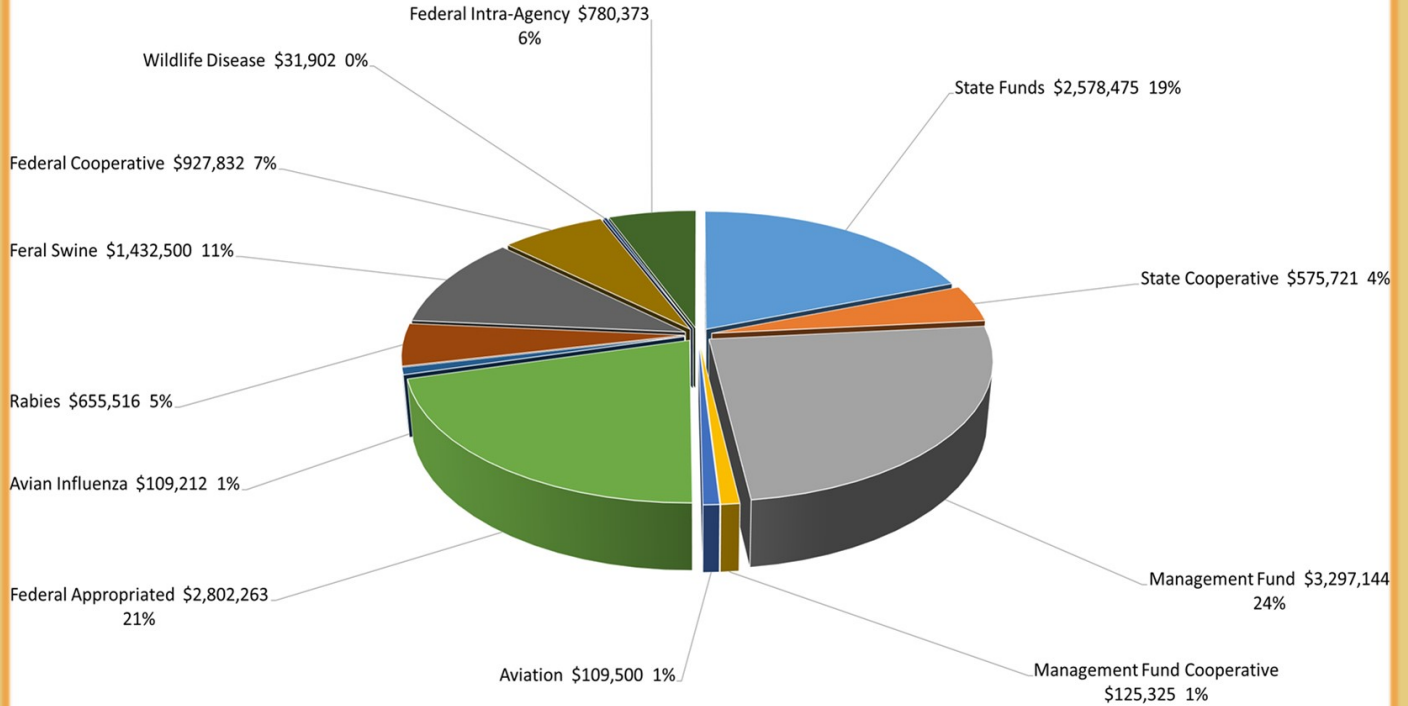




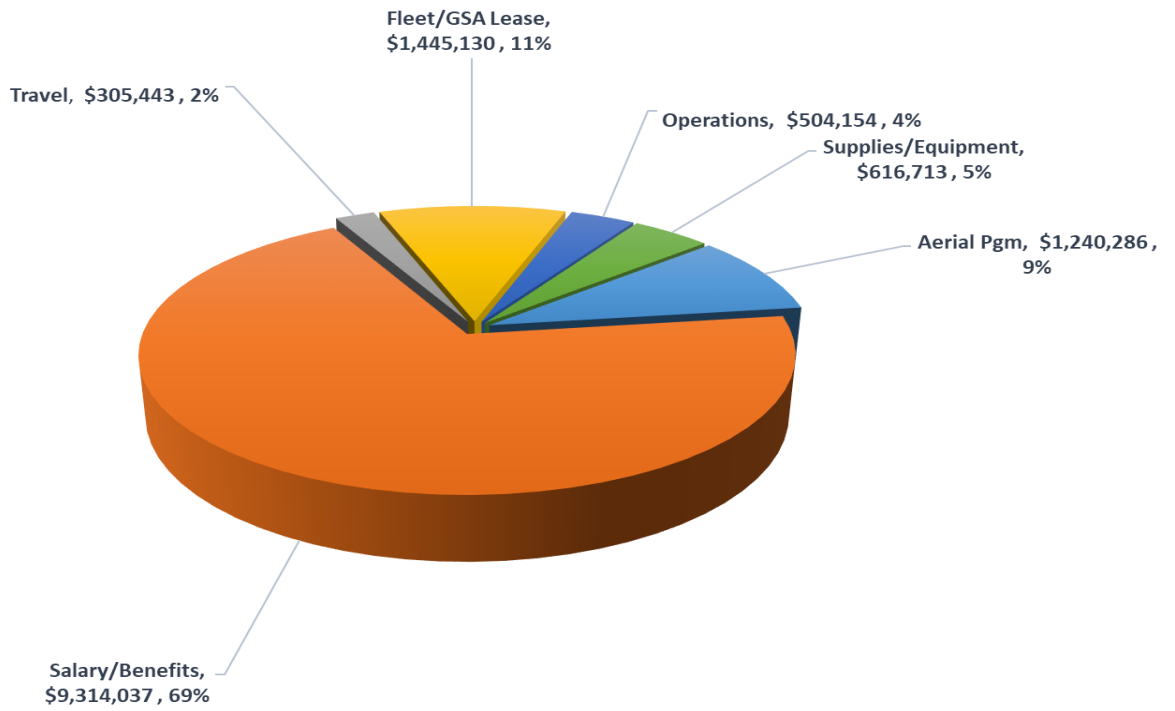
USDA-Animal & Plant Health Inspection Service—Wildlife Services
Texas A&M AgriLife Extension Service
Texas Wildlife Damage Management Association

2017 STATE REPORT

FY17 TEXAS WILDLIFE SERVICES PROGRAM FUNDING \$13,425,763



FY17 TEXAS WILDLIFE SERVICES PROGRAM EXPENSES \$13,425,763



From the Director

Michael J. Bodenchuk, State Director

Wildlife is critically important to Texas and Texans. From desolate Trans-Pecos deserts to urban parks and greenspaces, we value our wildlife and wildlife habitat, and it shows. Due to the care of private landowners and the leadership within a number of State and Federal agencies, Texas has abundant wildlife in all corners of the state. Sometimes, however, that abundant wildlife creates conflicts with human endeavors.

