DECISION
AND
FINDING OF NO SIGNIFICANT IMPACT
FOR
PREDATOR DAMAGE MANAGEMENT IN WESTERN WYOMING

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. (Wildlife Services was previously called Animal Damage Control but USDA-APHIS changed the name on August 1, 1997.) Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions are categorically excluded (7 CFR § 372.5(c), 60 Fed. Reg. 6000-6003). To evaluate and determine if any potentially significant impacts to the human environment from WS's planned and proposed program would occur, an environmental assessment (EA) was prepared. The Pre-Decisional EA, released by WS in June 1997, documented the need for predator damage management in western Wyoming and assessed potential impacts of various alternatives for responding to predator damage problems. WS's proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program on all land classes in western Wyoming to protect livestock, public health and safety, property and wildlife from predator damage, as requested and appropriate by resource owners or managers.

The EA analyzes the potential environmental and social effects for preventing or resolving predator damage related to the protection of livestock, wildlife, property, and to safeguard public health and safety on private and public lands in western Wyoming. The analysis area includes lands under the jurisdiction of the U.S. Forest Service (Forest Service), Bureau of Land Management (BLM), National Park Service (NPS) and U.S. Fish and Wildlife Service (USFWS), Wyoming State Lands and Investments (WSLI), American Indian Reservation lands, and county, municipal and private lands. In 1995, Wyoming WS had active agreements to conduct predator damage management on about 22 million acres of the analysis area (MIS 1995a) (MIS data year corresponds to the Federal fiscal year). Comments from public involvement letters and from the Pre-Decisional EA were reviewed for substantive issues and alternatives which were considered in developing this decision. The analysis and supporting documentation are available for review by contacting WS at the USDA-APHIS-WS, P. O. Box 59, Casper, Wyoming 82602.

WS is the Federal program charged by law to reduce damage caused by wildlife (Animal Damage Control Act of March 2, 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c), Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an IWDM approach, commonly known as Integrated Pest Management (ADC Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS predator damage management is not based on punishing offending animals but as one means of reducing future damage and is used as part of the ADC Decision Model (Slate et al. 1992, USDA 1994, ADC Directive 2.201). The imminent threat of damage or loss of resources is often deemed sufficient for wildlife damage management actions to be initiated (U.S. District Court of Utah 1993). Livestock producers and wildlife management agencies have requested WS to conduct predator damage management to protect livestock, wildlife, and threatened and endangered (T&E) species in Wyoming. All Wyoming WS predator damage management is in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act (ESA) of 1973.

WS cooperates with the Forest Service, BLM, USFWS, Wyoming Game and Fish Department (WGFD), Wyoming Department of Agriculture (WDA) and WSLI to reduce predator damage. The WGFD has the responsibility to manage all wildlife in Wyoming, including Federally listed T&E species and migratory birds, which is a joint responsibility with the USFWS. Memoranda of Understanding (MOUs) signed between APHIS-WS and the Forest Service, BLM, WGFD and WDA clearly outline the responsibility, technical expertise and coordination between agencies. The MOUs with the Forest Service and BLM provide guidance for compliance with the NEPA and the

basis for the interdisciplinary process used to develop the EA. A Multi-agency Team with representatives and advisors from each of the cooperating agencies provided input during the development of the EA. The agencies cooperated with Wyoming WS to determine whether the proposed action is in compliance with relevant laws, regulations, policies, orders, and procedures. All Wyoming WS wildlife damage management is conducted consistent with the ESA and the Section 7 Consultation with the USFWS (USDI 1992, 1997).

A Pre-Decisional EA was prepared and released to the public for a 30-day comment period. Notice of availability of the Pre-decisional EA was also published in five major newspapers in Wyoming. Twenty-two comment letters were received in response to the Pre-Decisional EA. Documentation of the public involvement effort, including comment letters and specific responses to all the issues identified in those letters, is available for public review by contacting the WS State Director's office, P.O.Box 59, Casper, Wyoming 82602. Although most of the comments raised were already addressed in the EA, responses to some are presented below.

1. **WS should have prepared an EIS.**

As noted in Chapter 1 of the EA, under NEPA, EAs are prepared to determine whether a proposed action has any significant impact on the quality of the human environment and to determine whether an EIS is necessary (40 CFR § 1501.3 and § 1501.4).

