

# 2012 Annual State Summary Report

## Wild Hog Working Group



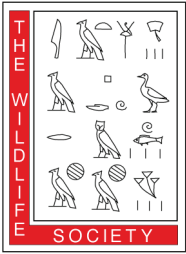
FOUNDATION FOR A NEW GENERATION

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### Final Position Statement Feral Swine in North America

#### Introduction and Biology

Feral swine (*Sus scrofa*) are members of the domestic swine family Suidae, which is native to Europe and Asia, not North America. Feral swine should not be confused with North America's only native pig-like animal – the collared peccary, or javelina (*Pecari tajacu*), of the family Tayassuidae. For centuries, though, non-native domestic swine have been propagated and released throughout the continent through accidental escapes from farms, as part of free range farming practices, or to establish feral populations for hunting. These releases occurred most frequently in the southeastern United States. The region between Texas and South Carolina remains the center of feral swine populations in North America. However, in the past decade (2000-2010), the range and abundance of feral swine has increased markedly. In 2010, feral swine are known or suspected to exist in at least 40 states and in parts of Canada and Mexico. Although a reliable estimate of the size of the continental population is not available, recent research indicates it is in the millions of individuals.

Feral swine come from 3 distinct lineages. Some releases of pigs in North America were of pure strain Eurasian wild boar, and a few isolated populations of these animals remain. Most of the populations, though, are descended from domesticated herds. In areas where both previously domesticated pigs and Eurasian wild boar exist, hybridization can and does occur. Regardless of the lineage, all wild pigs in North America are *Sus scrofa*. As noted above, it is important not to confuse *Sus scrofa* with the collared peccary (javelina; *Pecari tajacu*), a native inhabitant of the southwestern United States.

Feral swine are extreme habitat generalists. Whether released or naturally invading, they can survive in most areas of North America, feeding on plants and animals and changing food preference based on availability. They also are one of the most prolific large mammals in North America. In productive habitat, female pigs can begin breeding as juveniles and, while most produce a single litter annually, are physiologically capable of reproducing twice a year. Individual sows may have litters of more than 10, although litter sizes of 3 to 8 are most common. These reproductive traits and a typically low natural mortality rate result in high population growth potential.

Although feral swine are the second most popular large mammal among hunters in North America, next to white-tailed deer, the problems they cause far outweigh any positive benefits they provide. Because of their population size, feeding behaviors, and tendency to exist in groups, feral swine damage agricultural commodities, aquatic systems, forested systems, and native wildlife. In addition, they carry diseases that pose risks to humans, livestock, and other wildlife.

#### Damage

Feral swine are one the greatest vertebrate modifiers of natural plant communities. Feral swine damage to property, agriculture, and natural resources often occurs as a result of their aggressive rooting (i.e., grubbing, plowing, digging) activities at and below the surface of the soil. In sandy soils, feral swine may root to a depth

of 1m but even shallow rooting can cause significant soil erosion. Wallowing activities may reduce water quality and disrupt sensitive wetland ecosystems. Other documented damage includes destruction of livestock fencing, damage to farm equipment in rooted areas, and predation on young livestock, ground nesting birds, amphibians, reptiles, and other wildlife. Economic losses resulting from feral swine damage is estimated at greater than \$1 billion per year and is increasing.

## **Disease**

Feral swine are highly mobile disease reservoirs and can carry at least 30 important viral and bacterial diseases, and a minimum of 37 parasites that affect people, pets, livestock, or wildlife. Some of the more important diseases affecting people include leptospirosis, salmonellosis, toxoplasmosis, trichinosis, bovine tuberculosis, brucellosis, and balantidiasis. Recently, there has been growing concern over the role feral swine may play in the establishment of new strains of influenza viruses (e.g., pandemic H1N1 virus).

The potential for disease transmission from feral to commercial swine has serious implications to the U.S. economy. Large, widely distributed populations of feral swine jeopardize ongoing efforts to control a number of livestock diseases and the considerable financial investments that support those efforts. For example, the U.S. commercial swine industry recently achieved pseudorabies-free status after a 17-year effort and the expenditure of approximately \$200-250 million.

The role that feral swine could play in spreading and perpetuating exotic diseases is particularly troublesome. For example, foot-and-mouth disease, which was eradicated in the US in 1929, would be essentially impossible to eradicate again if it reemerged in areas with feral swine. This would cripple the US pork industry and would likely have negative impacts on wild species such as black-tailed and white-tailed deer, American bison, and pronghorn. Landowners, outdoor recreationists, and state natural resources agencies also could be impacted by strict quarantines that would prevent access to lands for hunting, wildlife viewing, and other activities. This could have serious economic impacts because wildlife-related recreation in the U.S. is enjoyed by more than 60 million people who spend over \$100 billion per year.

## **Management**

Where feral swine are well established, multiple methods of control are needed to reduce feral swine numbers to manageable levels. The greatest threat that hogs impose is in areas where their presence is a relatively new phenomenon. These new populations are often the results of illegal Excellence in Wildlife Stewardship Through Science and Education releases of hogs from other states for the purpose of increasing hunting opportunities. Emphasis should be on control and/or eradication and stopping illegal releases in these states with newer populations that may not be permanently established yet. In these areas, eradication is, and should be, the goal.

The most widely accepted methods for control and eradication include trapping, snaring, shooting, use of trained dogs, and aerial gunning. Research indicates feral swine populations must be reduced by 70 percent each year simply to keep up with reproduction. In the absence of control efforts, a local population can triple in a single year. It is also possible that at levels of control most commonly observed, the reproductive potential of the residual population is stimulated because of density dependent factors, necessitating the use of an array of control methods. Although hunting is important for controlling feral hogs, hunting alone cannot eradicate feral hog populations. In fact, hunting of feral swine may stimulate interest in maintaining established populations and creating new populations for hunting.

Because numerous methods are essential to control feral swine, approaches beyond those most commonly used must also be explored. Depending on the location, a key strategy might include curtailing the use of consistently available supplemental food sources for wildlife and livestock, which may effectively sustain a population and

hinder control efforts. While no chemical toxicant is registered for use on wild pigs in the U.S., research is underway to identify species-specific toxicants or delivery systems that minimize non-target poisonings and other environmental harm.

Agencies with responsibility for feral swine include state/provincial Departments of Agriculture, Fish and Game, and Natural Resources, and federal agencies such as the U.S. Department of Agriculture/APHIS/Wildlife Services. Some governments manage them as a game species while others have little or no regulations concerning their control and eradication. These varying laws and classifications of feral swine complicate control and eradication efforts, especially for cross jurisdiction populations.

The control and eradication of feral swine is costly to state/provincial and federal agencies, placing a burden on budgets and taxpayer dollars. For example, feral swine are well established in Texas, where Texas A&M University estimates feral swine damages result in a cost to agriculture that exceeds \$51 million annually.

For successful feral swine eradication and control, management must be integrated across land ownerships and jurisdictions. Existing laws and regulations have been insufficient to deter illegal introduction of swine into wild habitats for the purpose of creating free-roaming feral swine populations. Delay in implementation of serious control efforts will result in the need for increased effort at higher cost and/or more years needed to achieve evermore elusive goals while significant ecological impacts continue to increase. The policy of The Wildlife Society regarding feral swine is to:

1. Promote the maintenance of biological diversity and ecosystem integrity and oppose the modification and degradation of natural systems by feral swine.
2. Encourage state and provincial agencies to eradicate feral swine wherever feasible.
3. Support feral swine damage management actions that are cost effective and demonstrate results.
4. Encourage research by public and private agencies and organizations on methods to control, reduce, or eliminate feral swine and their impacts.
5. Support programs to monitor diseases in feral swine and their impact on humans, domestic livestock, pets, and wildlife.
6. Encourage the collaboration of state, provincial, and federal agricultural and natural resources agencies, private landowners, and organizations to develop and support educational programs and materials that discuss the agricultural, ecological, and social damages caused by feral swine.
7. Encourage the passing and enforcement of effective new laws and regulations at the state, provincial, and federal level that would help reduce and combat the spread of feral swine and eliminate feral swine on state, provincial, federal, and private lands.
8. Encourage state, provincial, and federal agencies to share technical data on feral swine such as maps of local populations and other information for management purposes.
9. Encourage the Association of Fish and Wildlife Agencies to provide leadership and consistent direction on feral swine issues including increased collaboration among all regulatory agencies and other organizations involved with feral swine management.
10. Support the establishment of a lead agency within each state or province to assume responsibility for feral swine management.

Approved by Council August 2011. Expires August 2016.

## Section A: Regulations

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### 1. What state agency has regulatory authority for hogs?

**Alabama** – The Alabama Department of Conservation and Natural Resources (ADCNR) has regulatory authority for hogs at any time they are hunted.

**Arkansas** – The Arkansas Livestock and Poultry Commission has authority over possession and related issues involving live feral hogs. Public agencies and individual landowners have control over hunting and trapping of feral hogs on the property they control.

**Florida** – Florida Department of Agriculture and Consumer Services (FDACS) and the Florida Fish and Wildlife Conservation Commission (FWC) share authority.

**Georgia** – The Georgia Department of Natural Resources regulates hog hunting, but if swine are captured live, they're considered domestic hogs and are regulated by the Georgia Department of Agriculture.

**Kentucky** – Kentucky Department of Fish & Wildlife Resources (KDFWR) regulates wild pigs (no formal definition, but understood as any pig outside of a fence where ownership is not identifiable). Kentucky Department of Agriculture (KDA) regulates domestic pigs.

**Louisiana** – Louisiana Department of Wildlife and Fisheries has authority over feral hogs.

**Mississippi** – Mississippi Department of Wildlife, Fisheries & Parks.

**Missouri** – Primary statutory authority for feral hogs lies with the Missouri Department of Agriculture (MDA). The Missouri Department of Conservation (MDC) sets some permit requirements during firearms deer and turkey seasons.

**North Carolina** – North Carolina Wildlife Resources Commission has regulatory authority for wild hogs (defined as feral swine in our rules).

**Oklahoma** – The Oklahoma Department of Agriculture, Food and Forestry (ODA) regulates everything except hunting and trapping of free-roaming feral hogs. The Oklahoma Department of Wildlife Conservation regulates hunting and trapping of free-roaming feral hogs.

**South Carolina** – The South Carolina Department of Natural Resources and Clemson Livestock/Poultry Health have authority.

**Tennessee** – Tennessee Wildlife Resources Agency (TWRA) has authority for wild hogs. Tennessee Department of Agriculture has authority over sporting swine (can't be feral or wild).

**Texas** – The Texas Animal Health Commission (TAHC) regulates transport, holding facilities (i.e. buyers), authorized hunting preserves, slaughter facilities and disease. The Texas Parks and Wildlife Department (TPWD) regulates pig hunting and issues permits for authorized hunting preserves with regard to leases and aerial management (landowner authorizations).

