DECISION AND FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: PREDATOR DAMAGE MANAGEMENT IN THE FORT WORTH 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 Fort Worth 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 Fort Worth 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 Fort Worth District, the potential issues associated with managing damage caused by predators, and the

[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 Fort Worth District includes 61 counties in southwest Texas, which covers approximately 27.4 million acres (see Figure 1 in the EA).

environmental consequences of conducting different alternatives to meet the need for action while 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 Fort Worth 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 Fort Worth District and/or the State. The TWSP received one comment letter during the public comment period. Appendix A of this Decision summarizes the comments 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 Fort Worth 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 Fort Worth 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 Fort Worth 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 Fort Worth District includes 61 counties in northeast Texas (see Figure 1 in the EA). The District covers approximately 27.4 million acres (about 20.8% of the State), consisting primarily of the Pineywoods, Post Oak Savannah, Blackland Prairies, and Cross Timbers and Prairies ecological region of Texas. Those predators addressed in the EA are capable of utilizing a variety of habitats in the Fort Worth District. Most species of predators addressed in the EA occur throughout the year across the State, including the Fort Worth District, where suitable habitat exists for foraging and shelter. Damage or threats of damage caused by those species could occur throughout the Fort Worth 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 Fort Worth 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 Fort Worth 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 Fort Worth 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 Fort Worth 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 Fort Worth 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 without involvement by the WS program and other entities 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 Fort Worth 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 2009 through FY 2011 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 Fort Worth 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 Fort Worth 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 uses 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 2009 through FY 2011, 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 conducted 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 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 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 2009 through FY 2011. 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 Fort Worth 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 aesthetics 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 Fort Worth 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 Fort Worth 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.

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

9/14/15
Date

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APPENDIX A

RESPONSES TO COMMENTS ON THE ENVIRONMENTAL ASSESSMENT: PREDATOR DAMAGE MANAGEMENT IN THE FORTH WORTH DISTRICT OF TEXAS

During the public involvement process for the EA, WS received one comment letter. WS has reviewed the comment letter to identify additional issues, alternatives, and/or concerns that were not addressed in the EA. Those comments received during the public involvement process are summarized below along with WS' response to those comments.

Comment 1 - The comment indicated that the TWSP should have evaluated an alternative whereby WS' personnel employ all feasible non-lethal methods available prior to the use of lethal methods.

Response: The TWSP did consider an alternative where the WS program would apply non-lethal methods or techniques to all requests for assistance to reduce damage and threats to safety from predators; however, the TWSP did not analyze the alternative in detail for the reasons provided in Section 3.2 of the EA. For example, if the requester had already employed non-lethal methods or if the predators had habituated to scare tactics, repellents, or other non-lethal dispersal techniques, WS would not consider continuing to implement those techniques because they had not proven effective in those situations.

The National Agriculture Statistics Service (2005) reported that many Texas sheep and goat producers used non-lethal methods to reduce predator damage. Producers in Texas used fencing (32%), guard dogs (29%), night penning (24%), donkeys (24%), frequent checks (17%), lamb shed (16%), culling (11%), llamas (11%), bedding change (7%), herding (5%), carrion removal (5%), other nonlethal methods (4%), and frightening tactics (1%) to reduce predation. The National Agriculture Statistics Service (2011) also reported that Texas cattle producers used guard animals (50%), culling (31%), frequent checks (30%), and exclusion fencing (24%) to reduce predation. 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 or personnel of the TWSP. The resource owner is responsible for the implementation of most non-lethal methods (Knowlton et al. 1999). As shown by reports from the National Agriculture Statistics Service (2005, 2011), in many cases, livestock producers are already employing non-lethal methods to alleviate or prevent predation.

Pursuant to WS Directive 2.101, personnel would give preference to non-lethal methods when practical and effective; therefore, personnel would consider non-lethal methods before the use of lethal methods under any of the alternatives where WS was involved with providing technical or operational assistance. Hence, the associated analysis of using all non-lethal methods before lethal methods would not add additional information to the analysis for the public or decision maker. In addition, the TWSP considered in detail within the EA an alternative requiring the use of only non-lethal methods (see Alternative 5 in Section 3.1 of the EA).