As stated on page 1-1 of the EA, APHIS NEPA implementing procedures allow for individual wildlife damage management actions of the kind described in the EA to be categorically excluded from the requirements for preparation of either an EIS or EA (7 CFR § 372.5 (c), 60 Fed. Reg. 6,000-6,003). Nevertheless, this EA was prepared to evaluate and determine if any potentially significant impacts occur to the human environment from the proposed action. As noted on page 1-5 of the EA, EAs were prepared by the BLM to assess the potential impacts of WS's predator damage management on the Rawlins, Rock Springs and Worland BLM Districts (BLM 1994a, 1994b, 1994c). EAs were also prepared by the Bridger-Teton, Ashley, Targhee, Wasatch-Cache and Big Horn National Forests (Forest Service 1990a, 1990b, 1990c, 1991, 1993). All of these EAs resulted in a Finding of No Significant Impact (FONSI). The U.S. Department of the Interior, Office of Hearings and Appeals, Interior Board of Land Appeals (IBLA) (IBLA 1997) concluded on an appeal of the Worland BLM District Animal Damage Control Plan (EA-WY-015-EA4-047) filed by the Native Ecosystems Council that, "*On the basis of its* (BLM) *EA, an agency makes a FONSI upon the quality of the human environment*, (and) *no EIS is necessary.*" The WS EA has taken a harder look at the impacts of WS's activities than any other predator damage management EA in western Wyoming and it has similarly resulted in a FONSI. The WS Program has determined that an EIS is not required and that preparation of an EA for the Wyoming WS program complies with NEPA, the Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR § 1500) and with APHIS NEPA implementing regulations (7 CFR § 372).

2. **WS's removal of coyotes may increase livestock depredation problems.**

This argument was raised in *Southern Utah Wilderness Alliance* v. *Thompson* (U.S. District Court of Utah 1993) and addressed by Connolly (1992) during that court case. What happens in an unexploited coyote (*Canis latrans*) population bears little relevance to the situation in Wyoming or in most other areas of the U.S. As noted in the EA, coyote populations in Wyoming are subject to mortality not only from WS, but also from natural mortality, private trappers and hunters as well as ranchers protecting their livestock.

WS is unaware of any scientific data that would prove speculation about unexploited coyote populations posing less risk to livestock than exploited populations. Where monitoring was conducted, in areas were there were organized predator damage management efforts, losses to sheep from coyotes typically range from 1.0 to 6.0% for lambs and 0.1 to 2.0% for ewes (USDI 1978). In situations where producers were reimbursed for their losses in lieu of predator damage management efforts (Henne 1975, Munoz 1977, McAdoo and Klebenow 1978, Delorenzo and Howard 1976, O'Gara 1983), losses from coyotes were typically greater, ranging from 12 to 29% of lambs and 1 to 8% of ewes. Windberg et al. (1997) demonstrated that coyotes from unexploited coyote populations readily kill livestock and selectively preyed on smaller goats. They determined that 41% of the kid goats exposed during the study were

killed by predators. This remarkably high predation rate occurred despite no recent (>7 years) exposure to goats or sheep as prey on their study area. Windberg et al. (1997) noted that the high incidence of coyote predation by an unexploited coyote population, which had very low reproductive efforts, was contrary to the issue raised.

As stated in the EA (3-10, 4-18), WS predator damage management was effective in reducing lamb losses for 3 to 6 months and cost effective in areas where winter aerial hunting was conducted (Wagner 1997), while not adversely impacting coyote populations (EA 4-7). The U.S. General Accounting Office (GAO 1990) also concluded that according to available research, WS predator damage management efforts have been effective in reducing damage losses. Guthery and Beasom (1978) demonstrated that predator damage management can substantially increase the survival of vulnerable livestock. In their study, predators were responsible for most of the known losses, with the true predation loss as high as 95% for the kids that were depredated. The EA cites many of the same references that GAO reviewed to document the effectiveness of predator damage management.

Coyotes in areas of lower population densities, may reproduce at an earlier age and have more off spring per litter, however, these same populations generally sustain high mortality rates of adults and offspring. Therefore, the overall population of the area does not change. The number of breeding coyotes does not substantially increase in the absence of exploitation and individual coyote territories produce one litter per year independent of the population being exploited or unexploited. Connolly and Longhurst (1975) demonstrated coyote populations in exploited and unexploited populations do not increase at significantly different rates and that an area will only support a population to its carrying capacity. Thus, it appears the above concern is unfounded.

The EA also noted that without the Wyoming WS program, coyote damage management efforts would still likely be carried out by another entity.

3. **The EA failed to justify the proposed action based on big game protection and an EIS needed to be prepared because of the benefit to wildlife.**

As noted throughout the EA, predator damage management for the protection of any wildlife species would only be conducted after a request has been received from the agency responsible for managing that wildlife species and based on needs they identify. An EIS is required only when a beneficial impact is determined by the action agency to be *"significant"* in terms of the criteria contained in the CEQ NEPA Implementing Regulations (40 CFR § 1508.27). The proposed action includes predator damage management for game species enhancement if the WGFD, USFWS or an American Indian Tribe identifies the need for and requests such activity to meet current or future management goals for certain localized game populations. Populations of game species such as deer (*Odocoileus* sp.), pronghorn antelope (*Antilocarpa americana*) or game birds are cyclic depending on weather and other habitat and mortality factors, including predation. Any increases in a localized population, that result from predator damage management, would be within those cyclical limits that can occur without any predator damage management programs, and would thus not be *"significant"*in terms of NEPA.