The cooperative **Texas Wildlife Services (WS) Program** provides resolution to human/wildlife conflicts across the State, improving the lives of thousands of Texans each year. First organized in 1915 to address predator losses to livestock, the program has grown into an internationally recognized model for responsible solutions to wildlife conflicts. While funded from a variety of sources, the program effectively blends State and Federal resources and responsibilities to address conflicts with agriculture, property, human health and safety and natural resources while still protecting wildlife.

Walking the tightrope between protecting human interests and protecting the wildlife isn't easy. Nonlethal solutions, where practical and effective, are important. Where nonlethal methods can be implemented by the affected resource owners, WS provides effective technical assistance to instruct and facilitate the solutions. Where nonlethal solutions require additional skills or authorities not available to resource owners, WS can implement these solutions. Where nonlethal solutions are ineffective, WS employees have the skills necessary to solve the problems with minimal negative impacts to the environment. While lethal control remains socially controversial, in some cases it is absolutely necessary to protect the resources and the environment.

This is the first true annual report produced by the WS program. Annual Tables which detail some of the results of the program are published on the web by USDA-Animal and Plant Health Inspection Service. Annual performance measures are provided through the Texas A&M University System to the Texas Legislature and monthly summaries of activities are provided to funding partners based on their individual projects. Annual financial reports have been provided to the funding partners. However, we have never published a summary of the activities all together in one place. I appreciate the support from the Texas Wildlife Damage Management Association in printing this annual report.

To provide an effective program the WS Program has developed a strategic plan, which categorizes our efforts into four major areas: Providing Wildlife Services, Valuing and Investing in People, Information and Communication and Developing Methods. While the most visible part of the program involves Providing Wildlife Services, we believe that training and investing in our personnel, communicating internally and externally about the program and developing new methods to address existing or emerging problems are equally important. This annual report is organized around these four strategic program areas. You'll also find an organizational chart, a description of the cooperative relationships between the three main partners and a map with our District boundaries.

Finally, I need to add a note about the accomplishments you'll see in these pages. In many cases, the accomplishments are those of a dedicated team of field employees who pull together on a single project, resolve a problem and then return to their individual assignments. In other cases, the accomplishments are the result of a single employee providing days and months of work to solve a conflict. In all cases, it is the hard working Wildlife Specialists, Biologists, Pilots and District Supervisors who conduct their work in unforgiving conditions and at all hours of the day and night. The dedication of these employees cannot be overstated. They are, simply, the backbone of this organization and our greatest resource.

I am proud of Cooperative Texas Wildlife Services Program and particularly pleased to share this first annual report with you.

Michael J. Bodenchuk

Texas WS By the Numbers

- ◆ **\$38.9M Saved in livestock losses in FY 17**
- ◆ **4415 Properties Worked**
- ◆ **15,146,371 Acres Worked**
- ◆ **71,861 Person Day Visits**
- ◆ **19,868 Coyotes Removed**
- ◆ **28,104 Feral hogs Removed**
- ◆ **2,066 Fox Removed**
- ◆ **15,391 Surveillance Samples Collected**
- ◆ **112,180 Non-lethal Dispersals**
- ◆ **12,278 Technical Assistance Sessions**
- ◆ **42,503 Parties Consulted**
- ◆ **9,948 Leaflets Distributed**
- ◆ **151 Species Conflicts were Discussed**

Cooperative Texas Wildlife Services Program Overview

The Cooperative Texas Wildlife Services Program was formally initiated in 1915 when the US Department of Agriculture appropriated money to fund predator control demonstration projects. Counties and individual ranchers joined the program early to support the need to protect livestock from wolves, coyotes, mountain lions and bobcats. The State of Texas began funding in 1919 and a statewide rodent control program was initiated 1924. While the predator and rodent control programs ran independently for several years, collectively they serve as the beginning of the cooperative program today.

Today, the management of many human/wildlife conflicts in Texas remains the responsibility of the Cooperative Texas Wildlife Services (WS) Program. While there have been significant administrative shifts during the 100+ years of history, the major partners remain committed to the accountable resolution of wildlife conflicts. The Federal government contributes to the program through the US Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services (APHIS-WS) program. The State of Texas participates through the Texas A&M AgriLife Extension Service and private landowners and counties contribute through the Texas Wildlife Damage Management Association. The agreement between these three parties is captured in a Memorandum of Understanding which is reviewed every 5 years.

USDA-APHIS Wildlife Services provides federal leadership in wildlife damage management with the authority for the program contained in The Act of March 2, 1931 as amended. Under the law, the Secretary of Agriculture, has the authority to conduct programs "...with respect injurious animal species..." This authority includes nuisance wildlife species, those which cause damage to agriculture and those which are reservoirs of zoonotic diseases. APHIS-WS contributes funding to the cooperative program through base level funding and through special programmatic funding (e.g. aviation safety, rabies management and feral swine projects). Through language in the law, APHIS-WS is empowered to enter into cooperative agreements with other agencies, institutions and businesses to provide services. These federal cooperative agreements support human/wildlife conflict resolution where federal appropriations alone will not be sufficient.

Federal funding supports USDA employees, aerial operations and some of the expenses (travel, vehicles, etc.) of the cooperative program. By agreement in the MOU, the APHIS-WS State Director oversees the day-to-day operations of the cooperative program.

Because Federal funding is included in the cooperative program, many associated Federal laws and regulations are brought to the program. The Cooperative program complies with the National Environmental Policy Act, which requires analysis and disclosure of environmental effects as part of the program planning. APHIS-WS provides a computerized record keeping system- the WS Management Information System- into which employees record and report operational data. APHIS-WS also provides interagency coordination with Federal agency partners and regulators for endangered species, migratory bird, pesticide and workplace safety aspects of the program.

The State of Texas, through Texas A&M AgriLife Extension Service, is a major partner in the cooperative program and most of the field staff are employees of the Texas A&M University system. State funding comes from the Legislature through the Texas A&M AgriLife Extension Service budget and the system oversees the State expenditures, personnel rules for State employees, and accomplishments reported back to the Legislature and the System. As with the APHIS-WS portion of the program, Texas A&M AgriLife Extension Service can enter into cooperative agreement to assist in providing services to cooperators. Most of the State cooperative agreements are with other State agencies or municipalities which find it easier to cooperate on a State agency-to-agency basis than on a State agency to Federal agency basis. Cooperative funds collected by the State portion of the program support airport safety, prevention and control of damage to transportation systems, human safety associated with urban wildlife and small, one-time projects. State employees of the program receive benefits through the Texas A&M University System and are governed by State employment rules. To facilitate the cooperative relationships, State employees also are provided federal "collaborator" appointments. The unpaid appointments allow WS to provide federal travel reimbursements when the state employees are serving the federal purpose, allow the state employees to drive federal vehicles and provide federal employee protections contained in some specific laws. In addition to supporting State employees, State funding also supports the combined vehicle fleet and supports state initiatives such as feral swine projects.

