Environmental Assessment, Proposed Predatory Animal Damage Control on Public Lands in Sweetwater, Lincoln, Uinta, and Sublette Counties, Wyoming

United States Department of the Interior Bureau of Land Management

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Environmental Assessment
U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Proposed Predatory Animal Damage Control
on Public Lands in Sweetwater, Lincoln, Uinta, and Sublette Counties, Wyoming

The Bureau of Land Management is responsible for the balanced management of the public lands and resources and their various values so that they are considered in a combination that will best serve the needs of the American people. Management is based upon the principles of multiple use and sustained yield, a combination of uses that take into account the long-term needs of future generations for renewable and nonrenewable resources. These resources include recreation, range, timber, minerals, watersheds, fish and wildlife, wilderness and natural, scenic, scientific and cultural values.
Dear Reviewer:

Enclosed for your review and comment is the Environmental Assessment (EA) on the U.S. Department of Agriculture, Animal and Plant Health Inspection Service-Animal Damage Control Unit’s (APHIS-ADC) Predatory Animal Damage Control Proposal on Public Lands within the Bureau of Land Management’s (BLM) Rock Springs District. This EA was prepared to fulfill the requirements of section 102 of the National Environmental Policy Act. The EA also includes the biological assessment on the effects of the proposed action on endangered and threatened species in compliance with Section 7(c) of the Endangered Species Act. The EA was prepared by the BLM, Rock Springs District with the cooperative participation of the APHIS-ADC. The EA documents the environmental impact analysis of the APHIS-ADC animal damage control program in effect since 1985 (Alternative B), as well as the APHIS-ADC proposed program changes (Proposed Action and Alternative A) to enhance the protection of domestic livestock against excessive predation on public lands within the BLM Rock Springs District.

As you may recall, in April of 1992 the Rock Springs District issued a Scoping Notice informing the public that it was beginning this environmental impact analysis process and asked for public comments on concerns and alternatives. In June of 1992, a public meeting was held in Rock Springs by the BLM and APHIS-ADC to provide the public with further opportunity to express their concerns and to ask questions. On the basis of the comments received, the BLM, in cooperation with APHIS-ADC, has prepared the enclosed EA to identify and analyze the potential environmental consequences of proposed and alternative animal damage control activities on public lands.

The BLM and APHIS-ADC want to be sure that the general public and users of the public lands, understand the proposed and alternative means of predatory animal damage control and the control methods that would be used under each. In the furtherance of the objective, the BLM and APHIS-ADC will hold an open house followed by a public hearing. Planned agendas for each are:

Open House - Individual public one-on-one discussions with APHIS-ADC personnel, questions and answers, and demonstrations of control methods.

Public Hearing - Introduction by the BLM, APHIS-ADC presentation of their proposed animal damage control plan and alternatives, and formal public comment.

The open house and public hearing will be held at the following locations and times:

<table>
<thead>
<tr>
<th>Location</th>
<th>Facility</th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock Springs</td>
<td>White Mountain Junior High</td>
<td>December 6, 1993 3 to 6 p.m.</td>
</tr>
<tr>
<td></td>
<td>Foothill Blvd.</td>
<td>Public Hearing 7 to 9 p.m.</td>
</tr>
<tr>
<td>Evanson</td>
<td>Evanson Senior High School</td>
<td>December 7, 1993 3 to 6 p.m.</td>
</tr>
<tr>
<td></td>
<td>701 W. Cheyenne Drive</td>
<td>Public Hearing 7 to 9 p.m.</td>
</tr>
<tr>
<td>Kemmerer</td>
<td>Kemmerer High School</td>
<td>December 8, 1993 3 to 6 p.m.</td>
</tr>
<tr>
<td></td>
<td>1525 West 3rd Ave.</td>
<td>Public Hearing 7 to 9 p.m.</td>
</tr>
</tbody>
</table>

To ensure that your concerns have been considered, please review the EA and, if you have any comments, submit them in writing by January 6, 1994, to:

District Manager
Bureau of Land Management
P.O. Box 1869
Rock Springs, Wyoming 82902-1869

Your comments will be given full consideration in the decision to be made, i.e., where, when, and what type(s) of predator control actions by APHIS-ADC can be allowed on public lands within the BLM Rock Springs District without adversely affecting other uses of the public lands.

Further information on the Animal Damage Control proposal is available from Bill Rightmire, APHIS State Director in Casper at (307) 261-5336, or Merrill Nelson, ADC District Supervisor at (307) 362-7238 in Rock Springs.

For information on the Environmental Assessment process, contact Bill McMahon, Environmental Specialist, at the BLM Rock Springs District Office, (307) 362-5330.

Sincerely,

Bernard Weynand
District Manager

December 5, 1993

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Rock Springs District Office
P.O. Box 1869
Rock Springs, Wyoming 82901-1869

November 15, 1993

Dear Reviewer:

Enclosure
PREFACE

This Environmental Assessment is prepared by the Bureau of Land Management (BLM), Rock Springs District with the cooperative participation of the U.S. Department of Agriculture, Animal and Plant Health Inspection Service, Animal Damage Control Unit (USDA-APHIS-ADC, hereafter referred to as APHIS-ADC). This environmental assessment documents the environmental impact analysis of the APHIS-ADC ongoing and proposed program of predatory animal damage control for the protection of domestic livestock and wildlife within the BLM Rock Springs District. The environmental assessment analyzes the impacts associated with the full range of animal damage control activities included in the APHIS-ADC proposed Predator Animal Damage Control Plan. The environmental assessment also analyzes environmental impacts associated with alternatives to the ongoing and proposed predator control program.

This environmental assessment references predatory animal damage control environmental documents prepared at the national level (programmatic environmental documents) and local level (environmental documents prepared for programs on National Forests and Public Lands surrounding the BLM Rock Springs District). Specifically, these documents are:

Programmatic EISs:


Environmental Assessments:

INTRODUCTION

AFFECTED DISTRICT

PROPOSED ACTION

Pursuant to Section 102(2)(C) of the National Environmental Policy Act of 1969 (NEPA), the USDI prepared a programmatic environmental impact statement (EIS) on predator damage management in 1979, and the USDA prepared a draft EIS and a draft Supplement to the initial EIS on the APHIS Animal Damage Control Program in 1990 and 1993. The EISs examine the predator management control program as presently conducted on public lands administered by the BLM and its impact on the biological, physical, cultural, and economic environments; and on recreation, domestic animals, wilderness areas, human health and safety, energy, and on public attitudes. A copy of the programmatic EISs is on file at the APHIS-ADC office in Casper, Wyoming, and at the BLM Rock Springs District Office in Rock Springs, Wyoming.

This environmental assessment tiers to the USDI analysis and decision document (1979) and references the USDA Draft EIS (1990) and Supplement to the Draft EIS (1993) regarding the appropriateness, effectiveness and cost/benefits of Federal predator control activities on Federal lands. The decision to be made, based on the analysis documented herein, and following public review and comment, is where, when, and what types of predator control actions by APHIS-ADC can be allowed on the BLM Rock Springs District without significantly affecting other uses of the public lands.