In addition, the regulation (40 CFR §1508.27(b)(9)) does not suggest an EIS is required because of the presence of T&E species, but requires a determination of the degree to which a proposed action may adversely affect such listed species. The EA presented information on T&E species, addressed potential impacts in Chapter 4, and referenced or prescribed mitigation measures already in place as a result of WS's standard operating procedures or established as a result of Section 7 Consultation with the USFWS. The analysis supports a conclusion of no significant impact regarding T&E species.

4. **WS needed to consider the phenomena of "mesopredator release" (i.e., in the absence of large predators, smaller predators such as foxes, raccoons and skunks, can become more abundant), and the potential for this to negatively impact bird species of special concern.**

While the phenomena of mesopredator release has been documented in the absence of larger predators, this phenomena would not likely result from WS's predator damage management efforts. Trend information on the population status of predators taken by sport harvest or by WS indicate that those populations are healthy and

generally stable or increasing throughout the State, with minor fluctuations from year-to-year, thus no major increase of "*mesopredators*" has been documented nor likely to occur because of WS predator damage management.

5. **Livestock Losses by Causes Other Than Predation.**

WS is charged by the Animal Damage Control Act of 1931 as amended (7 U.S.C. 426-426c, Stat. 1468) and the Rural Development, Agricultural and Related Agencies Appropriated Act (Public Law 100-202, Dec. 22, 1987. Stat 1329-1331, 7 U.S.C. 426c) to protect natural and agricultural resources, property, and safeguard public health and safety. A recent court decision determined that the mere threat of wildlife damage is reason enough to establish a WS program (U.S. District Court of Utah 1993). Livestock losses for reasons other than predation are not wildlife damage and for these reasons, livestock losses by causes other than predation are outside the scope of this EA.

6. **Impacts on other wildlife species populations caused by low-level flights during aerial hunting.**

One concern expressed is that aerial hunting might disturb wildlife populations to the point that their survival and reproduction might be adversely affected. State wildlife management agencies use low-level fixed-wing airplane and helicopter flights routinely to census wildlife populations. Aerial hunting by WS is primarily conducted in winter when snow cover allows for greater visibility of target animals and their tracks. Deer, elk (*Cervus canadensis*), and pronghorn antelope are occasionally seen and/or flushed during aerial hunting, however, WS avoids pursuing or harassing them by both policy and practice.

USDI-NPS (1995) reviewed studies on the effects of aircraft overflights on wildlife. The report revealed that a number of studies have documented responses by certain wildlife species that suggest adverse impacts could occur. Few if any studies have proven that aircraft overflights cause significant adverse impacts on populations, although the report stated it is possible to draw the conclusion that impacts to wildlife populations are occurring. It appears that some species will frequently or at least occasionally show adverse responses to even minor overflight occurrences. In general, it appears that the more serious potential impacts occur when overflights are *chronic*, (i.e., they occur daily or more often over long periods of time). Chronic exposure situations generally involve areas near commercial airports and military flights. WS aerial hunting operations occur in relatively remote rangeland areas where tree cover is lacking or scattered to allow for visibility of animals from the air.

Some examples of species or species groups that have been studied with regard to this issue and WS's determination of potential impacts from aerial hunting overflights are as follows:

- Colonial Waterbirds. Kushlan (1979) reported that low level (390 feet followed by a second flight at 200 feet) overflights of 2-3 minutes in duration by a fixed-wing airplane and a helicopter produced no "drastic" disturbance of tree-nesting colonial waterbirds, and in 90% of the observations, the individual birds either showed no reaction or merely looked up. WS aircraft are unlikely to be flown over such species in the analysis area because aerial hunting generally occurs in upland areas, primarily away from riparian areas. Even if an overflight of a nesting colony occurred, it is apparent that little or no disturbance would result.

- Greater Snow Geese. Belanger and Bedard (1989, 1990) observed responses of greater snow geese (*Chen caerulescens atlantica*) to man-induced disturbance on a sanctuary area and estimated the energetic cost of such disturbance. They observed that disturbance rates exceeding 2 per hour reduced goose use of the sanctuary by 50% the following day. They also observed that about 40% of the disturbances caused interruptions in feeding that would require an estimated 32% increase in nighttime feeding to compensate for the energy lost. They concluded that overflights of sanctuary areas should be strictly regulated to avoid adverse impacts. WS aerial hunting flights rarely, if ever, occur over wetland areas and in no way would involve chronic or repeated flights over such areas. Thus, disturbance of migrating snow geese or any other waterfowl would be minimal to nonexistent.

- Mule Deer. Krausman et al. (1986) reported that only three of 70 observed responses of mule deer (*Odocoileus hemionus*) to small fixed-wing aircraft overflights at 150 to 500 feet above ground resulted in

the deer changing habitats. The authors believed that the deer may have been accustomed to overflights because the study area was near an interstate highway which was followed frequently by aircraft. Mule deer are frequently seen from WS aircraft and are sometimes temporarily disturbed as evidenced by their running and avoidance behavior. However, it is apparent that adverse effects from this type of disturbance are minimal. WS aerial hunting personnel frequently observe deer and antelope standing apparently undisturbed beneath or just off to one side of aircraft. In areas exposed to periodic low-level aircraft, animals seem to acclimate to the aircraft to the point that disturbance is unapparent (L. Vetterman, Regional Aircraft Manager, WS, pers. comm. 1996). To the extent that localized coyote removal reduces predation on deer and antelope and other wildlife species, benefits to such species could outweigh potential adverse impacts.

