

**DECISION AND FINDING OF NO SIGNIFICANT IMPACT
SUPPLEMENT TO THE ENVIRONMENTAL ASSESSMENT: MAMMAL DAMAGE
MANAGEMENT IN FLORIDA**

PURPOSE

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program has prepared an Environmental Assessment (EA) to analyze the potential impacts to the quality of the human environment from resolving damage and threats of damage associated with beaver (*Castor canadensis*), black rats (*Rattus rattus*), bobcats (*Lynx rufus*), coyotes (*Canis latrans*), eastern cottontail rabbits (*Sylvilagus floridanus*), feral cats (*Felis catus*), feral dogs (*Canis familiaris*), feral swine (*Sus scrofa*), Gambian rats (*Cricetomys gambianus*), gray fox (*Urocyon cinereoargenteus*), nine-banded armadillos (*Dasypus novemcinctus*), Norway rats (*Rattus norvegicus*), raccoons (*Procyon lotor*), red fox (*Vulpes vulpes*), river otters (*Lontra canadensis*), spotted skunks (*Spilogale putorius*), striped skunks (*Mephitis mephitis*), Virginia opossum (*Didelphis virginiana*), and white-tailed deer (*Odocoileus virginianus*) (USDA 2013). The EA, the supplement to the EA, and this document will collectively refer to those animal species as mammals.

After consideration of the analysis contained in the EA and review of public comments, WS signed a Decision and Finding of No Significant Impact (FONSI) for the EA on March 28, 2013. The Decision and FONSI selected the proposed action alternative (Alternative 1), which implemented an integrated methods program to address the need to manage damage caused by target mammal species. The EA, the 2013 Decision and FONSI, the supplement to the EA, and this Decision ensure that WS complies with the National Environmental Policy Act (NEPA), with the Council on Environmental Quality guidelines (see 40 CFR 1500), and with the APHIS' NEPA implementing regulations (see 7 CFR 372).

The purpose of the EA will remain as addressed in Section 1.1 of the EA (USDA 2013). The supplement to the EA evaluates activities conducted by WS since the signing of the Decision and FONSI in 2013 to ensure program activities remain within the impact parameters analyzed in the EA and evaluates new data that has become available from data gathering since the issuance of the Decision and FONSI in 2013. In addition, the supplement to the EA evaluates the use of aerial operations to address feral swine damage and examines the potential environmental effects of proposed activities as those activities related to an increase in requests for assistance to manage damage associated with Virginia opossum and nine-banded armadillos. The WS program in Florida has also begun receiving requests for assistance associated with nutria (*Myocastor coypus*) and gray squirrels (*Sciurus carolinensis*), which were mammal species that were not initially identified as target mammal species in the EA.

NEED FOR ACTION

During the development of the EA, the WS program in Florida based the need for action on previous requests for assistance received and identified the mammal species associated with those requests (see Section 1.2 in the EA). Since the completion of the EA, the WS program in Florida has received increasing requests for assistance involving opossum and armadillos, primarily associated with threats and damages to natural resources. Section II of the supplement to the EA discusses the need for action associated with increasing requests for assistance associated with armadillos and opossum.

The WS program in Florida had not previously received requests for direct operational assistance associated with nutria and gray squirrels; therefore, the WS program in Florida did not address nutria and gray squirrels during the development of the EA. The damage caused by nutria and gray squirrels can be similar to the damage caused by those target mammal species addressed in the EA and the EA already discusses the methods that would be available to alleviate damage or threats of damage associated with

those species. Section II of the supplement to the EA also discusses the need for action associated with alleviating damage caused by nutria and gray squirrels.

ADDITIONAL METHODS AVAILABLE

The EA evaluates the methods that WS considered to manage damage associated with target mammal species (see Appendix B in the EA for a description of methods). Shooting from aircraft is a commonly used damage management method for feral swine in certain circumstance and can be especially effective and efficient in removing target animals; however, shooting from aircraft was not a method that WS considered during the development of the EA. Studies have shown that shooting feral swine from an aircraft using a pilot and gunner can rapidly reduce local populations of feral swine (Saunders and Bryant 1988, Hone 1990, Saunders 1993). Therefore, the supplement to the EA considered the use of aircraft by WS for wildlife surveillance, radio telemetry, and to manage damage caused by feral swine. The supplement to the EA considers the use of shooting feral swine from a helicopter when a WS' employee determines the use of firearms and the use of aircraft were appropriate to manage damage caused by feral swine.

SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The EA and the supplement to the EA evaluate damage management activities associated with mammals in the State of Florida. The scope of analysis remains valid as addressed in Section 1.3 of the EA for those activities associated with managing damage and threats caused by mammals in the State. The EA and the supplement to the EA evaluates the need for action to manage damage associated with mammals, the potential issues associated with managing damage, and the environmental consequences of conducting different alternatives to meet the need for action while addressing the identified issues. WS defined the issues associated with meeting the need for action and identified preliminary alternatives through consultation with the Florida Fish and Wildlife Conservation Commission (FWCC)¹. The supplement adds to the analysis in the EA and the 2013 Decision. The information and analyses in the EA remain valid unless otherwise noted in the supplement to the EA.

To identify additional issues and alternatives, WS made the supplement to the EA available to the public for review and comment through notices published in local media and through direct notification of interested parties. WS made the supplement to the EA available to the public for review and comment by a legal notice published in the *Tallahassee Democrat* newspaper from April 10, 2017 through April 12, 2017. WS also made the supplement to the EA available to the public for review and comment on the APHIS website on April 14, 2017 and on the regulations.gov website beginning on March 29, 2017. WS also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing mammal damage in the State. The public involvement process ended on May 12, 2017. During the public comment period, WS received four comment responses on the draft supplement to the EA. Section XVI of the final supplement to the EA summarizes the comments received and provides responses to the comments. Based on further review of the draft supplement to the EA, WS incorporated minor editorial changes into the final supplement to the EA. Those minor changes enhanced the understanding of the supplement to the EA, but did not change the analysis provided in the supplement.

