Finding of No Significant Impact and Decision for Aquatic Rodent Damage Management in Colorado

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Wildlife Services (WS) program responds to a variety of requests for assistance from individuals, organizations and agencies experiencing damage caused by wildlife in Colorado. WS activities are conducted in cooperation with other federal, state, and local agencies, as well as private organizations and individuals. WS cooperates with the Colorado Department of Agriculture and several Counties in Colorado, and works closely with the Colorado Division of Wildlife (CDOW).

Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management (WDM) actions maybe categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). WS prepared an environmental assessment (EA) to comply with APHIS NEPA implementing regulations and interagency agreements, to facilitate planning, interagency coordination, streamline program management, and involve the public. The predecisional EA, released by WS in July 2003, documented the need for aquatic rodent (beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*)) damage management (ARDM) in Colorado and assessed potential impacts of various alternatives in relation to issues analyzed for responding to aquatic rodent damage problems.

WS' proposed action was to allow the use of the full range of ARDM methods on all lands authorized in the State for the protection of agriculture, property, natural resources, and public safety. WS cooperates with the Colorado Department of Agriculture (CDA) and several counties as authorized under State Law in ARDM. In Colorado, state statutes permit landowners and resource managers to take beaver and muskrat that are causing damage. CDOW keeps track of exemptions authorized under Amendment 14. Amendment 14 of the Colorado Constitution authorizes the use of snares, leghold traps and body-gripping traps to take aquatic rodents for a 30 day time period during a given year where CDOW has verified that damage is occurring. However, exclusions, habitat modifications, shooting and live traps can be used yearround. Beaver are responsible for the majority of requests for ARDM in Colorado and are targeted most often.

A major overarching factor in determining how to analyze potential environmental impacts of WS' involvement in ARDM is that such management will apparently be conducted by state and local government, or private entities as allowed by State law that are not subject to compliance with NEPA if WS were not involved. In fact, WS conducts much of its ARDM as an agent of landowners under Amendment. This means that the Federal WS program has limited ability to affect the environmental outcome of ARDM in Colorado, except that the WS program is likely to have lower risks to nontarget species and less impact on aquatic rodent populations than some alternatives available to CDA and private landowners. Therefore, WS has limited ability to affect the environmental *status quo*. Despite this limitation of federal decision-making in this situation, this EA process is valuable for informing the public and decision-makers of the substantive environmental issues and alternatives of ARDM for resource protection.

Public Involvement

A total of 8 draft EAs were sent to agencies with professional expertise covering different aspects (ie. wildlife populations, water) of the EA for their review and comments. Comments received from these agencies were incorporated into the EA. Following interagency review of the draft EA, an EA was prepared and released to the public for a 30-day comment period. The resulting EA was then sent directly to 41 interested public and private organizations and individuals. In addition, "Notices of Availability" of the predecisional EA was published in 2 statewide Colorado newspapers (the Denver post and Rocky Mountain News) for 3 consecutive days and sent 26 letters of availability to organizations and individuals. The legal notices appeared in these newspapers from July 16-18, 2003. As a result of the newspaper and additional mailings, 11 EAs were sent out. The deadline for comments was set at August 30, 2003 but all comments received, even those following the deadline (1), were included for consideration.

Public Comments

A total of 7 comment letters were received in response to the predecisional EA; 1 from an educational institution, 1 from an agency, 3 from nonprofit organizations, and 2 from private individuals. Although all comments raised were addressed in the predecisional EA, each will be discussed further where necessary to provide clarity. In addition, some comments were received that had not been addressed in detail in the EA and, therefore, for clarification, additional information was added to the final EA in the appropriate area to address these concerns. Comments that were received are discussed below. One of the comment letters also offered some editorial remarks for the EA which were incorporated into the final EA, thanks.

Comment 1: Several comments were received stating that the benefits of beaver, particularly the development of wetlands, were ignored in the EA. Comments included the following. Beaver, a keystone species, can cause damage, but their benefits such as the development of aquatic ecosystems that provide water storage, flood control, and wetland restoration and providing habitat diversity for other species (e.g., opening the canopy, increasing *edge* and increasing willows (*Salix* spp.)), were ignored in the EA with the exception of a few sentences. By ignoring the benefits of beaver, the EA utterly fails the test of providing accurate scientific analysis. No substantiation is given that wetlands are not present where beaver damage management is conducted. Colorado has lost much of its wetlands and WS is contributing to this loss. Removal of a beaver dam removes the potential for a beaver dam to become a wetland. Dam busting and beaver trapping impacts other species dependent on beaver wetlands and these should be examined in more detail.

Response 1: Beavers can be considered a keystone species in many parts of the United States, and Colorado, especially along small streams where they create different habitat, but not as much along rivers where they use bank burrows and do not alter the habitat significantly. WS is also aware of the fact that beaver are beneficial by contributing to an increase in wetlands, especially in a dry state such as Colorado which has historically lost about 50% of its wetlands and only about 1% of lands are wetlands. WS did not omit this aspect of beaver natural history in the EA, but did mention it briefly in Section 1.3.1 of the Predecisional EA.

The need for action is not based on that aspect of the beaver's natural history. The need for action is based on the fact that people have identified damage as a result of beaver activities and need assistance in resolving problems associated with them. The cutting of trees and building of dams can cause damage and people mostly request assistance from WS because these activities do not meet with their land-use objectives. In fact, people that want assistance from WS with ARDM typically do not desire the creation of potential wetlands on their properties and over 91% of the properties that WS work are private lands as discussed in Section 1.2. The new pond that develops behind a dam may be flooding crops, pastures, homes, roads, or other property as identified in Section 1.3 and landowners are concerned with their loss. Landowners that want beaver and their dams removed almost invariably request dams be removed soon after they are built. The part of the newly created pond covered by water that is a wetland is the natural course of the stream to its high

water mark that previously existed. The newly created pond is not a wetland, as many commentors suggested, and people can remove them per the Clean Water Act and Colorado State law. The dams are removed to curb further losses from flooding.

Section 2.2.3 identifies the loss of wetlands as an issue and impacts to wetlands are analyzed for each of the Alternatives in Section 4.2.4 of the EA. As discussed, WS does not remove any beaver dam that has become a wetland without first having the landowner obtain the necessary Section 404 permit from the Corps for their removal, and U. S. Fish and Wildlife Service (USFWS) should threatened and endangered (T&E) species be present. Even if an area historically had wetlands, such as those dating back decades when much of the wetlands in Colorado were lost, it would still likely take a minimum of 2 years for a new wetland to develop. Without prior wetland hydrology, it would take many years, at least 5 as given in Swampbuster Act, for new wetland to develop. During this time, water may be lost downstream as water evaporates from the pond or percolates into the soil to elevate the water table. Until the water table for that particular site is elevated and the soils change to hydric soils, less water would be available for other wildlife.

