DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT
For

Reducing Double-crested Cormorant Damage
Through an
Integrated Wildlife Damage Management Program
In the State of Mississippi

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations and agencies experiencing damage caused by wildlife. Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions may be categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). To evaluate and determine if any potentially significant impacts to the human environment from WS' planned and proposed program would occur, an environmental assessment (EA) was prepared. The EA documents the need for double-crested cormorant damage management in Mississippi and assessed potential impacts of various alternatives for responding to damage problems. The EA analyzes the potential environmental and social effects for resolving cormorant damage related to the protection of resources, and health and safety on private and public lands throughout the state. WS' proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program on public and private lands in Mississippi. Comments from the public involvement process were reviewed for substantive issues and alternatives which were considered in developing this decision. The EA is tiered to the Final Environmental Impact Statement (FEIS) on the management of double-crested cormorants (USFWS 2003) in which WS was a formal cooperating agency and subsequently adopted and issued a Record of Decision (ROD) for the EIS to support WS' program decisions for its involvement in the management of DCCO damage. As such, many of the issues addressed in the EA have been analyzed in the EIS.

WS is the Federal program authorized by law to reduce damage caused by wildlife (Act of 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c) and the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c), and the Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act of 2001, Public Law 106-387, October 28, 2000. Stat. 1549 (Sec 767). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an IWDM approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). Resource management agencies, organizations, associations, groups, and individuals have requested WS to conduct cormorant damage management (CDM) to protect resources and human health and safety in Mississippi. All WS wildlife damage management activities are in compliance with relevant

laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973.

Consistency
The analyses in the EA demonstrate that Alternative 1: 1) best addresses the issues identified in the EA, 2) provides safeguards for public health and safety, 3) provides WS the best opportunity to reduce damage while providing low impacts on non-target species, 4) balances the economic effects to aquaculture resources and property, and 5) allows WS to meet its obligations to government agencies or other entities.

Monitoring
The Mississippi WS program will annually review its impacts on cormorants and other species addressed in the EA to ensure that WS program activities do not impact the viability of target and non-target wildlife species. In addition, the EA will be reviewed each year to ensure that it and the analysis are sufficient.

Public Involvement
The pre-decisional EA was prepared and released to the public for a 33-day comment period by a legal notice in *The Clarion-Ledger* on December 30 and 31, 2003; and January 1, 2004. The pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. Based upon a request from 2 organizations for an extension of time to provide comments, WS extended the comment period from January 31 to February 6, 2004. A total of 968 comment letters were received by WS within the comment period. Of these 968 comments, 962 were in submitted as form letters with the same or very similar comments/concerns. All comments were analyzed to identify substantial new issues, alternatives, or to redirect the program. Wildlife Services responses to specific comments are included in Appendix A of this Decision and FONSI. All letters and comments are maintained at the Wildlife Services State Office, Mississippi State, Mississippi.

Major Issues
The EA describes the alternatives considered and evaluated using the identified issues. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25).

- Effects on double-crested cormorants
- Effects on other wildlife species, including T&E species
- Effects on human health and safety
- Effects on aesthetic values
- Humaneness and animal welfare concerns of methods used

Affected Environment
The proposed action may be conducted on properties held in private, local, state or federal ownership. The areas of the proposed action could include areas in and around public and private facilities and properties and at other sites where cormorants may roost, loaf, feed, nest or otherwise occur. Examples of areas where cormorant damage management activities could be conducted are, but are not necessarily limited to: commercial aquaculture facilities; fish

hatcheries; lakes; ponds; rivers; swamps; marshes; bayous; communally-owned homeowner/property owner association properties; boat marinas; natural areas; wildlife refuges; wildlife management areas; coastal and tidal beaches and inlets; and airports and surrounding areas. WS may conduct winter roost control activities in any cormorant roost site in Mississippi, including the 91 roost sites currently identified throughout the state.

Alternatives That Were Fully Evaluated

The following five alternatives were developed to respond to the issues. Three additional alternatives were considered but not analyzed in detail. A detailed discussion of the effects of the Alternatives on the issues is described in the EA; below is a summary of the Alternatives.