The Forest Service and other BLM environmental documents referenced above address predator control management programs similar or identical to that proposed by APHIS-ADC for the BLM Rock Springs District. Therefore, for consistency and to eliminate unnecessary confusion, the description of the proposed action, definitions, and analysis of environmental impact is, where appropriate, replicated and expanded upon where specifically different within, and/or applicable to only, the Rock Springs District. Expanded descriptions, definitions, and analyses are also provided where it is appropriate in response to specific issues identified by the public during the Rock Springs District issues and concerns scoping process (May 20 through July 15, 1992).
Candidate Species

SPECIAL MANAGEMENT AREAS

Wilderness Study Areas/Instant Study Areas
Areas of Critical Environmental Concern (ACEC's)
Wild Horse Herd Management Areas

PUBLIC LAND USES

Livestock Grazing Operations
Recreation

SOCIOECONOMICS

Cost/Benefit

CHAPTER IV - ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

IMPACTS OF CONTROL METHODS

Chemical
Nonchemical

PROPOSED ACTION (PRESENT MANAGEMENT WITH M-44 USE)

Wildlife Resource

Game Animals
Upland Game and Waterfowl
Nongame and Furbearers
Raptors
Predators
Non-Target Animals Taken During Predator Control

Threatened or Endangered Species

Listed Species
Candidate Wildlife Species

Special Management Areas

Public Land Uses

Livestock Grazing Operations
Recreation/Public Health and Safety

Socioeconomics

Sociocultural
Economic

ALTERNATIVE B (PRESENT MANAGEMENT - NO M-44 USE)

Wildlife Resource

Game Animals
Upland Game and Waterfowl
Nongame and Furbearers
Raptors
Predators
Non-Target Animals Taken During Predator Control

Threatened or Endangered Species

Special Management Areas

Public Land Uses

Livestock Grazing Operations
Recreation/Public Health and Safety

Socioeconomics

Sociocultural
Economic

ALTERNATIVE C (ADC WITH NO LETHAL METHODS)

Wildlife Resource

Game Animals
Upland Game and Waterfowl
Nongame and Furbearers
Raptors
Predators
Non-Target Animals Taken During Predator Control

Threatened or Endangered Species

Special Management Areas

Public Land Uses

Livestock Grazing Operations
Recreation/Public Health and Safety

Socioeconomics

Sociocultural
Economic

ALTERNATIVE D (NO ACTION - NO ANIMAL DAMAGE CONTROL)

Wildlife Resource

Game Animals
Upland Game and Waterfowl
Nongame and Furbearers
Raptors
Predators
Non-Target Animals Taken During Predator Control

Threatened or Endangered Species

Special Management Areas

Public Land Uses

Livestock Grazing Operations
Recreation/Public Health and Safety

Socioeconomics
CHAPTER I - INTRODUCTION

PURPOSE AND NEED FOR THE PROPOSED ACTION

Wild animals are a valuable resource and an important part of the environment within the Rock Springs District in southwest Wyoming (General Location Map). They contribute to our enjoyment of outdoor recreational activities such as camping, hiking, photography, and hunting. The knowledge that abundant wildlife exists is important for many people. In some instances, however, this abundance has led to conflicts between human and wildlife interests. The coyote, for example, symbolizes the wild West for many people. However, coyotes can inflict heavy economic damage to producers of domestic sheep and, at times, to producers of cattle.

The U.S. Congress enacted the Animal Damage Control Act of March 2, 1931 (46 Stat. 1468; U.S.C. 426-426h) to assist the livestock producers in reducing economic damage from predation. This act, as amended, authorizes the appropriation of Federal tax dollars for the protection of stock and other domestic animals through the suppression of predatory or other wild animals.

The USDA, Wyoming Agricultural Statistics Service shows Wyoming to be the third largest producer of sheep in the nation and reports an average of 141,650 sheep (includes 17,650 sheep from ranches in Colorado) and 147,000 cattle on southwest Wyoming farms and ranches in 1993 (Table 1-1). Additional out-of-state transient sheep and cattle may be present in the District at various times of the year. Average livestock numbers in the four-county area of south-west Wyoming (Lincoln, Sublette, Uinta, and Sweetwater) represent a significant part of Wyoming's livestock production (20.0 percent of the sheep and 17.5 percent of the cattle).

A majority of these livestock graze on public lands administered by the BLM Rock Springs District and National Forest lands within the Bridger-Teton, Ashley, and Wasatch-Cache National Forests. Predation, primarily on sheep, by the coyote and fox has historically been a significant problem to livestock producers in southwest Wyoming. Mountain lion losses also occur. Losses are documented by APHIS-ADC (Animal & Plant Health Inspection Service-Animal Damage Control) and an annual statewide report is maintained by the Wyoming Agricultural Statistics Service.

Table 1-2 provides a five-year comparison, by county, of confirmed and unconfirmed sheep loss due to predation in the Rock Springs District. The statistical record indicates a significant increase in the loss of livestock to predatory animals. Although there has been an increase in the number of sheep over the last two years, the increase in losses is not considered attributable to this. An index of estimated sheep loss due to predation, based on Wyoming Agricultural Statistics Service sheep numbers (Table 1-1) and APHIS-ADC confirmed and unconfirmed sheep losses (Table 1-2), was 0.9 percent in 1989, 1.5 percent in 1990, 2.5 percent in 1991, and 1.5 percent in 1992. Except for two or three operators, this represents loss incurred during the nine-month period (75 percent of the calendar year, October 1 through June 30) while operating on the Rock Springs District. The rest of the time, sheep use occurs on Forest Service or private lands. Loss figures for these areas are not included within this analysis. Calendar year 1993 losses represent a partial year (April through July), and are not included in the estimated loss calculations.
### TABLE 1-1

**SHEEP, CATTLE, AND CALVES ON WYOMING FARMS AND RANCHES, BY COUNTY**

(January 1, 1989 through 1993)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SWEETWATER (WY)</td>
<td>32,000</td>
<td>32,000</td>
<td>30,000</td>
<td>23,000</td>
<td>29,000</td>
</tr>
<tr>
<td>SWEETWATER (CO)^2</td>
<td>17,650</td>
<td>17,650</td>
<td>17,650</td>
<td>17,650</td>
<td>17,650</td>
</tr>
<tr>
<td>TOTALS</td>
<td>127,650</td>
<td>125,650</td>
<td>120,650</td>
<td>142,650</td>
<td>141,650</td>
</tr>
<tr>
<td>Percent of State</td>
<td>17.7</td>
<td>17.8</td>
<td>16.8</td>
<td>19.8</td>
<td>20.0</td>
</tr>
</tbody>
</table>

| Lincoln           | 27,000 | 27,000 | 25,000 | 36,000 | 35,000 |
| Sublette          | 8,000  | 6,000  | 6,000  | 14,000 | 7,000  |
| Uinta             | 43,000 | 43,000 | 42,000 | 52,000 | 53,000 |
| Sweetwater (WY)   | 32,000 | 32,000 | 30,000 | 23,000 | 29,000 |
| Sweetwater (CO)^2 | 17,650 | 17,650 | 17,650 | 17,650 | 17,650 |
| TOTALS            | 127,650| 125,650| 120,650| 142,650| 141,650|
| Percent of State  | 17.7   | 17.8   | 16.8   | 19.8   | 20.0   |

<table>
<thead>
<tr>
<th>CATTLE:</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Lincoln</td>
<td>47,000</td>
<td>40,000</td>
<td>34,000</td>
<td>40,000</td>
<td>43,000</td>
</tr>
<tr>
<td>Sublette</td>
<td>70,000</td>
<td>65,000</td>
<td>60,000</td>
<td>52,000</td>
<td>49,000</td>
</tr>
<tr>
<td>Uinta</td>
<td>50,000</td>
<td>47,000</td>
<td>48,000</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Sweetwater</td>
<td>22,000</td>
<td>20,000</td>
<td>21,000</td>
<td>15,000</td>
<td>15,000</td>
</tr>
<tr>
<td>TOTALS</td>
<td>189,000</td>
<td>172,000</td>
<td>163,000</td>
<td>147,000</td>
<td>147,000</td>
</tr>
<tr>
<td>Percent of State</td>
<td>15.3</td>
<td>15.3</td>
<td>14.3</td>
<td>17.4</td>
<td>17.5</td>
</tr>
</tbody>
</table>

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2 Winter sheep use made in Sweetwater County, Wyoming by livestock producers located in Colorado. These sheep numbers were licensed for winter of 1993-94 but generally the same numbers were run during the years 1989 through 1992. These numbers are not included in the Wyoming Agricultural Statistics Service data.
### TABLE 1-2

APHIS-ADC REPORTED CONFIRMED AND UNCONFIRMED SHEEP LOSSES BY COUNTY<sup>3</sup>  
(1989 through 1993)

