## DECISION AND FINDING OF NO SIGNIFICANT IMPACT

## ENVIRONMENTAL ASSESSMENT: PREDATOR DAMAGE MANAGEMENT IN THE CORPUS CHRISTI DISTRICT OF TEXAS

### PURPOSE

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program, in cooperation with the Texas A&M University System, through the Texas A&M AgriLife Extension Service, prepared an environmental assessment (EA) to evaluate alternative approaches to managing damage caused by predators in the Corpus Christi District[1] of Texas. The WS program, the Texas A&M AgriLife Extension Service, and the Texas Wildlife Damage Management Association have signed a Memorandum of Understanding (MOU) to conduct a cooperative program to alleviate damage caused by predators. The EA and this Decision will refer to the cooperative program created by the MOU as the Texas Wildlife Services Program (TWSP).

As described in the EA, the term "*predators*" refers to Virginia opossum (*Didelphis virginianus*), coyotes (*Canis latrans*), feral/free roaming dogs (*Canis familiaris*), mountain lions (*Felis concolor*), striped skunks (*Mephitis mephitis*), hooded skunks (*Mephitis macroura*), hog-nosed skunks (*Conepatus leuconotus*), western spotted skunks (*Spilogale gracilis*), eastern spotted skunks (*Spilogale putorius*), feral/free roaming cats (*Felis domesticus*), gray fox (*Urocyon cinereoargenteus*), red fox (*Vulpes vulpes*), bobcats (*Lynx rufus*), and raccoons (*Procyon lotor*).

The EA documents the need for damage management in the Corpus Christi District and assesses potential impacts to the human environment of five alternatives to address that need. The TWSP prepared the EA to determine if the alternatives could have a significant impact on the quality of the human environment. Specifically, the TWSP prepared the EA to: 1) facilitate planning, 2) facilitate interagency coordination, 3) streamline program management, 4) evaluate the potential environmental consequences of the alternatives related to the issues associated with managing damage caused by predators, and 5) clearly communicate to the public the analysis of individual and cumulative impacts.

### NEED FOR ACTION

The need for action arises from requests for assistance received by the TWSP to reduce and prevent damage occurring to agricultural resources, natural resources, property, and threats to human safety associated with predators. The TWSP would only conduct damage management activities after receiving a request for assistance. Before initiating activities, the TWSP and the entity requesting assistance would sign a MOU, work initiation document, or another comparable document, which would list all the methods the property owner or manager would allow the TWSP to use on property they own and/or manage. As part of disease surveillance and monitoring programs, the TWSP could also participate in disease sampling.

### SCOPE OF ANALYSES IN THE EA

The EA evaluates the need for action to manage damage associated with predators in the Corpus Christi District, the potential issues associated with managing damage caused by predators, and the environmental consequences of conducting different alternatives to meet the need for action while

[1]To provide efficient program support and assistance, the TWSP has divided Texas into districts for the purposes of implementing a program to manage predatory animals. The Corpus Christi District includes 23 counties in south Texas, which covers approximately 16.4 million acres (see Figure 1 in the EA).

addressing the identified issues. The EA evaluates meeting the need for action under five alternatives. Appendix B of the EA provides a discussion of the methods available for use or recommendation under each of the alternatives. The actions evaluated were the use of those methods available under the alternatives and the employment of those methods by the TWSP to manage or prevent damage associated with predators in the Corpus Christi District of Texas. The standard WS Decision Model (Slate et al. 1992) would be the site-specific procedure for individual actions conducted by the TWSP (see WS Directive 2.201).

Initially, the TWSP developed the issues related to managing damage associated with predators in consultation with the Texas Department of Agriculture and the Texas Parks and Wildlife Department (TPWD). Through the scoping process, the TWSP defined the issues and identified the preliminary alternatives. As part of the scoping process, the TWSP made the EA available to the public for review and comment by a legal notice published daily in the *Austin American Statesman* newspaper. The TWSP program also published a notice of availability on the APHIS website announcing the EA was available for public review and comment. The TWSP also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in predator damage management in the Corpus Christi District and/or the State. The TWSP received five comment letters during the public comment period. Appendix A of this Decision summarizes the contents of the comment letters and provides responses.

## RELATIONSHIP OF THE EA TO OTHER ENVIRONMENTAL DOCUMENTS

The TWSP has previously developed nine district EAs that analyzed the need for action to manage damage associated with predators. Since the EA re-evaluated activities conducted under the previous EA for the Corpus Christi District to address the new need for action associated with predators and the associated affected environment, the analysis in the EA and the outcome of this Decision will supersede the previous EA for the District.

The WS program has also developed an EA that analyzed the environmental effects of WS' involvement in the funding of and participation in oral rabies vaccination programs to eliminate or stop the spread of raccoon rabies in a number of eastern states and gray fox and coyote rabies in Texas (USDA 2009). The WS program determined the action would not have a significant effect on the quality of the human environment.

## AUTHORITY AND COMPLIANCE

The WS program is authorized by law to reduce damage caused by animals through the Act of March 2, 1931 (46 Stat. 1468; 7 USC 426-426b), as amended and the Act of December 22, 1987 (101 Stat. 1329-331, 7 USC 426c). Title 10, Chapter 825, Subchapter A, Section 825.001 of the Texas Health and Safety Code requires The Texas A&M University System to cooperate with the WS program in controlling coyotes, mountains lions, bobcats, feral swine, and other predatory animals to protect livestock, food and feed supplies, crops, and ranges.

