DECISION
ENVIRONMENTAL ASSESSMENT: MAMMAL DAMAGE MANAGEMENT IN TENNESSEE

INTRODUCTION

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program has prepared an Environmental Assessment (EA) to analyze the potential impacts to the quality of the human environment from resolving damage and threats of damage associated with beaver (*Castor canadensis*), big brown bats (*Eptesicus fuscus*), black bears (*Ursus americanus*), bobcats (*Lynx rufus*), cotton mice (*Peromyscus gossypinus*), coyotes (*Canis latrans*), deer mice (*Peromyscus maniculatus*), eastern chipmunks (*Tamia striatus*), eastern cottontails (*Sylvilagus floridanus*), eastern harvest mice (*Reithrodontomys humulis*), eastern moles (*Scalopus aquaticus*), elk (*Cervus elaphus*), evening bats (*Nycticeius humeralis*), feral cats (*Felis domesticus*), feral dogs (*Canis familiaris*), feral swine (*Sus scrofa*), fox squirrels (*Sciurus niger*), gray fox (*Urocyon cinereoargenteus*), gray squirrels (*Sciurus carolinensus*), hairy-tailed moles (*Parascalops breweri*), hispid cotton rats (*Sigmodon hispidus*), house mice (*Mus musculus*), little brown myotis (*Myotis lucifugus*), long-tailed weasel (*Mustela frenata*), meadow voles (*Microtus pennsylvanicus*), mink (*Neovison vison*), muskrats (*Ondatra zibethicus*), nine-banded armadillos (*Dasypus novemcinctus*), Norway rats (*Rattus norvegicus*), nutria (*Myocastor coypus*), pine voles (*Microtus pinetorum*), prairie voles (*Microtus ochrogaster*), raccoons (*Procyon lotor*), Rafinesque's big-eared bats (*Corynorhinus rafinesquii*), red fox (*Vulpes vulpes*), rice rats (*Oryzomys palustris*), river otters (*Lontra canadensis*), roof rats (*Rattus rattus*), silver-haired bats (*Lasionycteris noctivagans*), southern flying squirrels (*Glaucomys volans*), spotted skunks (*Spilogale putoris*), star-nosed moles (*Condylura cristata*), striped skunks (*Mephitis mephitis*), tri-colored bats (*Perimyotis subflavus*), Virginia opossums (*Didelphis virginiana*), white-footed mice (*Peromyscus leucopus*), white-tailed deer (*Odocoileus virginianus*), and woodchucks (*Marmota monax*). WS prepared the EA in cooperation with the Tennessee Valley Authority (TVA). The EA and this Decision ensures WS complies with the National Environmental Policy Act (NEPA), with the Council on Environmental Quality guidelines (40 CFR 1500), and with the APHIS' NEPA implementing regulations (7 CFR 372). WS has previously developed an EA that analyzed the need for action to manage damage associated with mammals in the State. Since the new EA re-evaluated activities conducted under the previous EA to address the new need for action and the associated affected environment, the outcome of this Decision for the new EA will supersede the previous EA.

The need for action identified in Section 1.2 of the new EA arises from requests for assistance that WS receives. The EA evaluates the need for action to manage damage associated with mammals, the potential issues associated with managing damage, and the environmental consequences of conducting different alternatives to meet the need for action while addressing the identified issues. WS and the TVA defined the issues associated with meeting the need for action and identified preliminary alternatives through consultation with the Tennessee Wildlife Resources Agency (TWRA). The EA analyzes three alternatives in detail to meet the need for action and to address the issues analyzed in detail. Section 1.7 of the EA identified several decisions to be made based on the scope of the EA.

AFFECTED ENVIRONMENT AND ISSUES

Mammal damage or threats of damage could occur statewide in Tennessee wherever mammal species occur. Those mammal species addressed in the EA are capable of utilizing a variety of habitats in the State. Most species of mammals addressed in the EA occur throughout the year across the State where suitable habitat exists for foraging and shelter.