The Texas Wildlife Damage Management Association was formed in 1929 for the purpose of supporting predator management. Today, the Association serves as the voice of landowners, county commissioners and other cooperators in support of effective wildlife damage management. The Association operates the Wildlife Damage Management Fund (Fund) which is organized as a 501(c)(3), nonprofit account specifically to house cooperator funding to support the program. Landowners, rancher associations, businesses and county governments contribute a cost-share rate to support field operations by State employees as well as some of the costs of vehicles operated by these employees. The Fund is audited by outside Certified Public Accountants annually and the Association files annual tax returns with the IRS to maintain the tax-exempt status. Audit reports are provided to the Board of Directors of the Association. Day-to-day operation of the Fund is overseen by the APHIS-WS State Director.

Many of the State employees are supported by the Fund. Through a cooperative agreement between Texas A&M AgriLife Extension Service and the Association. Employees supported by the Fund are paid by Texas A&M, who recovers their salaries and benefits from the Fund in monthly billing. This relationship allows these employees to receive state benefits, provides a career ladder for State employees and maintains the availability of a qualified workforce for the State.

The cooperative relationships of the program are unique and serve as an example for efficient government/private partnerships. As a service organization, WS has the flexibility to provide resources when and where necessary and the ability to use State, Federal and Fund financial resources to balance the expenses. As with any program, a certain degree of oversight is necessary to assure that accountability is maintained.



The Texas Cooperative WS Program has several levels of accountability. First, each agency provides oversight into agency and cooperative funding. Second, the Association provides oversight into the management of the Fund through the annual audit and tax returns. Third, special audits can be, and have been, implemented. In FY 17 the APHIS Program Accountability and Audit (PAA) Branch audited the cooperative program to assist in identifying accountability and to identify any weaknesses in the cooperative program. While the PAA team identified some actions to increase continuity and compliance with agency standards, they "...identified all five components of a strong internal control system in place in Texas." Previous audits on operational management by the Office of the Inspector General also used Texas as an example of strong operational management.

The Texas WS program also serves as a national and international example of a wildlife damage management program. Scientists and managers from Ukraine, Mexico and South Africa have visited the Texas program and developed model projects and programs similar to ours.



Predation Management

One of the core responsibilities of the Cooperative Texas Wildlife Services Program is the management of predation on livestock and, where necessary, wildlife. While the historic approach was to decrease predator populations, today the program seeks to reduce predation losses while keeping native predator populations healthy and intact. This requires significant efforts to remove predators where damage occurs. This approach, while more costly than widespread control, is consistent with societal values, ecosystem functions and wildlife management.

In FY 17, Texas WS protected **1,358,824 head of livestock from predation** including beef cattle, captive-reared whitetail deer, goats and sheep. Industry-wide, losses to predators are the largest source of losses for sheep and goats and the management of these losses remains a top priority for those producers. Similarly, predator losses to cattle are increasing across the state and more cattle producers are requesting seasonal protection for newborn calves. Based on scientific studies



of loss rates in the absence of predation management, WS conservatively estimates that it **saved over \$38.9M** in livestock losses in FY 17.

Predation management is critical to wildlife populations, especially on high-fenced properties and where wildlife populations have been reduced. Predation management to protect wildlife populations is more difficult to implement, as species interactions are dynamic and not all predation is negative. Balancing prey populations with predators and habitat requires adaptive management to arrive at a correct solution. In FY 17, WS protected pronghorn antelope in the West Texas reintroduction area, Attwater's prairie chickens and the nests of Kemp's Ridley sea turtles on refuge lands in Southeast Texas, reintroduced eastern wild turkeys in East Texas and mule deer in West Texas.

Some examples of significant predation management activities included:

- ◆ WS provides significant sheep and goat protection in the Edwards Plateau and eastern Trans-Pecos. A total of 69 field employees are located in traditional sheep and goat range as are 4 of the States' 5 aircraft. While livestock protection is larger than just sheep and goats, our commitment to the industry is reflected in the location of our employees.
- ◆ Pronghorn protection is essential for recovering populations. Both coyotes and bobcats are significant predators of newborn fawns and need to be managed for reintroduced populations to thrive. Texas WS provides seasonal ground and aerial management in the Marfa and Marathon recovery areas through a cooperative agreement. While fawn survival is dependent on multiple environmental conditions, in the absence of predation management fawn survival often runs one-half of what it can be with effective management in place.
- ◆ Feral swine are effective predators of ground nesting species including wild turkey and endangered sea turtles. In FY 17 Texas WS collaborated with the National Wildlife Research Center on feral swine nest depredations on a military installation near San Antonio. Feral swine did depredate turkey nests but did not appear to be hunting for them. Rather, nest depredations by feral swine were the result of chance encounters, which could imply that the greater the population of swine, the greater the chance of turkey reproduction impacts.
- ◆ Texas WS also provided support for feral swine removal to protect endangered nesting sea turtles on Matagorda Island. Through funding provided by the US Fish and Wildlife Service, WS removed 457 feral swine from the refuge, including the mainland, to prevent sea turtle nest destruction. In the absence of feral swine removal, no sea turtle nest survived to hatching. With timely removal of feral swine, the nests survive to contribute to the population of the endangered turtles.

Beaver Damage Management

Under State law, Texas WS has the responsibility to address “rodent pests” to prevent damage. While beavers are classified as a furbearer, WS is routinely requested to provide beaver damage management to prevent flooding of roads, crops, property and timber and the protect dikes, dams and impoundments from damage caused by burrowing. Beaver damage varies annually, largely dependent on rainfall. During dry years, beavers are restricted to main stem river systems, flood control dams and reservoirs. But when rainfall permits, beavers travel up ditches and other drainages and build dams in low lying areas and culverts to prevent drainage. As a result, water floods crops, homes and businesses, causing economic losses. Water which rests against roads eventually undermines the road bed potentially causing thousands of dollars in damage and creating a traffic safety issue.

On some occasions, WS is requested to assist in the protection of trees from beaver damage. Sustained flooding of valuable commercial timber will cause trees to die. The chewing of individual ornamental trees in urban areas is similarly costly and also creates a safety hazard when it occurs in parks and HOA common areas. WS works with landowners to protect individual trees through technical assistance and will remove individual beavers when necessary to protect resources.

While beaver damage management is often paid for through county agreements, Texas WS had **\$201,812** in cooperative agreements which supported management. Based on the resources protected in FY 17 and the potential damage observed or reported, Texas WS estimates that it **saved \$9,755,000** in damages through beaver damage management.



