

MAFWA Ad-hoc Feral Swine Committee – 2021 Annual Report

Complied and Submitted by Terri Brunjes, Chr., MAFWA Ad-hoc Feral Swine Committee 5/20/2021



Ryan Dinehart and Amberly Hauger of USDA-Wildlife Services Indiana take blood samples from a wild pigs. *(Photo credit: S. Backs)*

The Midwest Association of Fish and Wildlife Agencies (MAFWA) established the Midwest Ad-hoc Feral Swine Committee (MFSC) in 2013. The purpose of the feral swine committee is to further MAFWA's function of promoting the conservation and management of wildlife resources in the face of rapidly expanding feral swine populations which directly endanger those wildlife resources. The Committee is to collect and compare feral swine information among the member States and Provinces, and to provide management and policy recommendations to the Directors of MAFWA.

MISSION: Develop results-driven and science-based management actions to prevent the introduction and spread of feral swine and promote the eradication of existing populations of these animals in the Midwest.

CHARGES:

- 1) Develop management plans for feral swine based on sound scientific and proven methods.
- 2) Promote and encourage research on economically feasible and effective methods of feral swine control.
- 3) Encourage uniform policies on the translocation and interstate movement of feral swine.
- 4) Discuss the role of federal entities in the control of feral swine in the Midwest.
- 5) Encourage partnerships among states and between state and federal entities to unify the battle against the spread of feral swine.
- 6) Advise the MAFWA Directors on issues relating to feral swine policy, inform the Directors of committee actions and execute any directives given by them.

MAFWA Ad Hoc Feral Swine Committee 2021 Annual Meeting/Progress Report

Meeting Time and Place: The annual meeting of the MAFWA Feral Swine Committee (MFSC) was held jointly with the Southeast Association of Fish and Wildlife Agencies (SEAFWA) Wild Hog Working Group at the 2021 Animal Damage Management Conference via Teams virtual platform. A venue was secured for 2022 International Wild Pig Conference in Nashville, TN, in April. The MAFWA and SEAFWA pig group chairs will likely seek a joint meeting again at one of the venues.

Summary: The MAFWA Feral Swine Committee annual report is summarily reduced to the respective State and Provincial reports submitted with the primary function of the MAFWA Feral Swine Committee being information and exchange network among states and provinces. The number of feral swine/wild pigs removed continues to increase in the more heavily wild pig populated states in the Midwest, with significant reductions in wild pig numbers and distributions in some Midwest states with lower pig numbers. Most of the work in the Midwest states is being conducted by USDA-APHIS-Wildlife Services through cooperative agreements with states as part of the National Feral Swine Damage Management Program (NFSDMP).

In Illinois, technical assistance and/or direct control assistance has been provided to numerous State, County, and private landowners throughout the state since 2011 and a total of 527 FS have been removed. A total of four known, self-sustaining breeding populations of FS in Illinois have been successfully eliminated. IDNR and WS continue to monitor reports of FS received from deer and turkey hunters as well as citizens throughout the state.

Indiana has shifted into Detection phase. It appears that wild pigs may have been eliminated from all 3 counties that constituted the known Eurasian wild pig range. Although Indiana experienced a lack of cooperation from some private property owners in this area, they were able to successfully remove these pigs on adjacent properties.

Iowa agencies did not kill any hogs during this year, however investigations of a few dead hogs turned out to be escaped/released domestic swine. No disease testing was completed on any animals. Iowa plans to continue with feral hog information in their DNR hunting regulations booklet for 2021-2022.

Kentucky appears to be gaining some ground in feral swine removal in some parts of the state but as we reported this year, still have a few sizable populations to address. Kentucky was officially reduced from a Level 3 state to Level 2 at the beginning of fiscal year 2021 by the USDA National Feral Swine Damage Management Program (NFSDMP), after surveillance efforts determined that wild pig numbers have continued to decline across the state, due to an aggressive removal campaign.

Missouri has strategically increased removal efforts in high density areas. Beginning in January 2020, soon after the U.S. Forest Service banned hog hunting on all Forest Service land, the Missouri Feral Hog Elimination Partnership (Partnership) began conducting supplemental hog elimination efforts. From January through March 2020 an additional 50 MDC staff along with staff from other members of the Partnership were deployed to southeastern Missouri each week to scout and trap hogs. Another effort involving about 30 additional staff was conducted from June through early September 2020. These supplemental efforts will continue throughout 2021.

Minnesota has created an Emergency Disease Management Committee consisting of state and federal agencies, university staff and commercial pork producers on the African Swine Fever (ASF) issue. The Minnesota Department of Natural Resources Wildlife damage program is one of the representatives on that committee. Since Minnesota is the second largest pork production state in the United States, there is a lot of concern for ASF. The committee developed a statewide communications and response plan for all swine in the state and continues to meet to perform updates based on new findings.

Michigan Department of Natural Resources (MDNR) maintains a voluntary online feral pig reporting system and received 10 reports in 2020. Because of the low number of voluntary reports received, MDNR asked all hunters registering a harvested deer about feral pig sightings. This provided 44 additional reports of sightings for USDA-WS follow up.

Nebraska is still free of feral pigs after removing incentives for release and possession through statutory changes that prohibit pig hunting in 2003. This has been the most important factor in allowing for the complete eradication of feral pigs in Nebraska. No feral pigs were removed during 2020 and there is no present research taking place. Nebraska does have minor issues with escaped pet (pot-bellied) and domestic pigs, as do many states, but they are not aware of any populations of wild-living feral pigs in Nebraska.