Issues are concerns regarding potential effects that might occur from a proposed activity. Federal agencies must consider such issues during the NEPA decision-making process. Section 2.2 of the EA

describes the issues considered and evaluated in detail by WS and the TVA as part of the decision-making process. In addition to those issues analyzed in detail, several issues were identified during the development of the EA but were not considered in detail. The rationale for the decision not to analyze those issues in detail is discussed in Section 2.3 of the EA. To identify additional issues and alternatives, the EA was also made available to the public for review and comment through notices published in local media and through direct notification of interested parties[1]. WS and the TVA did not receive comments during the public comment period.

ALTERNATIVES

The EA evaluated three alternatives in detail to respond to the need for action discussed in Chapter 1 and the issues identified in Chapter 2 of the EA. Section 3.1 of the EA provides a description of the alternatives evaluated in detail. A detailed discussion of the effects of the alternatives on the issues occurs in Chapter 4 of the EA. WS and the TVA considered additional alternatives but did not evaluate those alternatives in detail with the rationale provided in Section 3.2 of the EA. WS would incorporate those standard operating procedures discussed in Section 3.3 and Section 3.4 of the EA into activities if the decision-maker selected the proposed action alternative (Alternative 1) and when applicable, WS would incorporate those SOPs under the technical assistance alternative (Alternative 2), if selected. If the decision-maker selected the no involvement by WS alternative (Alternative 3), the lack of assistance by WS would preclude the employment or recommendation of those standard operating procedures addressed in the EA by WS.

ENVIRONMENTAL CONSEQUENCES

Section 4.1 of the EA analyzes the environmental consequences of each alternative as those alternatives relate to the issues by analyzing the environmental consequences of each alternative in comparison to determine the extent of actual or potential impacts on the issues. Section 4.1 of the EA provides information needed to make informed decisions when selecting the appropriate alternative to address the need for action. The proposed action/no action alternative (Alternative 1) served as the baseline for the analysis and the comparison of expected impacts among the alternatives.

The following resource values in Tennessee are not expected to be significantly impacted by any of the alternatives analyzed in the EA: soils, geology, minerals, water quality/quantity, flood plains, wetlands, critical habitats (areas listed in threatened and endangered (T&E) species recovery plans), visual resources, air quality, prime and unique farmlands, aquatic resources, timber, and range. The activities proposed in the alternatives would have a negligible effect on atmospheric conditions including the global climate. Meaningful direct or indirect emissions of greenhouse gases would not occur as a result of any of the alternatives. Those alternatives would meet the requirements of applicable laws, regulations, and Executive Orders, including the Clean Air Act and Executive Order 13514. Below is a summary of the environmental consequences of the alternatives discussed in the EA for each of the issues analyzed in detail.

Issue 1 - Effects of Mammal Damage Management Activities on Target Mammal Populations

Under the proposed action, WS would incorporate non-lethal and lethal methods described in Appendix B of the EA in an integrated approach in which all or a combination of methods could be employed to resolve a request for assistance. Non-lethal methods can disperse, exclude, or otherwise make an area

[1]WS and the TVA made the EA available to the public for review and comment by a legal notice published in *The Tennessean* newspaper from November 24, 2014 through November 26, 2014. A notice of availability and the EA were also made available for public review and comment on the APHIS website beginning on November 19, 2014. WS also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing mammals in the State. The public involvement process ended on December 31, 2014.

unattractive to mammals that are causing damage; thereby, potentially reducing the presence of those animals at the site and potentially the immediate area around the site. Non-lethal methods generally have minimal impacts on overall populations of wildlife since those species are unharmed.

A common issue is whether damage management actions would adversely affect the populations of target mammal species when employing lethal methods. Lethal methods can remove specific mammals that personnel of WS have identified as causing damage or posing a threat to human safety. The number of mammals removed from a population by WS using lethal methods would be dependent on the number of requests for assistance received. In addition, the number of mammals removed would be dependent on the number of animals involved with the associated damage or threat, the efficacy of methods employed, and the number of individual animals the TWRA authorizes WS to remove, when required. Based on those quantitative and qualitative parameters addressed in the EA, the lethal removal of mammal species to alleviate damage or threats of damage under the proposed action alternative (Alternative 1) would be considered of low magnitude when compared to population trend data, population estimates, and/or harvest data.

