DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: CANADA GOOSE DAMAGE MANAGEMENT IN THE STATE OF WEST VIRGINIA

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

April 2009

I. INTRODUCTION

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program prepared an Environmental Assessment (EA) to analyze the potential impacts to the quality of the human environment from resolving Canada goose (*Branta canadensis*) damage related to the protection of property, agricultural commodities, natural resources, and human health and safety in West Virginia (USDA 2004)[1]. The EA documents the need for goose damage management in West Virginia and assesses potential impacts on the human environment of four alternatives to address that need. WS' proposed action in the EA implements an integrated damage management program in West Virginia to fully address the need to manage goose damage while minimizing impacts to the human environment.

II. PUBLIC INVOLVEMENT

The pre-decisional EA[2] was made available to the public for review and comment by a legal notice published for three consecutive days in 19 newspapers in West Virginia. A copy of the pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. WS received one comment letter during the 38-day public comment period which began on June 23, 2003 and ended on July 30, 2003. The comments were reviewed for substantive issues and alternatives which were considered in developing the Decision for the EA. After consideration of the analysis contained in the EA and review of public comments, a Decision and Finding of No Significant Impact (FONSI) for the EA was issued on March 26, 2004. The Decision and FONSI selected the proposed action to implement an integrated damage management program in West Virginia to resolve damage and threats associated with Canada geese using multiple methods to adequately address the need for action.

To facilitate public participation in the development of this new Decision and summary report, this document along with the EA and the 2004 Decision/FONSI will be made available for public review and comment though a legal notice published in the *Charleston Daily Mail* announcing a comment period for a minimum of 30 days. In addition, a notice of availability will also be posted on the APHIS website at http://www.aphis.usda.gov/wildlife_damage/nepa.shtml and notice letters will be directly mailed to

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[1]Copies of the EA and 2004 Decision/FONSI are available for review from the State Director, USDA/APHIS/WS, 730 Yokum Street, Elkins, WV 26241 or by visiting the APHIS website at http://www.aphis.usda.gov/wildlife_damage/nepa.shtml.

[2]Before a Decision for the EA is issued, the EA is considered pre-decisional. After the development of the EA by WS and consulting agencies and after public involvement in identifying new issues and alternatives, WS issues a Decision. Based on the analysis in the EA after public involvement, a decision is made to either publish a Notice of Intent to prepare an Environmental Impact Statement or a Finding of No Significant Impact will be noticed to the public in accordance to the NEPA, the Council of Environmental Quality regulations, and APHIS' NEPA implementation regulations.

agencies, organizations, and individuals with probable interest in the proposed program announcing the availability and requesting comment on this new Decision. Comments received during the public involvement process will be fully considered for new substantive issues and alternatives. Unless new substantial issues and/or alternatives are brought to WS' attention, this new Decision will take effect upon the close of the comment period.

III. PURPOSE

This summary report and new Decision/FONSI are being prepared to: 1) facilitate planning and interagency coordination, 2) streamline program management, 3) ensure WS' activities remain within the scope of analyses contained in the EA, and 4) clearly communicate to the public the analysis of individual and cumulative impacts of the current program since 2004. This summary report and new Decision/FONSI ensures WS' actions comply with the National Environmental Policy Act (NEPA), with the Council on Environmental Quality (40 CFR 1500), and with APHIS' NEPA implementing regulations (7 CFR 372). All Canada goose damage management activities, including disposal requirements, are conducted consistent with: 1) the Endangered Species Act of 1973, 2) the Migratory Bird Treaty Act, 3) Executive Order (EO) 12898[3], EO 13045[4], and EO 13186[5], 4) the Federal Insecticide, Fungicide, and Rodenticide Act, and 5) federal, state, and local laws, regulations, and policies.

IV. MONITORING

The WS program in West Virginia annually reviews program activities to determine impacts on issues identified to ensure that program activities are within the scope of analysis contained in the EA. The annual monitoring reports document WS' activities while discussing any new information that becomes available since the completion of the EA and the last monitoring report. If WS' activities, as identified in the annual monitoring reports, are outside the scope of the analyses in the EA or if new issues are identified from available information, further analysis would occur and the EA would be supplemented to the degree as identified by those processes pursuant to NEPA or a notice of intent to prepare an Environmental Impact Statement (EIS) would occur.

This summary report and new Decision will evaluate WS' activities to resolve and prevent damage caused by Canada geese in West Virginia under the proposed action described in the EA since the Decision and FONSI were signed in 2004. WS will continue to coordinate activities to alleviate or prevent damage with the West Virginia Division of Natural Resources (WVDNR) and the United State Fish and Wildlife Service (USFWS) to ensure WS' activities are considered as part of the management objectives for geese.

V. RELATIONSHIP OF THIS DOCUMENT TO OTHER ENVIRONMENTAL DOCUMENTS

WS' Programmatic Final Environmental Impact Statement: WS has developed a programmatic Final Environmental Impact Statement (FEIS)[6] that addresses the need for wildlife damage management in the United States (USDA 1997). The FEIS contains detailed discussions of potential impacts to the human

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[3] Executive Order 12898 promotes the fair treatment of people of all races, income levels and cultures with respect to the development, implementation and enforcement of environmental laws, regulations and policies.

[4] Executive Order 13045 ensures the protection of children from environmental health and safety risks since children may suffer disproportionately from those risks.

[5] Executive Order 13186 directs federal agencies to protect migratory birds and strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and minimize the take of migratory birds through enhanced collaboration between WS and the USFWS, in coordination with state, tribal, and local governments. A National-level MOU between the USFWS and WS is being developed to facilitate the implementation of Executive Order 13186.

[6] Copies of WS' programmatic FEIS are available from USDA/APHIS/WS Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.

environment from wildlife damage management methods used by WS. Pertinent information available in the FEIS has been incorporated by reference into the EA and this Decision.

