DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT

SUPPLEMEMNT TO THE ENVIRONMENTAL ASESSMENT:

BIRD DAMAMGE MANAGEMENT AT AIRPORT, MUNICIPALITIES, INDUSTRIAL SITES, AGRICULTURE SITES, AND PRIVATE LANDS WITHIN INDIANA

United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services

INTRODUCTION

In 2002, the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) completed an Environmental Assessment (EA) on alternatives for the management of conflicts and damage caused by birds in Indiana (USDA 2002). The EA documented the need for bird damage management (BDM) in Indiana and assessed potential impacts of various alternatives to respond to bird damage and associated risks to human health and safety. Based on the analyses in the EA and review of public comments a Decision and Finding of No Significant Impact (FONSI) were signed for the EA on December 13, 2002 which on allowed for the implementation of an Integrated Bird Damage Management (IBDM) program to respond to requests to protect property, agriculture, natural resources, and human health and safety from bird damage at municipalities, industrial sites, agricultural sites, and private lands within Indiana. WS monitors the impacts of its BDM actions annually to determine if the impacts are within the parameters analyzed in the EA. Review of Indiana WS' BDM activities indicated that there were more requests for damage management involving pigeons (rock doves, *Columba livia*) and mourning doves (*Zenaida macroura*)) than anticipated in the EA. Additionally, a new BDM product, the chemosterilant nicarbazin (OvoControl-G), was approved by the United States Environmental Protection Agency on November 23, 2005, for use in the management of local populations of resident Canada geese (*Branta canadensis*). WS prepared an amendment to the EA to analyze the impact of these changes on its BDM activities. The amendment was made available for public comment July 2006 (USDA 2006) and after a review of the analyses contained in the amendment and review of public comments a Decision/FONSI for the amendment was signed on November 9, 2006.

PURPOSE

The purpose of the EA will remain as addressed in section 1.2 of the EA (USDA 2002). This supplement to the EA examines the potential environmental impacts of WS' program as it relates to: 1) new information that has become available from research findings and data gathering since the issuance of the Decision/FONSI in 2006, 2) conducting disease surveillance and monitoring in avian populations, 3) an increase in the number of requests for assistance to manage bird damage threats in Indiana, particularly requests for assistance at airports in Indiana, and 4) analyses of WS' bird damage management activities in Indiana since the 2006 Decision/FONSI was issued to ensure program activities are within the impact parameters analyzed in the EA and the amendment to the EA.

WS monitors the impacts of its BDM actions annually to determine if the impacts of the proposed action are within the parameters analyzed in the EA. Indiana WS has received increasing requests for assistance with bird damage management at airports in Indiana. This increase in WS operational damage

management activities is anticipated to result in increases in annual take of some species, specifically: house sparrows, killdeer, mallards, Eastern meadowlarks, mourning doves, red-tailed hawks, turkey vultures, mute swans, and feral pigeons. This supplement includes reviews the potential environmental impacts of increasing WS operational BDM programs.

NEED FOR ACTION

The need for action to manage damage and threats associated with birds in Indiana arises from requests for assistance[1] received by WS to reduce and prevent damage from occurring to four major categories: agricultural resources, natural resources, property, and human health and safety which were addressed in section 1.3 of the EA (USDA 2002). The need for action to manage bird damage in the State remains as addressed in the EA and in the amendment to the EA (USDA 2006). Since the Decision/FONSI was signed in 2006, WS has continued to receive requests for assistance to manage damage. WS has conducted 4,700 technical assistance projects involving bird damage in the State since FY 2006. Since FY 2006, WS has responded to an increase in requests for assistance to manage damage to property, human health and safety, agricultural resources, and natural resources caused by birds. WS is also being requested to participate in disease surveillance and monitoring programs to detect and evaluate risks associated with avian diseases. Since the completion of the EA and the amendment to the EA, the number of requests for assistance has increased associated with damage caused by house sparrows, killdeer, mallards, Eastern meadowlarks, mourning doves, red-tailed hawks, turkey vultures, mute swans, and feral pigeons at airports, municipalities, and private properties.

