2015

ANNUAL REPORT











Executive Director's Message

Thank you for taking a moment to read about our year in review.

I am proud to report several important achievements were accomplished this past year. We expanded the use of prescribed fire as a habitat management tool, created a canine investigation unit, acquired our 1.5 millionth acre of state game lands, created additional hunting opportunities, and established a live stream video broadcast of a bald eagle's nest that was viewed in more than 200 countries. We are proud of our achievements to protect our wildlife, connect people to the outdoors, and protect our rich hunting and trapping heritage in this state.

These accomplishments can only be achieved through working side by side with our many partners, such as hunting and trapping organizations, legislators, local governments, and federal and state agencies, and through the dedication and professionalism of the Commission employees and Commissioners who make up one of the most highly trained conservation workforces in North America. It is through our combined efforts that we are able to preserve wildlife and their habitats and promote recreational hunting and trapping in the Commonwealth.

As you join me in celebrating the Game Commission's accomplishments, please consider the critical role you play in the future of wildlife conservation in Pennsylvania.

The Game Commission's ability to serve as a leader in wildlife conservation is dependent upon long-term sustainable funding. For more than 120 years, that funding source has been the sale of hunting and furtaker licenses, fees for which have not been increased since 1998. Without legislative action to increase those license fees, the Commission will be significantly limited in its ability to fulfill its mission and serve the public. I trust you will agree with me that now is the time for an investment into the future of wildlife conservation in Pennsylvania.

Sincerely,

R. Matthew Hough Executive Director,

Pennsylvania Game Commission

Matthew

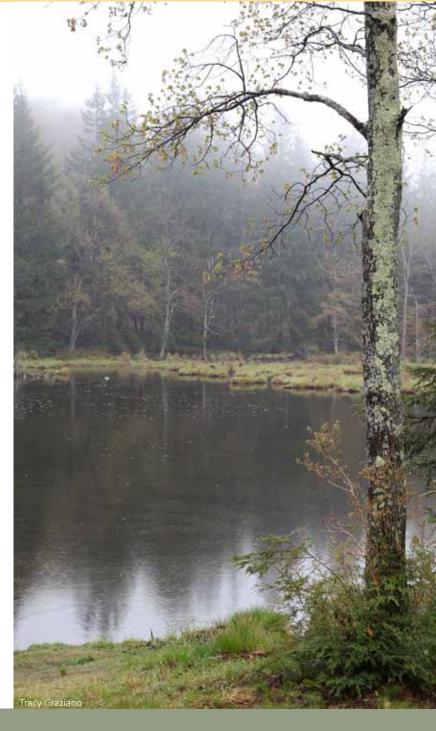


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The Need for a License Increase

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A .pdf of this document is available at www.pgc.state.pa.us. Links to films viewable at www.youtube.com/pagamecommission are included where this symbol is located throughout the report.



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 in their lifetime.

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 further 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.



Safeguarding Raptors of Special Concern

The bald eagle breeding population remains stable with at least 275 nesting pairs. Nearly 85 percent of nests were successful in 2014. The Osprey Management Plan was approved in September 2015 and specifies geographic and numerical criteria to recognize the population when it has recovered, including: a stable or increasing population, a minimum of four clusters of 10 nests, and at least 50 nesting pairs overall. The peregrine falcon breeding population continues to grow with a functional population of more than 15 breeding territories, a post reintroduction high. In 2014, 82 percent of nests were successful, raising 70 fledglings.







Known nests of bald eagles, osprey, and peregrine falcons throughout Pennsylvania.



Recording Fall Crane Sightings

Each fall, Game Commission personnel and experienced birdwatchers work together to monitor the expansion of Pennsylvania's sandhill crane population. Once nearly hunted to extinction, the Eastern population of sandhill cranes has undergone rapid expansion in recent decades. Sporadic sightings began in Pennsylvania in the late 1980s in the northwest corner of the state. Since that time, cranes have been spotted in more than 30 counties. During 2015, the number of cranes sighted grew again when 151 were observed during the November survey period. This is 25 more cranes observed than in 2014 and 53 more than in 2013. Cranes were observed in six counties in 2015: Bradford, Crawford, Lackawanna, Lawrence, Mercer, and Sullivan. Sandhill crane expansion into Pennsylvania is an exciting story that is still unfolding.

Assisting New Jersey's Woodrat Population

The Allegheny woodrat once occupied rocky mountainous areas as far north as Connecticut. It's had a bumpy road of late, with populations slowly disappearing from many areas across Pennsylvania. It already is gone from Connecticut and New York, and just a single population remains in New Jersey. With one woodrat stronghold left, New Jersey is fighting hard to keep its population afloat, and is using supplemental feeding and raccoon roundworm treatments in its attempt to do so. However, fight as they might, New Jersey's woodrat population is beginning to experience the effects of inbreeding. To combat this growing problem, researchers from the Game Commission, New Jersey and two colleges recently trapped two juvenile woodrats in Huntingdon County, Pa. Those individuals have been transported to New Jersey, examined by a veterinarian, and released into the wilds of New Jersey. Researchers will continue to monitor the status of the introduced woodrats via radio-telemetry. and keep their fingers crossed that the two individuals survive, breed, and ultimately introduce new genes into the last remaining New Jersey population.

Tracking Bat Migration

Game Commission biologists recently spent time at Presque Isle State Park placing temporary mist-nets to catch migratory tree bats. These bats are higher-flying and much faster-moving than cave bats, and they migrate from wintering sites in the southern United States —and even Mexico—to summer in northern states and Canada. Biologists set out to trap silver-haired, hoary, and eastern red bats to attach small radio transmitters to the hair on their backs. Called a "nanotag," the device weighs only a fraction as much as a bat, and helps researchers collect details on bat movements, presumably across Lake Erie, without ever having to "follow" the bats with traditional telemetry equipment. Canadian researchers already have towers in place along the northern Lake Erie coastline that allow for this passive monitoring of bats—and birds. The towers are a great way to learn more about the migration and regional movements of species. Capable of detecting these transmitters up to 1 kilometer away, the towers will collect data exactly when and where these bats pass. This information then can be used to help place wind turbines within and along the lake, where they'll have the least adverse impacts to wildlife. A male silver-haired bat was caught in the early morning hours. Now we'll wait to see where this formerly difficultto-track species turns up next. It should provide a fascinating glimpse into animal behavior that may open more doors for agency research.