Management of most native wildlife in the State, including the Corpus Christi District, is the responsibility of the TPWD. The authority of the TPWD does include the management of some predators, including skunks, raccoons, opossum, red fox, and gray fox. However, the TPWD regulatory authority does not extend to coyotes, bobcats, mountain lion, feral dogs, and feral cats. Under Title 5, Subtitle A, Chapter 43, Section 43.1075 of the Texas Parks and Wildlife Code, the TPWD also has the authority to permit a landowner or their agent to use a firearm from a helicopter to remove predators. While the TWSP collaborates with the TPWD in the management of depredating wildlife, the TWSP has independent authority to conduct predatory animal management (Attorney General Opinion JM-683).

The TWSP maintains a policy of conducting activities consistent with any management directions or plans that the TPWD has established on behalf of the State as applicable to the authorities of the TWSP.

The Texas A&M AgriLife Extension Service is an agency within The Texas A&M University System. The Texas Legislature has authorized the State of Texas to cooperate through The Texas A&M University System with the appropriate federal officers and agencies to control predatory animals and rodent pests (Texas Health and Safety Code, Title 10, Ch. 825). The Texas Wildlife Damage Management Association consists of local cooperative groups, including county governments, private associations, and/or individuals that contribute and provide funding to the TWSP to address predators.

In addition, landowners or their agents may address predators causing damage on property they own when those animals are causing damage. Title 5, Subtitle C, Chapter 71, Section 71.004(a) of the Texas Parks and Wildlife Code allows a landowner or their agent to lethally remove fur-bearing animals causing depredation on the landowner's property without a need for a permit or license.

The EA and this Decision ensures the actions of the WS program comply with the NEPA, with the Council on Environmental Quality guidelines (40 CFR 1500), and with the APHIS' NEPA implementing regulations (7 CFR 372). The TWSP would conduct all damage management activities, including disposal requirements, consistent with applicable laws, regulations, and policies, in accordance with WS Directive 2.210.

**DECISIONS TO BE MADE**

Based on the scope of the EA, the decisions for the TWSP to make are:

- Should the TWSP continue to conduct damage management to alleviate predator damage in the Corpus Christi District
- Should the TWSP conduct disease surveillance and monitoring in predator populations
- Should the TWSP continue to implement an integrated methods strategy
- If not, should the TWSP attempt to implement one of the alternatives
- Would continuing the proposed action alternative or the other alternatives result in significant effects to the environment requiring the preparation of an Environmental Impact Statement

**AFFECTED ENVIRONMENT**

The Corpus Christi District includes 23 counties in south Texas (see Figure 1 in the EA). The District covers approximately 16.4 million acres (about 12.5% of the State), consisting primarily of the South Texas Plains ecological region of Texas, and part of the Gulf Prairies and Marshes ecoregion. Those predators addressed in the EA are capable of utilizing a variety of habitats in the Corpus Christi District. Most species of predators addressed in the EA occur throughout the year across the State, including the Corpus Christi District, where suitable habitat exists for foraging and shelter. Damage or threats of damage caused by those species could occur throughout the Corpus Christi District wherever those predators occur.

However, the TWSP would only provide assistance when requested by a landowner or manager and only on properties where the TWSP and the cooperating entity signed a MOU, work initiation document, work plan, or another comparable document. Upon receiving a request for assistance, the TWSP could conduct activities to reduce predator damage or threats on federal, state, tribal, municipal, and private properties in the Corpus Christi District. Areas where damage or threats of damage could occur include, but would not be limited to agricultural fields, vineyards, orchards, farmyards, dairies, ranches, livestock operations,

aquaculture facilities, fish hatcheries, grain mills, grain handling areas, railroad yards, waste handling facilities, industrial sites, natural resource areas, park lands, and historic sites; state and interstate highways and roads; railroads and their right-of-ways; property in or adjacent to subdivisions, businesses, and industrial parks; timberlands, croplands, and pastures; private and public property where burrowing predators cause damage to structures, dikes, ditches, ponds, and levees; public and private properties in rural/urban/suburban areas where predators cause damage to landscaping and natural resources, property, and are a threat to human safety through the spread of disease. The area would also include airports and military airbases where predators were a threat to human safety and to property; areas where predators were negatively affecting wildlife, including threatened and endangered (T&E) species; and public property where predators were negatively affecting historic structures, cultural landscapes, and natural resources.

## ISSUES ASSOCIATED WITH PREDATOR DAMAGE MANAGEMENT ACTIVITIES

The TWSP defined the issues related to managing damage associated with predators in the Corpus Christi District and identified preliminary alternatives. The TWSP also made the EA available to the public for review and comment through notices published in local media and through direct notification of potentially interested parties.

Chapter 2 of the EA describes in detail the issues considered and evaluated in the EA. The TWSP identified the following issues as important to the scope of the analysis (40 CFR 1508.25) with each alternative evaluated in the EA relative to the impacts on those major issues:

- Issue 1 - Effects of Damage Management Activities on Target Predator Populations
- Issue 2 - Effects on Non-target Species Populations, Including T&E Species
- Issue 3 - Effects of Damage Management Methods on Human Health and Safety
- Issue 4 - Effects of Damage Management Activities on Recreational Activities
- Issue 5 - Humaneness and Animal Welfare Concerns of Methods

## ISSUES CONSIDERED BUT NOT ANALYZED IN DETAIL WITH RATIONALE

In addition to those issues analyzed in detail, the TWSP identified several issues during the development of the EA but the TWSP did not consider those issues in detail. Section 2.3 of the EA discusses the rationale for the decision not to analyze those issues in detail.

