

DECISION AND FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: MANAGING DAMAGE AND THREATS OF DAMAGE CAUSED BY DOUBLE-CRESTED CORMORANTS IN THE STATE OF MISSISSIPPI

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 with 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. In Mississippi, WS has and continues to receive requests for assistance to reduce and prevent damage associated with double-crested cormorants (*Phalacrocorax auritus*), including requests for assistance to manage damage and threats of damage on properties owned or managed by the Tennessee Valley Authority (TVA)¹. Requests for assistance that WS receives are primarily associated with double-crested cormorants causing damage to aquaculture resources and primarily during the winter and during the spring and fall migration periods when the number of double-crested cormorants present in the state increases. Occasionally, WS receives requests for assistance associated with damage or threats of damage to property, natural resources, and to human health and safety.

Because double-crested cormorants feed on fish and other aquatic animals, they generally occur in areas near bodies of water, such as coastal areas, rivers, ponds, lakes, estuaries, and artificial water impoundments. When double-crested cormorants are not feeding, they spend time perching on exposed sites near aquatic habitats, such as rocks, sandbars, pilings, shipwrecks, high-tension wires, and trees often near feeding areas. They also often roost at night in trees associated with permanently flooded forested wetlands. In Mississippi, double-crested cormorants can occur statewide wherever suitable bodies of water exist. Therefore, WS could receive requests for assistance statewide wherever double-crested cormorants occur.

Pursuant to the National Environmental Policy Act (NEPA), WS, in cooperation with the TVA, 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 and the TVA 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 and the TVA made the EA available to the public for review and comment by a legal notice published in the *Clarion Ledger* newspaper from April 15, 2019 through April 17, 2019. WS and the TVA also made the EA available to the public for review and comment on the APHIS website on April

¹See Section 1.4.7 for the role and authorities of the TVA.

22, 2019 and on the federal e-rulemaking portal at the regulations.gov website beginning on April 9, 2019. WS also sent out direct mailings to local known stakeholders and an electronic notification to stakeholders registered through the APHIS Stakeholder Registry. The public involvement process ended on May 24, 2019. During the public comment period, WS and the TVA received four comment responses on the draft EA from three commenters. Chapter 4 of the final EA summarizes the comments received and provides WS' responses to the comments. Based on further review of the draft EA, WS incorporated minor editorial changes into the final EA. 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 of the EA). Federal agencies, such as the WS program, must consider such issues during the decision-making process of the NEPA. WS and the TVA identified several issues during the development of the EA. Section 2.1.1 of the EA describes the issues considered and evaluated by WS and the TVA as part of the decision-making process. WS and the TVA analyzed the environmental consequences of implementing the alternative approaches for each of the following issues.

- **Issue 1 - Effects on the Double-crested Cormorant Population**
- **Issue 2 - Effects on the Populations of Non-target Wildlife Species, Including Threatened and Endangered Species**
- **Issue 3 - Effects of Damage Management Methods on Human Health and Safety**
- **Issue 4 - Humaneness and Animal Welfare Concerns of Methods**
- **Issue 5 - Effects on Waterfowl Hunting from Activities to Disperse Double-crested Cormorant Roosts**

Section 2.1.2 of the EA describes additional issues that WS and the TVA 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 four alternative approaches to respond to the need for action discussed in Section 1.4 of the EA and the issues identified in Section 2.1 of the EA. Section 2.2.2 of the EA provides a description of the alternatives evaluated in detail. WS and the TVA analyzed the environmental consequences associated with implementing the following alternative approaches.

- **Alternative 1 – The WS Program would continue the Current Integrated Methods Approach to Managing Damage Caused by Double-crested Cormorants in Mississippi (Proposed Action/No Action)**
- **Alternative 2 – The WS Program would implement an Integrated Methods Approach to Managing Double-crested Cormorant Damage in Mississippi Using Only Non-lethal Methods**
- **Alternative 3 – The WS Program would recommend an Integrated Methods Approach to Managing Double-crested Cormorant Damage in Mississippi through Technical Assistance Only**
- **Alternative 4 – The WS Program Would Not Provide Any Assistance with Managing Damage Caused by Double-crested Cormorants in Mississippi**

WS and the TVA also considered additional alternatives; however, WS and the TVA did not consider those alternatives in detail for the reasons provided in Section 2.2.3 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 environmental consequences of the four alternatives 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 four alternative approaches for each of the issues analyzed in detail.

