DECISION AND FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT: BEAVER DAMAGE MANAGEMENT IN SOUTH CAROLINA

PURPOSE AND NEED FOR ACTION

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program prepared an Environmental Assessment (EA) to analyze the potential impacts to the quality of the human environment associated with alternative approaches to resolving damage and threats of damage associated with beaver (*Castor canadensis*) (USDA 2016). The EA and this Decision ensure that WS complies with the National Environmental Policy Act (NEPA), with the Council on Environmental Quality guidelines (see 40 CFR 1500), and with the APHIS' NEPA implementing regulations (see 7 CFR 372). WS has previously developed an EA that analyzed the need for action to manage damage associated with beaver in the State (USDA 2002). Since the new EA re-evaluated WS' involvement with the management of beaver damage 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 that addressed managing damage caused by beaver.

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 beaver, 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 defined the issues associated with meeting the need for action and identified preliminary alternatives through consultation with the South Carolina Department of Natural Resources (SCDNR)[1]. The new EA analyzes three alternatives in detail to meet the need for action and to address the issues analyzed in detail.

A discussion of WS' authority and the authority of other agencies, as those authorities relate to conducting activities to alleviate beaver damage, occurs in Section 1.5 of the EA. In addition, several laws or statutes authorize, regulate, or otherwise would affect WS' activities (see Section 1.6 of the EA). WS would comply with all applicable federal, state, and local laws and regulations in accordance with WS Directive 2.210. Section 1.7 of the EA identified several decisions to be made based on the scope of the EA.

AFFECTED ENVIRONMENT AND ISSUES

Damage or threats of damage associated with beaver could occur statewide in South Carolina wherever beaver occur. Beaver are a semi-aquatic species that are capable of utilizing a variety of aquatic habitats in the State. Beaver occur throughout the year across the State where suitable aquatic 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. WS identified several issues during the development of the EA. Section 2.2 of the EA describes the issues considered and evaluated in detail by WS as part of the decision-making process. Section 2.3 of the EA describes additional issues that WS identified during the development of the EA but WS did not consider those issues in detail within the EA. The rationale for WS' decision not to analyze those issues in detail occurs in Section 2.3 of the EA.

[1]The SCDNR has regulatory authority to manage the beaver population in the State.

To identify additional issues and alternatives, WS made the EA available to the public for review and comment through notices published in local media and through direct notification of interested parties. WS made the EA available to the public for review and comment by a legal notice published in *The State Newspaper* from August 1, 2016 through August 3, 2016. WS also made the EA available to the public for review and comment on the APHIS website beginning on July 19, 2016 and on the regulations.gov website beginning on July 18, 2016. WS also sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing beaver in the State. The public involvement process ended on September 2, 2016. During the public comment period, WS received four comments on the draft EA. Appendix A of this decision summarizes the comments received and provides response to the comments. Based on further review of the draft EA, WS incorporated minor editorial changes into the final EA. Those minor changes enhanced the understanding of the EA, but did not change the analysis provided in the EA.

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. Alternative 1 (proposed action/no action alternative) would continue the current implementation of an adaptive methods approach utilizing non-lethal and lethal techniques, when requested, as deemed appropriate using the WS Decision Model, to reduce damage and threats caused by beaver in South Carolina. Alternative 2 would limit WS' involvement to providing recommendations on methods that people could use to manage damage without any direct involvement by WS. Under Alternative 3, the WS program in South Carolina would not provide any assistance with managing damage associated with beaver in the State. A detailed discussion of the effects of those alternatives on the issues occurs in Chapter 4 of the EA. WS also considered additional alternatives; however, WS did not consider those alternatives in detail for the reasons 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/no action alternative (Alternative 1) and when applicable, WS would incorporate those standard operating procedures 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.

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. Alternative 1 served as the baseline for the analysis and the comparison of expected impacts among the alternatives.

The following resource values in South Carolina 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 designated for threatened or endangered species), 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 because 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. The discussion below

provides a summary of the environmental consequences of the three alternatives for each of the issues analyzed in detail.