PARTNERS MAKE IT POSSIBLE:

The state Department of Conservation and Natural Resources long has been a valuable partner to the Game Commission, and recent combined efforts have improved habitat for the state's elk. Game Commission and DCNR employees have worked in cooperation on state forest within the elk range to clear trees, conduct prescribed burning, and establish food plots and warm-season grasses to benefit elk and other wildlife.

Improving Habitat for Wildlife in Elk Country

Pennsylvania's Elk Country has become a prime-time tourist destination over the past two decades. Particularly around Labor Day, when the rut compels bulls to spar, bugle, and collect harems. Elk, of course, are the primary attraction, and seeing them has become easier in recent years with strategic viewing areas and an elk population that numbers more than 900 today. The Game Commission, working with partners such as the Department of Conservation and Natural Resources, Rocky Mountain Elk Foundation and the Keystone Elk Country Alliance, has done much to improve habitat for elk and a plethora of other wildlife throughout Elk Country. Elk also have benefited and received tremendous exposure from the presence of the Elk Visitors Center. In its first year, 2010, the center drew 50,000 visitors. Last year it topped 400,000.

Interest in Pennsylvania elk is great; they have become big business. It was reported recently that the North Central Regional Planning & Development Commission noted there was barely a blip in tourism loans for local businesses prior to 2006. Since then, the organization has packaged more than \$2.6 million in tourism loans for businesses, and in the process, created about 200 jobs.

One of the Game Commission's most visible projects in 2015 was the development of the Winslow Hill Viewing Area, which replaces inadequate roadside pull-overs with parking places for 115 vehicles, and helps regulate traffic more efficiently on Winslow Hill. The updates also provide much better elk viewing opportunities, enhancing the visits of thousands who visit the area.

Elk are more than a tourist attraction. In Pennsylvania, for the lucky hundred or so hunters selected annually through drawings, raffles, and auctions, the Commonwealth offers some of the best elk hunting in the United States. Since 2001, about 50 Pennsylvania bulls have qualified for state records and 18 have qualified to be listed in Boone & Crockett Club records. In fact, a Pennsylvania non-typical bull was listed as No. 9 in the world in the latest edition of the Boone & Crockett Club record book.

Hunting is an important means to manage elk, and the opportunity to manage elk in Northcentral Pennsylvania has provided wonderful partnership opportunities to enhance wildlife habitat on the public lands they roam. Once a place of dirt roads and remote camps, this country has become a destination for folks throughout Pennsylvania and eco-tourists interested in seeing elk and other wildlife in the Alleghenies.

More than **2,120 acres** of enhanced habitat

in Northcentral Pennsylvania through the Keystone Elk Country Alliance since 2010.

"Elk are a very important part of the success of our business. During 2013, we completed a major addition to meet the growing number of tourists. We are in the process of another major upgrade to the kitchen and overnight facilities to better serve the ever-growing number of people visiting Benezette to see the elk. Elk are a very important part of the Benezette economy as a whole."

-Brian Kunes
Benezette Hotel



Elk by Joe Kosack



Banding Ducks to Monitor Populations

Waterfowl banding dates back to the early 1900s, with the first large-scale North American banding program established in 1922. The results of these early programs helped biologists determine migration patterns, which are the basis for the four administrative flyways. Today, banding programs still are a very important tool. During August and September, many agency biologists are trudging or boating through wetlands attempting to capture and band ducks. Banding at this time is critical for setting annual waterfowl seasons and bag limits, because it helps sort out harvest rates and survival rates through analysis of reported recoveries. When studied, along with breeding population survey data, biologists have a better understanding of potential changes in waterfowl populations. Pennsylvania ducks are most frequently captured in traps. These traps have a funnel similar to a minnow trap and are set in shallow water, then baited with corn. Rocket nets also are used in some locations. Once a bird is captured, biological data is collected, and then the bird is banded and released. All banding data, regardless of where the banding occurs, must be submitted to the U.S. Geological Survey Bird Banding Lab, which is responsible for managing banding data and encounters for all migratory birds. In 2014, agency staff members banded nearly 4,300 ducks in preseason work statewide, representing 11 species and three hybrids. Mallards (2,713) and wood ducks (1,227) comprised for the majority. It was the highest number of preseason ducks banded in Pennsylvania since 2002.

PARTNERS MAKE IT POSSIBLE:

The National Wild Turkey Federation has long been one of the Game Commission's most important partners. And in the past year, the agency celebrated NWTF hitting the \$6 million milestone of funds raised and spent in Pennsylvania. Among other things, this money has helped to create and maintain habitat, which in some cases

has allowed turkey populations to expand into new areas of the state, and proliferate where they existed already. NWTF also has been important in recruiting and educating hunters, and is a valuable contributor to the state's wild-turkey research. The group's actions benefit all of Pennsylvania.



Spreading the Word about Deer

Public outreach is fundamental to deer management. During the past year, deer biologists have responded to more than 400 questions about the state's most popular game species. Highlighting these efforts is the "Ask a Deer Biologist" email account. From this account, the public asks biologists questions about deer or deer management. To highlight deer research, biologists, in collaboration with the Pennsylvania Cooperative Fish and Wildlife Research Unit, created the Deer-Forest Blog. More than 100 blog articles have been posted, and the blog has more than 1,300 subscribers. From October to November 2015 alone, more than 58,000 page views occurred.

Monitoring Fawn Survival and Predators

During 2015, deer biologists captured newborn fawns to monitor survival and mortality causes. This study uses new technology and methods—such as GPS collars and vaginal implant transmitters that send an email to biologists with the time and location of birth—to aid in capture of fawns. Similar to the 2000-2001 fawn survival study, half of the fawns survived to 6 months. Predators accounted for two-thirds of the mortalities with bears, bobcats, and coyotes taking similar numbers of fawns.

The new study includes efforts to monitor predator populations. Capturing and tagging black bears, followed by recovery of tagged individuals in the fall harvest, was used to calculate the size of the bear population. In 2015, 69 bears were captured and tagged and 14 bears were reported in the harvest. For mid-size predators such as bobcats and coyotes, a systematic grid of trail cameras was used to determine abundance. Black bears, coyotes, bobcats, and fishers were detected in all study areas; bears were the most commonly observed potential predator.

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.