The lack of WS' direct involvement does not preclude the lethal removal of mammals by those persons experiencing damage or seeking assistance from other entities. If the WS program only provided technical assistance under Alternative 2 or provided no assistance under Alternative 3, those people experiencing damage or threats could remove mammals themselves under any of the alternatives when the TWRA authorizes the removal, when authorization is required. In some cases, a landowner or their designee can lethally remove individual animals of certain species at any time they cause damage without the need to have specific authorization from the TWRA. In addition, a resource owner could seek assistance from private businesses to remove mammals causing damage or remove certain animals during the regulated hunting and/or trapping seasons in the State. Therefore, WS' involvement in the lethal removal of those mammals under the proposed action would not be additive to the number of mammals that could be removed by other entities in the absence of WS' involvement. The number of mammals lethally removed annually would likely be similar across the alternatives, since the removal of mammals could occur even if WS was not directly involved with providing assistance under Alternative 2 and Alternative 3. WS does not have the authority to regulate the number of mammals lethally removed annually by other entities.

Issue 2 - Effects of Mammal Damage Management Activities on Non-target Wildlife Species Populations, Including T&E Species

WS' personnel have experience with managing animal damage and receive training in the employment of methods. Under the proposed action alternative, WS' employees would use the WS Decision Model to select the most appropriate methods to address damage caused by targeted animals and to exclude non-target species. To reduce the likelihood of capturing non-target animals, WS would employ the most selective methods for the target species, would employ the use of attractants that were as specific to target species as possible, and determine placement of methods to avoid exposure to non-targets. SOPs to prevent and reduce any potential adverse effects on non-targets were discussed in Chapter 3 of the EA. Despite the best efforts to minimize non-target exposure to methods during program activities, the potential for WS to disperse, live-capture, or lethally remove non-targets exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety.

The unintentional removal and capture of animals during damage management activities conducted under the proposed action alternative would primarily be associated with the use of body-gripping traps and in some situations, with live-capture methods, such as foothold traps, cage traps, and cable restraints. The non-targets lethally removed unintentionally by WS during previous activities are representative of non-

targets that WS' personnel could lethally remove under the proposed action alternative. WS could also lethally remove additional species of non-targets unintentionally under the proposed action.

The unintentional removal of non-targets would likely be minimal with removal not exceeding one or two individuals of most species. Although WS' employees could lethally remove non-targets, removal of individuals from any species is not likely to increase substantially. WS would continue to monitor activities, including non-target removal, to ensure the annual removal of non-targets would not result in adverse effects to a species' population. WS' personnel have not captured or adversely affected any threatened or endangered species during previous activities conducted in Tennessee.

The ability of people to reduce damage and threats caused by mammals would be variable under Alternative 2 and Alternative 3, since the skills and abilities of the person implementing damage management actions or the availability of other entities capable of providing assistance could determine the level of success in resolving damage or the threat of damage. If people or other entities apply those methods available as intended, risks to non-targets would be similar to Alternative 1. If people or other entities apply methods available incorrectly or apply those methods without knowledge of wildlife behavior, risks to non-target wildlife would be higher under any of the alternatives. If frustration from the lack of available assistance under Alternative 2 and Alternative 3 caused those people experiencing mammal damage to use methods that were not legally available for use, risks to non-targets would be higher under those alternatives. People have resorted to the use of illegal methods to resolve wildlife damage that have resulted in the lethal removal of non-target wildlife.

WS determined that activities conducted pursuant to the proposed action would not likely adversely affect those species listed in the State by the United States Fish and Wildlife Service (USFWS) and the TWRA, including any designated critical habitats. In 2012, the WS program in Tennessee consulted with the USFWS to address potential threats to the status of threatened or endangered species in the State associated with activities targeting mammal species. Based on the consultation process, the USFWS concurred with WS' determination that the current program targeting mammal species would not likely adversely affect the status of threatened or endangered species or their designated critical habitats in the State (M. Jennings, USFWS pers. comm. 2012).

As part of the development process associated with the new EA, WS re-initiated consultation with the USFWS pursuant to Section 7 of the ESA. As part of the concurrence from the USFWS, the WS program has and would continue to contact the USFWS prior to the initiation of manipulating water levels associated with beaver dams that occur east of the Tennessee River (see Appendix F in the EA). In addition, WS would adhere to recommendations of the USFWS regarding activities associated with bats (see Section 4.1 of the EA). Based on the consultation process and those criteria, the USFWS concurred with WS' determination that the current program targeting mammal species would not likely adversely affect the status of threatened or endangered species or their designated critical habitats in the State (M. Jennings, USFWS pers. comm. 2014).