Issue 1 - Effects on the Double-crested Cormorant Population

Maintaining viable populations of native species is a concern of the public and of biologists within state, tribal, and federal wildlife and land management agencies, including WS. Therefore, a common concern is whether activities to manage damage caused by wildlife would adversely affect the population of a species. If WS implemented Alternative 1, Alternative 2, or Alternative 3, WS could provide direct operational assistance and/or technical assistance to entities requesting assistance; therefore, the activities WS could conduct and/or that WS could recommend could have direct, indirect, and/or cumulative effects on the double-crested cormorant population. If WS implemented Alternative 4, WS would have no effect on the double-crested cormorant population because WS would not provide any assistance when the request for assistance involved double-crested cormorants.

When addressing damage or the threat of damage associated with double-crested cormorants, the use of non-lethal methods could capture, disperse, or exclude double-crested cormorants. The use of non-lethal methods would have minimal effects on the double-crested cormorant population because the double-crested cormorants would generally be unharmed. Non-lethal methods that disperse and/or exclude double-crested cormorants would not be employed over large geographical areas or applied at such intensity that essential resources (*e.g.*, habitat, sources of food) would be unavailable for extended durations or over such a wide geographical scope that long-term adverse effects would occur to the double-crested cormorant population. WS does not anticipate any adverse effects would occur to the double-crested cormorant population from the use of live-capture methods because WS could release captured double-crested cormorants unharmed. Therefore, if WS implemented Alternative 1, Alternative 2, or Alternative 3, the use of non-lethal methods would not have significant direct, indirect, and/or cumulative effects on the double-crested cormorant population.

If WS implemented Alternative 1, WS’ personnel could also use and recommend the use of lethal methods when authorized by the United States Fish and Wildlife Service (USFWS). The USFWS is responsible for managing and protecting migratory bird species pursuant to the Migratory Bird Treaty Act (MBTA), including double-crested cormorants. The MBTA prohibits the take, possession, or transport of migratory birds. However, the USFWS can authorize people and entities to take, possess, and/or transport migratory birds, including double-crested cormorants. The USFWS currently authorizes WS to take up to 700 double-crested cormorants per permit year in Mississippi to alleviate damage and threats of damage. In general, the use of non-lethal methods to disperse and/or exclude birds, including double-crested cormorants, does not require a depredation permit from the USFWS because dispersing and/or excluding birds using non-lethal methods does not meet the definition of take.

During mid-winter surveys of double-crested cormorant roosts conducted in 2011, 2013, 2017, and 2018, WS and others counted an average of 44,600 double-crested cormorants in western and eastern

Mississippi, eastern Arkansas, and eastern Louisiana². The take of 700 double-crested cormorants by WS would represent 1.6% of the average number of double-crested cormorants counted per year during the mid-winter roost survey conducted in 2011, 2013, 2017, and 2018. During the 2018 mid-winter roost survey, WS and others counted 41,000 double-crested cormorants in the aquaculture producing areas of western and eastern Mississippi, eastern Arkansas, and eastern Louisiana. The take of 700 double-crested cormorants would represent 1.7% of the 41,000 double-crested cormorants counted during the 2018 mid-winter roost survey. Activities to manage damage and threats of damage associated with double-crested cormorants could occur throughout the year but most activities would occur in the winter and during the migration periods when the number of double-crested cormorants present in the state increases. If WS implemented Alternative 1, WS anticipates the annual take of double-crested cormorants during the breeding season would be similar to previous years. Based on the increasing population trends in the state from the Breeding Bird Survey, the magnitude of WS' previous take of double-crested cormorants during the breeding season has not caused the breeding population in the state to decline.