Alternative 1. Integrated CDM Program, including Winter Roost Control and Public Resource Depredation Order (Proposed Action)

WS proposes to implement a double-crested cormorant damage management program in the State of Mississippi, including the implementation of the Public Resource Depredation Order (PRDO) (50 CFR 21.48) and winter roost control as specified in the Aquaculture Depredation Order (AQDO) (50 CFR 21.47). An IWDM approach would be implemented to reduce cormorant damage and conflicts to aquaculture, property, natural resources, and human health and safety. Damage management would be conducted on public and private property in Mississippi when the resource owner (property owner) or manager requests WS assistance. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, target and non-target species, and the environment. Under this action, WS could provide technical assistance and direct operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, physical exclusion, habitat modification, or harassment would be recommended and utilized to reduce damage. In other situations, birds would be humanely removed through use of shooting, egg addling/destruction, nest destruction, or euthanasia following live capture. In determining the damage management strategy, preference would be given to practical and effective non-lethal methods. However, non-lethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or there could be instances where the application of lethal methods alone would be the most appropriate strategy. Wildlife damage management activities would be conducted in the State, when requested and funded, on private or public property, after an *Agreement for Control* or other comparable document has been completed. WS will acquire the necessary landowner permission prior to conducting cormorant damage management activities, including the appropriate landowner permission prior to conducting winter roost control. All management activities would comply with appropriate Federal, State, and Local laws, including applicable laws and regulations authorizing take of double-crested cormorants, and their nests and eggs.

Alternative 2. Non-lethal CDM Only By WS

Under this alternative, WS would be restricted to implementing or recommending only non-lethal methods in providing assistance with cormorant damage problems. Entities requesting

CDM assistance for damage concerns would only be provided information on non-lethal methods such as harassment, non-lethal roost dispersal, resource management, exclusionary devices, or habitat alteration. However, it is possible that persons receiving WS' non-lethal technical and direct control assistance could still resort to lethal methods that were available to them. Information on lethal CDM methods would not be available from WS but would still be available through sources such as Mississippi State University Extension office, U.S. Fish and Wildlife Service (USFWS), Mississippi Department of Wildlife Fisheries and Parks (MDWF&P), universities, or pest control organizations.

Alternative 3. Technical Assistance Only

This alternative would not allow for WS operational CDM in Mississippi. WS would only provide technical assistance and make recommendations when requested. Producers, property owners, agency personnel, or others could conduct CDM using any non-lethal or lethal method that is legally available to them. WS would not take part in winter roost control activities or implementation of the PRDO.

Alternative 4. No Federal WS CDM

This alternative would eliminate WS involvement in CDM in Mississippi. WS would not provide direct operational or technical assistance and requesters of WS services would have to conduct their own CDM without WS input. Information on CDM methods would still be available through other sources such as Mississippi State University Extension office, USFWS, MDWF&P, universities, or pest control organizations.

Alternative 5. Integrated CDM Program, excluding Winter Roost Control and PRDO (No Action)

This alternative would be similar to Alternative 1, with the exception that WS will not take part in winter roost control activities and implementation of the PRDO. An Integrated Wildlife Damage Management approach would be implemented to reduce cormorant damage and conflicts to aquaculture, property, natural resources, and human health and safety. Damage management would be conducted on public and private property in Mississippi when the resource owner (property owner) or manager requests WS assistance including the use of lethal and non-lethal methods. Under this action, WS could provide technical assistance and direct operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992).

Alternative Considered but not Analyzed in Detail:

Lethal CDM Only By WS

Under this alternative, WS would not conduct any non-lethal control of cormorants for CDM purposes in the State, but would only conduct lethal CDM. This alternative was eliminated from further analysis because some cormorant damage problems can be resolved effectively through

non-lethal means and at times lethal methods may not be available for use due to safety concerns or local ordinances prohibiting the use of some lethal methods, such as the discharge of firearms.

Compensation for Cormorant Damage Losses

The compensation alternative would require the establishment of a system to reimburse persons impacted by cormorant damage. This alternative was eliminated from further analysis because no Federal or State laws currently exist to authorize such action. Under such an alternative, WS would not provide any direct control or technical assistance. Aside from lack of legal authority, analysis of this alternative in the FEIS indicated that the concept has many drawbacks (USDA 1997):

- It would require larger expenditures of money and labor to investigate and validate all damage claims, and to determine and administer appropriate compensation. A compensation program would likely cost several times as much as the current program.
- Compensation would most likely be below full market value. It is difficult to make timely responses to all requests to assess and confirm damage, and certain types of damage could not be conclusively verified.
- Compensation would give little incentive to resource owners to limit damage through improved cultural, husbandry, or other practices and management strategies.
- Not all resource owners would rely completely on a compensation program and unregulated lethal control would most likely continue as permitted by Federal and State law.
- Compensation would not be practical for reducing threats to human health and safety.