In Ohio, USDA Wildlife Services conducted feral swine surveillance and removal efforts on over 4 million acres of federal, state, and private lands. A total of 70 feral swine were removed from 5 counties (49 trapping, 18 aerial operations, 2 sharpshooting and 1 hand caught) and 115 biological samples were collected from 38 animals. In FY20 Ohio Wildlife Services (WS) verified a total of \$17,676 of damage caused by feral swine via UAS, aerial (fixed wing/helicopter), and ground surveillance. This is an increase of verified damage about \$10,000. This increase is largely due to the increase use of the UAS drones to survey areas that were previously found to be difficult to locate and accurately report damage.

Wisconsin currently does not have a confirmed free-ranging feral pig presence in the state. The last substantial population of feral hogs was back in 2002-2014 in Crawford County. To ensure feral swine remain eradicated, public reports are strictly monitored with WS ensuring owners of escaped pets and livestock have recovered their animals or assisting with trapping pigs off the landscape when necessary.

The recent involvement of the Canadian provinces in the MAFWA Feral Swine Committee was stimulated in part by concerns over the possible arrival of African Swine Fever (AFS) from Asian countries and their desire to know about wild pig control techniques used in the states. Canada's Federal department of Environment and Climate Change recently provided project funding to the Canadian Wildlife Health Cooperative (CWHC) to coordinate efforts across Canadian jurisdictions. The CWHC has since established two working groups; one strategic group to lead policy development and strategic planning for national priorities and goals, and one operational group to facilitate information sharing of technical information and expertise.

In 2018, Manitoba staff began working collaboratively with a local wildlife association to pilot corral trapping of wild boar sounders. This project has received funding from the Fish and Wildlife Enhancement Fund, the Manitoba Pork Council, and the Manitoba Government. The club now operates nine corral traps for swine removal in the Spruce Woods Provincial Park area, where signs of wild boar presence are most frequently reported.

Based on the sightings received to date, it does not appear that wild pigs are established (i.e., self-sustaining and breeding) in Ontario and the ministry is working to keep it this way. The ministry has proposed to regulate pigs as an invasive species under Ontario's *Invasive Species Act, 2015*. If passed, new rules would apply, including prohibiting the release of any pig into the natural environment; prohibiting hunting of wild pigs with exceptions for activities to protect property from damage caused by wild pigs; and, a gradual phasing out of Eurasian wild boar and their hybrids by prohibiting their import, possession, transport, propagation, buying, selling, leasing or trading.

As in previous years, the resistance and lack of cooperation by some landowners continues to be an obstacle to eliminating wild pigs, essentially creating 'wild pig refuges' or source populations that eventually disperse back into areas where pig removal was successful. The paradox is that some of these uncooperative, "recreation" type landowners is that they are frequently recipients of State and Federal incentives for conservation practices or easements.

Related to the pig refuge issue, is a new work around of existing feral swine regulations in at least one state, is to ear tag captured wild pigs, call them domestic, and then hunt them inside high fence. In some states, high fence operations procure domestic heritage breeds for hunting purposes. This work around allows them to legally import domestic pigs into the states. Regardless of their wild or domestic status, there is risk of escape and disease transmission, when stocking them in enclosures with other species.

An increasing problem facing all States and Provinces is the abandonment, poor confinement, and illegal release of pot-bellied, Heritage, Heirloom pigs or hybrids thereof. Inherent to their existence, are issues related to their legal definition or status within a respective jurisdiction, which often compromise removal or elimination. These pigs can fall under the

authority of several agencies including agriculture, wildlife, or animal control agencies. Unfortunately, these types of pigs will persist as free-ranging populations, will cause damage to native flora and fauna, residential lawns, or agricultural row crops and are potential disease sources, something of particular interest with AFS concerns. Fortunately, if removal is possible, their general lack of wariness and relative athleticism due to their likely origin, facilitates removal. However, removal efforts tax limited personnel time and resources that could be addressing more critical feral swine/wild pig problems.

Director Action Items: Charge 1; Begin development of a broad Midwest feral swine management plan based on sound scientific and proven methods. The MFSC continues to table this charge due to the continual evolution of more effective wild pig control techniques, ever increasing and fast evolving body of knowledge from ongoing research, increasing efforts of the (USDA-AHPIS-WS), facilitated by the existence of the NWPTF. Charges 2-6 are being accomplished through continued networking among the Committee representatives, attendance at the IWPC and representative participation in the NWPTF that unfortunately put on temporary hold with the COVID-19 outbreak. Most states are participating in partnerships or agreements with USDA-APHIS-Wildlife Services as part of the National Feral Swine Damage Management Program (NFSDMP) funded under the 2014 and 2018 Farm Bills.

Director Information Items: The value of the information exchanged at the IWPC and NWPTF meetings is invaluable to keeping abreast of the rapidly evolving “state of the art and science” of wild pig population control and hopefully, eventual elimination. The MFSC encourages providing support for representative attendance at both the IWPC and NWPTF meetings when possible, recognizing that participation of all MFSC representatives is beyond their primary or even secondary job responsibilities. The NWPTF website is now housed at The Berryman Institute at Utah State University and now handles organizing and communications related to the NWPTF and IWPC’s. The NWPTF has received some temporary funding (\$20K/Year) to allow the NWPTF time to secure more permanent collective funding sources, e.g. Association of Fish and Wildlife Agencies (AFWA) or regional organizations, e.g., SEAFWA and MAFWA. One proposed funding mechanism is to secure membership funding in the form of a group or regional organization level dues from SEAFWA and MAFWA. The NWPTF and The Berryman Institute are developing a list of future “deliverables”. The MAFWA Feral Swine Committee would like the MAFWA Directors to consider this group membership dues proposal and advise the Committee how this might be pursued.