## DESCRIPTION OF THE ALTERNATIVES

The TWSP developed the following five alternatives to respond to the issues identified in Chapter 2 of the EA. Chapter 4 of the EA provides a detailed discussion of the effects of the alternatives on the issues. Below is a summary of the alternatives.

### Alternative 1 - Continue the Current Adaptive Integrated Predator Damage Management Program (No Action)

The WS program would continue involvement in the TWSP under the no action alternative. This alternative would allow the WS program to continue to provide direct operational assistance and technical assistance as part of the TWSP. Assistance would involve recommending and/or employing an integrated damage management approach using available methods, as appropriate, to reduce damage associated with predators in the Corpus Christi District. Under this alternative, the WS program, as part of the TWSP, would recommend or implement an adaptive integrated methods strategy that would encompass the use of

practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on people, other species, and the environment. The TWSP would give preference to non-lethal methods when formulating each damage management strategy, and would recommend or implement non-lethal methods when practical and effective before recommending or implementing lethal methods. However, the TWSP would not implement non-lethal methods as a first response to every damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. Technical assistance provided under this alternative would be similar to technical assistance provided under Alternative 4.

All of the methods addressed in Appendix B of the EA would be available to the TWSP for use to resolve requests for assistance to manage damage associated with predators in the Corpus Christi District. Using the WS Decision model discussed in the EA, the TWSP could employ methods singularly or in combination in an integrated approach to alleviate damage caused by predators.

**Alternative 2 - Continue the Current Damage Management Program across Multiple Resource Types (Proposed Action)**

The proposed action alternative would continue the current program of implementing methods in an adaptive integrated approach to alleviate damage or threats of damage associated with predators as described under Alternative 1. In addition, the TWSP could respond to requests for assistance from the TPWD, the USFWS, and/or other entities to enhance survival of native wildlife populations in areas where the appropriate entity has requested the assistance of the TWSP when approved by the property owner.

**Alternative 3 - No Involvement by WS with the TWSP**

Under the no involvement alternative, the federal WS program would have no involvement with any aspect of managing damage caused by predators in the Corpus Christi District and would no longer be involved with the TWSP. The WS program would refer all requests for assistance to the Texas A&M AgriLife Extension Service, the Texas Wildlife Damage Management Association, the TPWD, and/or other entities. The TWSP, consisting of the Texas A&M AgriLife Extension Service and the Texas Wildlife Damage Management Association, could continue to provide assistance as described in Alternative 1 or Alternative 2. In addition, those people experiencing damage or threats of damage caused by predators could continue to employ those methods legally available to address predator damage on their own since people can address predators to alleviate damage or threats without the need for a permit from the TPWD.

Most of the methods described in Appendix B of the EA would be available under this alternative. The only methods that would have limited availability to all entities to manage damage caused by predators under this alternative would be immobilizing drugs and euthanasia chemicals. Immobilizing drugs and euthanasia chemicals would only be available to appropriately licensed veterinarians or people under their supervision. All other methods described in Appendix B of the EA would be available to those people experiencing damage.

**Alternative 4 – The WS Program Provides Technical Assistance Only**

Under the technical assistance only alternative, the WS program would continue to participate as part of the TWSP; however, personnel with the WS program would address every request for assistance with technical assistance only. Technical assistance would provide those people seeking assistance with information and recommendations on methods and techniques that those cooperators could implement

without WS' direct involvement in the action. The WS program could provide technical assistance through personal or telephone consultations and through site visits. Those people could employ methods recommended by the WS program, could employ other methods, could seek further assistance from other entities, or could take no further action. The Texas A&M AgriLife Extension Service and the Texas Wildlife Damage Management Association could continue to provide assistance as described in Alternative 1 and Alternative 2. The WS program could also refer people requesting assistance to the Texas A&M AgriLife Extension Service and the Texas Wildlife Damage Management Association.

Similar to the other alternatives, methods described in Appendix B would be available to those people experiencing damage or threats associated with predators except immobilizing drugs and euthanasia chemicals. Immobilizing drugs and euthanasia chemicals would only be available to appropriately licensed veterinarians or people under the supervision. All other methods described in Appendix B of the EA would be available to those persons experiencing damage and to other entities that could provide assistance.

**Alternative 5 – Use of Only Non-lethal Methods by the WS Program**

Under this alternative, the WS program would be required to implement only non-lethal methods to resolve damage or threats of damage associated with predators. Only those methods discussed in Appendix B that are considered non-lethal would be employed or recommended by the WS program. No lethal removal of predators would occur by employees of the WS program. The use of lethal methods to manage damage could continue under this alternative by the other members of the TWSP, by landowners or resource managers, and by other entities. The non-lethal methods used or recommended by the WS program under this alternative would be identical to those identified in any of the alternatives.

In situations where non-lethal methods were impractical or ineffective to alleviate damage or threats of damage, the WS program could refer requests for information regarding lethal methods to the Texas A&M AgriLife Extension Service, the Texas Wildlife Damage Management Association, other governmental agencies, and/or private businesses.

## ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

The TWSP considered additional alternatives during the development of the EA to address the issues but the TWSP did not analyze those alternatives in detail with the rationale discussed in Section 3.2 of the EA.