As the number of requests for assistance to manage damage increases, the total number of house sparrows, killdeer, mallards, Eastern meadowlarks, mourning doves, red-tailed hawks, turkey vultures, mute swans, and feral pigeons addressed by WS to resolve those requests for assistance also increases. The supplement to the EA evaluates the proposed action alternative as the alternative relates to the increasing need to manage damage associated with birds in Indiana.

AUTHORITIES

Wildlife Services Legislative Authority

USDA is authorized and directed by law to protect American agriculture and other resources from damage associated with wildlife. The primary statutory authorities for the APHIS-WS program are the Act of March 2, 1931 946 Stat. 1468; 7 U.S.C. 426-426b as amended, and the Act of December 1987 (101 Stat. 1329-331, 7 U.S.C. 426c).

WS recognizes that wildlife is an important public resource greatly valued by the American people. By its very nature, however, wildlife is a highly dynamic and mobile resource that can damage agricultural resources, pose risks to human health and safety, and affect other natural resources. The WS program provides Federal leadership in helping to solve problems that occur when human activity and wildlife are in conflict with one another.

[1] WS only conducts bird damage management after receiving a request for assistance. Before initiating bird damage activities, a Memorandum of Understanding, cooperative service agreement, or other comparable document must be signed between WS and the cooperating entity which lists all the methods the property owner or manager will allow to be used on property they own and/or manage.

United States Department of the Interior, Fish and Wildlife Service (USFWS)

The primary responsibility of the United States Department of the Interior, Fish and Wildlife Service (USFWS) is fish, wildlife, and plant conservation. While some of the USFWS's responsibilities are shared with other Federal, State, Tribal, and local agencies, the USFWS has special authorities in managing the National Wildlife Refuge System; conserving migratory birds, endangered species, certain marine mammals, and nationally significant fisheries; and enforcing Federal wildlife laws. The Migratory Bird Treaty Act (MBTA) gives the USFWS primary statutory authority to manage migratory bird populations in the U.S. The USFWS is also charged with implementation and enforcement of the Endangered Species Act of 1973, as amended and with developing recovery plans for listed species.

Indiana Department of Natural Resources Legislative Authority

The Indiana Department of Natural Resources (IDNR), under the direction of the Conservation Commission, is specifically charged by the General Assembly with the management of the state's wildlife resources. The primary statutory authorities include the protection, reproduction, care, management, survival, and regulation of wild animal populations regardless of whether the wild animals are present on public or private property in Indiana (IC 14-22-2-3).

PUBLIC INVOVLEMENT

The pre-decisional EA was made available to the public for review and comment during a 37-day public comment period by a legal Notice of Availability (NOA) published in the *Indianapolis Star* on November 2, 2002. NOA letters for the pre-decisional EA were also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. The pre-decisional EA was made available for review by request through the U.S. mail. All comments were to be received within the 37-day period as advertised in the newspaper. WS received no request for copies of the pre-decisional EA. Upon the closing date, December 13, 2002, no comments were received.

The EA and amendment were made available for public review and comment for a 30-day period on July 11, 2006, using the same methods as for the EA. WS received no requests for copies of the EA or amendment. Additionally, WS received no comments during the comment period ending August 15, 2006. After consideration of the analysis contained in the EA and amendment, WS issued a Decision and FONSI selecting the proposed action on November 9, 2006.

This supplement to the EA, along with the EA, amendment, and corresponding Decisions/FONSIs, was made available for public review and comment through the publication of a NOA announcing a 30-day comment period. The legal notice was published in the state-wide edition of the *Indianapolis Star*, a daily newspaper with geographic coverage of all of the proposed area, for three days starting on December 18, 2012 and was posted on the APHIS website located at http://www.aphis.usda.gov/wildlife_damage/nepa.shtml according to WS' public notification requirements (72 FR 13237-13238). A NOA for this supplement to the EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. At the close of the 30-day comment period, WS received one comment letter. A summary of the comments and WS' responses are attached as Appendix A.

This decision document will be made available to the public using the procedures as for the pre-decision supplement to the EA. The FONSI and final supplement to the EA are posted on the Wildlife Services website.

AFFECTED ENVIRONMENT

Upon receiving a request for assistance, the alternatives could be conducted on private, federal, State, and municipal lands in Indiana to reduce damages and threats associated with birds where a request for assistance is received. The analysis in the EA, the 2006 amendment, and this supplement are intended to apply to actions taken under the selected alternative that could occur in any locale and at any time within the analysis area.