MAFWA RESEARCH PRIORITIES

MAFWA Feral Swine Committee members were tasked with developing science-based management priorities by the Science and Research Committee of the Association of Fish and Wildlife Agencies (AFWA). MAFWA FSC divided these priorities specifically by feral swine and other species of interest.

Management Priorities Specific to Feral Swine

Wildlife Health

- a. Disease transmission between feral swine and both native wildlife and livestock
- b. Chronic Wasting Disease (CWD) -interspecies CWD infection: risks of feral swine contracting and spreading CWD
- c. African Swine Fever
- d. Pseudorabies
- e. Swine Brucellosis

Weather and Temperature-related Concerns

- a. Indirect and direct effects of climate change on feral swine populations

Invasive Species

- a. Feral Swine

Emerging Technologies

- a. Approval and use of feral swine toxicants and feeders

- b. Improved trap technology
- c. Accurate techniques to determine feral swine densities
- d. Development of bait that attracts pigs without attracting non-target species, such as white-tailed deer and turkey, whose baiting seasons often curtail wild pig trapping efforts.

Inter-jurisdictional Cooperation

- a. Collaborative nation-wide plan for feral swine eradication

Human Dimensions

- a. Solutions to counter the release of unwanted pot-bellied pigs
- b. Effectively communicate to sport hunting industry the negative effects of hunting feral swine
- c. Solutions to eradicate feral swine in pig refuges where private landowners prohibit removal.

Management Priorities Specific to Other Species

Wildlife Health

- a. Chronic Wasting Disease (CWD)
- b. White-nose syndrome (WNS)
- c. Bsal (*Batrachochytrium salamandrivorans*)
- d. Snake fungal disease (*Ophidiomyces ophiodiicola*)
- e. Highly Pathogenic Avian Influenza
- f. EHD (Epizootic hemorrhagic disease)
- g. BTV (Bluetongue disease)
- h. Emerald Ash Borer
- i. Rabbit Hemorrhagic Disease Virus

Weather and Temperature-related Concerns

- a. Indirect and direct effects of climate change on wildlife populations
- b. Increase in tick numbers with increasing temperature

Invasive Species

- a. Asian Carp
- b. Emerald Ash Borer
- c. Exotic Earthworms

Inter-jurisdictional Cooperation

- a. Collaborative nation-wide plan for CWD

MAFWA Ad Hoc Feral Swine Committee – State and Provincial Representatives

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State/Province Status Reports Submitted

Illinois (submitted by Brad Wilson, USDA, WS)

IDNR (IL Department of Natural Resources) has teamed up with USDA – Wildlife Services (WS) to identify areas with feral swine (FS), develop and implement a technical assistance program for landowners experiencing FS conflicts, coordinate and expand disease surveillance, conduct outreach to stakeholders and the general public, and provide direct control management assistance. Technical assistance and/or direct control assistance has been provided to numerous State, County, and Private landowners throughout the state since 2011 and a total of 527 FS have been removed. A total of four known, self-sustaining breeding populations of FS in Illinois have been successfully eliminated. IDNR and WS continue to monitor reports of FS received from deer and turkey hunters as well as citizens throughout the state. Follow-up investigations are conducted to confirm the presence of this invasive species. A total of 36 FS reports were investigated in 2020, but no new populations were discovered.

After local hunters and agricultural producers alerted WS to an emerging FS population in Pike County, IL in 2017, the USDA-WS program worked closely with the IDNR, Pike County Soil and Water Conservation District, Pike County Farm Bureau, Illinois Department of Agriculture, USDA NRCS, and the Illinois State Police (aerial surveys) to identify the source of this population. WS removed a total of 26 FS from the Township. No reports of FS among this area have been received nor has WS surveillance identified any FS damage or documented their presence upon trail cameras in this area since January, 2019.

WS received reports of FS in both Pope and Pulaski Counties in southern Illinois in 2019. On the ground surveillance and removal efforts began on March 19, 2019 in an effort to determine distribution, density and begin to eliminate populations before they become self-sustaining. WS confirmed one adult boar among private properties in Pulaski County and it was successfully removed on 1/09/2020. Blood samples collected from the boar indicated this FS was negative for Classical Swine Fever, Swine Brucellosis and



Figure 1. Feral swine observed in Pulaski County, Illinois, 2020.

Pseudorabies. Genetic samples were analyzed and results indicated a very close association with FS located in Wayne County, Missouri over 50 miles away. No other FS have since been confirmed in Pulaski County.



Figure 2. Feral swine observed in Pope County, Illinois, 2020.

A self-sustaining breeding population was identified in Pope County among private properties and Shawnee National Forest lands spanning approximately 50 sq mi in 2019. Extensive WS management efforts (trapping, ground sharpshooting & aerial control) resulted in the successful removal of 41 FS from this region in 2020. All FS tested negative for Classical Swine Fever, Swine Brucellosis and Pseudorabies in 2020. Genetic analysis is still underway to determine the possible source population and what state/region these FS were translocated from.

Indiana (submitted by S. E. Backs, Indiana Division of Fish and Wildlife)

USDA-Wildlife Services and Division of Fish and Wildlife, IDNR personnel continue efforts to reduce the number of Eurasian wild pigs from 3 counties in south-central Indiana. During the 2020 calendar year, USDA-WS field technicians removed 20 wild pigs (aerial 2, firearms 14, and live traps 3). Overall, the number of Eurasian wild pigs has been substantially reduced in the target 3 counties with the USDA-WS feral swine reduction project shifting into the “elimination phase” with hopefully elimination verified in the next year.