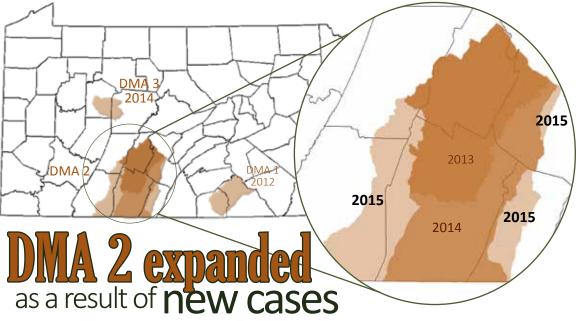


PARTNERS MAKE IT POSSIBLE:

The U.S. Fish & Wildlife Service, the Wildlife for Everyone Foundation and the Williams Co. each contributed important donations in the past year that allowed the Game Commission to purchase cameras that facilitate round-the-clock protection for cave bats beleaguered by white-nose syndrome, a condition that has caused 99 percent population declines for some bat species. The cameras provide surveillance at caves and mines where frequent intrusions by trespassers have occurred, posing additional threats to bats. Because white-nose syndrome rouses bats, disrupting their hibernation, these intrusions might mean the difference between bats living or dying. And with the high-tech cameras, wildlife conservation officers are alerted as soon as an intrusion occurs, making it possible for them to intervene. In areas where the cameras have been placed, word of them evidently has spread, too. There have been marked decreases in the number of intrusions occurring.



Monitoring the Growing Threat of Chronic Wasting Disease



Chronic Wasting Disease (CWD) poses a serious threat to Pennsylvania's white-tailed deer population and to the future of deer hunting and wildlife management.

CWD is an always-fatal prion disease affecting the brain and central nervous system of white-tailed deer and elk. It was first found on a captive deer farm in Adams County in 2012 (DMA 1) and on two captive deer farms in Jefferson County in 2014 (DMA 3). Since 2012, seventeen free-ranging wild deer from Bedford, Blair, and Fulton counties have tested positive for CWD (DMA 2). Seven of which were in the past year.

The Pennsylvania Game Commission has issued Executive Orders establishing boundaries and regulations for these three Disease Management Areas (DMAs) including a ban on movement of highrisk deer parts from these areas as well as an enhanced monitoring program. The Game Commission's monitoring program continues to document new cases in wild deer. These new cases have resulted in increased concern and further expansion of DMA 2.

As a result of new cases, the Game Commission enhanced its monitoring efforts during 2015. Originally designed to assess distribution and occurrence of the disease, enhanced sampling seeks to assess prevalence within DMAs while continuing statewide surveillance. Sample collection efforts from deer that were hunter-harvested, road-killed, crop-kills, escapes, and clinical suspects resulted in 5,619 deer samples. These included 616 from DMA 1, 1,593 from DMA 2, 363 from DMA 3 and 47 clinically suspect deer, exhibiting symptoms consistent with CWD infection. Final testing results are expected in March 2016. The Game Commission is currently consulting with wildlife professionals across the country who are struggling to find solutions to this disease problem.

Responding to Avian Influenza

Based on the severity of disease caused in chickens, avian influenza viruses are classified into low pathogenic avian influenza viruses (LPAIV; no to mild disease) or highly pathogenic avian influenza viruses (HPAIV; severe disease). Certain groups of wild birds are asymptomatic reservoirs for LPAIV, including waterfowl, shorebirds, and gulls. With few exceptions, HPAIV have rarely been detected in these wild avian groups. Rather, HPAIV have historically emerged after a LPAIV was introduced into, and adapted to, domestic poultry. The HPAIV outbreaks experienced in 2015 were the worst in the history of North America.

From December 2014 through June 2015, multiple strains of H5 HPAIV were identified in wild birds, domestic poultry (including backyard and commercial flocks), and captive exotic birds in the Pacific, Central, and Mississippi flyways. These viruses caused unprecedented losses in the poultry industry, both economically and in birds affected. While there are still many unknowns relating to the role of wild birds in epidemiology of these outbreaks, most wild bird detections were reported from waterfowl (ducks and geese) and raptors. Infected geese and raptors frequently exhibited clinical signs of disease; however, HPAIV infections in ducks were most often asymptomatic.

In response to the identification of H5 HPAIV in wild birds, the Pennsylvania Game Commission increased surveillance efforts for HPAIV. This surveillance was a collaborative effort involving multiple agencies and organizations, including the Pennsylvania Department of Agriculture, Southeastern Cooperative Wildlife Disease Study, USDA-APHIS-Wildlife Services, Animal Diagnostic Laboratory, Pennsylvania Veterinary Laboratory, and the National Wildlife Health Center.

From January, 2015 through the fall, more than 1,500 wild birds were sampled for HPAIV in Pennsylvania. Consistent with the literature, multiple LPAIV were identified in wild ducks in the spring and fall, which are the natural reservoir for these viruses. However, none of the recent H5 HPAIV strains have been detected in wild birds in Pennsylvania to date.

The question remains unanswered as to whether these virus strains have become established and are now being maintained in North American wild birds. However, because of the unpredictable nature of Avian Influenza, both wildlife and agricultural sectors will continue to monitor for HPAIV throughout the coming year in wild birds and domestic poultry, respectively.

Investigating West Nile Virus Effects on Grouse

Pennsylvania's state bird, the ruffed grouse, is struggling in the Commonwealth. The grouse population is at its lowest in more than 50 years of monitoring. Grouse are dependent on young forests; the mature forests blanketing Penn's Woods severely limit grouse numbers. An infectious disease may also be contributing to their decline. West Nile Virus, a mosquito-transmitted virus native to Africa, affects many bird species and was first identified in North America during the summer of 1999. West Nile Virus first appeared statewide in Pennsylvania in 2002. Grouse populations declined precipitously from 2002 to 2005, and no robust population recovery has followed. To assess the long-term impact of the virus on grouse abundance, the Game Commission has launched a study. Working with the Ruffed Grouse Society and collaborators in Pennsylvania, New York, Canada, Colorado, and Idaho, wild-collected grouse chicks were exposed to West Nile Virus in a laboratory to assess the lethality of the virus to grouse. Results indicate that West Nile Virus can produce fatal infections in grouse. We are currently analyzing samples in the laboratory to further evaluate impacts on birds that were infected but survived. These experimental data will provide a basis for understanding the potential impacts of West Nile Virus on grouse in Pennsylvania. This winter we are expanding on the laboratory studies by testing blood from hunter-harvested grouse throughout the state for exposure to West Nile Virus.