More specific locations could include areas in and around commercial, industrial, public, and private buildings, facilities, and properties at other sites were birds may roost, loaf, feed, nest, or otherwise occur. Examples of areas where bird damage management activities could be conducted are, but are not necessarily limited to: industrial sites, municipal properties, corporate properties, airports, military bases, agricultural fields, vineyards, orchards, farmyards, dairies, ranches, livestock operations, aquaculture facilities, fish hatcheries, grain mills, grain handling areas, rail yards, waste handling facilities, natural areas, government properties and facilities, private properties, schools, hospitals, parks, woodlots, recreation areas, communally-owned homeowner/property owner association properties, wildlife refuges, and wildlife management areas.

MONITORING

The Indiana WS program will annually review its impacts on target bird species and other species addressed in the EA each year 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.

ISSUES ADDRESSED IN DETAIL

The following issues were identified as important to the scope of the analysis (40 CFR 1508.25) and each of the alternatives was evaluated relative to its impact on those issues.

- Issue 1 – Effects on target bird species populations
- Issue 2 – Effects on non-target species populations, including T&E species
- Issue 3 – Economic losses to property as a result of bird damage
- Issue 4 – Effects on human health and safety
- Issue 5 – Effects on aesthetics
- Issue 6 – Humaneness and animal welfare concerns of lethal methods used by WS

Those issues identified during development of the EA (USDA 2002) were evaluated in the supplement to the EA by each issue as those issues related to WS' activities conducted since the Decision was signed in 2006. Each of those issues was also evaluated as those issues relate to conducting the proposed action alternative as described in the proposed supplement to the EA.

ALTERNATIVES ANALYZED IN DETAIL

Chapter 3 of the EA analyzes four potential alternatives that were developed to address the issues identified above. One additional alternative, "Technical Assistance Only", was considered but not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives on the issues is provided in Chapter 4 of the EA and in the supplement. The following summary provides a brief description of each alternative and its anticipated impacts.

Alternative 1 – Implement an Integrated Bird Damage Management Program (Proposed Action/No Action). As defined by the CEQ, the no action alternative can be interpreted as the continuation of current BDM practices (CEQ 1981). The Indiana WS program responds to requests for BDM at municipalities, industrial sites, agricultural sites, airports, and private land within Indiana to protect property, agriculture, natural resources, and human health and safety at these locations. An IBDM approach would be implemented which would allow use of any legal technique or method, used singly or in combination, to meet request or needs for resolving conflicts with birds affecting the aforementioned properties (EA Appendix B). Individuals requesting assistance would be provided with information regarding the use of effective non-lethal and lethal techniques. Lethal methods used or recommended by WS may include shooting, trapping, toxicants, or euthanasia following live capture by immobilization drugs or trapping. Non-lethal methods used or recommended by WS may include habitat alteration, chemical immobilization, repellents, fencing, barriers and deterrents, netting, capture and relocation, and harassment or scaring devices. In many situations, the implementation of non-lethal methods such as habitat alteration, structural modifications, and exclusion-type barriers would be the responsibility of the property managers to implement. BDM by WS would be allowed on the aforementioned sites, when requested, where a need has been documented and upon completion of an Agreement for Control. All management actions would comply with appropriate Federal, State, and local laws.

Alternative 2 – Non-lethal BDM Only, By WS. This alternative would require WS to only use and recommend non-lethal methods to resolve bird damage problems. Requests for information regarding lethal management approaches would be referred to IDNR, USFWS, local animal control agencies, or private businesses or organizations. Individuals might choose to implement WS' non-lethal recommendations, implement lethal methods or other methods not recommended by WS, contract for WS operational assistance with non-lethal methods, use contractual services of private businesses, or take no action.

Alternative 3 – Lethal BDM Only, By WS. This alternative would require WS to only use and recommend lethal methods to resolve bird damage problems. Technical assistance would include making recommendations to the USFWS and IDNR regarding the issuance of permits to resource owners to allow them to take birds by lethal methods. Requests for information regarding non-lethal management approaches would be referred to IDNR, USFWS, local animal control agencies, or private businesses or organizations.