USFWS Resident Canada Goose Management FEIS: The USFWS has issued a FEIS addressing the need for and potential environmental impacts associated with goose damage management activities entitled "*Resident Canada Goose Management*" (USFWS 2005). The FEIS also contains detailed analyses of the issues and methods used to manage Canada goose damage. A Record of Decision (ROD) and Final Rule were published by the USFWS on August 10, 2006 (71 FR 45964-45993). On June 27, 2007, WS issued a ROD and adopted the USFWS FEIS (72 FR 35217). Information in the resident Canada goose FEIS has been incorporated by reference into this document.

VI. AFFECTED ENVIRONMENT

The proposed action could be conducted on private, federal, state, tribal, and municipal lands in West Virginia to resolve damage to agricultural commodities, natural resources, property, and to reduce threats to public health and safety. The areas of the proposed action include, but are not limited to, property on or adjacent to airports, golf courses, athletic fields, recreational areas, swimming beaches, parks, corporate complexes, subdivisions, businesses, industrial parks, schools, agricultural areas, wetlands, restoration sites, and cemeteries. Additionally, the area of the proposed action would include airports and surrounding property where geese represent a threat to aviation safety. Goose damage management would be conducted when requested by a landowner or manager and only on properties where a cooperative service agreement, work plan, or other comparable document is in place.

WS has reviewed the affected environment during evaluations of programs activities under the proposed action through annual monitoring reports and this summary report. The affected environment has not changed since the implementation of the proposed action and continues to be as addressed in the EA.

VII. MAJOR ISSUES

Issues are concerns of the public and/or professional community raised regarding potential adverse affects that might occur from a proposed action. Such issues must be considered in the NEPA decision-making process. Issues relating to the reduction of wildlife damage were raised during the scoping process for WS' programmatic FEIS (USDA 1997) and were considered in the preparation of the EA (USDA 2004). Issues related to managing damage associated with Canada goose damage management were developed by WS in consultation with the USFWS, the WVDNR, and the West Virginia Department of Agriculture. The pre-decisional EA and Decision were also made available to the public for review and comment to identify additional issues and alternatives.

The EA fully describes the issues identified during the scoping process for WS' programmatic FEIS and during the development of the EA. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25) and are addressed here as they relate to activities conducted since the completion of the Decision for the EA in 2004:

Issue 1 - Effects on Target Canada Goose Populations

A common issue when addressing damage caused by wildlife are the potential impacts of management actions on the population of target species. Methods used to resolve damage can involve altering the behavior of target species through non-lethal methods and may require the use of lethal methods when appropriate. Under the proposed action, WS provided technical and direct damage assistance using methods described in Appendix B of the EA in an integrated approach in which all or a combination of methods were recommended and/or employed to resolve a request for assistance (USDA 2004).

WS continued to provide both technical assistance and direct damage management as part of an integrated damage management approach to preventing and resolving damage caused by geese in West Virginia from federal fiscal year (FY)[7] 2004 through FY 2008. Technical assistance was provided to cooperators through the dissemination of information regarding damage management techniques to prevent damage, through methods demonstrations, and through site visits. Through technical assistance, WS made recommendations on the appropriate methods available for use that a requestor could employ to resolve damage or reduce threats without WS' direct involvement.

Operational assistance occurs when WS is directly involved with employing methods to resolve, alleviate, or reduce threats. As directed by the selected alternative, WS applies multiple methods as part of an integrated damage management program to resolve requests for assistance. WS' technical assistance and direct operational programs are also discussed in the EA (USDA 2004) and in WS' programmatic FEIS (USDA 1997).

The integrated approach of managing damage associated with Canada geese uses both non-lethal and lethal methods to resolve requests for assistance. Although non-lethal methods can disperse birds from areas where application occurs, those birds are generally unharmed. Therefore, no adverse affects are often associated with the use of non-lethal methods. However, methods used to lethally take (kill) geese can result in a local reduction of the goose population in the area where damage or threats of damage were occurring. Canada geese are afforded protection from take under the Migratory Bird Treaty Act. However, take of Canada geese and other migratory birds can occur pursuant to the Migratory Bird Treaty Act through the issuance of depredation permits when deemed appropriate by the USFWS. Geese can also be taken during regulated hunting seasons under frameworks established by the USFWS and implemented by the State.

From FY 2004 through FY 2008, WS received 184 requests for assistance to manage damage associated with Canada geese in West Virginia. Most requests for assistance were to alleviate damage or threats of damage to property. Property damage can occur from geese overgrazing turf and landscaping and from fecal matter deposited on sidewalks, walkways, and turf. Threats to human safety were also addressed. Threats to human safety arise from the potential of disease transmission associated with human contact with fecal matter or surfaces contaminated with fecal matter deposited by geese, including fecal matter being deposited in water sources. These requests for assistance most often came from public parks and golf courses. Human safety threats can also arise from the potential of aircraft striking geese at airports which can threaten air passenger safety. WS continues to assist airports within West Virginia in developing programs to minimize the risk of aircraft striking geese.

WS' activities to address damage caused by Canada geese using an integrated approach to resolve requests for assistance from FY 2004 through FY 2008 are summarized by FY below:

WS' Goose Damage Management Activities in West Virginia during FY 2004

WS implemented an integrated approach to resolving damage associated with geese in West Virginia during FY 2004 using a combination of technical assistance and direct assistance to successfully reduce damage. Technical assistance was provided to 60 cooperators in FY 2004 involving 79 individuals. Assistance was provided to resource owners by way of information and demonstration of methods available to reduce or prevent goose damage. Requests for assistance were primarily received for the reduction of damage to property and to reduce threats to human health and safety. Many projects were conducted to reduce damage or threats to multiple resources. Where resource owners were unable to resolve damage issues on their own, WS provided direct assistance. In FY 2004, this assistance was limited to the removal of problem resident geese during the summer molt. WS addressed a total of 303 geese in FY 2004 that were causing damage to property or were posing a threat to human safety. Walk-in

traps were the primary method used and accounted for 300 of the geese lethally taken by WS; three additional geese were removed by shooting. Live-captured geese in walk-in traps were subsequently euthanized using carbon dioxide which is an acceptable method of euthanasia according to the American Veterinary Medicine Association (AVMA 2007).