Some examples of significant beaver damage management projects in FY 17 include:

- ◆ WS was approached by the City of Buda which had beavers and nutria occupying a flood water retention structure. Beavers had dammed the outflow, raising water approximately 4 feet and preventing the pond to function as designed. Local houses flooded during a heavy rain storm, calling attention to the situation. Because the retention pond was in a highly visible area and offered the opportunity to serve as a demonstration project, WS worked with the city to construct and install flow-through structures which prevent the beavers from blocking the culvert extensions. WS purchased 3 culverts and constructed the cap which precludes beavers plugging the pipes. With the assistance of the City, the pipes were installed and the pond can continue to function as designed. The site continues to be used as a demonstration area for other municipalities to consider this as a solution to beaver damage.



Protected Rescores Highlights

- ◆ **5,673** dikes, dams or impoundments and **35,852** acres of timber protected from beaver damage
- ◆ **118** miles of road, **153** bridges and **4** railroad trestle protected from beaver damage
- ◆ **1,000** miles of irrigation ditch and drainage protected
- ◆ **\$168,872,961.13** value of resources protected from beaver

Rabies Management

WS's federal authority includes management of wildlife which serve as vectors for zoonotic diseases. APHIS-WS is a signatory party to the North American Rabies Management Plan, which calls for the elimination of terrestrial rabies on the continent. Successful programs for the vaccination of companion animals have greatly reduced the risk of human rabies from domestic dogs or cats, but wildlife rabies still remains a significant concern. In FY 17, Texas WS partnered with the Texas Department of State Health Services in the distribution of **1,043,100 Oral Rabies Vaccine (ORV) baits** along the international border to prevent the reintroduction of canine and Texas grey fox rabies from Mexico. The lack of surveillance in wildlife in Mexico makes maintenance of the border zone crucial.

WS also assisted with the evaluation of ORV to manage skunk rabies with the placement of 30,000 ORV baits in Lampasas County. Lampasas County traditionally has a high incidence of skunk strain rabies and the vaccination program is designed as a field trial to see if the current baits provide enough vaccine response to stem the spread among skunk populations.

ORVP flights over South Texas



Other significant rabies management events include:

- ◆ Texas WS conducted significant surveillance for terrestrial rabies in FY 17 using Federal funding from the National Rabies Management Program. State and Federal employees combined to collect 743 biological samples to test for vaccine efficacy and to determine the presence of rabies in suspect cases. With shrinking budgets, maintaining an effective surveillance program will be difficult in the future.
- ◆ Common vampire bats have expanded their range northward within Mexico and are now approaching the international border with Texas. Texas WS partnered with APHIS-International Services to train employees in vampire bat identification and trapping techniques. APHIS-IS and Texas WS also produced a 5 minute DVD in English and Spanish for distribution to landowners, veterinarians and wildlife officials on both sides of the border to increase awareness of the pending arrival of vampire bats and to educate people as to the signs of rabies in livestock. The DVD was debuted at the Rabies in the Americas Conference at the beginning of FY 17 and by the end of the year more than 1000 copies had been provided to people in the affected area.



Texas WS Vampire Bat efforts

- ◆ 62 day visits by 7 employees
- ◆ 15,391 cattle inspected for bat bites



Example of a vampire bat bite on a cow in Mexico



Feral Swine

Feral swine have been present in Texas for more than 300 years, but since 2006 the numbers of pigs has increased significantly. Along with the increase has been an exponential increase in the requests for assistance to alleviate pig damage. Feral pigs are an invasive species and they damage almost every agricultural crop and natural resource. In addition to destroying crops, pigs root up improved pastures, interfere with harvest equipment, destroy stacked hay, depredate on newborn livestock and pose a disease risk for adult livestock and in fresh vegetable crops. Feral pigs also destroy wetlands, contaminate streams and rivers with *E. coli*, depredate wildlife and out-compete native game for food and water and alter vegetation through consumption and rooting.

Feral pigs also pose a significant risk to property, destroying vegetation in lawns and greenspace, rooting up golf courses and roadsides and creating holes in fencing. Pigs also harbor a number of diseases which can affect humans including *brucella* bacteria, trichinosis, toxoplasmosis, *salmonella* and *E. coli*.

In FY 17, Texas WS removed 28,123 feral pigs from the State. Feral pig removal by the program has increased from 86 pigs in 1982 or a 327-fold increase in 35 years! Based on the resources protected and the potential damage averted, Texas WS conservatively estimates that it **saved \$10,967,970** in feral pig damage during FY 17.



Feral pig damage to corn field in South East Texas



Hurricane Harvey Response

When Hurricane Harvey came ashore on August 25, 2017 Texas WS personnel were prepared to be mobilized as part of our emergency response role. With peak winds of 130 mph and rainfall up to 60", Hurricane Harvey created far more damage than anticipated and Texas WS personnel were to be affected for weeks to follow.

Even before the storm, WS personnel were preparing their homes and personal belongings and government assets for what might occur. The WS bay boat in Corpus Christi was moved to a secure site inland to prevent any possible damage as well as to stage it for post-storm deployment for rescues if necessary. Government vehicles, computers, pesticides and equipment were all moved from low-lying areas to prevent damage. Employees living in the area prepared personal boats to provide access and assist in rescues after the passage of the storm. By the time the storm came ashore, all preparations were in place. It is a testament to the professionalism of our employees that no government assets were damaged by the storm.

In the storm aftermath, emergency responses were activated at multiple levels. The Federal government implemented an Incident Command Response through the Federal Emergency Management Agency. Texas Governor Greg Abbott declared a State of Emergency for 50 Texas counties and the State Emergency Management Council was activated for this disaster. APHIS also stood up an emergency response team in Washington DC. As part of the State response, the Texas Animal Health Commission activated an Animal Response Team to address livestock and pets in the affected areas. Due to the cooperative nature of the program Texas WS had a role and responsibilities under all three emergency commands. Texas WS leadership remained in regular and frequent contact with all incident command posts while personnel deployed to the emergency were under the direction of the incident commander.

Because of the size of the emergency, significant assets were brought in to address urban flooding and human rescues. Because of our familiarity with rural areas in the impacted zone, Texas WS assets and personnel were requested to assist local law enforcement in some rural counties check on people and bring them out of flooded areas. Despite damage to their personal homes, two employees used personal boats to serve their communities with humanitarian assistance. A team of Texas WS employees were activated to conduct aerial surveys of the flooded rural areas. One Texas WS Supercub and 2 helicopters were deployed to survey established routes and identify dead or at risk livestock. GPS coordinates for locations with livestock at risk were stored in onboard GPS units and were provided to the Animal Response Operational Control Center Incident Commander. National Guard helicopters were often dispatched to provide hay to stranded livestock while WS crews searched for more animals. Dead livestock were identified and landowners were notified once water receded.