## STANDARD OPERATING PROCEDURES FOR PREDATOR DAMAGE MANAGEMENT

The TWSP uses many standard operating procedures that improve the safety, selectivity, and efficacy of activities to manage damage associated with predators. Chapter 3 of the EA discusses the standard operating procedures that would be implemented under the alternatives, when applicable. The TWSP would incorporate those standard operating procedures into activities conducted if the decision-maker selected the no action alternative (Alternative 1), the proposed action alternative (Alternative 2), and when applicable, under the technical assistance by the WS program alternative (Alternative 4) and the use of non-lethal methods only by the WS program alternative (Alternative 5). If the decision-maker selected the no involvement by the WS program alternative (Alternative 3), the lack of assistance by the WS program could preclude the employment or recommendation of those standard operating procedures addressed in the EA.

## ENVIRONMENTAL CONSEQUENCES FOR ISSUES ANALYZED IN DETAIL

Chapter 4 of the EA analyzed the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on the major issues identified in the EA. The no action alternative served as the baseline for the analysis and the comparison of expected impacts among the alternatives. The analysis also takes into consideration mandates, directives, and the procedures of the TWSP, the Texas Department of Agriculture, and the TPWD.

The following resource values in Texas 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 listed in threatened or endangered species recovery plans), visual resources, air quality, prime and unique farmlands, aquatic resources, timber, and range. The activities proposed in the alternatives would have a negligible effect on atmospheric conditions, including the global climate. Meaningful direct or indirect emissions of greenhouse gases would not occur because of any of the alternatives. Those alternatives would meet the requirements of applicable laws, regulations, and Executive Orders, including the Clean Air Act and Executive Order 13514.

### Issue 1 - Effects of Damage Management Activities on Target Predator Populations

A common issue when addressing damage caused by wildlife is the potential impacts of management actions on the populations of target species. Lethal and non-lethal methods would be available to resolve wildlife damage or threats to human safety. When effective, non-lethal methods would disperse predators from the area resulting in a reduction in the presence of those animals at the site. Most people regard non-lethal methods used to exclude or disperse target animals as having minimal effects on overall populations of wildlife since those animals would be unharmed. The WS program, as part of the TWSP, would not employ non-lethal methods over large geographical areas or apply those methods at such intensity that essential resources (*e.g.*, food sources, habitat) would be unavailable for extended durations or over a wide geographical scope. Therefore, long-term adverse effects would not occur to a species' population. The continued use of non-lethal methods often leads to the habituation of animals to those methods, which can decrease the effectiveness of those methods.

Under the no action alternative and the proposed action alternative, the WS program, as a cooperating member of the TWSP, could use lethal methods to remove those predators that employees have identified as causing damage or posing a threat to human safety. Lethal methods employed by the WS program could reduce the number of predators present at a location. A reduction in the number of predators at a location could lead to a reduction in damage. Therefore, the use of lethal methods could result in the removal of individual animals from a local population.

The analysis in Chapter 4 of the EA measures the number of individual predators lethally removed in relation to that species abundance to determine the magnitude of impact to the populations of those species from the use of lethal methods. Magnitude may be determined either quantitatively or qualitatively. Determinations based on population estimates, allowable harvest levels, and actual harvest data are quantitative. Determinations based on population trends and harvest trend data, when available, are qualitative.

The number of individual animals removed from a species' population annually by the WS program using lethal methods under Alternative 1 and Alternative 2 would be dependent on the number of requests for assistance received, the number of predators involved with the associated damage or threat, and the efficacy of methods employed. The TWSP based the levels of annual lethal removal of target species under the no action alternative and the proposed action alternative on activities to address previous requests for assistance. In addition, the estimated annual lethal removal levels were based on receiving

future requests for assistance and the efforts of the TWSP to address those requests for assistance. To ensure a cumulative analysis, the annual removal levels evaluated in the EA include those predators that the entire TWSP could remove annually, including those predators that personnel of the WS program could remove annually.

The number of predators removed by the TWSP and other entities without involvement by the WS program under Alternative 3 would be unknown but would likely be similar to the removal that could occur under Alternative 1 and Alternative 2. The TWSP with limited involvement by the WS program could continue to use all available methods to manage predator damage under Alternative 4 and Alternative 5. In addition, landowners and their agents could lethally remove predators to alleviate damage. Therefore, any predators that the WS program removes as part of the TWSP to alleviate damage, other entities, including other members of the TWSP, could remove in the absence of the WS program.

Most non-lethal and lethal methods available for resolving damage or threats associated with predators would be available under any of the alternatives. Immobilizing drugs and euthanasia chemicals would be the only methods that would have limited availability under all of the alternatives. In addition, many of the predator species addressed in the EA can be harvested in the State, including the Corpus Christi District, during annual hunting and/or trapping seasons. Therefore, any damage management activities conducted by the TWSP under the alternatives addressed would be occurring along with other natural process and human-induced events such as natural mortality, human-induced mortality from private damage management activities, mortality from regulated harvest, and human-induced alterations of wildlife habitat.

To determine the magnitude of impacts in relation to predators and their populations adequately, the EA analyzed the data and known cumulative removal of predators. Based on those quantitative and qualitative parameters addressed in the EA, the proposed levels of lethal removal for each predator species addressed under the alternatives would be considered of low magnitude when compared to population trend data, population estimates, and/or harvest data. The number of predators lethally removed annually under the alternatives would likely be similar since the removal of predators could occur despite no involvement by the WS program, or limited involvement by the WS program. The WS program, individually, does not have the authority to regulate the number of predators lethally removed annually by other entities, including other members of the TWSP.