Examples of WS' direct assistance in West Virginia in FY 2004 included: (1) protection of human health and safety through removal of geese at industrial sites where geese were defecating on walkways, and (2) reduction of goose-aircraft strikes, and enhancement of public safety at West Virginia airports.

WS' Goose Damage Management Activities in West Virginia during FY 2005

WS continued to provide technical assistance and direct assistance through the operational employment of methods to resolve requests to manage goose damage in West Virginia during FY 2005. Technical assistance was provided to those interested through recommendations and through the dissemination of information on how to effectively resolve goose damage using dispersal techniques and by altering cultural practices. A total of 13 technical assistance projects were conducted in FY 2005 by WS involving 14 individuals.

Operational damage management was also conducted by WS in FY 2005 through the direct integration of methods and strategies to resolve damage caused by geese. Most requests for assistance to resolve damage caused by geese involved both property damage and concerns for human safety due to accumulations of goose feces.

In FY 2005, WS addressed at total of 330 geese in West Virginia to reduce or prevent damage to property and to reduce threats to human safety. WS used walk-in live traps to capture and remove 187 geese during FY 2005. An additional 134 geese were captured using the sedative alpha chloralose and nine were caught by hand. Alpha chloralose and hand capture methods were used to remove geese in a sensitive industrial setting where the walk-in live trap was impractical.

Requests to resolve or reduce damage threats occurred primarily from the risks to property and human safety from aircraft striking geese, overgrazing of landscape by geese, and from the cost and the need to clean aesthetically displeasing goose feces from property. As part of an integrated damage management approach, WS employed both non-lethal and lethal damage management methods to resolve damage caused by geese in West Virginia.

Examples of WS' direct assistance in West Virginia in FY 2005 included: (1) protection of human health and safety through removal of geese at industrial sites where geese were defecating on walkways, and (2) reduction of goose-aircraft strikes, and enhancement of public safety at West Virginia airports.

WS' Goose Damage Management Activities in West Virginia during FY 2006

WS continued to respond to request for assistance to manage damage caused by Canada geese in FY 2006. Requests were received to manage damage caused by geese to property and to reduce threats to human safety. To resolve requests for assistance, WS continued to utilize an integrated approach by assisting resource owners in implementing non-lethal methods and removing and euthanizing geese in situations where non-lethal methods where impractical or unsuccessful in resolving damage.

WS provided technical assistance to 34 people in FY 2006 on preventing and resolving goose damage, as well as information on the biology of geese.

To enhance non-lethal methods, WS lethally removed a total of 140 Canada geese in West Virginia during FY 2006. All geese were lethally removed during those months when birds present in West Virginia are considered resident as defined by the FEIS developed by the USFWS (USFWS 2005). Live capture traps followed by euthanasia were the primary methods employed to resolve requests for damage management assistance with geese. Other methods employed included shooting, alpha chloralose, and hand capture followed by euthanasia.

WS' Goose Damage Management Activities in West Virginia during FY 2007

WS continued to provide technical assistance and operational employment of methods to resolve requests for assistance to manage goose damage in West Virginia during FY 2007. Technical assistance was provided to those interested through recommendations and through the dissemination of information on how to effectively resolve goose damage using dispersal techniques and by altering cultural practices. WS provided technical assistance to 98 requesters in FY 2007 through the dissemination of information and making recommendations on effective methods to resolve goose damage. WS distributed 35 informational leaflets to those requesting assistance in FY 2007.

Operational damage management was also conducted by WS in FY 2007 through the direct integration of methods and strategies to resolve damage caused by geese in West Virginia. Requests for assistance in FY 2007 were primarily received to protect human safety, to reduce disease transmission threats caused by human contact with goose feces, and to reduce threats to human safety from aircraft striking geese at or near airports.

During FY 2007, WS responded to requests by cooperators to provide non-lethal dispersal and harassment services rather than depending on the cooperators themselves to implement these methods. Non-lethal dispersal and harassment are labor intensive methodologies which cooperators find time consuming. As such, WS saw increased requests by cooperators to provide these services in addition to goose removal services. Geese were harassed or dispersed primarily through the use of lasers, pyrotechnics, and paint balls. WS used non-lethal methods to disperse 165 geese from areas where damage or threats of damage were occurring in FY 2007. WS also used lethal means to remove a total of 547 geese. Live capture traps followed by euthanasia were used to remove 514 geese. Additionally, 26 geese were removed using alpha chloralose and seven by shooting. All geese that were lethally removed by WS were taken during those months when birds present in West Virginia are considered resident as defined by the FEIS developed by the USFWS (USFWS 2005).

Examples of WS' direct assistance in West Virginia in FY 2007 included: (1) protection of human health and safety through removal of geese at industrial sites where geese were defecating on walkways, (2) protection of a city park where goose droppings made an unsanitary situation and aggressive geese were attacking people, and (3) reduction of goose-aircraft strikes, and enhancement of public safety at West Virginia airports.

WS' Goose Damage Management Activities in West Virginia during FY 2008

Similar to FY 2007, WS saw a continued increase in requests and funding from cooperators to provide non-lethal goose harassment services. Intensive hazing of geese by WS' personnel used non-lethal methods to disperse 1,934 geese from areas where damage was occurring or to prevent damage from occurring using primarily lasers, paint balls, pyrotechnics, and hazing dogs. WS also used lethal methods to take 86 geese in West Virginia in FY 2008, using live-capture methods followed by euthanasia. Additionally, 11 Canada goose eggs were addled in FY 2008.

An example of WS' technical assistance in West Virginia in FY 2008 included providing free goose management information (including 63 informational leaflets) to 353 requesters. Examples of WS' direct operational assistance in West Virginia in FY 2008 included: (1) hazing of geese at school athletic fields which geese had been contaminating with droppings and (2) reduction of goose-aircraft strikes, and enhancement of public safety at seven West Virginia airports where wildlife hazard assessments have been completed.