Comment 2 - The EA should address animal welfare standards as well as animal welfare measures, which are generally referred to as animal welfare assessments (*e.g.*, Kirkwood et al. 1994, Proulx 1999, Sharp and Saunders 2008, Sharp and Saunders 2011). WS should adopt an assessment tool for animal welfare.

Response: The humaneness of methods and animal welfare concerns was an issue addressed in detail throughout the EA (see Section 2.2, Section 4.1, and Section 4.2 of the EA), including standard operating procedures to address humaneness and animal welfare (see Section 3.3 and Section 3.4 of the EA). The EA states, "*...research has not yet progressed to the development of objective, quantitative measurements*

of pain or stress for use in evaluating humaneness (Bateson 1991, Sharp and Saunders 2008, Sharp and Saunders 2011)." The citations provided by the commenter support this statement. When discussing the use of welfare assessments, Sharp and Saunders (2008, 2011) stated "[Kirkwood et al. (1994)] *warn that the process of allocating a score to reflect the severity of harm to welfare should be used with great caution due to a number of difficulties with this approach.*" Sharp and Saunders (2008, 2011) also stated "[w]*ith regard to animal suffering,* [Kirkwood et al. (1994)] *take the view that that although all mammals and birds have the capacity to suffer the unpleasant sensations of pain or stress, there is insufficient information to grade this suffering.* Although Sharp and Saunders (2008, 2011) attempt to address the use of a humaneness model, they also indicate such a model has several disadvantages. The disadvantages of welfare assessment identified by Sharp and Saunders (2008, 2011) include (1) subjective judgments would have to be made due to the lack of objective data relating to welfare, (2) a humaneness assessment would only provide a grade instead of providing an absolute measure, (3) grades assigned by individual assessors would be based purely on their own subjective opinion, and (4) a model cannot provide how the animal actually feels.

Many of the factors and considerations identified by Sharp and Saunders (2008, 2011) for use in humaneness models, have been addressed through the establishment of best management practices for trapping in the United States (*e.g.*, see International Association of Fish and Wildlife Agencies 1997, Association of Fish and Wildlife Agencies 2006). WS recognizes the value and use of the best management practices for trapping and utilizes those guidelines as a basis for policy formulation (see WS Directive 2.450). As the EA states "[t]*he goal of WS would be to use methods as humanely as possible to effectively resolve requests for assistance to reduce damage and threats to human safety. WS would continue to evaluate methods and activities to minimize the pain and suffering of methods addressed when attempting to resolve requests for assistance.*" Assessing animal welfare in wildlife damage management actions is highly subjective, especially in environmental conditions that are difficult to predict and control. Therefore, WS relies on best management practices and environmental review processes that ensure applied techniques are as humane as possible without compromising efficiency and effectiveness.

Comment 3 – The EA should cite the most recent edition of the American Veterinary Medical Association guidelines on euthanasia

Response: The commenter claims the EA relies upon a previous version of the American Veterinary Medical Association guidelines on euthanasia instead of the most current version. However, the EA cites the current version of the euthanasia guidelines (American Veterinary Medical Association 2013) in several places when discussing euthanasia methods. The discussions that relate to humaneness and euthanasia in the EA are consistent with current guidelines of the American Veterinary Medical Association.

Comment 4 - The EA should provide justification for control and the stepwise procedures that WS' personnel should follow in the wildlife damage management planning process. The decision model that WS uses is old and must be expanded and updated.

Response: The WS Decision Model (see WS Directive 2.201) described by Slate et al. (1992) depicts how WS' personnel would use a thought process for evaluating and responding to damage complaints (see Chapter 3 of the EA for a description of the Decision Model and its application). Decisions made using the model would be in accordance with WS' directives and Standard Operating Procedures (SOPs) described in the EA as well as relevant laws and regulations. In section 3.1 of the EA, WS describes the alternatives in detail, including the methods, procedures, and recommendations that would be available for use to manage damage caused by predators under those alternatives.