1.5 Million Acres of State Game Lands - A Wildlife Conservation Milestone

State Game Lands continue to be one of the Commonwealth's most-valued assets. With the acquisition of 2,135 acres in Jefferson County, the Game Commission passed the 1.5 millionth-acre milestone during 2015. During the fiscal year, 7,219 acres were added to the game lands system. There are 308 separate game lands, spread out across 65 of the state's 67 counties. Local government bodies received \$1,792,844 payments to counties, school districts and townships in-lieu-of taxes on state game lands.

Within the first 10 years of its existence, the Pennsylvania Game Commission recognized the importance of protecting land in the emerging field of wildlife conservation. Now, almost 100 years later, the agency's stanch commitment to conserving Pennsylvania's open places has left a wild lands system that was built on the quarters and dollars of generations of license-buying hunters and trappers to provide habitat for wildlife, and hunting and trapping opportunities for license-buyers.

The Game Commission purchased its first game lands in 1920, State Game Lands 25 in Elk County. It was 6,288 acres; purchased for \$2.75 an acre. By 1936, the Game Commission procured its first 500,000 acres of state game lands. In 1936, there were 100 game lands in 52 counties. The Game Commission officially recognized its one millionth acre of state game lands in 1965. The average cost per acre for the first million was \$5.65.

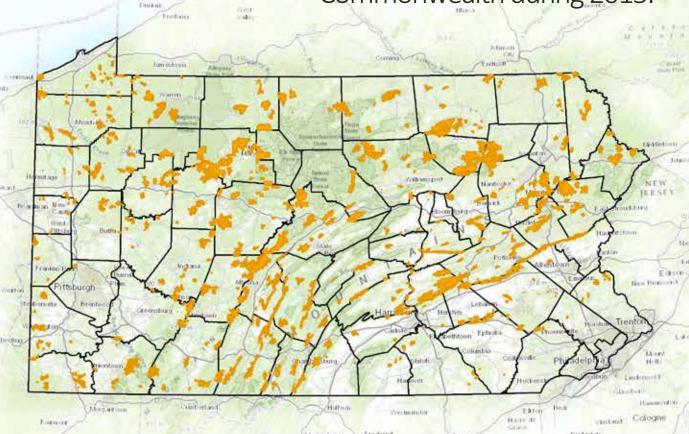
Pittman-Robertson Funds also have made a difference for state game lands. Since this federal funding began in 1937 as a federal excise tax of sporting arms and ammunition, it has helped finance the acquisition of about 190,000 acres of state game lands. Without that federal assistance, the Game Commission still would be reaching for land to amass 1.5 million acres.

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 Pennsylvanians.

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, 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.

The 1.5 milionth acre of state game lands

was purchased to foster hunting and trapping within the Commonwealth during 2015.







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, hunting opportunity, and hunter access. During 2015, a total of 55,731 acres were impacted by habitat improvement projects on state game lands. Habitat managers planted and maintained 24,600 acres of game lands fields across the state. Food & Cover Corps crews also created and maintained 1,850 acres of shrub-land habitat, converted 704 to native grasses and wildflowers, and implemented 2,290 acres of forest habitat improvements across the game lands system. Statewide, share croppers maintained 7,471 acres on game lands. Access to state game lands for hunter and trappers is supported by more than 3,530 miles of game lands roads. Dozens of bridges were replaced, and 520 miles of trails were maintained during the 2014-15 fiscal year. Hunter access is a priority, not just on game lands but private lands as well. The agency's Hunter Access Program, with 2.6 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.

All of the agency's wildlife habitat management activities are federally funded. Through federal grants, the agency facilitated acquisition of \$25,000,000 to implement wildlife and habitat management programs statewide.

Environmental Planning

During 2015, more than 1,700 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 habitat. The reviews included 282 for PennDOT, 346 for energy development, 1,070 for land development, six for wind energy and 77 for mining projects. Additionally, 237 surface and underground mining applications were reviewed for impacts to wildlife and habitat with the Department of **Environmental Protection.**



Forests, Oils, Gas and Minerals

Forests require regular attention to ensure the best habitat for the greatest variety of wildlife. During the 2014-15 fiscal year, 5,198 acres were harvested to improve habitat on state game lands, which resulted in \$5,573,164 in revenue. In addition, \$224,918 in timber value was exchanged for 246 acres of land. Another 5,194 acres were treated with herbicides.

Transactions related to oil, gas and minerals accounted for about \$25,964,200 deposited into the Game Fund of which \$12,263,767 were attributed to oil/gas bonuses, \$252,356 to lease rentals, \$159,459 to oil/gas/mineral support activities, \$9,336,517 to oil/gas royalties, \$665,035 to coal royalties and \$99,346 to mineral royalties.

Prescribed Burning

Prescribed burning is an excellent way to improve wildlife habitat, and a tool being used more by the Game Commission to manage game lands and Hunter-Access properties. Last year, highly trained personnel used prescribed burns on 6,672 acres—an increase of 1,500 acres from 2014.

Prescribed burning improves wildlife habitat and hunting opportunity by increasing soft mast production in shrubs like 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 broadleaf plants sought by brooding turkeys and grouse.

Prescribed burns are conducted under very 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 are repeated every 3 to 10 years, preventing fuels from building to dangerous levels and reducing the risk of unplanned wildfires. Prescribed burns are conducted by highly trained crews with hundreds of hours of training and experience. Long before burn day, crews are planning operations and prepping fire lines to ensure safety, both for themselves and the public.

Prescribed burn ignition patterns provide wildlife with escape routes as the burn progresses. Burning during appropriate weather conditions ensures spread rates are slow and flame heights are low. From fawns to turtles, even the slowest wildlife can reach safety. Before the smoke clears animals are often seen returning to burned areas. Because peak prescribed 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 prescribed burns as a management tool far outweigh potential negatives.



Howard Nursery

More than 24,000 nesting structures and more than 2.2 million seedlings from the agency's Howard Nursery were distributed to improve wildlife habitat statewide in 2015.





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. It is that interest that, over the many decades, 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, there were plenty of game laws on the books. Seasons were established and bag limits set. 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 would 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. For instance, during the 2014-15 license year, Wildlife Conservation Officers filed more than 1,500 charges related to the unlawful taking of game or wildlife in the Commonwealth. That's a recent record number, and a sharp increase from the previous year's total of 1,112.

