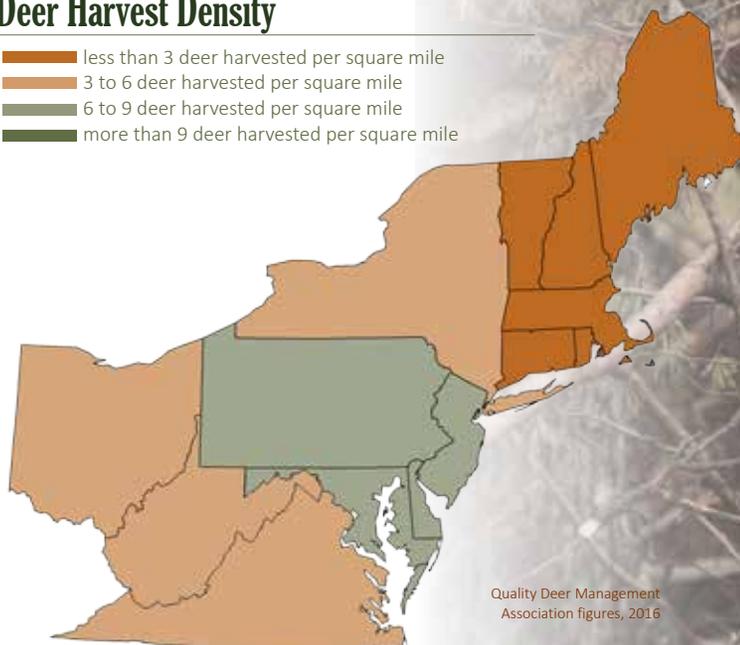
Take a look at the Pennsylvania Big Game Records book and you'll see quickly that trophy bucks can turn up just about anywhere in Penn's Woods. Pennsylvania's rich mosaic of mountains, farming valleys, private properties and safety zones have always provided our bucks a chance to get big. And now antler restrictions ensure they have even more of a fighting chance to grow larger.



\*only a 5-year period

## Deer Harvest Density

- less than 3 deer harvested per square mile
- 3 to 6 deer harvested per square mile
- 6 to 9 deer harvested per square mile
- more than 9 deer harvested per square mile



## Premiere White-tailed Deer Hunting

During the 2015-16 deer seasons, hunters took an estimated 315,813 deer, an increase from the 2014-15 harvest of 303,973. Hunter success was relatively stable in 2015-16: about 15 percent of all licensed deer hunters took a buck and about 24 percent of the antlerless licenses issued were used to take an antlerless deer. These success rates are similar to those in recent years.

During the 2015-16 seasons, 37 percent of the state's overall buck harvest — 51,280 — was harvested with archery equipment. Hunters using crossbows took 57 percent of the archery bucks harvested. This demonstrates the increased popularity of crossbows. As recently as 1999 through 2002, only 19 to 20 percent of the archery buck harvest was taken with crossbows.



