

**DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT**

**ENVIRONMENTAL ASSESSMENT – DEER DAMAGE MANAGEMENT IN THE
COMMONWEALTH OF VIRGINIA**

The U.S. Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program completed an Environmental Assessment (EA) for reducing deer damage to human health and safety, agriculture, property, and natural resources in Virginia in December 2000 (USDA 2000). A Decision and Finding of No Significant Impact (FONSI) was subsequently signed on March 8, 2001. 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 2001.

The EA evaluated the need for WS activities and the relative effectiveness of two alternatives to meet that need, while accounting for the potential environmental effects of each alternative. The action selected by WS was to “Continue the Current Deer Damage Management Program in Virginia.” This strategy uses an Integrated Wildlife Damage Management (IWDM) approach to manage deer (*Odocoileus virginianus*) damage. WS will assist with one aspect of the IWDM plan, the lethal removal of deer, and provide technical assistance regarding the use of nonlethal and lethal damage management methods. The EA is tiered to the WS programmatic Environmental Impact Statement (EIS) (USDA 1997). Copies of the EA and 2001 Decision/FONSI are available for review from USDA/APHIS/WS, P.O. Box 130, Moseley, Virginia 23120. Copies of the EIS are available from the USDA/APHIS/WS Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.

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 IWDM approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals, but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). 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 Virginia 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 40-day comment period (December

18, 2000 – January 31st, 2001) by a legal notice in four newspapers with circulation throughout Virginia (*The Richmond Times Dispatch*, *The Roanoke Times*, *The Virginian-Pilot*, and *The Washington Times*) and was also mailed directly to 323 agencies, organizations, and individuals with probable interest in the proposed program. Four comment documents were received by WS within the comment period. All letters are maintained in the administrative file located at the Virginia WS State Office, PO Box 130, Moseley, Virginia, 23120.

The EA, the 2001 Decision/FONSI, and this new 2007 Decision/FONSI are being made available for public review and comment through a legal notice in the *Richmond Times Dispatch* and by direct mailing to agencies, organizations, and individuals with probable interest in the proposed program. The new 2007 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.

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 deer populations
2. Effects on nontarget species, including threatened and endangered (T&E) species
3. Effects on human health and safety
4. Humaneness of methods to be used
5. Impacts to stakeholders, including aesthetics
6. Effects on urban landscaping and natural resources

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 VA 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 2001-2006, the Virginia WS program continued to provide technical assistance and operational damage management assistance to cooperators. During this period, VA WS lethally removed 1,022 deer by shooting and conducted 116 technical assistance projects (WS Management Information System (MIS) 2001-2006). Technical assistance included personal consultations, written or telephone consultations, instructional sessions, exhibits, and site visits.

Alternatives Analyzed in Detail

Two potential alternatives were developed to address the issues identified above (see Major Issues section). Seven 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. Continue the Current Deer Damage Management Program. Under this alternative, WS would lethally remove deer by shooting or by live-capture and euthanasia to reduce damage to agricultural and natural resources, property, and human health and safety. WS recommends and utilizes an Integrated Wildlife Damage Management (IWDM) approach to manage wildlife conflicts (USDA 1997). In this case, WS would assist with the implementation of one aspect of an IWDM plan, the lethal removal of deer. Implementation of nonlethal methods recommended by WS as part of an IWDM approach would be the responsibility of the property owner or manager. WS would also continue to provide technical assistance regarding the use of nonlethal and lethal methods of deer damage management. Technical assistance may include instructional sessions, information about exclusion devices, harassment, and lethal damage management methods (e.g. hunting or Kill Permits). WS damage management services would be conducted as authorized by various federal and state regulations and would be fully funded by service recipients.

Alternative 2. No WS Lethal Deer Damage Management in Virginia. This alternative would result in no lethal assistance from WS in reducing deer damage in Virginia. WS would continue to provide technical assistance. All requests for lethal deer damage management assistance would not be responded to by WS and would be referred to the Virginia Department of Game and Inland Fisheries (VDGIF) or private businesses or organizations. Assistance may or may not be available from these entities. Lethal deer damage management methods could be implemented by resource owners, private businesses, volunteers, or local government employees.