Alternative 4 – No Federal WS BDM. This alternative would eliminate Federal WS involvement in BDM at municipalities, industrial sites, agricultural sites, and private land within Indiana. WS would not provide direct operational or technical assistance and requesters of WS services would have to conduct their own BDM without WS input. Requests for information would be referred to IDNR, USFWS, local animal control agencies, or private businesses or organizations.

ALTERNATIVES CONSIDERED, BUT NOT ANALYZED IN DETAIL

One additional alternative, "Technical Assistance Only" was also evaluated but was not considered in detail in the EA with rationale provided in the EA.

SUMMARY OF CUMMULATIVE IMPACTS

Cumulative impacts, as defined by CEQ (40 CFR 1508.7), are impacts to the environment that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts may result from individually minor, but collectively significant, actions taking place over time.

No significant cumulative environmental impacts are expected from activities considered under the supplement to the EA. Likewise, no significant cumulative impacts have been identified from the implementation of the proposed action in the EA since FY 2002. Under the proposed action, the reduction of bird damage or threats using an integrated approach employing both non-lethal and lethal methods would not have significant impacts on bird populations in Indiana or nationwide. WS continues to coordinate activities with federal, State, and local entities to ensure activities do not adversely impact bird populations. No risk to public safety is expected when WS' activities are conducted pursuant to the proposed action or the proposed supplement to the EA. The EA further describes and addresses cumulative impacts from the alternatives, including the proposed action.

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis provided in the EA, the 2002 Decision/FONSI, the 2006 amendment to the EA, the 2006 Decision/FONSI, the current supplement as well as a review of comments submitted by the public and APHIS-WS' response to those comments, there continues to be no indications that the proposed action (Alternative 1) will have a significant impact, individually or cumulatively, on the quality of the human environment that would result from increasing WS' activities when conducted within the scope analyzed in the supplement. I agree with this conclusion and therefore, find that an Environmental Impact Statement (EIS) should not be prepared. As defined in 40 CFR §1508.27, significance is determined by examining both the context and intensity of an action. This determination is based on the following factors:

1. Bird damage management as conducted by WS in the State is not regional or national in scope.

2. Based on the analyses in the EA, the 2006 amendment, and the current supplement, 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).

3. The proposed action, as supplemented, will continue to have no significant impact on unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas. WS' standard operating procedures and adherence to applicable laws and regulations would 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 may be opposition to killing wildlife, this action is not controversial in relation to size, nature, or effects.

5. Based on the analysis documented in the EA, 2006 amendment, the current supplement, and accompanying administrative files, the effects of the proposed damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

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

7. No significant cumulative effects were identified through the EA, the 2006 amendment, and the current supplement. The EA, 2006 amendment, and current supplement discussed cumulative effects 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.

8. The proposed activities would not affect districts, sites, highways, structures, or objects listed 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 historic resources.

9. WS determined that the proposed action, as supplemented, would not adversely affect any state or federally-listed threatened or endangered species for those species addressed in the EA. The supplement to the EA determined that activities conducted pursuant to the supplement would have no effect on those species listed in the State since the completion of the EA.

10. The proposed action, as supplemented, would be in compliance with all applicable Federal, State, and local laws.

DECISION

I have carefully reviewed the supplement to the EA prepared for this proposal, as well as the EA, the 2002 Decision/FONSI, the 2006 amendment to the EA, the 2006 Decision/FONSI, and the input resulting from the public involvement process. Based on analyses in the EA, the 2006 amendment to the EA, and the current supplement to the EA, the issues identified are best addressed by continuing the proposed action (Alternative 1), as supplemented. This alternative was selected because (1) Alternative 1 successfully addressed bird damage management using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, and/or non-target species, including T&E species; (2) 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 impacts on target and non-target species populations; (3) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of those issues are considered. Further analysis would be triggered if changes occur that broaden the scope of damage management activities in the State, that affect the natural or human environment, or from the issuance of new environmental regulations. Therefore it is my decision to implement the proposed action/no action alternative (Alternative 1) as described in the supplement to the EA.

For additional information regarding this decision, please contact Judy Loven, State Director, USDA-APHIS-WS, 901 W. State Street, West Lafayette, IN 47907-2089.