At the same time, officers are continuing to prosecute higher numbers of cases involving hunting through the use of bait. The 468 baiting charges filed during the 2014-15 license year is an increase from the previous year's total of 422, and up significantly from the 2012-13 total of 311.

In many respects, it's no surprise that more of these charges are being filed. The 2014-15 license year was the first full year in the field for officers who graduated as part of the Ross Leffler School of Conservation's 29th Class. When new officers enter into the field, and more districts are covered more effectively, more wildlife crimes are detected. It plays out that way time and again. As we close out the 2015-16 license year, we may see yet another spike. It's the first complete license year that officers from the conservation school's 30th Class will have spent in the field.

Unfortunately, plans to recruit the next class of cadets have been put on hold while the Game Commission seeks approval for a license-fee increase that would provide the agency with sustainable funding. As more Wildlife Conservation Officer districts become vacant due to retirements, without being backfilled as needed, the agency's "thin green line" runs the risk of being stretched too thin. For certain, more wildlife crimes would go undetected as a result.

Meanwhile, newly launched initiatives like the agency's K-9 unit and Operation Game Thief are helping the agency become more efficient in these challenging times.





Thanks to the Deputy Wildlife Conservation Officer Program, nearly every time I go out at night I am able to assure my wife that I am not going alone. The program increases officer safety and decreases officer response time. Our deputies are passionate about the job and the resource; their paycheck comes in the form of wildlife conservation and passing along a tradition.

-Kyle Jury Wildlife Conservation Officer

Wildlife Conservation Officers

There are 195 full-time Wildlife Conservation Officers and more than 400 part-time deputies serving the Game Commission. Each Wildlife Conservation Officer has a coverage area of about 325 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 207,470 enforcement contacts in the past fiscal year, an increase of about 7,000. There were 20,747 violations detected, for which officers issued 12,911 warnings and filed 7,936 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 fiscal 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.

Woodland Tracking Team

The Game Commission's Woodland Tracking Team, a specially trained squad of Wildlife Conservation Officers from across the state, in 2015 again was deployed as part of major manhunt by law enforcement. WCO Brian Singer, a member of the tracking team, and Deputy WCO J.R. Flowers, were called to assist in the search for a man who fled after allegedly shooting a police officer to death in Westmoreland County. They used their skills to locate the suspect's .270 rifle,

"With their specialized training, Game Commission officers provided key assistance in the search for a man who shot and killed a police officer in November. Without their skills, I'm sure we would not have found the rifle used in the murder."

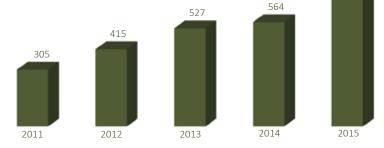
-Trooper Stephen Limani

Pennsylvania State Police, Greensburg Barracks

several cartridges, and other crucial evidence.

Woodland Tracking Team members by Tom Fazi

The **1,060 violations detected** during 2015's Operation Talon is nearly double the previous record.



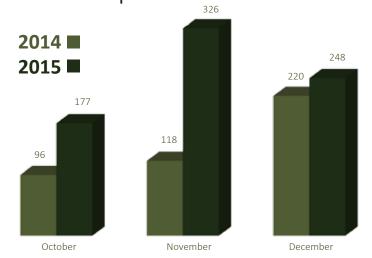
Operation Talon

Over its first four years, Operation Talon proved its effectiveness in detecting poaching and other illegal activity. The multi-agency lawenforcement 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 a growing number of work hours to the initiative, and the number of violations detected, citations filed, and warnings issued all have grown. In its fifth year, the initiative's success reached another level entirely. In 2015, Operation Talon resulted in the detection of 1,060 violations. Not only an all-time high, it's nearly double the 564 violations detected in 2014, which was the previous high. Officers, during Operation Talon in 2015, issued 451 warnings and filed 579 citations for violations of the Game & Wildlife Code, and filed 30 charges for violating the crimes code or vehicle code. And it all occurred within a two-week window. It's a tribute to the cooperation of the agencies taking part, and the dedication of the officers carrying out the work.

Operation Game Thief

In the fall of 2015, the Game Commission launched Operation Game Thief, a new program that allows for the easy reporting of confidential tips about wildlife crimes, with the information quickly passed along to officers. The program made an immediate impact. In its first few months, Operation Game Thief led to charges in poaching cases, including one in which several trophy-class bucks were harvested. It also led to the recovery of an unlawfully harvested bobcat, and a black bear that was shot with a crossbow bolt and left for dead. It provided information on baiting cases, and led to drug-possession charges. The increased efficiency built into the new hotline has cut to 21 minutes the average time between a tip coming in and an officer being dispatched in the incident. Operation Game Thief is resonating with the public as well. Tips were coming in at record numbers from October through December.

Tips reporting violations through Operation Game Thief



K-9 Unit

The Game Commission in 2015 re-established its K-9 unit, and while the three Labrador retrievers and their handlers won't complete their training together until later this year, the unit more than proved its effectiveness during its first hunting season afield. The dogs were turned loose on several investigations, and turned up bullet casings, unlawfully killed game, and followed their noses to the very suspects for whom officers were looking. The unit is organized for rapid deployment, with each dog-handler team located centrally within a two-region area, where they will be relied upon within the coming year to help solve a growing number of cases.



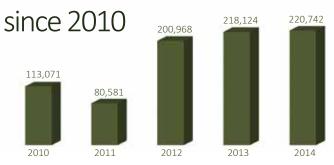
K9 Unit Training, Week 1





The agency's Hunter Access Program, with 2.6 million acres enrolled, is one of the largest voluntary public access programs in the country.

833,486 pheasants released statewide



Pheasant Propagation

The pheasant propagation program continues to provide a popular service to hunters. The agency's four game farms produced 220,742 pheasants for the 2014 hunting season releases. According to the Game Take Survey, 177,068 pheasants were harvested during 393,848 days of hunting by 80,280 hunters.

The 2014 hunter survey on pheasant management found that 77 percent of Pennsylvania's hunters support the Game Commission's continuation of pheasant propagation and stocking.

The pheasant propagation program provides enhanced hunting opportunities for junior hunters. During 2014, 15,340 pheasants were released for junior pheasant hunts at designated advertised sites. Another 2,110 birds were distributed for 36 club-hosted hunts for more than 1,021 junior hunters.

For the regular fall season 193,710 birds were stocked during the preseason and four in-season releases. An additional 9,582 hens were released for the late small game season in either-sex regulation wildlife management units.