Non-lethal Methods Implemented Before Lethal Methods

This alternative is similar to Alternative 1 except that WS personnel would be required to always recommend or use non-lethal methods prior to recommending or using lethal methods to reduce cormorant damage. Both technical assistance and direct damage management would be provided in the context of a modified IWDM approach. The Proposed Action recognizes non-lethal methods as an important dimension of IWDM, gives them first consideration in the formulation of each management strategy, and recommends or uses them when practical before recommending or using lethal methods. However, the important distinction between the Non-lethal Methods First Alternative and the Proposed Action Alternative is that the former alternative would require that all non-lethal methods be used before any lethal methods are recommended our used.

While the humaneness of the non-lethal management methods under this alternative would be comparable to the Proposed Action Alternative, the extra harassment caused by the required use of methods that may be ineffective could be considered less humane. As local bird populations increase, the number of areas negatively affected by birds would likely increase and greater numbers of birds would be expected to congregate at sites where non-lethal management efforts were not effective. This may ultimately result in a greater number of birds being killed to reduce damage than if lethal management were immediately implemented at problem locations

(Manuwal 1989). Once lethal measures were implemented, cormorant damage would be expected to drop relative to the reduction in localized populations of birds causing damage.

Since in many situations this alternative would result in greater numbers of cormorants being killed to reduce damage, at a greater cost to the requester, and result in a delay of reducing damage in comparison to the Proposed Alternative, the Non-lethal Methods Implemented Before Lethal Methods Alternative is removed from further discussion in this document.

Finding of No Significant Impact

Many of the issues analyzed in the EA were also analyzed in the FEIS (USFWS 2003). The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of this proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

1. Cormorant damage management as conducted by WS in Mississippi is not regional or national in scope. The impacts of cormorant management that are regional or national in scope have been addressed and analyzed in the FEIS.

2. The proposed action would pose minimal risk to public health and safety. Risks to the public from WS methods were determined to be low in a formal risk assessment (USDA 1997, Appendix P).

3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Built-in mitigation measures that are part of WS's standard operating procedures and adherence to laws and regulations will further ensure that WS activities do not harm the environment.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature, or effect. Public controversy over cormorant management has been acknowledged and addressed in the FEIS.

5. Based on the analysis documented 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. The issue of uncertainty about effects of cormorant management in general has also been addressed in the FEIS.

6. The proposed action would not establish a precedent for any future action with significant effects.

7. No significant cumulative effects were identified through this assessment. The EA discussed cumulative effects of WS on target and non-target species populations and concluded that such impacts were not significant for this or other anticipated actions to be

implemented or planned within the State. The FEIS analyzed the potential for significant cumulative impacts on national and regional cormorant populations and other species from implementing cormorant damage management activities and have determined that such impacts would not be significant.

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. WS has determined that the proposed program would not adversely affect any Federal or Mississippi State listed threatened or endangered species. This determination is based upon an intra-Service biological evaluation and informal Section 7 consultation completed by the USFWS (2003) and concurrence from the MDWF&P, MS Museum of Natural Science that the program will not adversely affect any state listed endangered species in Mississippi.

10. The proposed action would be in compliance with all federal, state, and local laws.

Decision and Rationale

I have carefully reviewed the EA prepared for this proposal and the input from the public involvement process. I believe that the issues identified in the EA are best addressed by selecting Alternative 1 - Integrated CDM Program, including Winter Roost Control and PRDO (Proposed Action) and applying the associated mitigation measures discussed in Chapter 3 of the EA. Alternative 1 is selected because (1) it offers the greatest chance at maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative impacts on the quality of the human environment that might result from the program's effect on target and non-target species populations; (2) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and, (3) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of these issues are considered. The comments identified from public involvement were minor and did not change the analysis. Therefore, it is my decision to implement the proposed action as described in the EA.

Copies of the EA are available upon request from the Mississippi Wildlife Services Office, P.O. Drawer FW, Mississippi State, MS 39762.