**Virginia** – Virginia Department of Agriculture (VDACS) has jurisdiction over domestic hogs. The jurisdiction

over feral hogs is in question at the moment, but is generally considered to be under Virginia Department of Game and Inland Fisheries (DGIF), where they are designated in regulations as a nuisance species.

**West Virginia** – Department of Natural Resources (DNR) for hunting; West Virginia Department of Agriculture (DOA) for transporting in and out of state. West Virginia has two categories for “hogs.” Wild boar, which were established in the 1970s by stocking Russian boar in southwest West Virginia, are managed by the DNR as a game animal in four counties; all other swine, feral or domestic, are regulated by the DOA.

## **2. What state agency enforces regulations?**

**Alabama** – ADCNR.

**Arkansas** – The Arkansas Livestock and Poultry Commission has authority to enforce its own regulations regarding feral hog possession.

**Florida** – FDACS and FWC.

**Georgia** – The Georgia DNR and the Georgia Department of Agriculture, but mostly the DNR.

**Kentucky** – KDFWR.

**Louisiana** – LDWF.

**Mississippi** – Mississippi Department of Wildlife Fisheries & Parks.

**Missouri** – MDC has been given statutory authority to enforce certain MDA rules surrounding feral hogs.

**North Carolina** – North Carolina Wildlife Resources Commission.

**Oklahoma** – The ODA enforces everything except hunting and trapping of free-roaming feral hogs. The Oklahoma Department of Wildlife Conservation enforces hunting and trapping of hogs that are not in an enclosure.

**South Carolina** – Both the SCDNR and Clemson Livestock/Poultry Health enforce regulations, depending upon the circumstances and what’s being done to or with the hogs.

**Tennessee** – TWRA enforces regulations related to wild or feral hogs.

**Texas** – TAHC enforces regulations related to transport, release, slaughter and hunting preserves; TPWD enforces regulations related to hunting preserves.

**Virginia** – VADCS and DGIF both have regulations pertaining to hogs, so both agencies enforce the respective regulations; however, VDACS does not have law enforcement staff to monitor, investigate claims, or otherwise enforce regulations.

**West Virginia** – WVDNR regulates the possession and hunting of wild boar, and WVDOA regulates the importation of swine.

### 3. May live hogs legally be relocated to another property?

**Alabama** – Live hogs cannot be legally released onto another property.

**Arkansas** – No, not until they have been “domesticated” following disease testing and marking.

**Florida** – Yes, but only to licensed game reserve enclosures by a licensed feral swine dealer.

**Georgia** – Yes, provided they have tested negative for pseudorabies and brucellosis within 30 days prior to transport.

**Kentucky** – No. (See KRS 150.186: Release of hog or pig into the wild prohibited; importing, possessing or transporting wild or feral pig or boar prohibited; accidental escape of livestock exempted.) 1. No person shall release a hog or pig from the family Suidae into the wild. 2. No person shall import, possess or transport in Kentucky any wild or feral pig, Eurasian or Russian boar, or any hybrid of these, whether born in the wild or captivity. 3. This section shall not apply to the accidental escape of animals of the porcine species raised as livestock as defined in KRS 246.010.

**Louisiana** – They may be transported but may not be released into the wild.

**Mississippi** – No.

**Missouri** – Live feral/wild-caught hogs may only be transported from farm to farm or farm to slaughter-only markets. Live feral/wild-caught hogs may not be possessed or transported on or through public land.

**North Carolina** – No.

**Oklahoma** – Licensed transporters may transport live hogs to licensed facilities (enclosures) or to slaughterhouses.

**South Carolina** – Only with a permit, a tag provided by SCDNR in each ear, and only into a permitted hog hunting enclosure.

**Tennessee** – Only sporting swine (disease-tested and marked) on permitted preserves may be relocated.

**Texas** – Males may be released into a hunting preserve which is regulated in two ways: The facility must have a hunting-lease permit from TPWD, and it must be swine proof as determined by TAHC.

**Virginia** – According to a strict interpretation of regulation 4VAC 15-30-40, you cannot import, possess, liberate or sell a wild pig without a permit from DGIF. So, in theory, you cannot relocate the pig without a permit. However, the validity of this regulation is largely untested and is virtually unenforceable, as the regulation pertains to all species in the Suidae family. We do not currently have a working definition of feral or wild pig in regulation or code, and this regulation is in direct conflict with regulations in place for domestic livestock. We can say that it is unlawful to import, possess or sell feral pigs; however, the enforceability of such a regulation is questionable at best.

**West Virginia** – Wild boar may not be taken by hunters except by lethal methods; therefore it is illegal to possess live wild boar. Feral swine or swine in general may be relocated.



#### **4. May hogs be released into the wild or just into enclosures?**

**Alabama** – Live hogs may only be released onto the property from which they were originally trapped or caught.

**Arkansas** – They may be released into fenced enclosures for hunting purposes. They may not be released into the wild.

**Florida** – Only to licensed game farm enclosures.

**Georgia** – Only in enclosures.

**Kentucky** – Neither (see KRS 150.186).

**Louisiana** – They can be released legally into enclosures or transported to public livestock auction barns. They cannot be released legally into the wild.

**Mississippi** – Only into an enclosure 500 square feet or less for slaughter purposes.

**Missouri** – It is illegal (Class A misdemeanor) to release any swine into the wild (third offense is a Class D felony). Swine may be released in an enclosure.

**North Carolina** – Wild hogs may not be released into either the wild or enclosures.

**Oklahoma** – A “Judas pig” system will be allowed beginning Nov. 1, 2012, if utilized for control methods. All other released hogs must be released by licensed transporters into licensed enclosures or temporary holding facilities.

**South Carolina** – Only with a permit, a tag provided by SCDNR in each ear, and only into a permitted hog hunting enclosure.

**Tennessee** – Sporting swine (disease -tested and marked) may be released within permitted enclosures.

**Texas** – No free-range release is permitted. (Note: Hunting preserves can be very large.).

**Virginia** – They cannot be possessed or released without a permit (4VAC 15-30-40).

**West Virginia** – Feral swine or swine may be released but not wild boar.

#### **5. Is live transport allowed for any reason?**

**Alabama** – Live transport is discouraged, but permits may be applied for through CEOs, wildlife biologists or district offices.

**Arkansas** – Yes.

**Florida** – Yes. They must be transported directly to a slaughter facility, approved enclosed game reserve or approved holding facility by a licensed feral swine dealer.

**Georgia** – Yes, see above.

**Kentucky** – No (see KRS 150.186).

**Louisiana** – Yes, live transport is allowed for movement to an enclosure or livestock auction barn. They also may be transported alive with LDWF-issued ear tags from certain wildlife management areas to enclosures.

**Mississippi** – Yes.

**Missouri** – Live feral/wild-caught hogs may be transported only from farm to farm or farm to slaughter-only markets. Live feral/wild-caught hogs may not be possessed or transported on or through public land.

**North Carolina** – No.

**Oklahoma** – Licensed transporters may transport hogs to licensed enclosures or slaughterhouses. Licensed transporters may transport hogs to temporary holding facilities for no more than 30 days if hogs ultimately are killed or sold to a licensed facility.

**South Carolina** – Yes, as stated above.

**Tennessee** – Not for feral or wild swine.

**Texas** – Yes, to slaughter direct, or to slaughter through licensed holding facility.

**Virginia** – They can be possessed only with a permit from DGIF (see answer for question 3).

**West Virginia** – Yes, for feral swine or swine, but no for wild boar.

## **6. Are captive hog hunting facilities allowed?**

**Alabama** – Captive hog hunting facilities are not allowed.

**Arkansas** – Yes.

**Florida** – Yes.

**Georgia** – Yes.

**Kentucky** – No, see KRS 150.186.

**Louisiana** – Yes.

**Mississippi** – Not specifically.

**Missouri** – Yes, these are permitted by MDC.

**North Carolina** – We do not provide permits for or otherwise regulate captive hog hunting facilities. It is unlawful to release live, wild hogs into a facility. However, if a landholder has some type of facility that hogs “just happen to be in,” then hunting would be lawful within the facility.

**Oklahoma** – Yes, if the facility is licensed.

**South Carolina** – Yes, but only two-three are permitted. Others use captive-raised hogs, some of feral or wild ancestry.

**Tennessee** – Yes, but no new facilities can be established.

**Texas** – Yes.

**Virginia** – Hog hunting facilities are allowed only under a permit through VDACS (§ 3.2-6036). There currently are no permitted captive hunting operations in Virginia, and under the current administration, it's unlikely permits will be issued. To be in compliance, facilities also would need a permit from DGIF to possess the pigs within the enclosure (4VAC 15-30-40).

**West Virginia** – Yes.

## **7. Is interstate importation of feral hogs allowed and, if so, what entry requirements must be met?**

**Alabama** – No interstate transportation is allowed for wild hogs.

**Arkansas** – Yes, providing they meet Arkansas Livestock and Poultry Commission regulations involving disease testing and marking.

**Florida** – Must be inspected, disease-free, have letter of acceptance to holding facility meeting regulatory requirements of state of destination. Cargo vehicle is sealed until destination.

**Georgia** – Yes: (1.) Feral Swine that have been fed garbage may not enter Georgia under any conditions. (2.) Feral swine entering Georgia must be accompanied by an official Certificate of Veterinary Inspection identifying each animal with a USDA-approved metal ear tag. Required test results, test dates and prior permit number must be recorded on the Certificate of Veterinary Inspection. Such animals shall not have been exposed to any contagious or infectious disease prior to or during shipment. (3.) Feral swine entering Georgia must meet the following requirements: (a.) Originate from a validated brucellosis-free herd and a qualified pseudorabies-free herd with the dates of the last tests and the validated and qualified herd numbers recorded on the Certificate of Veterinary Inspection, or; (b.) Be permitted on a form VS 1-27 to a state or federally approved slaughter establishment, or; (c.) They are permitted on a form VS 1-27 to an approved hunting preserve. (4.) Feral swine entering Georgia must be isolated for a period of at least 30 days following entry. A quarantine may be issued and the swine must test negative for pseudorabies and brucellosis between 30 and 60 days of entry in order to release the quarantine.

**Kentucky** – No, see KRS 150.186.

**Louisiana** – Yes, importation is allowed. Louisiana Department of Agriculture regulations apply and require a negative swine brucellosis and pseudorabies test, as well as a Certificate of Veterinary Inspection issued within 30 days of movement. This is poorly enforced.

**Mississippi** – No answer.

**Missouri** – All feral swine (including Eurasian and Russian swine) entering Missouri must: 1. Obtain an entry permit; 2. Be officially identified; 3. Be listed individually on a Certificate of Veterinary Inspection, in addition to age, gender and permit number of feral swine facility of destination; 4. Must be from a validated and qualified herd. Last test date and herd numbers must be listed on the Certificate of Veterinary Inspection; or, 5. Have two negative tests 60 days apart for brucellosis and pseudorabies within 30 to 60 days prior to movement. The laboratory and test date must be listed on the Certificate of Veterinary Inspection. 6. Feral swine moving directly from the farm-of-origin to an approved processing facility or to an approved slaughter-only facility will be exempt from any required testing.

