

**DECISION AND FINDING OF NO SIGNIFICANT IMPACT**  
**ENVIRONMENTAL ASSESSMENT: EVALUATING THE USE OF AERIAL OPERATIONS IN**  
**SOUTH DAKOTA TO MANAGE DAMAGE TO LIVESTOCK ASSOCIATED WITH COYOTES**  
**AND RED FOX**

**NEED FOR ACTION AND SCOPE OF ANALYSIS**

The mission of the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program is to provide federal leadership in managing the damage and threats of damage caused by wildlife. WS only conducts activities at the request of, and in cooperation with, other federal, state, tribal, and local agencies, as well as private organizations and individuals. WS has received a request from the South Dakota Game, Fish and Parks (SDGFP) to conduct aerial operations in South Dakota to manage livestock predation associated with coyotes (*Canis latrans*) and red fox (*Vulpes vulpes*). The SDGFP is responsible for managing wildlife populations within South Dakota, including the populations of coyotes and red fox. As part of its responsibility with managing wildlife populations within the State, the SDGFP implements a statewide program to manage damage and threats of damage associated with wildlife, including livestock predation by coyotes and red fox. The SDGFP has requested that WS incorporate its aircraft and pilots into the damage management program administered by the SDGFP to reduce economic losses associated with coyotes and red fox killing livestock in the State, including conducting aerial operations when a tribal entity seeks assistance from the SDGFP and/or WS. The SDGFP can enter into cooperative agreements with federal agencies to control coyotes, fox, and other wild animals that are injurious to livestock, poultry, and other property, including posing threats to human safety (see South Dakota Codified Law 40-36-1).

The national WS program has the infrastructure and guidelines in place to conduct aerial operations in support of activities to alleviate wildlife damage, including an Aviation Training and Operations Center. The national WS program uses aircraft for specific projects to manage wildlife damage, such as shooting, tranquilizing, hazing, or surveying wildlife that are causing damage or posing a threat of damage. The need for action identified by WS is whether to assist the SDGFP by conducting aerial operations using aircraft owned or leased by WS and the associated personnel (*i.e.*, pilot and crewmembers). If WS continues to assist the SDGFP, WS would conduct aerial operations when personnel with the SDGFP and/or a tribal entity determine the use of a shotgun from an aircraft is an appropriate method to prevent or alleviate livestock predation associated with coyotes and/or red fox. In addition, WS would only conduct aerial operations after the appropriate landowner or manager signed an agreement allowing WS to use shotguns from aircraft on property they own or manage.

Because coyotes and red fox occur statewide and throughout the year in South Dakota, predation and predation risks to livestock can occur statewide and throughout the year, wherever coyotes, red fox, and livestock overlap. Therefore, WS could conduct aerial operations statewide wherever personnel with the SDGFP and/or a tribal entity request such assistance. However, aerial operations conducted by WS would primarily occur in agricultural areas where livestock occur, such as rangeland and pastureland.

Pursuant to the National Environmental Policy Act (NEPA), WS prepared an Environmental Assessment (EA) that documents alternative approaches to meeting the need for action and documents the potential environmental effects associated with implementing those alternative approaches. The EA provides evidence and analysis to determine whether the potential environmental effects to the human environment might be significant requiring the preparation of an Environmental Impact Statement (EIS). Therefore, the analyses in the EA helped inform agency decision-makers, including making an informed decision on whether the alternative approaches would require the preparation of an EIS or the EA process concludes with a Finding of No Significant Impact. This Decision document provides notification of WS' choice of an alternative approach and determination regarding the environmental effects of the chosen approach.



The EA, along with this Decision, document WS' compliance with the NEPA, with the Council on Environmental Quality guidelines (see 40 CFR 1500), and with the implementing regulations for the NEPA of the USDA (7 CFR 1b) and the APHIS (see 7 CFR 372).

Another major purpose of the NEPA is to include the public during the planning process to support informed decision-making. WS made the EA available to the public for review and comment through notices published in local media and through direct notification of interested parties. WS made the EA available to the public for review and comment by a legal notice published in the *Capital Journal* newspaper on February 15, 2018, February 16, 2018, and February 19, 2018 and the *Rapid City Journal* newspaper on February 16, 2018, February 21, 2018, and February 24, 2018. WS also made the EA available to the public for review and comment on the APHIS website on February 13, 2018 and on the federal e-rulemaking portal at the regulations.gov website beginning on February 12, 2018. WS also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing livestock predations associated with coyotes and red fox. The public involvement process ended on March 23, 2018. During the public comment period, WS received 10 comment responses on the draft EA. Chapter 4 of the final EA summarizes the comments received and provides responses to the comments. Based on further review of the draft EA, WS incorporated minor editorial changes into the final EA. Primarily, those changes clarified that WS could conduct activities on land managed and/or owned by a tribe in South Dakota when a tribal entity seeks such assistance from the SDGFP and/or WS. Those minor changes enhanced the understanding of the EA, but did not change the analysis provided in the EA.