Alternatives Considered but not Analyzed in Detail

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, multiple treatments, 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 free-ranging white-tailed deer that has proven to reduce the population 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). Research on wildlife sterilization and contraception tools has so far concentrated on development of materials and delivery systems, not on the effectiveness of materials in achieving population reduction in the wild. 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). More recently, 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 immunogenicity of vaccines, genetic backgrounds of individual animals, age, nutritional status, stress and other factors (Becker et al. 1997, Becker et al. 1999, Fagerstone et al. 2002, Miller et al. 2000, Miller and Killian 2001, Killian and Miller 2001, Miller and Killian 2002). 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; a longer-term assessment is underway. Refinement of the delivery system and field application/experimentation on the ability of Spay Vac™ to reduce free-ranging cervid populations will occur in subsequent years.

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). This vaccine overcomes one of the major obstacles of previous two dose vaccines, the need to only capture animals once to vaccinate them. A single-injection vaccine is much more practical as a field delivery system for use on free-ranging animals. The single-shot, multiyear vaccine will be a useful technique for the management of enclosed or urban/suburban deer populations. However, GonaCon™ still has limitations, especially the need to capture and inject each animal. Scientists are hopeful that the GnRH vaccine will soon be approved for wildlife fertility control.

Ongoing studies initiated by NWRC in 2004, are examining the practicality of administering 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 populations of free-ranging white-tailed deer.

The use of this method would be subject to approval by Federal and State Agencies. This alternative was not considered in detail because:

- it would take a number of years of implementation before the deer population would decline and therefore, damage would continue at the present unacceptable levels for a number of years;
- surgical sterilization would have to be conducted by licensed veterinarians, and would therefore be extremely expensive;
- it is difficult, time-consuming, and expensive to effectively live trap, chemically capture, or remotely treat the number of deer necessary to effect an eventual decline in the population; and
- State and Federal regulatory authorities have approved no chemical or biological agent for use as a deer contraceptive.

Because there is no tool currently available, and other constraints, this alternative is not given further consideration.

Eradication and Suppression: An eradication and suppression alternative would direct all Virginia WS deer damage management efforts toward planned, total elimination or suppression of deer. Eradication of deer in Virginia is not supported by Virginia WS or VDGIF. By VDGIF policy, the VDGIF is directed, *to maintain optimum populations of all species to serve the needs of the Commonwealth.* Other statutory policies are to preserve the State's natural resources and wildlife, and to protect wetlands (VCA §§3.1-1020, §§10.1-209, §§10.1-1188, §§10.1-1193, §§10.1-1198) (Defenders of Wildlife and the Center for Wildlife Law 1996). This alternative will not be considered by Virginia WS in detail because:

- Virginia WS opposes eradication of any native wildlife species,
- VDGIF opposes eradication of any native Virginia wildlife species,
- The eradication of a native species would be extremely difficult if not impossible to accomplish, and cost prohibitive, and
- Eradication of native species is not acceptable to most members of the public.

Live-capture and relocation: Under this alternative WS would capture deer alive using cage-type live traps or capture drugs administered 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 relocated 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 and deer mortality after relocation 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 1 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 is the limited range at which deer can be effectively hit which 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 removal with rifles.

Additionally, the American Veterinary Medical Association, the National Association of State Public Health Veterinarians, and the Council of State and Territorial Epidemiologists oppose relocation of mammals because of the risk of disease transmission (USDA 1997).

Use of Regulated Hunting as a Deer Management Tool: Sport hunting by private individuals regulated by wildlife management agencies can be an effective deer population management tool and can be one of the most efficient and least expensive techniques for removing deer in some situations (NH G&F 1988). However, regulated hunting with firearms is often not allowed in urban or suburban areas because of safety concerns and local ordinances. In agricultural areas, regulated hunting may not reduce the deer population sufficiently to reduce damage or the regulated hunting season may not coincide with seasonal deer damage to agricultural resources. Additionally, airports and airbases are often not accessible to the public for hunting. Lethal deer removal by WS, under the Proposed Action, would not prevent regulated deer hunting, but would be used as an additional method of reducing deer numbers in areas where hunting is legal and practical or in areas where hunting is impractical.