- Mountain Sheep. Krausman and Hervert. (1983) reported that, of 32 observations of the response of mountain sheep (*Ovis canadensis*) to low-level flights by small fixed-wing aircraft, 60% resulted in no disturbance, 81% in no or *"slight"* disturbance, and 19% in *"great"* disturbance. The authors concluded that flights less than 150 feet above ground can cause mountain sheep to leave an area. WS does not conduct aerial hunting in typical, higher elevation mountain sheep habitat. If mountain sheep are observed, the pilot avoids pursuit or harassment.

- Bison. Fancy (1982) reported that only two of 59 bison (*Bison bison*) groups showed any visible reaction to small fixed-wing aircraft flying at 200-500 feet above ground. The study indicated bison are relatively tolerant of aircraft overflights. Thus, in the rare event that wild bison are encountered by WS aircraft, impacts from disturbance should be minimal.

- Raptors. Andersen et al. (1989) conducted low-level helicopter overflights directly at 35 red-tailed hawk (*Buteo jamaicensis*) nests and concluded their observations supported the hypothesis that red-tailed hawks habituate to low level flights during the nesting period. Their results also showed similar nesting success between hawks subjected to such overflights and those that were not. White and Thurow (1985) did not evaluate the effects of aircraft overflights, but showed that ferruginous hawks (*Buteo regalis*) are sensitive to certain types of ground-based human disturbance to the point that reproductive success may be adversely affected. However, military jets that flew low over the study area during training exercises did not appear to bother the hawks, and neither were they alarmed when the researchers flew within 100 feet in a small fixed-wing aircraft (White and Thurow 1985). White and Sherrod (1973) suggested that disturbance of raptors by aerial surveys with helicopters may be less than that caused by approaching nests on foot. Ellis (1981) reported that five species of hawks, two falcons, and golden eagles *(Aquila chrysaetos)* were *"incredibly tolerant"* of overflights by military fighter jets, and observed that, although birds frequently exhibited alarm, negative responses were brief and never limiting productivity. These studies indicate that overflights by WS aircraft would have no significant adverse impacts on nesting raptor populations.

Aerial hunting is an important method of coyote damage management in the analysis area. As shown in the EA (1-5), WS conducted predator damage management on only about 50% of the analysis area. Put in perspective, the amount of aerial hunting that occurred in the analysis area was the equivalent of only 2.5 and 2.0 minutes of low-level flight per 1 $mi.^2$ during all of 1995 and 1996, respectively (MIS1995b, 1996).

Based on the above information and analysis, it is reasonable to conclude that WS's aerial hunting flights should not cause any significant adverse impact to non-target wildlife populations.

7. **Concerns about WS's reliance on data gathered from locations outside the analysis area.**

The EA includes references to numerous studies conducted in other parts of the country, but these were only included if they were judged to be relevant to the analysis area. The EA included references more applicable to Wyoming whenever possible and in many cases the cited references were from research studies conducted in Wyoming or adjacent states with similar habitat types.

8. **Concerns about the persistence of sodium monofluoroacetate in the environment, posing threats for scavengers, companion animals, T&E species, and humans.**

Sodium monofluoroacetate is only used in the Livestock Protection Collar (LPC) and registered by the EPA (Reg. No. 565228-22) and the WDA for use in Wyoming by certified pesticide applicators and trained WS personnel. The LPC may only be used in fenced pastures to protect sheep and goats from predation by coyotes and bobcats (*Lynx rufus*) and approval must be received from the USFWS prior to use to minimize risk to T&E species. Use and disposal of LPCs would be in accordance with the label and the Technical Bulletin for the Sodium Fluoroacetate (Compound 1080) Livestock Protection Collar. Warning signs are placed at logical points of access whenever the LPC is in use in a specific pasture to alert humans that the LPC is in use.

Hilton et al. (1969) noted that salts of monofluroacetic acid exhibited a high degree of absorption to root tissues and other cellulosic materials. Therefore, any sodium monofluoroacetate released into the environment because of LPC use is not likely to be carried far by leaching water, but held in the upper soil layers. Horiuchi (1960) demonstrated that fluroacetamide breaks down in the soil. David and Gardiner (1966) demonstrated that both sodium monofluoroacetate and fluoroacetamide is broken down in the soil by microorganisms, and concluded that there are no apparent reasons for condemning the use of these compounds because of a buildup of toxic residues in the soil. Soil bacteria decompose monofluoroacetate by cleaving the carbon-fluorine bond to yield fluoride ions and glycolate (Goldman 1965). King et al. (1994) and Walker (1994) reported that sodium fluoroacetate is decomposed in the soil by bacteria and fungi. Parfitt et al. (1994) demonstrated, by adding sodium monofluoroacetate to stream water and after aerial applications of sodium monofluoroacetate baits, that sodium monflouoracetate concentrations were very low to non-dectectable and did not persist in stream water samples taken and analyzed from baited areas.