Until a beaver pond becomes a wetland, the area will have different environmental values then the previous meandering stream. During this time, the area often provides less value to other wildlife species and plants until the wetland does become established. A new beaver pond actually can have a negative effect on plants and wildlife initially because the new pond changes the habitat which over time forces a species composition change. Their dams can severely reduce the flow of water downstream or flood areas which can negatively impact many native plant communities (Hill 1985). Thus, the habitat alteration, typically causes negative impacts on other fauna and flora initially when almost all ARDM is conducted.

In time, beaver ponds can become wetlands and these habitat changes can prove beneficial for several species and be important for restoration projects (Albert and Trimble 2000). In areas where wetlands have been lost historically, beavers can help restore them. WS has been involved in projects to move beaver to locations to restore or make wetlands in areas where the land manager has that desired goal. These new wetlands do in time provide differing habitat values which can be beneficial to a host of species.

Finally, in areas with beaver activity where WS and the landowner determine that a dam does not have to be removed, and beaver can coexist with the landowner's objectives, landowners may be given advice on how best to manage beavers for their situation. Pond-levelers and exclusion for trees may be recommended to reduce some types of damages. Pond levelers work about 50% of the time in resolving potential problems (Nolte et al. 2000, Nolte, National Wildlife Research Center (NWRC), pers. comm. 2003, unpubl. data). The effectiveness of pond levelers increases to 95% when installation of these devices is coupled with local beaver reduction efforts. Exclusion (fencing, grit paint, sheathing) is most effective when other trees are available for feed; without other trees, many exclusionary methods fail (Nolte et al. 2003).

Since it was determined that beaver activity can create wetlands that are beneficial and several comments were received that this characteristic should not be overlooked, section 1.3.1 has a much expanded version that includes the benefits of beaver dams. However, the analysis is essentially the same in Chapter 4 because wetlands are not destroyed by WS.

Comment 2: Several comments were received that suggested that damage could be compensated for by the benefits of beaver or were biased and inaccurate, and that the ARDM program was not cost effective. Comments included the following. If the $298,400 figure for beaver damage in FY02 is accurate, only 40 acres of beaver wetlands would provide public benefits that surpass this figure, based on the estimate . . . of $8,000/acre wetland (Costanza et al. 1997). Found no indication of the *effectiveness* of ARDM, as outlined in the proposed action, in reducing damage to agriculture and property, and threats to human health and safety. How does cost-effectiveness in North Carolina remotely compare with Colorado. Damage figures used are inflated by landowners. Should use standard methodology to estimate damage. The value of timber damaged by beaver would never stand up in court ... inflated greatly.

Response 2: WS is aware of the fact that established wetlands are a very valuable resource in the environment and, as a federal agency, WS supports the continued restoration of wetlands throughout the United States. Costanza et al. (1997) estimated the value of different ecosystems throughout the world and did find that rivers and lakes, i.e. beaver ponds as classified by hydrologists (Hansen et al. 2000, Natural Heritage Program 2003), were valued at an average of $3,500/acre. This benefit was derived as an average for all river and lake systems throughout the world. It is likely that tropical riverine systems and lakes are of more value than temperate systems as in forests. The value $8,000/acre from Costanza et al. (1997) was for swamps which are quite different than beaver ponds. As suggested by Costanza et al. (1997), it is important to remember that their value was derived for established wetlands. As discussed, beaver dams do not create wetlands over night, but in time, often several years later. Until that point, the dams lose water to percolation and evaporation and are not as likely to provide as much benefits as suggested by Costanza et al.'s (1997) analysis. This is especially true where water is desperately needed downstream for other species of wildlife and plants, irrigation, and household use. In these situations, the process of creating wetlands would likely have a higher negative impact rather than provide $3,500/acre. The EA gives information throughout on wetland criteria and the laws that involve the removal of wetlands. In this regard, we believe the EA speaks for itself.

WS Specialists that respond to damage complaints, estimate the value of the damage done by beaver and muskrat when they arrive at a site or ask the cooperator what they believe the value to be. Technical assistance, especially those completed over the phone, are strictly the estimate of the cooperator. Damage is also recorded in incidences. One request of timber damage could equate to 100 or more trees killed. Thus the value does not compare with the number of requests in Table 1a of the EA. The number of requests reflects the number of problems that WS responds to.

A common misconception that the public has when using damage data is that the damage that WS documents is the total damage. Actually, this is the damage prior to WS intervention. Without intervention, damage could be expected to be much greater. Often it would be expected that damage would escalate and surpass the damage that had already been done. Intervention, eliminates or reduces further damage to acceptable levels for the landowner who has already lost the value of damage as identified by WS Specialists. Damage could be the flooding of crops, a house, and other property which if allowed to continue could have enormous costs. A good example is a house that can be understood by most homeowners; WS receives periodic calls where flooding waters are encroaching a house. Most times, WS can remove the dam prior to any real damage. If the dam was allowed to continue to be built, the house may be flooded, and damage could rapidly escalate into the thousands should the flood waters reach the house.

A very challenging task for WS has been to determine the effectiveness of WS applied ARDM because one must first predict how much more damage would have occurred if a control strategy had not been implemented. With this number, cost effectiveness can be determined for resources with monetary value, but cannot for nonmonetary values such as the protection of human health. WS in North Carolina, where beaver are a primary focus of the WS program (about 15 to 20 times the effort of the Colorado ARDM program), has determined the cost-effectiveness of the program by quantifying the damage saved for projects involving monetary values (WS 2003). They have been able to generate data to determine the overall cost savings of conducting beaver damage management by estimating the value of resources remaining in an area that would have likely been damaged should damage have been allowed to continue. WS (2003) determined that the cost:benefit ratio of the program was 1:7.1. For every dollar spent by the WS program the landowner realized a $7.10 return. On another project in the Mississippi WS Program, it was estimated that $198,000 were saved on one timber protection project and $11,000 were spent, a 1:18 cost:benefit ratio. To obtain this estimate requires considerable effort on the part of the WS Specialists to acquire the additional data. ARDM is only a small portion of the Colorado WS program, and collecting data for such would not substantially improve the analysis in the EA and the decision-making process.

Comment 3: A few commentors stated that the EA does not give site-specific information. These included the following. NEPA requires a description of the affected environment and the EA contains no such section which constitutes a fatal flaw. The EA gives no site specific information. Without site-specific information in the EA, the public cannot reasonably determine the benefits or detriments of beaver eradication. Section 1.6.2 should mention the counties where WS has agreements. The EA is not comprehensive because it does not include the counties where WS has agreements.

Response 3: EAs do not require a section titled Affected Environment. The Council on Environmental Quality's (CEQ) suggested guidelines for an Environmental Impact Statement (EIS) does. CEQ and APHIS NEPA implementing guidelines suggest the standard sections of an EA and the Colorado WS ARDM EA follows these. The affected environment is discussed throughout the EA, and the scope of the EA defines that in section 1.6. WS' Records of Decision have a section titled affected environment, which this does.