So far in 2021, only 18 wild pigs were found during January aerial flights in Lawrence County; 4 were shot at, 2 confirmed aerial kills, subsequent trapping and selective shooting removed 15 pigs with 1 possible young piglet uncounted for but possibly fatally wounded during selective shooting. So far in Jackson and Washington counties, no pigs were spotted or have been observed in 2021 during aerial flights, trail camera/bait site monitoring, and no damage complaints reported. It now appears that wild pigs may have been eliminated from all 3 counties that constituted the known Eurasian wild pig range in Indiana.

Currently the elimination project is entering into a monitoring and detection phase and hopefully no unaccounted pigs will show up during the 2021 spring/summer crop planting seasons. The USDA-WS personnel are maintaining monitoring bait/trail camera sites across all 3 counties as part of the monitoring and detection effort. The existence of “wild pig refuges” created by uncooperative landowners, generally for recreational hunting purposes (e.g., primary deer hunting leases), has been a chronic obstacle to more effective overall pig removal, often serving as ‘source’ populations for replenishing the population voids. USDA-WS personnel made a concerted effort the last two years to focus pig elimination on adjacent cooperative landowners and that appears to have been successful.

A chronic and an ever increasing swine problem across the state is the abandonment, poorly confined, illegally released or dumped carcasses of pot-bellied/Heritage pigs that were likely unwanted pets. These pigs still pose a threat to native flora and fauna along with being a potential reservoir for swine pathogens. Free-ranging swine of all types can generally be destroyed on sight in Indiana with landowner permission, possession of a live wild pig and pursuit with dogs is not allowed. Wild pigs are on the list of invasive species in Indiana.

Iowa (Submitted by Jim Coffey)

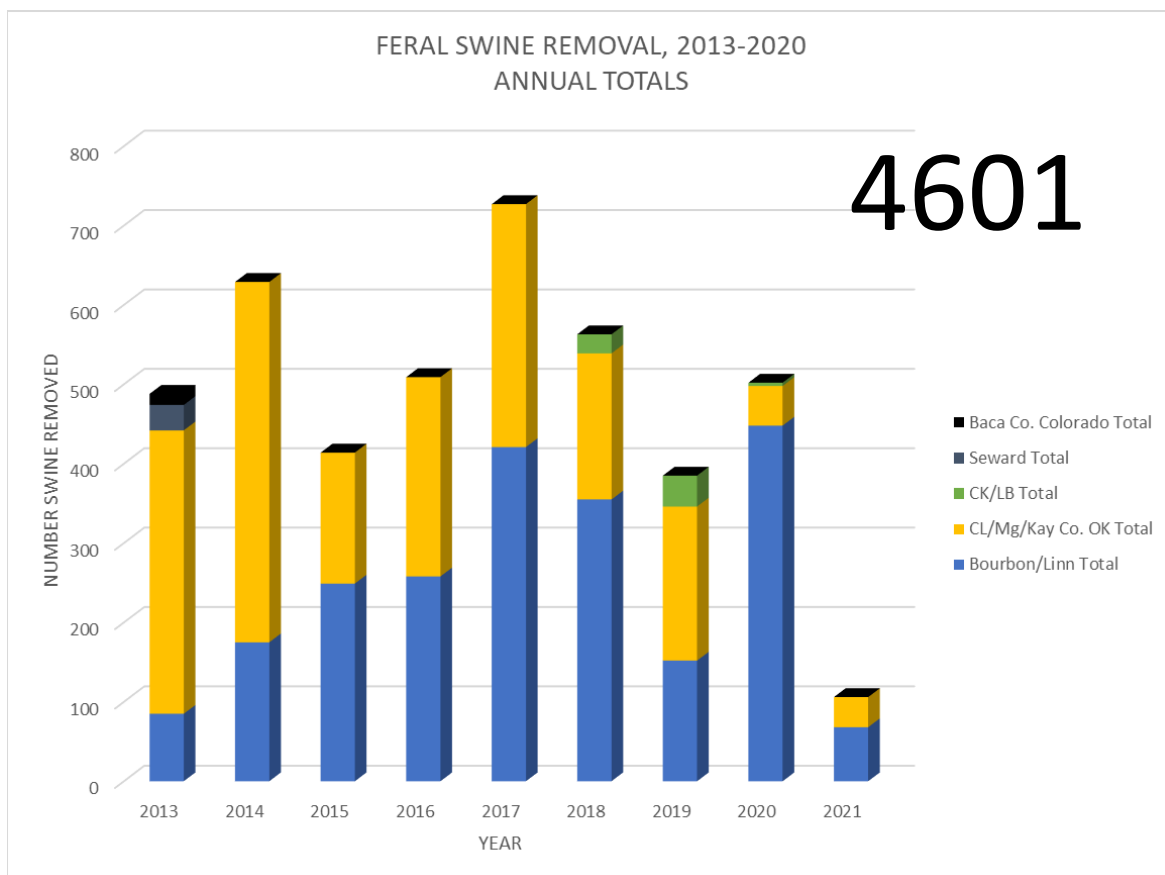
The responsibility of State Feral (Wild) Hog Coordinator falls under the Iowa Department of Natural Resources (IDNR) forest wildlife program. Jim Coffey is the contact person for the agency. This position is located out of the Chariton Research Station in Chariton Iowa 24570 US Hwy 34 Chariton Iowa (641-774-2958). The Iowa DNR remains the coordinating agency for feral hog incidents working with several other State and Federal agencies. USDA wildlife