Because most mammal species are present statewide and damage could occur wherever those species occur, it is conceivable that direct operational assistance provided by WS could occur anywhere in the State, when requested. The goal of the WS program in Florida would be to provide assistance when requested, within the constraints of available funding and workforce, and to reduce damage. The analyses in the EA and the supplement would apply to any action that may occur in any locale and at any time

¹The FWCC has regulatory authority to manage the wildlife populations in the State.

within the analysis area. WS uses a decision model based on a publication by Slate et al. (1992) that involves evaluating each threat situation, taking action, evaluating the action taken, and monitoring results of the actions taken. WS' personnel use the Decision Model to develop the most appropriate strategy to reduce damage and to determine potential environmental effects from damage management actions (Slate et al. 1992) (see WS Directive 2.201). Therefore, the actions evaluated in the EA and the supplement are the use or recommendation of those methods available under the alternatives and the employment or recommendation of those methods by WS to manage or prevent damage and threats associated with mammals from occurring when requested by the appropriate resource owner or manager.

RELATIONSHIP OF THE SUPPLEMENT TO OTHER ENVIRONMENTAL DOCUMENTS

Section 1.4 of the EA addresses the relationship of the EA and the supplement to additional documents (USDA 2013). Since the completion of the EA, the APHIS and cooperating agencies prepared a programmatic Environmental Impact Statement (EIS) to address feral swine damage management in the United States, American Samoa, Mariana Islands, United States Virgin Islands, Guam, and Puerto Rico (USDA 2015). The Record of Decision that WS issued for the EIS selected the preferred alternative in the EIS to implement a nationally coordinated program that integrates methods to address feral swine damage. In accordance with the Record of Decision, WS developed the supplement to the EA to be consistent with the EIS and the Record of Decision. In addition, the implementation of the alternatives discussed in the EA would be consistent with the Florida State Wildlife Action Plan.

AUTHORITY AND COMPLIANCE

A discussion of WS' authority and the authority of other agencies, as those authorities relate to conducting activities to alleviate mammal damage, occurs in Appendix D of the EA. In addition, several laws or statutes authorize, regulate, or otherwise would affect activities associated with managing damage caused by mammals (see Appendix D of the EA). The WS program would comply with all applicable federal, state, and local laws and regulations in accordance with WS Directive 2.210.

The Airborne Hunting Act, passed in 1971 (Public Law 92-159) and amended in 1972 (Public Law 92-502), added a new section to the Fish and Wildlife Act of 1956 that prohibits shooting or attempting to shoot, harassing, capturing, or killing any bird, fish, or other animal from aircraft, except for certain specified reasons (16 USC 742j-1). Under exception [16 USC 742j-1(b)(1)], state and federal agencies are allowed to protect or aid in the protection of land, water, wildlife, livestock, domesticated animals, human life, or crops using aircraft.

DECISIONS TO BE MADE

Based on the scope of the EA and the supplement to the EA, the WS program will make the following decisions.

- Should the WS program in Florida continue to implement the proposed action alternative (Alternative 1) to alleviate damage and threats to human safety associated with target mammal species
- If not, should the WS program in Florida attempt to implement one of the other alternatives described in the EA
- Based on information in the EA and the supplement, would continuing to implement the proposed action alternative (Alternative 1) or the implementation of the other alternatives result in effects to the human environment requiring the preparation of an EIS

AFFECTED ENVIRONMENT

Section 2.1 of the EA addresses the affected environment and remains valid as described (USDA 2013). Damage or threats of damage associated with mammals could occur statewide in Florida wherever mammal species occur. Those mammal species addressed in the EA and the supplement are capable of utilizing a variety of habitats in the State. Most species of mammals addressed in the EA occur throughout the year across the State where suitable habitat exists for foraging and shelter.

ISSUES ASSOCIATED WITH MAMMAL DAMAGE MANAGEMENT ACTIVITIES

Issues are concerns regarding potential effects that might occur from a proposed activity. Federal agencies, such as the WS program in Florida, must consider such issues during the NEPA decision-making process. WS identified several issues during the development of the EA. Section 2.2 of the EA describes the issues considered and evaluated in detail by WS as part of the decision-making process. Section 2.3 of the EA describes additional issues that WS considered but did not analyze in detail within the EA. The rationale for the decision not to analyze those issues in detail occurs in Section 2.3 of the EA. Based on those damage management activities WS conducted previously and based on those activities proposed in the supplement to the EA, the issues identified during the development of the EA remain applicable and appropriate to resolving damage and threats of damage associated with target mammal species in the State.

ALTERNATIVES

The EA evaluated three alternatives in detail to respond to the need for action discussed in Chapter 1 and the issues identified in Chapter 2 of the EA. Section 3.1 of the EA provides a description of the alternatives evaluated in detail (USDA 2013). Alternative 1 would continue the current implementation of an adaptive methods approach utilizing non-lethal and lethal techniques, when requested, as deemed appropriate using the WS Decision Model, to reduce damage and threats caused by mammals in Florida. Alternative 2 would limit WS' involvement to providing recommendations on methods that people could use to manage damage without any direct involvement by WS. Under Alternative 3, the WS program in Florida would not provide any assistance with managing damage associated with mammals in the State. A detailed discussion of the effects of those alternatives on the issues occurs in Chapter 4 of the EA. WS also considered additional alternatives; however, WS did not consider those alternatives in detail for the reasons provided in Section 3.2 of the EA.

STANDARD OPERATING PROCEDURES

Section 3.3 and Section 3.4 of the EA discuss the Standard Operating Procedures (SOPs) WS would incorporate into the selected alternative, when those SOPs were applicable to the activities that WS could conduct under an alternative (USDA 2013). For example, if WS only provided technical assistance pursuant to Alternative 2, many of the SOPs would not be applicable because WS would not provide direct operational assistance. The SOPs discussed in the EA remain appropriate to activities WS could conduct in the State. In addition to those SOPs discussed in Section 3.3 and Section 3.4 of the EA, the WS program would incorporate those additional SOPs discussed in Section XIII of the supplement to the EA when those SOPs were applicable to the selected alternative.

