

**DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT**

**ENVIRONMENTAL ASSESSMENT: REDUCING AQUATIC RODENT DAMAGE THROUGH
AN INTEGRATED WILDLIFE DAMAGE MANAGEMENT PROGRAM IN THE STATE OF
GEORGIA**

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

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I. INTRODUCTION

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Wildlife Services (WS) program prepared an environmental assessment (EA) to evaluate potential impacts to the quality of the human environment from the implementation of a management program to address damage to property, agricultural resources, natural resources, and threats to human safety caused by beaver (*Castor canadensis*) and muskrats (*Ondatra zibethica*) (USDA 2004)¹. The EA evaluated the need for damage management and the relative effectiveness of five alternatives to meet that proposed need, while accounting for the potential environmental effects of those activities. WS' proposed action in the EA evaluates an integrated damage management program in Georgia to fully address the need for resolving damage caused by beaver and muskrats while minimizing impacts to the human environment.

II. PUBLIC INVOLVEMENT

The pre-decisional EA² was made available to the public for review and comment during a 32-day public comment period (December 3, 2003-January 3, 2004) by a legal notice published in the *Atlanta Journal and Constitution*. A letter of availability for the pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. A total of four comment documents were received from the public during the public involvement process. Comments from the public involvement process were reviewed for substantive issues and alternatives which were considered in developing the Decision for the EA. All comments were analyzed to identify substantial new issues and alternatives. Several minor editorial changes suggested by comments were incorporated into the EA. Those minor changes enhanced the understanding of the proposed program, but did not change the analysis provided in the EA.

After consideration of the analysis contained in the EA and review of public comments, a Decision and Finding of No Significant Impact (FONSI) for the EA was issued on February 12, 2004. The Decision and FONSI selected the proposed action which implemented an integrated damage management program in Georgia using multiple methods to adequately address the need to manage damage caused by beaver and muskrats.

¹Copies of the EA and the associated Decision/Finding of No Significant Impact (FONSI) are available for review by sending a request to State Director, USDA/APHIS/WS School of Forestry and Natural Resources, University of Georgia, Athens, Georgia 30602 or from the APHIS website at http://www.aphis.usda.gov/wildlife_damage/nepa.shtml.

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

This summary report and new Decision along with the EA and the 2004 Decision/FONSI will be made available for public review and comment through the publication of a legal notice announcing a minimum of a 30-day comment period. The legal notice will be published in the *Atlanta Journal and Constitution* and posted on the APHIS website located at http://www.aphis.usda.gov/wildlife_damage/nepa.shtml according to WS' public notification requirements (72 FR 13237-13238). This new Decision will also be directly mailed to agencies, organizations, and individuals with probable interest in the proposed program. Comments received during the public involvement process will be fully considered for new substantive issues and alternatives. Unless new substantial issues and/or new alternatives are brought to WS' attention, this new Decision will take effect upon the close of the comment period.

III. PURPOSE

This new Decision and summary report will analyze WS' beaver and muskrat damage management activities in Georgia since the 2004 Decision/FONSI was signed for the EA to: 1) facilitate planning and interagency coordination, 2) streamline program management, 3) ensure WS' activities remain within the scope of analyses contained in the EA, and 4) clearly communicate to the public the analysis of individual and cumulative impacts of the proposed action since 2004. This new Decision/FONSI ensures WS' actions comply with NEPA, with the Council on Environmental Quality (40 CFR 1500), and with APHIS' NEPA implementing regulations (7 CFR 372). All damage management activities, including disposal requirements, are conducted by WS consistent with: 1) the Endangered Species Act of 1973, 2) the Clean Water Act, 3) Executive Order (EO) 12898³, 4) EO 13045⁴, and 5) federal, state, and local laws, regulations, and policies.

IV. MONITORING

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

This summary report and new Decision will evaluate WS' activities to resolve and prevent damage caused by beaver and muskrats in Georgia under the proposed action described in the EA since the 2004 Decision and FONSI were signed. WS will continue to coordinate activities to alleviate or prevent beaver and muskrat damage with the Georgia Department of Natural Resources (GDNR) to ensure WS' activities are considered as part of the management objectives for those species.

V. RELATIONSHIP OF THIS DOCUMENT TO OTHER ENVIRONMENTAL DOCUMENTS

WS' Programmatic Environmental Impact Statement: WS has developed a programmatic Final Environmental Impact Statement (FEIS) that addresses the need for wildlife damage management in the

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

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

United States (USDA 1997)⁵. The FEIS contains detailed discussions of potential impacts to the human environment from wildlife damage management methods used by WS. Information from WS' programmatic FEIS has been incorporated by reference into the EA along with this summary report and new Decision.

