DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT – AN INTEGRATED WILDLIFE APPROACH FOR THE MANAGEMENT OF WHITE-TAILED DEER DAMAGE IN THE STATE OF ILLINOIS

March 11, 2008

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program completed an Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for reducing white-tailed deer (*Odocoileus virginianus*) damage to human health and safety, agriculture, property, and natural resources in Illinois in October 2002 (USDA 2002). The purpose of this new Decision/FONSI is to facilitate planning, interagency coordination, and the streamlining of program management; and to clearly communicate with the public the analysis of individual and cumulative impacts of the program since 2002.

The EA evaluated the need for WS activities and the relative effectiveness of four alternatives to meet that proposed need, while accounting for the potential environmental effects of these activities. The action selected was the , "*Integrated Deer Damage Management Program (Proposed Action/No Acton)*" in which WS provides technical assistance and direct control activities to alleviate deer damage to agricultural and natural resources, property, and human health and safety. The EA is tiered to the WS programmatic Environmental Impact Statement (EIS) (USDA 1997 Revised).

Wildlife Services is the Federal program authorized by law to reduce damage caused by wildlife (Act of March 2, 1931 [46 Stat. 1468; 7 U.S.C. 426-426b] as amended, and the Act of December 22, 1987 [101 Stat. 1329-331, 7 U.S.C. 426c]). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an Integrated Wildlife Damage Management (IWDM) approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals, but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997 Revised, WS Directive 2.201). All WS wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973.

Consistency

The analyses in the EA demonstrate that Alternative 1: 1) best addresses the issues identified in the EA, 2) provides safeguards for public health and safety, 3) provides WS the best opportunity to reduce damage while providing low impacts on nontarget species, and 4) balances the economic effects to property and agricultural resources.

Monitoring

The Illinois WS program will annually review its impacts on issues identified in the EA and ensure that WS program activities do not impact the viability of target and nontarget wildlife species populations. In addition, the EA will be reviewed each year to ensure that it and the analysis are sufficient.

Public Involvement

The pre-decisional EA was prepared and released to the public for a 30-day comment period from September 8 through October 7, 2002, with a legal notice being placed in two newspapers (Chicago Tribune [Chicago, IL] and the State Journal-Register [Springfield, IL]). The pre-decisional EA was also mailed

directly to agencies, organizations, and individuals with probable interest in the proposed program. Two comment letters and one phone call were received by WS within the comment period. The letters and record of phone conversation are maintained in the administrative file located at the Illinois WS State Office, 2869 Via Verde Dr., Springfield, Illinois 62703.

The EA, the 2002 Decision/FONSI, and this new 2008 Decision/FONSI are being made available for public review and comment through a legal notice in the State Journal-Register and by direct mailing to agencies, organizations, and individuals with probable interest in the proposed program. The new 2008 Decision/FONSI will also be available for review on the WS website at http://www.aphis.usda.gov/ wildlife_damage/nepa.shtml. New issues or alternatives raised after publication of public notices will be fully considered to determine whether the EA and its Decision should be revisited and, if appropriate, revised. Public notification procedures are in compliance with new NEPA implementation procedures published in the Federal Register March 21, 2007 (Vol. 72, No. 54: 13237-13238).

Major Issues

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

1. Effects on white-tailed deer populations
2. Effects on plants and other wildlife species, including threatened and endangered species
3. Effects on human health and safety
4. Humaneness of methods to be used
5. Effects on aesthetic values
6. Effects on regulated white-tailed deer hunting

In addition to the identified major issues considered in detail, two other issues were considered but not in detail with rationale and further analysis.

Affected Environment

The proposed action will affect private and public lands in Illinois including: farms and other properties where deer cause damage to agriculture through feeding and antler rubbing; urban/suburban areas where deer cause damage to landscaping and natural resources, damage to property during deer-vehicle collisions, and are a threat to human safety through deer-vehicle collisions and the spread of disease; and airports and military airbases where deer are a threat to human safety and to property.