The LPC was designed specifically to target coyotes which attack the throat of sheep or goats (Connolly 1990). Black vultures (*Coragyps atratus*), turkey vultures (*Cathartes aura*), common ravens (*Corvus corax*), black-billed magpies (*Pica pica*), red-tailed hawks, and striped skunks (*Mephitis mephitis*) were observed feeding on collared sheep and goats killed by coyotes, but none were known to be poisoned by sodium monofluoroacetate (Connolly 1980). Scavengers generally avoid eating wool or hair that was contaminated following breakage of the collar and fed instead on uncontaminated tissues (Connolly 1980, Burns and Connolly 1995). In addition, when coyotes are killed as a result of puncturing an LPC, the level of contamination is so low that their tissues are not hazardous to scavengers (Connolly 1990, Burns et al. 1991). Secondary hazards posed by poisoned coyotes were studied by feeding their muscle and non-muscle soft tissues to skunks and magpies (Burns et al. 1984). No symptoms of toxicity were detected. Striped skunks, black-billed magpies and golden eagles were fed for 5 days diets containing many times the average residue in coyotes killed with a LPC (Burns et al. 1986, Burns et al. 1991). No deaths occurred, but some eagles showed symptoms of intoxication (Burns et al. 1991). Both skunks and eagles reduced their consumption of treated diets but resumed normal feeding on untreated diets and exhibited no adverse effects within a few days. Because these diets contained much higher concentrations of sodium monofluoroacetate than are found in carcasses of coyotes killed by LPCs, and because the dietary exposure in these pen studies was much greater than would occur under field conditions, it is concluded that carcasses of coyotes killed by sodium monofluoroacetate pose little if any hazard to these scavengers. Other research studies indicate the lack of effect on non-target species during extensive field use of LPCs (Walton 1992, Connolly 1993).

9. **ADC must consider cumulative impacts from surrounding states.**

The Wyoming WS Program coordinates its activities with the Forest Service, BLM, USFWS, WDA and the WGFD to insure no cumulative effects to any wildlife populations or other resources managed by these agencies. The National WS and Wyoming WS Program conducted a Section 7 Consultation with the USFWS to insure no adverse or cumulative impacts to T&E species, and Wyoming WS has consulted with the Wyoming Historical Preservation Office and American Indian tribes to insure no adverse impacts to historical or cultural resources. The intent of this coordination and consultation is to draw on the expertise of other agency and tribal personnel to insure there are no cumulative impacts, in Wyoming or surrounding states from WS predator damage management.

10. **Predators contribute significantly to the natural control of wild horse populations**

Only one study (Turner et al. 1992) was found that documented sufficient predation on wild horse (*Equus caballus*) populations to limit growth. In this study, a mountain lion (*Puma concolor*) population in central California depredated foals and young horses, but no evidence of predation on older horses was observed. Observations on wild horses in Montana and Wyoming indicate that predation does not occur at a level to contribute to the control of wild horse populations, particularly from coyotes and black bears (*Ursus americanus*) (Linda Coates-Markle, BLM, pers. comm.). Historically, the only predator damage management in wild horse range conducted in Wyoming has been to reduce coyote damage to domestic livestock. Wyoming WS traditionally has not conducted mountain lion damage management in Wyoming without a request from the WGFD.

Consistency

Predator damage management is conducted on National Forest System and BLM lands consistent with MOUs and policies of APHIS-WS, the Forest Service and BLM, and the EA. Any work plans developed for predator damage management, pursuant to this decision, will be consistent with the direction provided in the Land and Resources Management Plans (LRMPs) for the National Forests and the Resource Management Plans (RMP) for BLM administered lands found in Wyoming. On Forest Service and BLM managed lands, public safety and environmental concerns are adequately mitigated through jointly developing work plans with WS and the Forest Service or BLM. The Forest Service and BLM may, at times, restrict predator damage management that concerns public safety or resource values; modifications may also be made in areas where predator damage management occurs. All predator damage management will be conducted in a manner consistent with the ESA and the Section 7 Consultation with the USFWS.

The analyses in the EA demonstrate that Alternative 3 provides WS the best opportunity to reduce losses while maintaining low impacts on non-target species and designated wildlife and T&E species. Alternative 3 best: 1) addresses the issues identified in the EA, 2) provides the environmental safeguards for public safety, 3) balances the economic effects of livestock losses to Forest Service, BLM and WSLI permittees and private land owners, 4) the concerns for the other multiple use values of the Forest Service and BLM and 5) allows WS to meet its obligations to the WGFD, WDA and other cooperating agencies or entities.