VI. AFFECTED ENVIRONMENT

Upon receiving a request for assistance, beaver and muskrat damage management could be conducted on private, federal, state, tribal, county, and municipal lands in Georgia to protect agricultural and natural resources, property, roads, bridges, railroads, and to reduce threats to public safety. Areas of the proposed action could include state and interstate highways and roads, and railroads and their right-of-ways where beaver and muskrat activities cause damage. Areas may also include property in or adjacent to subdivisions, businesses, and industrial parks where beaver impound water and gnaw on or fell trees. Additionally, affected areas could include timberlands, croplands, and pastures that experience financial losses from beaver flooding or gnawing. The proposed action also could include private and public property where beaver and muskrat burrowing causes damage to dikes, ditches, ponds and levees, and where feeding causes agricultural crop losses and negatively impacts wildlife, including threatened and endangered (T&E) species.

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

VII. WS' ACTIVITIES TO MANAGE DAMAGE CAUSED BY BEAVER AND MUSKRATS

WS continued to assist those cooperators requesting assistance with damage caused by beaver and muskrats in Georgia from federal fiscal year (FY)⁶ 2004 through FY 2008. Those requesting assistance reported damages to timber, roads, crops, pasture, and drainage control devices, primarily from beaver burrowing into embankments, beaver gnawing on and felling trees, and from flooding caused by beaver impounding water through dam building.

WS provided both technical assistance and direct management activities as described in the EA from FY 2004 through FY 2008. Technical assistance provides those interested with information and recommendations on preventing wildlife damage and effective methods for resolving damage which are legally available for use. This information can then be employed by those experiencing wildlife damage to effectively resolve damage without WS' direct involvement.

Operational assistance occurs when WS is directly involved with employing methods to resolve, alleviate, or reduce threats associated with beaver and muskrats. As directed by the selected alternative, WS applies multiple methods as part of an integrated damage management program to resolve requests for assistance. WS' technical assistance and direct operational programs are discussed in detail in the EA (USDA 2004) along with WS' programmatic FEIS (USDA 1997). WS' activities from FY 2004 through FY 2008 are summarized below:

⁵Copies of WS' programmatic FEIS are available from USDA/APHIS/WS-Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.

⁶The federal fiscal year begins on October 1 and ends on September 30 the following year.

Summary of WS' Beaver and Muskrat Damage Management Activities in Georgia during FY 2004

WS continued to implement the proposed action in FY 2004 through the integration of technical and operational assistance to those requesting assistance with beaver and muskrat damage in Georgia. Damage reported and verified by WS in FY 2004 occurred primarily from beaver dams impounding water that flooded resources, from beaver gnawing on and the felling of trees, and from beaver burrowing into earthen dams that threatened the structural integrity of those structures. WS conducted 38 technical assistance projects in FY 2004 that provided information to those seeking assistance on beaver damage management. WS also conducted two technical assistance projects with those cooperators seeking assistance with damage caused by muskrats in FY 2004.

WS also provided direct assistance to requestors through the direct application of methods to resolve beaver damage in Georgia during FY 2004. WS used body-gripping traps (conibears) and cable restraints (neck snares) to intentionally take 273 beaver in FY 2004 to alleviate damage in Georgia. No requests for direct assistance were received by WS in FY 2004 to alleviate damage caused by muskrats. In addition to those beaver taken intentionally by WS to alleviate beaver damage, eight beaver were taken unintentionally during other activities conducted by WS. During WS' beaver damage management activities, four river otter (*Lontra canadensis*), four turtles⁷, and two muskrats were unintentionally taken in body-gripping traps. To alleviate flooding damage, WS used binary explosives to remove two beaver dams in Georgia during FY 2004.

Summary of WS' Beaver and Muskrat Damage Management Activities in Georgia during FY 2005

WS continued to receive requests for assistance in FY 2005 to resolve damage caused by beaver and muskrats in Georgia. Beaver damage occurred primarily from flooding, damage to trees, and from beaver burrowing into earthen embankments. WS continued to provide technical assistance by providing information on beaver and muskrat damage management. In FY 2005, WS conducted 39 technical assistance projects where information on beaver damage management was distributed to those requesting assistance. WS also conducted one technical assistance project involving the resolution of damage caused by muskrats.

Direct operational assistance was also provided by WS in FY 2005 to those requesting assistance. To resolve beaver damage, WS employed lethal methods to take 256 beaver in Georgia during FY 2005. Beaver were primarily taken using body-gripping traps (conibears) and cable restraints (neck snares). No requests for direct assistance to resolve damage caused by muskrats were received in FY 2005 by WS. Although methods are employed by WS according to standard operating procedures and minimization measures discussed in the EA to selectively take beaver, the unintentional take of non-targets does occur. In FY 2005, WS unintentionally killed eight river otter, four turtles, and one muskrat during beaver damage management activities. To alleviate flooding damage, WS used binary explosives to remove 13 beaver dams in Georgia during FY 2005.