The TWSP, including the WS program, only provides assistance after receiving a request for such assistance. If an assistance request were within the authority of the TWSP, employees would gather and analyze damage information to determine applicable factors, such as what species was responsible for the damage, the type of damage, the extent of damage, and the magnitude of damage. Other factors that employees could gather and analyze would include the current economic loss or current threat (*e.g.*, threat to human safety), the potential for future losses or damage, the local history of damage, and what management methods, if any, were used to reduce past damage and the results of those actions. Once a problem assessment was completed, an employee would conduct an evaluation of available management methods. The employee would evaluate available methods in the context of their legal and administrative availability and their acceptability based on biological, environmental, social, and cultural factors. An employee would formulate a management strategy using those methods that the employee determines to be practical for use. Employee would also consider factors essential to formulating each management strategy, such as available expertise, legal constraints on available methods, costs, and effectiveness.

After formulating a management strategy, the employee could provide technical assistance and/or direct operational assistance to the requester (see WS Directive 2.101). When providing direct operational assistance, it would be necessary to monitor the results of the management strategy. Monitoring would be important for determining whether further assistance was required or whether the management strategy resolved the request for assistance. Through monitoring, an employee would continually evaluate the management strategy to determine whether additional techniques or modification of the strategy was necessary. When providing technical assistance, a project would normally end after an employee provided recommendations or advice to the requester. A direct operational assistance project would normally end when personnel stop or reduce the damage or threat to an acceptable level to the requester or to the extent possible. Some damage situations may require continuing or intermittent assistance from personnel and may have no well-defined termination point. Therefore, the WS program applies a proven decision model and assessment process that ensures personnel employ the most appropriate and effective methods when resolving predator damage issues.

Comment 5 – The time interval between checking traps discussed in the EA is vague. In addition, the EA needs to address differences between urban/suburban areas compared to rural environments, the fate of animals caught and left for lengthy periods in traps, and the use of trap check technologies.

Response: As stated previously, the WS Decision Model (see WS Directive 2.201) depicts how personnel would use a thought process for evaluating and responding to requests for assistance (see Chapter 3 of the EA for a description of the Decision Model and its application). Decisions made using the model would be in accordance with WS' directives and SOPs described in the EA as well as relevant laws and regulations (see WS Directive 2.210). Personnel would evaluate available methods in the context of their legal and administrative availability and their acceptability based on biological, environmental, social, and cultural factors. An employee would formulate a management strategy using those methods that the employee determines to be practical for use based on the conditions associated with each request for assistance. Therefore, humaneness and animal welfare are conditions an employee would consider when using the Decision Model to determine appropriate methods for each request for assistance.

The Decision Model allows personnel to consider conditions that could influence method humaneness, such as weather, method placement, workloads, and trap check technology. As stated in the EA, people may label methods as humane or inhumane based solely on the method itself. For instance, many people consider a cage trap to be a humane method, since the trap captures the animal alive and generally unharmed. However, methods labelled as humane can be inhumane if people use the method inappropriately. For example, if people do not consider environmental (*e.g.*, high temperatures) and other conditions (*e.g.*, placement in urban areas where people may harass trapped animals) those methods that

people consider humane could be inhumane. Therefore, personnel consider environmental and other conditions when determining appropriate trap check intervals, which may vary depending on those considerations. In addition, some methods may allow for different trap check intervals. For example, lethal methods may allow for longer trap check intervals when compared to methods that capture animals alive.

WS' personnel adhere to a code of ethics to promote and preserve the professional standards of the WS program (see WS Directive 1.301). As part of the code of ethics, WS' personnel "*...will utilize the WS Decision Model to resolve wildlife damage problems and strive to use the most selective and humane methods available, with preference given to nonlethal methods when practical and effective.*" When considering the most humane methods available, WS' personnel would also consider environmental and other conditions that could influence method humaneness, including appropriate trap check intervals.

One of the current technologies that personnel could use to increase humaneness is trap monitors. Appendix B in the EA discusses trap monitors and their use. There are many benefits to using trap monitors, such as saving considerable time when checking traps, decreasing fuel usage, prioritizing trap checks, and decreasing the need for human presence in the area. When applicable, personnel could use trap-monitoring devices that indicate when a trap has been activated. Trap monitoring devices would allow personnel to prioritize trap checks and decrease the amount of time required to check traps, which decreases the amount of time captured target or non-targets would be restrained.