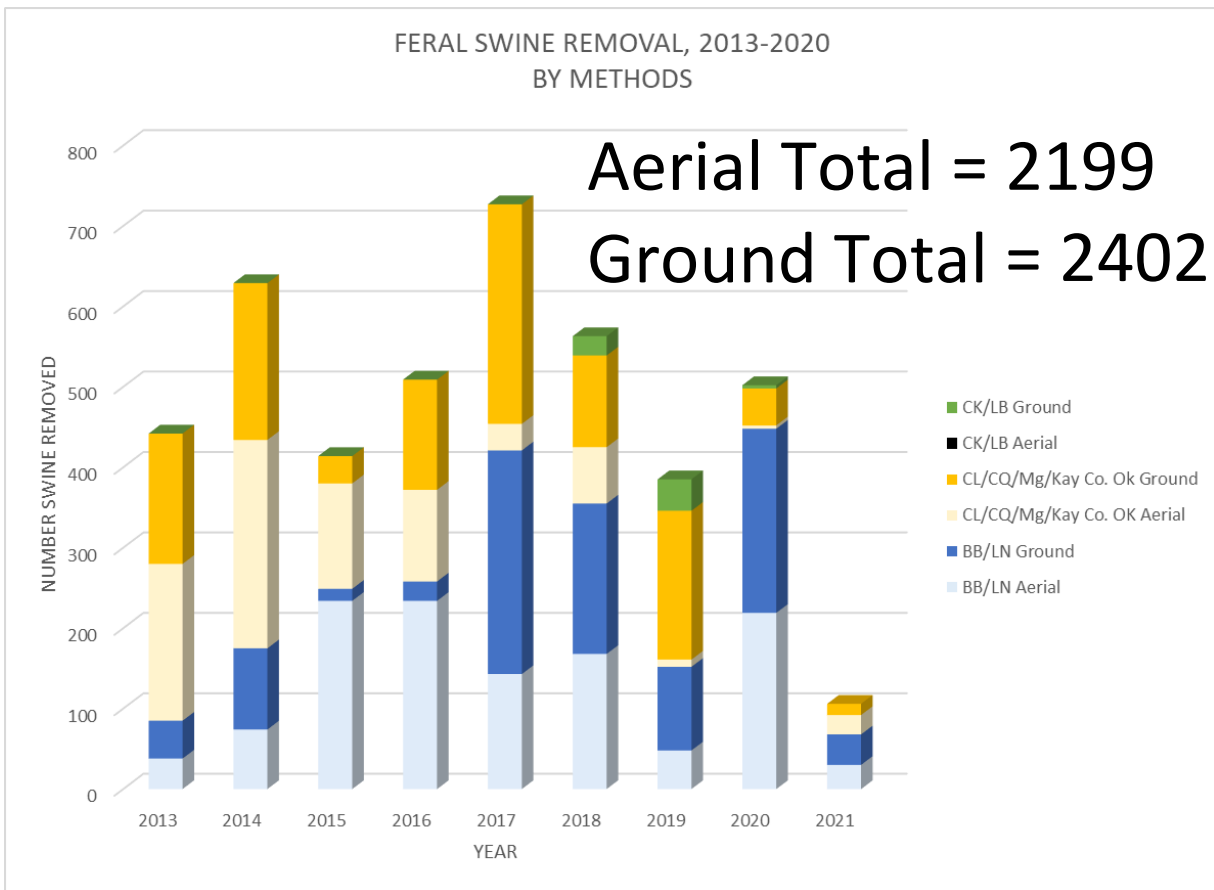
services will continue to take a lead role on eradication and disease testing of located animals. The Iowa DNR depredation team and local conservation officers will assist when needed.

The 2020 calendar year was relatively uneventful, with only a few reports coming from the general public. Many of these reports were not confirmed. No one area of the State shows a prevalence for sightings. A few reports did include poor trail-cam pictures but follow up could not confirm the presences of hogs in the area. There continues to be an increasing number of heritage breed hogs that are being raised in open pastures. A few “domestic hogs” were confirmed and technical assistance was provided to the identified owners about keeping the hogs confined. Agencies did not kill any hogs during this year, however we did investigate a few dead hogs that turned out to be escaped/released domestic swine. We also had an instance of a hog disposed of on public property. No disease testing was completed on any animals. We do plan on continuing with feral hog information in our DNR hunting regulations booklet for 2021-2022. Several issues have arrived with a new executive administration as to the role state and federal agencies will be able to continue to monitor and control hogs in Iowa. We are working with the administration to clarify the authority and provide future guidance if feral hogs increase in the state. We continue to monitor hog issues in surrounding states in preparation for additional control measures. Our feral hog working group meets once a year to discuss emerging issues amongst the different agencies.

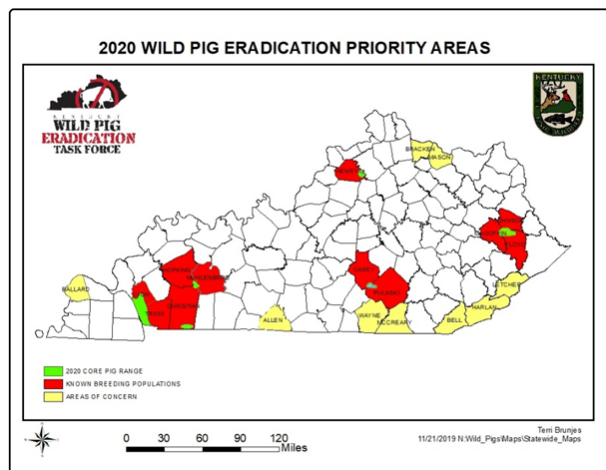
Kansas (Submitted by S. Hesting, KDWPT)

Through March of 2020, approximately 10,000 feral swine had been removed from Kansas. Good records of hog control weren't kept up to 2013. Hog control this year was hampered by the extreme cold and winds. Trapping hogs continues throughout the year. The first budget "pinch" to the KDA/USDA-WS program came this year, but then the money was reallocated. KDWPT was going to fill in the 25K gap for one year, but didn't need to with the reallocation.