To evaluate the cumulative annual take of double-crested cormorants in the central and eastern United States, the USFWS developed a Potential Take Limit model that estimates the maximum allowable cumulative take of double-crested cormorants. The Potential Take Limit model developed by the USFWS estimates the maximum allowable take of double-crested cormorants that corresponds with a biologically sustainable level of annual take based on population dynamics of double-crested cormorants. The take of double-crested cormorants by WS would occur as allowed by the USFWS. The USFWS determined the allowed cumulative take levels authorized in the central and eastern United States, including allowed cumulative take in Mississippi, would maintain the current double-crested cormorant population. Based on the best available information, the analyses in Section 3.2.1 of the EA indicate the direct and cumulative effects on the double-crested cormorant population associated with implementing Alternative 1 would be of low magnitude. The potential impacts associated with the implementation of Alternative 1 would not be of sufficient magnitude or scope to cause indirect effects.

The implementation of Alternative 2, Alternative 3, or Alternative 4 would likely have similar effects on the double-crested cormorant population to implementing Alternative 1 because the same or similar activities would occur by other entities. Most of the lethal take of double-crested cormorant in Mississippi has occurred by entities other than WS.

Issue 2 - Effects on the populations of Non-target Wildlife Species, Including Threatened and Endangered Species

WS' personnel have experience with managing animal damage and receive training in the use of methods. If WS implemented Alternative 1, Alternative 2, or Alternative 3, WS' employees would use the WS Decision Model to select the most appropriate methods to address damage caused by double-crested cormorants and to reduce the risks to non-target animals. Despite efforts by WS to minimize risks to non-target animals, the potential for WS to live-capture, exclude, disperse, or lethally remove non-target animals exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety. The use of most methods would require WS' personnel be present on-site during their use (*e.g.*, pyrotechnics, firearms, nets). Although the use of non-lethal methods could exclude, disperse, or capture non-target animals, long-term adverse effects would not occur to a species' population because WS would not employ non-lethal methods over large geographical areas or at such intensity levels that resources (*e.g.*, food sources, habitat) would be unavailable for extended durations or over a wide geographical scope. Similarly, the use of low-flying aircraft to conduct surveys would not occur at such magnitude,

²The number of double-crested cormorants counted during the roost surveys does not represent all of the double-crested cormorants that migrate to or through Mississippi in any migration period because the survey is not a complete census of wintering double-crested cormorants in the state. The survey only represents the number of double-crested cormorants present at specific roost locations in the region at the time WS and others conducted the survey.

frequency, or over a wide geographical extent that significant adverse effects would occur. The use of non-lethal methods would have minimal impacts on overall populations of animals because those methods would not cause mortality.

Bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) use similar habitats as double-crested cormorants and they may be present in areas where double-crested cormorants occur. The Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act protect bald eagles and golden eagles from take, which includes actions that cause, or are likely to cause, injury to an eagle, a decrease in productivity, or nest abandonment by substantially interfering with their normal breeding, feeding, or sheltering behavior. WS would only conduct limited activities near active eagle nests and Important Eagle Use Areas in accordance with the National Bald Eagle Management Guidelines. The categories from the guidelines that would encompass most of these activities are Category D (off-road vehicle use), Category E (motorized watercraft use), Category F (non-motorized recreation and human entry), and Category H (blasting and other loud, intermittent noises). Those categories generally call for a buffer of 330 to 660 feet around active nests for Category D, Category E, and Category F activities, and a half mile buffer for Category H activities. Although similar guidelines do not exist for golden eagles, WS would apply those guidelines when encountering golden eagles. Because WS would follow the National Bald Eagle Management Guidelines, WS does not expect 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.