Healthy Habitat; 2:15



Coyote - Tracy Graziano

## Bountiful Black Bear Hunting

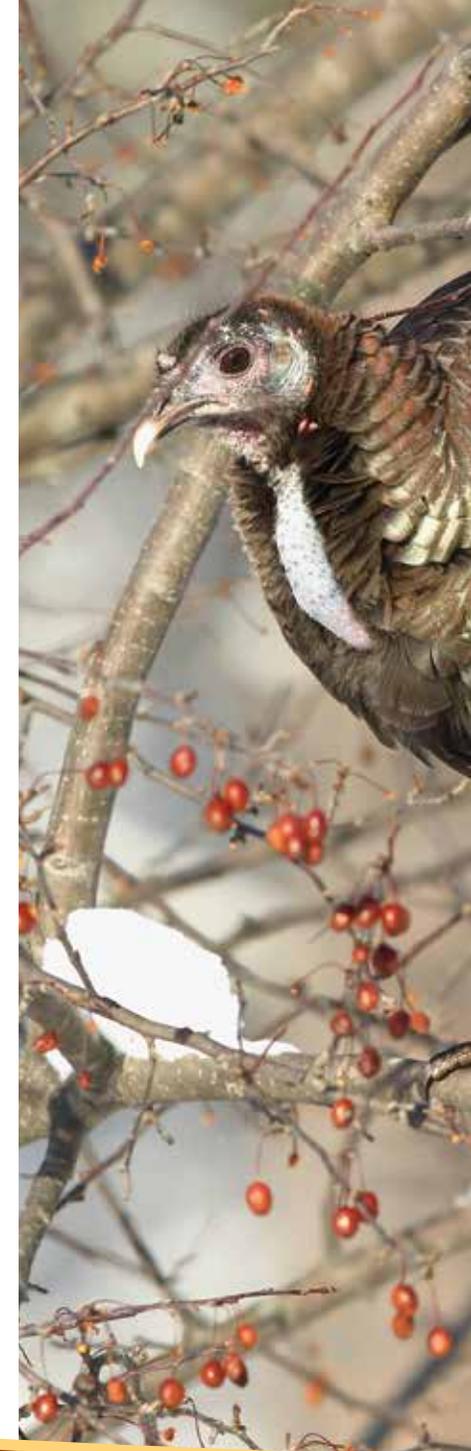
Pennsylvania boasts some of the best black bear hunting in the country. The preliminary 2016 bear harvest was 3,532 bears, which is the fifth-highest harvest on record. This compares to 3,748 bears taken by hunters in 2015. Four of the top-five bear harvests have occurred in the past six years. The statewide bear population going into the hunting season was estimated to be approximately 20,000 bears. The 2016 harvest is in line with current management goals, and the trend of a stable bear population is expected to continue into 2017. As a result, bear hunting opportunities introduced in recent years likely will continue. A steady increase in bear hunting participation has occurred during the past decade, which helps limit growth of the bear population and human-bear conflicts.

## Pheasant Reward Band Study

The Game Commission in 2015 conducted a reward band study to determine propagated pheasant harvest rates. Overall, the harvest rate was 49.1 percent. Males were harvested at a higher rate (53.8 percent) than females (41.1 percent). Harvest rates were found to be greater on game lands (48.7 percent) and other public properties (50.7 percent) compared to harvest rates on privately owned Hunter Access properties (37.3 percent). Harvest rates were lowest for pheasants released for the Junior Hunt (40.6 percent) and preseason stockings (46.7 percent). Harvest rates were highest and nearly identical for the first three in-season releases, harvest rates averaged 52.9 percent. Results provide insight into how changes to pheasant-release strategies might increase harvest rates.

## Furtaking Participation Continues to Increase

Furtaker license sales have increased steadily since 1999 along with the number of combination license holders pursuing furbearers. During the 2015-16 license year, more than 166,000 trappers and hunters pursued furbearers. This increased interest in furtaking is believed due, in part, to new opportunities provided during recent years. The Game Commission initiated the first bobcat hunting and trapping season since 1970 in 2000. In 2005, cable restraints became legal devices for certified trappers to take foxes and coyotes. The first fisher trapping season opened in 2010. And most recently, during February of 2016, Pennsylvania trappers were able to harvest river otters for the first time since 1952 within the constraints of a highly conservative trapping season.





Wild Turkey - Jacob Dingel

## Outstanding Turkey Hunting

Turkey hunting continues to be second in popularity only to deer hunting in Pennsylvania. During the 2015-16 license year, 156,331 hunters participated in fall turkey seasons, and 214,706 hunted the spring gobbler season. An estimated 15,018 turkeys were harvested in fall 2015 (down 9 percent from the previous three-year average) with 35,966 turkeys harvested in the spring of 2016 (down 9 percent from the previous three-year average). The most successful days of the fall season tend to be the first day (16 percent of the harvest) and the second Saturday (8 to 10 percent of the harvest). The three-day Thanksgiving season also has become popular, accounting for about 20 percent of the fall harvest. Fall harvests fluctuate from year to year depending on summer turkey reproduction, food availability, and weather. In the spring, the one-day youth season accounts for about 5 percent of the spring harvest while the first week of the regular season adds another 40 to 45 percent. However, persistent hunters continue to find success even late in the season. About 10 percent of the total spring harvest is taken between Memorial Day and the May 31 season closing date. Pennsylvania turkey-hunter numbers and turkey harvests are at, or near, the highest in the nation. This high level of hunting pressure necessitates a conservative approach to season setting. Still, mentored youth opportunities in both spring and fall, the three-day Thanksgiving season, a two-bird spring season limit, and all-day hunting during the second half of the spring season help provide an abundance of recreational opportunities without jeopardizing the turkey population.