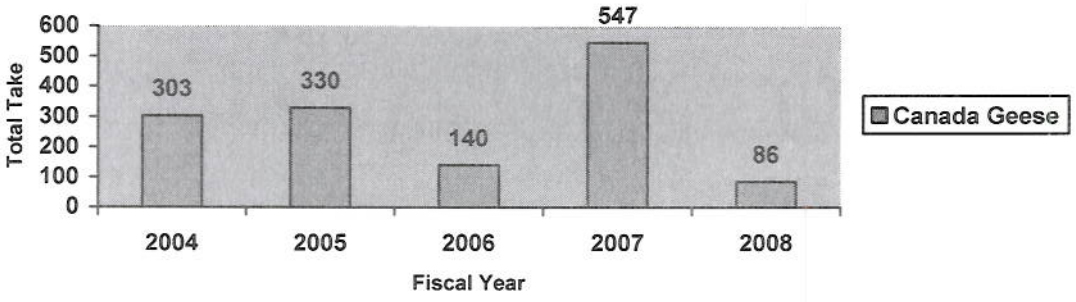
Canada goose population impact analysis from WS' activities

Of primary concern is the magnitude of take on a species' population from the use of lethal methods. Lethal methods are employed to remove a goose or those geese responsible for causing damage and only after requests for such assistance are received by WS. The use of lethal methods would therefore result in local population reductions in the area where damage or threats were occurring. The number of target species removed from the population using lethal methods under the proposed action would be dependent on the number of requests for assistance received, the number of individuals involved with the associated damage or threat, and the efficacy of methods employed.

The analysis for magnitude of impact from the lethal take of geese generally follows the process described in Chapter 4 of WS' programmatic FEIS (USDA 1997). Magnitude is described in WS' programmatic FEIS (USDA 1997) as "*...a measure of the number of animals killed in relation to their abundance*." Magnitude may be determined either quantitatively or qualitatively. Quantitative determinations are based on population estimates, allowable harvest levels, and actual harvest data. Qualitative determinations are based on population trends and harvest data when available. Generally, WS only conducts damage management on species whose population densities are high and usually only after they have caused damage. WS' take is monitored by comparing numbers of animals killed with overall populations or trends in populations to assure the magnitude of take is maintained below the level that would cause significant adverse impacts to the viability of native species populations (USDA 1997).

WS' take of Canada geese in West Virginia from FY 2004 through FY 2008 are shown in Figure 1. Since FY 2004, a total of 1,406 Canada geese have been lethally taken by WS in West Virginia to alleviate or prevent damage to a variety of resources at the request of the resource owner. WS' highest take level of geese occurred in FY 2007 when 547 geese were lethally removed to prevent or alleviate damage.

Figure 1 - WS' Take of Canada Goose in West Virginia by Fiscal Year



The EA analyzed take by WS of no more than 2.8% of the estimated resident Canada goose population in West Virginia and no more than 50 migratory Canada geese in the State annually under the proposed action. As defined by the USFWS, a Canada goose in considered a resident of the State when nesting during the months of March, April, May, or June and/or residing within the State from April through August (USFWS 2005). Those geese present in the State that are present outside of those months when geese are considered resident in the State will be considered migratory.

The population of resident geese in West Virginia during the development of the EA was estimated at 28,000 geese (Atlantic Flyway Council 1999, USDA 2004, USFWS 2005). No additional population estimates are available since the completion of the EA for resident Canada geese in West Virginia or the information available in the resident goose management FEIS developed by the USFWS (USFWS 2005). However, based on trend information from the Breeding Bird Survey, the number of geese observed during the breeding season are showing an increasing trend in West Virginia estimated at 23.3% annually since 1966 (Sauer et al. 2008). Since 1980, the number of geese observed in the State during the breeding season has increased at an estimated rate of 18.6% annually (Sauer et al. 2008). Based on the increasing trends of breeding Canada geese, the resident goose population in West Virginia is likely close to or higher than the 28,000 estimate evaluated in the EA and the resident Canada goose management FEIS. The spring Canada goose population management goal for West Virginia is 24,000 geese.

As shown in Table 1, WS' take of resident geese has not exceeded the level evaluated in the EA and as occurred within the scope of analysis in the EA. The EA evaluated a take level of up to 2.8% of the estimated resident Canada goose population in West Virginia. The highest percentage of take by WS occurred in FY 2007 were 2.0% of the estimated resident goose population was lethally removed by WS to alleviate and prevent damage if the goose population has remained stable in the State.

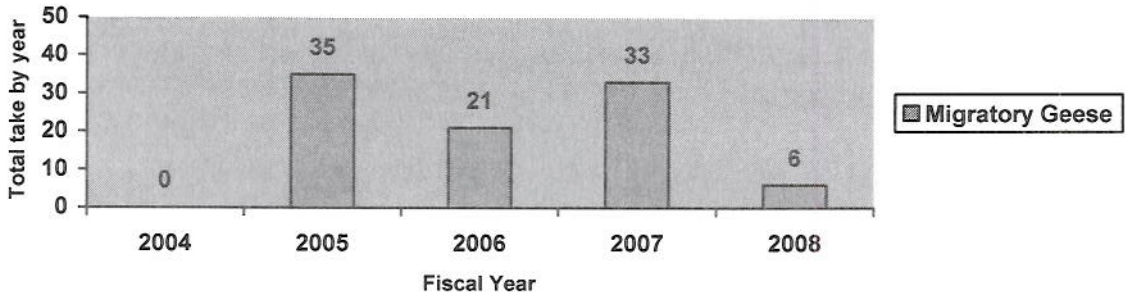
Table 1 – Resident Canada goose population estimates and WS' take of resident geese in West Virginia from FY 2004 through FY 2008.