There is a slight potential for misidentification of other bird species that have a similar appearance to a double-crested cormorant, such as the Neotropic cormorant (*Phalacrocorax brasilianus*) and the anhinga (*Anhinga anhinga*). Despite the similarity in appearance, WS anticipates the likelihood of removing non-target animal to be extremely low to nonexistent. Based on the analyses in Section 3.2.2 of the EA, the unintentional take of non-target animals by WS would not occur at a magnitude, frequency, and/or extent that would adversely affect the populations of non-target animals. If WS implemented Alternative 1 or Alternative 2, WS would monitor activities to ensure potential impacts to non-target species continue to occur within the scope analyzed in the EA. Through those monitoring activities, the WS program in Mississippi can evaluate and adjust activities conducted to meet the need for action. Accordingly, WS could supplement this analysis or conduct a separate evaluation pursuant to the NEPA based on the review and monitoring of implemented activities.

The methods discussed in Appendix B of the EA would be available under all the alternatives analyzed. Impacts to non-target animals from the use of those methods would be similar to the use of those methods under any of the alternatives. If people or other entities use those methods available as intended, risks to non-target animals would be similar to those risks described for Alternative 1. If other entities apply methods available incorrectly or apply those methods without knowledge of animal behavior, risks to non-target animals would be higher under any of the alternatives. If frustration from the lack of available assistance causes those persons experiencing double-crested cormorant damage to take illegal actions, risks to non-target animals could be higher. Risks to non-target animals could be higher because those entities would likely have no regard for potential impacts of their actions on non-target animals.

During the development of this EA, WS reviewed the current list of species designated as threatened or endangered in Mississippi as determined by the USFWS and the National Marine Fisheries Service. Based on the use pattern of the methods and the locations where WS could implement damage management activities, the implementation of Alternative 1 would have no effect on those threatened or endangered species in Mississippi under the jurisdiction of the National Marine Fisheries Service, including any designated critical habitat. In addition, WS has made a no effect determination for several species currently listed in the state based on those methods currently available and based on current life history information for those species (see Table 3.1 in the EA).

For several species listed within the state, WS has determined that the proposed activities “*may affect*” those species but those effects would be solely beneficial, insignificant, or discountable, which would warrant a “*not likely to adversely affect*” determination (see Table 3.1 in the EA). Based on those determinations, WS initiated informal consultation with the USFWS for those species that a “*may affect, not likely to adversely affect*” determination was made. The USFWS concurred with WS’ determination that activities conducted pursuant to the proposed action would not likely adversely affect those species (S. Ricks, USFWS, pers. comm. 2018). To ensure activities would not likely adversely affect the status of wood storks in the state, WS would conduct activities more than 1,000 feet from active wood stork roost sites and more than 750 feet from feeding wood storks in Mississippi.

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 because the same methods would be available. If people used methods incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that people employed those methods. The expertise of WS’ employees in using the methods available would likely reduce threats to human safety because WS’ employees would receive training and would be knowledgeable in the use of methods. In addition, WS’ personnel would use the WS Decision Model when assessing a request for assistance (see WS Directive 2.201). As part of the WS Decision Model, WS’ personnel consider risks to human health and safety when evaluating the methods available to manage the damage or threat of damage associated with a request for assistance. WS’ personnel must also adhere to WS’ directives when conducting activities (see WS Directive 1.101) and many of the directives address safety or relate to the safe use of methods (*e.g.*, see WS Directive 2.430, WS Directive 2.450, WS Directive 2.601, WS Directive 2.615, WS Directive 2.620, WS Directive 2.627, WS Directive 2.630, WS Directive 2.635).

Although risks do occur from the use of those methods available, when people use those methods in consideration of human safety, the use of those methods would pose minimal risk to human health and safety. No adverse effects to human health or safety occurred from the use of methods by WS to alleviate double-crested cormorant damage in the state from FY 2013 through FY 2017. Based on the use patterns of methods available to address damage caused by double-crested cormorants and the experience/training that WS’ personnel receive, the implementation of the alternatives would comply with Executive Order 12898 and Executive Order 13045.