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

2/20/13
Date

LITERATURE CITED

USDA (United State Department of Agriculture). 2006. Final Amendment to the Environmental Assessment – Bird Damage Management at Municipalities, Industrial Sites, Agriculture Sites, and Private Lands within Indiana. USDA, APHIS, WS Indiana State Office, 901 W. State St., Purdue University, W. Lafayette, IN 47907-2054.

USDA (United States Department of Agriculture). 2002. Environmental Assessment -Bird Damage Management At Municipalities, Industrial Sites, Agricultural Sites, And Private Land Within Indiana. USDA, APHIS, WS Indiana State Office, 901 W. State St., Purdue University, W. Lafayette, IN 47907-2054.

USDA (U.S. Department of Agriculture), Animal and Plant Health Inspection Service (APHIS), Animal Damage Control Program. 1997 Revised. Final Environmental Impact Statement. USDA, APHIS, Wildlife Services Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.

APPENDIX A

RESPONSES TO COMMENTS ON THE SUPPLEMENT TO THE ENVIRONMENTAL ASSESSMENT: BIRD DAMAGE MANAGEMENT AT AIRPORTS, MUNICIPALITIES, INDUSTRIAL SITES, AGRICULTURE SITES, AND PRIVARE LANDS WITHIN INDIANA

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

Comment 1 – APHIS failed to consider how expanding the use of inhumane methods would impact target and non-target animals.

The commenter expressed specific concern regarding WS' use of DRC-1339 and leghold traps as inhumane methods. The commenter suggested that non-target animals and companion animals can be negatively impacted by the increase in the use of DRC-1339 and leghold traps.

The proposed action would include the use of legal methods including DRC-1339 and pole traps comprised of modified leghold traps (No. 0 or 1 foothold traps with padded jaws), which are primarily used to capture and relocate birds such as raptors and crows from airfields. Sections 4.1.1, 4.1.2, and 4.1.6 of the EA (USDA 2002) and the supplement to the EA adequately address impacts to target and non-target species from the methods available. A complete list of bird damage management methods available for use or recommendation by the Indiana WS program can be found in Appendix B of the EA (USDA 2002).

For further clarification, pole traps use modified leghold traps which are placed on top of poles or typical roosting spots frequented by target bird species (e.g., airfields). These leghold traps are typically modified to have minimal pan tension on them so that a bird's foot is not injured and non-target species can be released unharmed. The use of pole traps to capture migratory birds is conducted pursuant to a depredation permit issued by the USFWS. IN WS personnel comply with all conditions and authorizations as required by the USFWS and described in the permit. This includes checking pole traps every two hours during the day and at least once during evening sets so that captured birds may be removed quickly from the trap for relocation. Further, pole traps are most commonly placed in locations where companion animals are not expected to be present (e.g., airfields) and poles used for this method are typically six to ten feet in height. The combination of two hour checks and the elevation of the trap sets reduce the potential for the capture of companion animals to negligible levels and further reduce the potential for non-target wildlife captures. IN WS personnel conduct site monitoring prior to the placement of pole traps and the presence of non-target species on a site would be fully evaluated. Thus, WS' use of leghold traps for BDM does not cause prolonged pain of suffering or pose the potential to negatively impact target, non-target, or companion animals.

DRC-1339 is the principal chemical method that would be used for starling/blackbird and pigeon damage management in the proposed action. WS recognizes that any use of lethal methods, toxicants in particular, is considered by many individuals to be inhumane even if time until death and pain experienced appear to be minimal. The majority of birds that consume the bait die within 24 hours, but

most within 4 to 12 hours. There are no reports available on the pain experienced by birds treated with DRC-1339, but information on acute kidney failure in people indicates that it may be erroneous to assume that birds treated with DRC-1339 experience a very painful death. Symptoms of renal failure vary among individuals, with some individuals experiencing no symptoms while others may experience symptoms such as fluid retention, headache, nausea, fatigue and/or chest pressure, and/or seizures (Mayo Clinic 2011, American Urological Association 2011).

The 2006 amendment to the EA analyzed the potential removal of up to 2,000 feral pigeons. The proposed supplement proposed to increase the potential maximum annual take to 4000 feral pigeons. Although approved for use on feral pigeons in Indiana, a review of WS' MIS data indicates that DRC-1339 has not been used for pigeons in the State dating back to at least 1993. Indiana WS does not anticipate potential future use, although it is possible. WS believes that the issue of humaneness, as it relates to the take of pigeons, has not changed from that analyzed in the EA (USDA 2002) and amendment (USDA 2006). There are no proposed increases in the take starlings or blackbirds, therefore the effects on target species, including humaneness, remain unchanged from previous analyses.