Comment 6 – The use of poisons, shooting from aircraft, traps, and snares are inhumane and the WS program should no longer use those methods. The WS program should substitute the numerous preventative and non-lethal methods available for those methods whenever possible.

Response: As stated previously, the humaneness of methods and animal welfare concerns was an issue addressed in detail throughout the EA (see Section 2.2, Section 4.1, and Section 4.2 of the EA), including standard operating procedures to address humaneness and animal welfare (see Section 3.3 and Section 3.4 of the EA). The National Wildlife Research Center (NWRC) functions as the research unit of the WS program by providing scientific information and the development of methods for wildlife damage management, which are effective and environmentally responsible. Research biologists with the NWRC work closely with wildlife managers, researchers, and others to develop and evaluate methods and techniques for managing wildlife damage. Therefore, the WS program has a dedicated unit for the research and development of new methods and incorporates those methods into activities when deemed practical and effective using the WS' Decision Model. It is the policy of WS to incorporate the Decision Model into agency decision-making when evaluating and responding to requests for assistance (see WS Directive 2.201). Once personnel complete a problem assessment after receiving a request for assistance, personnel would conduct an evaluation of available management methods. The employee would evaluate available methods in the context of their legal and administrative availability and their acceptability based on biological, environmental, social, and cultural factors. An employee would formulate a management strategy using those methods that the employee determines to be practical for use. Employees would also consider factors essential to formulating each management strategy, such as available expertise, legal constraints on available methods, costs, and effectiveness.

The EA states, "*The TWSP would continue to seek new methods and ways to improve current technology to improve the humaneness of methods used to manage damage caused by wildlife. Cooperation with individuals and organizations involved in animal welfare continues to be an agency priority for the purpose of evaluating strategies and defining research aimed at developing humane methods.*" The TWSP would continue to employ methods as humanely as possible to minimize pain and to address predators in a timely manner to minimize distress.

Comment 7 – WS should make the health and integrity of ecological communities a priority by considering trophic cascades, mesopredator release, impacts on biodiversity, and conducting a benefit-cost analysis.

Response: As stated previously, personnel complete a problem assessment after receiving a request for assistance and conduct an evaluation of available management methods. Personnel evaluate available methods in the context of their legal and administrative availability and their acceptability based on biological, environmental, social, and cultural factors. Therefore, personnel consider biological and environmental factors when evaluating available methods. During the scoping process for the EA, the TWSP identified a concern regarding the potential impact on biodiversity but the TWSP did not address the issue in detail during the development of the EA for the reasons provided in Section 2.3 of the EA.

One issue identified by the TWSP during the development of the EA was the potential effects of activities on the populations of target predators and the potential effects of activities on the populations of non-target animals (see Section 2.2 in the EA). As stated throughout the EA, the TWSP would only provide assistance under the appropriate alternatives after receiving a request to manage damage or threats. Therefore, if the TWSP provided direct operational assistance under the alternatives, the TWSP would provide assistance on a small percentage of the land area in the District. In addition, the TWSP would only target those predators identified as causing damage or posing a threat. The TWSP would not attempt to suppress wildlife populations across broad geographical areas at such intensity levels for prolonged durations that significant ecological effects would occur. The goal of the TWSP would not be to manage wildlife populations but to manage damage caused by specific individuals of a species. Therefore, those factors would constrain the scope, duration, and intensity of actions under the alternatives.

Often of concern with the use of certain methods is that predators that the TWSP lethally removes would only be replaced by other predators after the TWSP completes activities (*e.g.*, predators that relocate into the area) or by predators the following year (*e.g.*, increase in reproduction and survivability that could result from less competition). The ability of an animal population to sustain a certain level of removal and to return to pre-management levels demonstrates that limited, localized damage management methods have minimal impacts on species' populations.