As discussed in the EA, WS does not seek to eradicate any native wildlife species as a commentor suggested. Secondly, the affected environment is basically similar no matter where ARDM is conducted in Colorado. WS cannot reasonably predict where and when beaver and muskrat damage will occur except that aquatic rodent damage, at a landowner's request, can happen anywhere in the range of the beaver and muskrat in Colorado along water courses. Under current State law, landowners are allowed to remove aquatic rodents and newly created beaver dams where they are causing damage. Even if WS were not acting as the agent for landowners, ARDM would still likely be conducted by someone else. Therefore, these actions would still be done throughout Colorado, but with less oversight, and the public would still not know where these actions would take place.

Additionally, WS cannot provide information on those landowners where WS has current agreements for ARDM because WS is under a court ordered injunction (CIV W-99-CA-335, Waco, TX) which does not allow WS to release information that can lead to the discovery of cooperator names. Even the list of current agreements are not necessarily going to be revisited because ARDM may not be conducted on that landowners property again. Many requests from landowners come from new people. Therefore, adding site-specific information to the scope of the EA would not add benefits to the analysis, and would have to be redacted by law. The analysis provides information specific to Colorado anywhere that ARDM could reasonably be conducted. Therefore, we feel that the EA speaks for itself.

Colorado WS averages about 18 cooperative agreements with counties, but this number can fluctuate and the counties with agreements can change. We believe that the EA does not need the names of the counties to be complete because ARDM could still occur anywhere where beaver damage is identified by people and they request assistance from WS with resolving it.

Comment 4: WS should not be the lead agency for the EA. WS as lead agency is a conflict of interest. A "more friendly" or neutral agency such as CDOW would be better which employs educated wildlife biologists.

Response 4: NEPA, CEQ, and APHIS NEPA implementing guidelines are clear in providing guidance for determining the lead agency. Without a question, WS is the lead agency for this EA. Suggest commentors review these guidelines. WS does have expertise in WDM and the ability to make informed decisions with regards to implementation of ARDM.

Comment 5: Found EA to be heavily predetermined. A good indicator of being predetermined was the length of the text devoted to the preferred alternative versus the other alternatives. Nonlethal required before lethal control analysis section much too brief and inadequate.

Response 5: WS has prepared the EA to facilitate the decision-making process which was not predetermined. The No Action Alternative, as suggested by CEQ, provides the baseline to compare with the other alternatives. The Proposed Action provides according to NEPA implementing regulations require it be discussed, thus, that it gives an adequate analysis of the effects of the action. NEPA implementing guidelines suggest a brief comparison under the other Alternatives. In the Colorado ARDM EA, the No Action Alternative is equivalent to the Proposed Action Alternative which is an ongoing ARDM program, as defined by CEQ. New programs in WS also use the No Action Alternative to provide the environmental *status quo*; in these EAs, the No Action Alternative still usually has lengthy text because it sets the baseline to compare the effects of the other alternatives, but the Proposed Action Alternative, still must be discussed thoroughly enough to provide for a comparison of the actions. Length has nothing to do with a predetermination. We suggest the commentor refer to NEPA implementing guidelines and that the EA speaks for itself.

Comment 6: We found the EA incomplete. It is clear that WS failed to accomplish what an EA is meant to do, that is, to give a thorough analysis of environmental impacts that may result from a federal action. The EA for beaver is weak and needs to be improved in its depth and scope. The assessment of muskrat is all but non-existent in the EA, thus missing half of its objective.

Response 6: WS disagrees with these comments. According to CEQ, "*the EA is a concise public document which has three defined functions. (1) It briefly provide sufficient evidence and analysis for determining whether to prepare an EIS; (2) it aids an agency's compliance with NEPA when no EIS is necessary, i.e., it helps to identify better alternatives and mitigation measures; and (3) it facilitates preparation of an EIS when one is necessary.*" Section 1508.9(a).

"*Since the EA is a concise document, it should not contain long descriptions or detailed data which the agency may have gathered. Rather, it should contain a brief discussion of the need for the proposal, alternatives to the proposal, the environmental impacts of the proposed action and alternatives, and a list of agencies and persons consulted.*" Section 1508.9(b).

WS followed this process in writing the EA. In fact, because ARDM has many issues that were considered to facilitate public understanding, the EA was probably longer than necessary as defined by CEQ. We disagree with the comment that the EA was weak in its discussion of beaver and believe that ample discussion was given for beaver damage management throughout the EA. We believe that the EA speaks for itself.

WS also disagrees with the comment that muskrats were not discussed thoroughly enough to make a decision. The need for action for muskrat damage management was discussed in Section 1.3 where it was shown to be a minor component of ARDM in Colorado (<1% of requests for assistance). The take and impacts to the muskrat population were analyzed in Section 4.2.1.1. Muskrat take in Colorado (5 taken in 3 years and take of 2 was highest in 1 year) did not even exceed acceptable harvest per acre of wetland (3-8) which intuitively is of little significance. We believe that the analysis adequately discusses the muskrat and that the EA speaks for itself.

Comment 7: Public attitudes should be a major consideration in wildlife damage control.

Response 7: WS is very much in tune with public attitudes and are a primary consideration in conducting WDM, especially in the areas of wildlife take (target and nontarget), humaneness, and public safety. That is why the public has been involved in the EA process, prior to reaching a decision. APHIS NEPA implementing guidelines only require that when an EA is prepared, the public be notified of a Decision. We value public input and considered comments prior to the decision making process.

Comment 8: WS claims that they use integrated wildlife damage management (IWDM), but consistently use lethal methods. Population management methods are typically used lethally which is counter to the idea of IWDM and, therefore, the EA is predetermined. To willingly emphasize lethal control over other methods without supporting documentation is *NOT* IWDM of any kind. The current program is "kill happy," it is better to teach cooperators to coexist with beaver and muskrat.

Response 8: WS disagrees with these comments. WS Specialists are knowledgeable about ARDM methods and use them accordingly. In areas where nonlethal methods are appropriate, WS personnel suggest such to the landowners. However, WS Specialists are professionals and realize when and where these methods will work and run through them in the WS decision making process (USDA 1997). In areas where beaver have flooded pastures or croplands, it is likely that, as a Specialist runs down through the list of methods in his mind, that he recommends removal because beaver in these areas do not meet with the land-use objectives. This is not a deviation from IWDM. Section 3.2.1 in the predecisional EA and Chapter 2.D.2 in USDA (1997) address this comment. WS applies IWDM (WS Directive 2.105) to reduce wildlife damage. IWDM considers all available approved methods of prevention and management to reduce damage caused by wildlife. WS personnel use the WS Decision Model (Slate et al. 1992) at each site to determine the most appropriate methods and strategies to resolve wildlife damage as discussed in Section 1.4.5 of the predecisional

EA and WS Directive 2.105. Nonlethal methods are given preference where practical when formulating a damage reduction strategy (WS Directive 2.101). When nonlethal methods alone are not practical, WS uses or recommends a combination of lethal and nonlethal methods to address damage problems. WS personnel use their expertise to determine the appropriate response to wildlife damage at each site. In situations where experience has shown that nonlethal methods are not effective, WS personnel may use lethal methods as their primary tool. In addition, available nonlethal methods are often recommended to those sustaining damage if these methods are not already being used. The use of both lethal and nonlethal methods can greatly enhance the efficacy of a damage reduction strategy. Ultimately, the goal is to preserve wildlife while resolving conflicts between humans and wildlife. As far as using IWDM, we believe that the EA speaks for itself.