Issue 3 - Effects of Mammal Damage Management Activities on Human Health and Safety

The threats to human safety from methods would be similar across the alternatives since the same methods would be available. However, the expertise of WS' employees in using those methods available likely would reduce threats to human safety since WS' employees would be trained and knowledgeable in the use of those methods. If methods were used incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that those methods could be employed. Although risks do occur from the use of those methods available, when people use those methods in consideration of human safety, the use of those methods would not pose additional risks beyond those

associated with the use of other methods. No adverse effects to human safety occurred from the use of methods by WS to alleviate mammal damage in the State from FY 2009 through FY 2013.

Issue 4 - Effects of Mammal Damage Management Activities on the Aesthetic Value of Mammals

Mammals may provide aesthetic enjoyment to some people in the State through observations, photographing, and knowing they exist as part of the natural environment. Methods available that could be employed under each of the alternatives would result in the dispersal, exclusion, or removal of individuals or small groups of mammals to resolve damage and threats. Therefore, the use of methods often results in the removal of mammals from the area where damage was occurring or the dispersal of mammals from an area. Since methods available would be similar across the alternatives, the use of those methods would have similar potential impacts on the aesthetics of mammals. However, even under the proposed action alternative, the dispersal and/or lethal removal of mammals would not reach a magnitude that would prevent the ability to view those species outside of the area where damage was occurring. The effects on the aesthetic values of mammals would therefore be similar across the alternatives and would be minimal.

Issue 5 - Humaneness and Animal Welfare Concerns of Methods

WS and the TVA also identified method humaneness as an issue. Since many methods addressed in Appendix B of the EA would be available under all the alternatives, the issue of method humaneness would be similar for those methods across all the alternatives. As stated previously, Gonacon™, immobilizing drugs, euthanasia chemicals, and the use of aircraft are the only methods that would have limited availability to all entities under the alternatives. The ability of WS to provide direct operational assistance under the proposed action alternative would ensure methods were employed by WS as humanely as possible. Under the other alternatives, other entities could use methods inhumanely if used inappropriately or without consideration of mammal behavior. However, the skill and knowledge of the person implementing methods to resolve damage would determine the efficacy and humaneness of methods. A lack of understanding of the behavior of mammals or improperly identifying the damage caused by mammals along with inadequate knowledge and skill in using methodologies to resolve the damage or threat could lead to incidents with a greater probability of other people perceiving the action as inhumane under Alternative 2 and Alternative 3. Despite the lack of involvement by WS under Alternative 3 and WS' limited involvement under Alternative 2, those methods perceived as inhumane by certain individuals and groups would still be available for others to use to resolve damage and threats caused by mammals.

Issue 6 - Effects of Mammal Damage Management Activities on the Regulated Harvest of Mammals

The magnitude of lethal removal addressed in the proposed action (Alternative 1) would be low when compared to the mortality of those mammal species from all known sources. Based on the limited removal proposed by WS and the oversight by the TWRA, annual removal by WS would have no effect on the ability of those persons interested to harvest mammals during the regulated harvest season. The WS program would have no impact on the ability to harvest those species during the annual hunting and/or trapping seasons for those species under Alternative 2 and Alternative 3 since the WS program would have limited involvement with managing damage associated with those species. However, resource/property owners and other entities may remove mammals, resulting in impacts similar to the proposed action alternative under Alternative 2 and Alternative 3. The TWRA could continue to regulate mammal populations through adjustments in allowed removal during the regulated harvest season and through permits to manage damage or threats of damage.

Issue 7 – Effects of Beaver Removal and Dam Manipulation on the Status of Wetlands in the State

If water remains impounded behind a beaver dam, hydric soils and hydrophytic vegetation may eventually form. This process can take anywhere from several months to years depending on pre-existing conditions. Hydric soils are those soils that are saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions. In general, hydric soils form much easier where wetlands have preexisted. Hydrophytic vegetation includes those plants that grow in water or on a substrate that is at least periodically deficient in oxygen because of excessive water content. If those conditions occur, then a wetland has developed that would have different wildlife habitat values than an area more recently impounded by beaver dam activity.