## **ISSUES AND ALTERNATIVES**

Issues are concerns regarding potential effects that might occur from a proposed activity (see Section 2.1). Federal agencies, such as the WS program, must consider such issues during the decision-making process of the NEPA. WS identified several issues during the development of the EA. Section 2.1.1 of the EA describes the issues considered and evaluated in detail by WS as part of the decision-making process. Section 2.1.2 of the EA describes additional issues that WS considered but did not analyze in detail within the EA. The rationale for the decision not to analyze those issues in detail occurs in Section 2.1.2 of the EA.

The EA evaluated two alternatives in detail to respond to the need for action discussed in Section 1.4 of the EA and the issues identified in Section 2.1.1 of the EA. Section 2.2.1 of the EA provides a description of the alternatives evaluated in detail. If the WS program implemented Alternative 1, which is the no action/proposed action alternative, WS would continue to conduct aerial operations to alleviate predation of livestock by red fox and coyotes by integrating aerial operations into the program to manage wildlife damage administered by the SDGFP. If the WS program implemented Alternative 2, the WS program would no longer conduct any aerial operations to alleviate livestock predation associated with coyotes and/or red fox in South Dakota. A detailed discussion of the effects of those alternatives on the issues occurs in Section 3.2 of the EA. WS also considered additional alternatives; however, WS did not consider those alternatives in detail for the reasons provided in Section 2.2.2 of the EA.

WS would incorporate those standard operating procedures discussed in Section 2.3 of the EA into activities if the decision-maker selected Alternative 1. If the decision-maker selected Alternative 2, the lack of assistance by WS would preclude the use of those standard operating procedures addressed in Section 2.3 of the EA.



## ENVIRONMENTAL CONSEQUENCES

Section 3.1 describes the elements that determine whether an effect may be “*significant*”, which is dependent upon the context and intensity of the action. When reviewing the context and intensity of the alternatives, WS considered the magnitude of the impact, the duration/frequency of the action, the likelihood of the impact, the geographic extent, the legal status, and conforming to statutes, regulations, and policies. Section 3.2 of the EA analyzes the two alternatives discussed in Section 2.2.1 of the EA as those two alternatives relate to the issues by analyzing the environmental consequences of each alternative in comparison to determine the extent of actual or potential direct, indirect, and cumulative effects on the issues. Section 3.2 of the EA provides information needed to make informed decisions. The discussion below provides a summary of the environmental consequences of the two alternatives for each of the issues analyzed in detail.

### **Issue 1 - Effects on the Coyote and Red Fox Populations Associated with Meeting the Need for Action**

Based on the best available information, the analyses in Section 3.2.1 of the EA indicate the direct and cumulative effects on the statewide coyote and red fox population associated with implementing Alternative 1 would be of low magnitude. The cumulative lethal removal of coyotes and red fox from all known sources of mortality in South Dakota would not reach a threshold that would cause a decline in the statewide populations of those species. A population model by Pitt et al. (2001, 2003) assessed the impact of removing a set proportion of a coyote population during one year and then allowing the population to recover. In the model, all populations recovered within one year when <60% of the population was removed. Recovery occurred within five years when removal reached 60 to 90% of the population. Pitt et al. (2001, 2003) also evaluated the impact of removing a set proportion of the population every year for 50 years. When the removal rate was <60% of the population, the population size was the same as for an unexploited population. Based on the direct and cumulative lethal removal of coyotes in the State from 2011 through 2016, the annual direct and cumulative removal of coyotes, including the removal of coyotes that could occur by WS, would be below the 60% removal level required to cause population declines calculated by Pitt et al. (2001, 2003). From 2011 through 2016, the cumulative known removal of red fox within the State has ranged from 2.5% to 3.7% of the estimated statewide population, which would not be of sufficient magnitude to cause the statewide population to decline.

There are no indications that coyote and red fox populations in the State are showing rapid declines. People can harvest coyotes and red fox in the State at any time with no limit on the number of coyotes and red fox that people can harvest, which indicates those species are not at risk of overharvesting. Although implementing Alternative 1 could result in a localized reduction in the number of coyotes and/or red fox at locations where activities occur, the reduction would likely be short-term because compensatory reproduction would contribute to population recovery after removals.

Available information indicates the cumulative annual mortality of coyotes and red fox from all sources would not reach an intensity level or magnitude that would cause long-term suppression or eradication of those species within the State. The potential impacts associated with the continued implementation of Alternative 1 would not be of sufficient magnitude or scope at the local or state level to cause trophic cascades or impact biodiversity. The available information indicates that the cumulative removal of coyotes or red fox that has occurred or that could occur in South Dakota would not lead to adverse effects on ecosystems from indirect increases in mesopredators (e.g., striped skunks, raccoons).