Kentucky (submitted by Terri Bunjes)



Kentucky was officially reduced from a Level 3 state to Level 2 at the beginning of fiscal year 2021, after surveillance efforts determined that wild pig numbers have continued to decline across the state. This is a huge accomplishment for Kentucky and the USDA National Feral Swine Damage Management Program (NFSDMP). Aerial operations conducted in February and March of 2021, further verified that the stepdown from Level 3 to Level 2 was correct. Fixed-wing aircraft was used to verify pig absence over large swaths of land across the state. Helicopters were used to remove a handful of pigs via aerial methods.

Pond River wild pig population in Hopkins and Muhlenberg Counties was almost entirely eradicated many years ago, except for a few scattered reports. The only known remaining female in the area was finally removed via aerial

operations. This sow was never observed with young. Monitoring efforts will continue to determine if this population has been fully eradicated. A large population of wild pigs is present at Land Between the Lakes National Recreation Area (LBL), which covers portions of both Tennessee and Kentucky. LBL committed to pay for a Wildlife Services Specialist position for wild pig eradication efforts on the park. In addition, LBL hired two technicians, which duties include some wild pig removal. USDA Wildlife Services removed 21 pigs via trapping in 2020 and 51 wild pigs via aerial operations in February and March 2021 at LBL. Aerial operations have reduced the pig population considerably. The last known sounder was removed in Henry County in central Kentucky in September 2019. Since then only a handful of boars have been seen. Concentrated surveillance and communication efforts have found no additional females. 2021 aerial operations did not locate these pigs. However, damage to one area on private land was detected.

Several mule-footed pigs were discovered on a coal company property in Letcher County, located near the Virginia border. These pigs were the first of their kind to be discovered in Kentucky. Two of the three pigs seen on camera were removed by Wildlife Services, one of which was a pregnant sow.

KY Department of Fish and Wildlife is working with KY Department of Agriculture to strengthen regulations to require owners to hold pigs in enclosures sufficient to prevent escape. Currently, domestic pigs are not required to be kept in an enclosure by KY Department of Agriculture regulations. We believe that strengthening these regulations may alleviate part of the problem with addressing loose domestics. However, more work needs to be done to address abandoned pot-bellied pigs in which the owner is unknown.

USDA Wildlife Services has increased surveillance and communication efforts regarding African Swine Fever (ASF) as part of the National Feral Swine Damage Management Program Disease Surveillance.

KDFWR, in partnership with the KY Wild Pig Eradication Task Force, continues to push our media campaign to increase public support for wild pig eradication. Similar to Missouri Department of Conservation's message, our "Report, don't shoot" campaign persuades the public to report wild pig sightings as an alternative to shooting pigs. The overall goal of the media campaign is to gain public support to prohibit wild pig sport hunting in the future. The media campaign included the creation of educational materials, social media videos, a complete webpage overhaul, the inclusion of an electronic reporting system, and articles in KY's Fish and Wildlife magazine and publications. Sample public outreach items are below and more information can be found at <https://fw.ky.gov/InvasiveSpecies/Pages/Wild-Pig-Home.aspx>



Manitoba (submitted by Janine Wilmot)

Manitoba does not currently have a formal monitoring or management program to address what is thought to be a growing wild boar population. However, the Province is pursuing options for initial funding of a provincial removal program and exploring a new regulatory framework to support it.

Currently, monitoring of wild boar presence is achieved primarily through public reporting; most of these sightings are unverified by staff. Regulation under The Wildlife Act requires that any wild boar harvested in the province be reported to a conservation officer within seven days. The province receives a few reports of harvested animals each year, but this likely represents only a fraction of actual harvest numbers.

In 2018, Manitoba staff began working collaboratively with a local wildlife association to pilot corral trapping of wild boar sounders. This project has received funding from the Fish and Wildlife Enhancement Fund, the Manitoba Pork Council, and the Government of Manitoba. The club now operates nine corral traps for swine removal in the Spruce Woods Provincial Park area, where signs of wild boar presence are most frequently reported.

In the 2020 calendar year, Manitoba documented sightings of 66 free-roaming swine in the province. Of these 26 were killed by hunters and 18 were removed through corral trapping efforts.

Michigan (submitted by Dwayne Etter)

Activity and Removal:

We continued to receive a few scattered reports of feral pigs throughout Michigan in 2020. United States Department of Agriculture – Wildlife Services (USDA-WS) removed 13 feral pigs in 2020 and they were aware of a landowner removing an additional 5 feral pigs.

Michigan Department of Natural Resources (MDNR) maintains a voluntary online feral pig reporting system and we received 10 reports in 2020. Because of the low number of voluntary reports received, MDNR asked all hunters registering a harvested deer about feral pig sightings. This provided 44 additional reports of sightings for USDA-WS follow up.

With partners USDA-WS and Michigan United Conservation Clubs we conducted 7 feral pig outreach efforts including presentations, trainings and visits to schools in 2020.

Research:

There were no active research projects conducted by MDNR or Michigan USDA-WS in 2020. Michigan USDA-WS continues to provide samples to the National Wildlife Research Center's genetics laboratory for ongoing research.