**North Carolina** – No.

**Oklahoma** – Beginning Nov. 1, 2012, it will be illegal to import feral hogs unless going directly to slaughter. All of these hogs must have been cleared under USDA form 127. Until Nov. 1, 2012, the following rules on interstate importation apply: (a.) Feral swine may be moved directly to a recognized slaughtering facility, an authorized market, a licensed sporting facility, a licensed buying station, or to a licensed gathering station without testing; (b.) Feral swine moved to locations other than those listed in (a), including licensed breeding facilities, shall be segregated from all other swine and test negative for pseudorabies and brucellosis on two consecutive tests conducted no less than 30 and no more than 60 days apart; (c.) The ODA may conduct sampling of feral swine for the purpose of disease trace-back at any time; (d.) The owner of a feral swine facility shall cooperate with the ODA in the event of a sampling event; (e.) All feral swine in this state that test positive for brucellosis or pseudorabies shall be immediately sent directly to slaughter or slaughtered on the premises pursuant to an order issued by the state veterinarian.

**South Carolina** – Federal and state regulations apply; they must have papers and they cannot be released into the wild.

**Tennessee** – No.

**Texas** – No.

**Virginia** – Pigs in general must have certificate of health from a licensed veterinarian to be imported from out of state per VDACS regulations. Transporters must also possess a permit from DGIF to import or possess a predatory or undesirable species (4VAC 15-30-20 and 4VAC 15-30-40).

**West Virginia** – 7.16 Swine

7.16a. No person may import into this state any swine that has been vaccinated for pseudorabies. 7.16b. No person may import into this state any swine that does not have a valid CVI that identifies the animal and states that the animal is free of any infectious or contagious disease. A health certificate and individual may, at the discretion of the commissioner, be the minimum requirements if the swine are consigned to slaughter. 7.16c. No person may import into this state any swine that are to be used for breeding purposes without a CVI showing that the animal has been: 7.16.c.1. tested negative to an official brucellosis test within one month prior to importation if the animal is not from a herd that has a certification from the U.S. Department of Agriculture as a

validated brucellosis-free herd and the CVI shows the date of the last brucellosis test on that herd; and, 7.16.c.2. tested negative to an official pseudorabies serologic test or other official pseudorabies test within one month prior to importation, if the animal is not from a herd that has a certification as a qualified pseudorabies-negative herd. The date of the last pseudorabies test shall be listed on the health certificate.

## **8. May feral hogs be sold in public sale barns?**

**Alabama** – No, feral hogs may not be sold in public sale barns.

**Arkansas** – Yes.

**Florida** – No.

**Georgia** – Yes: (1.) Slaughter sales: All sales through such markets are for slaughter purposes only and cannot be diverted. (a) Light sows and boars and odd lot swine under 300 pounds sold through markets must be moved on a Georgia 29 permit. (2.) Feeder/breeder sales: All swine offered for sale at these markets must be healthy and must originate from herds that are apparently free of any contagious, infectious or communicable disease. Swine offered for sale at these markets showing any signs of illness will be returned to the farm of origin under quarantine. Swine offered for sale must have been on the farm of origin of the seller for a minimum of 30 days. All breeder swine four months of age or older must be tested negative for brucellosis and pseudorabies in order to move from the sale to the buyer's farm. Swine purchased at these sales will automatically be quarantined to the premises of destination for a period of 30 days. All breeding swine must be identified by a USDA back tag. (3.) Swine showing visible symptoms of disease must be isolated from apparently healthy swine and consigned to slaughter, euthanized with proper disposal, or returned to the farm of origin under quarantine. Swine shall be accompanied by a Georgia 29 permit. (4.) Out-of-state swine moving to approved livestock establishments in Georgia must meet all interstate requirements, except where reciprocal agreements exist with other states. (5.) The state veterinarian may require or prohibit the treatment of swine with any biological as required by the Department of Agriculture.

**Kentucky** – No.

**Louisiana** – Yes.

**Mississippi** – Yes, but the Department of Agriculture requires them to be euthanized prior to release from sale barns.

**Missouri** – Yes, if they meet the above criteria.

**North Carolina** – No.

**Oklahoma** – Currently, yes. After Nov. 1, 2012, it will be illegal.

**South Carolina** – No.

**Tennessee** – No.

**Texas** – Not unless the sale barn is a licensed holding facility.

**Virginia** – Pigs in general can be bought or sold at public sale auctions without paperwork if they originated within the Commonwealth. If they are brought in from out of state, they must have a certificate of health from a licensed veterinarian. However, according to regulation, they cannot be possessed or sold without permit from DGIF (4VAC 15-30-40; see answer for question 3).

**West Virginia** – No, according to state veterinarian.

## **9. May they be sold for slaughter?**

**Alabama** – No, feral hogs may not be sold for slaughter in Alabama.

**Arkansas** – Yes.

**Florida** – Yes, to approved slaughter facility by licensed feral swine dealer.

**Georgia** – Yes, see above.

**Kentucky** – No.

**Louisiana** – Yes.

**Mississippi** – Yes.

**Missouri** – Yes, as described in No. 7 above.

**North Carolina** – No.

**Oklahoma** – Yes.

**South Carolina** – No.

**Tennessee** – No.

**Texas** – Yes.

**Virginia** – They must have a permit to sell a predatory or undesirable species (4VAC 15-30-40; see answer for question 3).

**West Virginia** – No, according to state veterinarian.

## Section Comments and Recommendations

### Section B: Hunting

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#### 1. 1. Are feral hogs considered game animals? If not, what is their classification?

**Alabama** – Feral hogs are considered game animals at any time they are hunted in Alabama. Once reduced to personal possession by a landowner, feral hogs will no longer be considered a game animal in Alabama.

**Arkansas** – The AGFC does not consider feral hogs to be game animals. It does not regulate feral swine since they are not currently considered wildlife by the AGFC.

**Florida** – Feral hogs are considered wildlife.

**Georgia** – No, they really fall into their own category. They are not classified with wildlife, game animals, non-game animals or unprotected species.

**Kentucky** – The KDFWR does not recognize or manage wild pigs as game animals. No formal designation is placed on wild pigs; the KDFWR considers them an invasive pest species. While pigs may be taken year-round, possession of a hunting license is required unless license-exempt (landowner, spouse and tenants hunting on their own land).

**Louisiana** – No, they are considered “outlaw quadrupeds.”

**Mississippi** – No, they’re considered nuisance animals.

**Missouri** – Feral hogs are not considered game animals. Feral hogs are considered an exotic, invasive species. MDC does not regulate feral swine since they are not wildlife.

**North Carolina** – No, they are classified as a non-game animal.

**Oklahoma** – No, feral animals.

**South Carolina** – They are not classified as game, but we do require that persons hunting them be licensed, and the harvest is controlled on state WMA lands. On private land and with a license, a person can hunt year-round during daylight hours. There are special provisions for night hunting.

**Tennessee** – The species is deemed destructive, but it used to be considered big game.

**Texas** – No, they're considered an exotic animal.

**Virginia** – Feral hogs are not classified as game animals. They are classified as a nuisance species (Code of Virginia 29.1-100).

**West Virginia** – No, but wild boars are considered game animals and have a set season.

## **2. What methods of harvest are allowed?**

**Alabama** – Methods of harvest hunting, trapping, hunting with dogs, hunting over bait and hunting at night. Hunting over bait and hunting at night require a wildlife damage permits from ADCNR.

**Arkansas** – On private land, all methods are allowed, including dog hunting, trapping and snaring. On public land, hog hunting during any open daytime season using the weapons legal for that season is allowed.

**Florida** – On private lands: Feral hogs may be taken by any legal means (including archery, legal firearms, dogs, traps, etc.). On public hunting lands: All methods legal for taking game mammals (archery and legal firearms). Harvest with dogs is by area-specific regulations.

**Georgia** – On private land they can be hunted or trapped at any time (baiting is legal). They can be taken with any legal deer, bear, turkey or small-game firearms and archery equipment. Snaring and poisoning are not legal.

**Kentucky** – Wild pigs may be taken by muzzle-loading or modern rifles or handguns of any caliber, muzzle-loading or breech-loading shotguns no larger than 10-gauge, and archery or crossbow equipment. Wild pigs may also be trapped, but they must be killed in the trap as possession of live wild pigs is illegal. Bait may be used to take pigs as this is legal for deer in Kentucky.

**Louisiana** – Year-round shooting and hunting on private land. Year-round trapping with a hunting license on private land. Year-round snaring with a trapping license on private land. Night shooting from the end of February to the end of August on private land. Year-round dog hunting on private land. They also may be harvested on certain WMAs during special seasons or concurrent with any open hunting season.

**Mississippi** – Hunting and trapping.

**Missouri** – All methods of take are allowed.

**North Carolina** – Hunting and trapping (trapping requires a permit).

**Oklahoma** – Hunting with firearms or archery equipment; shooting hours are one-half hour before official sunrise to one-half hour after official sunset. Trapping is allowed.



**South Carolina** – Harvest methods are not restricted on private lands.

**Tennessee** – Landowners and their 10 designees are allowed to shoot over bait, spotlight and trap – once they receive an exemption issued by TWRA. Dogs are allowed with exemption in four counties. Harvest is allowed incidental to certain hunts on wildlife management areas and during dog bear hunts.

**Texas** – Aerial gunnery permitted by landowner authorization. Traps, snares, bow, knife, dogs, any legal weapon.

**Virginia** – Nighttime hunting, bait, dogs and trapping are allowed.

**West Virginia** – Bow and firearms are legal for wild boar. There are no restrictions on taking feral swine or swine.

### **3. Describe the hunting season and bag limits?**

**Alabama** – Daytime Hunting season for feral hog has no closed season with gun, bow and arrow, and spear on private land. Night hunting with dogs only (no weapons) has no closed season except no running of dogs is allowed after 3 a.m. during spring turkey season.

**Arkansas** – Year-round hunting on private land with no bag limits.

**Florida** – On private land, feral hogs may be taken during daylight and night-time hours, year-round, with no size or bag limits. On most public hunting lands, there is no bag or size limit, and hogs are legal to take during any hunting season except spring turkey.

**Georgia** – No season or bag limits.

**Kentucky** – Wild pigs may be hunted year-round with no bag limit. Pigs may not be hunted at night.

**Louisiana** – Year-round daytime shooting and hunting. No bag limit.

**Mississippi** – No limits and year-round hunting on private lands.

**Missouri** – No season or bag limit. Feral hogs are not regulated in Missouri and may be killed at any time and by any method.