ENVIRONMENTAL CONSEQUENCES

Chapter 4 of the EA contains a detailed discussion and comparison of the identified alternatives and the major issues (USDA 2013). Section 4.1 of the EA analyzes the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on those major issues

identified in the EA. For those reasons discussed in Section XIV of the supplement to the EA, the potential impacts of Alternative 2 and Alternative 3 on the human environment related to the major issues have not changed from those described and analyzed in the EA.

The following resource values in Florida are not expected to be significantly impacted by any of the alternatives analyzed in the EA: soils, geology, minerals, water quality/quantity, flood plains, wetlands, critical habitats (areas designated for threatened or endangered species), visual resources, air quality, prime and unique farmlands, aquatic resources, timber, and range. Similarly, the WS program in Florida does not expect the activities proposed in the supplement to the EA to affect significantly those same resources based on the analyses WS conducted.

The continued implementation of Alternative 1, including the activities proposed in the supplement to the EA, would have a negligible effect on atmospheric conditions, including the global climate. Meaningful direct or indirect emissions of greenhouse gases would not occur from the continued implementation of Alternative 1, as supplemented. During evaluations of the national program to manage feral swine, the WS program reviewed greenhouse gas emissions for the entire national WS program (see pages 266 and 267 in USDA 2015). The analysis estimated effects of vehicle, aircraft, office, and ATV use by WS for federal fiscal year (FY) 2013 and included the potential new vehicle purchases that could be associated with a national program to manage damaged caused by feral swine. The review concluded that the range of Carbon Dioxide Equivalents (includes CO₂, NO_x CO, and SO_x) for the entire national WS program would be below the reference point of 25,000 metric tons per year recommended by CEQ for actions requiring detailed review of impacts on greenhouse gas emissions. Therefore, the continued implementation of Alternative 1, including those activities proposed in the supplement, would meet the requirements of applicable laws, regulations, and Executive Orders including the Clean Air Act and Executive Order 13514.

The discussion below provides a summary of the environmental consequences of those activities conducted by WS from FY 2012 through FY 2016 and those additional activities proposed in the supplement to the EA.

Issue 1 - Effects of Damage Management Activities on Target Mammal Populations

Under Alternative 1, WS would incorporate non-lethal and lethal methods described in Appendix B of the EA and the supplement to the EA into an integrated methods approach in which WS' personnel could employ all or a combination of methods to resolve a request for assistance. Non-lethal methods can capture, disperse, exclude, or otherwise make an area unattractive to mammals that are causing damage, which could potentially reduce the presence of those animals at the site and potentially the immediate area around the site. Non-lethal methods generally have minimal impacts on overall populations of animals since those species are unharmed.

A common issue is whether damage management actions would adversely affect the populations of target mammal species when WS' employees employ lethal methods. Lethal methods can remove specific mammals that personnel of WS have identified as causing damage or posing a threat of damage, including threats to human safety. The number of individual animals removed from a population by WS using lethal methods would be dependent on the number of requests for assistance received, the number of animals involved with the associated damage or threat, the efficacy of methods employed, and the number of individual animals the FWCC authorizes WS to remove, when authorization is required.

Population Impact Analysis from WS' Activities Conducted from FY 2012 through FY 2016

From FY 2012 through FY 2016, the WS program in Florida has implemented Alternative 1 in response to requests for assistance associated with mammals causing damage. WS responded to requests for assistance across a broad range of resources and mammal species using those non-lethal and lethal methods described in Appendix B of the EA. As described in the EA, WS' personnel continued to give preference to the use and recommendation of non-lethal methods when practical and effective using the WS Decision Model (see WS Directive 2.101). As shown in Table 2 in the supplement to the EA, WS' employees used numerous non-lethal methods to disperse, translocate, and release numerous target species between FY 2012 and FY 2016.

The annual removal of mammal species by WS from FY 2012 through FY 2016 occurred within the impact parameters analyzed in the EA, except for the number of Virginia opossum lethally removed by WS between FY 2013 and FY 2016, and the number of armadillos lethally removed in FY 2015 and FY 2016. As indicated in Table 3 of supplement to the EA, the annual removal of target mammal species in Florida by WS to alleviate damage or threats of damage has been of low magnitude when compared to the statewide population estimates for those target species. No additional information was available on the populations of those species in Florida; therefore, those population estimates provided in the EA remain the best available information.

In addition to activities conducted by WS to alleviate damage in the State, other entities may also conduct activities to alleviate animal damage. Individual property owners may conduct activities on their own to alleviate damage since people can address many of the mammal species throughout the year. Property owners may also seek assistance from private nuisance wildlife trappers to alleviate damage. The number of animals lethally removed by other entities to alleviate damage in the State is not available.

As discussed in the EA and the supplement to the EA, people can harvest many of the target mammal species during annual hunting and/or trapping seasons in the State. However, harvest information is only available for a few of the target species addressed in the EA. As indicated in Table 5 of the supplement to the EA, the cumulative removal (WS' removal and harvest) is of low magnitude when compared to the statewide population estimates for those mammal species with harvest information available.

The EA and the 2013 Decision/FONSI concluded that the effects of WS' damage management activities in Florida would not adversely affect those populations of mammal species addressed in the EA when damage management activities occurred within the scope analyzed in the EA. Analyses conducted during the annual monitoring of WS' activities in Florida for the management of mammal damage determined that WS' lethal removal of mammals in the State was not adversely affecting populations based on the best available information on those species' populations. The permitting of those activities by the FWCC provides additional analyses, and outside review, that WS' activities since FY 2012 have not negatively affected populations of those mammals addressed in the EA.