If WS implements Alternative 2 and no longer provided assistance, the SDGFP is likely to implement their own aerial operations and/or is likely to seek assistance with aerial operations from private entities.



Consequently, the implementation of Alternative 2 would likely have similar effects to implementing Alternative 1 because the same or similar activities would occur by the SDGFP or private entities they hire to conduct the activities.

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

If WS implemented Alternative 1, WS' pilots would not intentionally pursue non-target animals when conducting aerial operations. When the pilot and/or crewmember identify a target animal, the WS' pilot would bring the aircraft within shooting distance of the target animal. Therefore, during aerial operations, the pilot and/or the crewmember would positively identify the target animal prior to discharging the shotgun. However, there is a slight potential for misidentification of an animal, especially other native canid species. Coyotes and red fox have many characteristics that make them identifiable from other species, which would reduce the risk of a pilot unintentionally pursuing a non-target animal or a crewmember shooting an animal unintentionally from an aircraft. From FY 2012 through FY 2016, WS' personnel did not lethally remove any non-target animals during aerial operations in South Dakota.

There is also a concern about the potential for low-level flights to disturb wildlife. In general, the potential for adverse effects appear to occur when overflights are frequent, such as hourly, and over long periods of time, which would represent chronic exposure. WS would conduct aerial activities on a very small percentage of the land area within the State. Between FY 2012 and FY 2016, WS conducted aerial operations on 3.9% of the total land area of the State annually; therefore, implementation of Alternative 1 would not expose most wildlife in the State to aerial overflights and would occur infrequently throughout the year. In addition, low-level overflights generally occur for less than 10 minutes per square mile. WS has used fixed-wing aircraft and helicopters for aerial shooting in areas inhabited by wildlife for many years. No known problems to date have occurred to wildlife from overflights associated with WS' aerial operations and WS does not anticipate any in the future from implementation of Alternative 1. If WS implements Alternative 2, the SDGFP would likely implement their own aerial activities or hire private entities to conduct aerial activities in the State, which would likely have similar effects to implementing Alternative 1.

WS would only conduct limited harassment activities near active eagle nests and Important Eagle Use Areas<sup>1</sup> in accordance with the National Bald Eagle Management Guidelines (USFWS 2007). The categories from the guidelines that would encompass WS' aerial activities are Category G (aircraft use). Category G activities generally call for a buffer of 1,000 feet around active bald eagle nests. Although similar guidelines do not exist for golden eagles, WS would apply those guidelines when encountering golden eagles. WS does not expect aerial activities to agitate or bother a bald eagle or golden eagle to a degree that causes, or is likely to cause, a decrease in its productivity or cause nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. WS based this determination on its adherence to the national bald eagle management guidelines (see USFWS 2007) and the standard operating procedures discussed in Section 2.3 of the EA.

During the development of the EA, WS reviewed the current list of species designated as threatened or endangered in South Dakota as determined by the United States Fish and Wildlife Service (USFWS). WS conducted a review of potential impacts of aerial operations on each of those species. The evaluation took into consideration the direct and indirect effects of aerial operations to alleviate livestock predation associated with coyotes and red fox. WS reviewed the status, critical habitats designations, and current known locations of those species. WS determined the continued implementation of Alternative 1 would

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<sup>1</sup> Pursuant to 50 CFR 22.3, the definition of an Important Eagle-use Area is "...an eagle nest, foraging area, or communal roost site that eagles rely on for breeding, sheltering, or feeding, and the landscape features surrounding such nest, foraging area, or roost site that are essential for the continued viability of the site for breeding, feeding, or sheltering eagles."



have no effect on most species listed as threatened or endangered by the USFWS. For the gray wolf (*Canis lupis*) and black-footed ferret (*Mustela nigripes*), WS determined that continued implementation of Alternative 1 “*may affect*” the gray wolf and black-footed ferret but those effects would be solely beneficial, insignificant, or discountable, which would warrant a “*not likely to adversely affect*” determination. WS prepared and submitted a biological evaluation to the USFWS as part of the consultation process pursuant to Section 7 of the ESA. The USFWS concurred with WS’ effects determination for the gray wolf and black-footed ferret (S. Larson, USFWS pers. comm. 2017).

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

To ensure safety, the national WS program established the Aviation Training and Operations Center to help train agency and contract pilots, as well as crewmembers, in a variety of measures to reduce accidents and improve safety associated with low-level flying. WS has also developed a comprehensive Aviation Operations and Safety Manual that provides guidance for WS’ personnel when conducting aerial operations. As part of WS’ commitment to safety, the WS program must certify pilots and aircraft under established WS program procedures and only crewmembers that have received training through WS’ Aviation Training and Operations Center can use firearms from aircraft.