Comment 9: More programs like the relocation program in La Plata County should be conducted throughout the State.

Response 9: The beaver and muskrat populations are at historic levels in much of Colorado and the United States. In many areas they have vastly exceeded that number and are overabundant. As such, most population management methods are no longer used to reintroduce beavers to areas because few areas exist where beavers have not already recolonized. WS works with CDOW on relocation projects because relocation by WS would only be done at their request or where a permit was granted by CDOW to a cooperator. WS does not receive many of these requests. In addition, relocation would not likely be conducted where a population already existed. Beaver are territorial and relocating beaver could likely result in problems if they were relocated to areas with beaver already present. Territorial beaver fight and losers must set out for new areas. In the process, many beavers would likely die because they may not be able to find suitable, unoccupied habitat or wind up in areas where they would have to be recaptured. One study in Wyoming where beaver were relocated to unoccupied habitat found that relocated beaver losses to mortality and emigration from the relocation site was about 50%; 100% of beavers 2 years old or less died or emigrated away from the release site after being relocated (McKinstry and Anderson 2002). Additional information can be found in the EA as to why relocation is not often done, such as the potential to transmit disease to a the relocation site.

Comment 10: The giardia and disease information was outdated.

Response 10: Because a few commentors referred to disease information as outdated, Section 1.3.1 was expanded to include more current information on disease. We believe that the EA speaks for itself. In the case of giardiasis, it is still a common disease contracted by humans, and beaver are likely involved the transmission of many cases each year.

Comment 11: One commentor noted that Colorado WS does not have that many County Cooperative programs (18 of 63). Section 1.6.2 stated that some counties do not have cooperative programs.

Response 11: That was an oversight on our part. That should have read, *some counties have cooperative programs...* It has been changed in the final EA. Thank you for your comment.

Comment 12: No information is given on the frequency of various management actions and how often the various management methods are employed. Such information is vital in order to reasonably assess the current program.

Response 12: Currently, the Management Information System (MIS), the computer tracking system used by WS to obtain data on management, does not track that information. The WS Specialists fill out scan cards that do contain a great deal of information, but this information is not necessarily included. At present, much time is spent by WS Specialists in tracking what information is obtained. Unfortunately, tracking additional data does require a new system. WS began the development of a new MIS system called MIS 2000 to take advantage of new technologies, but it has not been implemented. It is expected that the new system will be in place in FY 2005. However, in lieu of having that information, WS did list current methods available for use or recommendation by WS Specialists. Per WS Policy, the array of ARDM methods are considered in determining an appropriate strategy to resolve a damage problem. Additionally, WS dissemination of information on the potential of using different methods is difficult to quantify because it is not restricted to conversations between field specialists and resource owners. NWRC and WS operations personnel

use journal articles and presentations at meetings, conferences, and workshops to present data on nonlethal alternatives which cannot be quantified as to the extent of their effect.

The analysis in Chapter 4 provides the information necessary to assess the current program and impacts on the human environment. WS feels that the analysis in Chapter 4 speaks for itself.

Comment 13 Pond-levelers are only briefly mentioned in the EA and it appears that WS has not kept up with more recent advances in technology.

Response 13 Since several commentors thought that WS was not keeping up on new technology, the section on pond-levelers was expanded in Section 3.2.1.4 of the EA. WS is well aware of current technology regarding pond-levelers, but realize that they only work in certain situations. Recent research indicated the effectiveness of such devices are at best 50% and with the expense may not be effective for several situations, especially where private landowners do not have the money to install such devices or where they are not committed to maintaining them. With the additional information included in the EA, we believe the EA speaks for itself.

Comment 14: I had not heard of otter-safe triggers...put on all conibears. Otter safe triggers were not found to be effective by experienced trappers in New York (Anonymous 2000).

Response 14: WS has used otter-safe triggers in several states to avoid taking otters primarily because of claims of their usefulness by manufacturers. WS personnel constantly try new methods, including those that reduce incidence of nontarget take. Relying on claims by the manufacturers is often unreliable. As a result of use, WS wanted NWRC to test the effectiveness of different trigger configurations. Recent research by NWRC and WS has found that a variety of otter-safe triggers and other trigger configurations for conibears were not effective at reducing the incidence of non-target take (D. Nolte, NWRC, pers. comm. 2003 *unpubl. data*). In fact, some configurations were found to actually have a slightly higher incidence of nontarget take (not statistically significant) and reduced their effectiveness for the target species than the standard trigger configuration. All information regarding otter-safe triggers was taken out of the EA as a result. The research did find, that the single biggest factor for avoiding nontarget take was trapper experience. WS hires most personnel with professional experience which, therefore, is likely to reduce nontarget take. In addition, supervisors work with WS personnel to show proper sets as needed. Therefore, we conclude that while the take of nontargets in ARDM is a potential, WS Specialists strive to keep this to a minimum. It has not been a significant problem in Colorado as discussed in 4.2.2.1 and likely to be as a result of experienced and professional WS Specialists implementing ARDM in Colorado.

Comment 15: The EA does not adhere to CEQ regulations for implementing NEPA. The definition of a "significant impact" in Section 4.2.1 is fatally flawed. A declining wildlife population caused by a federal action is "significant" according to the terms and conditions of NEPA and CEQ. WS is not abiding by CEQ's ten points of significance (40 CFR §1508.27(b)).

Response 15: The commentor is referring to NEPA law, CEQ guidelines regarding the implementation of NEPA and the definition of significance. NEPA uses the term significant, but did not define it. In fact, CEQ does not define significance either. CEQ did list ten criteria for an agency to determine significance, but it was left to the federal agency to determine its definition of significance. USDA and APHIS both have NEPA implementing guidelines and general guidance for determining significance. Significance is defined by the federal agency conducting the action, and courts typically defer to the agency's definition. However, the courts may determine the definition of significance if an agency does not define significance adequately or has an inadequate analysis of impacts. In Section 4.2.1 of the EA, it was stated that:

> *"NEPA requires federal agencies to determine whether their actions have a "significant impact on the quality of the human environment." A declining population of a resident wildlife species does not necessarily equate to a "significant impact" as defined by NEPA if the decline is collectively condoned or desired by the people that live in the affected human population. It is reasonable and proper to rely on the representative*

form of government within a state as the established mechanism for determining the "collective" desires or endorsements of the people of a state. WS abides by this philosophy and defers to the collective desires of the people of the State of Colorado by complying with State laws and regulations that govern the take or removal of resident wildlife. Although the analysis herein indicates aquatic rodent populations are not being impacted to the point of causing a decline, if at some point in the future they are, then such a decline would not constitute a "significant" impact as defined by NEPA so long as the actions that cause the decline are in accordance with State law, and concomitantly, with the collective desires of the people of the State."