Population Impact Analysis from WS' Activities Associated with Virginia Opossum and Nine-banded Armadillos

As discussed previously and indicated in Table 3 of the supplement to the EA, the number of Virginia opossum lethally removed annually by WS between FY 2013 and FY 2016, and the number of armadillos lethally removed annually in FY 2015 and FY 2016, exceeded the annual removal anticipated in the EA. Both armadillos and opossum are common within the state in areas with suitable habitat; however, the statewide population of armadillos and opossum is not available. Using the best information available, the analysis in the EA estimated the statewide population of opossum to range from 34,900 opossum to 541,600 opossum. Similarly, WS estimated the statewide armadillo population at 69,000 armadillos (see

Section 4.1 of the EA). Based on recent requests for assistance received by WS and in anticipation of additional efforts to manage damage, WS could lethally remove up to 500 opossum and up to 500 armadillos annually in the State as part of efforts to reduce or eliminate damage when implementing Alternative 1.

The annual lethal removal of 500 opossum by WS in Florida would represent 1.4% of a statewide population estimated at 34,900 opossum. The annual lethal removal of 500 armadillos by WS in Florida would represent 0.7% of a statewide population estimated at 69,000 armadillos. WS anticipates the statewide populations of opossum and armadillos to be higher than 34,900 opossum and 69,000 armadillos; therefore, if WS' annual removal reached 500 opossum and 500 armadillos, the removal would be a smaller percentage of the actual population.

WS' personnel could also lethally remove opossum and armadillos unintentionally while targeting other animal species; however, WS does not anticipate the cumulative lethal removal of opossum and armadillos by WS to exceed 500 individuals of each species annually. Although the total number of opossum and armadillos that other entities lethally remove annually in the State to alleviate damage is unknown, the cumulative removal of opossum and armadillos, including the proposed removal of up to 500 opossum and 500 armadillos annually by WS, would be of a low magnitude when compared to the actual statewide population. In addition, the live-capture and subsequent release of opossum and armadillos would not likely result in adverse effects to the statewide populations of those species since those animals would be released unharmed.

Population Impact Analysis from WS' Activities Associated with Nutria and Gray Squirrels

As discussed previously, the WS program in Florida had not previously received requests for direct operational assistance associated with nutria or gray squirrels. Therefore, the WS program in Florida did not identify a need for action associated with nutria and gray squirrels during the development of the EA. Since completion of the EA, the WS program in Florida has received requests for direct operational assistance associated with nutria and gray squirrels. Based on recent requests for assistance associated with nutria and gray squirrels, WS anticipates continuing to receive requests for assistance to manage damage. In response to requests for assistance, WS anticipates that personnel could lethally remove up to 500 nutria annually and up to 100 gray squirrels annually in the State. WS' personnel could also lethally remove nutria and gray squirrels unintentionally during activities targeting other animal species. Cumulatively, WS does not anticipate the intentional and unintentional lethal removal of nutria to exceed 500 individuals annually. Similarly, WS does not anticipate the intentional and unintentional removal of gray squirrels to exceed 100 individuals annually.

Nutria are not a native species in Florida. However, nutria have become established in Florida from purposeful and accidental releases from fur farms and to control aquatic vegetation. Executive Order 13112 directs federal agencies to use their programs and authorities to prevent the spread or to control populations of invasive species that cause economic or environmental harm, or harm to human health. Pursuant to Executive Order 13112, the National Invasive Species Council has designated the nutria as meeting the definition of an invasive species. Therefore, WS would conduct activities associated with nutria pursuant to Executive Order 13112.

Similar to nutria, the statewide population of gray squirrels is unknown. Under a worst-case scenario, WS estimated the statewide population of gray squirrels could be at least 1.2 million squirrels. If the WS program in Florida lethally removed 100 gray squirrels annually, the annual removal would represent 0.01% of the estimated population. The FWCC allows people to harvest gray squirrels in the State during an annual hunting season. However, the number of gray squirrels that people harvest in Florida is unknown. Although the number of gray squirrels that people harvest in the State annually is unknown,

the cumulative removal of gray squirrels is not likely to be sufficient to cause adverse effects on the statewide population of gray squirrels.

Effects on Target Animals from the Use of Aircraft

As discussed in the supplement to the EA, the WS program in Florida is considering the use of aircraft as another method that would be available in an integrated methods approach when implementing Alternative 1. If WS continues to implement Alternative 1, aerial operations could include the use of aircraft for surveillance and monitoring, as well as, WS' employees shooting feral swine from helicopters. The WS program would not use aircraft to shoot any other target mammal species. However, WS could use aircraft for surveillance and monitoring activities associated with other target mammal species. WS would not use aircraft if the WS program in Florida implemented Alternative 2 or Alternative 3.

Although the use of firearms from aircraft could rapidly reduce feral swine densities in an area, WS does not anticipate the lethal removal of feral swine by WS in the State would exceed the level analyzed in the EA. Because the number of feral swine that WS could lethally remove annually would remain as analyzed in the EA and the use of aircraft would not result in direct mortality of feral swine, the use of aircraft to lethally remove feral swine or for surveillance would not affect the population of feral swine in the State. Similarly, the use of aircraft would have no effect on the populations of other target mammal species.

Issue 2 - Effects on Non-target Wildlife Species Populations, Including T&E Species

WS' personnel have experience with managing animal damage and receive training in the employment of methods. Under Alternative 1 and Alternative 2, WS' employees would use the WS Decision Model to select the most appropriate methods to address damage caused by targeted animals and to exclude non-target species. To reduce the likelihood of dispersing, capturing, or removing non-target animals, WS would employ selective methods for the targeted species, would employ the use of attractants that were as specific to the targeted species as possible, and determine placement of methods to avoid exposure to non-target animals. Section 3.3 and Section 3.4 in the EA and Section XIII of the supplement to the EA discuss the SOPs that WS' personnel would follow to prevent and reduce any potential adverse effects on non-target animals when conducting activities under Alternative 1. If applicable, when providing technical assistance, WS' personnel would also incorporate those SOPs into recommendations provided under Alternative 2. Despite the best efforts to minimize non-target animal exposure to methods during program activities, the potential for WS' personnel to disperse, live-capture, or lethally remove non-target animals exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety.