Use of Archery Hunting as a Deer Management Tool: In urban and suburban areas where traditional hunting with firearms is not applicable because of public safety concerns, state hunting laws, and local ordinances restricting the use of firearms, archery hunting may provide an alternative method for reducing deer populations (Kilpatrick and Walter 1999). Archery hunting may be used as an effective management tool to reduce urban deer populations (Kilpatrick and Walter 1999). However, it may be difficult to remove a sufficient number of deer using archery hunting alone. Ver Steeg et al. (1995) found that a controlled archery hunt did not sufficiently reduce the deer population in a suburban park in Illinois. Although some deer were removed by archery hunters, sharpshooting was used after the archery hunts were completed to ensure that the annual deer herd reduction goals were reached. Sharpshooting was nearly twice as efficient as archery hunting, with an overall removal rate of 3.76 deer per day for sharpshooting and 1.95 deer per day for archery hunting (Ver Steeg et al. 1995).

In order to address deer conflicts in urban/suburban areas, the VDGIF established an urban archery program in 2002 as an option for localities to control deer damage within their jurisdictions (VDGIF 2006). The urban archery season, which opens 2 weeks prior to the regular statewide archery season and extends 3 months beyond the closing of the general firearms season in January, has been made available to every incorporated city or town in Virginia that submits a written request to participate. Only antlerless deer may be harvested during urban archery seasons, and hunters who wish to participate must obtain permission from individual landowners. During the 2005-2006 harvest season, 18 localities in Virginia

participated in the urban archery program (VDGIF 2006).

In Northern Virginia, a nonprofit organization called Suburban Whitetail Management sends volunteer archery hunters to residents' suburban property to reduce deer numbers (Tolme 1999). The property owner obtains a Kill Permit from the VDGIF to allow them to remove deer and Suburban Whitetail Management provides skilled archers to harvest deer. Alternatively, the residents could remove deer from their properties themselves under the Kill Permit, but most lack the skill, equipment, or willingness to do so. While bowhunting under Kill Permits on specific properties may alleviate damage for some homeowners, it provides little relief for more large-scale damage problems. Additionally, some people may view archery hunting as less humane than sharpshooting, because deer may not be killed as quickly as they would by a bullet in the head or neck.

The Proposed Action, lethal removal of deer by WS, would not preclude the use of archery hunting as a method of deer population reduction in urban or suburban areas. Communities could choose which approach would be best for their situation, or could use a combination of both archery hunting and deer removal by WS.

Supplemental Feeding: Supplemental feeding would involve providing acceptable deer foods (e.g. corn or a balanced ration diet) either during certain annual periods when deer browsing on ornamental plants and flowers is most severe, or on a year-round basis. This alternative was not considered in detail because deer numbers would most likely continue to grow, perhaps to a level even higher than what would occur without such feeding, requiring increased costs for supplemental feed, and increasing the occurrence of damage to property, agricultural and natural resources, and threats to human health and safety.

Supplemental feeding may also result in the spread of disease among wild deer populations. The congregation of deer and contact between deer at feeding sites may increase the transmission of diseases such as tuberculosis (Anonymous 1997) or Chronic Wasting Disease (CWD). In 2005, DGIF increased disease surveillance efforts after CWD was discovered in Hampshire County, WV. CWD is a progressive neurological disease that affects deer and elk, ultimately resulting in death. It is believed that transmission of CWD may result from both direct and indirect contact with infected animals (Williams et al. 2002). Supplemental feeding may increase concentrations of deer, thereby increasing the likelihood of transmission of diseases such as CWD and tuberculosis between individuals (Williams et al. 2002, Anonymous 1997).

Technical Assistance Only: WS personnel provide technical assistance such as information, instructional sessions, demonstrations and advice on available deer damage management techniques. Technical assistance includes demonstrations on the proper use of management devices (pyrotechnics, exclusion devices, etc.), wildlife habits and biology, habitat management, exclusion, and animal behavior modification. Technical assistance is generally provided following an on-site visit or verbal consultation with the requester. Bulletins and leaflets may be sent to citizens to inform them about types of deer damage and damage management methods. Generally, several management strategies are described to the requester for short and long-term solutions to damage problems; these strategies are based on factors such as need and practical application. Technical assistance may require substantial effort by WS personnel in the decision making process, but the actual work is the responsibility of the requester. Technical assistance only was not addressed as an alternative because under APHIS NEPA Implementing Procedures (§ 372.5(c)) technical assistance is categorically excluded and does not require analysis and public scrutiny under EIS or EA

procedures.

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. VDGIF, the agency with authority for management of resident wildlife species in Virginia, concurred that WS activities would not adversely impact deer populations in the state. VDGIF compiles information on population trends and harvest, and uses this information to manage deer populations. VDGIF estimates that the current pre-hunt Virginia statewide deer population is fairly stable at approximately 945,000 animals (VDGIF 2006).