Minnesota (Submitted by Eric Nelson, Minnesota Department of Natural Resources)

In 2020, Minnesota continues to be free of feral swine populations. Currently our cases are mostly escaped domestic swine "at large". One of our repeat locations from previous years, where swine were found to be living in the wild and removed by USDA Wildlife Services, had no issues reported in 2020. The site had feral swine reports and removal by the public and USDA Wildlife Services every year since 2016. Five feral swine complaints in three different counties were investigated through December, 2020.

At one location, two swine were shot by the public on private land and involved local sheriff's deputy and told to process swine if possible. One site farmer eventually butchered the majority of the swine he had on site and allowed to free range on and off his property in December. On that same property, our Board of Animal Health worked with the producer on fencing and containment. On April 7th, 2020 the producer removed all swine from the property. One individual was cited with a notice of violation for allowing her swine to run at large.

The state of Minnesota has created an Emergency Disease Management Committee consisting of state and federal agencies, university staff and commercial pork producers on the African Swine Fever (ASF) issue. The Minnesota Department of Natural Resources Wildlife damage program is one of the representatives on that committee. Since Minnesota is the second largest pork production state in the United States, there is a lot of concern for ASF. The committee developed a statewide communications and response plan for all swine in the state and continues to meet to perform updates based on new findings.

The committee conducted research on cold weather depopulation and composting to assess ways to contain and remove the disease from infected areas. All feral swine removal or disposal needs to follow standardized testing and disposal practices if we were to have an outbreak of ASF in our state. We are in our second year of cold weather research and evaluating grind and composting options as an effective tool. The tool has proven to be very effective in cold weather and further research is being proposed to be done in 2021. The grind and compost method was used in the late spring/early summer of 2020 when processing plants shut down due to COVID19 and all other options were at their maximum to utilize thousands of swine needing to go to market.

The state of Minnesota is reliant on USDA Wildlife Services to conduct all swine removal activities. Our DNR Division of Fish and Wildlife is funded by license fees so we do not have a funding mechanism or funded staff to remove swine living in the wild. An interagency feral swine committee is updating a draft feral swine response plan for the state and met two times in 2020 to discuss changes. The most recent draft includes lessons learned from citations/warnings issued as well as new information from a developing statewide response plan for African Swine Fever. The committee is composed of staff from Minnesota DNR Division of Fish & Wildlife and Ecological & Water Resources, USDA Wildlife Services, and Minnesota Board of Animal Health.

Missouri (Submitted by Alan Leary)

The Missouri Department of Conservation's (MDC) Commission again fully funded the \$1.8 million Statewide Strategic Plan for Feral Hog Elimination in Missouri for FY21. The funding continues to go to a cooperative agreement with the US Department of Agriculture – Wildlife Services (WS) to employ full time feral hog trappers and purchase equipment for them as called for in the Plan. Other members of the Missouri Feral Hog Elimination Partnership (Partnership) are also making significant contributions to support elimination efforts in Missouri. MDC also hired six full time hog trappers in the summer of 2020. These trappers have been integrated in with the full time hog trappers hired through the cooperative agreement. Beginning in January 2020, soon after the U.S. Forest Service banned hog hunting on all Forest Service land in Missouri, the Partnership began conducting supplemental hog elimination efforts. From January through March 2020 an additional 50 MDC staff along with staff from other members of the Partnership were deployed to southeastern Missouri each week to scout and trap hogs. Another effort involving about 30 additional staff was conducted from June through early September 2020. A third supplemental effort was conducted from January to early April 2021. These efforts have been quite successful in assisting with feral hog elimination efforts in Missouri. Another supplemental effort is being planned for the summer of 2021.

In 2020 the Partnership removed over 12,600 feral hogs from the landscape. From January through March of 2021 we have removed over 4,300 feral hogs from the landscape.

In addition to trapping in areas where hogs have been reported or sign is observed, staff are using systematic baiting to locate and eliminate hogs in more remote areas where they may not otherwise be detected.

Nebraska (Submitted by Sam Wilson)

In 2003 the Nebraska State Legislature enacted statutes that prohibit pig hunting. Nebraska Game and Parks Commission regulations also prohibit the possession or release of wild pigs. These laws and regulations remove any incentive for people to own, move, or release feral pigs in the state. The Nebraska Game and Parks Commission is tasked with eliminating feral pigs upon their discovery. Eradication efforts have primarily taken place since 2004. Shooting from a helicopter – in cooperation with Wildlife Services – has proven to be the most successful method of eradication; although other methods such as trapping and shooting over bait are used. We believe the legal framework that removes incentives for people to own or release wild pigs has been the most important factor in allowing for the complete eradication of feral pigs in Nebraska. No feral pigs were removed during 2020 and there is no present research taking place. We do have minor issues with escaped pet (pot-bellied) and domestic pigs but we are not aware of any populations of wild-living feral pigs in Nebraska.

Ohio (submitted by J. Clint McCoy)

USDA Wildlife Services conducted feral swine surveillance and removal efforts on over 4 million acres of federal, state, and private lands. A total of 70 feral swine were removed from 5 counties (49 trapping, 18 aerial operations, 2

sharpshooting and 1 hand caught) and 115 biological samples were collected from 38 animals. In FY20 Ohio Wildlife Services (WS) verified a total of \$17,676 of damage caused by feral swine via UAS, aerial (fixed wing/helicopter), and ground surveillance. This is an increase of verified damage about \$10,000. This increase is largely due to the increase use of the UAS drones to survey areas that were previously found to be difficult to locate and accurately report damage.