## Superb Elk Hunting

Pennsylvania elk hunters continue to take some of the county's largest bulls. More than 30,000 hunters applied for a Pennsylvania elk license in 2016 and 124 were drawn. Ninety-seven hunters harvested an elk (24 antlered, 73 antlerless) during the six-day regular season of 2016. A bull and six cows were harvested during an additional seven-day season (Jan 7-14) offered to hunters with unfilled tags to ensure that management goals were achieved. In addition to the regular permit drawing, two special conservation licenses were awarded via a raffle and an auction conducted by the Keystone Elk Country Alliance and the Rocky Mountain Elk Foundation, respectively. Both hunters successfully harvested mature bulls. Combined proceeds from these tags generated more than \$250,000, which will be used for elk management, habitat enhancement and research.



Elk on State Game Lands 314 - Hal Korber

# Building an Infrastructure for Better Business

Delivering tangible results using sound and proven  
business practices and fiscal accountability

A new road opened access to  
approximately 10,000 acres of State  
Game Lands 57 - Hal Korber

## Reaching Our Constituents Effectively & Efficiently

The agency continues to engage our constituents at their convenience by emailing information, live streaming meetings, and participating on social media. More than 352,900 people have subscribed to agency email lists and the agency has more than 139,900 followers on Facebook, 7,100 on Twitter and 1,600 on Instagram. The agency migrated its website to a new platform design intended to work more effectively with the increasingly diverse devices being used to access it. Also during 2016, the agency began offering public educational webinars; 10 sessions have gained more than 4,300 views cumulatively.

The 2016 elk and bear seasons saw updates to the automated systems that collect data, dispatch information for law enforcement, and display data for public view. The new systems can display near-live (within five minutes) data on a large format screen at participating check stations and on the Game Commission's website. Public feedback was overwhelmingly positive and demonstrates that people enjoy being able to consume information in formats accessible both in person and online.

*A wildlife officer came to my school today to talk about his career with students and stayed after to help my club learn more about Pennsylvania Wildlife. I really appreciate the time he took out of his busy schedule to talk to my kids.*

- Lindsey Palazii, Facebook October 20, 2016



The Fisher Returns to Penn's Woods webinar; 33:09



The fisher webinar had 138 people register and more than 1,300 views after the recording was posted to the Game Commission's YouTube channel.



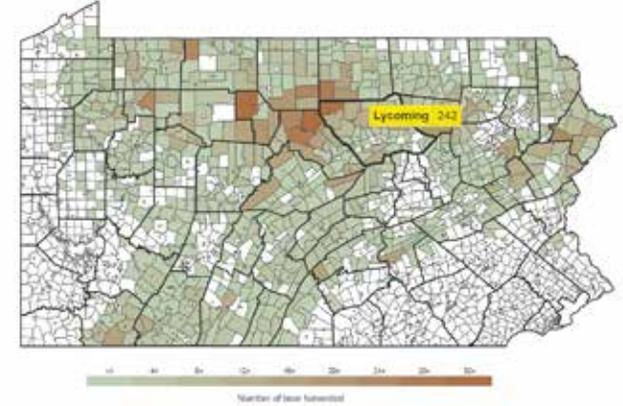
The agency uses Twitter to notify followers about upcoming seasons and other news-worthy events.



This Facebook post about an elk rescue gave the agency the opportunity to highlight partnerships with other organizations.

### Where are Pennsylvania's black bear being harvested?

The counties typically with the highest harvest are in the northcentral part of the state, namely Clinton, Lycoming, & Tioga counties. However, bear are present all across the state. In the map below, counties are color-coded by the number of bear harvested so far this season. Hover over a county to see this season's current harvest total.



### What are the largest bear harvested this year? What counties have the highest harvest?

Check out these stats!