Summary of WS Deer Damage Management Activities

From 2003-2007, the Illinois WS program continued to provide technical assistance and operational damage management assistance to cooperators. During this period, Illinois WS lethally removed 4,052 deer by shooting and conducted 13 technical assistance projects (WS Management Information System [MIS] 2003-2007). Technical assistance included personal consultations, written or telephone consultations, instructional sessions, exhibits, and site visits.

Alternatives Analyzed in Detail

Four potential alternatives were developed to address the issues identified above (see Major Issues section). Two additional alternatives were considered, but were not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives on the issues is contained in the EA. The following summary provides a brief description of each alternative and its anticipated impacts.

Alternative 1. Integrated Deer Damage Management Program (Proposed Action/No Action)
Under this alternative, Wildlife Services would continue the current program that administers an IWDM approach to alleviate white-tailed deer damage to agriculture, property, natural resources, and human health and safety in Illinois. An IWDM approach would be implemented on all private and public lands of Illinois where a need exists, a request is received, and funding is available. An IWDM strategy would be recommended and used, encompassing the use of practical and effective methods of preventing or reducing damage while minimizing harmful effects of damage management measures on humans, other species, and the environment. Under this action, WS would provide technical assistance and operational damage management, including non-lethal and lethal management methods by applying the WS Decision Model (Slate et al. 1992). When appropriate, habitat modifications, harassment, repellants, and physical exclusion could be recommended and utilized to reduce deer damage. In other situations, deer would be removed as humanely as possible by sharpshooting or live capture followed by euthanasia under permits issued by the Illinois Department of Natural Resources (IDNR). In determining the damage management strategy, preference would be given to practical and effective non-lethal methods. However, non-lethal methods may not always be applied as a first response to each damage problem. The most appropriate response could often be a combination of non-lethal and lethal methods, or there could be instances where application of lethal methods alone would be the most appropriate strategy. Appendix B in the EA describes the methods available for recommendation and use by WS under this alternative. Deer damage management would be conducted in the State, when requested, on private or public property after an *Agreement for Control* or other comparable document has been completed. All deer damage management would be consistent with other uses of the area and would comply with appropriate federal, State, and local laws.

Alternative 2. Non-lethal Deer Damage Management only by WS
This alternative would require WS to use and recommend non-lethal methods only to resolve all deer damage problems. Requests for information regarding lethal management approaches would be referred to IDNR, local animal control agencies, or private businesses or organizations. Persons receiving deer damage could still resort to lethal methods or other methods not recommended by WS, use contractual services of private businesses that were available to them, or take no action. Appendix B in the EA describes a number of non-lethal methods available for recommendation and use by WS under this alternative.

Alternative 3. Lethal Deer Damage Management only by WS
This alternative would require WS to use and recommend lethal methods only to resolve all deer damage problems. Requests for information regarding non-lethal management approaches would be referred to IDNR, local animal control agencies, or private businesses or organizations. Individuals might choose to implement WS lethal recommendations, implement non-lethal methods or other methods not recommended by WS, contract for WS lethal direct control services, use contractual services of private businesses, or take no action. Appendix B in the EA describes lethal methods available for recommendation and use by WS under this alternative.

Alternative 4. No Deer Damage Management by WS
This alternative would eliminate WS involvement in all deer damage management activities. WS would not provide direct operational or technical assistance and requestors of WS services would have to conduct their own deer damage management without WS input.

Alternatives Considered but not Analyzed in Detail
Live Trap and Relocation: Under this alternative WS would capture deer alive using cage-type live traps or capture drugs administrated by dart gun and then relocate the captured deer to another area. Numerous studies have shown that live-capture and relocation of deer is relatively expensive, time-consuming, and inefficient (Ishmael and Rongstad 1984, O'Bryan and McCullough 1985, Diehl 1988, Jones and Witham