Summary of WS' Beaver and Muskrat Damage Management Activities in Georgia during FY 2006

Both operational assistance and technical assistance were provided to those requesting assistance with resolving damage caused by beaver and muskrats in Georgia during FY 2006. Damages reported to and verified by WS occurred primarily from beaver flooding resources, causing damage to trees, and damage threats associated with beaver burrowing into earthen embankments. WS conducted 108 technical assistance projects involving beaver damage management in FY 2006 through recommendations to 123

⁷The species of turtles unintentionally taken by WS in FY 2004 was unknown.

participants and the distribution of 15 leaflets. WS also conducted two technical assistance projects involving damage associated with muskrats in Georgia during FY 2006.

Direct operational assistance was also conducted by WS in FY 2006. WS employed lethal methods resulting in the take of 252 beaver in FY 2006. No muskrats were lethally taken during FY 2006 in Georgia. During WS' beaver damage management activities nine river otter and one turtle were unintentionally taken in FY 2006. To alleviate flooding damage, WS used binary explosives to remove 13 beaver dams in FY 2006 in Georgia.

Summary of WS' Beaver and Muskrat Damage Management Activities in Georgia during FY 2007

WS continued to provide both technical assistance and direct management activities in FY 2007 as described in the EA. Technical assistance provides those interested with information and recommendations on preventing wildlife damage and effective methods for resolving damage legally available to those requesting assistance. This information can then be employed by those experiencing wildlife damage to effectively resolve that damage without WS' involvement. In FY 2007, the WS program in Georgia conducted 82 technical assistance projects involving beaver. WS also conducted 19 site visits to verify beaver damage and to recommend damage management methods based on an assessment of the damage. A single technical assistance and site visit were conducted in FY 2007 by the WS program in Georgia for resolving damage caused by muskrats.

WS also continued to employ direct operational damage management activities in which WS was directly involved with employing methods to alleviate damage caused by aquatic rodents at the request of the cooperator. WS continued to employ those methods available for preventing and resolving damage caused by aquatic rodents in Georgia as described in the EA during FY 2007. To resolve requests for assistance to prevent or resolve damage, WS lethally removed 326 beaver in FY 2007 by shooting and through the use of traps as described in the EA. Beaver were lethally removed primarily to prevent and resolve damage that occurred from beaver burrowing into earthen embankments, from flooding, and from tree loss due to beaver cutting or girdling trees. To alleviate flooding damage, WS used binary explosives to blow 19 beaver dams as described in the EA.

WS lethally removed three muskrats, eight turtles, and seven otter unintentionally in Georgia during FY 2007 while conducting beaver damage management activities. No muskrats were intentionally taken by WS in Georgia during FY 2007.

Summary of WS' Beaver and Muskrat Damage Management Activities in Georgia during FY 2008

WS continued to assist those cooperators requesting assistance with damage caused by beaver and muskrats in Georgia during FY 2008. Those requesting assistance reported damages to timber, roads, crops, pasture, and drainage control devices, primarily from flooding caused by beaver impounding water through dam building.

WS provided both technical assistance and direct management activities in FY 2008 as described in the EA. Technical assistance provides those interested with information and recommendations on preventing wildlife damage and effective methods for resolving damage which are legally available for use. This information can then be employed by those experiencing wildlife damage to effectively resolve damage without WS' direct involvement. In FY 2008, the WS program in Georgia conducted 104 technical assistance projects involving beaver. WS also conducted 26 site visits to verify beaver damage and to recommend damage management methods based on an assessment of the damage occurring. In addition, WS also conducted four technical assistance projects for resolving damage caused by muskrats in FY

2008.

WS continued to employ direct operational damage management activities in which WS was directly involved with employing methods to alleviate damage caused by aquatic rodents at the request of a cooperater. WS employed those methods available for preventing and resolving damage caused by aquatic rodents in Georgia as described in the EA during FY 2008. To resolve requests for assistance to prevent or alleviate damage, WS lethally removed 338 beaver in FY 2008 by shooting and through the use of traps. Beaver were lethally removed primarily to prevent and resolve damage that occurred from beaver burrowing into earthen embankments, from flooding, and from tree loss due to beaver cutting or girdling trees. To alleviate flooding damage, WS used binary explosives to remove 16 beaver dams during FY 2008 in Georgia.

In FY 2008, 12 river otter, three turtles, and one muskrat were unintentionally killed by WS in body-gripping traps (conibears) during activities to alleviate beaver damage. WS did not receive a request for direct assistance to resolve damage associated with muskrats in Georgia during FY 2008. Therefore, no muskrats were taken as target species in FY 2008 by WS.

VIII. MAJOR ISSUES

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

The EA fully describes the issues identified during the scoping process for WS' programmatic FEIS and during the development of the EA. The following issues were identified as important to the scope of the analysis (40 CFR 1508.25):

Issue 1 - Effects on beaver and muskrat populations

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

Of primary concern is the magnitude of take on a species' population from the use of lethal methods. Lethal methods are employed to remove an individual or those individuals responsible for causing damage and only after requests for such assistance are received by WS. The use of lethal methods would therefore result in local population reductions in the area where damage or threats were occurring. The number of target species removed from the population using lethal methods under the proposed action would be dependent on the number of requests for assistance received, the number of individuals involved with the associated damage or threat, and the efficacy of methods employed. The EA evaluated a lethal take of up to 1,000 beaver and up to 250 muskrats annually by WS in Georgia to alleviate damage.