In addition to pheasants released for hunting, 2,550 eggs and 5,935 hen chicks were sold. The Game Commission donated 8,378 day-old pheasant chicks to sportsmen's organizations to raise and release on lands open to public hunting. Also 16,707 hens and 1,256 males were released in May after egg collection was completed.

It's worth noting that 2015 marked the 100th anniversary of ringnecked pheasant stocking by the Game Commission in Pennsylvania.





Big Game Scoring Program

Pennsylvania has always been a buck factory, and antler restrictions have only helped to improve the size and quality of bucks within the Commonwealth.

Pennsylvania ranked fifth in the country in buck harvest in 2013, the most recent year for which statistics were available from the Quality Deer Management Association. Texas was tops, followed by Michigan, Wisconsin, and Georgia. Pennsylvania also placed fifth nationally in buck-harvested-persquare-mile statistics. South Carolina had the most, followed by Michigan, Maryland, and West Virginia.

From a national perspective, Pennsylvania is hanging with the big boys. We're also doing fine within our borders, according to Bob D'Angelo, manager of the agency's Big Game Scoring Program.

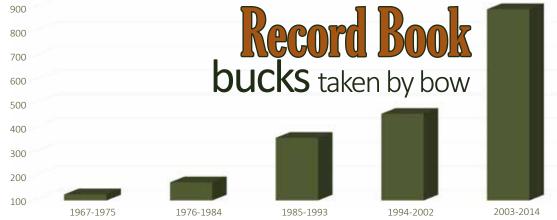
D'Angelo, who is an official Boone & Crockett Club scorer, said over the past five years, about 450 deer entries—150 in 2014 alone—were added to the state's Big Game Records listings. The top five counties for record-book bucks since antler restrictions began are Bradford, Allegheny, Berks, Dauphin, and Westmoreland, he said. Allegheny County remains tops for nontypical record book entries. Deer record-book entries are coming from all over the state.

The most notable entries in the 2015 Big Game Records book, include a new No. 3 in the archery nontypical category for a buck taken in Carbon County that scored an incredible 201-3/8 inches. A new No. 44 in the firearms nontypical category taken in McKean County, in 1932, was added to record book; it scored 181-5/8.

Other important additions to this year's record book are a new No. 4 in the archery typical category for a buck taken in Beaver County that scored 173-2/8; a new No. 21 in the firearms typical category rankings for a buck taken in Berks County that scored 172-3/8 inches; and a new No. 41 in the firearms nontypical category taken in Franklin County that scored 183-1/8 inches.

Take a look at any Pennsylvania Big Game Records book and you'll see quickly that monster bucks can turn up just about anywhere in Penn's Woods. Although few deer die of old age here, many have a chance to reach those prime years when antler growth and body size top out to make huge whitetails.

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 get big.



Fine Testaments from Taxidermists

"This was a good season for me. Better than last. This year was probably my best for whitetails for doing shoulder mounts, European and rack mounts. I believe the racks are somewhat bigger than years ago. I got one in this year that will score around 144 and several in the low 130s. I feel that a lot of the customers who bring me the biggest bucks of their lives are really in favor of antler restrictions."

-Jim Keller Keller's Taxidermy Dauphin, Pa.

"My deer numbers were down slightly this year, but I think that is more due to weather than anything. My archery numbers were normal. Most of the deer I got in score between 120 and 140 Boone & Crockett Club points, with the largest about 155, and are 3½ to 5½ years old. I age every deer that comes in. Bowhunters account for about one-third of my total take. Clients today are ecstatic about antler restrictions. Pennsylvania is actually envied by states such as Ohio and New York."

-Paul Czarnecki Tri-State Taxidermy Waterford, Erie County

"The number of hunters bringing deer in to have mounted is about the same as in prior years, but I'm seeing much nicer racks than in recent years, especially archery-killed bucks. I'm routinely getting in racks with 18- to 20-inch spreads. Even on my 135-acre farm in Luzerne County tremendous bucks show up that I had no idea were there. Hunters like antler restrictions. We've come a long way in that regard."

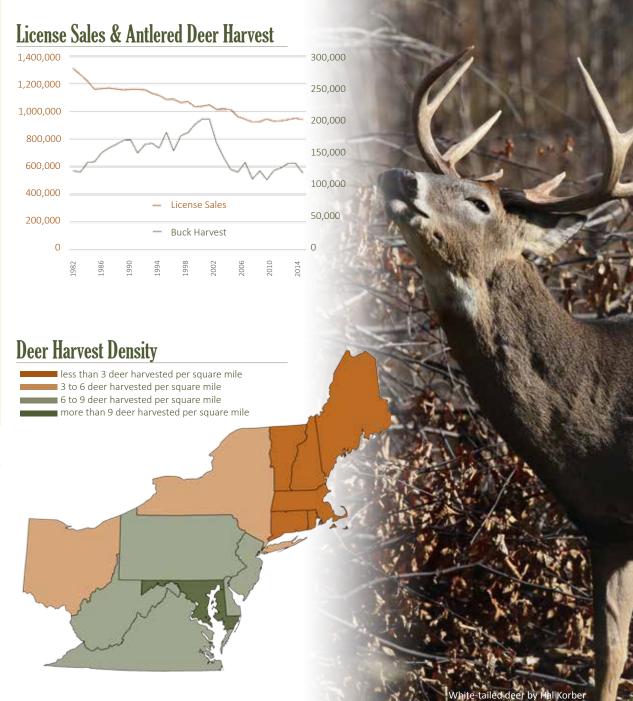
- Bill Allen Bill Allen's Pocono Institute of Taxidermy White Haven, Luzerne County

White-tailed Deer Hunting

During the 2014-15 deer seasons, hunters took an estimated 303,973 deer, down from the 2013-14 harvest of 352,920. Hunter success was relatively stable in 2014-15: about 18 percent of deer hunters took a buck, while about 25 percent of the antierless licenses issued were used to take an antierless deer. Those harvest rates are comparable with recent harvest years in Pennsylvania.

During the 2014-15 seasons, bowhunters with crossbows took 53 percent of the 46,020 bucks harvested with archery equipment. Bowhunters took 39 percent of the state's overall buck harvest. As recently as 1999 through 2002, their take was 19 to 20 percent.

Only 74 percent of deer hunters participated on the opening day of the general firearms season, in 2015. That's down from 80 percent participation on the 2011 opener, according to the agency's Deer Hunter Survey.