1990, Ishmael et al. 1995). Population reduction achieved through capture and relocation is labor intensive and would be costly ($273-$2,876/deer) (O'Bryan and McCullough 1985, Bryant and Ishmael 1991). Additionally, relocation frequently results in high mortality rates for deer (Cromwell et. al. 1999, O'Bryan and McCullough 1985, Jones and Witham 1990, Ishmael et. al. 1995). Deer frequently experience physiological trauma during capture and transportation, (capture myopathy) and deer mortality after relocation, from a wide range of causes within the first year, has ranged from 25-89% (Jones and Witham 1990, Mayer et al. 1993). O'Bryan and McCullough (1985) found that only 15% of radio-collared black-tailed deer that were live-captured and relocated from Angel Island, California, survived for one year after relocation. Although relocated deer usually do not return to their location of capture, some do settle in familiar suburban habitats and create nuisance problems for those communities (Bryant and Ishmael 1991). High mortality rates of relocated deer, combined with the manner in which many of these animals die, make it difficult to justify relocation as a humane alternative to lethal removal methods (Bryant and Ishmael 1991). Chemical capture methods require specialized training and skill. A primary limitation of darting, the limited range at which deer can be effectively hit, is generally less than 40 yards. With modern scoped rifles, however, a skilled sharpshooter can hit the head or neck of a deer for a quick kill out to 200 yards and beyond. Thus, chemical capture is far less efficient, more labor intensive, and much more costly than lethal removal with rifles. Translocation of wildlife is also discouraged by WS policy (WS Directive 2.501) because of stress to the relocated animal, poor survival rates, potential for disease transfer, and difficulties in adapting to new locations or habitats. Current IDNR protocol precludes the live capture and translocation of white-tailed deer within Illinois due to concerns related to the transmission of diseases, motorist/public safety at the release site, low survival among translocated deer, and the absence of acceptable release sites (M. Jones, IDNR, pers. comm. February 6, 2008).

Population Stabilization through Birth Control:

Reproductive control is often considered for use where wildlife populations are overabundant and where traditional hunting or lethal control programs are not publicly acceptable (Muller et. al. 1997). Use and effectiveness of reproductive control as a wildlife population management tool is limited by population dynamic characteristics (longevity, age at onset of reproduction, population size and biological/cultural carrying capacity, etc.), habitat and environmental factors (isolation of target population, cover types, and access to target individuals, etc.), socioeconomic and other factors. Population modeling indicates that reproductive control is more efficient than lethal control only for some rodent and small bird species with high reproductive rates and low survival rates (Dolbeer 1998). Additionally, the need to treat a sufficiently large number of target animals, the need for multiple treatments for some systems, and population dynamics of free-ranging populations place considerable logistic and economic constraints on the adoption of reproduction control technologies as a wildlife management tool for some species.

Reproductive control for wildlife could be accomplished either through sterilization (permanent) or contraception (reversible, initial treatment usually followed by a booster and annual follow-up treatments). Sterilization could be accomplished through: 1. Surgical sterilization (vasectomy, castration, and tubal ligation); 2. Chemosterilization; and 3. Gene therapy. Contraception could be accomplished through: 1. Hormone implantation (synthetic steroids such as progestin); 2. Immunocontraception (contraceptive vaccines); and 3. Oral contraception (progestin administered daily).

Although reproductive control technologies have been researched since at least the 1970's, to date, there is no method, technique, or material available for use on open populations (i.e., populations where deer can move in and out of the treatment area) of free-ranging white-tailed deer that has proven to reduce populations to desired levels. Furthermore, there are currently no contraceptive products available for commercial use on deer, and there are many barriers to overcome before commercial use will occur (Fagerstone et al. 2002).