Issue 1 - Effects of Damage Management Activities on the Beaver Population in the State

Under Alternative 1, WS would incorporate non-lethal and lethal methods described in Appendix B of the EA into an integrated methods approach in which WS' personnel could employ all or a combination of methods to resolve a request for assistance. Non-lethal methods can capture, disperse, exclude, or otherwise make an area unattractive to beaver that are causing damage, which could potentially reduce the presence of those beaver 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 wildlife species when WS' employees employ lethal methods. Lethal methods can remove specific beaver that personnel of WS have identified as causing damage or posing a threat to human safety. The number of beaver removed from a population by WS using lethal methods would be dependent on the number of requests for assistance received, the number of beaver involved with the associated damage or threat, the efficacy of methods employed, and the number of individual beaver the SCDNR authorizes WS to remove, when required. Based on those quantitative and qualitative parameters addressed in the EA, the anticipated number of beaver that WS' employees could lethally remove annually to address requests for assistance under Alternative 1 would be of low magnitude when compared to the statewide population estimate.

The lack of WS' direct involvement does not preclude the lethal removal of beaver by those persons experiencing damage or seeking assistance from other entities. Those people experiencing damage or threats could remove beaver themselves or seek assistance with removal from other entities under any of the alternatives when the SCDNR authorizes the removal, when authorization is required. For example, if beaver were causing damage or posing a threat of damage, a property owner and/or other entities could implement non-lethal methods at any time to alleviate or prevent damage. In addition, people with a valid hunting license can lethally remove beaver using hunting methods at any time during legal hunting hours (*i.e.*, no closed season). People can also remove beaver during the annual trapping season in the State. People can also apply for a depredation permit from the SCDNR to remove beaver that are causing damage outside of the trapping season. If beaver damage is occurring within 100 yards of a property owner's residence, the property owner can remove beaver without the need for a depredation permit from the SCDNR. In addition, property owners or managers experiencing damage could request assistance from other entities (*e.g.*, private trappers, private business).

Therefore, other entities could remove those beaver that WS could lethally remove annually to alleviate damage in the absence of involvement by WS. Since the lack of WS' direct involvement does not preclude the lethal removal of beaver by those persons experiencing damage or threats, WS' involvement in the lethal removal of those beaver under Alternative 1 would not be additive to the number of beaver that other entities could remove in the absence of WS' involvement. The number of beaver lethally removed annually would likely be similar across the alternatives, since the removal of beaver 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 beaver lethally removed annually by other entities.

Based on the limited removal proposed by WS and the oversight by the SCDNR, WS' removal annually from the implementation of Alternative 1 would have no effect on the ability of those persons interested to harvest beaver. WS would also have no impact on the ability to harvest beaver under Alternative 2 and

Alternative 3 since WS would only provide technical assistance under Alternative 2 and provide no assistance under Alternative 3. However, resource/property owners may remove beaver under Alternative 2 and Alternative 3 resulting in impacts similar to Alternative 1. The SCDNR could continue to regulate beaver populations through adjustments in allowed removal during the regulated harvest season and through permits to manage damage or threats of damage.

Issue 2 - Effects 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 Alternative 1 and Alternative 2, WS' employees would use the WS Decision Model to select the most appropriate methods to address damage caused by targeted beaver and to exclude non-target species. To reduce the likelihood of dispersing, capturing, or removing non-target animals, WS would employ selective methods for beaver, would employ the use of attractants that were as specific to beaver as possible, and determine placement of methods to avoid exposure to non-target animals. Section 3.3 and Section 3.4 in the EA discuss the standard operating procedures that WS' personnel would follow to prevent and reduce any potential adverse effects on non-target animals when conducting activities under Alternative 1. If applicable, when providing technical assistance, WS' personnel would also incorporate those standard operating procedures into recommendations provided under Alternative 2. Despite the best efforts to minimize non-target animal exposure to methods during program activities, the potential for WS' personnel to disperse, live-capture, or lethally remove non-target animals exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety.