Year	Resident Goose Population[a]	WS' Take of Resident Geese[b]	WS % take of total population
2004	28,000	303	1.1%
2005	28,000	330	1.2%
2006	28,000	140	0.5%
2007	28,000	547	2.0%
2008	28,000	86	0.3%

[a]Reported by calendar year, [b]Reported by fiscal year

Based on prior requests for assistance, the EA evaluated an annual take of up to 50 geese during those months when geese are considered migratory in the State. WS' take of Canada geese during the time period when geese in the State could have been migratory is shown in Figure 2. The geese reported taken in Figure 2 as possibly being of the migratory goose population were removed from flocks of known resident geese in urban areas and as such were most likely not part of the migratory goose population. However, WS' take of geese during those months when geese are present in the State and are considered migratory did not exceed 50 birds annually. The highest level of take by WS occurred in FY 2005 when 35 geese were taken to alleviate damage or threats of damage. WS' take of migratory geese from FY 2004 through FY 2008 was within the scope analyzed in the EA (USDA 2004).

Figure 2 - WS' take of Migratory Canada Geese by Fiscal Year



The USFWS has also permitted take of Canada geese by entities besides WS through the issuance of depredation permits to alleviate damage or threats of damage (USFWS 2005). Table 2 shows permitted take authorized by the USFWS along with the actual take of geese reported to the USFWS by other non-WS entities, and the number of nests destroyed since the implementation of the Canada goose nest and egg depredation order.

Table 2 – Take of Canada geese in West Virginia permitted by the USFWS and the take reported by non-WS permittees under those depredation permits.

Year	Take Permitted	Take Reported	Nests Destroyed
2004	2,195	345	n/a[†]
2005	1,085	371	n/a
2006	2,190	267	n/a
2007	2,205	533	32
2008	2,120	89[*]	41[*]

*Reported take data permitted by the USFWS for 2008 in not complete. The reported take is only reflective of the number of geese reported taken to the USFWS at the time this document was developed.

[†]n/a=Data is currently not available

Hunter harvest data for Canada geese from 2004 through 2007 can be found in Table 3 along with the reported take from depredation permits issued by the USFWS for the take of Canada geese to alleviate or prevent damage. As shown in Table 3, WS' annual total take of geese has ranged from 3.8% to 7.2% of the total annual known goose harvest in the State. With the exception of FY 2005 and FY 2007, WS' take of Canada geese has been less than 7% of the total harvest of geese in the State. In FY 2007, WS' take of 7.0% of the total did not exceed the level evaluated in the EA. The combined hunter harvest, depredation take, and WS' take has not been sufficient during the time period analyzed to significantly impact increasing populations trends.

Table 3 – Take of Canada geese from all known sources in West Virginia from 2004 through 2008.

Year	Hunter Harvest[a]	Depredation Take	WS' Total Take[b]	WS % take of Total
2004	7,400	345	303	3.8%
2005	3,900	371	330	7.2%
2006	2,500	267	140	4.8%
2007	6,700	533	547	7.0%

[a]Reported by the open regulated hunting season for geese; data reported from USFWS 2006, Richkus et al. 2008.

[b]WS' take is reported by fiscal year

The EA concluded that WS' Canada goose damage management activities in West Virginia would have no cumulative adverse affects on the populations of Canada geese in West Virginia or the Atlantic Flyway. WS' lethal take of Canada geese was within the estimated level of take analyzed in the EA. WS' damage management activities were site specific, and although local populations of geese were reduced or dispersed, there was no probable adverse impact on statewide or Atlantic Flyway populations of geese from WS' activities. Program activities and their potential impact on Canada geese have not changed from those analyzed in the EA. Based upon the information provided above, WS' management actions will have no adverse affect on state or Atlantic Flyway resident or migratory goose populations. The effects of WS' activities on Canada goose populations are expected to remain insignificant.

Issue 2 - Effectiveness of Wildlife Damage Management

An issue often raised is the effectiveness of methods employed to resolve and prevent damage or threats to human safety associated with Canada geese. WS' evaluated the effectiveness of methods available under each of the alternatives in the EA. The analyses in the EA indicated the proposed action would allow for the most effective use of methods by allowing for the employment of those methods individually or in combination to achieve the effectiveness desired by the requestor. The proposed action in the EA addressed the integration of methods to reduce habituation, to increase the effectiveness of individual methods, to maximize effectiveness collectively of methods, and to allow for the successful reduction or prevention of damage.

The other alternatives restrict the methods available for use which further reduces the effectiveness of individual methods and prevents the use of methods that could be effective in reducing or preventing damage. By allowing an integration of non-lethal and lethal methods under the proposed action, those methods most effective to prevent or reduce damage are available. The proposed action also allows for the adaption of methods to the damage situation where types of methods are employed but are not successful at reducing or preventing damage. For example, allowing for an adaptive integrated approach to managing damage provides opportunities to evaluate methods after employment to determine effectiveness and to employ additional methods if a reduction in damage is not adequate for the requestor.

The EA further indicates that the objective of all methods is to reduce damage or prevent damage from occurring. All methods addressed in the EA are intended to exclude geese from an area where damage is occurring or could occur, to disperse or remove geese causing damage, or to otherwise make the area where damage is occurring unattractive through modification of habitat. Therefore, effectiveness can be defined by the amount of time required to achieve the desired result and the duration for which the desired result is maintained once methods are no longer employed or maintained. The proposed action allows for the use of the widest range of methods to allow for the most effective methods to be employed to achieve the desired results in a timely manner and for the longest duration.

Technical assistance was provided in a timely manner to all requestors. Potential impacts on the effectiveness of wildlife damage management have not changed from those analyzed in the EA. Impacts of the program on this issue are expected to remain insignificant.

Issue 3 - Effects on Aesthetic Values

As analyzed in the EA, WS would employ methods when requested that would result in the dispersal, exclusion, or removal of individuals or small groups of geese to resolve damage and threats. In some instances where geese are dispersed or removed, the ability of interested persons to observe and enjoy those geese would likely decline temporarily. The presence of geese in areas where geese were dispersed will likely increase upon cessation of damage management activities.