As discussed in Section 3.2.3 of the EA, the risks to human safety from the use of shotguns from aircraft, when used appropriately and by trained personnel, would be low. WS’ pilots who conduct low-level flight activities would be highly skilled and would have to pass proficiency tests in the flight environments encountered by the WS program. Crewmembers who use firearms from within an aircraft would receive safety training, including the safe use of a firearm within an aircraft, pursuant to the WS Aviation Operations and Safety Manual. Crewmembers who use firearms from within an aircraft must meet and maintain minimum certification and qualification requirements established by the WS Aviation Training and Operations Center. WS’ personnel involved with aerial operations would follow the policies and directives set forth in WS Directive 2.620, the WS’ Aviation Operations and Safety Manual and its amendments, Title 14 CFR, and Federal Aviation Regulations, Part 43, 61, 91, 119, 133, 135, and 137. The WS program aircraft-use policy helps ensure the program conducts aerial shooting in a safe and environmentally sound manner, in accordance with federal and state laws.

Federal aviation regulations require pilots to fly a minimum distance of 500 feet from structures and people, and all employees involved in those operations would adhere to this requirement. Aerial operations would primarily occur in agricultural areas where livestock occur, such as rangeland and pastureland, which are not highly populated areas; therefore, the risk to the public from aviation operations or accidents would be minimal. No adverse effects to human safety have occurred from WS’ implementation of Alternative 1 in the State from FY 2012 through FY 2016. Based on the use patterns of methods available to address damage caused by coyotes and red fox, implementation of Alternative 1 would comply with Executive Order 12898 and Executive Order 13045. If WS implements Alternative 2, the risks to human safety would likely be similar to Alternative 1 because the SDGFP is likely to conduct their own aerial operations or hire private entities to conduct those activities within the State.

### **DECISION AND RATIONALE**

I have carefully reviewed the EA prepared to meet the need for action. I find the proposed action/no action alternative (Alternative 1) 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 address the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to animal populations or the quality of the human environment are likely to occur from implementation of Alternative 1, nor does implementation of



Alternative 1 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, selecting Alternative 1 would best address the need for action and the issues identified in Chapter 2 of the EA when applying the associated standard operating procedures discussed in Section 2.3 of the EA. Alternative 1 would not adversely impact the environment, property, human health and safety, target species, and/or non-target species, including threatened or endangered species. Changes that broaden the scope of damage management activities in the State, changes that affect the natural or human environment, or changes from the issuance of new environmental regulations would trigger further analysis. Therefore, it is my decision to implement Alternative 1 as described in the EA.


### ***Finding of No Significant Impact***

Based on the analyses provided in the EA, there are no indications that Alternative 1 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. I based this determination on the following factors:

1. Under Alternative 1, WS' aerial operations to manage livestock predation caused by coyotes and red fox in the State would not be regional or national in scope.
2. Based on the analyses in the EA, aerial operations during the implementation of Alternative 1 would not adversely affect human safety based on the aerial activities that would occur.
3. Alternative 1 would not significantly affect unique characteristics, such as parklands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas. Standard operating procedures discussed in Section 2.3 of the EA and WS' adherence to applicable laws and regulations would further ensure that activities conducted by WS during the implementation of Alternative 1 would not harm the environment.
4. The effects on the quality of the human environment from the implementation of Alternative 1 are not highly controversial. Although there is some opposition to the use of aircraft to alleviate livestock predation, this action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA and the accompanying administrative file, the effects on the human environment from the implementation of Alternative 1 would not be significant. The effects associated with implementing Alternative 1 are not highly uncertain and do not involve unique or unknown risks.
6. Implementation of Alternative 1 by WS would not establish a precedent for any future action with significant effects.
7. The EA did not identify significant cumulative effects associated with implementing Alternative 1. The EA analyzed cumulative effects and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State of South Dakota.
8. Implementing Alternative 1 would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would implementing Alternative 1 likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. WS determined the continued implementation of Alternative 1 would have no effect on most species listed as threatened or endangered by the USFWS. For the gray wolf and black-footed ferret, WS determined that continued implementation of the Alternative 1 “*may affect*” the gray wolf and black-footed ferret but those effects would be solely beneficial, insignificant, or discountable, which would warrant a “*not likely to adversely affect*” determination. The USFWS concurred with WS’ effects determination (S. Larson, USFWS pers. comm. 2017). In addition, WS has determined that the proposed activities would have no effect on those species currently listed as threatened or endangered by the South Dakota Game, Fish and Parks Commission.
10. WS’ activities conducted under Alternative 1 would comply with all applicable federal, state, and local laws (see WS Directive 2.210).

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

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

5/15/18  
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Date

#### **LITERATURE CITED**

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