For example, studies suggest coyote territories would not remain vacant for very long after removing coyotes from an area. Gese (1998) noted that adjacent coyote packs adjusted territorial boundaries following social disruption in a neighboring pack, thus allowing for complete occupancy of the area despite removal of breeding coyotes. Blejwas et al. (2002) noted that a replacement pair of coyotes occupied a territory in approximately 43 days following the removal of the territorial pair. Williams et al. (2003) noted that temporal genetic variation in coyote populations experiencing high turnover (due to removals) indicated that "*...localized removal effort does not negatively impact effective population size...*".

Section 4.1 of the EA analyzed the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on those issues. Based on those quantitative and qualitative parameters addressed in the EA, the effects of lethal removal by the TWSP for each predator species addressed in the EA would be 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.

Another issue identified by the TWSP during the development of the EA was the potential effects of activities on the populations of non-target animals (see Section 2.2 in the EA). While personnel would take precautions to safeguard against taking non-target animals during operational use of methods, the use of such methods could result in the incidental removal of unintended species. Based on the analyses in the EA, those occurrences should not affect the overall populations of any species under the proposed action. The TWSP reviewed those threatened and endangered species listed in the Fort Worth 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.

The Wildlife Society, the leading association of wildlife scientists, managers, and conservationists recognize in their Standing Position Statement on Wildlife Damage Management that "*Prevention or control of wildlife damage, which often includes removal of the animals responsible for the damage, is an essential and responsible part of wildlife management*" (The Wildlife Society 2015).

In addition, the TWSP identified the cost effectiveness of management methods as a concern during the development of the EA but did not consider the issue in detail for the reasons provided in Section 2.3 of the EA. For example, the cost of management may sometimes be secondary because of overriding environmental, legal, human health and safety, animal welfare, or other concerns.

Comment 8 – The TWSP should develop a documented formal process to determine the need for damage management to increase transparency, to guarantee that personnel are using non-lethal methods before lethal methods, and employees are following standard protocols. Commenter recommends that WS use an approach that provides justification, effectiveness, specificity, humaneness, evaluation, and follow-up.

Response: As discussed previously and in the EA, the WS Decision Model depicts how personnel would use a thought process for evaluating and responding to damage complaints. Decisions made using the model would be in accordance with WS' directives and SOPs described in the EA as well as relevant laws and regulations. The current Decision Model that personnel of the TWSP use encompasses the recommended approach of the commenter.

If an assistance request were within the authority of the TWSP, employees would gather and analyze damage information to determine applicable factors, such as what species was responsible for the damage, the type of damage, the extent of damage, and the magnitude of damage. Other factors that employees could gather and analyze would include the current economic loss or current threat (*e.g.*, threat to human safety), the potential for future losses or damage, the local history of damage, and what management methods, if any, were used to reduce past damage and the results of those actions. This step within the Decision Model addresses the justification for the need to provide assistance. Once a problem assessment was completed, an employee would conduct an evaluation of available management methods. The employee would evaluate available methods in the context of their legal and administrative availability and their acceptability based on biological, environmental, social, and cultural factors. An employee would formulate a management strategy using those methods that the employee determines to be practical for use. Employees would also consider factors essential to formulating each management strategy, such as available expertise, legal constraints on available methods, costs, and effectiveness. This step within the Decision Model outlines the achievability, effectiveness, specificity, and humaneness considerations of the management strategy.

After formulating a management strategy, the employee could provide technical assistance and/or direct operational assistance to the requester (see WS Directive 2.101). When providing direct operational assistance, it would be necessary to monitor the results of the management strategy. Monitoring would be important for determining whether further assistance was required or whether the management strategy

resolved the request for assistance. This step in the WS' Decision model reflects the evaluation phase of the approach. Through monitoring, an employee would continually evaluate the management strategy to determine whether additional techniques or modification of the strategy was necessary. When providing technical assistance, a project would normally end after an employee provided recommendations or advice to the requester. A direct operational assistance project would normally end when personnel stop or reduce the damage or threat to an acceptable level to the requester or to the extent possible. Some damage situations may require continuing or intermittent assistance from personnel and may have no well-defined termination point. This step in the WS Decision model would reflect the follow-up component of the process the commenter recommends. Therefore, the TWSP applies a proven decision model and assessment process that ensures personnel employ the most appropriate and effective methods when resolving predator damage issues.