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Con</td>
<td>Uncon</td>
<td>Con</td>
<td>Uncon</td>
<td>Con</td>
<td>Uncon</td>
</tr>
<tr>
<td>Uinta</td>
<td>104</td>
<td>479</td>
<td>181</td>
<td>799</td>
<td>250</td>
<td>1,272</td>
</tr>
<tr>
<td>Sweetwater</td>
<td>111</td>
<td>173</td>
<td>145</td>
<td>278</td>
<td>268</td>
<td>947</td>
</tr>
<tr>
<td>Lincoln</td>
<td>70</td>
<td>150</td>
<td>283</td>
<td>136</td>
<td>91</td>
<td>89</td>
</tr>
<tr>
<td>Sublette&lt;sup&gt;5&lt;/sup&gt;</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>285</td>
<td>802</td>
<td>609</td>
<td>1,213</td>
<td>609</td>
<td>2,308</td>
</tr>
<tr>
<td>Percent Loss&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.9</td>
<td>1.5</td>
<td>2.5</td>
<td>3.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<sup>3</sup> **Confirmed loss** - Livestock producer reported livestock loss that has been inspected by APHIS-ADC personnel and verified that the cause of death was due to a predatory animal (e.g., coyote, fox, lion, bear, etc.). **Unconfirmed loss** - Livestock producer reported livestock loss not inspected by APHIS-ADC personnel and verified as to the cause of death. Inspection does not occur because an APHIS-ADC trapper has confirmed that the livestock producer has incurred losses to predatory animals and can therefore proceed with approved control activities. Livestock producers often report 5, 10, 15, or more animals lost. APHIS-ADC personnel inspect several carcasses, not necessarily all of them, but enough to verify loss due to predation and the predatory animal species responsible. *NOTE* - Percent loss is based on WASS sheep numbers for Lincoln, Uinta, and Sweetwater Counties and winter sheep use by producers located in Colorado. Sublette County is not included because it is not a cooperating county with APHIS-ADC and no data is available.

<sup>4</sup> 1993 losses are for the period of April 6 through July 31, 1993. Presently APHIS-ADC is authorized to conduct control on public lands at the request of a livestock producer only where an emergency situation has been determined to exist by APHIS-ADC. See footnote 5 for further explanation.

<sup>5</sup> Loss data is not reported for Sublette County since the County Predator Animal Board (PAB) is not a cooperating county with APHIS-ADC for predator control within Sublette County. The loss data presented for 1993 reflects loss data reported since April 1993 under the BLM Washington Office directive to authorize only Emergency Control requests until all BLM districts, including the Rock Springs District, have completed a current environmental analysis on the predator animal damage control program for the District. This directive is the result of an appeal by the Humane Society of the United States. See narrative discussion for details.
The estimated predator loss data for southwest Wyoming corresponds with statewide studies which show that there has been a dramatic increase in Wyoming in the number of livestock predator losses over the last few years. Losses were higher in 1992 than at any time in recent years, with a 50 percent increase between 1991 and 1992, and over a 300 percent increase between 1989 and 1992. Discussions with the livestock industry suggest that predator numbers are at an unprecedented high level and losses in 1993 will likely exceed the 1992 levels.

Within the BLM Rock Springs District, the economic loss to livestock producers due to predators in 1992 is estimated at $507,460. This is based upon the nine month period of use monitored within the district. The estimated cumulative economic loss to livestock producers due to predation over the past five years is $1.9 million. Losses would have been much greater in the absence of predator control.

Research has shown that annual sheep losses of 2 to 6 percent are normal with predator control in place. Sheep producers accept this as an inherent part of ranching. If coyotes and other predatory animals are not controlled, "...losses may jump as high as 18 to 30 percent" (Dr. Fred Knowlton, Research Associate Professor, Utah State University; and Project Leader, USDA - APHIS Animal Damage Control Predator Ecology Project). The APHIS-ADC livestock loss data presented in Table 2b agrees with the research findings.

Predatory animal control on public lands within the Rock Springs District (see General Location Map) have continued for over 60 years, preceding the establishment of the Taylor Grazing Act (1934) and the BLM (1946). As a result of domestic livestock losses due to coyote and fox predation, livestock permittees annually request predator control on public lands, including most recently, the use of the M-44 devices.

APHIS-ADC has requested authorization to use, in addition to the conventional methods of predator control (i.e., trapping, calling and shooting, denning, and aerial gunning), the toxicant sodium cyanide with the M-44 application device as an additional method to control coyote predation on domestic livestock. It is being requested by APHIS-ADC as an additional tool to enhance the efficiency and effectiveness of control. The M-44 has never been authorized by BLM for use on public lands within the Rock Springs District. The APHIS-ADC request follows the direction provided for in the national Memorandum of Understanding (MOU) Between BLM and APHIS For Animal Damage Control (September 1987), the Supplemental Memorandum of Understanding Between BLM and APHIS for Animal Damage Control in the State of Wyoming (June 1989), each of which establish operational principles for predator control on BLM-administered lands, and the Environmental Protection Agency's M-44 Cyanide Capsule Use Restrictions.

Present Predator Control Activities on Public Lands

In March of 1993, the Humane Society of the United States appealed to the Interior Board of Land Appeals alleging the M-44 was allowed by APHIS-ADC to conduct animal damage control on public lands without first having complied with the requirements imposed by the National Environmental Policy Act. The Humane Society's appeal would require the BLM to prohibit APHIS-ADC from conducting any predator control activities on public lands until the Interior Board of Land Appeals issued a decision on the merits of their appeal.

The BLM Director decided to allow no further predator control activities by APHIS-ADC-M-44 on public lands until after new predator control plans and related environmental assessments have been completed. However, because of the dramatic increase in the number of livestock losses to predators over the last few years, emergency control will be allowed on public lands within the State of Wyoming for predator-caused livestock kills. Control is limited to the taking of the offending animals within 3 miles of the damage location, and those operations will cease within 5 days after losses stop. The use of M-44 is not considered an emergency method of control.

Conformance with Land Use Plans

The implementation of predatory animal damage control within the Rock Springs District is in conformance with the District's land use plans, i.e., the Big Sandy Management Framework Plan (1982), the Salt Wells Management Framework Plan (1982); the Kemmerer Resource Management Plan (1986); and the Pinedale Resource Management Plan (1988). In addition, the Salt Wells-Pilot Butte Grazing EIS (1984) and the Big Sandy Grazing EIS (1981) also provide for predatory animal damage control. These planning documents state that predator control will be coordinated with APHIS-ADC and conducted in accordance with the "Cooperative Animal Damage Control Plan for Public Land in the Rock Springs District, "(Note: The Salt Wells and Big Sandy Resource Areas were combined in 1985 into the Green River Resource Area.)

BLM Policy and Agreements

The Animal Damage Control Act of March 2, 1931 (46 Stat. 1468; U.S.C. 426-426b), as amended, mandates the management of wild vertebrates causing damage. APHIS, through the Secretary of Agriculture, has been given authority by the Congress of the United States to carry out animal damage control activities. The BLM and APHIS, in a national MOU for Animal Damage Control (September 1987) and in a Supplemental MOU for Animal Damage Control in the State of Wyoming (June 1989), have agreed that predator control activities may be carried out on BLM-administered lands by APHIS-ADC in accordance with the operational principles agreed to.

In accordance with the Supplemental MOU, APHIS-ADC has prepared and submitted to the Rock Springs District Manager a proposed Predatory Animal Damage Control Plan for public lands administered by the Rock Springs District. The proposed Predatory Animal Damage Control Plan was prepared in accordance with the appropriate Memoranda of Understanding.

The overall goal of the APHIS-ADC program is to minimize predatory animal impacts on livestock and the livestock industry while complying with the need to ensure public safety as well as protection of domestic animals, non-target species, and threatened and endangered species. The APHIS-ADC program is BLM policy (BLM Manual 6830), through this evaluation, to ensure that predator control is carried out in a manner which responds to resource protection, human health, and livestock protection needs while protecting public safety, domestic animals, and non-target wildlife that predator control on the public lands is conducted in a manner consistent with current laws, policies, and interagency procedures. The BLM evaluation is accomplished through the environmental analysis process and includes evaluating the need for predator control (i.e., livestock loss and economic impact to the livestock producers), the potential for conflicts with human safety and other resource uses...
resulting in the identification of areas within the Rock Springs District where control should or should not occur (e.g., human safety zones, endangered and threatened species, special management areas, etc.), the control methods that should or should not be allowed in consideration of human and domestic and nontarget animal health and safety, and analyzing cumulative environmental consequences of implementing the Predator Animal Damage Control Plan.