**North Carolina** – No closed season or bag limit.

**Oklahoma** – No season or bag limit.

**South Carolina** – No answer.

**Tennessee** – None.

**Texas** – No season and no limit.

**Virginia** – The season for nuisance species is defined as a continuous open season, except there is no hunting on Sundays (even for nuisance species), and there is no bag limit.

**West Virginia** – There's no closed season for swine or feral swine. For wild boar, archery season runs from mid-October to the end of December. Firearms are open for a week (end of October through beginning of November). Hunting is allowed only by resident hunters. One wild boar may be taken per season.

#### **4. Is hog hunting allowed on public land?**

**Alabama** – Yes, hog hunting is allowed on public land or WMAs. Hogs may be harvested during any open season using weapons and ammunition approved for those hunts.

**Arkansas** – Yes during any open daytime season with the weapons that are allowed for that season.

**Florida** – Yes.

**Georgia** – Yes, only during designated hog hunts and during any open season with the legal weapons for that season.

**Kentucky** – Yes, though no significant wild pig populations occur on WMAs.

**Louisiana** – Certain WMAs during special seasons, and/or concurrent with any open hunting season.

**Mississippi** – Yes, only during on open game season with weapons and ammo allowed for that open season.

**Missouri** – Yes, MDC is reviewing prohibiting feral hog hunting on its conservation areas.

**North Carolina** – Yes, some restrictions may apply, depending on the area.

**Oklahoma** – Currently, hogs are allowed to be harvested on WMAs during seasons and weapons types that are open. Example: If deer primitive firearms season is open, you can hunt hogs with weapons legal for the primitive firearms season.

**South Carolina** – Yes, with seasons and weapons restrictions.

**Tennessee** – No; however, hog dog control hunts take place on two WMAs.

**Texas** – Yes.

**Virginia** – When there is an open hunting season, feral pigs may be hunted on public land in Virginia. It is illegal to have an uncased firearm on national forest or DGIF lands outside of the regular hunting season. During those months, feral pigs cannot be hunted on public land. DGIF is considering closing a WMA to pig hunting where pigs have been illegally dumped. This is an experimental attempt to reduce incentive for the release of additional pigs.

**West Virginia** – Yes.

## 5. Is a license required?

**Alabama** – A small game license is required for hunting hogs in Alabama.

**Arkansas** – No license is required if hunting on private property, though you may not hunt hogs if your hunting license has been revoked. If on public land, the relevant license for the open season is necessary.

**Florida** – A hunting license is not required when hunting wild hogs on private land; however, it is required (along with a management area permit and any other related permits) when hunting hogs on WMAs.

**Georgia** – Yes.

**Kentucky** – Yes, a resident or non-resident hunting license is required to hunt pigs in Kentucky; no additional tags are required. No license is required for resident landowners or tenants hunting on their own property.

**Louisiana** – A trapping license is required for snaring.

**Mississippi** – Yes.

**Missouri** – No license is required for hunting feral hogs. A license is required for anyone afield with a firearm during any firearm deer or turkey seasons.

**North Carolina** – Yes.

**Oklahoma** – Private land does not require a license. Public land requires a license. In addition, on public and private land, if hogs are pursued during an open firearms deer, elk, antelope or bear season, the hunter must possess a filled or unfilled tag appropriate for the big game season that is open. Permits which give exceptions to the big game tag requirement are given to landowners who are experiencing hog damage.

**South Carolina** – Yes, statewide on private and WMA lands.

**Tennessee** – No.

**Texas** – Yes, all persons are required to have a license to hunt any animal in the state of Texas. A landowner (resident or non-resident), his agent or lessee, may take feral hogs without a license when hogs are depredated the landowner's land.

**Virginia** – Yes; to hunt any nuisance species, a basic hunting license is required.

**West Virginia** – Yes.

## 6. Is dog hunting allowed on public property?

**Alabama** – No dog hunting is allowed on public property in Alabama.

**Arkansas** – No.

**Florida** – Yes, but it depends on area-specific regulations.

**Georgia** – Yes, but this is limited to a few quota hunts.

**Kentucky** – Yes; however, not year-round (see below), and no significant wild pig populations occur on WMAs. Per 301 KAR 3:010: (4.) Unless specified otherwise in 301 KAR 2:049, shall not allow an unleashed dog from March 1 until the third Saturday in August, except when participating in: (a.) A department-authorized field trial; (b.) The spring squirrel season; or (c.) Training a retriever or other water dog, if: 1. The activity is authorized by a sign at the body of water; and, 2. The dog remains leashed except while actively training in or within 100 feet of the body of water.

**Louisiana** – Yes, on certain WMAs during special seasons and concurrent with other open seasons.

**Mississippi** – Yes, but restricted to specific public areas.

**Missouri** – Yes.

**North Carolina** – Yes; some restrictions may apply depending on the area.

**Oklahoma** – On WMAs where it is legal to pursue game with dogs for other game species, you may hunt hogs with dogs.

**South Carolina** – Yes, in certain areas and with restrictions.

**Tennessee** – Only on two control hunts.

**Texas** – It may be permitted by the manager of the property; however, there are no areas permitting dog hunting at this time.

**Virginia** – During any hunting season that allows the use of dogs, pig hunting with dogs is allowed.

**West Virginia** – No.

## **7. Is dog hunting allowed on private property?**

**Alabama** – Dog hunting is allowed on private property for feral hogs in Alabama.

**Arkansas** – Yes, any time of year.

**Florida** – Yes, with written landowner permission.

**Georgia** – Yes.

**Kentucky** – Yes.

**Louisiana** – Yes, 365 days a year, day or night.

**Mississippi** – Yes.

**Missouri** – Yes.

**North Carolina** – Yes.

**Oklahoma** – Yes.

**South Carolina** – Yes, statewide.

**Tennessee** – No, unless an individual is listed as one of 10 designees on a landowner exemption that is issued in one of the four Tennessee counties.

**Texas** – Yes, each public unit is responsible for determining whether to permit.

**Virginia** – Pig hunting with dogs is allowed year-round on private land but they cannot be hunted on Sunday.

**West Virginia** – No.

## **8. Can hogs be hunted at night?**

**Alabama** – Hogs may be hunted at night only after obtaining a wildlife damage permit from a CEO, WL biologist or District WFF office.

**Arkansas** – Hogs may be hunted at night on private property. The AGFC encourages landowners to contact local wildlife officers before night hunting. They may not be hunted at night on public property.

**Florida** – Yes; on private land with landowner permission and on certain public land by area-specific regulations.

**Georgia** – Yes. They may not be hunted from a vehicle with a spotlight without a permit (easily obtained). They may be hunted at night with a portable light not attached to a vehicle without a permit.

**Kentucky** – No.

**Louisiana** – Yes, from the end of February to the end of August. Local sheriff must be contacted 24 hours before shooting.

**Mississippi** – Yes.

**Missouri** – Yes.

**North Carolina** – Yes.

**Oklahoma** – If landowners are experiencing hog damage and have permits, they can hunt hogs with a firearm at

night. Otherwise, hogs can't be killed with a firearm at night. They can be hunted, but not shot with a firearm.

**South Carolina** – During a very restricted period and with equipment restrictions. They can be taken with a permit issued by law enforcement at any time during the year.

**Tennessee** – Only with a landowner exemption.

**Texas** – Yes.

**Virginia** – Yes, they can be hunted at night but not from a vehicle.

**West Virginia** – No.

## **Section Comments and Recommendations**

## **Section C: Population Status**

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### **1. Do you have a statewide population estimate, and how is it derived?**

**Alabama** – There is no current statewide population estimate that is accurate. Feral hogs can be found in isolated populations in all 67 counties in Alabama.

**Arkansas** – No.

**Florida** – Between 500,000 and 1 million animals. This is a rough estimation commonly reported in literature, based on extrapolation of limited data sets.

**Georgia** – More than Tennessee, less than Texas. Omnipotent censusing.

**Kentucky** – No.

**Louisiana** – No accurate estimates. Anecdotal accounts and harvest surveys indicate populations probably between 250,000 and 400,000.

**Mississippi** – No.

**Missouri** – Population estimate of 5,000-10,000. Estimate only; no population research has been attempted.

**North Carolina** – No.

**Oklahoma** – The state has no current statewide population estimate. Russell Stevens with the Noble Foundation in 2007 estimated the feral hog population in Oklahoma to be 500,000 hogs or less. The estimate was obtained by polling the four major agencies that spent time “on the ground” in each county (Wildlife Services-ODA, Oklahoma Department of Wildlife Conservation, Natural Resources Conservation Service, and Oklahoma State University extension specialists). Each group plotted the county-specific estimated hog range and density on maps. The results were extrapolated into a statewide estimate. This information was certainly the best available at the time and still is five years later.

**South Carolina** – No.

**Tennessee** – No.

**Texas** – 1.9-3.4 million (Lopez and Mellish, 2012).

**Virginia** – DGIF does not have a measured or defined statewide population estimate. However, empirical observations from DGIF and USDAWS staff suggest a population between 2,000-4,000 pigs statewide. This estimate is based from “staff experience” from on-the-ground observation reports, harvest reports and our best educated guess based on above data.

**West Virginia** – No.

## **2. What percentage of your state’s counties have hogs?**

**Alabama** – 100 percent of Alabama counties have populations of feral hogs, though some have only isolated small populations.

**Arkansas** – All 75 counties have reported hogs.

**Florida** – Wild hogs have been reported from all 67 counties, although density varies.

**Georgia** – 95 percent.

**Kentucky** – At least 14.2 percent (17 counties) have breeding populations of wild pigs. In the last five years, as many as 19.2 percent (23 counties) have had breeding wild pig populations; eradication efforts have reduced this former range. Thirty-two counties (26.7 percent) have had confirmed reports of wild pig observations or kills in the last three years; however, apart from the 23-county range where breeding was

confirmed, the other nine county reports appear to have been isolated incidents until additional reports confirm otherwise.

**Louisiana** – All 64 parishes have reported hogs, although about 75 percent have significant populations.

**Mississippi** – 90 percent.

**Missouri** -- At least 22 percent of Missouri's counties have feral hogs.

**North Carolina** – About 55 percent.

**Oklahoma** – A survey by the Noble Foundation in 2007 found that wild hogs were present in 74 of the 77 counties in Oklahoma. Many of these 74 counties have a limited hog distribution, and/or a low density. It is likely that all of the counties in Oklahoma have some hogs.

**South Carolina** – Hogs are reportedly taken in all counties.

**Tennessee** – 60 percent.

**Texas** – 99 percent, excluding El Paso County (Foster, unpublished).

**Virginia** – 24 percent have had reports of hog sightings (23 of 95 counties).

**West Virginia** – 40 percent for feral swine (see map); 7 percent (4 of 55 counties) for wild boar.

### **3. Is your state's hog distribution current on the SCWDS/ APHIS National Feral Swine Map?**

**Alabama** – Alabama's hog distribution on the SCWDS/APHIS map is updated by ADCNR or USDA WS's personnel as needed.

**Arkansas** – Yes.

**Florida** – Questionable.

**Georgia** – The last update from Georgia was a couple of years ago. Some areas need to be adjusted.

**Kentucky** – No. Under regulations on wild pigs, the increasing public desire to pursue pig hunting opportunities and the desires of impacted landowners to avoid continuing contacts with would-be pig hunters, the KDFWR does not provide any publically available knowledge on the statewide range of this species.