Texas WS employees were also deployed to Livestock Supply points to help move livestock supplies and hay between points. A total of eight employees were assigned to the duties, but as flood waters receded the demand for supplies decreased enough that they were released early from some of the areas.

In total, 18 Texas WS employees contributed to the post-hurricane recovery effort in an official capacity. Dozens of others contributed through their church or through a community effort. As a small agency we have limited resources for a disaster of this size, but our efforts helped rural landowners and their livestock through one of the worst hurricanes in US history.

Significant feral swine activities conducted in FY 17 include:

- ◆ Texas WS worked with Texas Parks and Wildlife Department (TPWD) and the APHIS-WS National Wildlife Research Center to develop sodium nitrite as a feral hog toxicant. Sodium nitrite has the potential to remove feral swine with minimal negative environmental impacts and could be the tool of choice for many landowners, especially those in a fragmented landscape. Texas WS provided animals for pen trials at TPWD's Kerr Wildlife Management Area as well as providing test sites for feeder trials and personnel to assist locating a field trial. Texas WS personnel also obtained State approval for an experimental field trial and completed an environmental; analysis and endangered species consultation for the project.
- ◆ Texas WS operates one Federal helicopter for use within the Western region. In addition to significant flying done in Texas, that helicopter and the associated crews provided aerial support for feral swine surveillance in southern California and direct removal of hogs in Louisiana, Oklahoma and Kansas. Texas WS personnel conduct more feral swine removals than the rest of the country combined and are considered experts in feral swine control.
- ◆ Texas WS personnel supported the National Feral Swine Damage Management Program's international collaboration through APHIS-IS in Mexico by providing support for 3 feral swine workshops during FY 17. These workshops, held in Mexico City, Hermosillo and in Laredo, TX were designed to educate wildlife and agricultural officials in Mexico about issues with feral swine and the potential impacts to Mexico and the US. Another binational meeting, sponsored by TPWD with wildlife officials from border states was held in Alpine, TX and Texas WS personnel also addressed feral swine there. By the end of the year, Mexico had initiated a planning process for feral swine which would allow the states to conduct their own feral swine removals within the framework of a national plan.



Airport program

Managing bird and other wildlife hazards at airports is a complex, public-sensitive endeavor involving many species of wildlife governed by the Migratory Bird Treaty Act and other Federal, State and local regulations. Because of the complexity and sensitivity involved in managing wildlife hazards, airports are required to employ professional biologists trained in wildlife hazard management at airports (14 CFR Part 139.337 and FAA Advisory Circular 150/5200-36a [FAA 2012]) to assess hazards, provide training, and to assist in the development, implementation, and evaluation of wildlife hazard management plans. Such professionally developed and implemented management plans minimize the likelihood of catastrophic or major-damage wildlife strikes on an airport and provide crucial support during litigation in the aftermath of any significant strike event that might occur.

In recognition of WS' expertise and accountability, the Federal Aviation Administration (FAA) entered into a Memorandum of Understanding (MOU) with WS, which encourages airports to "request technical and operational assistance from WS to reduce wildlife hazards." The Department of Defense executed a similar MOU to address wildlife conflicts at military installations. In 2013, a MOU between WS, the National Association of State Aviation Officials (NASAO) and the FAA was signed, fostering cooperation between the signatory parties to reduce wildlife hazards at airports in every state.

WS provides protection of Airport Resources and Human Health and Safety associated with the protection of aircraft, runways, and taxiways. This category includes human safety protection and response related to wildlife-aircraft collisions on runways or birds strikes in the air.

In 2017, Texas WS personnel provided **22 staff years of assistance at 40 airports (32 civil, and 7 military) across 32 counties in the 8 Districts** of the Texas Wildlife Services Program. These figures represents the number of airports assisted and cooperator funding received by WS in provision of technical and direct management assistance to reduce wildlife hazards.



Example of bird strike remains collection for identification

Other Agriculture

While feral swine and predation management take significant portions of effort and attention from the staff, Texas WS provides additional support to agricultural producers regardless of the commodity. Texas WS serves aquaculture and livestock producers with support for migratory bird damage management permits from the US Fish and Wildlife Service, completing damage assessments and forms required by that agency. Texas WS personnel also serve the cattle, rice, pork and poultry industries with projects that support trade and production.

Some significant projects include:

- ◆ While most pork producers practice strict biosecurity to prevent the introduction of diseases into their herds, the proximity of feral swine to pork facilities poses a risk for some diseases. Texas WS working with one producer in the Texas panhandle, conducted targeted removal in one watershed which heads out near their facility. Texas WS concentrated removal within 5 miles of the pork producers' property to reduce the possibility of disease transmission.
- ◆ Texas WS conducts checks for swine brucella when necessary to assist the Texas Animal Health Commission. While the Texas cattle herd is considered "brucellosis free", exposure of cattle to swine brucellosis can cause cattle to test positive for the bacterium. In order to maintain our brucellosis free status, TAHC conducts significant testing of cattle while Texas WS conducts swine brucellosis testing to confirm the possibility of cross species exposure. The amount of testing necessary depends on the severity of the outbreak and access to private land.
- ◆ Texas WS supports small, often disadvantaged, farmers with low cost management that might often make the difference between having a crop or not having one. Backyard poultry is an important commodity in many rural areas and poultry is a staple in the diet of many farm families. In FY 17, Texas WS personnel responded to 120 incidents of wildlife risks to poultry, including predation and disease risks. A total of 1204 birds were reported or confirmed as killed. Concern about highly pathogenic avian influenza (HPAI) also causes concern for organic poultry producers, who under regular circumstances are required to allow their birds free-range access outdoors. However, HPAI can be spread by wild birds and requires some increased level of biosecurity. Texas WS personnel collected wild bird samples to test for the presence of avian influenza. While the virulent strains of AI were not found in FY 17, multiple cases of low pathogenic AI have been detected. Texas WS shares results with TPWD and TAHC as they become available.
- ◆ Aquaculture also represents an important industry throughout the state. The design of the farms themselves are very similar to a feed lot. Closely packed and heavily fed fish require attention to prevent any substantial losses from predation. In FY 17, Texas WS personnel responded to 74 calls for assistance.



- ◆ Commercial forestry is an important land use in East Texas and Texas WS personnel support the industry with beaver and nutria damage management. Additionally, porcupines damage valuable trees. In FY 17, Texas WS personnel responded to 128 incidents where commercial forests were threatened or damaged by wildlife.