**RELATIONSHIP TO STATUTES, REGULATIONS, OR OTHER PLANS**

Supporting authority for predatory animal damage control is provided for through the Animal Damage Control Act of March 2, 1931 (46 Stat. 1468, U.S.C. 426-426b), as amended.

In addition, BLM policy and guidance relative to predator control activities on public lands are contained in the BLM Manual 6830, Animal Damage Control.

Predator control activities on public lands are subject to the Fish and Wildlife Act of 1956, as amended by Public Laws 92-159 and 92-502. This law restricts shooting or harassing of wildlife from any aircraft. Airborne hunting regulations (50 CFR 19) have been established to provide rules relative to the prohibition against shooting or harassing of wildlife from any aircraft, the requirements for the contents and filing of annual reports by the States regarding permits issued for such shooting or harassing, and regulations necessary for effective enforcement of the Fish and Wildlife Act of 1956.

The State of Wyoming has enacted law governing predator control activities within the State which is administered by the Wyoming Department of Agriculture. The Wyoming Predator Animal Damage Control Law (Wyoming Statute 1977, Sections 114-101 (through 108, and 11-6-201 through 210) specify requirements for, among other things, landowner permission, liability, cooperative and coordinated plans for rodent and predator control, issuance of aerial hunting permits, establishment of county predatory animal control boards, livestock boards' collection and disbursement of fees for predatory animal control, and predatory animal control fees on all sheep and cattle inspected within each predatory animal district.

The County Predator Animal Boards (County Boards) have the primary authority and responsibility for controlling predation in their respective counties. The duties of these County Boards include supervision over and implementation of the best methods of controlling predatory animals, which could include paying bounties, conducting their own individual county programs, contracting with APHIS-ADC, or a combination of all three. The County Boards also monitor predator problems and coordinate cooperative agreements (contracts) for control with APHIS-ADC, as well as raise and disperse needed funding. The APHIS-ADC contracts with the County Boards are for controlling predation within the respective county. The contracts between the respective County Board and APHIS-ADC are not mutually exclusive, as each party can enter into additional agreements to fulfill their responsibilities.

Within the Rock Springs District, APHIS-ADC has contracts with Lincoln, Uinta, and Sweetwater Counties.

Pursuant to the authority vested in the Department of Agriculture by virtue of the Wyoming Predator Animal Control Law, the Wyoming Predator Animal Control Regulations implement procedures for the issuance, denial, and revocation of permits for aerial hunting; implement provisions of the Fish and Wildlife Act by Public Laws 92-159 and 92-502; establish effective time periods for permits; establish a method for permit applicants to secure approvals from local predator control districts; identify permit areas; and provide exemptions as provided for in the Federal Airborne Hunting Act.

The BLM acknowledges the Memorandum of Understanding between the Wyoming State Department of Agriculture, Wyoming Game and Fish Commission, and USDA-APHIS-ADC regarding on Cooperating on the Conduct and Management of an Animal Damage Control Program (1988). BLM also acknowledges the responsibilities of the Wyoming Game and Fish Department in the administration of predator control activities. Specifically, the WGFD has responsibility for the management of wild animals on public lands and the BLM has responsibility for the management of habitat.

The Wyoming Legislature has made the determination that the taking of wildlife species to protect life or property is appropriate under certain circumstances. It is not the purpose of this environmental analysis to abridge State's Rights or to permit predator control activities outside the bounds set by the State of Wyoming.

**ISSUES AND CONCERNS - SCOPING RESULTS**

In April 1992, the BLM Rock Springs District and the APHIS-ADC issued a scoping notice announcing plans to begin an environmental analysis on APHIS's proposed Predatory Animal Damage Control Plan. The scoping notice was distributed to the general public, livestock industry, and local, state, and federal governmental agencies. The scoping notice was issued for the purpose of soliciting comments on the APHIS-ADC proposed Predatory Animal Damage Control Plan to help BLM and APHIS-ADC identify issues and concerns regarding animal damage control on public lands within the Rock Springs District, and to help identify reasonable alternatives.

In addition, in June 1992, the BLM Rock Springs District and APHIS-ADC held a public meeting in Rock Springs to provide the public to opportunity to ask questions and to express their concerns. In November 1992, the Rock Springs District published the Green River Resource Management Plan and Draft Environmental Impact Statement (RMEIS). This resulted in additional comments on predator control within the District. A wide range of issues, concerns, and questions was identified through this scoping process, and have been addressed and analyzed as appropriate in this environmental assessment.

**SUMMARY OF COMMENTS RECEIVED**

A total of 1,536 individuals commented on predator control. These comments are broken down:

**TYPE OF COMMENT NUMBER RECEIVED**

Written/recorded statements 124

Names on petitions 1,391

Phone calls 21

Total 1,536

The actual comment letters are not contained in this document. However, they are available for review in the Rock Springs District Office. A summary of each comment letter received has been prepared and a copy is available for public review upon request. Overwhelmingly, the majority (98.7 percent) of the comments received opposed the use of the M-44, but recognized a basic need for predator control; 0.6 percent supported all methods of predator control; 0.4 percent supported predator control, but without M-44's, aerial hunting, and traps; 0.2 percent opposed all forms of predator control; 0.1 percent supported only non-lethal methods of predator control.

Most comments raised similar issues and concerns as well as questions pertaining to predator control. They have been grouped into the following eight subject categories:

1. Predator Animals
2. Predator Impact on Agricultural Industry
3. Proponent Control Cost/Benefit
4. Predator Control Methods
5. Predator Control Objectives
6. Predator Control Objectives
7. Predator Control Area/Plans
8. Cumulative Impacts of the Predator Control Program.
A summary of the issues/concerns and questions identified during scoping is provided in Appendix A. The issues/concerns and questions listed in Appendix A are followed by a page number(s) indicating where discussion of the issue/concern or answer to the question can be found within this environmental assessment.
CHAPTER II - PROPOSED ACTION AND ALTERNATIVES

ASSUMPTIONS COMMON TO THE PROPOSED ACTION AND ALTERNATIVES

Several assumptions or common requirements are applicable to the development and implementation of a predator control program in the Rock Springs District. It is important that the reader be aware of them. These include BLM and APHIS-ADC responsibilities as specified in the agencies Memorandum of Understanding, definitions of predator control methods or techniques, definitions of terms, general restrictions, and authorization criteria. These assumptions are applicable to the Proposed Action and Alternatives.

A. BLM is responsible, on public lands under its jurisdiction, for the identification of conflicts associated with APHIS-ADC management of predatory animal control. However, BLM is also responsible for assessing the potential impact of actions it authorizes or denies on public lands to uses and resources on adjacent private, federal, and state lands. BLM must determine whether predator control practices are compatible with other multiple-use objectives and determine what, where, and when these practices will be employed.

B. APHIS-ADC is responsible, under the Animal Damage Control Act of March 2, 1931, as amended, for evaluating the need and determining the techniques necessary for predator control, for conducting animal damage control, for ensuring that predator control is conducted in accordance with appropriate laws, regulations, and for monitoring predator control, and for research. The overall goal of the APHIS-ADC program is to minimize predatory animal impacts on livestock and the livestock industry while complying with strict measures to ensure public safety as well as protection of domestic animals, non-target species, and threatened and endangered species.

C. The predator control program on BLM-administered lands will be to develop and conduct in cooperation with the appropriate State agencies (WGFD, Wyoming Department of Agriculture, Wyoming Lands Department) and County Predatory Animal Boards.

D. The APHIS-ADC program will integrate the use of both non-lethal and lethal control techniques, accomplished through a cooperatively operated integrated management system. APHIS-ADC and BLM recognize that implementation of the non-lethal methods of preventative predator control will not eliminate the need to initiate and implement lethal control methods.