**Louisiana** – Yes.

**Mississippi** – No.

**Missouri** – Yes.

**North Carolina** – To the best of my knowledge, it is.



**Oklahoma** – No, it is not close.

**South Carolina** – Yes.

**Tennessee** – No.

**Texas** – No. Information was transmitted on the date of this report.

**Virginia** – Yes.

**West Virginia** – Yes.

## **Section Comments and Recommendations**

## **Section D: Disease Status**

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### **1. Does your state conduct serological disease testing for swine brucellosis and pseudorabies?**

**Alabama** – Serological disease testing for swine brucellosis and pseudorabies in feral hogs is conducted by USDA WS's personnel with assistance from ADCNR personnel.

**Arkansas** – The AGFC, in coordination with USDA Wildlife Services, has tested hogs across the state.

**Florida** – Do not conduct routine testing on wild populations; however, sampling has established that about a third of feral swine in Florida are infected with brucellosis and pseudorabies.

**Georgia** – USDAWS does some work with this. GADNR doesn't specifically conduct any testing.

**Kentucky** – Yes.

**Louisiana** – Yes.

**Mississippi** – Yes, via UDADWS. Six hundred samples have been tested in 23 counties.

**Missouri** – Yes. (Note: the brucellosis test doesn't differentiate between the various types of brucellosis.).

**North Carolina** – USDA, APHIS, WS North Carolina program, in cooperation with the National Wildlife Research Center conducts feral swine surveillance for swine brucellosis and pseudorabies. Samples are shipped to and tested by the Foreign Animal Disease Diagnostic Laboratories. North Carolina Wildlife Resources Commission, in cooperation with North Carolina Department of Agriculture and Consumer Services, also tests wild hogs that are trapped from Caswell Game Land in Caswell County.

**Oklahoma** – Yes.

**South Carolina** – Yes, periodically. Both are endemic here so no need to test.

**Tennessee** – Yes.

**Texas** – Yes; 10 percent and 36 percent, respectively.

**Virginia** – Serological testing for both diseases is conducted in Virginia and is coordinated through USDAWS.

**West Virginia** – Yes.

## **2. Any other diseases?**

**Alabama** – Serological disease testing for classical swine fever and leptospirosis is conducted on feral hogs in Alabama.

**Arkansas** – No.

**Florida** – Any feral swine found sick/dead of unknown causes are completely necropsied at FWC's Wildlife Research Laboratory. We also work cooperatively with USDAWS on swine disease surveillance projects.

**Georgia** – No.

**Kentucky** – No.

**Louisiana** – Samples are collected and archived for future disease testing.

**Mississippi** – Yes; African swine fever (38), classical swine fever (499), foot-and-mouth disease (34), hepatitis E(196), leptospirosis(10+), pseudorabies virus (561), swine brucellosis(558) and swine influenza virus (375).

**Missouri** – Yes; classical swine fever, swine influenza virus, toxoplasmosis, trichinosis and leptospirosis.

**North Carolina** – USDA, APHIS, WS also conducting testing for classical swine fever, swine influenza, hepatitis E virus, trichinella, toxoplasma and, most recently, leptospirosis.

**Oklahoma** – Yes; classical swine fever/hog cholera, hepatitis E virus, swine influenza-H1N1, toxoplasma gondii, trichinella spiralis and other parasites.

**South Carolina** – Not familiar with any but sure some are there.

**Tennessee** – No.

**Texas** – USDA found leptospirosis; Texas Tech found tularemia (localized).

**Virginia** – No other diseases are tested at this time.

**West Virginia** – Classic swine fever and swine flu.

### **3. If so, what disease rates are present?**

**Alabama** – The brucellosis annual infection rate varies from 5-10 percent. The pseudorabies annual infection rates varies from 5-10 percent. No classical swine fever has been found. Leptospirosis has been found in four Alabama counties; more testing is planned.

**Arkansas** – SB rate is 5 percent and PSR rate is 5 percent.

**Florida** – Prevalence has not been determined for diseases other than pseudorabies and brucellosis.

**Georgia** – Not applicable.

**Kentucky** – Disease testing has been opportunistic in nature without sufficient collection of samples to determine anything beyond known presence or absence. Only one established population, now eradicated, had SB and PRV seropositive test results. About 200 pigs were removed, not all were sampled, but of those that were, four were SB seropositive and 12 PRV seropositive.

**Louisiana** – 2.5 percent swine brucellosis statewide and 3.7 percent pseudorabies statewide. Some locations have much higher prevalence than the statewide average.

**Mississippi** – I am uncomfortable with labeling these as disease rates. We conduct serological tests, which show us exposure but not active infections. Therefore, you cannot divide the number tested by the number positive and come up with an infection rate, or say a disease is more or less prevalent in a certain area. What we can derive from this data is presence or absence. If one pig shows positive for brucellosis or pseudorabies in a given population, we know it is present and assume it will persist at some level from year to year. Prevalence is highly variable and is affected by many population-level factors and environmental conditions. We have found evidence of PRV in 10 counties (50 seropositive individuals). Brucellosis has been detected in four counties (nine seropositive individuals). We were also able to culture live virus from one individual for further genetic typing in 2011. Swine influenza has been detected in 14 individuals from six counties. One seropositive hepatitis E sample in 2012.

**Missouri** – I don't think we can accurately address this question in Missouri because we don't know how representative our sample sizes are of the entire population. Brucellosis and pseudorabies results appear to be similar to other states with established feral swine populations. The only exact rate that can be provided is that we have found no classical swine fever in feral swine, which is good since the nation is considered CSF-free in domestic and wild hogs. We have positive samples indicating exposure to all the other pathogens listed above.

**North Carolina** – As of August 30, 2012, positive results are: SB (12), HEV (6) and SIV (7). All CSF and PRV samples remain negative. Actual disease prevalence rates have not been identified at any landscape scale.

**Oklahoma** – Many rates vary significantly based on which part of the state is sampled. In general, the southeastern part of the state has the highest rates, then the southwest, then the northeast, with northwestern Oklahoma having the lowest infection rates. Most recent rates: hog cholera, 0 percent; swine brucellosis, 6-8 percent; pseudorabies, 20-22 percent; hepatitis E, 11 percent; swine influenza, 9 percent currently infected (did not test for exposure rate); toxoplasma gondii, 20 percent, and trichinella spiralis, just less than 2 percent.

**South Carolina** – Not applicable.

**Tennessee** – 7 percent diseased.

**Texas** – 38 percent; 50 percent.

**Virginia** – We have found two positive for PRV and no brucellosis in free-ranging feral pigs. In 2006, VDGIF and VDACS depopulated two hog hunting enclosures and one breeding facility that were not in compliance with regulations. A total of 94 hogs were killed and 14 (14.9 percent) were brucella positive via culture and 20 (21.3 percent) were positive for PRV antibodies.

**West Virginia** – No disease detected to date.

#### **4. Does your agency offer public education on measures of zoonotic disease avoidance to hunters?**

**Alabama** – ADCNR offers public education on measures of zoonotic disease avoidance to hunters through articles in its magazine, on the website and at feral hog seminars across the state.

**Arkansas** – Online information, seasonal regulation guidebooks, pamphlets and hog management workshops discuss taking precautions.

**Florida** – Yes. Public education is provided each year in printed hunting regulations and through periodic press releases. Information is also provided on the FWC website.

**Georgia** – Yes, in our feral hog management brochure and a blurb in the hunting regulations.

**Kentucky** – General disease concerns relating to wild pigs are noted on our department website.

**Louisiana** – Yes. Public lectures inform hunters of the risks associated with handling feral swine. Hunter educators are also instructed on safe handling techniques. Information is being compiled to put on the LDWF website.

**Mississippi** – Yes.

**Missouri** – Our website instructs the public to wear protective gloves to protect against disease when dressing feral hogs.

**North Carolina** – Agency publishes information on agency website and through occasional media releases.

**Oklahoma** – ODA incorporates education on measures of zoonotic disease avoidance to hunters into all presentations. It also has information on its website.

**South Carolina** – We provide guidance to deer and hog hunters about PPEs related to handling and dressing carcasses.

**Tennessee** – No.

**Texas** – Yes.

**Virginia** – Although we do not have an outreach program specifically focused on zoonotic diseases, recommended biosecurity measures for field dressing wildlife, encouraging the reporting of visibly sick wildlife, etc., is included in other outreach campaigns.

**West Virginia** – No.

## **Section Comments and Recommendations**

## Section E: Damage

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### 1. Do you have monetary estimates for damage to private property?

**Alabama** – There are no accurate monetary estimates for damage to private property by feral hogs in Alabama to my knowledge.

**Arkansas** – No.

**Florida** – Estimated row crop losses in northern Florida of \$1,824,675.

**Georgia** – UGA survey in 2011 reported \$57 million.

**Kentucky** – No effort has been taken to document statewide monetary damage estimates. In one particular population where the KDFWR has implemented intensive removal efforts, \$144,500 in agricultural crop damage (primarily corn) was cumulatively reported for 2010 and 2011 by impacted farmers across about 40,000 acres impacted by wild pigs.

**Louisiana** – No; economic modeling has just begun.

**Mississippi** – No.

**Missouri** – No.

**North Carolina** – No.

**Oklahoma** – \$475,000 in 2011. This figure is derived from estimates of damage from private property owners who request assistance from the Oklahoma Department of Agriculture, Food and Forestry. These owners represent a small, unknown percentage of all damages in the state.

**South Carolina** – No.

**Tennessee** – No.

**Texas** – Agriculture, \$52 million; \$7 million in control.

**Virginia** – We do not have an overall estimate, but we have a few site-specific damage estimates.

**West Virginia** – No.

### 2. Describe observed damage to public property.

**Alabama** – Observed damage to public property includes rooting damage, lowered water quality, damage to timber, damage to wetlands, damage to endangered plant communities, and competition with native wildlife resources for natural and planted wildlife food sources.

**Arkansas** – Rooting in wildlife openings, road damage and levee damage.

**Florida** – Habitat disturbance, predation on rare species, loss of food plots, destruction of timber resources, and damage to roads and water-control structures.