A common concern regarding the use of DRC-1339 is the potential risks to non-targets, including T&E species. Standard operating procedures (SOPs) to avoid non-target impacts were described in Section 3.4 in the EA (USDA 2002). DRC-1339 is highly toxic to sensitive species, but only slightly toxic to non-sensitive species, predatory birds, and mammals (Schafer, Jr. 1981, Schafer, Jr. 1991, Johnston et al. 1999). For example, starlings, a highly sensitive species, require a dose of only 0.3 mg/bird to cause death (Royall et al. 1967). Most bird species that are responsible for damage, including starlings, blackbirds, pigeons, crows, magpies, and ravens are highly sensitive to DRC-1339. Many other bird species such as raptors (Schafer, Jr. 1981), sparrows, and eagles are classified as non-sensitive. Secondary poisoning has not been observed with DRC-1339 treated baits, except crows eating gut contents of pigeons (Kreps 1974). During research studies, carcasses of birds which die from DRC-1339 were fed to raptors and scavenger mammals for 30 to 200 days with no symptoms of secondary poisoning observed (Cunningham et al. 1981). This can be attributed to relatively low toxicity to species that might scavenge on blackbirds and starlings killed by DRC-1339 and its tendency to be almost completely metabolized in the target birds which leaves little residue to be ingested by scavengers. Secondary hazards of DRC-1339 are almost nonexistent (Schafer, Jr. 1984, Schafer, Jr. 1991, Johnston et al. 1999).

All label requirements of DRC-1339 would be followed to minimize non-target hazards. As required by the label, all potential bait sites are pre-baited and monitored for non-target use as outlined in the pre-treatment observations section of the label. If non-targets are observed feeding on the pre-bait, the plots are abandoned and no baiting would occur at those locations. Treated bait is mixed with untreated bait per label requirement when applied to bait sites to minimize the likelihood of non-targets finding and consuming bait that has been treated. The bait type selected can also limit the likelihood that non-target species would consume treated bait since some bait types are not preferred by non-target species.

Once sites are baited, sites are monitored daily to further observe for non-target feeding activity. If non-targets are observed feeding on bait, those sites are abandoned. By acclimating target bird species to a feeding schedule, baiting can occur at specific times to ensure bait placed is quickly consumed by target bird species, especially when large flocks of target species are present. The acclimation period allows for treated bait to be present only when birds are conditioned to be present at the site and provides a higher

likelihood that treated bait is consumed by target species which makes it unavailable to non-targets. In addition, many blackbird species, including crows, when present in large numbers, tend to exclude non-targets from a feeding area due to their aggressive behavior and by the large number of conspecifics present at the location. Therefore, the risks to non-target species from consuming treated bait only occurs when treated bait is present at a bait location. WS would retrieve all dead birds to the extent possible following treatment with DRC-1339 to minimize secondary hazards associated with scavengers feeding on bird carcasses.

Therefore, use of DRC-1339 by WS has virtually no impact to non-target species and the issue of humaneness of this method to non-target species will not be considered further.

Comment 2 – The number of animals impacted by the methods used should be considered when determining the humaneness of an action.

The issue of humaneness was addressed in section 4.1.6 of the EA (USDA 2002) and the supplement. Additionally, WS Standard Operating procedures to minimize pain and suffering were discussed in Section 3.4. Humaneness, in part, appears to be a person's perception of harm or pain inflicted on an animal. People may perceive the humaneness of an action differently. The challenge in coping with this issue is how to achieve the least amount of suffering. With the multitude of attitudes on the meaning of humaneness and the varying perspectives on the most effective way to address damage and threats in a humane manner, agencies are challenged with conducting activities and employing methods that are perceived to be human while assisting those persons requesting assistance to manage damage and threats associated with wildlife. Humaneness, as it relates to the killing or capturing of wildlife is an important but complex concept open to individual interpretation. An increasing public perception is that, left alone by humans, animal populations will experience few premature deaths and live to an old age without harm, pain or suffering. Human-induced mortality, which often involves much less suffering of individual animals, invariably lessens mortality from other sources, such as mal-nutrition, population-influenced wildlife disease, or nutrition-influenced secondary disease.