The non-lethal phase of the integrated management system is implemented by the livestock producer using husbandry methods in the management of their livestock operations such as guard dogs, borders, and scare devices.

E. The coyote is the principal predatory target species to be managed. The red fox will be targeted in areas of Critical Environmental Concern only. The black bear and mountain lion will be targeted only after coordination with or at the request of the Wyoming Game and Fish Department. Big or trophy game animal control (black bear, mountain lion, bobcat) will be of individual animals only. Coyote and red fox control will be directed toward the individual offending animals and local problem animals, or local problem populations where losses due to predators have been verified or are likely to occur. Rodent control needs on public lands are not part of the proposed action and will be handled on a case-by-case basis by APHIS-ADC at the request of the BLM.

F. All predator control activities on public lands will be conducted in compliance with federal and state laws and regulations including, but not limited to, provisions of: 1) the Toxic Substance Control Act of 1976 (as amended); 2) the Federal Insecticide and Rodenticide Act of 1947 (as amended); 3) the Environmental Protection Agency (EPA) Use Restrictions for M-44 Devices; 4) the Endangered Species Act of 1973 (as amended); and 5) the Biological Opinion of the U.S. Fish and Wildlife Service dated July 1992, and the Biological Opinion that the U.S. Fish and Wildlife Service will render following this environmental assessment; and 6) the Resource Management Plans for the Kemmerer and Pinedale Resource Areas and the Big Sandy/Salt Wells Management Framework Plan for the Green River Resource Area (Green River Resource Management Plan when the Record of Decision is issued), e.g., all vehicular travel across public lands will be confined to existing roads and trails.

G. Predator control activities conducted: 1) in Wilderness Study Areas will follow guidelines outlined in BLM Manual 6830, Animal Damage Control, and BLM Manual H-8550-1, Interim Management Policy Guidelines for Land Under Wilderness Review; 2) in Areas of Critical Environmental Concern will comply with the special provisions of the ACEC Management Plans for those areas to protect important natural, cultural, and scenic resources (BLM Manual 1613); and 3) in Wild Horse Herd Management Areas aerial hunting would avoid horse herds to eliminate the potential for harassment, particularly during spring foaling when the horses are most susceptible to the adverse effects of harassment.

H. The coyote and red fox are classified by the WGFD as predators and are hunted and trapped for sport and fur. The BLM and APHIS-ADC recognize that predator control (primarily coyote), both lethal and non-lethal, will continue to occur on public and private lands by the general public for recreation, by stockgrowers to protect their livestock, and by independents for the stockgrowers. Under State Law, the taking of predators can occur on public lands by anyone, using such methods as trapping, snaring, aerial hunting, ground shooting, or calling with the aid of decoy dogs, so long as they comply with Wyoming State Statutes (e.g., aerial hunting requires a permit from the Wyoming Department of Agriculture; pilots must obtain landowner permission prior to hunting). No chemical control may be used on public lands administered by the BLM without BLM authorization. However, use of the M-44 device and other lethal chemicals can be used on private lands, as long as their use is in compliance with State Statutes.

I. The BLM and APHIS-ADC recognize that livestock losses are dynamic and vary from month to month and year to year for a variety of reasons. APHIS-ADC compiles quarterly loss data and provides these reports to BLM as public documentation.
This loss data reflects numbers of documented livestock loss to predators and will be used to help characterize possible cumulative and indirect impacts to livestock producers as a result of predation effects on herds building, genetic trait breeding, etc. In the development of allotment management plans, the BLM will include plans for predator control emphasizing the implementation of non-lethal control methods and techniques with the integration of lethal methods of predator control when necessary.

J. Records show little cattle loss to predators on cattle allotments; therefore, predatory animal control would occur in these areas only occasionally. Cattle losses within these allotments would be reported to in the same manner as losses reported in sheep allotments.

K. Predatory animal control education is an important endeavor of the APHIS-ADC program. Seminars, workshops, lectures, demonstrations, and technical assistance will be provided to interested public and livestock producers to inform and provide training in the latest techniques in predator control.

L. Once a Predatory Animal Damage Control Plan is approved, APHIS-ADC, BLM, and WGFD will meet annually in September. In addition, the agencies will meet as often as necessary during the year, so that personnel of both agencies are aware of ongoing programs.

APHIS-ADC will provide the BLM Rock Springs District Manager and WGFD with an annual report documenting livestock loss and animal damage control activities during the past fiscal year, including an evaluation of the control techniques used and recommendations on appropriate activities for the coming year. This information will be used in determining necessary adjustments to the coming year control strategies as decided by the agencies. Predator control activities would be kept within the guidelines of the approved Predatory Animal Damage Control Plan for the Rock Springs District. The APHIS-ADC report will be submitted no later than two weeks prior to the annual meeting. The information provided by APHIS-ADC would be available for public inspection at the Rock Springs District Office. These specific data would be provided in the APHIS-ADC report:

1. A map showing the location of all APHIS-ADC predator kills within the Rock Springs District at a scale of at least 1:100,000.

2. A map showing the location of all documented livestock losses within the Rock Springs District at a scale of at least 1:100,000.

3. A table showing the number of requests received for preventative, corrective, or emergency control work, the non-lethal and lethal predatory animal control methods or techniques used, the number and kind of livestock loss (specified as confirmed or unconfirmed), and species and number of predators taken.

4. A table showing, by control method or technique used, the number and species of non-target animals taken during the previous control year.

In addition to these data, the annual meeting between APHIS-ADC, BLM, and WGFD will be used to ensure: that there is a continued understanding of the roles and responsibilities of the APHIS-ADC and BLM personnel related to predator control; uniform handling of predator control requests, needs, and programs within the BLM; that the procedures and policies set forth in the approved Predatory Animal Damage Control Plan are put into effect and maintained; that APHIS-ADC, BLM, and WGFD personnel are aware of the procedures and Agency roles specified in the Predatory Animal Damage Control Plan; that all land management considerations, including delineation of additional human safety zones and similar areas, are identified and clearly understood; and that the monitoring of predator populations, the target species of predator control activities, is implemented and managed to ensure viable population levels.

**DESCRIPTION OF PREDATOR CONTROL METHODS AND TECHNIQUES**

**Non-Lethal Control Methods and Techniques**

A wide variety of non-lethal practices and methodologies are used by livestock producers and APHIS-ADC personnel to reduce livestock exposure to predation losses. Implementation of these practices occurs when the potential for predation can be reduced without significantly increasing the cost of production or diminishing the resource owner’s ability to achieve land management and production goals. Changes in or adoption of non-lethal practices by livestock producers are recommended through technical assistance provided by APHIS-ADC when the change or adoption presents a means of averting losses. Non-lethal practices encouraged and used include animal husbandry practices and animal behavior modification.

Animal husbandry practices are adopted at the livestock producers discretion. Animal husbandry practices involve such actions as use of barriers; gathering sheep to keep them closer together during daily periods; bedding sheep close to camp at night when predation is most likely to occur; use of sheds and pens to protect young animals during lambing and calving periods; moving livestock away from high risk areas based on experience with terrain, predator habitat and habits.

Animal behavior modification involves the use of tactics which would alter the behavior of the predators including scare tactics (electronic devices such as sounders, pyrotechnics, lights, etc.) and aversive agents such as chemical repellents. However, these tactics have limited application since predators tend to adapt or habituate to the scare or aversive tactic.

Non-lethal practices commonly used by livestock producers within the Rock Springs District include:

- At least one border per band of sheep
- Use guard dogs with each band of sheep (from 80 to 85 percent of the sheep operators within the Rock Springs District have guard dogs with each band of sheep)
- Use and/or request APHIS-ADC personnel to provide technical guidance in the use of scare devices or aversive agents
- Use all non-lethal preventative practices whenever possible and cost effective

**Lethal Control Methods and Techniques**

The most effective approach to resolving wildlife damage problems is to integrate the use of non-lethal methods (self help) with lethal methods (implemented in an organized manner by an accountable agency). This effectiveness is enhanced when the integration of lethal methods includes the use of several techniques simultaneously or sequentially. A variety of lethal methods are available to accomplish predation control objectives. In selecting control techniques for specific damage situations, APHIS-ADC gives consideration to the responsible species, status of the target (responsible) and nontarget species, season of damage, local environmental impacts, social and legal aspects, land ownership, and relative costs of control options. Various federal, state, and local governmental statutes and regulations, interagency memoranda of understanding, as
well as predator control program policies direct the selection and use of these tools. The federal and state approved lethal methods and techniques for controlling predatory animals that can be used by APHIS-ADC are described.