Even the use of exclusionary devices can lead to the dispersal of geese if the resource being damaged was acting as an attractant. Thus, once the attractant has been removed or made unavailable, geese will likely disperse to other areas where resources are more vulnerable.

The use of lethal methods would result in temporary declines in local populations resulting from the removal of those geese responsible for causing damage that resulted in a request for assistance. WS' goal is to respond to requests for assistance and to manage only those geese responsible for the resulting damage. Therefore, the removal of geese would result in localized declines. However, the overall populations of those target species would be not be impacted. Breeding Bird Survey data continues to indicate that populations of resident Canada geese in West Virginia are increasing. Based on the

localized decline in the presence of geese, the EA concluded the effects on aesthetics would be variable depending on the stakeholders' values towards wildlife. However, the ability to view and enjoy geese in West Virginia would still remain if a reasonable effort is made to locate geese outside the area in which damage management activities occurred.

Conflicts with Canada geese were reduced at each location that WS provided direct management assistance thereby improving the aesthetic values of affected properties. Program activities and methods and their potential impacts on aesthetics have not changed from those analyzed in the EA. Impacts of the program on aesthetics are expected to remain insignificant.

Issue 4 - Humaneness and Animal Welfare Concerns of Methods Used by WS

As analyzed in the EA, 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 animal suffering.

Some individuals believe any use of lethal methods to resolve damage associated with wildlife is inhumane because the resulting fate is the death of the animal. Others believe that certain lethal methods can lead to a humane death. Others believe most non-lethal methods of capturing wildlife to be humane because the animal is generally unharmed and alive. Still others believe that any disruption in the behavior of wildlife is inhumane. With the multitude of attitudes on the meaning of humaneness, the analyses must consider the most effective way to address damage and threats caused by wildlife in a humane manner. WS is challenged with conducting activities and employing methods that are perceived to be humane while assisting those persons requesting assistance to manage damage and threats associated with wildlife. 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 continues to evaluate methods and activities to minimize the potential pain and suffering of those methods when attempting to resolve requests for assistance.

As mentioned previously, some methods have been stereotyped as "humane" or "inhumane". However, many "humane" methods can be inhumane if not used appropriately. For instance, a cage trap is generally considered by most members of the public as "humane". Yet, without proper care, live-captured wildlife in a cage trap can be treated inhumanely if not attended to appropriately.

Therefore, WS' mission is to effectively address requests for assistance using methods in the most humane way possible that minimizes the stress and pain of the animal. WS' personnel are experienced and professional in their use of management methods and methods are applied as humanely as possible. The EA concluded that the methods used by WS to manage Canada goose damage are relatively humane, but that some persons will view some methods used as inhumane. Impacts of the program on humaneness and animal welfare are expected to remain insignificant.

Issue 5 - Effects on Non-target Wildlife Species Populations, Including Threatened and Endangered Species

The issue of non-target species effects, including effects on threatened and endangered species arises from the use of non-lethal and lethal methods identified in the alternatives. The use of non-lethal and lethal methods has the potential to inadvertently disperse, capture, or kill non-target wildlife. WS' minimization measures and SOPs are designed to reduce the effects of goose damage management activities on non-target species' populations. To reduce the risks of adverse affects to non-target wildlife, WS selects damage management methods that are as target-selective as possible or applies such methods in ways that reduces the likelihood of capturing non-target species. Before initiating management

activities, WS also selects locations which are extensively used by the target species and employs baits or lures which are preferred by those species. Despite WS' best efforts to minimize non-target take during program activities, the potential for adverse affects to non-targets exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety.

Non-lethal methods have the potential to cause adverse affects on non-targets primarily through exclusion, harassment, and dispersal. Any exclusionary device erected to prevent access of target species also potentially excludes species that are not the primary reason the exclusion was erected. Therefore, non-target species excluded from areas may potentially be adversely impacted if the area excluded is large enough. The use of auditory and visual dispersal methods used to reduce damage or threats caused by target species are also likely to disperse non-targets in the immediate area the methods are employed. Therefore, non-targets may be dispersed from an area while employing non-lethal dispersal techniques. However, like target species, the potential impacts on non-target species are expected to be temporary with target and non-target species often returning after the cessation of dispersal methods.

The lethal take of non-targets from using those methods described in the EA is unlikely with take never reaching a magnitude that a negative impact on populations would occur. Any potential non-targets live-captured using non-lethal methods would be handled in such a manner as to ensure the survivability of the animal if released. The potential adverse affects associated with non-lethal methods are negligible and, in the case of exclusion and harassment methods, often temporary. The use of firearms is selective for target species since animals are identified prior to application; therefore no adverse impacts are anticipated from use of this method. The use of chemical methods, when used according to label directions, poses minimal hazards to non-target wildlife (USDA 1997).

While every precaution is taken to safeguard against taking non-targets during operational use of methods and techniques for resolving damage and reducing threats caused by wildlife, the use of such methods can result in the incidental take of unintended species. Those occurrences are minimal and should not affect the overall populations of any species. WS' take of non-target species during activities to reduce damage or threats to human safety caused by geese is expected to be extremely low to non-existent. WS will continue to monitor annually the take of non-target species to ensure program activities or methodologies used in goose damage management do not adversely impact non-targets. WS' activities are not likely to adversely affect the viability of any wildlife populations from damage management activities.

No non-target species of wildlife were taken by WS during direct goose management assistance from FY 2004 through FY 2008. No negative effects on non-target wildlife species populations or their habitats have been identified.

Threatened & Endangered (T&E) Species: A review of T&E species listed by the USFWS showed that additional listings of T&E species in West Virginia have occurred since the completion of the EA in 2004. Those species listed since the completion of the EA include the ring pink (mussel) (*Obovaria retusa*), Madison Cave isopod (*Antrolana lira*), American burying beetle (*Nicroporus americanus*), Eskimo curlew (*Numenius borealis*), and gray wolf (*Canis lupis*). Of those species listed since the completion of the EA, only the Madison Cave isopod is listed as currently occurring in West Virginia. For those species not currently listed as occurring in West Virginia, WS' activities to manage damage associated with Canada geese will have no effect on those species based on their absence from the State.