#### Largest Bear

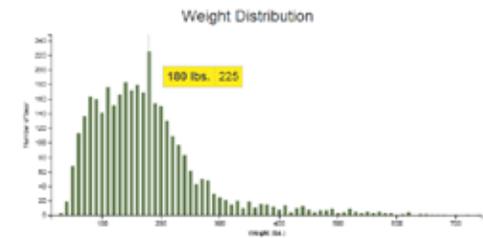
1	746 lbs. - BERKSHIRE
2	732 lbs. - PAWS
3	700 lbs. - WENDELL
4	676 lbs. - WYOMING
5	664 lbs. - CLINTON
6	662 lbs. - POTTER
7	651 lbs. - CARBON
8	646 lbs. - LYCOMING
9	642 lbs. - TAZEWELL
10	635 lbs. - POTTER

#### Top Harvest Counties

1	242 - LYCOMING
2	220 - CLINTON
3	169 - TICHA
4	148 - POTTER
5	127 - WARREN
6	115 - SOMERSET
7	113 - LUZERNE
8	112 - LEISTER
9	106 - PAW
10	105 - MONROE

### What is the average weight of a bear?

The average weight for a Pennsylvania black bear is approximately 150 lbs. Below is a chart of this year's bear weights.



Screenshots from the new online bear harvest application display harvest densities and weights, harvest times, and age and gender distribution.



Bobolinks nest and feed in tall grasslands and cultivated fields - Jacob Dingel

## Our Strategic Goals

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The Pennsylvania Game Commission exists to manage the Commonwealth's wild birds, wild mammals, and their habitats for current and future generations, a mission we have followed faithfully since 1895. Although our focus has remained static since the agency was created, the suite of challenges and opportunities facing the agency are fluid and dynamic. The agency is focused on the work ahead—adapting to challenges we face using innovation to accomplish the task of protecting and promoting wildlife in Pennsylvania in the most efficient manner possible.

1. *Manage, propagate, and protect all of Pennsylvania's wild birds and mammals and put wildlife first in decision-making*
2. *Manage wildlife habitats*
3. *Serve the Commonwealth as the leader in wildlife conservation*
4. *Support our hunting and trapping heritages*
5. *Operate using sound, proven business practices to ensure long-term financial stability, to sustain performance improvement and commitment to excellence*

## Our Executive Staff

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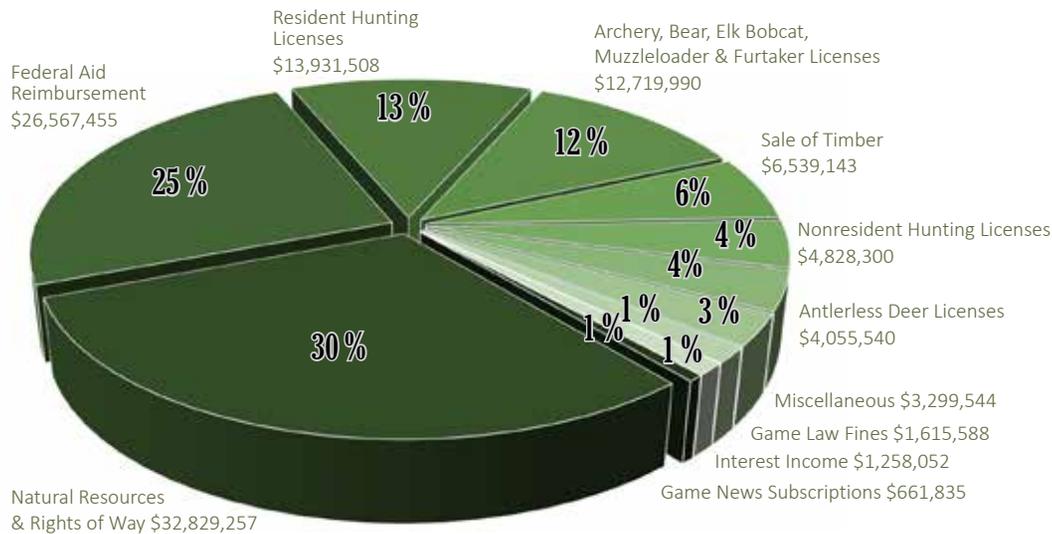
R. Matthew Hough, *Executive Director*  
Richard Palmer, *Deputy Executive Director*  
Bryan J. Burhans, *Deputy Executive Director*