Aerial Shooting - The use of a helicopter or fixed-wing aircraft is a control method that is widely used for predator management. It is ideally suited in areas where vegetation and terrain do not preclude its use. The area of predation is worked by the aircraft, first near the herd to pick up offending animals feeding on a sheep kill; if unsuccessful, aerial hunting then branches out in a pattern conforming with the lay of the land. The location of offending animals is facilitated by the APHIS-ADC trapper on the ground. When the target animal is observed, it is removed as humanely as possible by shooting.

The use of aircraft for predator control is very selective, species specific, and, in some cases, individual specific since visual identification is made before shooting. Fixed-wing aircraft are useful mainly over flat or gently rolling terrain. Helicopters, because of their maneuverability, have greater utility over brush-covered ground, timbered areas, or rough terrain where animals are more difficult to spot.

In most areas, aerial shooting is most effective in winter with snow cover when the coyote or fox pelage contrasts with the white background; the summer vegetation reduces the pilot or gunner ability to sight the predator because of the blending of the coyote or fox pelage with the vegetation. Good visibility and relatively clear and stable weather conditions are required for effective and safe operations. Aerial hunting generally takes place within an 8-mile radius of the time spent flying is below 500 feet and much of the time below 200 feet, and because the aircraft is carrying a firearm. APHIS-ADC gunners must be certified to participate in aerial hunting, activities. To become certified, employees must attend an intensive, formalized aerial gunners’ training program.

Shooting - Shooting is a method of predator control frequently performed in conjunction with calling particular predators such as coyotes, bobcats, and fox. Shooting is species specific and can be selective for offending individuals. It is a method by which predators are taken (shot) on the ground, with or without the aid of predator calls. It is a method directed at specific problem animals or used where other tools are not applicable because of hazards or weather conditions. Predator caging is a technique used to bring predators into a close range. A hand-held device that mimics an injured rabbit, other prey animal, or coyote pup may be used to lure predators within shooting range.

Trapping - The steel leg-hold trap, with smooth offset jaws of approximately 3/16-inch thick (i.e., jaws do not close completely to prevent bones breaking), is the most versatile and widely used tool in predator animal control. Traps have a 3-pound tension (the triggering device) requirement to make them more selective of coyotes. Traps are considered to be non-lethal, mechanical capture device since disposition of the trapped animal is left to the discretion of the individual using them (i.e., non-target species are released). APHIS-ADC policy requires snare traps to be checked at least once every 72 hours (3 days). The selectivity of the steel leg-hold trap for targeting specific predator species is a function of effective and proper trapping techniques.

Scent Sets (olfactory attractants), placed near the trap, are used to entice the animal into the trap. Scent formulas vary but their objective is to attract target animals. Traps placed around visual attractants (e.g., a sheep carcass) must be no closer than 30 feet from the attractant to protect non-target species. APHIS-ADC trappers within the Rock Springs District commonly use 30 steps, which equates to 60 to 90 feet, greatly reducing the chance of a non-target species being caught. If a non-target wildlife species is caught in a trap, it will be released if not injured or precluded from maintaining itself in the wild. Non-target species (e.g., skunk, badger, rabbit, raven, bobcat, etc.) that are injured and are not capable of maintaining themselves in the wild will be disposed of quickly and humanely. If the animal is an eagle, raptor, or other protected species, it will be removed from the trap and given to the nearest U.S. Fish and Wildlife Service official or local WGFD official for handling.

Live Trapping - Live trapping is used primarily in the control of rabid and nuisance skunks and raccoons during isolated outbreaks of rabies.

Snares - Snares made of flexible cable are among the oldest existing control tools. They have limited application but are effective when used under proper conditions. Snares may be employed as live or live-capture devices depending on how and where they are set. Snares set to capture an animal by the neck are usually lethal, whereas snares positioned to capture the animal around the leg can be used for live-capture devices. APHIS-ADC policy requires snares to be checked weekly. Snares can be effectively used wherever a target animal moves through a restricted lane of travel (i.e., crawls under fences, trails through vegetation, or den entrances). When an animal moves forward into the loop formed by the cable, the nose tightens and the leg is held. The foot or leg snare is a non-lethal device, activated when an animal places its foot on the trigger. These are used primarily for mountain lion and bear at the request of the WGFD.

The selectivity of the snare in targeting specific predators is a function of effective and proper snaring techniques. If a non-target wildlife species is caught in a snare, it will be released if not injured or precluded from maintaining itself in the wild. Non-target species (e.g., skunk, badger, rabbit, raven, bobcat, etc.) that are injured and are not capable of maintaining themselves in the wild will be disposed of quickly and humanely. If the animal is an eagle, raptor, or other protected species, it will be removed from the snare and given to the nearest U.S. Fish and Wildlife Service official or local WGFD official for handling.

Denning - Denning is the practice of seeking out the dens of depredating coyotes or red fox and destroying the young, adults, or both to stop or prevent depredation on livestock. The usefulness of denning as a damage control method is important because coyote and red fox dens are fairly easy to locate in many parts of the country. APHIS-ADC personnel, using decoy dogs or through tracking, can readily locate dens. Den use is restricted to the spring (late March through early June). Coyote and red fox depredations on livestock and poultry often increase in the spring and early summer because of the increased food requirements caused by the need to feed pups. The removal of pups will often stop depredations even though the adults are not taken. When the adults are taken, it is customary to kill the pups to prevent their starvation. In this method, pups are removed from dens by excavation and then shot, or they are killed in the den with a registered fumigant (i.e., sodium nitrite gas cartridge). Denning is highly selective for the target species and family groups responsible for damage. Denning is often combined with calling and shooting with the aid of decoy dogs.

Guard and Decoy Dogs - Dogs may be used as decoys to lure offending coyotes into close range where visual identification of the target is made prior to shooting. Some dogs are trained to locate dens. Decoy dogs are employed by APHIS-ADC personnel while guard dogs are utilized by livestock producers.
M-44s (Sodium Cyanide Devices) - The M-44 is a tubular-shaped spring activated ejector device developed specifically to kill coyotes and other canid predators. Death occurs by propelling sodium cyanide into the animal's mouth, causing death through the inhalation of toxic fumes. When in contact with moisture, sodium cyanide releases hydrogen cyanide, the actual toxicant. Coma and death follow within 60 to 120 seconds. No pain is experienced since the chemical prevents oxygen use by the tissues.

The M-44 device consists of a capsule holder wrapped with cloth or wool; a capsule containing 0.8 grams of powdered sodium cyanide; an ejector mechanism; and a 5- to 7-inch hollow stake. The hollow stake is driven into the ground, the ejector unit is cocked and placed in the capsule holder containing the cyanide capsule is screwed onto the ejector unit. A field meat bait is spread on the capsule holder. An animal attracted by the bait will try to pick up or pull the baited capsule holder. When the M-44 is pulled, a spring-activated plunger propels sodium cyanide into the animal's mouth. The 0.8 grams of sodium cyanide represents one lethal dose with no secondary poisoning effects.

The M-44 sodium cyanide capsule, and EPA Use Restrictions for the use of the M-44 are federally registered, making it a safe, humane, and canid specific control device. It is, however, a lethal method that may not be compatible with certain other public land uses (bird hunting or high public use). Its compatibility or conflict with other legitimate public land uses would be jointly determined by the BLM and APHIS-ADC. Only APHIS-ADC personnel would be authorized to place the M-44 on public lands. APHIS-ADC personnel receive intensive training on the safe handling, use, placement, and necessary record keeping of the M-44 device. Training involves an eight-hour class focused on safety and a thorough familiarity with the EPA Use Restrictions governing the use of the M-44.