The analysis for magnitude of impact generally follows the process described in Chapter 4 of WS' programmatic FEIS (USDA 1997). Magnitude is described in WS' programmatic FEIS as "...a measure of the number of animals killed in relation to their abundance." Magnitude may be determined either quantitatively or qualitatively. Quantitative determinations are based on population estimates, allowable harvest levels, and actual harvest data. Qualitative determinations are based on population trends and harvest data when available. Generally, WS only conducts damage management involving species whose population densities are high and only after they have caused damage.

As shown in Table 1, the highest annual take level of beaver by WS occurred in FY 2008 when 338 beaver were taken. Since FY 2004, WS has lethally removed a total of 1,453 beaver in Georgia to alleviate damage associated with flooding, burrowing, and damage to trees.

Table 1 - Beaver lethally taken by method in Georgia from FY 2004 through FY 2008 by WS.

Fiscal Year	Live-Trap	Body Gripping	Cable Restraint	Shooting	Foothold	TOTAL
2004	4	168	103	3	3	281 ^a
2005	1	156	77	20	2	256
2006	0	168	54	27	3	252
2007	0	233	72	9	12	326
2008	0	239	86	3	10	338

^aThe total beaver taken in FY 2004 includes the eight beaver taken as non-targets during other wildlife damage management activities in Georgia.

Beaver can be found statewide in Georgia wherever suitable habitat exists (Gregory and Waters 2008). However, the current population of beaver in Georgia is currently unknown (G. Waters, GDNR, pers. comm. 2008). The EA estimated the statewide beaver population at a minimum of 102,000 beaver in Georgia (USDA 2004). The GDNR, with management authority over beaver, currently allows beaver to be harvested in the State during a continuously open season with no limit on the number of beaver that can be harvested (GDNR 2008). As shown in Table 2, an estimated 30,335 beaver have been harvested in Georgia since 2004. When compared to the harvest take, WS' take has not exceeded 5.3% of the estimated annual harvest of beaver in the State and has averaged 4.6% from 2004 through 2008.

Table 2 – Estimated beaver harvest in Georgia compared to WS' take of beaver from 2004 to 2008.

Year	Harvest ^{a,b}	WS' Take ^c	Total Take	WS % Take
2004	5,000	281 ^d	5,281	5.3%
2005	5,000	256	5,256	4.9%
2006	5,000	252	5,252	4.8%
2007	7,433	326	7,759	4.2%
2008	7,902	338	8,240	4.1%
TOTAL	30,335	1,453	31,788	4.6%

^aHarvest data reported by calendar year

^bWithin 10 days of the close of the harvest season, all trappers must report the number of furs, hides, or pelts that have been taken during the regulated season. The number of furbearers harvested annually is based on the number of pelts reported to the GDNR.

^cWS' take is reported by FY

^dTotal beaver taken includes those beaver taken unintentionally during other wildlife damage management activities in Georgia in FY 2004.

The GDNR reports that the statewide beaver and muskrat populations are stable (GDNR letter to GA WS, July 1, 2003; G. Waters, GDNR, pers. comm. 2008). If populations of beaver have remained relatively stable at 102,000 in Georgia since the completion of the EA, WS' highest level of annual take that occurred in FY 2008 would represent 0.3% of the estimated population. The highest level of overall take from fur harvest and WS' take also occurred in 2008. With an estimated 8,240 beaver taken in 2008 and a

stable beaver population, the overall take of beaver would represent 8.1% of the estimated population in the State. The number of beaver taken for damage management by other entities in Georgia is unknown. However, the GDNR has determined that there is no evidence to suggest that human mediated mortality resulting from regulated fur harvest and damage management activities, including removal by WS, will be detrimental to the survival of the beaver or muskrat populations in the state of Georgia (GDNR letter to GA WS, July 1, 2003; G. Waters, GDNR, pers. comm. 2008).

WS' annual take of beaver in Georgia has been within annual take levels analyzed in the EA. When compared to the estimated population of beaver in the State based on a stable population and when compared to the overall harvest of beaver taken in the State, the magnitude of WS' annual take has been low. WS' activities did not adversely affect beaver populations in Georgia based on the limited number of beaver taken by WS, the unlimited take allowed by the GDNR, and the concurrence of the GDNR that WS' activities would not adversely affect beaver population in the State.