The lethal removal of predators by the TWSP to alleviate damage or threats of damage from FY 2012 through FY 2014 was of a low magnitude when compared to the total known removal of those species and the populations of those species. The analysis in the EA indicates predator populations are not being impacted to the point of causing a substantial decline. If, at some point in the future, wildlife populations declined due to harvest or damage management activities, then such a decline would not necessarily constitute a significant impact on the quality of the human environment as defined by the NEPA. Such a decline would not constitute a significant effect so long as the actions that caused the decline were in accordance with the responsible management agency's goals and objectives, with applicable state law, and concomitantly, with the collective desires of the people of the District or State.

From the standpoint of the NEPA, additional justification for a finding of no significant impact on the quality of the human environment with respect to the lethal removal of predators in the Corpus Christi District is that the environmental status quo would be expected to be virtually the same in the absence of federal action by the WS program. If the federal WS program provided no assistance, it is reasonable to expect that a State agency and/or private individuals would remove the same or closely similar numbers of individual predators as allowed under State law.

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

Another issue often raised is the potential impacts to populations of wildlife from the unintentional removal of non-target animals during damage management activities. While the TWSP, including the WS program, would make efforts to minimize the risks of lethally removing non-target animals, the potential does exist for the unintentional removal of non-targets during damage management activities.

Under the no involvement by the WS program alternative (Alternative 3), the WS program would not provide assistance with any aspect of managing damage associated with predators; therefore, no direct impacts to non-targets would occur from the WS program. However, other members of the TWSP and/or private landowners and their agents could continue to employ methods to alleviate damage that could result in non-target removals that were similar to the no action (Alternative 1) and the proposed action (Alternative 2) alternatives.

Under the technical assistance only alternative (Alternative 4), the WS program could provide information on the proper use of methods and provide demonstration on the use of methods but the WS program would not provide direct operational assistance by using methods to alleviate predator damage or threats. However, the Texas A&M AgriLife Extension Service and the Texas Wildlife Damage Management Association could continue to provide direct operational assistance under the TWSP despite no or limited involvement by the WS program. In addition, landowners and their agents could address damage associated with predators without any involvement by the WS program and/or the TWSP.

Similar to the no involvement by the WS program alternative (Alternative 3) and the non-lethal methods only alternative (Alternative 5), under the technical assistance alternative (Alternative 4), if other entities applied those methods as intended and with regard for non-target hazards, those methods would not result in the decline of non-target species' populations. If the WS program provided requesters with technical assistance but those entities do not implement any of the recommended actions and take no further action, the potential impacts to non-targets would be lower than the no action (Alternative 1) and the proposed action (Alternative 2). If those persons requesting assistance implemented recommended methods appropriately and as instructed or demonstrated, the potential impacts to non-targets would be similar to the no action (Alternative 1) and the proposed action (Alternative 2) alternatives. Methods or techniques used inappropriately by any entities would likely increase risks to non-targets. When employing direct operational assistance under the alternatives, the TWSP, including the WS program, would employ methods and use techniques that would avoid non-target removal as described in Chapter 3 of the EA under the standard operating procedures.

The methods described in Appendix B have a high level of selectivity and could be employed using standard operating procedures to ensure minimal impacts to non-target species. The unintentional take of animals would likely be limited and would not reach a magnitude where adverse effects would occur. Based on the methods available to resolve predator damage and/or threats and the analysis in the EA, the TWSP does not anticipate the number of non-targets taken to reach a magnitude where declines in those species' populations would occur. Therefore, take under the proposed action of non-targets would not cumulatively affect non-target species.

The TWSP reviewed those threatened and endangered species listed in the Corpus Christi District during the development of the EA. The TWSP has consulted and would continue to consult with the United States Fish and Wildlife Service to evaluate activities to resolve predator damage to ensure the protection of threatened or endangered species and to comply with the Endangered Species Act.

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

The threats to human safety from methods would be similar across the alternatives since those methods would be available under all the alternatives. However, the expertise of the WS program and the TWSP in using those methods available likely would reduce threats to human safety since employees of the WS program and the TWSP would be trained and knowledgeable in the use of those methods. If people implemented methods incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that people could employ those methods. The EA determined that the availability of immobilizing drugs and euthanasia chemicals under the alternatives would not increase risks to human safety from the use of those methods. Although risks do occur from the use of immobilizing drugs and euthanasia chemicals, when the WS program and the TWSP use those methods in consideration of human safety, the use of those methods would not pose additional risks to human safety beyond those associated with the use of other methods. From FY 2012 through FY 2014, no adverse effects to human safety by the TWSP have occurred from the use of those methods available. The risks to human safety from the use of non-lethal and lethal methods, when used appropriately and by trained personnel, would be low.

**Issue 4 - Effects of Damage Management Activities on Recreational Activities**

Outdoor recreation encompasses a wide variety of activities that people may consider as consumptive or non-consumptive use. Consumptive uses may include activities such as hunting, fishing, and rock hounding. Non-consumptive uses may include activities such as bird watching, photography, camping, hiking, biking, rock climbing, winter sports, and water sports.

The WS program, through the TWSP program, would only conduct damage management activities when requested by the appropriate property owner or manager. The TWSP would attempt to minimize conflicts with recreational activities by coordinating activities with the requesting land management entity (*e.g.*, by developing work plans). Therefore, the requesting entity would determine what activities would be allowed and when assistance was required. Because the TWSP would only conduct activities when requested by the appropriate property owner or manager and the requesting entity would determine what methods would be used to alleviate damage, no conflict with recreational activities would likely occur under any of the alternatives.