The non-target animals that WS' employees lethally removed unintentionally from FY 2012 through FY 2016 were Virginia opossum, raccoons, and nine-banded armadillo, which are target mammal species in the EA (see Table 6 in the supplement to the EA). The non-target animals lethally removed unintentionally by WS from FY 2012 through FY 2016 are representative of non-target animals that WS' personnel could lethally remove under Alternative 1. WS could also lethally remove additional species of non-target animals unintentionally when conducting activities under Alternative 1. Although WS' employees could lethally remove non-target animals, removal of individuals from any species is not likely to increase substantially. WS would continue to monitor activities, including non-target animal removal, to ensure the annual removal of non-target animals would not result in adverse effects to a species' population. WS' personnel have not captured or adversely affected any threatened or endangered species during previous activities targeting mammals in Florida.

As part of the development of the supplement to the EA, WS re-initiated consultation with the United States Fish and Wildlife Service (USFWS) pursuant to Section 7 of the Endangered Species Act. As part of the development of the supplement to the EA, the WS program in Florida reviewed the activities conducted previously to manage mammal damage and those methods currently available, including the use of aircraft. WS determined that activities conducted pursuant to Alternative 1, as supplemented, would not likely adversely affect many of the threatened or endangered species listed within the State (see Table 7 in the supplement to the EA). The USFWS concurred with WS' determination that activities conducted pursuant to Alternative 1, including the use of aircraft, would not likely adversely affect those species or their critical habitats (A. Blackford, USFWS pers. comm. 2017, A. Dziergowski, USFWS pers. comm. 2017, S. Blomquist, USFWS pers. comm. 2017). In addition, WS has made a "no effect" determination for several species currently listed in the State based on those methods currently available and based on current life history information for those species. WS consulted the state wildlife action plan (FWCC 2012) as part of this analysis and the alternatives would be consistent with the plan.

Effects on Non-target animals from Additional Efforts to address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

Similar to activities that the WS program has conducted previously, the potential exists for WS' personnel to disperse, live-capture, or lethally remove non-target animals during activities that target armadillos, opossum, nutria, and gray squirrels. Based on previous activities associated with those species and the methods available to address damage caused by those species, the unintentional dispersal, live-capture, or lethal removal of non-target animals would not increase substantially when addressing armadillos, opossum, nutria, and gray squirrels. WS' personnel would continue to implement those SOPs discussed in Section 3.3 and Section 3.4 of the EA and those SOPs discussed in the supplement (see Section XIII) to minimize risks of dispersing, live capturing, or lethally removing non-target animals. WS' personnel would continue to release non-target animals live captured when those non-target animals were unharmed and personnel could safely release those animals.

Effects on Non-target animals from the Use of Aircraft

Aerial operations occur at low altitudes and could temporarily disperse wildlife from areas where those activities occur (United States Forest Service 1992, National Park Service 1995). The National Park Service (1995) reviewed the effects of aircraft overflights on wildlife and suggested that certain species will frequently or at least occasionally show a response to even minor overflights. In general though, it appears that the more serious potential effects occur when overflights are chronic (*i.e.*, they occur daily or more often over long periods). Chronic exposures generally involve areas near commercial airports and military flight training facilities. Aerial operations conducted by WS would not occur in the same areas on a daily basis for extended periods and aircraft spend little time flying over those particular areas.

Migratory birds and other affected non-target wildlife may temporarily leave the immediate vicinity, but would most likely return after conclusion of the action in the absence of continued disturbance. Activities associated with this project would only occur for a limited duration, which is not likely to result in complete dispersal of those non-target species from the area. This action would likely benefit some species by removing predation threats posed by feral swine and limiting competition. The effects on wildlife from military-type aircraft have been studied extensively (Air National Guard 1997), and were found to have no expected adverse effects on wildlife.

Issue 3 - Effects of Damage Management Methods on Human Health and Safety

WS' employees who conduct activities to manage damage caused by mammals would be knowledgeable in the use of those methods available, the wildlife species responsible for causing damage or threats, and

WS' directives. WS' personnel would incorporate that knowledge into the decision-making process inherent with the WS Decision Model, which employees would apply when addressing threats and damage caused by mammals. When employing methods, WS' employees would consider risks to human safety when employing those methods based on location and method. No adverse effects to human safety occurred from the use of methods by WS to alleviate mammal damage in the State from FY 2012 through FY 2016. Based on the use patterns of methods available to address damage caused by mammals and the experience/training that WS' personnel receive, the continued implementation of Alternative 1 would comply with Executive Order 12898 and Executive Order 13045.

Effects on Human Safety from Additional Efforts to address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

Addressing damage or threats of damage associated with armadillos, opossum, nutria, and gray squirrels could result in employing methods with more frequency to resolve damage. Those methods described in the EA inherently pose minimal risks to human safety when used appropriately and in consideration of human safety. WS would continue to incorporate those SOPs described Section 3.3 and Section 3.4 in the EA and those discussed in Section XIII of the supplement into damage management activities, which would minimize risks to human safety. Based on the use patterns of the methods available, an increase in the use of those methods to address those activities described in the supplement pertaining to an increase in activities would not increase risks to human safety. The training and experience of WS' employees in the proper use of methods would ensure the safety of employees and the public. An increase in the number of methods used or an increase in the frequency that WS uses a method would not increase risks to human safety when consideration of human safety was part of the use pattern associated with those methods.