- ◆ In 2017, Texas WS employees assisted APHIS-Veterinary Services and Texas Animal Health Commission with wildlife surveillance and management associated with fever tick infestations. Fever ticks are a significant risk to cattle producers and can be found on deer and nilgai. At one site near Riviera, TX, WS periodically checked for nilgai and when they were noted on the infected properties the nilgai were removed through ground hunting. This is a difficult and time consuming method, but ground hunting prevented the dispersal of nilgai and the possibility of moving ticks. At another site, whitetail deer and nilgai were collected under a scientific collection permit to determine the geographic extent of the infestation. Meat from nilgai and deer was salvaged and provided to local food banks by WS personnel. Because of the risk of potentially moving ticks on animal skins, all animals had to be skinned in the field and only meat could leave the quarantine area.

- ◆ Texas WS conducts blackbird management for the protection of newly planted rice each spring. For production purposes, rice producers need to plant rice fields before all of the blackbirds migrate north each year. Overabundant populations of blackbirds are so common that depredation permits are no longer required. A large flock of blackbirds can devastate a newly planted field in a single day. Texas WS personnel place DRC-1339 treated grain near crop fields to target rice eating blackbirds just before planting to protect this valuable resource.



Information and Communication

Texas WS believes that disseminating information and communicating with the public is essential to completing the mission of the agency. Day-to-day communication between field employees and landowners is the backbone of the delivery of services and we place a high value on the information passed along to landowner cooperators. Monthly reports are sent to County Commissioners and County Predator Associations from the State Office. Data on field activities is recorded in the electronic Management Information System (MIS) and is reviewed for accuracy. Annual tables detailing our efforts are published on the web by USDA-APHIS. The agency also produces a regular newsletter, called The Trapline, to communicate with members of the Texas Wildlife Damage Association and our employees. In FY 17 2 issues of The Trapline were circulated.

Internal communication between supervisors and field employees is necessary. Five of the eight Districts hold regular monthly district meetings to facilitate electronic data entry and to provide an opportunity for scheduled training. The remaining Districts each hold an annual meeting for the same purposes.

Media outreach is managed through APHIS and Texas WS employees serve as subject matter experts for a number of media inquiries. In FY 17, Texas WS personnel conducted 6 radio/TV interviews and 1 public service announcement to provide better information on human/wildlife conflicts. Texas WS also responded to 2 Freedom of Information Act requests from the media related to the program in Travis County.

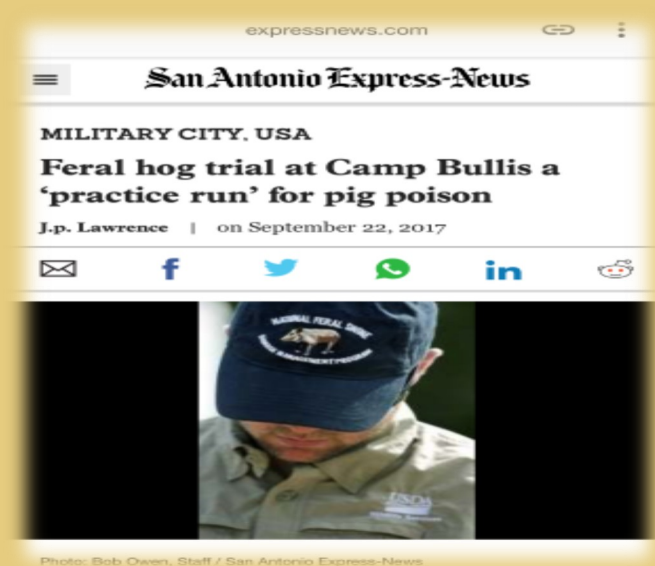
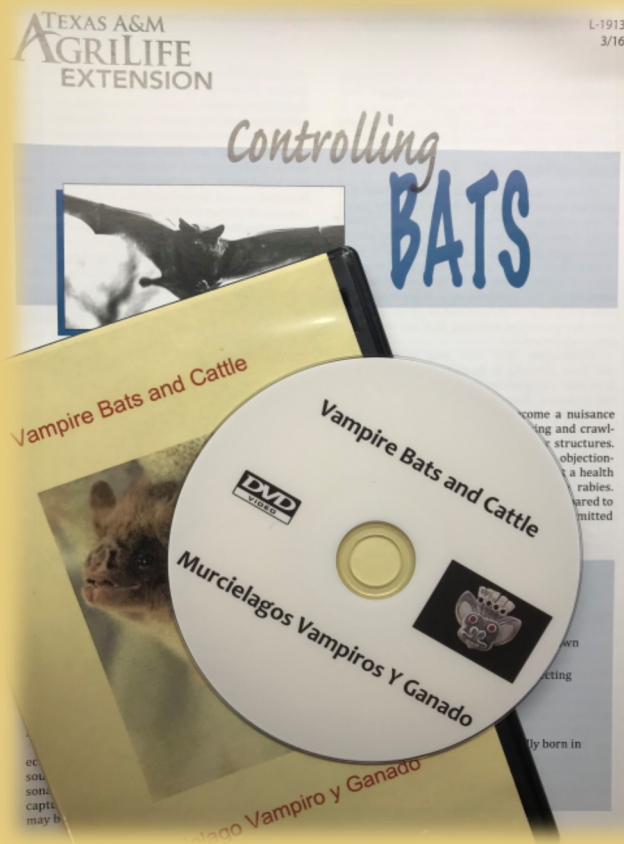


Photo: Bob Owen, Staff / San Antonio Express-News

Other significant examples of information sharing include:

- ◆ Texas WS maintains a website (<https://agrillife.org/txwildlifeservices>) through the Texas A&M University system with information on the resolution of conflicts for 30 species and links to a number of resources, including employment opportunities, partner agencies and special programs. In FY 17, Texas WS had 5,025 web hits on the site. Feral swine were the number one species requested.
- ◆ Moving into the digital age has included the use of video to tell the Texas WS story. In FY 17, Texas WS distributed over 1000 DVD's on vampire bats. The DVD's were prepared by the program to showcase the range expansion which will ultimately reach South Texas, inform landowners about the risks associated with bat-vector rabies and provide contact information to landowners. The target audience for the DVD is landowners on both sides of the international border with Mexico, veterinarians, public health officials and wildlife agencies. Texas WS also provided 2 video opportunities for a videographer to film feral swine, swine control tools and interviews in Texas. With so many swine available and the media interest, having B-roll footage for media is essential to telling the story.



- ◆ Texas WS employees maintain regular communication with agricultural and wildlife sector partners throughout the year. Employees attend regular meetings, make presentations and update our partners when practical. In FY 17, Texas WS employees attended numerous meetings with the Texas Sheep and Goat Raisers Association, Texas Farm Bureau, Independent Cattlemen, Texas Sheep and Goat Predator Management Board, local 4H and FFA chapters and dozens of county predator associations. Texas WS employees also attended the Texas Chapter of The Wildlife Society, Texas Wildlife Association and 2 meetings of the Texas Trappers and Fur Hunters Association.
- ◆ Professional presentations were made at the annual meeting of the Texas Chapter of The Wildlife Society, the Wildlife Damage Management Conference (3 presentations) in Gulf Shores, AL and the Range Rights and Resources Conference in Omaha, NE. Another professional presentation on fertility management for feral swine was presented at the International Conference of Wildlife Fertility Control in Washington DC.