**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. Since many methods addressed in Appendix B of the EA would be available under all the alternatives, the issue of method humaneness and animal welfare would be similar for those methods across all the alternatives. As stated previously, immobilizing drugs and euthanasia chemicals would be the only methods that would have limited availability under some of the alternatives. Under the no action alternative (Alternative 1) and the proposed action alternative (Alternative 2), the TWSP, including the WS program, would consider method humaneness when conducting damage management activities and the TWSP would employ methods as humanely as possible. Under the technical assistance alternative (Alternative 4), if those people receiving technical assistance from the WS program employ those methods recommended inappropriately or without consideration of predator behavior, those persons could employ those methods inhumanely. Under the non-lethal methods only alternative (Alternative 5), the WS program would only use and recommend non-lethal methods. Despite the lack of involvement by the WS program under Alternative 3, WS' limited involvement under Alternative 4, and WS' use or recommendation of only non-lethal methods under Alternative 5, those methods perceived as inhumane by certain individuals and groups would still be available to the public to use to resolve damage and threats caused by predators. A lack of

understanding of the behavior of predators or improperly identifying the damage caused by predators along with inadequate knowledge and skill in using methodologies to resolve the damage or threat could lead to incidents with a greater probability of people perceiving those situations as inhumane under Alternative 3, Alternative 4, and Alternative 5.

## CUMULATIVE IMPACTS OF THE PROPOSED ACTION

No significant cumulative environmental impacts were identified from any of the five alternatives, including the proposed action. The lethal removal of predators to alleviate damage or threats of damage would be of a low magnitude when compared to the total known removal of those species and the populations of those species. The unintentional removal of non-target animals would likely be limited and would not reach a magnitude where adverse effects would occur. Based on the methods available to resolve predator damage and/or threats and the analysis in the EA, the TWSP does not anticipate the number of non-targets taken to reach a magnitude where declines in those species' populations would occur.

The TWSP has received no reports or documented any effects to human safety from damage management activities conducted from FY 2012 through FY 2014. No cumulative effects from the use of those methods discussed in Appendix B would be expected given the use patterns of those methods for resolving predator damage in the Corpus Christi District. Because the TWSP would only conduct activities when requested by the appropriate property owner or manager and the requesting entity would determine what methods would be used to alleviate damage, no conflict with recreational activities would likely occur. The TWSP would employ methods as humanely as possible by applying standard operating procedures to minimize pain and allow wildlife captured to be addressed in a timely manner to minimize distress. The analysis in the EA indicates that an integrated approach to managing damage and threats caused by predators would not result in significant cumulative effects on the quality of the human environment.

## DECISION AND RATIONALE

Based on the analyses of the alternatives that were developed to address those issues analyzed in detail within the EA, including individual and cumulative impacts of those alternatives, I, the decision-maker, have made the following decision.

### *Decision*

I have carefully reviewed the EA prepared to meet the need for action. I find the proposed action alternative (Alternative 2) 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 adequately addresses the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to wildlife populations or to the quality of the human environment are likely to occur from the proposed action, nor does the proposed action constitute a major federal action. Therefore, the analysis in the EA does not warrant the completion of an Environmental Impact Statement.

Based on the analyses in the EA, the issues identified are best addressed by selecting Alternative 2 (proposed action) and applying the associated standard operating procedures discussed in Chapter 3 of the EA. Alternative 2 would successfully address predator damage using a combination of the most effective methods and would not adversely affect the environment, property, human safety, and/or non-target species, including threatened or endangered species. Alternative 2 would offer the greatest chance of maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative

effects on the quality of the human environment that might result from the program's effect on target and non-target species' populations. In addition, Alternative 2 would present the greatest chance of maximizing net benefits while minimizing adverse effects to public health and safety. Alternative 2 would also offer a balanced approach to the issues of humaneness and animal welfare when all facets of those issues were considered. Further analysis would be triggered if changes occur that broaden the scope of damage management activities, that affect the natural or human environment, or from the issuance of new environmental regulations. Therefore, it is my decision to implement the proposed action alternative (Alternative 2) as described in the EA.

***Finding of No Significant Impact***

Based on the analyses provided in the EA, there are no indications that the proposed action (Alternative 2) 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 Environmental Impact Statement should not be prepared. This determination is based on the following factors:

1. Managing damage caused by predators, as conducted by the TWSP in the Corpus Christi District, would not be regional or national in scope.

2. Based on the analyses in the EA, the methods available would not adversely affect human safety based on their use patterns and standard operating procedures.

3. The proposed action alternative would continue to have no significant effect on unique characteristics, such as parklands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas. Standard operating procedures and adherence to laws and regulations that govern impacts on elements of the human environment would assure that significant adverse impacts were avoided.

4. The effects on the quality of the human environment are not highly controversial. Although there may be opposition to killing predators, this action is not controversial in terms of size, nature, or effect. Based on consultations with the TPWD, the proposed action is not likely to cause a controversial disagreement among the appropriate resource professionals.

5. Based on the analysis in the EA and the accompanying administrative file, the effects of the proposed damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

6. The proposed action would not establish a precedent for any future action with significant effects. This action would not set a precedent for future actions that may be implemented or planned within the District.

7. No significant cumulative effects were identified through the assessment. 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 Corpus Christi District or the State of Texas.

8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. The TWSP has consulted and would continue to consult with the United States Fish and Wildlife Service to evaluate activities to resolve predator damage to ensure the protection of threatened or endangered species and to comply with the Endangered Species Act.