Mathews et al. (2005) evaluated the logistics of using surgical sterilization to reduce reproduction in free-ranging deer in Highland Park, IL. The study concluded that it was possible to use surgical sterilization under field conditions. However, the system was likely to be expensive to implement (approximately $750 per deer). The study was not of sufficient duration to determine if surgical sterilization would reduce the local deer population. The study did provide a model which indicated that surgical sterilization might be able to reduce the deer population, but that it would take approximately 9.5 years for the population to be fully controlled. Approximately 32% of the does would need to be sterilized per year in the initial years of the project and then would level off at a lower maintenance level. However, the model made several assumptions which may not accurately reflect conditions in open populations of free-ranging deer including an assumption that recruitment, mortality, immigration and emigration were not density dependent, that all dispersing does left the study area. The model also assumed that deer density outside the treatment area was at or near the desired density for the treatment area. In other words, the deer density outside the treatment area would be lower than in the treatment area until the surgical sterilization had taken effect and reduced the deer population. This assumption would mean that there would be little incentive for deer to immigrate into the treatment area. However, this assumption may not be valid in many situations with open free-ranging deer populations. Deer populations outside the treatment area may be similar to the initial population inside the treatment area. Deer from surrounding areas may be attracted to treatment sites in response to improving forage that is likely to result from deer population reduction. For sterilization programs, this could mean that the population may never be reduced or that the number of does that must be sterilized to maintain a lower population will be higher than predicted in the model. For comparison, under this same scenario, a deer removal program could result in faster and more certain reductions in the deer population, but some level of ongoing removal would be required to prevent subsequent population increases from reproduction and immigration.

The use of hormones was investigated (Matschke 1976, 1977 a, b, c, and Roughton 1979), and eventually rejected as an effective and efficient reproductive control technique for deer. Additionally, concerns related to costs and logistics of widespread distribution of drugged baits, dosage control and ingestion of baits by children and nontarget animals make oral contraception (by steroids) largely impractical (Lowery et al. 1993).

Immunocontraceptive vaccines prevent conception by stimulating the production of antibodies that bioneutralize proteins or hormones essential for reproduction (Miller et al. 2000). Immunocontraception has been studied in various situations and locations, but its potential use appears limited due to considerable constraints regarding treatment and follow-up treatment of a sufficiently large number of target animals, varying immunogenecity of vaccines, genetic backgrounds of individual animals, age, nutritional status, stress and other factors (Becker and Katz 1997, Becker et al. 1999, Miller et al. 2000, Miller and Killian 2001, Killian and Miller 2001, Fagerstone et al. 2002, Miller and Killian 2002, Curtis et al. 2008, Miller et al. 2008). Clinical and pen trials (with confined herds) are and will be conducted for the use of porcine zona pellucida (PZP) and gene therapy to control reproduction in white-tailed deer. Research opportunities for the future involve developing materials and techniques that 1. Enable treatment of a sufficient number of females to affect population reduction; 2. Do not pose threats to human health via food chain contamination; and 3. Satisfy logistical, economic, and sociocultural concerns regarding the handling, marking, and treating of target individual deer and populations.

The use of PZP as a contraceptive agent in wildlife management has been investigated recently (Kirkpatrick et al. 1990, Turner and Kirkpatrick 1991, Turner et al. 1992, and Turner et al. 1996, Miller and Killian 2001, Killian and Miller 2001, Miller and Killian 2002), but to date, there is no published documentation that immunocontraceptive vaccines have successfully reduced any free-ranging white-tailed deer herd or

population. Underwood and Verret (1998) reported that despite 5 years of PZP treatment, the Fire Island, NY white-tailed deer population continued to grow, albeit at a slower rate. Other components of the reproductive system have been studied for immunocontraception as well, such as gonadotropin-releasing hormone (Becker and Katz 1997, Becker et al. 1999, Killian and Miller 2001, Miller et al. 2000, Miller and Killian 2001). Recently, Canadian researchers at Dalhousie University (Halifax, Nova Scotia) have investigated the use of a single-dose immunocontraceptive vaccine based on liposome delivery of PZP antigens (Spay Vac ™), and reported a 90% reduction in pup production by gray seals (*Halichoerus grypus*) (Brown et al. 1997). Fraker et al. (2002) reported that fertility of an island population of fallow deer (*Dama dama*) was greatly reduced by a single administration of Spay Vac ™ during the first year of treatment. However, Spay Vac ™ has failed in field trials in Princeton, CT and the manufacturer has stated that it will discontinue efforts to register the product with the U.S. Food and Drug Administration for the time being (Campbell 2005).