The unintentional removal or capture of animals during damage management activities conducted under Alternative 1 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-target animals lethally removed unintentionally by WS from FY 2010 through FY 2014 are representative of non-target animals that WS' personnel could lethally remove under Alternative 1 (see Section 4.1 of the EA). WS could also lethally remove additional species of non-target animals unintentionally when conducting activities under Alternative 1.

Although WS' employees could lethally remove non-target animals, removal of individuals from any species is not likely to increase substantially. WS would continue to monitor activities, including non-target animal removal, to ensure the annual removal of non-target animals would not result in adverse effects to a species' population. Most of the non-target animals that WS' employees lethally removed unintentionally from FY 2010 through FY 2014 are species that people can harvest during annual fishing, hunting, and/or trapping seasons. WS' limited unintentional removal of those species when compared to the harvest level of those species would be of low magnitude. WS' personnel have not captured or adversely affected any threatened or endangered species during previous activities conducted in South Carolina.

The ability of people to reduce damage and threats caused by beaver 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-target animals would be similar to Alternative 1. If other entities apply methods available incorrectly or apply those methods without knowledge of animal behavior, risks to non-target animals 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 beaver damage to use methods that were not legally available for use, risks to non-target animals could be higher under those alternatives. People have resorted to the use of illegal methods to resolve animal damage that have resulted in the lethal removal of non-target animals.

WS has determined that the proposed activities under Alternative 1 "*may affect*" several species listed as threatened or endangered within the State by the United States Fish and Wildlife Service but those effects would be solely beneficial, insignificant, or discountable. Therefore, those effects would warrant a "*not likely to adversely affect*" determination for those species (see Appendix C in the EA). In addition, WS has made a "*no effect*" determination for several species currently listed as threatened or endangered in the State based on those methods currently available and based on current life history information for those species (see Appendix C in the EA).

Pursuant to Section 7 of the ESA, WS consulted with the United States Fish and Wildlife Service on those effects analysis and determinations. The USFWS concurred with those effects determination made by WS (M. Caldwell, USFWS pers. comm. 2016). In addition, WS has reviewed those species considered threatened or endangered by the SCDNR (see Appendix D of the EA) and determined the proposed action would not likely adversely affect those species listed in the State or their critical habitats. As part of the development of the EA, WS consulted with the SCDNR. The SCDNR concurred with this effects determination for those species listed in the State (J. Butfiloski, SCDNR pers. comm. 2016). WS consulted the Comprehensive Wildlife Conservation Strategy (SCDNR 2005) and the draft wildlife action plan (SCDNR 2015) as part of this analysis and the alternatives would be consistent with both plans.

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

WS' employees who conduct activities to manage damage caused by beaver would be knowledgeable in the use of those methods available, the wildlife species responsible for causing damage or threats, and WS' directives. WS' personnel would incorporate that knowledge into the decision-making process inherent with the WS Decision Model, which employees would apply when addressing threats and damage caused by beaver. When employing methods, WS' employees would consider risks to human safety when employing those methods based on location and method.

The threats to human safety from the use of methods would be similar across the alternatives since most of the same methods would be available across the alternatives. The only methods that would have limited availability would be immobilizing drugs and euthanasia chemicals, which would generally be restricted to use by WS' personnel and appropriately licensed veterinarians or people under their supervision. However, the expertise of WS' employees in using those methods available likely would reduce threats to human safety since WS' employees would receive training and have knowledge in the use of those methods. Although risks do occur from the use of those methods, when WS' personnel 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.

If people used methods incorrectly or without regard for human safety, risks to human safety would increase under any of the alternatives that people employed those methods. No adverse effects to human safety occurred from WS' use of methods to alleviate beaver damage in the State from FY 2010 through FY 2014. Based on the use patterns of methods available to address damage caused by beaver and the experience/training that WS' personnel receive, this alternative would comply with Executive Order 12898 and Executive Order 13045.