This is a very true statement. NEPA and CEQ regulations defer to the agency to make a determination of the significance of an action. APHIS NEPA implementing regulations general guidance for determination of "Significance" for environmental impacts states:

"Establishing the significance of an adverse effect requires a qualitative determination of both the context in which the effects are considered and the intensity of those effects. There is no quantitative test for significance. Generally the degree of significance of an effect is not determined. The effect is either significant or it is not."

For wildlife populations, WS defers to the State and Federal agencies with management authority over a wildlife species to determine what level of take is significant. If the management agency determines that *X* is the level that the population of a species should be, the environmental baseline, and if the population surpasses that point by *Y*, then the take of *Y*, even though it causes a decline in a species' population, would not be significant. CDOW has management authority over aquatic rodents in Colorado and WS defers to that agency to determine the "significance" of an action. They currently verify aquatic rodent damage under Amendment 14 for landowners and regulate the hunting season. CDA, though, regulates the take of aquatic rodents causing damage. CDOW, nor CDA, feel that the level of aquatic rodent take from depredation take and fur harvest is significant.

In addition to CDOW, WS also is responsive to 2 other Colorado agencies (discussed in Section 1.7.1 of the EA) responsible by law for the management of aquatic rodent damage. Colorado State laws were passed by the collective desires of and condoned by the people in Colorado.

The commentor stated that WS does not abide by CEQs ten points of significance. On the contrary, WS relies on CEQ's ten points of significance in its Record of Decision. The decision maker goes through CEQ's ten points of significance in determining whether an EA has a significant impact which would require an Environmental Impact Statement or it has no significant impact and a decision can be made to select the appropriate alternative to implement a federal action. However, the EA did not have a Record of Decision because we wanted public input prior to making a decision.

Thus, the EA adheres to APHIS NEPA implementing regulations which reflect CEQ's regulations for implementing NEPA.

Comment 16: More extreme weather events are predicted as global warming continues...droughts...

Response 16: These are real concerns, but these are outside the scope of the EA.

Comment 17: Suggest removing "quick-kill" traps and change to body-gripping traps. Gilbert (1976) takes over 10 min. for beaver to die in conibears. Conibears result in an inhumane death. Clausen (1970) found that beaver who can hold their breath for 15 minutes suffer painful deaths from anoxia (dry-drowning) with nowhere near the concentration of CO2 in the body to induce carbon dioxide narcosis. Drowning is not euthanasia (Ludders 1999).

Response 17: Quick-kill traps have been a standard name associated with the conibear type traps for years. However, because this was brought up, have changed it in the EA. However, WS still believes that most beaver, especially smaller ones, and muskrats die quickly as a result of injury/drowning in conibears. Gilbert stated that most animals were clinically dead, in 1 ½ minutes (EEG) but their hearts kept beating past 10 minutes (ECG) as a result of their physiology.

However, the Conibears used by him had half of the force that he used for a beaver to survive. His animals were sedated and not in water and therefore, provide less evidence that they survive great lengths of time underwater because of the stress and inability to breath. Conibear traps are very efficient at capturing beaver and muskrat. The trap is designed such to kill them soon after capture. Smaller size beaver and muskrats probably die very quickly after the trap is closed, especially when set appropriately. Those that do survive may hold their breath until they die, which for a relatively short period of time could be painful. We currently do not have the methods to determine the relative humaness of such techniques. However, this issue was expanded in the EA.

Comment 18: Beaver ponds in general are beneficial to lake chub, 8 state listed species, especially brassy minnow and greenback cutthroat trout. These ponds provide refuge during dry seasons, particularly on eastern plains in CO, especially in areas dewatered by man. Removal of beaver ponds could have negative effect on these species. Siltation would not be a problem unless stream was overrun with beaver.

Response 18: Established beaver ponds would be beneficial to these species. However newly established ponds would likely be more detrimental because these ponds do no have the same characteristics, especially in the plains where much water would evaporate and percolate into the soil until a wetland were formed. As discussed above, WS does not remove established wetlands which would be the most beneficial for these species, unless a permit is obtained by the landowner from the Corps and, if necessary, USFWS. Therefor, WS believes that impacts would be minimal for these species with the potential of impacting the greenback cutthroat trout. Mitigation measures to avoid adversely impacting this species was discussed in 3.4.2.2. We believe that the EA speaks for itself.

Comment 19: How often does WS go back to previously trapped sites. Beavers move in immediately after trapped out so control ineffective (Houston 1998) (Also cited a letter from the same author). Should think in terms of nonlethal approaches. Includes muskrats too because they are important to the ecosystem.

Response 19: How often WS goes back to sites where WS had been previously is immaterial. WS assists those that request assistance with ARDM and where such activities are funded. In Colorado, WS can only use certain equipment for a 30 day time period per Amendment 14, so must use other methods once time has elapsed. WS does recommend to resource owners long-term control methods where it is known that they would be effective. For short term control, removal is often a quick way to minimize further damage. Beaver populations do come back, but in Houston's (1998) study, the number of beaver that immigrated into the area after it was trapped out in the following year was much less, about 30%, than the original population and required much less effort to maintain the new status quo.

Comment 20: The Biological Assessment (BA) does not meet the requirements of the Endangered Species Act. WS could take Southwestern willow flycatchers, bald eagles, wolverines, lynx, and otter. WS skews perspective by stating such things that beaver can impact T&E species; the reverse is likely to be true. Arizona Game and Fish reintroduced beaver to improve Southwestern willow flycatcher habitat. Bald eagles rely on beaver ponds. Believes not in compliance with ESA. Information is based on a Biological Opinion (BO) in excess of 10 years old. Believes that willow flycatcher and bald eagle will be affected by WS. States that bald eagles use all streams in La Plata County. Eagle Protection Act does not provide for incidental take. Beaver create suitable habitat for the southwestern willow flycatcher so must assess areas prior to beaver or dam removal.

Response 20: WS consulted with USFWS which constitutes compliance under ESA. USFWS concurred with WS conclusions for the species considered. The one species that WS in Colorado did not consult with USFWS locally was the Southwestern willow flycatcher. The nationwide WS program is currently undergoing consultation on this species and Colorado WS is involved with that consultation. Two activities in ARDM have been determined to potentially have an adverse effect on flycatchers, and two a positive effect. Negative impacts could be realized by just the presence of a WS Specialist working in nesting habitat. This could disrupt nesting behavior or potentially cause nest abandonment, but USFWS believes that the potential is low. The other ARDM activity is beaver dam removal with binary explosives because parts of the dam could inadvertently hit a nest or disrupt nesting activity. These will be mitigated by keeping beaver dam removal to a minimum during nesting season in flycatcher habitat. On the other hand, the flycatchers could

be harmed by beavers where suitable habitat already exists. Beaver could build dams that flood flycatcher habitat and cut down trees with nests in them. Therefore, there is a trade-off. Beaver can, given enough time, establish habitat suitable for flycatchers and as one commentor suggested, this is taking place in Arizona. Arizona is doing extensive work with beaver and riparian areas because much of their riverine systems have been severely degraded. This will improve both habitat available for flycatchers and other species as well.