Charles S. Brown, Regional Director
APHIS-WS Eastern Region

3/5/04
Date

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Appendix A

Response to Comments to the Environmental Assessment "Reducing Double-crested Cormorant Damage Through an Integrated Wildlife Damage Management Program In the State of Mississippi"

Issue 1: ***Cormorant impacts to recreational fisheries (sport fisheries) in Mississippi and the southeast U.S. is suspected but has not been documented to occur. Others factors besides DCCOs are having impacts on recreational fisheries; cormorant impacts are localized.***

Program Response 1: As described in Section 1.2.2 of the EA, WS recognizes these facts. However, a lack of documentation does not preclude cormorants are negatively impacting sport fisheries in this region of the country. Based upon survey information provided by Wires et al. (2001), biologists' perceptions of cormorant impacts to sport fisheries vary throughout the southern U.S., with Mississippi respondents reporting impacts as a minor concern in the state. WS has received requests for this type of assistance in the past and recognizes that the impacts that cormorants may be having on sport fisheries may not be a wide-spread or common occurrence throughout the state. However, since WS has the legislative authority and responsibility to respond to such requests for assistance, the Mississippi WS will respond to these types of requests for assistance and will take the appropriate course of actions based upon the site specific information collected at the time of the request.

Issue 2: ***Cormorant impacts to threatened and endangered species in Mississippi and the southeast U.S. in general is a non-issue.***

Program Response 2: As described in Section 1.2.3 of the EA, WS recognizes that impacts that DCCOs may be having on T&E species in Mississippi are currently of minor concern. However, since WS has the legislative authority and responsibility to respond to such requests for assistance, the Mississippi WS will respond to these types of requests for assistance and will take the appropriate course of actions based upon the site specific information collected at the time of the request.

Issue 3: ***Cormorant impacts to vegetation and colonial waterbird habitat in Mississippi and the southeast U.S. is irrelevant and is not a conservation concern for colonial waterbird populations in this region of the U.S.***

Program Response 3: As described in Section 1.2.3 of the EA, WS recognizes the impacts that cormorants may be having on colonial waterbirds are of minor concern. However, it is not irrelevant as this commenter implies. Based upon survey information provided by Wires et al. (2001), biologists in the southeastern U.S., including Mississippi, reported cormorants as having an impact to vegetation, mainly trees, in the region. Mississippi respondents were concerned over the adverse impacts that cormorant guano deposition at roost sites may be having on spring tree growth. In addition survey respondents in the southeastern U.S. reported that cormorants may be having a potential impact on colonial waterbirds in this region by displacing birds from

nesting rookery sites (Wires et al. 2001). WS has received requests for this type of assistance in the past and recognizes that the impacts that cormorants may be having on colonial waterbirds or their habitat may not be a wide-spread occurrence throughout Mississippi. However, since WS has the legislative authority and responsibility to respond to such requests for assistance, the Mississippi WS will respond to these types of requests for assistance and will take the appropriate course of actions based upon the site specific information collected at the time of the request.

Issue 4: ***Cormorant impacts to the aquaculture industry in Mississippi are not supported by credible scientific evidence.***

Program Response 4: WS disagrees with this conclusion. As presented in Section 1.2.1, substantial evidence supports the need to protect aquaculture resources from DCCO damage in Mississippi.

Issue 5: ***There is very little evidence to suggest that cormorants are a danger to property or human health and safety.***

Program Response 5: As described in Sections 1.2.4 and 1.2.5 of the EA, WS recognizes that DCCOs have the potential to adversely impact property and threaten human health and safety. WS has received requests for this type of assistance in the past and recognizes that the impacts that cormorants may be having on property and human health and safety may not be a wide-spread or common occurrence throughout the state. However, since WS has the legislative authority and responsibility to respond to such requests for assistance, the Mississippi WS will respond to these types of requests for assistance and will take the appropriate course of actions based upon the site specific information collected at the time of the request.

Issue 6: ***Why should WS be concerned with protecting colonial waterbirds when WS conducts management activities to control colonial waterbirds to protect resources and human health and safety?***

Program Response 6: WS has the legislative authority and responsibility to respond to requests for assistance in managing damage associated with wildlife, including colonial waterbirds when they are negatively impacting or affecting a resource or human health and safety. Also as part of our legislative responsibility, WS may respond to requests for assistance to protect colonial waterbird species that are being adversely affected by another wildlife species, including cormorants. Inclusion of one part of our responsibility to manage damage associated with colonial waterbirds does not preclude the ability of WS to protect colonial waterbirds in other circumstances.