The goal of WS is to use methods as humanely as possible to effectively resolve requests for assistance to reduce damage and threats to human safety. WS would continue to evaluate methods and activities to minimize the pain and suffering of methods addressed when attempting to resolve requests for assistance. WS seeks to effectively address requests for assistance using methods in the most humane way possible that minimizes the stress and pain to the animal regardless of the number of animals affected. Under the proposed action WS will continue to conduct BDM in as humane a way as practical and will continue to support research to improve the effectiveness and humaneness of wildlife damage management methods.

When implementing control programs, WS evaluates all potential tools for their humaneness, effectiveness, ability to target specific individuals as well as species, and potential impacts on human safety. WS believes that the humaneness of an action or management plan must not only consider the effects of the action on wildlife but also on the people or other species that may be or are affected by the wildlife. Ideally, such protection would be achieved through non-lethal means, but when lethal means are not practical or effective, lethal means may be the only way to accomplish such protection. Indiana Wildlife Specialists take every measure to be as humane as possible while still providing an effective and efficient damage control program.

Comment 3 – Expanding the use of [DRC-1339 and leghold traps] fails to minimize suffering and constitutes a potential abuse of the agency's depredation privileges.

The issue of humaneness has been addressed in Section 4.16 of the EA (USDA 2002), the supplement, and in the response to Comment 2 (above). With regard to the commenter's statement that the use of methods described "constitutes a potential abuse of the agency's depredation privileges", WS assumes the commenter is referring to WS actions pursuant to USFWS issued depredation permits.

The Migratory Bird Treaty Act (MBTA) does allow for the lethal take of those bird species listed in 50 CFR 10.13 when depredation occurs through the issuance of depredation permits or the establishment of depredation orders. Under authorities of the MBTA, the USFWS is the federal agency responsible for the issuance of depredation permits or the establishment of depredation orders for the take of those protected bird species when damage or threats of damage are occurring. While conducting BDM, WS abides by all conditions, authorizations, and requirements of any applicable depredation permit or order. WS' take of birds is reported to the USFWS annually to ensure WS' take is considered as part of management objectives for those species.

Comment 4 – WS should reduce or eliminate its use of inhumane methods.

The commenter suggests that rather than using methods that they perceive as inhumane, WS should focus on methods that include "integrated and adaptive" animal damage management programs that employ such methods as no feeding policies, repellants, exclusion, and deterrents.

An alternative evaluating the use of only non-lethal methods was considered during the development of the EA (USDA 2002), however WS determined that although WS take of target bird species would not occur under this alternative, it is likely that, without WS conducting some level of lethal BDM activities, property managers or outside contractors BDM efforts would increase, leading to similar or greater impacts on target species populations as those of the current program alternative. As described in Section 3 of the EA (USDA 2002), the proposed action considers these types of methods and approaches, as appropriate, when formulating a strategy to reduce or prevent bird damage and conflicts. An IBDM 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.

Preference is given to the use and recommendation of non-lethal methods by WS when practical and effective (see WS Directive 2.201). WS' employees would use WS' Decision Model (Appendix C of the EA) to determine which methods were practical and effective at reducing damage or threats of damage. In some cases, the use of lethal methods could be determined to be the most practical and effective at reducing damage or threats of damage. In some cases, the use of lethal methods could be determined to be the most practical and effective way of reducing damage to the level requested. When lethal methods were determined to be appropriate, WS would employ those methods in the most humane way possible to minimize stress and pain to the animal. Similarly, when making recommendations for the use of lethal methods, WS would recommend those methods be employed in the most humane way possible.

In those instances where non-lethal methods would effectively resolve damage caused by birds, WS would use or recommend those methods under the proposed action alternative. Between FY 2007 and FY

2012, WS employed non-lethal methods to disperse or relocate 2,326,005 target birds in Indiana. During the same time period IN WS lethally removed 65,656 target birds. Of those birds lethally removed, 88% were European starlings which are a non-native bird species in the U.S. (Feare 1984).