Some of the more significant opportunities in FY 17 included:

- ◆ The field skill level of new recruits continues to trouble Texas WS Supervisors, as the number of people with trapping experience decreases. New employees are often put into sink-or-swim circumstances with little opportunity for the development of advanced skills. Recognizing this, in FY 17 Texas WS partnered with the Preservation of South West Texas Wildlife group in Edwards County to initiate a trapper training program. Named “The Mayflower Project” due to it being the first of its kind, the program took 4 worthy candidates and put them into a two month training program which included classroom and field training. Preservation of South West Texas Wildlife provided housing and salary for the candidates and ATV’s for their field use while WS provided a dedicated trainer (Mr. Charlie Baird, retired WS employee), field opportunities and oversight. Three of the 4 candidates have gone on to WS positions following the program.

Valuing and Investing in People

One of the core beliefs behind the Texas WS program includes valuing and investing in people as an integral part of our agency mission. Our greatest asset is our personnel, many of whom are deeply dedicated to public service. We have second and third generation “trappers” working with third and fourth generation landowners to make sure that human/wildlife conflicts are addressed effectively and responsibly.

Because the program is heavily dependent on cooperative funding, the amount of money available for salaries has always been less than desirable. Starting salaries for Wildlife Damage Management Specialists is **\$23,046**, which affects recruitment and retention of qualified employees. Only by carefully selecting the right candidate for a vacancy and continuing to invest in them professionally can we meet our program objectives. While our ability to pay a reasonable salary is somewhat limited, we invest in employees in a number of other ways, including training, career development opportunities, professional conference attendance and Committee assignments.

Mayflower project trainees attending a classroom session on skull morphology to better understand predator prey relationships.



- ◆ In FY 17, Texas WS hosted an intern from New Mexico State University who participated in the Mayflower project. WS also assisted 2 employees with college expenses associated with professional development. Texas WS provided career development assignments for 8 Federal employees and 2 State employees. Additionally, Texas WS hosted 2 employees from other programs seeking a development assignment here. On these career development assignments, employees have the opportunity to work outside of their regular assignments to develop skills which add to their resumes. Receiving a development assignment is another way of investing in an employee while still accomplishing the basic work of the agency.
- ◆ As part of our overall commitment to a diverse workforce, Texas WS hosted 4 Special Emphasis luncheons in the State Office with an educational activity after each one. The luncheons provide the opportunity for cross-cultural awareness and a lesson in history. Texas WS also has 2 employees who serve as Special Emphasis Program Managers on the Wildlife Services EEO Advisory Committee.
- ◆ Texas WS provides recurring training to all employees in a variety of topics, including safety, proficiency with particular methods, IT Security and bird strike avoidance. In FY 17, WS provided active shooter training to State Office personnel, Immobilization Drug recertification training to 13 employees, helicopter aerial gunner recertification training (in cooperation with the Aviation and Operations Training Center) to 15 Texas and 6 non-Texas WS employees, Bird Strike initial and advanced training to 7 employees and hosted Explosives training for the WS Explosives Committee.
- ◆ WS employees serve on a number of national-level committees including the WS EEO Advisory Committee, the WS and APHIS Feral Swine Advisory Committees, the MIS Working Group, the Aviation Working Group, the UAS Working Group, and the WS Explosives Committee. Texas WS employees also serve the Western Region SD Advisory Committee and several employees serve the program as the Texas WS Safety Committee.

Value of Resources Protected

- ◆ **1774 aircraft valued at \$12,969,800,002.00 resource protected**
- ◆ **2,593,715 acres of pasture and rangeland valued at \$1,987,872,685.50**
- ◆ **69,247 properties valued at \$10,376,379,631.00**
- ◆ **37,662 acres of wetlands valued at \$2,300,362,909.80**
- ◆ **428 residential buildings valued at \$123,116,000.00**
- ◆ **481,032 head of cattle valued at \$804,073,518.97**
- ◆ **339,630 head of goats valued at \$67,839,957.44**
- ◆ **431,468 head of sheep and lambs valued at \$30,773,367.09**
- ◆ **574 Golf courses valued at \$10,010,000.00**
- ◆ **52,576 Domestic White-Tailed deer valued at \$144,582,800.00**
- ◆ **51,887 Exotic livestock valued at \$41,064,053.75**

Developing Methods

Developing new methods to address human/wildlife is largely the role of university and the APHIS-WS National Wildlife Research Center. The operational program does not conduct independent research, but many of the best ideas have come from field employees. Within the Strategic Plan, Texas WS commits to supporting research with field access, samples, cross-training for field and research employees and field trials. Supporting research provides opportunities for field employees to become more familiar with new methods, research personnel to become more familiar with the conflicts and environments in which these occur and better solutions to evolve.

Significant efforts to develop better methods for human/wildlife conflicts include:

- ◆ In FY 17, Texas WS personnel were involved in 10 separate feral swine research projects which ranged from identifying disease pathogens in feral swine to genetic analysis, economic damage and toxicant development. WS employees gathered samples from feral hogs to capture live virus, provided wild-captured feral swine for toxicant development and provided control in an experimental design to assess the efficiency of control. Data from our efforts will better the available methods for feral swine control and reduce disease threats to humans and livestock.
- ◆ WS Texas personnel have developed and distribute vulture effigies to reduce damage from roosting vultures. Effigies are artificial birds, created from resin and taxidermy foam and are constructed in-house only in Texas. Effigies are hung upside down on towers and other roosting structures and, when combined with pyrotechnics and lasers, cause roosting vultures to abandon the roost in one or two nights. Effigies have also been used in lambing pastures in an effort to prevent livestock depredations by black vultures.
- ◆ Texas WS personnel collected lymph node samples from deer during tick surveillance to examine them for Chronic Wasting Disease (CWD) prions. The discovery of CWD in whitetail deer in south-central Texas increased the need for surveillance and the samples WS was able to provide came from an area where sampling had not been conducted. Texas WS also provided sampling materials to landowners in the Medina/ Bandera County surveillance zone to facilitate voluntary sampling of wild deer. By the end of the year, CWD had been confirmed in a wild whitetail and the zone was changed from a surveillance zone to a containment zone for 2018.