Issue 4 - Humaneness and Animal Welfare Concerns of Methods

WS and the TVA also identified method humaneness and animal welfare as an issue. Because those methods addressed in Appendix B of the EA would be available under all the alternatives, the issue of method humaneness and animal welfare would be similar for those methods across all the alternatives. The ability of WS to provide direct operational assistance under Alternative 1 and Alternative 2 would ensure WS’ personnel employed methods as humanely as possible (see WS Directive 1.301, WS Directive 2.505). Under the other alternatives, other entities could use methods inhumanely if used inappropriately or without consideration of double-crested cormorant behavior. However, the skill and knowledge of the person implementing methods to resolve damage would determine the efficacy and humaneness of methods. A lack of understanding of the behavior of double-crested cormorants or improperly identifying the damage caused by double-crested cormorants along with inadequate knowledge and skill in using methodologies to resolve the damage or threat could lead to incidents with a greater probability of other people perceiving the action as inhumane under Alternative 3 and Alternative 4. Despite the lack of involvement by WS under Alternative 4 and WS’ limited involvement under Alternative 3, many of those methods perceived as inhumane by certain individuals and groups would still be available for others to use to resolve damage and threats caused by double-crested cormorants.

Issue 5 - Effects on Waterfowl Hunting from Activities to Disperse Double-crested Cormorant Roosts

Implementation of Alternative 1 or Alternative 2 would not adversely affect the ability of people to harvest waterfowl in the state because the property owner and/or manager would maintain the ability to restrict WS' activities on their property. If WS implemented Alternative 1 or Alternative 2, WS would sign a Memorandum of Understanding, work initiation document, or another similar document with the appropriate landowner and/or manager before conducting activities on properties they own and/or manage. The property owner and/or manager would have the ability to designate the methods that WS could use on the property or properties they own and/or manage and could designate when and where activities could occur on property they own and/or manage. Therefore, the property owner and/or manager would have the ability to restrict WS' activities on the property or properties they own and/or manage, including not allowing WS to conduct activities during the hunting season for waterfowl. For example, WS could restrict activities to certain times of the day or could use dispersal methods that do not produce noise, such as lights and/or lasers. WS would have no direct effect on the ability to harvest waterfowl if WS implemented Alternative 3 or Alternative 4.

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 implementing Alternative 1, nor does implementing Alternative 1 constitute a major federal action. Therefore, the analyses in the EA do not warrant the completion of an Environmental Impact Statement.

Based on the analyses in the EA, implementation of Alternative 1 would best address the issues identified in Section 2.1 of the EA. Alternative 1 successfully addresses managing damage using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, target species, and/or non-target species, including threatened or endangered species. Alternative 1 offers the greatest chance of maximizing effectiveness and benefits to resource owners and managers and implementation of Alternative 1 presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety. Implementing Alternative 1 would offer a balanced approach to the issues of humaneness, animal welfare, and aesthetics when considering all facets of those issues. 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 implementing 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 base this determination on the following factors:

1. WS' activities to manage double-crested cormorant damage in the state under Alternative 1 would not be regional or national in scope.

2. Based on the analyses in the EA, the methods available under Alternative 1 would not adversely affect human safety based on their use patterns.
3. Alternative 1 would not significantly affect unique characteristics, such as parklands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas. WS' adherence to applicable laws and regulations would further ensure that activities conducted under Alternative 1 would not harm the environment.
4. The effects on the quality of the human environment under Alternative 1 are not highly controversial. Although there is some opposition to managing double-crested cormorant damage and the methods, this action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA and the accompanying administrative file, the effects of Alternative 1 on the human environment would not be significant. The effects associated with implementing Alternative 1 are not highly uncertain and do not involve unique or unknown risks.
6. Alternative 1 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 Mississippi.
8. 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 Alternative 1 likely cause any loss or destruction of significant scientific, cultural, or historical resources.
9. WS has consulted with the USFWS pursuant to Section 7 of the Endangered Species Act and the USFWS has concurred with WS' effects determination.
10. WS' activities conducted under Alternative 1 would comply with all applicable federal, state, and local laws.

I based this decision 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) 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 significant effects to the human environment. As a part of this Decision, the WS program in Mississippi would continue to provide effective and practical technical assistance and direct management techniques that reduce damage and threats of damage.

For _____
 Willie D. Harris, Director-Eastern Region
 USDA/APHIS/WS
 Raleigh, North Carolina

 Date