WS recognizes that the death of any animal is unacceptable to many people and regrettable. WS continues to pursue efforts to improve non-lethal methods and the selectivity of our damage management methods, and maintains and funds the national Wildlife Research Center (NWRC) to develop such methods. Variability in public perceptions of what constitutes a humane or appropriate method is addressed in Sections 2.2.6 and 4.1.6 of the EA (USDA 2002) and the supplement.

Comment 5 – Lethal methods fail to keep birds away and increase populations.

Sections 2.2.1 and 4.1.1 of the EA and and the supplement to the EA discuss the species targeted by WS and considered all impacts where data was available for target species. The available data for analysis was WS BDM take, permitted depredation take (USFWS), and hunter harvest. The commenter believes that lethal methods fail to keep birds away and can actually increase populations, because when animals are killed, the supply prompts birds in outlying areas to move in and use available resources, and survivors and newcomers breed at an accelerated rate. This is an unfounded claim for birds with no literature to support it. WS agrees that the removal of birds from an area opens up habitat for new birds to use, but this usually takes some time. For example, when a flock of pigeons is using a building, sometimes the best solution would be to remove the local population (exclusion and other non-lethal methods often do not work while the resident population is till around) and to then follow up with non-lethal methods (e.g., exclusion from nesting sites, cat-claw on roost structures, and removal of manure and feathers that serve as an attractant). Recolonization could occur, but would typically involve fewer birds and would take a year or more to occur. A further example involves the removal of starlings from a feed lot. This occurs during late fall through late winter when, for the most part, a finite number of birds are present in a general area. If snow and colder temperatures move starlings into a feedlot and the finite number of birds, though it is often in the thousands, was removed from the entire area, they would not be replaced until birds from other areas migrated to that area. However, if several feedlots are in an area and only one conducts control, then that feedlot might experience more birds until many of the birds from the area are removed. However, it is likely that the number at the feedlot would be considerably reduced. Starlings are often not drawn to the same feedlot daily, so while more could come to one feedlot, surrounding feedlots would experience fewer starlings. This would not necessarily affect the number of starlings breeding in that area, depending on the number of migrants present. Additionally, since food sources often change from winter to summer (e.g., for starlings, high protein grain in winter to invertebrates during nesting), less starlings at one time of the year does not necessarily equate to increased food supply. Additionally, a feedlot supplies an endless amount of food because what the starlings consume has to be replaced to ensure the cattle are gaining a proper weight.

The above comment also assumes that birds only return to an area where damage was occurring if lethal methods are used. However, the use of non-lethal methods is often temporary which could result in birds returning to an area where damage was occurring once those methods are no longer used or become ineffective due to habituation. The common factor when employing any method is that birds would return if suitable habitat continues to exist at the location where damage was occurring and bird densities are sufficient to occupy all available habitats. Therefore, any reduction or prevention of damage from the

methods addressed in Appendix B of the EA, either lethal or non-lethal would be temporary if habitat conditions continue to exist. Therefore, any method that disperses or removes birds from areas would only be temporary if habitat continues to exist the following year when birds return to nest.

The goal of the WS program is to reduce damage, risks, and conflicts with wildlife, not to manage or reduce wildlife populations. Localized population reduction efforts may be conducted at specific sites, but these efforts are not intended to or anticipated to result in reductions in the State, or overall populations of these species (EA section 4.1.1). As stated in Section 4.1.1 of the EA (USDA 2002), WS recognizes that local population reduction efforts are likely to be short-term and that new individuals may immigrate to the site or be born to animals remaining on the site. However, the ability of bird populations to sustain the proposed level of removal and to eventually return to treatment sites does not mean individual BDM actions are not successful in reducing damage, but that periodic bird damage management actions are necessary in many damage situations. This is true for most non-lethal damage management techniques as well as lethal damage management techniques.

Even though the reduction in local populations is not anticipated to last, timed properly, the local population can last long enough for the prey animals to be protected (e.g., eggs, lambs, chicks) to reach a size or level of maturity where they are at less risk of predation, it may also give cooperators time to implement preventative damage management methods like improvements to exclosures at hatchery sites or alterations to facility characteristics and local habitat intended to prevent the problem from occurring again.

Thus, we believe that, at times, lethal methods may fail to keep birds away for some projects, but overall they are very effective when used in the right damage situation. We also believe that target species' populations will not increase as a result of BDM projects and an increase in the population could occur from a wide array of factors.

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