Monitoring

The Wyoming WS program will provide the WS take of target and non-target animals to the WGFD to determine if the total statewide take is within allowable harvest levels as determined by the WGFD and nonlethal methods used by cooperators will be tracked using the WS MIS database once this capability is developed. Monitoring of mitigation measures will continue to be addressed at the local level through regular contact with cooperating agency representatives and through discussions at work plan meetings with the respective land management agencies and the WGFD. This monitoring will include a review of livestock losses, target and non-target animals taken in response to damage complaints, and a comparison of this level of take with allowable harvest levels. WS also maintains informal communications throughout the year with the USFWS regarding potential impacts of WS's activities to T&E species.

Public Involvement

Before development of the EA, 2,500 letters were mailed to individuals and organizations identified as having an interest in WS issues. Notices of the proposed action, availability of the public involvement letter and availability of the Pre-Decisional EA were also published in five major newspapers in Wyoming. A total of 126 comment letters or cards were received during the initial public involvement period and 22 comment letters were received on the Pre-Decisional EA. These letters were reviewed to identify any additional substantive issues to be addressed.

Major Issues

The EA describes the alternatives considered and evaluated using the identified issues. The following issues were

identified as important to the scope of the analysis (40 CFR § 1508.25).

1. Cumulative impacts on the viability of wildlife populations
   - the potential for the WS take of predators to negatively impact recreational or commercial harvest of predators.

2. Effectiveness and selectivity of damage management methods
   - the potential for WS methods to take non-target animals
   - need for a wide variety of damage management methods
   - criteria for deciding what methods will be used
   - use of "*preventive*" damage management work.

3. Risks posed by damage management methods to the public and domestic pets

4. Concern about WS impacts on T&E species.

5. Cost-effectiveness of WS activities.

Alternatives That Were Fully Evaluated

The following Alternatives were developed by the Multi-agency Team to respond to the issues. Six additional alternatives were considered but not analyzed in detail. A detailed discussion of the effects of the Alternatives on issues is described in the EA; below is a summary of the Alternatives and issues.

Alternative 1. No Action - Current Analysis Area WS Program. The No Action Alterative was analyzed and used as a baseline for comparing the effects of the other Alternatives as required by 40 CFR § 1502.14(d). This alternative consists of the current program of technical assistance and operational IWDM (ADC Directive 2.105) by Wyoming WS on the Rawlins, Rock Springs and Worland BLM Districts, and the Ashley, Big Horn, Bridger-Teton, Caribou, Medicine Bow, Shoshone, Targhee and Wasatch-Cache National Forests, State, county, municipal, and private lands under Cooperative Agreement and Agreement for Control with Wyoming WS. The current program direction is primarily for the protection of agricultural resources and public health and safety.

Alternative 2. No Predator Damage Management in the Analysis Area. This alternative would terminate the Federal Predator Damage Management program in western Wyoming. Alternative 2 was not selected because WS is charged by law and reaffirmed by a recent court decision (U.S. District Court of Utah 1993) to reduce damage caused by wildlife (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988). This alternative would not allow WS to meet its statutory responsibility for providing assistance or to reduce wildlife damage. Alternative 2 violates the MOU between APHIS-WS and the Forest Service and BLM whereby it is mutually recognized that management of wildlife damage on Forest Service and BLM managed lands is important and may involve the predator damage management to achieve land and resource management objectives.

Alternative 3. Fully Integrated Wildlife Damage Management (IWDM) for Multiple Resources and Land Classes: (Proposed Alternative). This alternative would allow for predator damage management based on the needs of multiple resources (livestock, wildlife, property, and public health and safety) and would be implemented following consultations with the WGFD, WDA, Federal agencies or Tribes, as appropriate. This alternative would allow for a Federal WS program to protect multiple resources on all land classes at the request of the land management agency or individual if a Cooperative Agreement, Agreement for Control and/or a Work Plan or comparable document with Wyoming WS, as appropriate, are in place. Alternative 3 best conforms to the MOUs between WS, the Forest Service and BLM that mutually recognize that the management of wildlife damage on Forest Service and BLM lands is important and may involve the management of predator damage to achieve land and resource management objectives. Analysis of Alternative 3 showed low level of impact for the target species, non-target species and T&E species.

Alternative 4. Nonlethal Control Required Prior to Lethal Control. This alternative would require that nonlethal damage management be implemented before the initiation of lethal predator damage management by Wyoming WS. This alternative was not selected because no standard exists to determine diligence in applying nonlethal methods nor are there any standards to determine how many nonlethal applications are necessary before initiation of lethal controls. WS is charged by law to reduce damage caused by wildlife (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988) and this was reaffirmed in a recent court decision (U. S. District Court of Utah 1993). Consideration of wildlife protection is not included with the non-lethal methods currently available nor could WS base damage management strategies on the needs of designated wildlife.