WS' directives provide guidance to personnel when conducting official activities (see WS Directive 1.101), including a code of ethics (see WS Directive 1.301). Each employee is responsible for compliance with applicable work-related laws, regulations, and policies, including WS' directives. Pursuant to WS Directive 2.101, personnel would give preference to non-lethal methods when practical and effective; therefore, personnel would consider non-lethal methods before the use of lethal methods using the Decision Model.

Comment 9 – Killing animals to resolve damage is unacceptable especially when the conflicts are created by people through their own actions.

Response: Some species of animals have adapted to and have thrived in human altered habitats and those species, in particular, are often responsible for the majority of conflicts between people and animals. Depending on the perspectives and circumstances of individual people, animals could have either positive or negative values. In general, animals provide economic, recreational, and aesthetic benefits to most people. Knowing that animals exist in the natural environment provides a positive benefit to some people. However, people can experience economic losses from the activities associated with animals. Therefore, the TWSP is aware of the varying perspectives and values and must balance the needs of people and the needs of animals. When addressing damage or threats of damage caused by animals, the TWSP must consider not only the needs of those people directly affected by animal damage but a range of environmental, sociocultural, and economic considerations as well.

Therefore, resolving animal damage requires consideration of both sociological and biological carrying capacities. The acceptance capacity, or cultural carrying capacity, is the limit of human tolerance for animals or the maximum number of a given species that can coexist compatibly with local human populations. Biological carrying capacity is the land or habitat's ability to support healthy populations of animals without degradation to the species' health or their environment during an extended period of time (Decker and Purdy 1988). Those phenomena are especially important because they define the sensitivity of a person or community to an animal species. For any given damage situation, there are varying thresholds of tolerance exhibited by those people directly and indirectly affected by the species and any associated damage. This damage threshold determines the animal acceptance capacity. While the biological carrying capacity of the habitat may support higher populations of animals, in many cases the acceptance capacity is lower. Once the animal acceptance capacity is met or exceeded, people begin to implement population or damage management to alleviate damage or address threats to human health and safety.

The threat of damage or loss of resources is often sufficient for people to initiate individual actions and the need for damage management can occur from specific threats to resources. Those animals have no intent to do harm. They utilize habitats (*e.g.*, feed, shelter) where they can find a niche. If their activities result in lost economic value of resources or threaten human safety, people often characterize this as

damage. When damage exceeds or threatens to exceed an economic threshold and/or pose a threat to human safety, people often seek assistance with resolving damage or reducing threats to human safety. The threshold triggering a request for assistance is often unique to the individual person requesting assistance and many factors can influence when people request assistance (*e.g.*, economic, social, aesthetics). Therefore, what constitutes damage is often unique to the individual person. What one individual person considers damage, another person may not consider as damage. However, the use of the term "*damage*" is consistently used to describe situations where the individual person has determined the losses associated with an animal or animals is actual damage requiring assistance (*i.e.*, has reached an individual threshold). Many people define the term "*damage*" as economic losses to resources or threats to human safety; however, "*damage*" could also occur from a loss in the aesthetic value of property and other situations where the behavior of an animal or animals was no longer tolerable to an individual person.

The TWSP considered in detail an alternative evaluating the use of only non-lethal methods during the development of the EA. In addition, personnel would give preference to non-lethal methods under all the alternatives when practical and effective (see WS Directive 2.201). Employees would use the WS Decision Model to determine which methods were practical and effective at reducing damage or threats of damage. In some cases, the use of lethal methods could be determined to be the most practical and effective way of reducing damage to the level requested. The TWSP and the entity requesting assistance would sing a Memorandum of Understanding, work initiation document, or a similar document before the TWSP would provide any direct operational assistance. The Memorandum of Understanding, work initiation document, or another similar document would list the methods that the TWSP and the entity requesting assistance have agreed upon; therefore, the entity requesting assistance would have input into the methods that employees of the TWSP could use to resolve damage.

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