- ◆ Texas WS assisted Texas Parks and Wildlife Department in evaluating the possibility of returning prairie dogs to the southeastern portion of their historic range. TPWD wanted to return prairie dogs to Mason Mountain WMA as part of a research and demonstration project. Texas WS personnel assisted in the development and review of transplant protocols and addressed public concerns in a public meeting on the project. When the time for the project arrived, Texas WS personnel trapped prairie dogs in an area where they were causing conflict, processed them for translocation and moved them to the WMA. The project will be repeated for several years or until a stable population is established.
- ◆ Texas WS employees assisted a Master's of Science candidate at Texas A&M-Kingsville with his analysis of predation management tools. The student was modeling predator control options for south Texas landowners and needed direction on method selection. A dichotomous key to predation management options was created for his project. The student completed his studies by the end of the fiscal year.
- ◆ Texas WS established an Innovation Award to encourage employees to share the small (and not so small) refinements they create to better management tools. The inaugural award was presented in FY 17 and three awards were actually given. Ft. Worth District Wildlife Biologist Adam Henry designed a floating cage trap to capture beavers in areas where human presence makes other equipment inadvisable.
- ◆ Ft. Worth Specialists Robert Dunham and Brian Falkenberg developed a hog trap gate which costs less, does not spook swine and provides the option of single catch or multi-catch design.

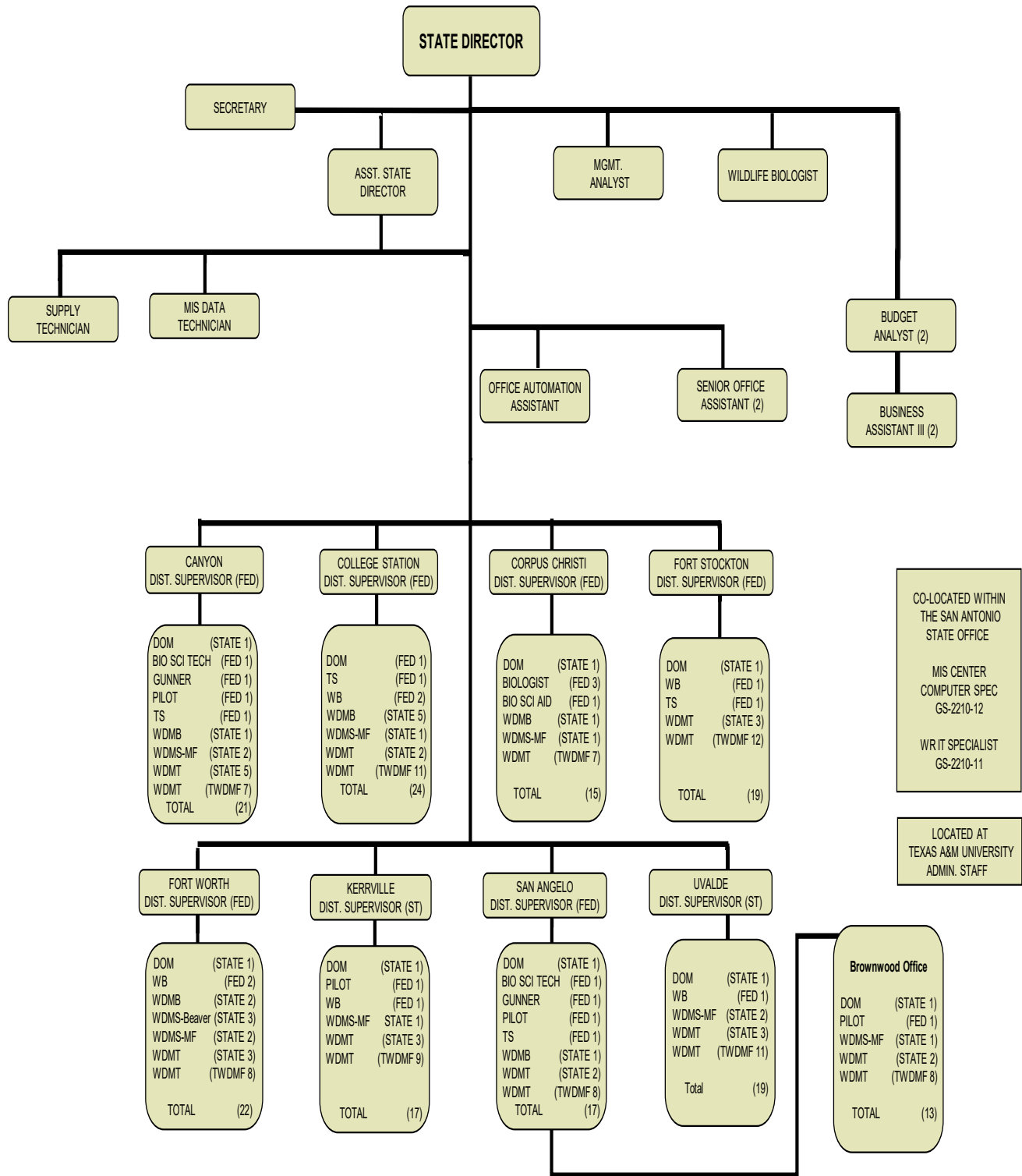


- ◆ Biologist Jacob Hetzel and Troubleshooter Billy Jack Roe combined to design a dolly to allow one person to move a feral hog cage trap easily around a home or yard. The design will reduce the need for multiple people to deliver and pick up a trap, eliminates lawn damage from driving on the lawn and provides access to areas where previously we could not deliver a trap. It also should prevent potential back-strain injury to employees using brute strength to move a trap. All three innovations were provided a cash award.



- ◆ In support of the fever tick management program by APHIS-Veterinary Services and the Texas Animal Health Commission, Texas WS developed and implemented a fixed-wing survey for nilgai and whitetail deer in one of the temporary quarantine zones in South Texas. Not knowing how nilgai would react to fixed wing aircraft, WS recorded visibility and cover along established routes flown by one of the agency's Supercub aircraft. Flights were conducted early each morning for three separate days and flight logs were established to prevent resurveying the area. In total 304 nilgai and 99 deer were observed. Based on behavior and brush cover, WS estimates that it observed over 90% of the nilgai but only about 30% of the deer. A "heat map" showing density was created using survey route data and GIS software.

TEXAS WILDLIFE SERVICES PROGRAM 2017 ORGANIZATIONAL CHART



DOM DISTRICT OFFICE MANAGER	WDMB WILDLIFE DAMAGE MANAGEMENT BIOLOGIST (Urban/Rural)	WDMT WILDLIFE DAMAGE MANAGEMENT TECHNICIAN
TS TROUBLESHOOTER	WDMS-Beaver WILDLIFE DAMAGE MANAGEMENT SPECIALIST-Beaver	BIO SCI TECH BIOLOGICAL SCIENCE TECHNICIAN
WB WILDLIFE BIOLOGIST	WDMS-MF WILDLIFE DAMAGE MANAGEMENT SPECIALIST MOBILE FORCES	BIO SCI AID BIOLOGICAL SCIENCE AID

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