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

Introduction

As stated in the Preface, this environmental assessment documents the environmental impact of the APHIS-ADC ongoing program of animal damage control, as well as APHIS-ADC proposed changes (i.e., the use of the M-44 on public lands). The environmental assessment also analyzes alternatives, including the no action alternative, for the protection of domestic livestock within the BLM Rock Springs District. Development of the Proposed Action and Alternatives was based on the issues and concerns identified in the comments received from the public, organizations, livestock industry, and county, state, and federal agencies. The decision to be made, based on the analysis documented in this environmental assessment, will be where, when, and what types of predator control actions by APHIS-ADC can be allowed on public lands within the BLM Rock Springs District without adversely affecting other uses of these public lands. The proposed Predator Animal Damage Control Plan, along with associated maps in Appendix D, would cover a five-year period from the date of approval.

The Proposed Action was developed by the APHIS-ADC in consultation with the BLM Rock Springs District. It would comply with the Animal Damage Control Act of March 2, 1931, as amended, in that it provides "...the best methods of eradication, suppression, or bringing under control on...public domain...coyotes, bobcats, and other animals injurious to agriculture, livestock, sheep, farm poultry, farm animals, fur-bearing animals and birds, and for the protection of stock and other domestic animals through the suppression of...predatory and other wild animals..." Under the Proposed Action, APHIS-ADC would provide a predator control program within which both agencies could legally operate under the law and conform with interagency agreement.

The Alternatives, except No Action, include a combination of methods and strategies for implementing a predator control program. The Alternatives, as does the Proposed Action, would be a Title 12 integrated predator control program on public lands which responds to resource protection, human health, and livestock protection needs while emphasizing public safety, the protection of domestic animals, and nontarget wildlife by using all the non-lethal and conventional lethal methods of control. Only the use of chemical and nonchemical lethal control methods vary among the alternatives or are not included.

Three alternatives were developed with the same predator control objectives as the Proposed Action (Present Management With M-44 Use):

- Alternative A (Present Management Plus Limited M-44 Use)
- Alternative B (Present Management - No M-44 Use)
- Alternative C (No Lethal Methods).

A fourth alternative, Alternative D (No Action-No APHIS-ADC Predator Control), is also analyzed.

Proposed Action (Present Management With M-44 Use)

The APHIS-ADC proposed Predator Animal Damage Control Plan specifies where, when and under what restrictions predatory animal damage control operations would be carried out. Changes, if needed, would be made and coordinated at the annual meeting between BLM and APHIS-ADC personnel.

As stated in Assumption D, the APHIS-ADC protection of livestock was accomplished through a cooperatively operated integrated management system. APHIS-ADC would provide technical assistance to the livestock producers in developing and implementing non-lethal methods. Concurrent with non-lethal methods, APHIS-ADC would be requested by the livestock producer to initiate lethal methods of predator control to provide adequate protection against livestock losses while sheep are lambing or cattle are calving; during the more susceptible winter period when livestock are on winter ranges; and when livestock (primarily sheep) are being herded from lambing ranges to summer ranges on Forest Service and BLM-administered lands, to winter range, and back to lambing range. These are all periods during which livestock use (primarily sheep) has a history of loss to predatory animals. APHIS-ADC would confirm that a predatory problem exists or is developing and would initiate corrective lethal control.

APHIS-ADC Predatory Animal Damage Control Plan Activities

The APHIS-ADC proposes to conduct predatory animal damage control on public lands within the Rock Springs District as outlined in the following description of control activities. The proposed action, with the exception of the use of the M-44 device on public lands, would be conducted in a manner replicating that which has been authorized since 1985.

Predator management would be carried out by APHIS-ADC using the following procedures:

1. When a permittee is preparing to trail to lambing, winter, or summer range where predator losses have historically occurred, he contacts the local APHIS-ADC trapper and requests assistance. The APHIS-ADC trapper records the request on USDA APHIS-ADC Form 72 or 73 (Appendix C). APHIS-ADC responds to requests for preventive control where there are documented historical losses without ongoing losses.

2. When a permittee is suffering livestock losses, he contacts the APHIS-ADC trapper and requests assistance. The APHIS-ADC trapper records the request on APHIS-ADC Form 72 or 73 (Appendix C). The APHIS-ADC trapper proceeds to the site of reported loss and examines carcasses to confirm and verify that the loss was due to predation and which predator caused the loss. The carcasses of all the animals reported to be lost are not examined.
Examination of enough carcasses to confirm predation and species of predator is all that is necessary. The APHIS-ADC trapper and District Supervisor correlate permittee requests for assistance on lambing or winter ranges with historical loss records.

3. After determining the species of predator, the APHIS-ADC trapper uses the method(s) of control consistent with the stipulations and restrictions specified in the annual operating plan that most efficiently remove the offending animal(s) to prevent further loss. The species and predatory animal(s) taken are recorded on APHIS-ADC Forms 72 and/or 73 by the APHIS-ADC trapper.

4. In the case of confirmation of bear or cougar predation on livestock, the livestock producer and/or APHIS-ADC trapper would contact the WGFD for permission to either take the offending animal or, under State Law, the WGFD would pay the livestock producer for damages. NOTE: WGFD can compensate livestock producers for losses incurred by big or trophy game animals (WGFD, Laws 23-1-901 and 23-3-115).

The public lands within the BLM Rock Springs District have been identified as fitting one of four areas or types of predator control activity:

1. No Planned Control Areas; (2) Planned Control Areas; (3) Restricted Control Areas; and (4) Human Safety Zones. These proposed areas are delineated on Map A (Appendix D). The methods of non-lethal and lethal control, planned control periods, and restrictions are specified for each of the areas. The APHIS-ADC planned predator control activities would be reviewed and evaluated with the BLM Rock Springs District Manager during the annual meeting in September.

Control Areas

No Planned Control Areas are public land areas where the need for control is not anticipated but could be authorized if need is shown (Map A, Appendix D). For example, control could be approved if livestock loss occurred on areas adjacent to BLM-administered lands. In this situation, APHIS-ADC will follow the procedures established for Emergent Animal Damage Control in accordance with BLM/APHIS-ADC State Memorandum of Understanding. No predator control activities are planned or authorized because animal damage problems have not been identified, and/or livestock producers have not requested control measures. Cattle grazing allotments are included within this zone. The need for predator control within these areas would be determined on a case-by-case basis or during the APHIS-ADC, WGFD, and BLM annual meeting. Approval by the appropriate BLM Area Manager (Pinedale, Kemmerer, or Green River) would be required on a case-by-case basis.

Planned Control Areas are public land areas where the need for control of coyotes and other target or nuisance animals would be anticipated. The boundaries for the Planned Control Areas (Map A, Appendix D) represent a general zone within which predator control activities would be authorized. Control would be subject to the Stipulations and Restrictions defined in the following section. The planned control areas are livestock grazing allotments used by sheep producers and to a lesser extent cattle producers.

Predator control would be conducted within these areas by APHIS-ADC personnel after receiving a request from a livestock producer. The livestock producer's request would be based upon livestock loss due to predation or, based on historical loss data, loss that is highly likely as soon as livestock move into the area. This requirement will help assure that predator control activities are aimed at offending animals, rather than the species as a whole. Preventive lethal predatory animal damage control would be initiated prior to the onset of predator losses to livestock in areas within this zone where: 1) the affected individual(s) has requested control services, and 2) where the APHIS-ADC has evaluated and documented that losses have occurred or there is a verified historical record of recurring coyote predation over the previous 3 years which will continue to recur in the absence of control activities.

Restricted Control Areas are public land areas where control activities may be planned for the designated control period, but control authorization is limited to certain methods or times of the year. Map A, Appendix D shows the location of some restricted control areas, while the Stipulations and Restrictions, numbers 3, 4, 5, 7, 9, 10, 11, 13, and 14, describe conditions and/or locations of other restrictions on control. Restrictions placed on control are for multiple-use considerations, including, but not limited to: safety of humans and their pets; wilderness study areas; bird hunting areas, dog sledding areas, or other sites frequented by dogs; protection of threatened or endangered wildlife; unique recreation values; and avoidance of repetitive disturbance of wintertime big game herds, wintering bald eagles, and raptor nesting concentration areas. Control operations would be conducted by APHIS-ADC within Restricted Control Areas in accordance with specified Stipulations and Restrictions.