**Georgia** – Destruction of wildlife openings, sea turtle nests and damage to dikes.

**Kentucky** – No significant wild pig populations on WMAs.

**Louisiana** – Rooting, erosion, forest seedling destruction and mast loss.

**Mississippi** – Native wildlife habitat, roads, wildlife plantings, levees, timber and reforestation.

**Missouri** – Hay and crop damage, wallowing, fence damage.

**North Carolina** – Damage to agricultural crops and natural habitats.

**Oklahoma** – There has been damage to agricultural crops on public land. The majority of these crops are in fields that are leased to private individuals. The damage reduces the value of the leases in some areas. In areas with high hog density, the damage to lessee crops has eliminated the planting of higher-quality crops. Corn and milo are rarely planted in areas with high feral hog densities. Most of this acreage has been replaced by hay crops that are less susceptible to hog damage, but have a lower wildlife value as well. This has significantly reduced waterfowl use on a few WMAs. Wildlife food quantity has been reduced because of direct competition with hogs. The most conspicuous competition is found in mast crops.

**South Carolina** – All damage that is possible.

**Tennessee** – Food plot damage.

**Texas** – Rooting, predation, crop damage, fence damage, depredation on native flora and fauna, fences, pasture damage, loss of forage time for beef cattle, golf courses.

**Virginia** – The primary damage is to lands on Back Bay National Wildlife Refuge and False Cape State Park. Both areas are barrier islands and suffer significant damage to dunes, predation of shorebird nests and other ecological damage in the refuge and park. The remainder of the pigs on public land exists in forested ecosystems in George Washington National Forest and Cavalier WMA, which has reported minor agricultural damage. Most populations occur on private land so there is limited damage on public land at this point.

**West Virginia** – Damage to golf courses, gardens, yards, pastures and forests.

### **3. Does your agency pay for damage to private property by hogs?**

All states responded no except Alabama (no answer).

## Section Comments and Recommendations

### Section F: Control Efforts

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#### 1. What is your management goal for public land?

**Alabama** – No answer.

**Arkansas** – To maintain, reduce or eliminate, where feasible, feral hog populations.

**Florida** – Wild hog management goals vary by property and management agency. These range from a goal of eradication to management at tolerable levels of impact.

**Georgia** – Keep damage at a minimum. Barrier islands are managed more because of sea turtle nests.

**Kentucky** – Prevent establishment of wild pig populations on public land.

**Louisiana** – Technicians shoot and trap. The public is allowed to shoot during certain seasons

**Mississippi** – Reduce population impacts through agency efforts to bait, trap and kill wild hogs on all WMAs with hog populations.

**Missouri** – Eradication.

**North Carolina** – We don't have a formal goal. We want to stop wild hogs from becoming established on public land, and we want to control or eradicate populations that exist on public land. We have a feral swine trapping program on Caswell Game Land in Caswell County.

**Oklahoma** – The goal for land owned or managed by the Oklahoma Department of Wildlife Conservation is to: Minimize the feral hog population as much as possible with the very limited funds and manpower available. Almost exclusively use hunters to reduce feral hog density. Try to provide enough feral hog hunting opportunity



to be effective, without infringing upon traditional WMA users. Most conflicts arise during deer and turkey seasons.

**South Carolina** – Elimination or minimization.

**Tennessee** – Eradicate.

**Texas** – TPWD has an internal policy for land it manages: eliminate, reduce or relocate feral pigs on our property and to maximize public hunter opportunity and experience as it relates to native flora and fauna.

**Virginia** – Eliminate and/or eradicate pigs where feasible and mitigate damage where possible.

**West Virginia** – Allow for hunting seasons based on population fluctuations and resident hunter demand. Protect the European genetic strain of wild boar from being contaminated by feral swine populations. Provide hunting opportunities for 1, 500 wild boar hunters. Eliminate, if possible, feral swine populations.

## 2. What is your management goal for private land?

**Alabama** – No answer.

**Arkansas** – To provide private landowners with information on feral hogs so that they can control them on their property.

**Florida** – Private landowners are allowed to manage hogs on their property with minimal interference from the state.

**Georgia** – Provide technical guidance for hog control.

**Kentucky** – To reduce impacts of wild pigs on native fish and wildlife populations and their habitats through adaptive science-based management actions that will eradicate or reduce existing wild pig populations and prevent the establishment of new populations.

**Louisiana** – LDWF provides technical guidance for landowners regarding control of feral swine. Additionally, a few traps are available through LDWF for use by landowners

**Mississippi** – To educate the public on impacts, and efficient and effective control measures. Initiation of a statewide Wild Hog Task Force has begun.

**Missouri** – Eradication.

**North Carolina** -- We don't have a formal goal. We want to slow or stop the spread of wild hogs on landscape and, where possible, reduce or eradicate populations that are established.

**Oklahoma** – The DOA's goal for private land is to respond to resident landowners who are having agricultural damage and request assistance for feral hog control. The feral hog populations are reduced as much as possible with the resources available on land where assistance was requested.

**South Carolina** – Elimination or minimization.

**Tennessee** – Control and eventually eradicate.

**Texas** – To provide technical guidance on the biology and ecology of the feral pig, and to ensure the landowner understands the impacts to native flora, fauna and respective goals for his property.

**Virginia** – Provide education, support and technical guidance to individuals in the removal of pigs from their property or leased lands.

**West Virginia** – Same as above.

### **3. Which personnel coordinate hog control efforts?**

**Alabama** – Hog-control efforts in Alabama are coordinated by wildlife biologists on public land.

**Arkansas** – One AGFC biologist spends about 10 percent of total time coordinating statewide efforts.

**Florida** – Other than public hunting, most wild hog control efforts are outsourced to the private sector or USDA Animal Services. Technical assistance is provided via phone and electronic outreach.

**Georgia** – GADNR on public land.

**Kentucky** – Steven Dobey, wild pig program coordinator, and Chad Soard, wild pig program biologist

**Louisiana** – Regional LDWF biologists.

**Mississippi** – Wildlife coordinators, WMA biologists and WMA personnel.

Missouri- Private Land Services Division of the MDC is the lead division for internal feral hog coordination statewide. Each of eight regions has a regional coordinator. USDA, APHIS, WS coordinates activities on some private land and on USDASF properties.

**North Carolina** – USDA, APHIS, WS coordinates hog control in conjunction with disease sampling and with feral swine removal effort at Currituck National Wildlife Refuge. The agency has contracted with an individual to trap hogs on Caswell County Game Land. Hog control efforts on this game land are coordinated between this contracted individual and our game lands staff.

**Oklahoma** – ODA Wildlife Services Branch on private land.

**South Carolina** – Wildlife Section personnel, who work and/or reside on WMAs. The public on private land.

**Tennessee** – Regional wildlife biologists.

**Texas** – APHIS, WS (federal); landowners.

**Virginia** – Regional staff coordinates the control effort. Most of the current work is in conjunction with USDA, WS.

**West Virginia** – Joe Messineo, West Virginia Department of Agriculture.

#### **4. Which personnel conduct hog control efforts?**

**Alabama** – Wildlife biologists and WMA personnel conduct hog-control efforts on Alabama public land with some assistance from conservation enforcement officers.

**Arkansas** – Several dozen people spend part of their time throughout the year on hog control. Our statewide beaver control contractor will begin hog-control work on specific WMAs. USDA, APHIS, WS has conducted hog control work on selected WMAs.

**Florida** – No dedicated personnel to hog control.

**Georgia** – GADNR (public land) and USDA, WS (public and private for hire).

**Kentucky** – Nine-month seasonal wild pig program technician; Chad Soard, wild pig program biologist, and regional private lands biologists opportunistically provide active control assistance as schedules permit. USDA, APHIS, WS on contract for removal efforts via aerial gunning.

**Louisiana** – Regional LDWF biologists, technicians and hunters.

**Mississippi** – WMA personnel.

**Missouri** – Field staff from multiple divisions implement control measures.

**North Carolina** – USDA, APHIS, WS conducts efforts in conjunction with disease sampling and feral swine removal effort on Currituck National Wildlife Refuge. Our agency has contracted with an individual to trap hogs on Caswell County Game Land.

**Oklahoma** – ODA Wildlife Services Branch (private land).

**South Carolina** – No answer.

**Tennessee** – Wildlife managers and officers

**Texas** – TPWD staff conduct hog-control efforts on a site-specific basis on properties owned by the agency.

**Virginia** – Regional staff, including district wildlife biologists and WMA supervisors, is usually called upon for hog control. Much of the work is also shared with USDA, WS at this time.

**West Virginia** – Not effective.

#### **5. Describe the effectiveness of control efforts.**

**Alabama** – Control efforts are only effective at decreasing damage on public land. Eradication of feral hogs is not currently possible.

**Arkansas** – We have controlled hogs on a short-term basis on several WMAs, but populations tend to quickly recover. In general, we are not expending the effort necessary to achieve control on most of our public lands.

**Florida** – Public hunting can be effective at limiting damage impacts.

**Georgia** – Very effective where done, but a lot of money and effort.

**Kentucky** – Isolated control/removal efforts on single properties have shown no long-term success as recolonization from surrounding properties inevitably occurs. Long-term success for removal efforts must attack the population as a whole to remove the inevitable re-establishment of pigs from nearby areas. Each of Kentucky's wild pig populations continues to be relatively small and isolated; addressing entire populations remains possible. The primary value in providing assistance with control on single properties is the education provided to landowners regarding the inability of recreational hunting to control or suppress population growth among wild pigs. As landowners gain this understanding of effective control and realize that recreational and financial incentives associated with pig hunting are undermining forces that prevent effective wild pig control, the formation of landowner cooperatives is made easier. Population-control efforts have been extremely effective when landowner cooperatives encompassing the extent of a local wild pig population are formed under KDFWR leadership, and cooperators agree to restrict recreational and financial incentives associated with wild pig presence (i.e., pig hunting). Through cooperatives, the compounding effect of implementing adaptive science-based management actions across the whole population has resulted in successful population reductions or eradications.

**Louisiana** – Efforts are not keeping up with population expansion.

**Mississippi** – Efforts began in late 2011; 2012 success is at least moderate.

**Missouri** – MDC uses trapping, shooting, snaring, dogs and aerial gunning. Our effectiveness in controlling hog populations is fairly subjective; however, we have a few isolated areas where we have eliminated hogs.

**North Carolina** – USDA, APHIS, WS control efforts have been effective at controlling swine populations on some individual properties. Control efforts on Currituck National Wildlife Refuge recently have been implemented and effectiveness of the program cannot yet be evaluated. Control efforts on Caswell County Game Land have been very effective at reducing hog numbers. However, after halting trapping efforts, hog populations began to build again. Trapping on this game land likely will be a long-term commitment.

**Oklahoma** – On public land, hunters temporarily reduce feral hog densities on the WMAs by killing and by adjusting home ranges off of WMAs during times of peak hunter use. However, there are many more WMAs that have feral hogs in 2012 than there were 10 years ago. Most WMAs have a higher feral hog density now than they did 10 years ago. Effectiveness of the overall control efforts would be low to moderate. On private land, ODA is moderately to highly effective in most instances at temporary, localized control. This is consistent with the goals stated above. If effectiveness is defined as overall feral hog control in the state, then the results are very low.