USDA National Wildlife Research Center (NWRC) scientists have developed GonaCon™, a new single dose immunocontraceptive vaccine that shows great promise as a wildlife infertility agent. Recent studies have demonstrated the efficacy of this single-shot GnRH vaccine on California ground squirrels, Norway rats, feral cats and dogs, feral swine, wild horses and white-tailed deer. Infertility among treated female swine and white-tailed deer lasted up to 2 years without requiring a booster vaccination (Miller et al. 2000, Miller and Killian 2001, NWRC 2004). The NWRC is working with the Food and Drug Administration to obtain registration of this product for use as a new animal drug. Although the GnRH immunocontraceptive appears promising, it has limitations. GnRH has been documented to have adverse impacts on antler growth in male deer (Miller and Killian 2001, Curtis et al. 2008). It may be necessary to determine a way to only treat female deer or application may be limited to fenced-in sites where shifts in antler growth will not have as great an impact on the recreational and aesthetic value of the deer, or areas where cooperators have decided that the reduction in reproduction is worth the cost of altered antler growth in bucks (Killian et al. 2005).

Ongoing studies initiated by NWRC are examining the practicality of administrating GonaCon™ to free-ranging white-tailed deer as well as the efficacy, toxicity and safety of the vaccine. No fertility control agents have been approved by FDA for non-investigational use on wildlife populations in the U.S. Several materials, however, including GnRH and PZP vaccines, have been classified as investigational drugs that may be used only in rigidly controlled research studies. NWRC studies that are underway at several locations are being conducted as pivotal studies that are required as part of FDAs approval process for a new animal drug.

Turner et al. (1993) noted that although contraception in white-tailed deer may be used to limit population growth, it will not reduce the number of deer in excess of the desired level in many circumstances. They further contend that initial population reductions by various other means may be necessary to achieve management goals, and that reproduction control would be one facet of an integrated program. In sum, although immunocontraceptive technology has been variously effective in laboratories, pens, and in island field applications, it has not been effective in reducing open populations of free-ranging white-tailed deer.

In Illinois, the use of chemical contraceptives to manage white-tailed deer populations is prohibited by Illinois Compiled Statute 520 ILCS 2.33g which states, "it is unlawful to use poisons, chemicals or explosives for the purpose of taking any species protected by this act" (M. Jones, IDNR, pers. comm., Feb. 26, 2008). Because there is no tool currently available, and other constraints, this alternative is not given further consideration.

Environmental Consequences

Wildlife Services has reviewed the EA and has determined that the environmental impacts on the quality of the human environment from activities conducted pursuant to the EA will continue to be insignificant, and that no substantive changes in the analysis are necessary at this time. The following is a brief summary of potential impacts for each of the major issues analyzed in the EA.

Effects on deer populations: The EA concluded that the effects of WS deer damage management activities on deer populations would be insignificant. IDNR, the agency with authority for management of resident wildlife species in Illinois, concurred that WS activities would not adversely impact deer populations in the state. IDNR compiles information on population trends and harvest, and uses this information to manage deer populations. IDNR estimates that the current pre-hunt Illinois statewide deer population is fairly stable at approximately 750,000 animals (J. M. Jones, IDNR, pers. cons., August 6, 2007).

During fiscal years 2003 – 2007, WS removed a total of 4,052 deer in Illinois as part of the deer damage management program (Table 1). These deer were removed by WS under Deer Population Control Permits (DPCP) issued to WS cooperators. Comparatively, the IDNR estimated the total deer take from 2003 – 2007 at 936,171. The greatest number of deer lethally removed by WS in any year was 1,238 in 2006. This level of take (in this document the term take means lethal removal or kill) falls far below the limit of 2,500 deer chosen for analysis in the EA.

Table 1 demonstrates that the WS deer take did not exceed 0.60% of the total statewide deer take or 0.17% of the statewide deer population in any year from 2003 – 2007. The WS impact on the deer population in Illinois is therefore considered to be of extremely low magnitude. Program activities and their potential impacts on white-tailed deer populations have not changed from those analyzed in the EA. The effects of WS management activities on this issue are expected to remain insignificant.