Removing Barriers to Hunting

The Mentored Youth Hunting Program allows unlicensed youth under 12 years of age to participate in hunting under the direct supervision of a licensed adult mentor. The program has proven successful and safe and the list of species that can be pursued by mentored youth hunters has increased since its inception. In November, mentored youth hunting opportunities expanded to include rabbits and mourning doves. During the 2014-15 license year, 34,474 Mentored Youth Hunting Permits were sold.

The success of the Mentored Youth Hunting Program led to the creation of a similar program for adults who have never hunted. During the 2014-15 license year an Mentored Adult Hunting Program began allowing first-time hunters 18 years old and older, who have never held a prior hunting license, to learn about hunting under the guidance of a licensed mentor before taking the basic Hunter-Trapper Education course. In its first year, 616 permits were sold.

License sales for female hunters are at a 5-year high, and hunters purchasing bear and archery licenses as well as those applying for an elk license were also at 5-year highs through the end of 2014, all categories are estimated to have increases in the 2015-16 license year. Trappers who purchased fisher permits are also at a 5-year high.

In February, the Game Commission launched an online huntertrapper education course for individuals 16 years of age and older. The course provides a convenient option to complete the safety education that is required to purchase a hunting or furtaker license. More than 8,000 students completed the course in 2015.

In early 2015, the agency released the GoHuntPA Toolkit app. The free app is a great resource for hunters and features state game land maps, weather alerts, an SOS safety function, and more.

New this fall were Deer Hunter Focus Areas. Most of these areas, which had recently undergone timber harvests or other habitat modifications, were in remote mountainous regions with low hunting pressure. In an effort to balance the deer numbers with the available food sources, the Game Commission directed hunters to these areas by providing maps, posting signs, and opening more roads to vehicles. The goal was to guide hunters to within a half-mile or less of locations where deer were taking advantage of habitat improvements.

The Game Commission manages more than 25 public shooting ranges on state game lands across Pennsylvania. The shooting ranges are open year-round unless otherwise posted. To use a state game land range, an individual must be in possession of a range permit, hunting or furtaker license, or be a guest of a permitted person.

2015 Spring Turkey Forecast



Turkey Hunting

Interest in fall turkey hunting continues to grow. In 2014 so did the turkey harvest. For the first time in 10 years, the number of fall wild turkey hunters exceeded 200,000. In fact, about 22 percent of all license buyers went fall turkey hunting in 2014. The harvest topped out at an estimated 18,292. It is the largest fall turkey harvest in the state since 2009.

The most productive days of the fall season tend to be the first day (18 percent of the harvest) and the second Saturday (8 to 10 percent of the harvest). The three-day Thanksgiving season also has developed a following. In wildlife management units with two-week seasons, about 20 percent of the fall harvest occurs during the Thanksgiving season. Meanwhile, about 17 percent of the fall harvest occurs in units with three-week seasons, during the same season.

Above-average increases in the turkey population, new opportunities to mentor a youth during the fall season, and the three-day Thanksgiving season are bringing hunters back.

The estimated 2015 statewide spring population was 234,328, which was similar to 2014's estimate of 234,770 and about 9 percent above the 10-year average. While the number of spring turkey hunters decreased 5 percent from the previous three-year average in 2015 from 226,713 to 215,374, the 2015 spring turkey harvest increased by 8 percent from the previous three-year average from 38,228 to 41,180.

In comparing Pennsylvania to other states, the most recent data available is from fall 2013 and spring 2014. Pennsylvania hunters harvested more turkeys than any other state, with a combined fall 2013 and spring 2014 harvest of 58,013 turkeys. Pennsylvania hunters took 16,755 during the fall, second only to Texas's 19,066 and 41,258 during the spring, second only to Missouri's 47,603. Pennsylvania also had more fall turkey hunters than any other state with 199,088, more than twice that of Wisconsin's 57,840, the state with the second highest number of fall turkey hunters.

Three of Pennsylvania's neighboring states with strong fall turkey hunting traditions pale in comparison to the number of fall turkey hunters in the Commonwealth: West Virginia with 54,000, Virginia with 41,591, and New York with 40,000.





Black Bear Hunting

Pennsylvania boasts some of the best black bear hunting in the country. The preliminary 2015 bear harvest is 3,737 bears, which is the third-highest harvest on record behind 2011 and 2005's 4,350 and 4,162 bears, respectively.

The statewide bear population going into the hunting season was estimated to be approximately 18,000 bears, and has been stable at that level since 2007.

The 2015 harvest of 3,737 bears is in line with current management goals, and the current trend of a stable bear population is expected to continue into 2016. As a result, new bear hunting opportunities introduced in recent years are likely to continue, which benefits hunters as indicated by the steady increase of participation in those seasons over the past decade, and also limits growth of the bear population and associated human-bear conflicts.

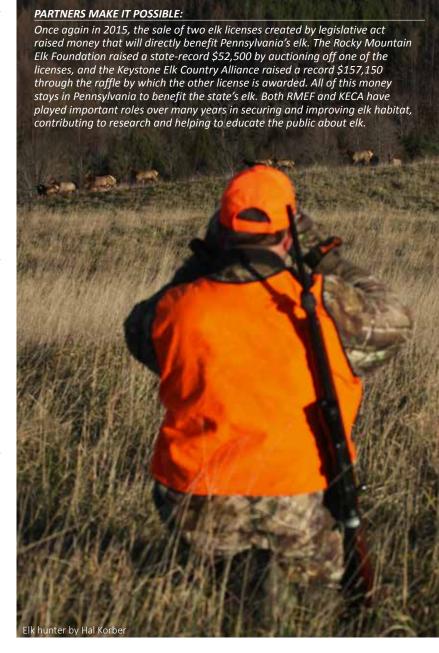
Elk Hunting

More than 27,500 hunters applied to hunt Pennsylvania elk in 2015 and 116 were drawn for a license. Eighty-five elk hunters harvested an elk (20 bulls, 65 antlerless) during the regular 6-day season. Pennsylvania elk hunters continue to take some of largest bulls in the Eastern United States.

In addition, two special conservation licenses were awarded via raffle and auction conducted by the Keystone Elk Country Alliance and the Rocky Mountain Elk Foundation. Combined proceeds from these tags generated more than \$200,000 for elk habitat, research, and management. Both hunters successfully harvested mature bulls.