10. The proposed action would comply with all applicable federal, state, and local laws.

***Rationale***

The rationale for this decision is based on several considerations. 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) the WS program, as part of the TWSP, would only conduct damage management at the request of landowners/managers, 2) management actions would be consistent with applicable laws, regulations, policies and orders, and 3) no cumulative effects to the environment were identified in the analysis. The WS program, as part of the TWSP, would continue to provide effective and practical technical assistance and direct management techniques that reduce damage and threats of damage.

Jason Suckow, Director-Western Region
USDA/APHIS/WS
Fort Collins, Colorado

4/15/16
Date

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## APPENDIX A

## RESPONSES TO COMMENTS ON THE ENVIRONMENTAL ASSESSMENT: PREDATOR DAMAGE MANAGEMENT IN THE CORPUS CHRISTI DISTRICT OF TEXAS

During the public involvement process for the EA, WS received five comment letters. WS has reviewed the contents of those comment letters to identify additional issues, alternatives, and/or concerns that were not addressed in the EA. The contents of those comments received during the public involvement process are summarized below along with WS' responses.

**Comment 1 – Do not harm predators. Do not kill animals.**

**Response:** WS developed several alternatives to meet the need for action and address the identified issues associated with managing damage caused by predators in the Corpus Christi District. Section 3.1 of the EA contains a discussion of the alternatives that WS analyzed in detail to meet the need for action discussed in Chapter 1 and to address the identified issues discussed in Chapter 2. Section 3.2 of the EA also discusses alternatives considered but not analyzed in detail, with rationale. WS developed the alternatives based on the need for action and issues using the WS Decision Model. Two of the alternatives that WS considered in detail in the EA included a technical assistance only alternative (Alternative 4) and a no involvement by the WS program alternative (Alternative 3). Therefore, WS considered this alternative in detail within the EA.

**Comment 2 – Livestock producers should use large dogs to guard livestock . Livestock producers should build better fences.**

**Response:** Many livestock producers use non-lethal methods to reduce predation (NASS 2000, NASS 2001, NASS 2005, NASS 2011). Cattle producers spent nearly $188.5 million dollars in the United States on non-lethal methods to reduce cattle and calf losses from predation by animals in 2010 (NASS 2011). The NASS (2005) reported that many Texas sheep and goat producers used non-lethal methods to reduce predator damage, such as fencing, guard dogs, night penning, donkeys, frequent checks, lamb shed, culling, llamas, bedding change, herding, carrion removal, frightening tactics, and other non-lethal methods. The NASS (2011) also reported that Texas cattle producers used non-lethal methods to reduce predator damage, including guard animals, culling, frequent checks, and exclusion fencing. The primary non-lethal method employed by livestock producers in the United States is guard animals with a reported 36.9% of producers using guard animals. The use of guard animals was reported as being employed by 29% of sheep and goat producers in Texas that (NASS 2005) along with 50% of the cattle producers (NASS 2011). The use of exclusion fencing was reported as being employed by 32% of sheep and goat producers in Texas (NASS 2005) along with 24% of the cattle producers (NASS 2011).

However, Andelt (1992) reported that about a third of sheep producers using guard dogs indicated that the use of dogs did not reduce their reliance on other predator control techniques or on predator control agencies. The use of fencing can be effective at excluding predators; however, many of the target predator species are cable of digging under fencing or are able to exploit areas when natural events cause damage to fences (*e.g.*, high water may frequently wash out fences that transverse across streams and creeks, trees or tree branches may fall on fences). Livestock producers often incur indirect costs associated with livestock predation in addition to the direct loss from animals killed by predators, such as the implementation of methods to reduce predation rates (Jahnke et al. 1987). Economic losses associated with predation on livestock often occur despite efforts by livestock producers to reduce predation rates. Many of those non-lethal methods (*e.g.*, fencing, guard animals) require a large investment in time to implement and have a high initial cost (Mitchell et al. 2004). Even with the additional effort and costs,

those methods are not always effective at reducing damage and potentially have side effects (*e.g.*, concentrating livestock can cause unwanted damage to particular pasture areas) (Knowlton et al. 1999).

**Comment 3 – Removing coyotes will cause rat populations to increase. Killing animals will cause harm to the ecosystem. Predators have benefits to the environment**.

**Response:** The potential effects of removing predators on biodiversity was an issue that WS identified during the development of the EA but was not an issue that WS analyzed in detail within the EA for the reasons provided in Section 2.3 of the EA. Any removal of predators by WS under the alternatives would be of low magnitude when compared to the actual statewide population of predators. In addition, the activities of WS would occur on a small percentage of the land area within the District. Personnel of WS only target those predators identified as causing damage or pose a threat of damage. Short-term eradication or long-term population suppression of predators populations are not approaches that WS would consider or conduct.

**Comment 4 – Building large fences would not prove cost effective for a farmer. Building large fences would confine livestock making it easier for predators to kill livestock.**

**Response:** Many livestock producers already use non-lethal methods to reduce predation (NASS 2000, NASS 2001, NASS 2005, NASS 2011), such as exclusion fencing. The use of fencing can be effective at excluding predators; however, many of the target predator species are cable of digging under fencing or are able to exploit areas when natural events cause damage to fences (*e.g.*, high water may frequently wash out fences that transverse across streams and creeks, trees or tree branches may fall on fences). Livestock producers often incur indirect costs associated with livestock predation in addition to the direct loss from animals killed by predators, such as the implementation of methods to reduce predation rates (Jahnke et al. 1987). Economic losses associated with predation on livestock often occur despite efforts by livestock producers to reduce predation rates. Many of those non-lethal methods (*e.g.*, fencing) require a large investment in time to implement and have a high initial cost (Mitchell et al. 2004). Even with the additional effort and costs, those methods are not always effective at reducing damage and potentially have side effects (*e.g.*, concentrating livestock can cause unwanted damage to particular pasture areas) (Knowlton et al. 1999).