Human Safety Analysis Associated with the Use of Aircraft

Aerial operations conducted by WS, like any other flying, may result in an accident. WS' pilots and crewmembers receive training and have experience with recognizing the circumstances that lead to accidents. For those reasons addressed in the supplement, WS considers the risk of ground fires or fuel/oil pollution from aviation accidents to be low. In addition, based on the history and experience of the program in aircraft accidents, it appears the risk of significant environmental damage from such accidents is exceedingly low.

The current EA and the supplement to the EA evaluate the potential impacts to the human environment associated with the use of firearms by WS to alleviate mammal damage, including the damage feral swine cause. In addition, the feral swine damage management EIS developed by the APHIS also addresses threats to human safety associated with the use of aircraft and firearms by WS (USDA 2015). Although risks to human safety associated with the use of aircraft could occur, adherence to WS' guidelines (see WS Directive 2.620) would minimize those risks.

Issue 4 - Effects on the Socio-cultural Elements of the Human Environment

Mammals may provide aesthetic enjoyment to some people in the State, such as through observations, photographing, and knowing they exist as part of the natural environment. Methods available that WS or other entities could use to manage damage under each of the alternatives could result in the dispersal, exclusion, live-capture, or lethal removal of individuals or small groups of mammals to resolve damage and threats. Therefore, the use of methods often results in the removal of mammals from the area where damage was occurring or the dispersal of mammals from an area. Since methods available would be similar across the alternatives, the use of those methods would have similar potential impacts on the aesthetics of mammals. However, the dispersal and/or lethal removal of mammals would not reach a

magnitude that would prevent the ability to view those species outside of the area where damage was occurring. Therefore, the effects on the aesthetic values of mammals would be similar across the alternatives and would be minimal.

Effects on Socio-cultural Elements from Additional Efforts to address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

The activities considered in the supplement to the EA could result in WS' employees lethally removing a greater number of armadillos and opossum or could result in an increase in the number of locations where WS' personnel lethally remove armadillos and opossum. In addition, the WS program could conduct activities to alleviate damage caused by nutria and gray squirrels when a person requests such assistance. The ability to view and enjoy the aesthetic value of armadillos, opossum, nutria, and gray squirrels at a particular site would be somewhat limited if WS' personnel dispersed or removed target animals as part of an integrated approach to managing damage. However, new mammals would most likely use the site in the future, although the length of time until those mammals arrived would be variable, depending on the site, time of year, and population densities of those mammals in the surrounding areas.

The magnitude of WS' proposed removal of armadillos, opossum, nutria, and gray squirrels under the supplement to the EA would be low if removal occurred at the levels proposed. WS' proposed activities addressed in this supplement would not cause the populations of those species to decline over a large geographical area. WS' activities would be limited to site specific locations where damage has occurred or was likely to occur. Therefore, even with the proposed increased removal of armadillos and opossum under the supplement and the removal of nutria and gray squirrels, those species' populations would remain high in the State and people could enjoy the aesthetic value of those species if people made a reasonable attempt to locate those species outside of the damage management area.

Effects on Socio-cultural Elements Associated with the Use of Aircraft

The supplement to the EA considers the use of aircraft as another method that would be available to the WS program in Florida in an integrated methods approach when implementing Alternative 1. If WS continues to implement Alternative 1, aerial operations could include the use of aircraft for surveillance and monitoring of wildlife populations. In addition, WS could use helicopters to locate and shoot feral swine when a WS' employee deemed the use of firearms from a helicopter to be appropriate using the WS Decision Model and the landowner/manager agreed to allow WS to use those methods. The WS program would not use aircraft to shoot any other target mammal species. WS would not use aircraft if the WS program in Florida implemented Alternative 2 or Alternative 3.

Although the use of firearms from aircraft could rapidly reduce feral swine densities in an area, WS does not anticipate the lethal removal of feral swine by WS in the State would exceed the level analyzed in the EA. Because the number of feral swine that WS could lethally remove annually would remain as analyzed in the EA and the use of aircraft would not result in direct mortality of feral swine, the use of aircraft to lethally remove feral swine or for surveillance would not affect the population of feral swine in the State. Similarly, the use of aircraft would have no effect on the populations of other target mammal species. Therefore, this issue would remain as analyzed in the EA.

Issue 5 - Humaneness and Animal Welfare Concerns of Methods

The EA also analyzed the issue of humaneness and animal welfare concerns in relationship to methods available under each of the alternatives. Most methods addressed in Appendix B of the EA would be available under all the alternatives; therefore, the issue of method humaneness and animal welfare would be similar for those methods across all the alternatives. Those methods used by WS to manage damage

associated with mammals from FY 2012 through FY 2016 and their potential impacts on humaneness and animal welfare have not changed from those analyzed in the EA. The EA discusses all of the methods employed by WS from FY 2012 through FY 2016 to alleviate damage (USDA 2013). WS continued to employ methods as humanely as possible to minimize distress. WS' personnel euthanized live-captured target animals using methods considered appropriate for wild mammals by the American Veterinary Medical Association (AVMA). Therefore, the analyses of the humaneness and animal welfare concerns of methods used by WS to manage damage and threats caused by mammals from FY 2012 through FY 2016 has not changed from those analyzed in the EA.

Effects on Humaneness and Animal Welfare from Additional Efforts to address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

The WS program in Florida is not considering any new methods to manage damage associated with armadillos, opossum, nutria, or gray squirrels. Therefore, the analysis in the EA on method humaneness and animal welfare concerns remains appropriate for any additional activities associated with armadillos, opossum, nutria, or gray squirrels.