Similar to beaver populations, the current population of muskrats in Georgia is unknown (G. Waters, GDNR, pers. comm. 2008). The GDNR allows muskrats to be harvested in Georgia during a harvest season in which there is no limit on the number of muskrats that can be taken. An estimated 917 muskrats were taken during the open harvest in 2007 and an estimated 949 muskrats were taken in 2008 (G. Waters, GDNR, pers. comm. 2008). No muskrats were intentionally taken by WS from FY 2004 through FY 2008. However, during beaver damage management activities, seven muskrats were unintentionally taken by WS. The EA, using the best information available on muskrat populations in Georgia, estimated the population at 15.4 million muskrats (USDA 2004). The magnitude of WS' take of seven muskrats over the five-year reporting period was low when compared to the estimated population. WS' take of seven muskrats did not adversely affect muskrat populations in the State nor did WS' take of muskrats limit the ability to harvest muskrats during the open harvest season in the State.

WS' lethal take of beaver and muskrat were within the estimated level of lethal take analyzed in the EA. WS' damage management activities were site specific, and although local populations of beaver and muskrat may have been reduced, there were no probable adverse impacts on statewide populations of those species from WS' activities. Program activities and their potential impact on target species have not changed from those analyzed in the EA. The effects of beaver and muskrat damage management activities on this issue are expected to remain insignificant.

Issue 2 - Effects on plants and other wildlife species, including T&E species

The issue of non-target species effects, including effects on threatened and endangered species arises from the use of non-lethal and lethal methods identified in the alternatives. The use of non-lethal and lethal methods has the potential to inadvertently disperse, capture, or kill non-target wildlife. WS' minimization measures and SOPs are designed to reduce the effects of damage management activities on non-target species' populations. To reduce the risks of adverse affects to non-target wildlife, WS selects damage management methods that are as target-selective as possible or applies such methods in ways that reduces the likelihood of capturing non-target species. Before initiating management activities, WS also selects locations which are extensively used by the target species and employs baits or lures which are preferred by those species. Despite WS' best efforts to minimize non-target take during program activities, the potential for adverse affects to non-targets exists when applying both non-lethal and lethal methods to manage damage or reduce threats to safety. WS' unintentional take of non-targets from FY 2004 through FY 2008 are shown in Table 3.

Table 3 – WS’ non-target take by species in Georgia during FY 2004 through FY2008.

Species	Fiscal Year					Total
	2004	2005	2006	2007	2008	
River Otter	4	8	9	7	12	40
Turtles ^a	4	4	1	8	3	20
Muskrat	2	1	0	3	1	7

^aThe species of turtles is unknown.

River otter can be found statewide in Georgia wherever suitable habitat exists. The GDNR allows river otter to be taken during a regulated harvest season each year with no limit on the number of otter that can be taken during that open season. The current otter population in Georgia is unknown. As shown in Table 4, WS’ take when compared to the total known take of otter has been less than 1.2% annually. The highest annual take level of otters by WS occurred in FY 2008 when 12 otters were unintentionally taken. Since FY 2004, WS’ unintentional take of otters has averaged 0.7% of the total known take of otter when WS’ take is combined with otter taken during the open harvest season in the State. The magnitude of WS’ unintentional take of river otters during beaver damage management activities is low. Based on the unlimited take allowed by the GDNR during the open otter harvest season and the low magnitude of WS’ take when compared to the total known take of otter, WS’ unintentional take of otters has not adversely affected river otter populations in the State. WS’ take of otter has not limited the ability of those interested to harvest otter during the open season based on the low magnitude of WS’ activities on otter populations.

Table 4 – Estimated otter harvest in Georgia compared to WS’ take of otter from 2004 to 2008.

Year	Harvest ^{a,b}	WS’ Take ^c	Total take	WS % Take
2004	1,200	4	1,204	0.3%
2005	1,200	8	1,208	0.7%
2006	1,200	9	1,209	0.7%
2007	1,200	7	1,207	0.6%
2008	997	12	1,009	1.2%

^aHarvest data reported by calendar year

^bWithin 10 days of the close of the harvest season, all trappers must report the number of furs, hides, or pelts that have been taken during the regulated season. The number of furbearers harvested annually is based on the number of pelts reported to the GDNR.

^cWS’ take is reported by FY

Since FY 2004, WS’ beaver damage management activities have unintentionally taken 20 turtles. The GDNR allows the take of freshwater turtles in Georgia during a regulated open season with no limit on the number of turtles that can be harvested during the open season. The number of turtles harvested during the harvest season is currently unknown. The populations of individual turtle species are also unknown. The highest take of turtles by WS occurred in FY 2007 when seven turtles were unintentionally taken with an average of four turtles taken annually since FY 2004. The magnitude of WS’ unintentional take of turtles is likely very low. Based on WS’ limited take of turtles since FY 2004, WS’ take has not adversely affected turtle populations in the State.

The unintentional take of muskrats during WS’ beaver damage management activities was discussed and analyzed previously under Issue 1. The magnitude of WS’ take on muskrat populations was low and did not limit the ability of those interested to harvest muskrats during the open harvest season.