**Comment 5 – The government should deal with the removal of dangerous predators.**

**Response:** Damage management activities are an appropriate sphere of activity for government programs, since managing wildlife is a government responsibility. The WS program is authorized to protect agriculture and other resources from damage caused by animals through the Act of March 2, 1931 (46 Stat. 1468; 7 USC 426-426b) as amended, and the Act of December 22, 1987 (101 Stat. 1329-331, 7 USC 426c). The WS program is the lead federal authority in managing damage to agricultural resources, natural resources, property, and threats to human safety associated with animals. WS developed several alternatives to meet the need for action and address the identified issues associated with managing damage caused by predators in the Corpus Christi District. Section 3.1 of the EA contains a discussion of the alternatives that WS analyzed in detail to meet the need for action discussed in Chapter 1 and to address the identified issues discussed in Chapter 2. Section 3.2 of the EA also discusses alternatives considered but not analyzed in detail, with rationale. WS developed the alternatives based on the need for action and issues using the WS Decision Model. Four of the alternatives that WS considered in detail in the EA would allow the WS program to provide assistance with managing damage. Therefore, WS considered this alternative in detail within the EA.

**Comment 6 – Government should not kill animals.**

**Response:** As stated previously, those persons experiencing damage often employ non-lethal methods to reduce damage or threats prior to contacting the WS program. For example, many livestock producers already use non-lethal methods to reduce predation (NASS 2000, NASS 2001, NASS 2005, NASS 2011), including livestock producers in Texas (NASS 2005, NASS 2011). Mitchell et al. (2004) indicated that non-lethal methods to alleviate predation could be effective. However, Mitchell et al. (2004) and others, such as Knowlton et al. (1999), indicate that, although certain non-lethal methods have shown promise, further research is needed to determine their effectiveness and practicality. Non-lethal methods would be an important part of the mix of current strategies used to meet the need for action; however, in some cases, the use of only non-lethal methods would not keep damage or threats of damage at a level that would be acceptable to some people. Andelt (1992) reported that about a third of sheep producers using guard dogs indicated that the use of dogs did not reduce their reliance on other predator control techniques or on predator control agencies. Furthermore, livestock losses could increase as coyotes become accustomed to non-lethal practices (Pfiefer and Goos 1982). Green et al. (1994) found that guard dogs decrease in effectiveness over time, possibly due to an increase in coyotes and/or increase in predatory activities. Shivik (2006) provided a comparison of non-lethal tools for managing predation associated with carnivores, including the duration of effectiveness of those non-lethal tools. For example, Shivik (2006) noted that electronic guards would only be effective for 40 to 50 days when used to deter coyotes. When evaluating the effectiveness of fladry to exclude coyotes from livestock pastures in Michigan, Davidson-Nelson and Gehring (2010) found "*…no long-term exclusion of coyotes from fladry-protected livestock pastures*." However, design modification may improve the effectiveness of fladry (Young et al. 2015).

Many non-lethal methods available to alleviate damage or threats associated with predators, such as livestock management practices (*e.g.*, night-penning, herding, carcass removal) and physical exclusion (*e.g.*, predator-proof fencing), are not practical for implementation by WS' personnel. Implementation of most non-lethal methods for livestock protection falls within the purview of the livestock producer (Knowlton et al. 1999). The continued use of many non-lethal methods can often lead to the habituation of predators to those methods, which can decrease the effectiveness of those methods. Therefore, those persons experiencing damage or threats of damage associated with predators may seek assistance with the use of available lethal methods.

**Comment 7 – The budget of APHIS should be cut. The agency should be shut down.**

**Response:** Damage management activities are an appropriate sphere of activity for government programs, since managing wildlife is a government responsibility. Eliminating the APHIS or the WS program would be similar to the alternative analyzed in detail in the EA where there would be no involvement by the WS program with any aspect of managing predator damage in the Corpus Christi District (Alternative 3). Therefore, adding an analysis of an additional alternative whereby WS or another entity pursued the termination of the funding for the APHIS or WS would not add to the existing analyses in the EA. Under Alternative 3, the WS program would not be involved with any aspect of managing predator damage in the District; however, other entities (*e.g.*, the Texas A&M AgriLife Extension Service, Texas Wildlife Damage Management Association) could conduct damage management activities in the absence of the WS program.

**Comment 8 – WS only uses lethal methods and wants to kill all wildlife. Agriculture producers only want to kill wildlife.**

**Response:** The WS Decision Model would be the implementing mechanism for a damage management program under applicable alternatives that could be adapted to an individual damage situation. When WS

receives a request for direct operational assistance, WS would conduct site visits to assess the damage or threats, would identify the cause of the damage, and would apply the Decision Model described by Slate et al. (1992) and WS Directive 2.201 to determine the appropriate methods to resolve or prevent damage. Discussion of the Decision Model and the use of the Model by WS occur in Section 3.1 of the EA. In addition, WS would give preference to non-lethal methods when practical and effective (see WS Directive 2.101). Appendix B in the EA discusses many non-lethal methods that WS' personnel could recommend or employ to resolve damage under the applicable alternatives. WS does not attempt to eradicate any species of native wildlife in the State. WS operates in accordance with federal and state laws and regulations enacted to ensure species viability.

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