In FY 20 Ohio WS began investigating potential feral swine reports in Champaign County. Previous feral swine reports date back to 2008. The swine were found to be domestic escapes and were removed by local landowners. During the FY 20 investigations Ohio WS located 11-15 feral swine and shortly after was able to trap and remove 11 swine. Ohio WS continues to survey the surrounding areas for 2-4 feral swine believed to still be on the landscape. During the investigation Ohio WS also found that 12 additional swine had been removed by landowners in the area since January 2020. Ohio WS is working with local stakeholders and the Ohio Feral Swine working group to further understand where these feral swine originated from.

In FY20 it should also be noted that the Covid-19 pandemic hindered all outreach and surveillance efforts throughout the state. This made it extremely difficult to work with landowners and gain access to new properties.

Ontario (*Submitted by Bree Walpole, Ontario Ministry of Natural Resources and Forestry*)

The Ontario Ministry of Natural Resources and Forestry (MNRF) is undertaking efforts to learn more about the number and locations of wild pigs in Ontario, and is also currently seeking input on a proposed approach to prevent the establishment of wild pigs in the province. The ministry is seeking sightings from the public to an email address dedicated to wild pig reporting. MNRF also launched a communications campaign, including social media, to solicit sightings and share information. These outreach efforts have increased the number of sightings reported to the ministry.

The MNRF receives a variety of sightings from the public, including domestic farmed pigs, pot-bellied pigs, and Eurasian wild boar. At this time, confirmed sightings of Eurasian wild boar are rare and most often occur close to wild boar farms. More information on wild pigs sightings collected in Ontario from October 2018 to March 2020 is available: <https://www.ontario.ca/page/reporting-wild-pigs-ontario>.

The ministry is conducting a pilot project, including on-the-ground follow up of reported sightings in areas where reports have suggested a high likelihood that wild pigs are present. At these locations, ministry staff engage with residents to learn as much as possible and set up trail cameras to detect whether wild pigs are still in the area. Where appropriate, the ministry is prepared to trap and remove invasive wild pigs from the environment. For example, the ministry worked with partners and residents to successfully remove nine wild pigs from two separate locations. In one situation an escaped heritage breed domestic sow and seven piglets born in the wild were recaptured. At a second location, a Eurasian wild boar whose ownership could not be determined was captured and humanely euthanized. MNRF is also testing the use of environmental DNA to detect the presence of wild pigs in remote areas where public reports of sightings are less likely to occur.

Based on the sightings received to date, it does not appear that wild pigs are established (i.e., self-sustaining and breeding) in Ontario and the ministry is working to keep it this way. The ministry has proposed to regulate pigs as an invasive species under Ontario's *Invasive Species Act, 2015*. If passed, new rules would apply, including prohibiting the release of any pig into the natural environment; prohibiting hunting of wild pigs with exceptions for activities to protect property from damage caused by wild pigs; and, a gradual phasing out of Eurasian wild boar and their hybrids by prohibiting their import, possession, transport, propagation, buying, selling, leasing or trading. The ministry has also prepared a draft strategy to address the threat of wild pigs, which outlines a number of actions, including clear communications, robust policy, Ontario-specific research and management, and strong collaboration between governments, agencies and industry partners. The proposed rules and draft strategy are available for public input on the Environmental Registry of Ontario (<https://ero.ontario.ca/page/welcome>) until June 7, 2021.

Wisconsin (Submitted by Brad Koele)

The Wisconsin Department of Natural Resources (WDNR) partners with the USDA-Wildlife Services (WS) on feral pig management in the State of Wisconsin. The WDNR and WS receives various reports of feral pigs throughout the year. Feral pig sightings or discovered activities can be reported through an electronic survey on the WDNR website: <https://www.surveymonkey.com/r/feralpig>. Individuals also contact WS directly or local law enforcement who coordinate with WS as part of the cooperative feral swine management program. Reports are closely monitored and followed up with WS for investigations. Most reports turn out to be escaped domestics, abandoned or escaped pets, mistaken identities or occasionally illegally held captive feral swine. Wisconsin currently does not have a confirmed free-ranging feral pig presence in the state. The last substantial population of feral hogs was back in 2002-2014 in Crawford County. That population of pigs had been eliminated by local hunters and through WDNR and WS removal efforts by 2015. To ensure feral swine remain eradicated, public reports are strictly monitored with WS ensuring owners of escaped pets and livestock have recovered their animals or assisting with trapping pigs off the landscape when necessary.

In 2020 WS responded to 26 reports of feral swine. Most of these reports were escaped domestics or unconfirmed cases due to lack of evidence. Trapping efforts are underway at one location with a pot-bellied pig loose in Necedah, WI. Thirteen (13) reports were verified, with one being a dumped pig carcass on a forest road. Eleven (11) reports were unverified due to lack of substantiated evidence and no further sightings of pigs in the area. Two (2) reports were disproven as pigs. Initially reported as pig activity/damage but evidence on site pointed to local wildlife species such as elk and skunk.

Local hunters opportunistically remove feral pigs when they come across them, reporting pig harvest to the WDNR. Feral pigs have no season in Wisconsin and hunters only need a small game license and landowner permission to hunt pigs that are deemed "feral" (on the landscape for over 14 days and no efforts being made by an owner to re-capture them). Hunters harvested five pigs during 2020. Two (2) were escaped livestock previously reported as recovered: one from Sauk county and one from Manitowoc county. There were also three (3) pot-bellied pigs harvested from Adams county that were originally reported as escaped back in 2019 and unable to be recovered.

For more information on feral pigs in Wisconsin visit the WDNR website, dnr.wi.gov, and search keyword "feral pig."