## Our Board of Game Commissioners

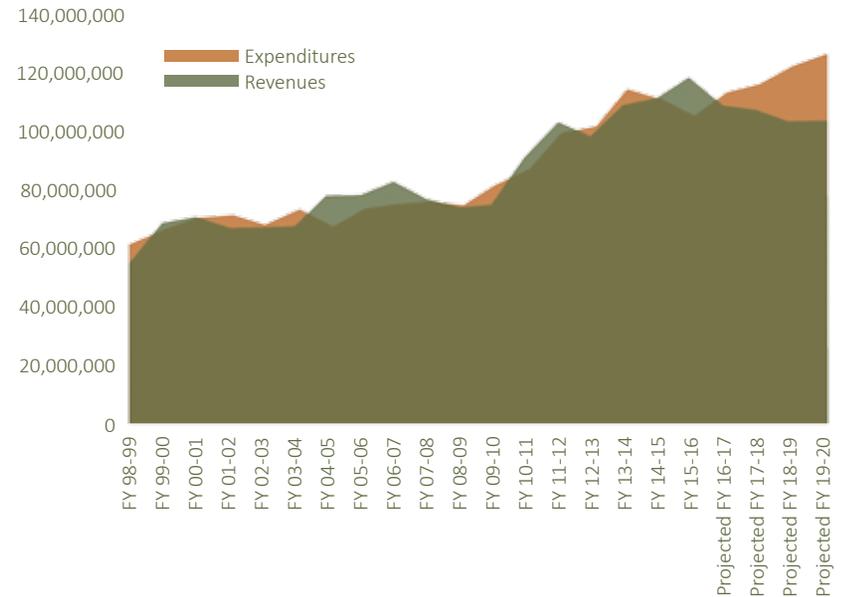
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Brian H. Hoover, *President, Glenolden*  
Timothy S. Layton, *Vice President, Windber*  
Charles E. Fox, *Secretary, Troy*  
James R. Daley, *Cranberry Township*  
Robert W. Schlemmer, *Export*  
David J. Putnam, *Centre Hall*

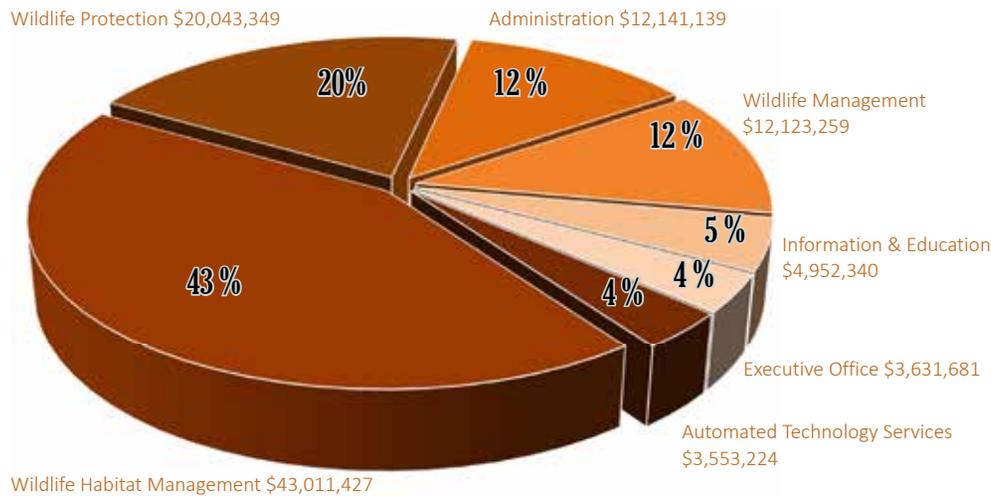
## Game Fund Revenues—\$108,306,212 Fiscal year ended June 30, 2016



## Revenues and Expenditures



## Game Fund Expenditures—\$99,456,419 Fiscal year ended June 30, 2016



This budget overview depicts a \$45,690,890 restricted fund balance in the Game Fund at the close of fiscal year 2015-16, an increase of \$7,867,507 from its June 30, 2015 balance of \$37,823,383. Fiscal year 2015-16 revenues exceeded expenditure. Actual cash receipts reported and credited to the Game Fund during the 2015-16 fiscal year were \$108,306,212, which is a \$6,682,765. Over the previous year's actual cash receipts.

### PARTNERS MAKE IT POSSIBLE:

*The agency is committed to being connected with its constituents and engages with its partners in actively conserving Pennsylvania's wildlife resources. While they are too numerous to name and only a few are mentioned in this report, we thank all the volunteers and organizations who help, for their persistent support and generosity in protecting and promoting the state's wildlife. Partners make it possible.*

### State Game Lands Map Credit

Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community



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