Humaneness and Animal Welfare Analysis Associated with the Use of Aircraft

The EA considers the use of firearms as a method to manage damage associated with target mammal species. Therefore, the EA considered the issue of humaneness associated with the use of a firearms and remains appropriate to the use of firearms from helicopters to shoot feral swine that are causing damage or posing a threat of damage. Aircraft can play an important role in the management of various wildlife species. Resource management agencies rely on low flying aircraft to monitor the status of many animal populations and to track animal movements by radio telemetry. Similarly, WS could use aircraft to monitor and track feral swine or other mammal species in the State if WS continues to implement Alternative 1, as supplemented. Low-flying aircraft would not be employed over large geographical areas or applied at such intensity that essential resources (*e.g.*, shelter, food sources) would be unavailable for extended durations or over such a wide geographical scope that long-term adverse effects would occur to the populations of animals. Therefore, the goal of WS would be to address requests for assistance using methods, including shooting from an aircraft, in the most humane way possible that minimizes the stress and pain to the animal (see WS Directive 2.505).

Issue 6 - Effects of Mammal Damage Management Activities on the Regulated Harvest of Mammals

The FWCC allows people to harvest beaver, bobcats, coyotes, eastern cottontails, feral swine, raccoons, river otters, striped skunks, spotted skunks, opossum, and white-tailed deer in the State during annual hunting and/or trapping seasons. WS' activities are coordinated with the FWCC to ensure WS' annual removal of harvestable species does not exceed a level where a decline in those species' populations would occur due to cumulative impacts from harvest, damage management activities, and other sources of mortality. WS' limited removal of mammals in Florida is not occurring at a magnitude that would adversely affect the ability of those persons interested to harvest those species in the State.

Effects on the Ability to Harvest Animals from Additional Efforts to address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

As discussed in the EA and the supplement to the EA, the FWCC is responsible for managing the wildlife resources within Florida; therefore, the FWCC is also responsible for establishing hunting and trapping seasons in the State for wildlife. The FWCC maintains the ability to regulate removal by WS to meet management objectives for wildlife in the State. Therefore, the FWCC has the opportunity to consider the cumulative removal of wildlife as part of their objectives for wildlife populations in the State. WS'

annual removal of armadillos, opossum, nutria, and gray squirrels would be of a low magnitude based on the qualitative and quantitative measures discussed in the EA and the supplement to the EA. Based on the low magnitude of the proposed activities on those species populations, the increased activities to alleviate damage associated with opossum, nutria, and gray squirrels would not limit the ability of people to harvest those species in the State. Nine-banded armadillos are a non-protected mammal species in Florida and the FWCC allows people to remove nuisance armadillos at any time.

Effects of Using Aircraft on the Regulated Harvest of Mammals

The number of feral swine that WS could lethally remove annually would remain as analyzed in the EA. The use of aircraft would not adversely affect the populations of target mammal species. Therefore, the use of aircraft to remove feral swine or for surveillance of wildlife populations would not limit the ability of people to harvest those target mammal species with annual hunting and/or trapping seasons.

Issue 7 – Effects of Beaver Dam Manipulation on the Status of Wetlands in the State

Between FY 2012 and FY 2016, WS' personnel did not remove or breach beaver dams in the State. Therefore, WS' activities did not result in negative effects to wetlands. Program activities and their potential impacts on wetlands have not changed from those analyzed in the EA. The additional efforts by the WS program to address damage caused by armadillos and opossum, and activities to address damage caused by nutria and gray squirrels would have no effects on beaver dams or the status of wetlands in the State. Similarly, the use of helicopters to remove feral swine by shooting and the use of aircraft for monitoring and surveillance activities would have no effect on beaver dams and the status of wetlands in the State from the removal of beaver or beaver dams.

CUMULATIVE IMPACTS OF ALTERNATIVE 1

The analyses contained in the EA, in monitoring reports, and in the current supplement to the EA have not identified significant cumulative effects from program activities implemented over time. Between FY 2012 and FY 2016, WS implemented an integrated methods approach to managing damage caused by the target mammal species that adapts to each request for assistance. WS only targeted those mammals causing damage or posing a threat of damage and only after WS received a request for such assistance. The implementation of Alternative 1 by WS over time has not resulted in significant cumulative effects on statewide populations of target mammal species when considering the qualitative and quantitative information available. Based on the limited removal of target mammals by WS and the oversight by the FWCC, WS' removal of mammals annually from the implementation of Alternative 1 has not limited the ability of people to harvest mammals or adversely affected socio-cultural elements of the human environment. The unintentional take of non-target animals has not reached a magnitude where significant cumulative effects occurred to a species' population.

WS has received no reports or documented any adverse effects to human safety from the implementation of Alternative 1 between FY 2012 and FY 2016. Personnel employing methods would continue to receive training to be proficient in the use of methods to ensure the safety of the applicator and to the public. Based on the use patterns of methods, those methods would not cumulatively affect human safety. WS' employees continue to employ methods as humanely as possible by applying measures to minimize pain and that allow wildlife captured to be addressed in a timely manner to minimize distress. Through the establishment of WS' Directives and SOPs that guide WS in the use of methods to address damage, the cumulative effects on the issue of method humaneness and animal welfare would be minimal. The implementation of Alternative 1 has not adversely affected the status of wetlands in the State. The analysis in the EA and the supplement to the EA continue to indicate that implementing an integrated

methods approach to managing damage and threats caused by mammals within the impact parameters of Alternative 1 would not result in significant cumulative effects on the quality of the human environment.

Cumulative Effects Associated with Additional Efforts to Address Nine-banded Armadillos, Virginia Opossum, Nutria, and Gray Squirrels

Based on those qualitative and quantitative measures available, the supplement to the EA indicates the magnitude of lethal removal by WS of nine-banded armadillos, Virginia opossum, nutria, and gray squirrels at the levels considered would be low. The proposed activities would not limit the ability of people to harvest opossum, nutria, and gray squirrels in the State. Armadillos are a non-protected mammal species in Florida and the FWCC allows people to remove nuisance armadillos at any time. Based on previous activities associated with those species and the methods available to address damage caused by those species, the unintentional dispersal, live-capture, or lethal removal of non-target animals would not increase substantially when addressing armadillos, opossum, nutria, and gray squirrels. WS' personnel would continue to implement those SOPs discussed in Chapter 3 of the EA and those SOPs discussed in the supplement to minimize risks of dispersing, live capturing, or lethally removing non-target animals. Based on the use patterns of the methods available, an increase in the use of those methods to address those activities described in the supplement to the EA would not increase risks to human safety.