Issue 4 - Effects on the Aesthetic Values of Beaver

Beaver may provide aesthetic enjoyment to some people in the State, such as through observations, photographing, and knowing they exist as part of the natural environment. Methods available that WS or other entities could use to manage damage under each of the alternatives could result in the dispersal, exclusion, live-capture, or lethal removal of individuals or small groups of beaver to resolve damage and

threats. Therefore, the use of methods often results in the removal of beaver from the area where damage was occurring or the dispersal of beaver 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 beaver. However, even under Alternative 1, the dispersal and/or lethal removal of beaver would not reach a magnitude that would prevent the ability to view beaver outside of the area where damage was occurring. Therefore, the effects on the aesthetic values of beaver would be similar across the alternatives and would be minimal.

Issue 5 - Humaneness and Animal Welfare Concerns of Methods

The EA also analyzed the issue of humaneness and animal welfare concerns in relationship to methods available under each of the alternatives. Since many methods addressed in Appendix B of the EA would be available under all the alternatives, the issue of method humaneness and animal welfare would be similar for those methods across all the alternatives. As stated previously, immobilizing drugs and euthanasia chemicals would be the only methods that would have limited availability to all entities under the alternatives. The ability of WS to provide direct operational assistance under Alternative 1 would ensure WS' personnel employed methods as humanely as possible. Under the other alternatives, other entities could use methods inhumanely if used inappropriately or without consideration of beaver 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 beaver or improperly identifying the damage caused by beaver 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 use by other entities to resolve damage and threats caused by beaver.

Issue 6 – 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.

When receiving a request for assistance to manage damage associated with beaver, WS could also receive requests to remove or manipulate beaver dams to alleviate flooding. Requests from public and private individuals and entities that WS receives to remove or manipulate beaver dams involve removing or breaching beaver dams to return an area back to its pre-existing condition. Under Alternative 1, WS could manipulate water levels associated with water impoundments caused by beaver dams using either dam breaching, dam removal, or the installation of water flow devices, including exclusion devices. WS' personnel receive most requests for assistance associated with beaver dams soon after affected resource owners discover damage.

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' personnel 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 from WS that a permit might be required to remove/breach the dam. WS' employees would recommend the property owner or manager seek guidance from the South Carolina Department of Health and Environmental Control and the United States Army Corps of Engineers pursuant to South Carolina 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 WS' assistance. 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 Alternative 1. Under Alternative 1, the lethal removal of beaver by WS would not have significant impacts on the statewide population of beaver 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 could be a slight increased risk to public safety when persons who reject assistance and recommendations made by WS 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 the EA indicates that an integrated methods approach to managing damage and threats caused by beaver would not result in significant cumulative adverse effects on the quality of the human environment.

DECISION AND RATIONALE

I have carefully reviewed the final EA prepared to meet the need for action. I find the proposed action/no 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 address the identified issues, which reasonably confirm that no significant impact, individually or cumulatively, to animal populations or the quality of the human environment are likely to occur from implementation of Alternative 1, nor does implementation of Alternative 1 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, selecting Alternative 1 would best address the issues identified in Chapter 2 of the EA 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 threatened or endangered 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, animal welfare, and aesthetics when all facets of those issues are considered. Changes that broaden the scope of damage management activities in the State, changes that affect the natural or human environment, or changes from the issuance of new environmental regulations would trigger further analysis. Therefore, it is my decision to implement Alternative 1 as described in the EA.

Finding of No Significant Impact

Based on the analyses provided in the EA, there are no indications that 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. I based this determination on the following factors:

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

2. Based on the analyses in the EA, the methods available during the implementation of Alternative 1 would not adversely affect human safety based on their use patterns.

3. Alternative 1 would not significantly affect unique characteristics such as parklands, prime farmlands, wetlands, wild and scenic areas, or ecologically critical areas. Standard operating procedures discussed in Chapter 3 of the EA and WS' adherence to applicable laws and regulations would further ensure that activities conducted by WS during the implementation of Alternative 1 would not harm the environment.