Issue 7: ***WS should focus cormorant management on non-lethal control and use lethal control only as a last resort.***

Program Response 7: This alternative is analyzed in detail in the EA (Alternative 2) and also under Section 3.3.3 (Non-lethal Methods Implemented Before Lethal Methods). WS recognizes the importance of non-lethal methods as part of an integrated approach to managing cormorant

damage. As described in the proposed action, WS will continue to consider and use non-lethal methods when appropriate.

Issue 8: ***Cormorants can become accustomed to harassment techniques and therefore such techniques should be used at the most appropriate time.***

Program Response 8: WS agrees. As describe in the proposed action, WS plans on using an Integrated Wildlife Damage Management (IWDM) approach to reduce damage and conflicts associated with DCCOs. An IWDM approach takes this type of management approach into consideration when formulating an effective management strategy.

Issue 9: ***WS assistance provided to aquaculture producers should focus on making aquaculture facilities less attractive to cormorants and on "good" husbandry practices. Cormorant predation at aquaculture facilities can be prevented or reduced through exclusion methods or design of facilities.***

Program Response 9: As described in Section 3.2.5, WS considers such non-lethal approaches as part of the proposed program and WS will make such recommendations to persons requesting assistance when determined practical and effective for the given situation.

Issue 10: ***WS should report lethal take and egg addling activities to the USFWS.***

Program Response 10: As outlined in Section 1.7 of the EA, WS actions are conducted in accordance with applicable Federal, State, and Local environmental laws and regulations, including all the reporting requirements specified in 50 CFR 21.47 and 21.48.

Issue 11: ***WS should coordinate management activities with other states to avoid adverse impacts to cormorant populations and other wildlife species that may be affected by management actions.***

Program Response 11: WS agrees that a coordinated approach should be taken to manage DCCO damage in a socially acceptable and biologically controlled manner. As described in the WS Record of Decision (ROD) (68 Federal Register 68020), WS supports a management strategy that includes national, regional, and local DCCO population goals and objectives. This type of coordinated approach to managing DCCO damage would be developed jointly and in cooperation with affected state and federal agencies. Furthermore, as specified in 50 CFR 21.47 and 21.48, on an annual basis WS will report all take of cormorants and eggs to the USFWS to assure that the cumulative impacts of cormorant damage management actions in Mississippi are not adversely affecting the long-term sustainability of DCCOs in Mississippi, the region or nationwide. As described in Section 1.6.2, WS will on an annual basis review this EA to ensure the analysis provided (including impacts to DCCO populations and other wildlife species) in the EA is sufficient.

Issue 12: ***WS should consider an alternative that does not include the implementation of the public resource depredation order.***

Program Response 12: This alternative is analyzed in detail in the EA as Alternative 5, the no action alternative.

Issue 13: ***The EA provides no convincing justification for the implementation of winter roost control activities. Coordinated non-lethal roost dispersal activities have been effective at reducing damage to aquaculture facilities.***

Program Response 13: It is true that non-lethal roost dispersal activities can reduce cormorant damage to aquaculture facilities in many circumstances. However as discussed in Glahn (2000), shooting at roosts sites might enable farmers to reduce the number of birds on their farms significantly. Part of the logic behind this is that studies in the Mississippi Delta have shown that, while DCCOs move widely in general they tend to exhibit high roost fidelity. This implies that shooting birds at roosts (where turnover is lower) is likely to be more effective at alleviating damages than shooting birds just at ponds (where turnover is higher).

Issue 14: ***What means or methods will WS use to determine whether cormorants are impacting a specific resource and that the course of action taken will reduce impacts to acceptable levels?***

Program Response 14: As described in section 3.2.4 of the EA, WS uses a decision model which involves evaluating each request for assistance, taking action and evaluating and monitoring results of the actions taken.