Alternative 5. Corrective Control Only. This alternative would require that livestock depredation occur before the initiation of lethal damage management. This alternative would not allow for any lethal preventive damage management and management could only be implemented after the onset of losses. Alternative 5 was not selected because it is often difficult to remove offending coyotes quickly enough to prevent further losses once predation has begun and does not allow WS to meet its statutory directives. Under Alternative 5, WS could conduct predator damage management only after verification of livestock losses. WS is charged by law to minimize damage caused by wildlife (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988) and this was reaffirmed by a recent court decision (U. S. District Court of Utah 1993). The alternative would only delay damage management while verification of losses occurred and management actions could be implemented.

Alternative 6. Technical Assistance Program. Under this alternative, Wyoming WS would not conduct operational predator damage management in western Wyoming. The entire program would consist of only technical assistance and all WS operational wildlife damage management in western Wyoming would be eliminated. Alternative 6 was not selected because it was inconsistent with Forest Service and BLM policy, and it is likely that the Forest Service and BLM could not meet their management guidelines.

Alternative 7. Predator Damage Management with Only Mechanical Methods (No Use of Chemicals). Under this alternative, Wyoming WS would be restricted to using only mechanical damage management methods (i.e., traps, snares, aerial hunting, calling and shooting, shooting) with no chemical damage management methods allowed (i.e., DRC 1339, sodium cyanide, gas cartridge, LPC, immobilizing and euthanizing chemical agents). Alternative 7 was not selected because it does not allow but for the most effective approach to resolving damage situations.

Alternatives Considered but not Analyzed in Detail are the Following:

Compensation for Wildlife Damage Losses - The Compensation alternative would direct all Wyoming WS program efforts and resources to the verification of losses from predators and providing monetary compensation. WS services would not include any direct damage management nor would technical assistance or nonlethal methods be provided. This alternative was eliminated from detailed analysis in WS's Programmatic EIS (USDA 1994) because of many disadvantages such as: (1) the alternative would require large expenditures of money and a large work force to investigate and validate all losses and to determine and administer appropriate compensation, (2) compensation would likely be below full market value, (3) many losses could not be verified, (4) compensation would provide less incentive to livestock owners to limit predation through improved husbandry practices and other management strategies, (5) not all ranchers would rely completely on compensation and lethal control of predators would most likely continue as permitted by State law, and (6) Congress has not appropriated funds to compensate for predation or other wildlife damage to agricultural products.

Bounties - Bounties are payments of funds for killing predators suspected of causing economic losses. They have typically proven ineffective in reducing predator damage and not supported by Wyoming State agencies such as WGFD and WDA. WS concurs with these agencies because:

- WS does not have the authority to establish a bounty program
- Bounties are generally not as effective or practical in controlling damage

- Circumstances surrounding take of animals is completely unregulated
- No process exists to prohibit taking of animals from outside the damage management area for compensation purposes or the use of illegal methods
- Enormous expense and cumbersome administrative logistics

A bounty system encourages harvest of predators at times and places when coyotes are easiest and cheapest to harvest. However, the measure of success is not in how many predators are killed, but in how much damage is reduced. Many damage problems occur at times and in places where it is difficult to remove depredating predators.

Extermination and Suppression - An extermination and suppression alternative would direct all Wyoming WS program efforts' toward planned, total elimination of native predatory species. Extermination of unprotected predators, such as coyotes, is legal in Wyoming (Wyoming Statutes 11-6-101, 11-6-102, 23-3-103(a)) but not supported by WGFD or WDA. Wyoming has an endangered species act that covers animals and listings are based on scientific data (Defenders of Wildlife and the Center for Wildlife Law 1996). This alternative was not considered by Wyoming WS in detail because: (1) WS is opposed to the extermination of any native wildlife species, (2) WGFD and WDA oppose the extermination of any native Wyoming wildlife species, (3) the extermination of a native species or local population would be extremely difficult, if not impossible, to accomplish, (4) would be cost prohibitive, and (5) extermination is not acceptable to most people.

Suppression would direct WS program efforts toward managed reduction of certain wildlife populations or groups. In localized areas where damage can be attributed to predation by specific groups, WGFD has the authority to increase hunting seasons and hunter tag quotas; WDA has the authority to control unprotected predators, such as coyotes. When a large number of requests for wildlife damage management are generated from a localized area, WS would consider suppression of the local population or groups of the offending species, if appropriate.

It is not realistic, practical, or allowable under present WS policy to consider large-scale population suppression as the basis of the WS predator damage management program. Typically, WS activities in the analysis area would be conducted on a very small portion of the area.