4. The effects on the quality of the human environment from the implementation of Alternative 1 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 on the human environment from the implementation of Alternative 1 would not be significant. The effects associated with implementing Alternative 1 are not highly uncertain and do not involve unique or unknown risks.

6. Implementation of Alternative 1 by WS would not establish a precedent for any future action with significant effects.

7. The EA did not identify significant cumulative effects associated with implementing Alternative 1. 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 South Carolina.

8. Implementing Alternative 1 would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would implementing Alternative 1 likely cause any loss or destruction of significant scientific, cultural, or historical resources.

9. WS has consulted with the United States Fish and Wildlife Service regarding affects to threatened or endangered species in the State and they have concurred with WS' determinations. In addition, WS has determined that the proposed activities would not adversely affect State-listed species.

10. WS' activities conducted under Alternative 1 would comply with all applicable federal, state, and local laws (see WS Directive 2.210).

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) WS would only conduct activities at the request of landowners/managers, 2) management actions would be consistent with applicable laws, regulations, policies and orders, and 3) the analysis did not identify adverse effects to the environment. As a part of this Decision, the WS program in South Carolina would continue to provide effective and practical technical assistance and direct management techniques that reduces damage and threats of damage.

JANET BUCKNALL

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9/21/2016

Janet L. Bucknall, Director-Eastern Region
USDA/APHIS/WS
Raleigh, North Carolina

Date

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APPENDIX A

RESPONSES TO COMMENTS ON THE ENVIRONMENTAL ASSESSMENT: BEAVER DAMAGE MANAGEMENT IN SOUTH CAROLINA

During the public involvement process for the draft EA, WS received four comment responses. WS reviewed the contents of those comments to identify additional issues, alternatives, and/or concerns that the EA did not address. WS summarizes the contents of the substantive comments and provides a response to those comments below.

I. COMMENTS ON THE NEED FOR ACTION

Comment – Beaver are beneficial to the environment.

Response: The EA recognizes and discusses the many benefits associated with beaver and beaver activities (*e.g.*, see Section 1.2 and Section 4.1 in the EA).

II. COMMENTS ON PUBLIC INVOLVEMENT

Comment – WS sneaks into areas with no notice to anyone.

Response: WS made the EA available to the public for review and comment by a legal notice published in *The State Newspaper*. WS also made the EA available to the public for review and comment on the APHIS website and on the regulations.gov website. In addition, WS sent a notice of availability directly to agencies, organizations, and individuals with probable interest in managing beaver damage in the State. WS encourages people to sign-up for notifications through the APHIS Stakeholder Registry. People can access the registry by going to the APHIS website and clicking on the APHIS Stakeholder Registry link on the home page. People can access the APHIS home page and the registry by visiting the website at https://www.aphis.usda.gov/aphis/home/. WS fully considers new issues, concerns, or alternatives the public identifies during the public involvement period.

The WS program only provides assistance after receiving a request for such assistance and only after the entity requesting assistance and WS sign a Memorandum of Understanding, work initiation document, or another similar document. Therefore, the decision-maker for what activities WS conducts is the entity that owns or manages the affected property. The decision-maker has the discretion to involve others as to what occurs or does not occur on property they own or manage. Therefore, in the case of an individual property owner or manager, the involvement of others and to what degree others were involved in the decision-making process would be a decision made by that individual. Section 3.1 in the EA discusses the decision-making process associated with communities, private property owners, and public property managers.

III. COMMENTS RELATING TO AN ISSUE

Comment – WS uses dangerous methods.