Issue 15: ***The aquaculture depredation order and public resource depredation order may adversely impact DCCO populations since neither order puts any restrictions or limits on the number of cormorants that WS may kill.***

Program Response 15: The FWS determined in the DCCO EIS that cormorant populations are unlikely to be adversely affected by implementation of these depredation orders. As specified in 50 CFR 21.47 and 21.48, on an annual basis WS will report all take of cormorants and eggs to the USFWS to assure that the cumulative impacts of cormorant damage management actions in Mississippi are not adversely affecting the long-term sustainability of DCCOs in Mississippi, the region or nationwide. Furthermore, as described in Section 1.6.2, WS will on an annual basis review this EA to ensure the analysis provided (including impacts to DCCO populations) in the EA is sufficient.

Issue 16: ***WS implementation of control efforts could have adverse effects on communal nesting bird species, "look-alike species", and threatened and endangered species (non-target species).***

Program Response 16: These potential effects were analyzed in the DCCO EIS (Sections 4.2.3 and 4.2.5). As that analysis concluded, and as further described in Section 4.1.2 of the EA, WS impacts on non-target species are predicted to be minimal and should not affect the overall populations of any non-target species. WS personnel are trained and experienced to select the most appropriate method for taking target animals and excluding nontargets. Methods used by WS would be highly selective with very little risk to non-target species. Non-target migratory

bird species and other non-target wildlife species are usually not affected by WS's CDM methods, except for the occasional scaring from harassment devices and when WS conducts breeding DCCO management in mixed-species waterbird colonies. Mitigation measures to eliminate or reduce impacts to non-target species, including nesting colonial waterbird species, are listed in Section 3.4 of the EA. Furthermore, as described in Section 4.1.2 of the EA, WS has determined that cormorant damage management activities in Mississippi will not adversely impact any Federally or State listed T&E species.

Issue 17: ***WS implementation of the two depredation orders violates the Migratory Bird Treaty Act (MBTA).***

Program Response 17: As outlined in Section 1.7 of the EA, WS actions are conducted in accordance with applicable Federal, State, and Local environmental laws and regulations, including the MBTA.

Issue 18: ***WS should look into measures to limit chemical exposure to birds.***

Program Response 18: As described in Section 3.2.5 of the EA, WS does not intend to use any chemical pesticide products that may cause direct or indirect harm to wildlife, including bird species as part of the proposed action or any of the alternatives. As specified in 50 CFR 21.48(d)(2), WS may use 100% corn oil to treat cormorant eggs as part of the proposed program when appropriate. The EPA has ruled that the use of corn oil for this purpose is exempt from registration requirements under the Federal Insecticide, Fungicide, and Rodenticide Act (USFWS 2003). The limited amount of corn oil that may be used by WS is not anticipated to cause any adverse affects to the environment.

Issue 19: ***WS should restore and protect cormorants' natural habitat such as seasonal wetlands and Mississippi River backwaters to provide cormorants with other areas to forage besides aquaculture operations.***

Program Response 19: As described in Section 3.2.5 of the EA, WS recognizes that alternative foraging sites may assist in reducing cormorant damage to the aquaculture industry. The Mississippi WS program has been actively involved in roost dispersal program over the past several years using this basic premise. One of the primary goals of the roost dispersal program is to relocate cormorants away from aquaculture facilities to natural forging areas (i.e. Mississippi River backwaters) through harassment (Reinhold and Sloan 1997). However, a program directed towards restoring and protecting cormorant habitat is outside the scope of this EA and WS' jurisdiction. The EA evaluates planned cormorant damage management activities to protect resources and human health and safety in Mississippi, not the creation or restoration of habitat. WS is directed by law to protect American resources from damage associated with wildlife, including cormorants, by preventing or reducing wildlife caused damage. WS has no authority to manage lands or habitat but can only provide advice to land owners and managers.

Issue 18: ***Double-crested cormorants that are causing conflicts and damage should be relocated (translocated) to other areas of the country where populations of cormorants are declining.***

Program Response 18: Relocation of damaging birds to other areas following live capture generally would not be effective or cost-effective. Relocation to other areas would not generally be effective because cormorants are difficult to live capture in substantial numbers; cormorants are highly mobile and can easily return to damage sites from long distances; habitats in other areas are generally already occupied; and relocation would most likely result in bird damage problems at the new location. Relocation of wildlife is also discouraged by WS policy (WS Directive 2.501) because of stress to the relocated animal, poor survival rates, and difficulties in adapting to new locations or habitats.