While every precaution is taken to safeguard against taking non-targets during operational use of methods and techniques for resolving damage and reducing threats caused by wildlife, the use of such methods can result in the incidental take of unintended species. Those occurrences are minimal and should not affect the overall populations of any species. WS’ take of non-target species during activities to reduce damage

caused by beaver is expected to be extremely low. WS will continue to monitor annually the take of non-target species to ensure program activities used in beaver and muskrat damage management do not adversely impact non-targets. WS' activities are not likely to adversely affect the viability of any wildlife populations from damage management activities.

The EA concluded that WS' damage management activities would have no adverse effects on other wildlife species (non-target), including threatened and endangered species throughout the State when those activities were conducted within the scope analyzed in the EA. Methods used by WS are essentially selective for target species when applied appropriately. In addition, WS adheres to those minimization measures and procedures discussed in the EA to minimize the potential for non-target take. WS will continue to report to the GDNR all take of wildlife to ensure WS' activities are considered in management objectives for wildlife in the State.

T&E Species - A review of T&E species listed by the U.S. Fish and Wildlife Service conducted during the FY 2007 review of WS' implementation of the selected alternative (proposed action) showed that additional listings of T&E species in Georgia had occurred since the completion of the EA in 2004. Several species were listed as threatened and endangered in Georgia that are not known to occur in the State. Those species included the American burying beetle (*Nicrophorus americanus*), spotfin chub (*Erimonax monachus*), ovate clubshell (*Pleurobema perovatum*), Eskimo curlew (*Numenius borealis*), cylindrical lioplax (*Lioplax cyclostomaformis*), oyster mussel (*Epioblasma capsaeformis*), Florida panther (*Puma concolor coryi*), Anthony's Riversnail (*Athearnia anthonyi*), gulf sturgeon (*Acipenser oxyrinchus desotoi*), fat three-ridge (*Amblema neislerii*), and the gray wolf (*Canis lupus*). WS determined that program activities, based on those methods described in the EA, would have no effect on those species listed as threatened and endangered in Georgia but do not occur in the State. The no effect determination is based on those species being absent from the State based on the current known distributions of those species. WS also determined that program activities conducted pursuant to the EA would have no effect on Tennessee yellow-eyed grass (*Xyris tennesseensis*), large-flowered skullcap (*Scutellaria montana*), and Virginia spiraea (*Spiraea virginiana*), all plant species, that were listed in Georgia after the completion of the EA. WS' program activities to manage damage caused by aquatic rodents do not involve methods that would result in the loss or destruction of any threatened and endangered plant species listed in Georgia. A review of T&E species listed by the U.S. Fish and Wildlife Service for this summary report showed that no additional listings of T&E species in Georgia have occurred since the completion of the EA in 2004 and the review of T&E species conducted in the FY 2007 monitoring report for the EA.

Program activities and methods have not changed from those analyzed in the EA. Thus, WS' determination of not likely to adversely affect T&E species in Georgia is still valid and appropriate for the proposed action for those species addressed in the 1992 Biological Opinion issued by the U.S. Fish and Wildlife Service based on WS' programmatic activities⁸. For those species listed since the completion of the EA, WS' determination of no effect is still valid and appropriate based on WS' activities to alleviate damage and threats of damage associated with beaver and muskrats in Georgia.

Native Plant Species - As described in the EA, WS' activities involving the removal of aquatic rodents and the breaching/removal of beaver dams would be beneficial to some native plant species that may be killed by foraging and/or flooding and inundation. Some native plants may be trampled as WS' employees walk into sites or from the use of an All Terrain Vehicle (ATV) to access sites. Disturbance to most sites from entering and exiting is minimal. Some native vegetation may be disrupted from the blasting of dams as debris falls immediately around the area. Generally, the debris is scattered out around the site and is not

⁸ The 1992 Biological Opinion issued by the U.S. Fish and Wildlife Service can be found in WS' programmatic Final Environmental Impact Statement (USDA 1997).

overly destructive to surrounding vegetation. Overall, WS' program activities had a beneficial impact on those plant species adversely impacted by aquatic rodent activity.

The EA concluded that WS' aquatic rodent damage management activities would have no adverse effects on plants and other wildlife species (non-target and T&E species) throughout the State. The GDNR concurs that WS' activities will have no adverse effects on native wildlife populations in Georgia, including state listed T&E species (GDNR letter to GA WS, November 19, 2003). Program activities and their potential impacts on plant and other wildlife species have not changed from those analyzed in the EA. The effects on this issue are expected to remain insignificant.

Issue 3 - Effects on public and pet health and safety

The EA concluded that the effects of WS' beaver and muskrat damage management activities when conducted within the scope analyzed would have no adverse impact on human safety or pet safety. WS' implementation of the proposed action from FY 2004 through FY 2008 did not result in any adverse impacts to human or pet safety. The methods available for use to manage damage caused by beaver and muskrats in Georgia remain as addressed in the EA. Therefore, the potential impacts of program activities on human health and safety have not changed from those analyzed in the EA. Impacts of the program on this issue are expected to remain insignificant.