WS conducts several projects for USFWS to reduce threats from beaver to T&E species such as plants, mussels, and fish. Beaver, especially where their populations have become overabundant, have a dramatic effect on the habitat and can impact T&E species. This was not an overstatement.

Beaver ponds, once they become wetlands, could be marginal habitat for bald eagles unless the pond that was built was large enough to accommodate large fish. Bald eagles would use these areas, but minimally compared to lakes and rivers where large fish are much more available. WS in Colorado has never taken a bald eagle in ARDM and does not anticipate taking bald eagles, but does have an incidental take statement under ESA to cover potential inadvertent harassment. The BO issued by USFWS was in 1992 and a new national Section 7 consultation is being completed. This will replace the current Opinion when it is done. It is anticipated that WS will again receive an incidental take statement for blad eagles.

Stated that wolverine or lynx could be taken in ARDM activities. In the past 30 years, neither of these species have been taken incidentally to ARDM nationwide and WS does not anticipate that it will. These two species are highly associated with areas where little ARDM is conducted. Additionally, ARDM methods for the most part are used in water sets and baited with scents (if at all) conducive to catching rodents and not predators.

Otters have increased their distribution in Colorado. The BA states that they can be found in Western Colorado, their basic range. In the future they may be found throughout Colorado. Additionally, otter were downlisted to threatened which suggests that the population is increasing even with the use of ARDM methods. Of all species, as noted throughout the EA and we believe that the EA speaks for itself, WS believes that this is the species it could take. If Colorado WS takes an otter, it is to be reported to CDOW.

Comment 21: Live traps are good because can release nontargets. Dogs and fish-eating eagles are often caught in beaver sets. CO WS personnel probably do not report nontarget take because bad publicity.

Response 21: Live traps are used, but are very cumbersome to work with. Hancocks, etc. do injure and can kill nontargets as well. WS policy helps preclude capture of nontargets in ARDM by limiting 330 conibears to water sets which precludes capture of dogs and eagles. CO WS nontarget take is minimal (4 raccoons, 1 muskrat in last 3 years). By policy, WS personnel report all nontarget take. It is a very minimal problem and accusation is unfounded.

Comment 22: Range of estimates of population is surprising for beaver - 47,000 to 293,000. More accurate method would be to use aerial surveys to estimate the population.

Response 22: WS calculated the beaver population with population parameters from Novak (1998). Table 2 in Chapter 4 of the EA gave a very, very conservative low estimate of beaver population in Colorado and a realistic estimate. Since this seemed confusing, we changed wording in the table to reflect this. Also, considering that there are no real good beaver census methods without undue expense, our estimate is the best data available. Using the very conservative estimate to judge impacts resulted in low significant cumulative impact from WS take, sportsman harvest, and private landowner depredation harvest. Therefore, using intense surveys to determine the population would not change the outcome of testing for significance because the population would likely be much higher than the conservative estimate. CDOW believes that the population is realistically within the range given by the two estimates. Therefore WS impacts would even be less for the realistic population which is very minor.

Comment 23: The work done by Dale Nolte of NWRC on exclusion techniques, the Maine WS programs installing pond-levelers, and the relocation program by WS in La Plata County is commendable.

Response 23: Thank you for your input.

Comment 24: Wildlife damage should be an accepted cost of doing business. Controlling beaver and muskrats should be fee based which would make landowners more likely to coexist.

Response 24: WS is aware of concerns that WDM should not be provided at the expense of the taxpayer or that it should be fee based. WS was established by Congress as the agency responsible for providing WDM to the people of the United States. Funding for WS ARDM comes from a variety of sources, but mostly nonfederal appropriations. Such nonfederal sources include Colorado general appropriations, local government funds (county or city), and landowners. Federal, state, and local officials have decided that ARDM needs to be conducted and have allocated funds for these activities. Additionally, WDM is an appropriate sphere of activity for government programs, since wildlife management is a government responsibility. A commonly voiced argument for publicly funded WDM is that the public should bear the responsibility for damage to private property caused by "publicly-owned" wildlife.

Comment 25: Biological control - WS should quit killing predators so they would not have to conduct ARDM.

Response 25: There are no efficient predators of beaver that limit their population.

Comment 26: A subjective, scientific and NEPA client review is absent. EA heavy on negativity towards beaver.

Response 26: WS disagrees, the EA was sent to agencies with expertise in different aspects of ARDM and their comments were considered in the predecisional EA. The EA presents a scientific basis for the need for ARDM. It is not a natural history document on the beaver. The EA does point out positive benefits of beaver, but primarily discusses the true need for action, their damage.

Comment 27: The EA does not comply with USFS species viability requirements and the National Forest Management Act (NFMA).

Response 27: USFS is responsible for compliance with NFMA and NEPA when it requests or otherwise allows ARDM. WS has completed the EA and found that beaver and muskrat viability will not be compromised by the proposed action.

Comment 28: The predominantly lethal control ARDM program warrants an EIS because the Proposed action has no sunset.

Response 28: The EA is used to determine if there is significance enough to elevate a federal action to an EIS. NEPA does not require expiration dates for environmental analyses. WS monitors activities as analyzed in this EA annually, and; if there new circumstances requiring additional analysis, WS rewrites the EA or amends the EA to analyze the new circumstances as appropriate.

Comment 29: WS's mission lacks in providing leadership. Where is the emphasis on maintaining a healthy biodiverse environment through responsible management?

Response 29: WS's mission is leadership in WDM. WDM emphasizes a biodiverse environment. Management of wildlife through reducing damage, etc. is very responsible management. WS's mission is to help provide abundant wildlife, yet minimize conflicts between wildlife and people to benefit all with minimal impacts to environment. ARDM in no way, as analyzed in the EA, reduces the health of the environment.

Comment 30: The nonlethal before lethal is contradictory because it states that lethal could not be used. Also worried that by implementing lethal control, will not allow for a healthier overall environment for man and wildlife; the watershed, and T&E species should be considered and given better analysis.

Response 30: The analysis of the nonlethal before lethal control alternative was adequate. Believe that the commentor misread EA because the statement was not contradictory. The reason that nonlethal before lethal would be worse than the proposed action is because, if a WS Specialist knows that the best method to resolve a problem would be a lethal control technique, he would have to first implement a nonlethal technique first which wastes time and money, and from past experience knowingly will not resolve the problem. Additionally, private individuals may not rely on WS and conduct control themselves which could result in persons less able to conduct ARDM appropriately and use methods unsoundly. Finally, having WS Specialist able to use the full array of methods to consider an alternative is the best and quickest way to resolve most problems.