More People Participating in Furtaking

Furtaker license sales have increased steadily since 1999. During the 2014-15 license year, 45,069 furtaker licenses were sold—the highest number recorded since 1985. Increasing interest in furtaking is due, in part, to the fact that new opportunities have been provided during the past 15 years. During 2000, the Game Commission initiated the first bobcat hunting and trapping season since 1970. In 2005, cable restraints became legal devices for certified trappers to take foxes and coyotes. The first fisher trapping season was opened in 2010 and, coming up in February, Pennsylvania trappers will be able to harvest river otters within the constraints of a highly conservative trapping season—the first in Pennsylvania since 1952.







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

Doing More with Less

In August, 2015, the Game Commission stopped using its mainframe computer system. All automated systems running on the mainframe computing platform were redeveloped to run on Windows-based servers. During redevelopment, the legacy automated systems were updated to include new features and data that are valuable to administrative staff, law enforcement officers, and field personnel. The new server-based platform is more efficient, meets more end-user needs, and is much more cost effective to operate.

The agency continues to reach out to constituents where they are located by emailing information, live streaming meetings, engaging on social media, and updating its website. The GoHuntPA campaign has continued to reach out to hunters with the information they seek through various media, a micro-website, and a smart phone app. Heading into 2016, the agency is preparing to migrate 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 plans to debut a series of public educational webinars.

2015 Eagle Cam Introduction

About 1.3 million acres of game lands have been incorporated into a Geographic Information System that is guiding wildlife conservation. Web-mapping applications deployed this year to improve customer service and efficiency of operations include web-based maps for public and private land access, Chronic Wasting Disease areas, bear check stations, pheasant stocking locations, and prescribed burn locations.

Elk & Bear Check Station Web Applications Using Real-Time Data

The 2015 elk and bear seasons saw the implementation of a new automated system to collect data, dispatch information for law enforcement, and display data real time for the public. By utilizing spatial data alongside the harvest information, we were able to move from a simple catalogue to a geospatial database. The new system, customized for each check station, allows immediate synchronization of data across the agency's network. Having the collected data stored in a geospatial environment, powered by ESRI software, allows us to interact and manipulate the data in a multitude of new, beneficial ways.



One of the advantages of this new system is the ability to display near-live (within five minutes) data on a large format screen at the participating check stations. At the elk check station, the display included statistics on the largest animals by weight and score, running totals of elk zone harvest rates, and highlights of each successful hunter with photos and a map marker. The bear check stations had a live map of reported harvests, a breakdown of station and region totals and largest bear, a breakdown of sex and age ratios, as well as a ticker showing preliminary statewide harvest totals and the five largest bears across the state. Web-based systems allow the possibility to publish these types of interactive displays on the agency's website in the future, providing up-to-the-minute information to the public. Feedback was overwhelmingly positive at both the bear and elk check stations utilizing the new applications.

Strategic Goals

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

2014-15 Licenses Purchased by State



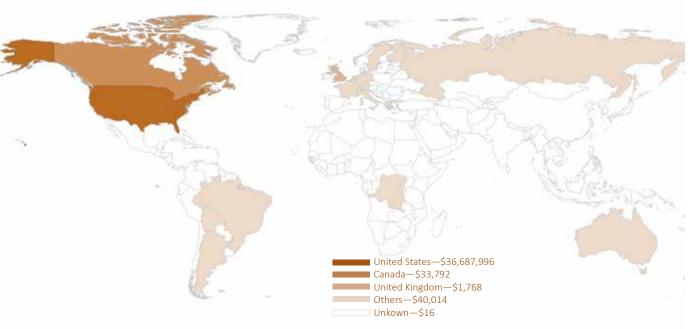
2014-15 Licenses Purchased by Country

Executive Office

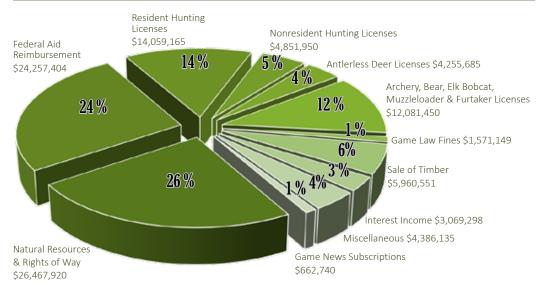
R. Matthew Hough, Executive Director Richard Palmer, Deputy Executive Director Bryan J. Burhans, Deputy Executive Director

Board of Game Commissioners

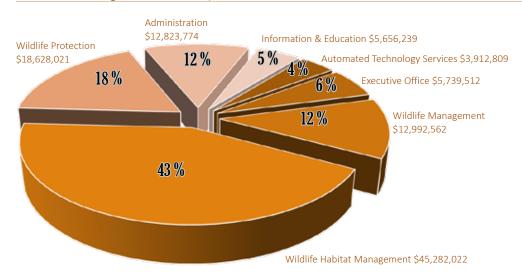
David J. Putnam, President, Center Hall Brian H. Hoover, Vice President, Glenolden Timothy S. Layton, Secretary, Windber James R. Daley, Cranberry Township Robert W. Schlemmer, Export Charles E. Fox, Troy Ronald Weaner, Biglerville



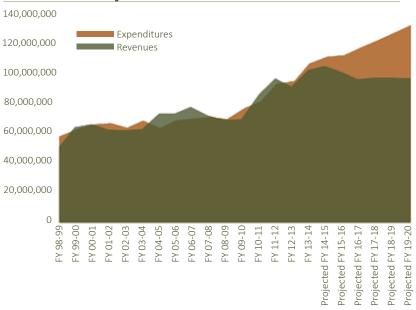
Game Fund Revenues—\$101,623,447 Fiscal year ended June 30, 2015



Game Fund Expenditures—\$105,034,939 Fiscal year ended June 30, 2015



Revenues and Expenditures



This budget overview depicts a \$37,823,383 restricted fund balance in the Game Fund at the close of the fiscal year, a decrease of \$4,324,582 compared to the June 30, 2014 balance of \$42,147,965. Fiscal year 2014-15 expenditures exceeded revenues earned. Actual cash receipts reported and credited to the Game Fund during the 2014-15 fiscal year were \$101,623,447, an increase of \$3,684,147 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: Eall, HERE, DeLorme, TomTom, Interment, Increment P Corp., QEBCO, USGS, FAD, NPS, NRCAN, GeoBase, ICA, Kadasher NI, - Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Maproyindia, © OpenStreetMap.combibitors, and the GIS User