Issue 4 - Humaneness of methods to be used

As discussed in the EA, humaneness, in part, appears to be a person's perception of harm or pain inflicted on an animal. People may perceive the humaneness of an action differently. The challenge in coping with this issue is how to achieve the least amount of animal suffering within the constraints imposed by current technology.

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

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

Therefore, WS' mission is to effectively address requests for assistance using methods in the most humane way possible that minimizes the stress and pain of the animal. WS' personnel are experienced and professional in their use of management methods. When employing methods to resolve damage to resources or threats to human safety, methods are applied as humanely as possible. Methods used in beaver and muskrat damage management activities in Georgia since the completion of the EA and their

potential impacts on humaneness and animal welfare have not changed from those analyzed in the EA. No new methods were identified in this report that would alter the analysis contained in the EA on the issue of method humaneness. Therefore, the analyses of the humaneness of methods used by WS to manage damage and threats caused by beaver and muskrats have not changed from those analyzed in the EA.

Issue 5 - Effects on wetlands

The issue of adverse impacts to wetlands arises from use of rakes to breach beaver dams and/or the use of binary explosives to remove beaver dams which could result in the loss of wetland habitat. The breaching and/or removal of beaver dams releases impounded water and alleviates damage associated with flooding upstream of the beaver dam and returns streams, channels, culverts, and irrigation canals to their natural flow regime.

Most dams that WS breaches are created as a result of recent beaver activity. WS receives most requests for assistance soon after damage is discovered. These sites do not possess wetland characteristics or the same wildlife habitat values as wetlands. Since these sites are new or at least relatively recently occurring and may be present for only a brief period of time it, WS' damage management activities are not negatively affecting the statewide status of wetlands and does not adversely affect wetlands because sites are generally being returned to an original condition. Dams are removed in accordance with provisions of Section 404 of the Clean Water Act. From FY 2004 through FY 2008, WS' removed a total of 63 beaver dams using binary explosives to alleviate flooding damage caused by beaver dams impounding water.

Program activities and their potential impacts on wetlands have not changed from those analyzed in the EA. No new methods, circumstances or regulations have been implemented since the writing of the EA. The EA concluded that WS' beaver dam removal/breaching activities should have minimal impact on wetlands (USDA 2004). The impacts of WS' aquatic rodent damage management activities on wetlands are expected to remain insignificant.

Issue 6 - Economic losses to property

Another issue often raised is the negative economic impact that beaver and muskrat have on resources and whether damage management strategies are effective at reducing damages occurring to acceptable levels. The effectiveness of any damage management program could be defined in terms of losses prevented or risks potentially prevented. Effectiveness is based on the species responsible for the damage, how accurately practitioners diagnose damage, how actions are implemented to correct or mitigate risks and damages, how quickly damage is reduced or prevented, and finally the duration damage or threats are resolved after employing methods. To determine that effectiveness, WS must be able to complete management actions expeditiously to minimize harm to non-target animals and the environment, while at the same time, using methods as humanely as possible.

During the reporting period, WS' activities reduced or eliminated beaver damage to property including timber, crops, landscaping, levee damage to private and public ponds and lakes, roads, bridges, culverts, and ditches. Once beaver and associated dams were removed, damage from beaver burrowing into embankments, damage from beaver gnawing and felling trees, and flooding damage from beaver impounding water were alleviated since beaver and dams were no longer present at the location to cause damage. Therefore, those methods used to remove beaver from the site and to remove the beaver dam were effective in alleviating damage.

Beaver could potentially re-inhabit those areas where WS' activities alleviated damages previously. The amount of time before beaver repopulate areas where damages were previously reduced would be

dependent on available habitat and beaver densities in the area where damage was occurring. However, the repopulation of areas by beaver in areas where damages were previously alleviated does not indicate methods and techniques are ineffective at reducing damage. The issue is the limited availability of methods to prevent damage from occurring initially or from re-occurring once alleviated. Those methods available to prevent damage which were described in Appendix D of the EA are often costly and impracticable when application is required over large areas, are ineffective at preventing damage, or would require drastic habitat modifications (USDA 2004). No additional methods have become available since the completion of the EA that would increase the effectiveness of preventing damage from occurring or from re-occurring once alleviated.

Program activities and their potential impacts on economic impacts to property have not changed from those analyzed in the EA. The effects of WS' aquatic rodent damage management activities on this issue are expected to remain insignificant.

Issue 7 - Impacts to stakeholders, including aesthetics

The EA concluded the effects on aesthetics would be variable, depending on the damage situation, stakeholder's values towards wildlife, and their compassion for those who are experiencing damage from aquatic rodents. Overall, however, impacts would be insignificant. The ability to view and enjoy the aesthetic value of beaver or muskrats at a particular site would be somewhat limited if the animals were removed. However, new beaver or muskrats would most likely use the site in the future, although the length of time until they arrive is variable, depending on the site, time of year, and population densities in the surrounding areas. The opportunity to view beaver and muskrat is available if a person makes the effort to visit sites outside of the damage management area.