**South Carolina** – No answer.

**Tennessee** – Trapping is effective.

**Texas** – Ineffective; populations are increasing and dispersing.

**Virginia** – Success has been fairly limited primarily because of the small scope of the program to date.

**West Virginia** – No answer.

## **6. Any changes to control efforts in the future?**

**Alabama** – Changes to control efforts for feral hogs in Alabama will be based on funding resources and manpower.

**Arkansas** – Unlikely without significant increases in funding or personnel assignments.

**Florida** – Continue to expand public hunting opportunities and empower other land-management agencies and the private sector to control wild hogs on lands they manage.

**Georgia** – Not at this time.

**Kentucky** – The KDFWR perceives the greatest opportunity to eradicate wild pig populations to be organizing landowner cooperatives and providing leadership in implementing adaptive science-based management actions. The results of such control efforts are rapid and significantly reduce or eradicate pig populations, with the benefit of an educated cooperative that maintains a vested interest in preventing undermining forces, which would jeopardize the realized success. However, a significant financial burden is shouldered by the KDFWR to implement such actions, and exploring options for continuing to fund such efforts is critical. That being said, removal efforts that are proactive and implemented with intensity will always be less expensive than waiting until pig populations become readily established.

**Louisiana** – Not at this point.

**Mississippi** – Unknown at this time.

**Missouri** – We intend to continue intensive efforts to eradicate pigs and involve partner agencies and citizen groups.

**North Carolina** – Unknown.

**Oklahoma** – There are no immediate changes to control efforts planned at this time. It is hoped by the ODA that technological advances will allow a toxicant to become legal that will enhance control efforts. Killing of non-target species currently prevents toxicant usage for feral hogs.

**South Carolina** – No.

**Tennessee** – Sticking with trapping.

**Texas** – TPWD has made a significant investment, along with its partners, to direct manpower, materials and facilities to evaluate new methods of control that are more cost-effective than traditional methods. Currently, the scope of research is focused on the development of toxic baits and swine-specific delivery methods. This research

is conducted in a feral swine research facility at Kerr WMA in Kerr County.

**Virginia** – There are some potential changes coming; however, these changes are being discussed at the program level and have not been fully fleshed out with the regional support staff. Potential changes include experimentation with trap technology (i.e., electronic surveillance and new trap designs).

**West Virginia** – As feral swine escapes increase from shooting preserves, it is likely the WVDNR will need to devote more effort to elimination of feral swine around these facilities.

## **7. What is the total amount of money spent by your agency on hog control (separate direct outlays and personnel costs)?**

**Alabama** – Hog management funds are contained within a general nuisance animal budget category, therefore no specific expenditure amounts are available.

**Arkansas** – Direct outlay of about \$25,000 per year. Personnel costs are unknown but probably do not exceed \$30,000.

**Florida** – No dedicated FWC funding for hog control. Wildlife assistance biologists and private lands biologists provide some technical advice regarding wild hog control. A rough estimate of personnel costs: \$20,000.

**Georgia** – No answer.

**Kentucky** – Minimum annual expenditures (personnel, supplies, contracts): \$139,000.

**Louisiana** – Personnel: \$10,000. Direct outlays: \$6,000.

**Mississippi** – Commodities: \$37,787. Personnel: \$119,500.

**Missouri** – A recent two-year study showed an average of 6,112 manhours per year for on-the-ground and administrative activities related to feral hog control. Assuming an average hourly wage of \$18.50, we calculated personnel costs at \$113,081 per year on a two-year average. Equipment costs are budgeted at a rate of \$25,000 per year.

**North Carolina** – USDA, APHIS, WS budget for disease sampling in fiscal year 2012 is \$33,000. Our agency spends about \$12,000 annually for hog control efforts on Caswell County Game Land. This is the only expenditure our agency has related to hog control.

**Oklahoma** – Public land: Almost nothing. Private land: \$750,000 per year.

**South Carolina** – No estimate.

**Tennessee** – \$500,000 personnel cost for first quarter of 2012. \$100,000 in equipment costs for 2012. Annual equipment cost should be much less now that we have our traps.

**Texas** – Research: \$33,000 (manpower by TPWD), \$66,000 (supplies and contractual funded by Texas Department of Agriculture on TPWD research and facility). Authorization of landowner permits: \$15,000 (TPWD).

**Virginia** – No funds have been identified and directed to hog-control efforts at this point. Emphasis has been on using staff time for information and education, and technical assistance.

**West Virginia** – No cost estimate available but costs are minimal for law enforcement and confiscation of animals held illegally, and acquisition and testing of feral swine samples for disease testing.

## **Section Comments and Recommendations**

## **Section G: Educational Efforts**

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### **1. Describe your educational efforts and summarize their effectiveness.**

**Alabama** – ADCNR has worked with the Alabama Cooperative Extension, the Alabama State Vet, as well as USDA Wildlife Service's personnel to host four-eight feral hog seminars across the state annually to address the biology, ecology, disease, damage and control of feral hogs in Alabama. These seminars include PowerPoint presentations as well as onsite trap-construction and feral hog trap-door demonstrations. These seminars have been well received and have been very popular with landowners dealing with feral hog issues.

**Arkansas** – About half a dozen seminars are given by AGFC or other agency personnel throughout the state each year. These workshops are very effective at providing attendees with additional knowledge necessary to conduct hog control, but the number of seminars is insufficient to meet the need on a statewide level. Occasional articles are distributed in AGFC newsletters.

**Florida** – The FWC works collaboratively with the University of Florida and county agriculture extension agents to provide online and printed information on wild hog management and wild hog diseases of importance to humans and domestic animals. Extension agents indicate outreach efforts are effective and ongoing.

**Georgia** – We give technical guidance on hog management to land owners and managers, have a management guide, and several articles on our website. Effectiveness could be considered moderate.

**Kentucky** – Education efforts include website content, interviews with television and print media outlets, technical guidance with impacted landowners and sportsmen, and public meetings in impacted areas. The KDFWR is compiling materials for a video production of a landowners’ guide to wild pig control. Plans include the production a wild pig educational video message and brochure to be disseminated by our Kentucky Wild Pig Task Force. The primary message of those items will be that criminal release has spread this exotic animal and traditional harvest control models of management have done nothing but promote recreational and financial incentives associated with their continued presence. It is critical to communicate that targeted and well-orchestrated control efforts, rather than sport hunting, provide the best opportunity to prevent the continuing expansion of pigs in Kentucky.

**Louisiana** – Public seminars are held in various regions of the state, magazine articles are written on the subject and hunter educators are educated about feral hogs.

**Mississippi** – Our agency has cooperated with the Mississippi State University Extension Service in numerous wild hog management workshops, which are focused on private landowners. Participation is moderate at best. There have been 15 workshops conducted since 2008 with 769 participants. MSU Extension Service provides an abundance of resources via internet at [www.wildpiginfo.msstate.edu/](http://www.wildpiginfo.msstate.edu/), with more than 99,000 downloads to date. Topics include history, damage and control.

**Missouri** – The MDC maintains a feral hog page on its website. We have an educational exotic species fact sheet about feral hogs. We have table-top displays with a panel describing the concerns of feral hogs and our position as an agency. We have a full-body mount and display of a feral hog to accompany the table-top display or to serve as a stand-alone exhibit. We provide news stories to media outlets when requested. We put feral hog information in our monthly magazine on occasion. I believe our consistent message has been effective in informing the public about the perils of feral hogs and the need to eradicate them from Missouri.

**North Carolina** – Information has been put on the agency website and distributed through news releases. Effectiveness of these efforts is unknown.

**Oklahoma** – Oklahoma feral hog educational efforts are conducted by the Noble Foundation, Oklahoma State University Extension Service, ODA and the Oklahoma Department of Wildlife Conservation. Efforts include publications, websites and onsite technical assistance, all detailing the biology, history and damage caused by and control methods for the feral hog. The resources are a very effective source of information for the public.

**South Carolina** – The Wild Hog Task Force has just been organized, and we have education material and a website.

**Tennessee** – We have developed partnerships to tackle the wild hog issue. Partnering groups include hunting, conservation, agriculture and human health organizations. Outreach efforts by our partners have been more effective than TWRA’s efforts.

**Texas** – WMA staff provide technical guidance to landowners through field days, seminars, etc. TPWD has a website with information about ecology, biology and control methods. Our technical-guidance biologists meet with landowners regularly (as stated above) and provide info related to landowner goals for the property. Using population growth and dispersal as a measure, our efforts certainly facilitate pig control, but they have not been effective in halting population growth or dispersal.



**Virginia** – The primary educational efforts have been informational meetings taking place across the state. The meetings have been fairly well attended and most people have come away from the meetings with a clear understanding of the issues we are facing and the need for action on the pig issue. Future efforts include an updated website and publications in Virginia Wildlife, and other outdoor-related outlets. We have stepped up awareness with state and federal partners through many venues, including the Virginia Invasive Species Working Group.

**West Virginia** – No answer.

## **Section Comments and Recommendations**

## **Section H: Emerging Issues, Recent Advances, Hot Topics or something along those lines.**

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### **1. Does your state have any emerging feral hog issues?**

**Alabama** – New isolated populations in areas with no past hog populations are the only emerging issues currently.

**Arkansas** – No.

**Florida** – Recent requests to allow private-sector shooting from helicopters for hog control.

**Georgia** – We do not have good data on population changes, only distribution. Anecdotally, populations seem to be increasing in some areas.

**Kentucky** – No.

**Louisiana** – Illegal release of transported hogs is a monumental concern and apparently is commonplace. Additionally, feral hog/human interaction in state parks has escalated.

**Mississippi** – No.

**Missouri** – None outside normal. Our agency is looking at closing MDC land to hog hunting.

**North Carolina** – None, other than concerns related to increased population and distribution of feral hogs across the state.

**Oklahoma** – Emerging issues in Oklahoma include changes in legal verbiage to increase effectiveness for its original intent. This especially relates to the transport and containment of live feral hogs.

**South Carolina** – Need to prevent further spread by controlling existing populations and preventing people from moving hogs.

**Tennessee** – Opposition to our new management approach.

**Texas** – We are partnering with federal and private organizations to develop cost-effective means of control through toxicants. It is legal to pay to hunt pigs from a helicopter.

**Virginia** – We recently developed a feral pig committee to develop and initiate policy discussions related to feral pigs. We have an internal committee and an interagency pig committee consisting of USDA WS, NRCS, DGIF and VDACS. We are working with VDACS toward a stronger legal definition for feral swine, which may help alleviate confusion and increase enforceability of current regulations. We also expect to recommend regulatory changes to our board of directors to further restrict the transport and release of feral swine through DGIF's regulatory process. We have support of the Virginia Farm Bureau and Virginia's Commercial Pork Producers in both efforts. Education efforts have been made at the legislative level, particularly to our Sportsman's Caucus, Natural Resources and Commerce Secretariats, and DGIF's board of director (a regulatory board appointed by the governor). We are working with USDA WS, USFWS and USDA NRCS to develop a memorandum of understanding to partner resources for future hog-management efforts. This MOU will be taken to other federal, state and NGOs for their endorsement and support.