The Madison Cave isopod is a subterranean freshwater crustacean found only in Virginia and West Virginia where it can be found in underground lakes and deep karst aquifers (USFWS 1996, West Virginia Wildlife 2005). When initially discovered in 1958 populations of the isopod were only known to occur in the Shenandoah Valley of Virginia but were more recently discovered at two sites in Jefferson County, West Virginia (West Virginia Wildlife 2005). Current threats to isopod are groundwater

contamination and development in areas where populations are known to occur. Although the EA discusses habitat modification to resolve bird damage or threats, those activities do not cause major ground disturbances that would result in lost habitat, sedimentation, or allow for an increase in the amount of contaminants leaching into underground aquifers. Habitat modification often occurs from recommendations by WS to plant vegetation that is unpalatable to geese to discourage feeding and loafing of birds. Therefore, the recommendation or use of habitat modification to alleviate damage caused by geese will have no effect on the Madison Cave isopod.

Of additional concern is the potential for chemical methods to leach into ground water when used to alleviate damage or reduce threats associated with birds. WS' use or recommendation of the use of chemical methods described in the EA are applied to target specific birds identified as responsible for causing damage or posing a threat and are not widely broadcasted over large geographical areas. Chemical methods used to alleviate damage or reduce threats associated with Canada geese that were addressed in the EA that by their use patterns could result in leaching include repellents and alpha chloralose. Many repellents are commercially available for use to deter geese from feeding, loafing, and/or loafing in areas. The active ingredients of most repellents for geese are methyl anthranilate and anthraquinone.

Methyl anthranilate and anthraquinone are formulated as bird repellents that are most often applied as a liquid or fog through broadcast application where the potential exists for the chemical to penetrate soil and subsequently leach into groundwater. Methyl anthranilate and anthraquinone are most likely to be used to deter geese from feeding on turf or applied in areas where birds roost and/or loaf. WS has not employed repellents as part of direct operational assistance provided to those requesting assistance with managing damage caused by geese in West Virginia. When receiving a request, WS has recommended the use of chemical repellents as part of an integrated approach to addressing damage and threats associated with birds as part of technical assistance. The number of requestors that have used those repellents recommend by WS is unknown. Most formulations of methyl anthranilate and anthraquinone repellents are used as taste aversion methods and require ingestion of the chemical to achieve the desired dispersing capabilities. Many formulations allow for the broad application of the chemicals over a large area (e.g., golf courses, airports) which increases the potential for leaching to occur.

The United States Environmental Protection Agency (EPA) determined the need for environmental fate and groundwater data was not warranted for registration of anthraquinone given the non-toxic results indicated by previous research (EPA 1989). The EPA (1989) also determined that the risks to non-targets were non-existent to minimal based on the lack of toxicity, the use pattern of the chemical, and application methods. Toxicity data available to the EPA indicated anthraquinone is "*...at most, slightly toxic to aquatic invertebrates...*" (EPA 1989). According to data reviewed by EPA, anthraquinone is not persistent in the environment which often requires the product to be re-applied. Repeated application could lead to an increase in threats of the chemical leaching in underground water. Given the minimal toxicity hazards to wildlife and the volatility associated with anthraquinone, the use of or recommendation of repellents containing anthraquinone will have no effect on the Madison Cave isopod.

Methyl anthranilate is a food grade flavor and fragrance additive that is derived from a variety of flowers and fruits. Methyl anthranilate has a grape odor and is used as food and fragrance additives. The United States Food and Drug Administration currently classifies methyl anthranilate as "generally regarded as safe". Similar to anthraquinone, the EPA determined that the need for environmental fate and groundwater data was not warranted for registration of methyl anthranilate as a bird repellent give the non-existent to minimal toxicity of the chemical to humans and wildlife (EPA 2001). Methyl anthranilate is also slightly toxic to aquatic organisms which are addressed in the allowed application of the product which is outlined in the product label (EPA 2001). The EPA also indicates that methyl anthranilate is volatile in the environment which decreases the risks to toxicity (EPA 2001). Based on the available

information, the use of or recommendation of products containing methyl anthranilate will have no effect on the Madison Cave isopod.

Alpha-chloralose is a central nervous system depressant used as an immobilizing agent to capture and remove pigeons, waterfowl, and other birds. Personnel applying the bait are present at the site of application during baiting to retrieve the immobilized birds. Unconsumed baits are removed from the site following each treatment. The solubility and mobility of alpha-chloralose are believed to be moderate and environmental persistence is believed to be low. Bioaccumulation in plants and animal tissue is believed to be low. Toxicity to aquatic organisms is unknown (Woronecki et al. 1990), but the compound is generally not soluble in water and, therefore, should remain unavailable to aquatic organisms. Other supporting rationale for this determination included relatively low total annual use and a limited number of potential exposure pathways. Alpha-chloralose is currently approved for use by WS as an Investigational New Animal Drug by the FDA, rather than as a pesticide. WS has employed alpha-chloralose to live-capture geese in West Virginia since completion of the EA. Based on the limited use of alpha-chloralose by WS, the limited mobility of the chemical, and the requirement that all bait be retrieved, WS' use of alpha-chloralose will have no effect on the Madison Cave isopod.

In all cases, the likelihood of chemicals entering the soil leaching into underground aquatic environments is extremely low. Based on the information available, WS' use or recommendation of chemical methods will have no effect on threatened and endangered species in the State. Program activities and their potential impacts on non-target wildlife species, including T&E species have not changed from those analyzed in the EA. Impacts on non-target wildlife species, including threatened and endangered species populations are expected to remain insignificant.