The Humane Society of the Unites States (HSUS) Alternative - The HSUS proposed an alternative that requires: 1) "*permittees evidence sustained and ongoing use of nonlethal/husbandry techniques aimed at preventing or reducing predation prior to receiving the services of the WS Program*"; 2) "*employees of the WS Program use or recommend as a priority the use of appropriate nonlethal techniques in response to a confirmed damage situation*"; 3) "*lethal techniques are limited to calling and shooting and ground shooting, and used as a last resort when use of husbandry and/or nonlethal controls have failed to keep livestock losses below an acceptable level*"; and 4) "*establish higher levels of acceptable loss levels on public lands than for private lands.*"

The components of this proposed alternative by the HSUS have been analyzed in detail in the alternatives contained in this EA and through court rulings. The HSUS alternative would not allow for a full range of IWDM techniques to resolve predator damage management problems. In addition, WS is directed by Congress to protect American agriculture, natural resources, property, and safeguard public health and safety, despite the cost of damage management (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988). Further, the Southern Utah Wilderness Society, The Wilderness Society et al. vs. Hugh Thompson et al. U.S. Forest Service (U.S. District Court of Utah 1993) the court clearly states that, "*The agency need not show that a certain level of damage is occurring before it implements an WS program. . . .Hence, to establish need for an WS, the forest supervisors need only show that damage from predators is threatened.*" In other words, it is not necessary to establish a criterion, such as percentage of loss of a herd to justify the need for wildlife damage management. The alternatives and option selected for detailed analysis in this EA include many of the suggestions in the HSUS proposal, and it is believed that inclusion of this alternative would not contribute new information or options for consideration and analysis that are not already being considered and available in IWDM as used by WS.

Provide Economic Incentives for Herd Protection

Providing economic incentives for a herd protection alternative would direct WS program efforts and resources toward the verification of herd protection methods and providing monetary compensation to the producers. WS services would not include direct damage management nor would technical assistance, or nonlethal methods be available.

This option is not currently available because WS is directed by Congress to protect American agricultural, natural resources, and property (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988).

Analysis of this alternative indicates that it has many drawbacks: (1) it would require larger expenditures of money and workforce to investigate and validate all protective methods, and to determine and administer appropriate compensation, (2) making prompt responses to all requests to assess and confirm herd protection would be difficult, and losses could occur when and if the protection methods failed to adequately protect the livestock, (3) not all ranchers would rely completely on a herd protection/compensation program and unregulated lethal control of predators would most likely continue as permitted by State law, and (4) Congress has not appropriated funds to compensate livestock producers for herd protection or other wildlife damage to agricultural products.

No Wildlife Damage Management within any Wilderness or Proposed Wilderness Area

Under the current and proposed WS programs (Alternatives 1 and 3), the amount of predator damage management that would occur in WAs is so minor that the effects of either of those alternatives would not likely be significantly different from the effects of a *No Control in Wilderness Areas* alternative. The minor amount of predator damage management conducted by WS in WAs or proposed WAs conforms to legislative and policy guidelines as administered by the responsible land management agency. WS and the land management agency meet to review work plans that delineate what, when, and where wildlife damage management would be conducted. Mitigation specific to this issue is listed at the end of Chapter 3 of the EA.

Transfer the Present Wyoming WS Program to the WDA

This alternative would transfer the Federally administered Wyoming WS program to the WDA, and consist of transferring all field and administrative activities including technical assistance and direct control. The conveyance of the Federal responsibility and funding to the WDA could only occur after a U.S. Congressional Directive allowed for such an action. Many other unresolved factors dealing with this alternative also include: 1) personnel and equipment transfers, 2) management and administration of the program, 3) proposed control methodologies, and 4) NEPA responsibilities, etc., under a State-managed program. In addition, if the current WS program would be transferred to the WDA and the program went forward in a similar manner, the outcome of this alternative would be similar to the WS's program because the activities would be conducted under the same set of wildlife and environmental protection laws. Therefore, the environmental impacts would be similar to those of the current and proposed program alternatives and are covered by those analyses. Given the myriad of unknowns surrounding this alternative and the fact that WS would not be part of such a program this alternative was not analyzed further.

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 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. Predator damage management, as conducted by WS in western Wyoming, is not regional or national in scope.

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 activities in the analysis area.

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.

4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to predator control, 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 predator 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 animals taken by WS, when added to the total known other take of all species, falls well within allowable harvest levels.

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. An informal Section 7 consultation with the USFWS confirmed that the proposed action would not likely adversely affect any T&E species.

10. The proposed action would be in compliance with all Federal, State, and local laws imposed for the protection of the environment.

Decision and Rationale

I have carefully reviewed the EA and the input from the public involvement process. I believe that the issues identified in the EA are best addressed by selecting Alternative 3 (Fully Integrated Wildlife Damage Management (IWDM) for Multiple Resources and Land Classes - Proposed Alternative in the EA) and applying the associated mitigation and monitoring measures discussed in Chapter 3 of the EA. Alternative 3 would provide the greatest effectiveness and selectivity of methods available, the best cost-effectiveness, and has the potential to even further reduce the current low level of risk to the public, pets, and T&E species. WS will continue to use all currently authorized predator damage management methods in compliance with all the applicable mitigation measures listed in Chapter 3 of the EA. I have also adopted the Pre-decisional Predator Damage Management in Western Wyoming EA as the final. Most comments identified from public involvement were minor and did not change the analysis.

For additional information regarding this decision, please contact Richard Phillips, APHIS-WS, P.O. Box 59, Casper, Wyoming 82602, telephone (307) 261-5336.

10-3-97

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

Date

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