The proposed increased removal of armadillos and opossum under the supplement and the removal of nutria and gray squirrels would not adversely affect socio-cultural elements of the human environment. WS' personnel would continue to use those methods discussed in the EA to manage damage caused by armadillos, opossum, nutria, and gray squirrels; therefore, the issue of method humaneness and animal welfare would continue to be as addressed in the EA.

Cumulative Effects Associated with the Use of Aircraft

The analyses in the EA did not identify any cumulative effects associated with the use of aircraft by WS. WS would only use aircraft for surveillance and monitoring of wildlife and could use firearms from helicopters to remove feral swine. The use of aircraft for surveillance and monitoring would generally occur at higher elevations than the use of helicopters to shoot feral swine. The use of firearms from helicopters to remove feral swine would only occur when WS' personnel deemed the use of a helicopter was appropriate using the WS Decision Model. In addition, WS would only use firearms and helicopters to lethally remove feral swine after the appropriate landowner or manager sign a work initiation document or similar to document allowing WS to use those methods on property they own or manage.

DECISION AND RATIONALE

I have carefully reviewed the EA, the supplement to the EA, and the comments from the public involvement process. I find Alternative 1, including the additional activities that could occur under Alternative 1 addressed in the supplement to the EA, to be environmentally acceptable, addressing the issues and needs while balancing the environmental concerns of management agencies, landowners, advocacy groups, and the public. The analyses in the EA and the supplement EA adequately address the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to animal populations or the quality of the human environment are likely to occur from implementation of Alternative 1, as supplemented. In addition, implementing Alternative 1, as supplemented, would not constitute a major federal action. Therefore, the completion of an EIS is not warranted based on the analyses in the EA and the supplement to the EA indicate that.

Based on the analyses in the EA and the supplement to the EA, selecting Alternative 1 would best address the issues identified in Chapter 2 of the EA when applying the associated SOPs discussed in Chapter 3 of the EA and those additional SOPs identified in Section XIII of the supplement to the EA. Implementing Alternative 1, as supplemented, would successfully address damage caused by target mammal species using a combination of the most effective methods and would not adversely impact the environment, wetlands, property, human health and safety, target species, and/or non-target species, including threatened or endangered species. As supplemented, Alternative 1 would offer the greatest chance of maximizing effectiveness and benefits to resource owners and managers and would present the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety. As supplemented, Alternative 1 would offer a balanced approach to the issues of humaneness, animal welfare, and socio-cultural elements when all facets of those issues are considered. Implementation of Alternative 1 would have no effect on the status of wetlands within the State. Changes that broaden the scope of damage management activities in the State, changes that affect the natural or human environment, or changes from the issuance of new environmental regulations could trigger further analysis. Therefore, it is my decision to implement Alternative 1 as described in the EA, including those additional activities addressed in the supplement to the EA.

Finding of No Significant Impact

Based on the analyses provided in the EA and the supplement to the EA, there are no indications that implementation of Alternative 1, as supplemented, would have a significant impact, individually or cumulatively, on the quality of the human environment. I agree with this conclusion and therefore, find that an EIS should not be prepared. I based this determination on the following factors:

1. As supplemented, WS' activities to manage damage in the State under Alternative 1 would not be regional or national in scope.
2. Based on the analyses in the EA and the supplement to the EA, the methods available during the implementation of Alternative 1 would not adversely affect human safety based on their use patterns.
3. As supplemented, Alternative 1 would not significantly affect unique characteristics, such as parklands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas. SOPs discussed in Chapter 3 of the EA and Section XIII of the supplement to the EA, and WS' adherence to applicable laws and regulations would further ensure that activities conducted by WS during the implementation of Alternative 1, as supplement, would not harm the environment.
4. The effects on the quality of the human environment from the implementation of Alternative 1, as supplemented, are not highly controversial. Although there is some opposition to managing animal damage and the methods, this action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA, the supplement to the EA, and the accompanying administrative file, the effects on the human environment from the implementation of Alternative 1, as supplemented, would not be significant. The effects associated with implementing Alternative 1, as supplemented, would not be highly uncertain, and would not involve unique or unknown risks.
6. Implementation of Alternative 1 by WS, as supplemented, would not establish a precedent for any future action with significant effects.

7. Neither the EA nor the supplement to the EA identified significant cumulative effects associated with implementing Alternative 1, as supplemented. The EA and the supplement to the EA analyzed cumulative effects and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State of Florida.
8. As supplemented, implementation of Alternative 1 would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would implementing Alternative 1, as supplemented, likely cause any loss or destruction of significant scientific, cultural, or historical resources.
9. WS has determined that the proposed program under Alternative 1, as supplemented, would not adversely affect federally listed threatened or endangered species currently listed in the State and the USFWS has concurred with WS' determination. In addition, WS determined the proposed program under Alternative 1, as supplemented, would have no effect on some threatened or endangered species. Further, WS consulted the state Wildlife Action Plan (FWCC 2012) as part of this analysis and the alternatives would be consistent with the plan.
10. As supplemented, WS' activities conducted under Alternative 1 would comply with all applicable federal, state, and local laws (see WS Directive 2.210).

Several considerations formed the basis for this decision. This decision takes into account public comments, social/political and economic concerns, public health and safety, and the best available science. The foremost considerations are that: 1) WS would only conduct activities at the request of landowners/managers, 2) management actions would be consistent with applicable laws, regulations, policies and orders, and 3) the analysis did not identify adverse effects to the environment. As a part of this Decision, the WS program in Florida would continue to provide effective and practical technical assistance and direct management techniques that reduces damage and threats of damage.

Janet Bucknall, Director-Eastern Region
 USDA/APHIS/WS
 Raleigh, North Carolina

Date

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