The intent of most dam removal or breaching is not to drain established wetlands. Requests from public and private individuals and entities that WS receives involve dam removal or breaching to return an area back to its pre-existing condition within months after beaver created the dam. If the area does not have hydric soils, it usually takes many years for them to develop and a wetland to become established. Upon receiving a request to remove/breach beaver dams, WS would visually inspect the dam and the associated water impoundment to determine if characteristics exist at the site that would meet the definition of a wetland under section 404 of the Clean Water Act. If wetland conditions were present at the site, WS' employees would notify the entities requesting assistance that a permit might be required to remove/breach the dam. WS' employees would recommend the property owner or manager seek guidance from the Tennessee Department of Environment and Conservation and the United States Army Corps of Engineers pursuant to Tennessee State Law and the Clean Water Act. Entities experiencing threats or damage due to flooding could manipulate water levels associated with beaver dams in the absence of assistance from WS. Those methods addressed in the EA would be available to other entities to breach or remove dams, including explosives and water flow devices.

CUMULATIVE IMPACTS OF THE PROPOSED ACTION

No significant cumulative environmental impacts are expected from any of the three alternatives, including the proposed action. Under the proposed action, the lethal removal of mammals by WS would not have significant impacts on statewide populations of those species when known sources of mortality are considered. No risk to public safety is expected when activities are provided under Alternative 1 and Alternative 2 since only trained and experienced personnel would conduct and/or recommend damage management activities. There is a slight increased risk to public safety when persons who reject assistance and recommendations and conduct their own activities under Alternative 2, and when no assistance is provided under Alternative 3. However, under all of the alternatives, those risks would not be to the point that the impacts would be significant. The analysis in this EA indicates that an integrated approach to managing damage and threats caused by mammals would not result in significant cumulative adverse effects on the quality of the human environment.

DECISION AND RATIONALE

I have carefully reviewed the EA prepared to meet the need for action. I find the proposed action alternative (Alternative 1) 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. Therefore, the analysis in the EA does not warrant the completion of an Environmental Impact Statement.

Based on the analyses in the EA, the issues identified are best addressed by selecting Alternative 1 (proposed action/no action) and applying the associated standard operating procedures discussed in Chapter 3 of the EA. Alternative 1 successfully addresses (1) managing damage using a combination of the most effective methods and does not adversely impact the environment, property, human health and safety, target species, and/or non-target species, including T&E species; (2) it offers the greatest chance of maximizing effectiveness and benefits to resource owners and managers; (3) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of those issues are considered. Further analysis would be triggered if changes occur that broaden the scope of damage management activities in the State, that affect the natural or human environment, or from the issuance of new environmental regulations. Therefore, it is my decision to implement the proposed action/no action alternative (Alternative 1) as described in the EA.

Based on the analyses provided in the EA, there are no indications that the proposed action (Alternative 1) would have a significant impact, individually or cumulatively, on the quality of the human environment. I agree with this conclusion and therefore, find that an Environmental Impact Statement should not be prepared. This determination is based on the following factors:

1. WS' activities to manage damage in the State would not be regional or national in scope.

2. Based on the analyses in the EA, the methods available under the proposed action would not adversely affect human safety based on their use patterns.

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. WS' standard operating procedures and adherence to applicable laws and regulations would further ensure that WS' activities do not harm the environment.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to managing damage and the methods, 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 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. The EA analyzed cumulative effects and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State of Tennessee.

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

9. WS has determined that the proposed program would not adversely affect any federally listed T&E species currently listed in the State and the USFWS has concurred with WS' determination. In addition, WS has determined that the proposed activities would not adversely affect State-listed species.

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

The rationale for this decision is based on several considerations. This decision takes into account public comments, social/political and economic concerns, public health and safety, and the best available science. The foremost considerations are that: 1) damage management would only be conducted by WS at the request of landowners/managers, 2) management actions would be consistent with applicable laws, regulations, policies and orders, and 3) no adverse effects to the environment were identified in the analysis. As a part of this Decision, the WS program in Tennessee would continue to provide effective and practical technical assistance and direct management techniques that reduces damage and threats of damage.

Robert Hudson, Acting Director-Eastern Region
USDA/APHIS/WS
Raleigh, North Carolina

4/20/15
Date