Comment 31: WS claims that they conduct ARDM for agriculture, timber, public property ... how much is done for ornamental trees, private property?. How often does WS conduct beaver damage management for beaver where they have not caused damage?

Response 31: Most beaver damage management in Colorado is conducted to alleviate damage associated with agriculture, timber, or public property (roads). Some is done to protect ornamental trees, private property (e.g., lawns being flooded). WS can only use specific methods for non-agricultural lands unless associated with human health and safety. WS gives technical assistance when beaver have not done damage (ie. wrap tree before beaver get to them, use pond-levelers, etc.).

Major Issues

Cooperating agencies and the public helped identify a variety of issues deemed relevant to the scope of this EA. These issues were consolidated into the following 5 primary issues that were considered in detail in the predecisional EA:

- Effects on Target Aquatic Rodent Species Populations
- Effects on Nontarget Species Populations, Including T&E Species
- Humaneness of Control Techniques
- Effects of Beaver Dam Removal on Wetland Wildlife Habitat
- Effects of ARDM Methods on Public Safety

Affected Environment

The areas of the proposed action is to continue conducting ARDM along streams, rivers, lakes and other areas where aquatic rodents are causing damage to agriculture, property, natural resources or public health and safety to public and private properties in Colorado. ARDM will only be conducted where the appropriate Agreement for Control or Work Plan is in place allowing ARDM methods to be used. Tthe current program's goal and responsibility is to provide service when requested within the constraints of available funding and manpower.

Alternatives Analyzed in Detail

Four potential alternatives were developed to address the issues identified above. Five additional alternatives were considered, but not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives

on the objectives and issues is described in Chapter 4 of the predecisional EA. The following summary provides a brief description of each alternative and its anticipated impacts. Table 3 in the predecisional EA summarizes the environmental consequences (issues) of each of the alternatives in a table format.

Alternative 1. Continue the Current Federal ARDM Program (Proposed Action/No Action). Consideration of the No Action alternative is required under 40 CFR 1502.14(d), and provides a baseline or the environmental *status quo* for comparing the potential effects of all the other alternatives. In this EA, the "No Action" alternative is consistent with CEQ's definition. In the case of the ARDM EA for Colorado, the No Action Alternative was the equivalent of the Proposed Action Alternative and the Current Program. Alternative 1 benefits individual resource owners/managers, while resulting in only low levels of impact on target and nontarget wildlife populations, minimal potential to adversely impact ecosystems, very low risks to or conflicts with the public, and low risk to T&E species. Current lethal methods available for use are fairly selective for target species and appear to present a balanced approach to the issue of humaneness when all facets of the issue are considered. The "No Action" alternative is a procedural NEPA requirement (40 CFR 1502.14(d)), and is a viable and reasonable alternative that could be selected. It will serve as a baseline for comparison with the other alternatives.

Under the current program, WS responds to requests for ARDM to protect human health and safety, agricultural crops and resources, property, natural resources, threatened and endangered species, and forestry in the State of Colorado. A major component of the current program is the protection of agriculture, especially irrigation structures used to get water to crops and the crops themselves from beaver damage as allowed by State law and Amendment 14. Another important portion of the current program is to provide protection the private property allowed under State law. To meet these goals WS would have the objective of responding to all requests for assistance with, at a minimum, technical assistance or self-help advice, or, where appropriate and when cooperative or congressional funding is available, direct damage management assistance with professional WS Specialists conducting damage management actions. An IWDM approach would be implemented which allows the use of any legal technique or method, used singly or in combination, to meet the needs of requestors for resolving conflicts with beavers or muskrats. Agricultural producers and others requesting assistance would be provided with information regarding the use of effective nonlethal and lethal techniques. In many situations, the implementation of nonlethal methods such as exclusion-type barriers and pond-levelers would be the responsibility of the requestor to implement which means that, in those situations, WS's only function would be to implement methods difficult for the requestor to implement, if determined to be necessary. ARDM by WS would be allowed in the State, when requested, on private property sites, public facilities or other locations where a need has been documented, upon completion of an *Agreement for Control*. All management actions would comply with appropriate Federal, state, and local laws.

Alternative 2. No Federal WS ARDM. This alternative would consist of no federal involvement in ARDM in Colorado - neither direct operational ARDM nor technical assistance to provide information on nonlethal or lethal ARDM techniques would be available from WS. A portion of the formerly federal ARDM responsibility would be borne by the remaining state agency program, CDA. Private individuals would increase their efforts as allowed by State law which means more ARDM would be conducted by persons with less experience and training, and with little oversight or supervision. The use of specific control techniques, leghold traps, snares, and body-gripping traps, by other agencies and private individuals would still be subject to State restrictions under Amendment 14. Risks to the public, nontarget and T&E species, and wetlands would probably be greater than under Alternative 1, and effectiveness and selectivity would probably

be lower. In addition, frustrated resource owners that have endured recurring losses may resort to the use of illegal or inappropriate techniques that could result in unknown consequences.

Alternative 3. Technical Assistance Only. Under this alternative, WS would not provide any direct control assistance to persons experiencing aquatic rodent damage problems, but would instead provide advice, recommendations, and limited technical supplies and equipment. Lethal ARDM would likely be conducted by persons with little or no experience and training, and with little oversight or supervision. Risks to or conflicts with the public, wetlands, nontarget, and T&E species would probably be more than Alternative 1, but slightly less than or about the same as Alternative 2. The effectiveness of WS and selectivity of ARDM methods would probably be lower than Alternative 1. Finally as discussed above, frustrated resource owners that have endured recurring losses may resort to the use of illegal or inappropriate techniques that could result in unknown consequences.

Alternative 4. Nonlethal Required Before Lethal Control. This alternative would not allow the use of lethal methods by WS as described under the proposed action until nonlethal methods had been attempted. Private landowners and state agencies would still have the option of implementing their own lethal control measures. Risks to or conflicts with the public and target species would be about the same as Alternative 1. Risks to wetlands, nontarget and T&E species would probably be somewhat greater than Alternative 1, but slightly less than or about the same as Alternative 2 or 3. Program effectiveness would probably be lower than Alternative 1. Personnel experienced in ARDM often already know when and where practical nonlethal control techniques would work. Therefore, this alternative could result in the use of methods that are known to be ineffective in particular situations. Selectivity of ARDM methods under this alternative would likely be less than Alternative 1 if reduced effectiveness leads to greater ARDM efforts by less experienced and proficient private individuals, but greater than Alternatives 2 and 3. The hypothetical use of illegal methods would probably be similar or slightly higher than under Alternative 1

Alternatives considered but not analyzed in detail were:

1. **Compensation for Aquatic Rodent Damage Losses.** Compensation would require the establishment of a system to reimburse resource owners for damages. This alternative was eliminated from further analysis because no federal or state laws currently exist to authorize such action for aquatic rodents. This Alternative was eliminated from further analysis because it had many problems associated with it as discussed in the EA.