**West Virginia** – In the last five years, the population has grown exponentially. USDA receives four-five calls a year concerning damages caused by wild hogs.

## **2. Has your agency made any recent advances in hog control?**

**Alabama** – ADCNR personnel work with Auburn University, USDA WS and the Alabama Cooperative Extension System on feral hog research.

**Arkansas** – We may have been among the earliest users of deer drop nets to capture hogs.

**Florida** – Recently revised regulations to not require a gun and light permit for the take of wild hogs on private land at night.

**Georgia** – No.

**Kentucky** – Yes, a pilot study on our largest pig population has revealed that cooperative control efforts that are implemented in a science-based approach can eliminate a relatively large population. Collectively, these efforts included winter aerial gunning, followed by intensive trapping, followed by selective shooting and concluding with aerial gunning the following winter. All the while, landowners of these properties agreed to eliminate or minimize recreational hunting for pigs. These techniques are not new, but implementation of each removal technique is time-specific so as to be coordinated with local agricultural planting/harvest, and results proved very successful on an isolated, yet large, population of pigs.

**Louisiana** – No.

**Mississippi** – No.

**Missouri** – A five-year operational feral hog plan was implemented last spring to help facilitate the eradication of feral hogs on and around MDC properties, and to assist other agencies and private landowners. A statewide coordinator from Private Land Services administers the plan and each MDC region has a designated feral hog coordinator and a multi-divisional strike team to address feral hog control activities. MDC has an agreement with USDA, APHIS, WS to provide a full-time position to address feral hog issues in southwestern Missouri. We continue to work cooperatively with MDA to develop regulations concerning possession and transport of feral hogs, including Russian- or Eurasian-bred hogs.

**North Carolina** – No.

**Oklahoma** – ODA recently increased the efficiency of its aerial hunting program. We are able to fly many more hours with the same amount of funding.

**South Carolina** – Yes. The law restricting movement of hogs is about 3 years old and we have made substantial effort in this area.

**Tennessee** – Our personnel are becoming good trappers.

**Texas** – No.

**Virginia** – None at this time.

**West Virginia** – Trapping, snaring, night shooting. Panel traps were most effective.

### **3. Does your agency perform any feral hog research and if so what? Results of research?**

**Alabama** – Recent feral hog research projects looked at continuous catch trap doors and the pressure sensitivity of feral hogs. Results of the continuous catch door study showed that only a small percentage of feral hogs used continuous catch doors to push into traps after the door had fallen. This year's study of pressure sensitivity has concluded and the data is being reviewed.

**Arkansas** – The AGFC funded a pilot project to test hog population monitoring techniques that seem to be effective, but may not be practical on a large scale. The University of Arkansas at Monticello has conducted some hog research.

**Florida** – The FWC has done feral hog research and these results have been published in peer-reviewed journals. There are no agency research projects on wild hogs at this time.

**Georgia** – No.

**Kentucky** – No.

**Louisiana** – Yes. We conduct serological surveillance for swine brucellosis and pseudorabies. We have five GPS/ARGOS/VHF collars deployed to learn about the movements of feral hogs to enlighten hunters as to how to hunt them more effectively. We have established circular movement patterns, re-use of farrowing areas and highways acting as effective barriers to feral hog movement.

**Mississippi** – Robert Clay Hayes’ master’s thesis, “Feral Hogs in Central Mississippi: Home Range, Habitat Use and Survival” (May, 2007), examined home range, habitat use and survival of 29 feral hogs in central Mississippi using radio telemetry. During the dry season (April 1-Oct. 31, 2005), densely vegetated habitats were very important in home-range placement (second-order selection), with selection favoring seasonally flooded old fields, followed by old fields and managed openings. During the wet season (Nov. 1, 2005-March 31, 2006), old fields were still preferred, followed by agricultural fields, but flooded old fields were not preferred. For habitat selection within the home range (third-order selection), hogs preferred old fields and managed openings during the dry season. All habitats were used randomly within home ranges during the wet season. Dry and wet season survival rates were 80.8 percent and 41.4 percent, respectively. Hunting was the major cause of mortality (80%, 100%). Seasonal differences in habitat selection may have been caused by flooding of preferred habitats, food availability and hunting.

**Missouri** – A feral hog research project was completed in FY 2012, which was designed, in part, to determine movement patterns, habitat use and efficiency of control methods for cost analysis. The movement and habitat use information will be used to focus staff attention when determining locations for finding active hog sign and setting traps. The efficiency and cost analyses will be particularly useful when planning budget and personnel needs for hog control. We found that trapping removed the most hogs and had the lowest total cost per hog. This study also showed that aerial gunning was highly efficient in terms of man-hours and was similar in cost to trapping. Although a statewide population estimate was not feasible with this project, the population growth-rate data, combined with the cost and efficiency data, will be a valuable tool in estimating how many resources (budget and staff time) need to be allocated to meet management objectives on specific areas. We continue to collect sex, age and reproductive information from killed hogs, and track staff time dedicated to feral hog control.

**North Carolina** – None.

**Oklahoma** – No.

**South Carolina** – Not at this time.

**Tennessee** – We will have control hunts on two WMAs for the first time this fall. These hunts allow hunting with dogs. We are beginning a telemetry study to document the movements of wild hogs within the control area before and during the hunt. Also, a graduate research project is being conducted at the University of Tennessee-Martin to determine a monetary estimate for damage in Tennessee.

**Texas** – Ongoing. Sensitivity of Texas native mammals to sodium nitrite, acceptance by feral pigs of four varieties of a feral pig bait, evaluation of a bait delivery device (USDA-led), comparison of pig acceptance of and efficacy of two candidate active ingredients (i.e., toxic ingredients) and understanding the carpal gland in feral swine (i.e., usefulness of secretions as a cover scent or attractant for trapping or deterrence applications; NWRC-led in KWMA facility).

**Virginia** – There has been little research on feral pigs within the last five years. Most recently there was a study of the pig population at Back Bay National Wildlife Refuge.

**West Virginia** – No.

## Section Comments and Recommendations

### Section I: Comments

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#### 1. Please list any comments that your state agency may have.

**Alabama** – Thank you for the opportunity to be a part of the Wild Hog Working Group. We hope that, as a group, we can share information and find a solution to this ever-growing nuisance-wildlife problem.

**Arkansas** – No answer.

**Florida** – The wild hog is often considered one of the more problematic wild animals in Florida, and there are different viewpoints. Some people like and value them; some do not. Many Floridians value wild hogs for the hunting opportunity they provide, with a long history of enjoying this activity. These animals can be destructive to native habitats, wildlife and agriculture, and many people would like to see them extirpated. Like many wild animals, wild hogs also can carry diseases that may be spread to humans, domestic animals and wildlife. In Florida, wild hogs also serve as a major prey item for the endangered Florida panther, and harvest is regulated in panther range. The different values attributed to wild hogs in Florida provide policy makers and land managers with challenges when setting management goals.

**Georgia** – No answer.

**Kentucky** – The KDFWR proposes to solicit the Wildlife Resources Committee to amend the name of this formal SEAFWA committee from the Wild Hog Working Group to the Wild Pig Working Group. Collectively, activities associated with the recreational hunting of wild swine have promoted their continued presence throughout the southeastern U.S. We believe it should be a priority of this working group to disassociate sport or recreational hunting from control efforts. We believe the term “hog” to have associations with a trophy animal, whereas true management and control efforts must focus on removal of sows, more so than boars. We proposed to adopt the term “Wild Pig Working Group,” as this title is more representative of our holistic mission and it removes any positive association with a recreational or trophy pursuit.

**Louisiana** – We need to gather support from the Louisiana Department of Agriculture on legislation regarding the movement of feral swine and the enforcement of that legislation. Also, efforts need to be pushed along to speed up the release of feral hog toxicants and more research needs to be done on biological control methods including swine-specific oral contraceptives.

**Mississippi** – The MDWFP has recognized control of wild hogs on agency-owned properties as a priority. The MDWFP is allocating resources and personnel to proactively take measures to reduce wild hog populations on state-owned WMAs via baited corral traps and killing. The MDWFP is taking a stance that the opportunity to harvest hogs on public property is not for sporting purposes and will not promote hog hunting, but will provide hunters the opportunity to kill wild hogs on public property incidental to any legal open hunting season with weapons and ammunition legal for any such hunting season. The MDWFP is in the initial stages of developing a Mississippi Wild Hog Management Task Force composed of state and federal agencies, private wildlife and agricultural organizations, commercial producers, and lobbying groups to promote education of the public and development of regulatory measures.

**Missouri** – MDC position: Promote the eradication of feral hogs from Missouri. Feral hogs are not wildlife and not under the direct control of MDC. Feral hogs are bad for Missouri and our natural resources. MDC will work cooperatively to eradicate feral hogs from the landscape. MDC is committed to eradicating feral hogs from our property and directly assisting in eradicating feral hogs from adjoining property owners. MDC will assist private landowners in an extension-type basis to help eradicate feral hogs by providing technical assistance and equipment when available. MDC also will refer other private landowners to USDA, APHIS, WS when they are available.

**North Carolina** – None.

**Oklahoma** – None.

**South Carolina** – No answer.

**Tennessee** – None.

**Texas** – TPWD believes that it is not the appropriate agency to have authority and responsibility for pig control efforts in Texas. Our efforts are to be focused on technical guidance, research, and demonstration, with regard to feral pigs. Increases in population, range and related damage continue to increase. The current suite of management techniques and information dissemination, though necessary, is insufficient to halt or reduce the negative impacts at the state level. The threats to human health, private and public property, and livestock markets, though not fully understood, are already unacceptable. Reduction of these negative impacts and the

costs of control are imperative. TPWD considers the development of a safe and effective toxicant and delivery system as one of the most viable means of mitigating damage and costs of control. We believe that research efforts should be directed at developing more efficient means of control. This is exemplified in the efforts of our staff at Kerr Wildlife Management Area (and the agency's encumbrance of indirect costs for supporting the effort). We encourage all state wildlife management agencies to be proactive in their efforts to manage the feral pig. Since Texas is 97 percent private land, our impact is largely through technical guidance to private landowners.

**Virginia** – Virginia is just beginning to look at the issue carefully. We do not have the problems that most of the other southeastern states have as far as having long-established populations, an established hog-hunting culture or commercial hunting operations. We are just beginning to see the seriousness of the threat and are trying to act accordingly to prevent future problems. We are trying to take advantage of other successes and failures and not “rediscover the wheel” with our feral hog eradication and management efforts.

**West Virginia** – None.

## **Section Comments and Recommendations**