Response: One of the issues that WS identified during the development of the EA was the potential risks to human safety associated with employing methods to manage damage caused by beaver (see Section 2.2 and Section 4.1 in the EA). WS' employees who conduct activities to manage damage caused by beaver would be knowledgeable in the use of those methods available, the wildlife species responsible for causing damage or threats, and WS' directives. WS' personnel would incorporate that knowledge into the decision-making process inherent with the WS Decision Model that employees apply when addressing

threats and damage caused by beaver. When employing methods, WS' employees would consider risks to human safety based on location and method. For example, risks to human safety from the use of methods would likely be lower in rural areas that are less densely populated. WS' personnel would also consider the location where they would conduct damage management activities based on property ownership. If property owners or managers can control and monitor access to their property, the risks to human safety from the use of methods would likely be less. If damage management activities occurred at public parks or near other public use areas, then risks of the public encountering damage management methods and the corresponding risk to human safety would increase. Activities would generally be conducted when human activity was minimal (*e.g*., early mornings, at night) or in areas where human activities were minimal (*e.g*., in areas closed to the public). No adverse effects to human safety have occurred from WS' use of methods to alleviate beaver damage in the State from FY 2010 through FY 2014. Based on the evaluation in the EA, WS considers the risks to human safety from the use of non-lethal and lethal methods, when used appropriately and by trained personnel, to be low. Based on the use patterns of methods available to address damage caused by beaver, WS' use of the methods to manage beaver damage would comply with Executive Order 12898 and Executive Order 13045.

IV. COMMENTS RELATING TO AN ALTERNATIVE

Comment – Commenter opposes the use of lethal methods. WS should stop killing beaver.

Response: As stated throughout the EA, WS would only provide assistance after receiving a request for such assistance and would only employ those methods that the requesters agree with. Therefore, those people requesting assistance from WS may prefer and request that WS use lethal methods to remove beaver causing damage or posing a threat of damage. In addition, the standard WS Decision Model (Slate et al. 1992; see WS Directive 2.201) would be the site-specific procedure for individual actions that WS could conduct in the State (see Chapter 3 of the EA for a description of the Decision Model and its application). Decisions made using the model would be in accordance with SOPs described in the EA and WS' directives, as well as relevant laws and regulations. Using the Decision Model and based on site visits or reported information, WS would consider several factors before selecting or recommending methods and techniques. However, WS would give preference to non-lethal methods when formulating a management strategy using the WS Decision Model pursuant to WS Directive 2.101. When the person requesting assistance determined the death of animal was necessary, the goal of WS would be to use methods in the most humane way possible that minimizes the stress and pain to the animal.

Comment – WS only uses lethal methods and wants to kill all wildlife.

Response: The WS Decision Model would be the implementing mechanism for a damage management program under applicable alternatives that personnel adapt to an individual damage situation. When WS receives a request for direct operational assistance, WS would conduct site visits to assess the damage or threats, would identify the cause of the damage, and would apply the Decision Model described by Slate et al. (1992) and WS Directive 2.201 to determine the appropriate methods to resolve or prevent damage. Discussion of the Decision Model and WS' use of the Model occurs in Section 3.1 of the EA. In addition, WS would give preference to non-lethal methods when practical and effective (see WS Directive 2.101). Appendix B in the EA discusses many non-lethal methods that WS' personnel could recommend or employ to resolve damage under the applicable alternatives. The WS program does not attempt to eradicate any species of native wildlife in the State. WS operates in accordance with federal and state laws and regulations enacted to ensure species viability.

Comment – WS should only use humane methods to resolve beaver damage.

Response: The commenter provided a list of non-lethal methods they consider humane, including cylindrical cages to wrap around trees, exclusion fencing, painting trees with a mixture of sand and paint, a commercial repellent, and water flow devices. In addition, the commenter recommended people seek funding assistance from the Partners for Fish and Wildlife Program administered by the United States Fish and Wildlife Service. As discussed previously, the WS Decision Model would be the implementing mechanism that WS' personnel adapt to an individual damage situation. When WS receives a request for direct operational assistance, WS would conduct site visits to assess the damage or threat, would identify the cause of the damage, and would apply the Decision Model to determine the appropriate methods to resolve or prevent damage (see Section 3.1 of the EA). Pursuant to WS Directive 2.101, WS' personnel would give preference to non-lethal methods when practical and effective. Appendix B in the EA discusses many non-lethal methods that WS' personnel could recommend or employ to resolve damage, including all of the methods mentioned by the commenter. The EA discusses the use of exclusion methods, repellents (including a mixture of sand and paint), and water control devices.