Table 1. A comparison of WS deer take and the total take of deer in Illinois from FY2003-FY2007.

Fiscal Year[1]	WS Take	Hunter Harvest[2]	Other Take[3]	Total Take	WS Take: % of total take	WS Take: % of total population
2003	573	159,550	1,905	161,455	0.35	0.08
2004	731	169,131	3,376	172,537	0.42	0.10
2005	662	190,456	3,758	194,214	0.34	0.09
2006	1,238	202,492	4,451	206,943	0.60	0.17
2007	848	197,796*	3,226*	201,022*	0.42*	0.11

1. Fiscal year starts October 1 and ends September 30 (ex. Oct. 1, 2002 - Sept. 30, 2003).
2. J. M. Jones, IDNR, pers. cons., August 6, 2007.
3. Includes take authorized under Deer Population Control Permits, Deer Removal Permits, Scientific Collection Permits, IDNR's Chronic Wasting Disease Surveillance and Management Program, and CWD suspect deer.

* Preliminary estimates from IDNR with some numbers still outstanding.

Effects on other wildlife species, including Threatened and Endangered (T&E) species: The EA concluded that there would be no probable effects on other wildlife species. Program activities and their potential impacts on nontarget wildlife populations and T&E species have not changed from those analyzed in the EA. WS deer damage management activities were 100% selective for the target species. No nontarget species were adversely affected by WS actions.

Nine animal species and one plant species have been added to the U.S. Fish and Wildlife Service (USFWS) T&E species list for Illinois since preparation of the EA and signing of the Decision/FONSI in 2002 (Appendix A of this report). Based on the conclusions made by the USFWS during their 1992

programmatic consultation of WS' activities and subsequent Biological Opinion, it was determined that the methods being utilized for the deer damage management program in Illinois were not likely to adversely affect the following federally listed species: Eskimo curlew (*Numenius borealis*), Eastern cougar (*Puma concolor couguar*), Northern riffleshell (*Epioblasma torulosa rangiana*), Pearlymussel (*Hemistena lata*), Scaleshell mussel (*Leptodea leptodon*), Ring Pink (*Obovaria retusa*), White wartyback (*Plethobasus cicatricosus*), and Winged entire mapleleaf (*Quadrula fragosa*), The methods to be used for deer damage management in Illinois have not changed since the completion of the EA, therefore the EA's determination of impacts on T & E species is still valid. In addition, I have concluded that the proposed action will have no effect on the following federally listed species: American burying beetle (*Nicrophorus americanus*), and Price's potato-bean (*Apios priceana*). The Illinois Endangered Species Protection Board has also added 26 animal species and 60 plant species (Appendix A of this report) to the state T&E species list. No adverse impacts are expected for any of the T&E species on the current list. Thus, WS determination of no adverse effect is still valid for the proposed action.

Given that no nontarget wildlife species were taken during deer damage management activities in Illinois. WS concludes that the cumulative impact on nontarget species is biologically insignificant to nonexistent and that WS has not adversely affected the viability of any wildlife species populations through the Deer Damage Management Program. The effects of deer damage management activities on this issue are expected to remain insignificant.

Effects on human health and safety: The EA concluded that effects on this issue would be insignificant. WS implementation of program activities did not result in any adverse impacts to human health and safety. Program activities and methods and their potential impacts on human health and safety have not changed from those analyzed in the EA. Impacts of the deer damage management program on this issue are expected to remain insignificant.

Humaneness of methods to be used: WS personnel are experienced and professional in their use of management methods, and methods are applied as humanely as possible. Deer damage management activities and methods have not changed from those analyzed in the EA. Therefore, the effects on humaneness have not changed from those considered in the EA. Impacts of the program on this issue are expected to remain insignificant.

Effects on aesthetic values: The EA concluded that public reaction to the deer damage management program would be variable and mixed because there are numerous philosophical, aesthetic, and personal attitudes, values, and opinions about the best ways to reduce conflicts between humans and wildlife. Deer damage management methods and activities have not changed since the EA and therefore, the effects on aesthetics have not changed from those analyzed in the EA and are expected to remain insignificant.