During 2001 – 2006, WS removed a total of 1,022 deer in Virginia as part of the deer damage management program (Table 1). These deer were removed by WS under Kill Permits or Animal Population Control Permits (DPOP) issued to WS' cooperators. Comparatively, the VDGIF estimated the total deer harvest from 2001–2005 (data for 2006 not yet available) at 1,103,921. The greatest number of deer lethally removed by WS in any year was 255 in 2005. This level of take (in this document the term take means lethal removal or kill) falls far below the limit of 1,000 deer chosen for analysis in the EA.

Table 1 demonstrates that the WS' deer take did not exceed 0.12% of the total statewide deer harvest or 0.03% of the statewide deer population in any year from 2001 – 2006. The WS impact on the deer population in the Commonwealth of Virginia 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 annual deer take and the annual hunter harvest from 2001-2006.

| Year | WS Take | Hunter Harvest ¹ | Total Take | WS Take: % of total take | WS Take: % of total population ² |
|------|---------|-----------------------------|------------|--------------------------|---|
| 2001 | 146 | 215,872 | 216,018 | 0.07 | 0.02 |
| 2002 | 151 | 214,847 | 214,998 | 0.07 | 0.02 |
| 2003 | 154 | 237,035 | 237,189 | 0.06 | 0.02 |
| 2004 | 111 | 221,492 | 221,603 | 0.05 | 0.01 |
| 2005 | 255 | 214,675 | 214,930 | 0.12 | 0.03 |
| 2006 | 205 | na | na | na | 0.02 |

1. Hunter harvest reported by the Virginia Department of Game and Inland Fisheries. Harvest for 2006 not yet available (<http://www.dgif.state.va.us/wildlife/deer>).

2. The Virginia statewide deer population is estimated at 945,000, based on a ten year average (Draft 2006 VA Deer Management Plan, 2006 – 2015, <http://www.dgif.state.va.us/wildlife/deer>).

Effects on other wildlife species, including 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. Fifteen animal species and 2 plant species have been added to the U.S. Fish and Wildlife Service (USFWS) T&E species list since preparation of the EA and signing of the Decision/FONSI in 2001. These species include the following: Cumberland (pearlymussel) bean (*Villosa trabalis*), American burying beetle (*Nicrophorus americanus*), Eskimo curlew (*Numenius borealis*), eastern puma (*Concolor couguar*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), shortnose sturgeon (*Acipenser brevirostrum*), northeastern beach tiger beetle (*Cicindela dorsalis dorsalis*), finback whale (*Balaenoptera physalus*), humpback whale (*Megaptera novaeangliae*), right whale (*Balaena glacialis*), gray wolf (*Canis lupus*), Seabeach amaranth (*Amaranthus pumilus*), and American chaffseed (*Schwalbea Americana*). 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. No nontarget wildlife species were taken during deer damage management activities in Virginia. WS concluded 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.

Impacts to stakeholders, including aesthetics: 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 impacts to stakeholders and effects on aesthetics have not changed from those analyzed in the EA and are expected to remain insignificant.

Effects in urban landscaping and natural resources: The EA concluded that the impacts to urban landscaping and natural resources would be positive, but insignificant. Positive impacts included the reduction of overbrowsing by deer on native vegetation, thereby reducing the adverse effects on other wildlife species (e.g., neotropical migrant songbirds and small mammals) that depend upon the understory vegetative habitat destroyed by deer browsing (VDGIF 1999, Casey and Hein 1983, DeCalesta 1994, DeCalesta 1997). Program activities and their potential impacts on urban landscaping and natural resources have not changed from those analyzed in the EA. Impacts of the program on this issue are expected to remain insignificant.

Finding of No Significant Impact

The analysis in the EA, the 2001 Decision/FONSI, and this new 2007 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 Virginia, 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, 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 Federal- or Virginia 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 2000 - 2001 public involvement process, the 2001 Decision/FONSI, and this new 2007 Decision/FONSI. I believe the issues identified in the EA would be best addressed through implementation of Alternative 1 (the Proposed 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 2001 Decision/FONSI, and this new 2007

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, P.O. Box 130, Moseley, Virginia 23120.



Charles S. Brown
APHIS-WS
Eastern Region Director

5/8/07

Date

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