WS only conducts beaver and muskrat damage management at the request of the affected home/property owner or resource manager. Upon receiving a request for assistance, WS addresses issues/concerns and explanations are given for all damage management activities. Management actions are carried out in a caring, humane, and professional manner. Program activities and their potential impacts to stakeholders and aesthetics have not changed from those analyzed in the EA. The effects of WS' aquatic rodent damage management activities on this issue are expected to remain insignificant.

IX. ISSUES NOT CONSIDERED IN DETAIL

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

X. ALTERNATIVES ANALYZED IN DETAIL

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

- **Alternative 1** – No WS' Beaver or Muskrat Damage Management in Georgia
- **Alternative 2** – Only Lethal Beaver and Muskrat Damage Management
- **Alternative 3** – Fully Integrated Beaver and Muskrat Damage Management for all Public
And Private Land (No Action/Proposed Action)
- **Alternative 4** - Technical Assistance Only
- **Alternative 5** – Non-lethal Beaver and Muskrat Damage Management

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

XI. ALTERNATIVES CONSIDERED BUT NOT ANALYZED IN DETAIL

The following alternatives were considered but not analyzed in detail:

- Eradication and Suppression
- Population stabilization through birth control
- Compensation for Wildlife Damage Losses
- Bounties
- Live-trap and Relocate
- Live-capture and Euthanasia Only

A complete evaluation and discussion of the alternatives not considered in detail can be found in the EA along with the rationale. WS has reviewed the alternatives analyzed but not in detail and determined the analyses in the EA are still appropriate for those alternatives considered.

XII. ANALYSIS

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

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

XIII. DECISION AND RATIONALE

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

Based on the EA, the issues identified are best addressed by continuing Alternative 3 (Proposed Action/No

Action) and applying the associated mitigation measures discussed in Chapter 3 of the EA. Alternative 3 successfully addresses (1) beaver and muskrat damage management using a combination of the most effective methods and does not adversely impact the environment, property, and/or non-target species, including T&E species; (2) it offers the greatest chance at maximizing effectiveness and benefits to resource owners and managers while minimizing cumulative impacts on the quality of the human environment that might result from the program's effect on target and non-target species' populations; (3) it presents the greatest chance of maximizing net benefits while minimizing adverse impacts to public health and safety; and (4) it offers a balanced approach to the issues of humaneness and aesthetics when all facets of those issues are considered. Further analysis would be triggered if changes occur that broaden the scope of beaver and muskrat damage management activities, that affect the natural or human environment, or from the issuance of new environmental regulations.

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

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

FINDING OF NO SIGNIFICANT IMPACT

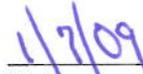
The analysis in the EA, the 2004 Decision/FONSI, and this summary report indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of this proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

1. Aquatic rodent damage management as conducted by WS in Georgia is not regional or national in scope.
2. The proposed action would pose minimal risk to public health and safety. Risks to the public from WS' methods were determined to be low in a formal risk assessment (USDA 1997).
3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected. Built-in mitigation measures that are part of WS' standard operating procedures and adherence to laws and regulations will further ensure that WS' activities do not harm the environment.
4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to wildlife damage management, this action is not highly controversial in terms of size, nature, or effect.

5. Based on the analysis documented in the EA 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 this assessment. The number of beaver and muskrats killed by WS, when added to the total known take of those species, would fall within allowable harvest levels supported by the GDNR. The EA discussed potential cumulative effects of WS' activities on target and non-target species populations and concluded that such impacts were not significant for this or other anticipated actions to be implemented or planned within the State.
8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.
9. WS has determined that the proposed program would not adversely affect any federal or state listed threatened or endangered species that were addressed in the EA. This determination is based upon concurrence from the USFWS and the GDNR that the program will not likely adversely affect any of the threatened or endangered species listed in Georgia that were addressed in the EA. WS has also determined that that implementation of the proposed action will have no effect on those species listed since the completion of the EA.
10. The proposed action would be in compliance with all federal, state, and local laws, regulations, policies, and orders.



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



 Date

LITERATURE CITED

- GDNR. 2008. Georgia Hunting Seasons and Regulations 2008-2009.
http://www.georgiawildlife.com/Assets/Documents/Hunting_Regulations/08-09_Hunting_Regs.pdf. Accessed October 31, 2008.
- Gregory, D., and G. Waters. 2008. Beaver management and control in Georgia. Georgia Department of Natural Resources, Wildlife Resources Division, Game Management Section.
- USDA. 1997. Animal Damage Control Program - Final Environmental Impact Statement (revised). USDA/APHIS/WS-Operational Support Staff, 4700 River Road, Unit 87, Riverdale, MD 20737-1234.
- USDA. 2004. Environmental Assessment (EA) - Reducing aquatic rodent damage through an integrated wildlife damage management program in the State of Georgia. USDA/APHIS/WS, School of Forestry and Natural Resources, University of Georgia, Athens, Georgia 30602.