Effects on regulated white-tailed deer hunting: The EA concluded that the effects on this issue would be minimal. In most cases where WS may conduct deer removal projects, the landowners, or land administrators, have not permitted regulated deer hunting, but would allow WS employees to shoot deer. This would have only a minimal impact on deer hunting, since the land was not previously accessible to hunters. Program activities and their potential impacts on regulated white-tailed deer hunting have not changed from those analyzed in the EA. Impacts of the program on this issue are expected to remain minimal.

Finding of No Significant Impact

The analysis in the EA, the 2002 Decision/FONSI, and this new 2008 Decision/FONSI indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of implementing the proposed action (Alternative 1). I agree with this conclusion and, therefore, find

that an EIS need not be prepared. As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

1. Deer damage management, as conducted by WS in Illinois, is not regional or national in scope.

2. The proposed action poses 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 Revised, Appendix P).

3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. 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 and the accompanying administrative file, the effects of the proposed damage management program on the human environment are not significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.

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

7. No significant cumulative effects were identified through this assessment. The number of deer taken by WS, when added to the total known take (hunter harvest plus other take), falls well within allowable harvest levels.

8. The proposed activities will not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places nor will it cause a loss or destruction of significant scientific, cultural, or historical resources.

9. WS determined that the proposed action will not adversely affect any Federal or Illinois state-listed threatened or endangered species.

10. The proposed action will be in compliance with all federal, state, and local laws imposed for the protection of the environment.

Decision

I have carefully reviewed the EA, input resulting from the 2002 public involvement process, the 2002 Decision/FONSI, and this new 2008 Decision/FONSI. I believe the issues identified in the EA would be best addressed through implementation of Alternative 1 (the Proposed Action/No Action). Alternative 1 is therefore selected because it offers the greatest flexibility in achieving effectiveness while minimizing cumulative adverse impacts on the quality of the human environment with respect to the issues raised for consideration in this process. The WS program will implement the proposed action in compliance with all applicable standard operating procedures in Chapter 3 of the EA. This Decision/FONSI will take effect 30 days after publication of a Legal Notice making the EA, the 2002 Decision/FONSI, and this new 2008

Decision/FONSI available to the public for review and comment. New issues or alternatives raised after publication of public notices will be fully considered to determine whether the EA and its Decision should be revisited and, if appropriate, revised, or if a Notice of Intent to prepare an EIS should be issued.

For additional information regarding this decision, please contact USDA/APHIS/WS, 2869 Via Verde Dr., Springfield, Illinois 62703.

3/11/08

Charles S. Brown
APHIS-WS
Director, Eastern Region

Date

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APPENDIX A: **ADDITIONS TO THE LIST OF FEDERALLY AND STATE LISTED THREATENED AND ENDANGERED SPECIES IN ILLINOIS**

(F) = Federally listed

Endangered Plants

Astralagus distortus	Bent milk vetch
Babtisia tintoria	Yellow wild indigo
Bolboschoenus maritimus	Alkali Bulrush
Botrychium campestre	Prairie moonwort
Calopogon oklahomensis	Oklahoma grass pink orchid
Carex cumulata	Sedge
Carex diandra	Sedge
Carex formosa	Sedge
Carex inops subsp heliophila	Plains Sedge
Chamaelirium luteum	Fairy wand
Corylus cornuta	Beaked hazelnut
Deschampsia flexuosa	Hairgrass
Dichanthelium boreale	Northern Panic grass
Dichanthelium joorii	Panic grass
Dichanthelium portoricense	Hemlock panic grass
Dichanthelium ravenelii	Ravenel's Panic grass
Dichanthelium yadkinense	Panic grass
Eupatorium hyssopifolium	Hyssop-leaved thoroughwort
Lathyrus maritimus	Beach pea
Malvastrum hispidum	False mallow
Megalodonta beckii	Water marigold
Nemophila triloba	Baby blue-eyes
Penstemon tubaeflorus	Tube beards tongue
Phegopteris connectilis	Long beech fern
Rhexia mariana	Dull meadow beauty
Sagittaria australis	Arrowhead
Sanicula smallii	Southern sanicula
Schoenoplectus purshianus	Weak bulrush
Schoenoplectus smithii	Smith's bulrush
Scirpus microcarpus	Bulrush
Scleria muhlenbergii	Muhlenberg's nut rush
Scleria pauciflora	Carolina whipgrass
Sparganium emersum	Green-fruited burreed
Tetraneuris herbacea	Lakeside daisy
Torreyochloa pallida	Pole Manna-grass
Trichophorum cespitosum	Tufted bulrush
Trientalis borealis	Star-flower
Vaccinium stamineum	Deerberry
Viola blanda	Hairy white violet