Comment – Commenter opposes any involvement by WS.

Response: WS developed alternatives to meet the need for action, which the EA describes in Chapter 1, and to address the identified issues associated with managing damage caused by beaver, which the EA describes in Chapter 2. The EA analyzed a no involvement by the WS program alternative (Alternative 3; see Section 3.1 of the EA). Under Alternative 3, the WS program would not provide assistance with any aspect of managing beaver damage in the State. Section 4.1 of the EA analyzes the environmental consequences of each of the alternatives in comparison to determine the extent of actual or potential impacts on the issues, including the no involvement by WS alternative. Based on the analyses of the alternatives that were developed to address those issues analyzed in detail within the EA, including individual and cumulative impacts of those alternatives, the WS program will issue a decision for the final EA.

Comment – Removing beaver rarely solves the problem. Use of water control devices is highly successful.

Response: The commenter cited a report that indicated people surveyed in Massachusetts were satisfied with the results of flow device installed to alleviate flooding caused by beaver. Spock (2006) reported that 93% of people surveyed in Massachusetts were satisfied with the results of flow device installations done by professionals. The EA cites the results of the report by Spock (2006) in many areas in the document. Although use of exclusion and water control devices could greatly reduce the need for lethal beaver removal, beaver removal may still be needed in some situations even though a flow device or water control system was installed (Wood et al. 1994, Nolte et al. 2001, Simon 2006, Spock 2006). Callahan (2005) states the trapping of beaver to alleviate damage should occur "*...where a flow device is either not feasible or fails, the water level needs to be drastically lowered, or the landowner wants no beavers or ponds on their property*". Spock (2006) reported that beaver had to be trapped out of one site when an exclusion system was augmented by the installation of a water control device. Lisle (1996) noted that it might be necessary to remove beaver that have learned to dam around exclusion and water control devices.

Exclusion and water control devices may not be the most effective method in specific types of terrain and are not suitable for every site (Wood et al. 1994, Nolte et al. 2001, Langlois and Decker 2004, Callahan 2005). Exclusion devices and water control devices may not be suitable for man-made, uniform channels, such as agricultural drainage ditches and irrigation canals. In addition, exclusion devices and water control devices may not be suitable for reservoirs, areas where human health, property or safety would be

threatened with even minor elevation in water level, and areas where the landowner has expressed zero tolerance for beaver activity on their property (Callahan 2003, Callahan 2005, Simon 2006). Water control devices may be ineffective in beaver ponds in broad, low-lying areas because even a slight increase in water depth can result in a substantial increase in the area flooded (Organ et al. 1996). Exclusion and water control systems would not resolve problems related to beaver construction of bank dens. Depending upon site characteristics, beaver may build bank dens instead of lodges by burrowing into banks, levees, and other earthen impoundments. When bank dens are built in earthen levees or in banks supporting roadways or railroad tracks, they can greatly weaken the earthen structure. Burrowing into embankments can weaken the integrity of impoundments. Burrows allow water to infiltrate embankments, which can allow water to seep through the embankments causing erosion and weakening water impoundments. In those situations, removal of the beaver (either by translocation or by lethal methods) could be the only practical solution to resolve the potential for damage.

V. COMMENTS ON FUNDING

Comment – Funding for the WS program should be cut to zero. The WS program should be eliminated.

Response: Damage management activities are an appropriate sphere of activity for government programs, since managing wildlife is a government responsibility. Eliminating the WS program would be similar to the alternative analyzed in detail in the EA where there would be no involvement by the WS program with any aspect of managing beaver damage in South Carolina (Alternative 3). Therefore, adding an analysis of an additional alternative whereby WS or another entity pursued the termination of the funding for WS or the elimination of the WS program would not add to the existing analyses in the EA. Under Alternative 3, the WS program would not provide assistance with any aspect of managing beaver damage; however, other entities could conduct damage management activities in the absence of the WS program.

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