2. **Bounties**. Payment of funds for killing aquatic rodents (bounties) suspected of causing economic losses has not been supported by Colorado State agencies such as CDOW and CDA as well as most wildlife professionals for many years (Latham 1960). WS concurs with these agencies and wildlife professionals because of several inherent drawbacks and inadequacies in the payment of bounties This alternative was eliminated from further analysis.

3. **Eradication and Long Term Population Suppression.** An eradication alternative would direct all WS Program efforts toward total long term elimination of aquatic rodents in entire cooperating counties or larger defined areas in Colorado. In Colorado, the eradication of beaver and muskrat is not a desired goal of state agencies, although these species may be taken by the general public in areas where they are causing damage. This alternative was eliminated from further analysis

because WS, CDOW, and CDA oppose eradication of any native wildlife species, and because it is generally impossible to achieve. Long term population suppression is not a desired goal of state agencies or of WS for the analysis area as a whole but could be implemented for localized areas prone to aquatic rodent damage under the current program alternative (ie. urban neighborhoods). The impacts of localized population suppression are analyzed in the EA.

4. **Reproduction Control.** A review of research evaluating chemically induced and surgically induced reproductive inhibition as a method for controlling nuisance beaver populations is contained in Novak (1998). Although these methods were found to be effective in reducing beaver reproduction by up to 50%, the methods were not found to be practical or were too expensive for large-scale application. At present, no chemical reproductive inhibitors are legal for use for beaver or muskrat. For these reasons, this method will not be considered further by WS. Should current research at NWRC with immunocontraceptives develop to the point of field use, it may be considered for certain situations in ARDM.

5. **Biological Control.** The introduction of a species or disease to control another species has occurred throughout the world, but has rarely been successful. In fact, many of the introduced species become pests themselves. This alternative was eliminated from further analysis because this method has many problems associated with it.

Comments regarding the Alternative Selection

The following comments were received regarding the selection of the alternatives in the Record of Decision:

Four commentors suggested their preferred Alternative.

1. Support No WS ARDM program (Alternative 2).
2. Support Technical Assistance Only (Alternative 3).
3. Support Nonlethal befor Lethal Control (Alternative 4).
4. Support alternatives in the following order:
   a) Alternative 2, b) Alternative 3, c) Alternative 4, d) Proposed Action.

Finding of No Significant Impact

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of the Proposed Action. I agree with this conclusion and therefore find that an Environmental Impact Statement need not be prepared. This determination is based on the following factors:

1. ARDM, as conducted by WS in Colorado, is not regional or national in scope. It is a statewide program and the scope was discussed thoroughly in the EA. Under the proposed Action, WS would continue to assist entities with aquatic rodent damage as necessary. Even if WS were not involved, under state law ARDM will apparently be conducted by state and local government, or private entities that are not subject to compliance with NEPA.

2. The proposed action would pose minimal risk to public health and safety. No injuries to any member of the public are known to have resulted from WS ARDM activities. In addition, a risk assessment of ARDM methods used by WS have been analyzed in USDA (1997) and found to pose only minimal risks to the public, pets and nontarget wildlife species. This issue was addressed in the EA and the Proposed Action was found to have the least impacts.

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. Almost all ARDM projects conducted by WS occur in agricultural and developed areas. All involve wetlands because this is where aquatic rodents live. However, as discussed in detail in the EA, wetlands are not impacted under the Proposed Action, but potentially could be under primarily Alternatives 2 and 3 because WS would not provide assistance with dam removal. Dam removal by WS restores the wetland that has been covered by the beaver pond. Beaver ponds removed by WS are not wetlands as has been discussed thoroughly in the EA.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to aquatic rodent control, this action is not highly controversial in terms of size, nature, or effect. Beaver and muskrat populations will not be significantly affected by ARDM under the Proposed Action, but is more uncertain under the other Alternatives depending on the efforts of other individuals to conduct ARDM and the hypothetical illegal use of toxicants.

5. Based on the analysis documented in the EA, the effects of the proposed ARDM program on the human environment would not be significant. The effects of the activities under the Proposed Action are not highly uncertain and do not involve unique or unknown risks. The other Alternatives could potentially involve unique and unknown risks by non-professionals implementing ARDM and frustrated property owners that have been ineffective with ARDM methods resorting to the illegal use of chemicals.

6. The proposed action would not establish a precedent for any future action with significant effects. All issues under the proposed action were discussed thoroughly, and these would not add cumulatively to any known future actions that would result in significant effects.

7. No significant cumulative effects on the quality of the human environment were identified through the EA. The number of beaver and muskrat taken by WS, added to the total known other take of such species, is within the levels sustainable by their populations and authorized by the responsible State agencies that represent their interests.

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. If anything, the Proposed Action would have beneficial effects on these resources.

9. An evaluation of the proposed action and its effects on T&E species determined that no significant adverse effects would occur to such species. This is supported by the 1992 Biological Opinion (USDA 1997) and a subsequent Biological Assessment (Appendix B of EA) with Concurrence from USFWS. No other T&E species have been listed in Colorado since then, but the river otter was

downlisted from endangered to threatened and the mountain plover was removed from the federal list.

10. The proposed action would be in compliance with all Federal, State, and local laws imposed for the protection of the environment. The proposed activity does not violate the Migratory Bird Treaty Act, the Endangered Species Act, or any other law. As allowed by State law, ARDM is such that ARDM will apparently be conducted by state and local government, or private entities anyway that are not subject to compliance with NEPA if WS were not involved. It is most probable that federal and state laws and regulations have the highest likelihood of being broken under the other alternatives by the potential illegal use of chemicals by frustrated resource owners.

11. There are no irreversible or irretrievable resource commitments identified by this assessment, except for a minor consumption of fossil fuels for routine operations.

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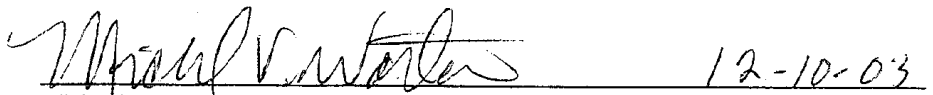
Decision

I have carefully reviewed the EA and the input resulting from the public involvement process. I believe the issues and objectives identified in the EA would be best addressed through implementation of Alternative 1 (the proposed action to continue the current program). Alternative 1 is therefore selected because (1) it offers the greatest chance at maximizing effectiveness and benefits to affected resource owners and managers within current program funding constraints; (2) it will maximize selectivity of methods available; (3) it offers a balanced approach to the issue of humaneness when all facets of the issue are considered; (4) it will continue to minimize risk to or conflicts with the public; and (5) it will minimize risks to nontarget and T&E species. WS in Colorado will continue to use an Integrated Wildlife Damage Management approach in compliance with all the applicable mitigation measures listed in Chapter 3 of the EA.

For additional information regarding this decision, please contact Mike Yeary, USDA-APHIS-WS, 12345 West Alameda Parkway, Suite 204 Lakewood, CO 80228 (303) 236-5821.



12-10-03

Michael V. Worthen, Regional Director — Date
APHIS-WS Western Region