Threatened Plants

Amelanchier interior	Shadbush
Apios priceana	Price's potato-bean (F)
Carex atlantica	Sedge
Carex aurea	Sedge
Carex bromoides	Sedge
Carya aquatica	Water hickory
Dodecatheon frenchii	French shootingstar
Elymus trachycaulus	Bearded wheat grass
Huperzia porophila	Cliff clubmoss
Hymenopappus scabiosaeus	Old Plainsman
Menyanthes trifoliata	Buckbean
Minuartia patula	Slender sandwort
Platanthera flava var. herbiola	Tubercled orchid
Rubus schneideri	Bristly blackberry
Rudbeckia missouriensis	Missouri orange
Schoenoplectus hallii	Hall's bulrush
Sedum telephioides	American orpine
Sisyrinchium atlanticum	Eastern blue-eyed grass
Sullivantia sullivantii	Sullivantia
Talinum parvifolium	Small flower-of-an-hour
Trifolium reflexum	Buffalo clover
Utricularia intermedia	Nettle

Endangered Fish

Ammocrypta clarum	Western sand darter
Etheostoma camurum	Bluebreast darter
Hybopsis amblops	Bigeye chub
Hybopsis amnis	Pallid Shiner

Threatened Fish

Ammocrypta pellucidum	Eastern sand darter
Catostomus catostomus	Longnose sucker
Erimystax x-punctatus	Gravel chub
Etheostoma exile	Iowa darter
Fundulus dispar	Starhead topminnow
Lepomis miniatus	Redspotted sunfish

Endangered Amphibians

Desmognathus conanti	Spotted dusky salamander

Threatened Amphibians

Gastrophryne carolinensis	Eastern narrowmouth toad

Endangered Reptiles

Elaphe emoryi	Great Plains ratsnake

Threatened Reptiles

Thamnophis sauritus	Eastern ribbon snake
Trophidoclonion lineatum	Lined snake

Endangered Birds

Numenius borealis	Eskimo Curlew (F)

Threatened Birds

Ammodramus henslowii	Henslow's sparrow
Dendroica cerulean	Cerulean warbler
Falco pergrinus	Peregrine falcon

Endangered Mammals

Puma concolor couguar	Eastern cougar (F)

Threatened Mammals

Canis lupus	Gray/Timber wolf
Spermophilus franklinii	Franklin's ground squirrel

Endangered Invertebrates - Crustaceans

Fontigens antroecetes	Hydorbiid cave snail
Caecidotea spatulata	Isopod
Crangonyx anomalus	Anomalous spring amphipod
Epioblasma torulosa rangiana	Northern riffleshell (F)
Hemistena lata	Pearlymussel (F)
Leptodea leptodon	Scaleshell mussel (F)
Obovaria retusa	Ring pink (F)
Plethobasus cicatricosus	White wartyback (F)
Quadrula fragosa	Winged entire mapleleaf (F)

Threatened Invertebrates - Crustaceans

Villosa lienosa	Little spectaclecase

Endangered Invertebrates - Snails

Fontigens antroecetes	Hydrobiid cave snail

Endangered Invertebrates - Beetles

Nicrophorus americanus	American burying beetle (F)

Endangered Invertebrates – Butterflies and Moths

Incisalia polios	Hoary elfin