VIII. ISSUES NOT CONSIDERED IN DETAIL

WS has reviewed the issues not considered in detail as described in the EA and has determined that the analysis provided in the EA has not changed and is still appropriate. Effects on those issues continue to be insignificant.

IX. ALTERNATIVES ANALYZED IN DETAIL

The following four alternatives were developed in response to the issues identified in the EA and through public involvement:

Alternative 1: Integrated Wildlife Damage Management (Proposed Action/No Action)
Alternative 2: Technical Assistance Only by WS
Alternative 3: Non-lethal Only by WS
Alternative 4: No Federal WS Canada Goose Damage Management

The EA contains a detailed description and discussion of the alternatives and the effects of the alternatives on the issues identified (USDA 2004). Appendix B of the EA provides a description of the methods that could be used or recommended by WS under each of the alternatives. WS has reviewed the alternatives analyzed and determined the analyses in the EA are still appropriate for those alternatives.

X. ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

Several alternatives were also considered to address the issues but were not analyzed in detail with the rationale discussed in the EA (USDA 2004). WS has reviewed the alternatives analyzed but not in detail and determined the analyses in the EA are still appropriate for those alternatives considered.

XI. ADDITIONAL CANADA GOOSE DAMAGE MANAGEMENT METHODS

A description of the Canada goose damage management methods that could be used or recommended by WS are provided in Appendix B of the EA (USDA 2004) and Chapter 2 (pages 1-9) ("*Management Techniques*") of the USFWS Canada Goose FEIS (USFWS 2005).

Since the completion of the EA, Nicarbazin (NCZ) (OvaControl–G™) has been evaluated as a chemical reproductive inhibitor that can be used to reduce Canada goose egg production and viability. NCZ is a restricted use pesticide registered by the EPA for use at site specific locations in highly populated urban areas, such as office parks, recreational parks, airports, golf courses, schools, hospitals, restaurants, and industrial sites. To be effective, NCZ must be fed daily and consistently consumed by geese throughout the nesting season which can last from eight to ten weeks.

NCZ is not currently registered for use in West Virginia. If and when this chemical method becomes available for use, and prior to WS' operational use of this method, WS will review and update the EA for NEPA compliance, as appropriate.

XII. ANALYSIS

WS has reviewed the potential environmental impacts and the scope of analysis contained in the EA. The EA and the associated Decision/FONSI determined that activities conducted pursuant to and within the scope of analyses would not have significant impacts on the quality of the human environment. After review of the EA, the associated Decision/FONSI, and information contained in this summary report, WS has determined that the environmental impacts on the quality of the human environment from those activities conducted pursuant to the EA and its Decision/FONSI will continue to be insignificant and that no substantive changes in the analyses are necessary.

WS' Canada goose damage management activities in West Virginia, based on the information found within this report, fall within the scope of analysis in the EA. No substantive changes have occurred in activities conducted or methods used since implementing the EA decision during the reporting period. Program activities have not changed from those described and analyzed in the EA. The EA discusses program procedures, protection measures, and mitigations that the WS program implements during direct control activities to provide an assurance of quality and consideration for environmental impacts.

XIII. DECISION AND RATIONALE

I have carefully reviewed the EA, the comments received during the public involvement process, the 2004 Decision/FONSI, and the information in this summary and new Decision document. I find the proposed program to be environmentally acceptable, addressing the issues and needs while balancing the environmental concerns of management agencies, landowners, advocacy groups, and the public. The analyses in the EA adequately addresses the identified issues which reasonably confirm that no significant impact, individually or cumulatively, to wildlife populations or the quality of the human environment are likely to occur from the proposed action, nor does the proposed action constitute a major federal action that would warrant the development of an EIS. Therefore, the analysis in the EA remains valid and does not warrant the completion of an EIS.

Based on the EA, the issues identified are best addressed by continuing Alternative 1 (Proposed Action/No Action) and applying the associated mitigation measures discussed in Chapter 3 of the EA. Alternative 1 successfully addresses (1) Canada goose damage management using a combination of the most effective methods and does not adversely impact the environment, property, 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 effect 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 WS' damage management activities, that affect the natural or human environment, or from the issuance of new environmental regulations.

The rationale for my decision is based on several considerations. This decision takes into account public comments, social/political and economic concerns, public health and safety, the best available science, and program activities conducted since the selected alternative was implemented. The foremost considerations are that: 1) Canada goose damage management will only be conducted by WS at the request of landowners/managers, 2) management actions are consistent with applicable laws, regulations, policies and orders, and 3) no adverse impacts to the environment were identified in the analysis. As a part of this new Decision, the WS program in West Virginia will continue to provide effective and practical technical assistance and direct management techniques that reduce damage.

The WS program in West Virginia will implement the proposed action in compliance with all applicable standard operating procedures and minimization measures described in Chapter 3 of the EA (USDA 2004). If no substantive issues or alternatives are identified after publication of a legal notice making the EA, the 2004 Decision/FONSI, and this Decision available to the public for review and comment, this new Decision will take effect at the close of the public notification period. New issues or alternatives raised after publication of public notices will be fully considered to determine whether the EA and this Decision should be revisited and, if appropriate, revised, or if a Notice of Intent to prepare an EIS should be issued.

FINDING OF NO SIGNIFICANT IMPACT

The analysis in the EA, the 2004 Decision/FONSI, and this Decision 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. Canada goose damage management, as conducted by WS in West Virginia, is not regional or national in scope.

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).

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' 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.

5. Based on the analysis documented in the EA, the 2004 Decision/FONSI, and the accompanying administrative file, the effects of the proposed damage management program on the human environment

would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

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

7. No significant cumulative effects were identified through the assessment in the EA, the 2004 Decision/FONSI, and this new Decision. The number of Canada geese killed by WS, when added to the total known take, would fall within population management objectives supported by the West Virginia Wildlife Resources Commission and the U.S. Fish and Wildlife Service. 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.

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 project would not adversely affect any federal or West Virginia State listed threatened or endangered species.

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

4/21/09

Charles S. Brown, Director-Eastern Region
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Date

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