Human Safety Zones are public land areas designated as special protection zones where control measures would not be allowed within a specified distance, except for the protection of public health or an unusual emergency (Map A, Appendix D and Stipulations and Restrictions numbers 3, 5, 6, and 9). Examples of human safety zones include areas such as towns, rural residences, developed recreation sites, picnic areas, and state and federal highways. Emergency animal damage control in Human Safety Zones would be handled on a case-by-case basis using procedures outlined in BLM Manual 6830.53. Request for control could be by livestock producer, county official, city official, state or local health agency, etc. Any control operation conducted on public lands within a Human Safety Zone must receive prior approval from the appropriate BLM Area Manager (Pinedale, Kemmerer, or Green River) based upon evidence of need for protection of human health and safety.

Stipulations and Restrictions

The following Stipulations and Restrictions would apply to APHIS-ADC predator control activities within each of the four types of control areas as applicable:

1. Animal Damage Control Activity Modifications - The BLM District Manager may, at any time, deny or modify any predator control activities on the public lands for multiple-use management or public safety reasons. This will be done in consultation with the APHIS-ADC State Supervisor.

2. Authorized Control Areas - Predator control activities are authorized, but restricted to, the area within the delineated Planned Control Area and Restricted Control Area boundaries shown on Map A (Appendix D). However, the delineated boundaries do not preclude the taking of a target animal that has been followed from a Planned Control Area into a Restricted Control Area or from a Restricted Control Area into a No Planned Control Area.

Also, when target animals are moving from adjacent No Planned Control Areas into Planned Control Areas, predator control may be initiated in the No Planned Control Areas. Predatory control within No Planned Control Areas would be approved on a case-by-case basis by the appropriate Area Manager (Pinedale, Kemmerer, or Green River). Pursuit of a target species into a Human Safety Zone would not be authorized. Separate approval would be required.

3. Human Safety Zones - No lethal method of predator animal control will be allowed within the specified human safety zones, unless needed to protect the health and safety of humans, domestic animals, wildlife, or as approved by the BLM District Manager:

- Within one mile of any community, city, town, subdivision, or other area of human concentration.
- Within one mile of any residence unless the occupant(s) requests and concurs in, and the BLM District Manager approves
predator control activities at a closer distance.

- Within one-quarter mile of any federal or state highway, and maintained BLM, county, or private road.
- Within one mile of all developed recreation sites, designated historic sites, recreational waters (e.g., Green River), specified segments of historic trails (e.g., Oregon Trail through South Pass), parks, rest areas, or similar public use areas.
- Within one mile of the high water line of Flaming Gorge Reservoir except for "hot pursuit" unless approved by the District Ranger, Ashley National Forest. "Hot pursuit" is defined by the Ashley National Forest as "pursuit of offending predator(s) into an area which is inactive or designated for unanticipated control.
- No predator control will be allowed within the boundary of Fossil Butte National Monument.
- No predator control would be conducted within a buffer zone around Seedskadee National Wildlife Refuge: Starting at the CCC Bridge below Fontenelle Dam, bounded on the west by Wyoming State Highway 372, south to the Rhone-Poulenc Mine entrance road, across the Green River, and bounded on the east by a 1 to 1 and 1/2-mile distance from the Green River.

Therefore, the eastern buffer zone will be carefully monitored to ensure no serious conflicts develop. Should conflict develop, coordination will be initiated immediately between APHIS-ADC, the Seedskadee Refuge Manager, and the livestock producer to resolve the conflict.

4. Lethal Control Methods Period of Use - Table II-1 shows lethal control methods that would be authorized within Planned and Restricted Control Areas.

5. M-44 Sodium Cyanide Devices - The M-44 sodium cyanide device (M-44) would be authorized only in accordance with current Environmental Protection Agency (EPA) Use Restrictions. A list of the 26 EPA Use Restrictions is contained in Appendix B. M-44 would be used on public lands only as authorized by the BLM District Manager. Requests to the BLM District Manager for authorization to use M-44 on public land would originate with the APHIS-ADC District Supervisor or his representative. Authorization by the BLM District Manager would be given only when the following criteria have been met:

- The APHIS-ADC request is in conformance with the 26 EPA Use Restrictions (Appendix B) and all applicable requirements under the Stipulations and Restrictions section. The BLM Stipulations and Restrictions listed in this section would supersede EPA restrictions where they are more stringent (e.g., distance from human habitation). EPA Use Restrictions of critical consideration are:

  (7). The M-44 device shall only be used on or within seven (7) miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before applications of the M-44 is undertaken. This use restriction is not applicable when wild canids are controlled to protect federally designated threatened or endangered species or are vectors of a communicable disease.

  (8). The M-44 device shall not be used:
  (1) in areas within national forests or other Federal lands set aside for recreational use, (2) areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or (4) except for the protection of federally designated threatened or endangered species, in National and State Parks; National or State Monuments; federally designated wilderness areas; and wildlife refuge areas.

(10). One person other than the individual applicant shall have knowledge of the exact placement location of all M-44 devices in the field.

Methods - Table II-1

**Control Method** | **Period Control Allowed** |
--- | --- |
Calling, Shooting, Decoy Dogs | Year-round |
Aerial Shooting* | Year-round |
Traps, Snares | 12/1 - 6/30 |
Denning | 3/1 - 7/15 |
M-44's | 10/1 - 1/31 |

Note: The U.S. Fish and Wildlife Service and APHIS-ADC coordinated and requested this buffer zone around Seedskadee National Wildlife Refuge based on studies that showed the most destructive nest predator, and the most difficult predator to control, was the red fox. Studies suggest that where red fox and coyote territories overlap, the coyote serves as a natural biological control, keeping red fox populations suppressed. The buffer zone would help maintain a small resident population of coyotes to keep the fox population suppressed. The U.S. Fish and Wildlife Service may request control assistance from APHIS-ADC if predation on waterfowl becomes excessive within the Refuge. The area east of the Green River is used as sheep lambing and winter range.

Although most sheep trail to Forest Service lands during the summer months, some sheep remain on BLM-administered public lands during this period. Aerial shooting, therefore, may be necessary year-round within the Rock Springs District.

* During the crucial periods of raptor nesting and big game winter use, APHIS-ADC will avoid identified raptor nesting concentration areas and consult with the WGFD to avoid identified big game concentrations during severe winter periods.
The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water, provided that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered "bodies of water" for purposes of this restriction.

The M-44 device shall be placed at least at a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to remove it from the sight of persons and domestic animals using any such public road or pathway. NOTE: Within the Rock Springs District, the device must be at least one-quarter mile from any federal or state highway, and maintained BLM, county, or private road.

The maximum density of M-44s placed in any 100-acre pastureland area shall not exceed 10; and the density in any 1 square mile of open range shall not exceed 12.

No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station as a draw station. No more than four M-44 devices shall be placed in any private road.

An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.

Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

Main entrances or commonly used access points to areas in which M-44 devices are set shall be posted with warning signs to alert the public to the toxic nature of the cyanide and to the danger to pets. Signs shall be inspected weekly to ensure their continued presence and ensure that they are conspicuous and legible.

An elevated sign shall be placed within 25 feet of each individual M-44 device warning persons not to handle the device.

Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

- The number of devices placed.
- The location of each device placed.
- The date of each placement, as well as the date of each inspection.
- The number and location of devices which have been discharged and the apparent reason for each discharge.
- Each species of animals taken.
- All accidents or injuries to humans or domestic animals.

The APHIS-ADC has completed an evaluation of the need to use the M-44 and determined that a significant impact to the livestock producer would occur unless it is used in conjunction with other control methods. (Significance of impact to the livestock operator would consider such factors as losses incurred to-date, terrain, effectiveness of conventional control methods, increased cost effectiveness of ADC, and economic hardship.) Need will be determined by reported losses as documented. A history of verified losses over the previous 3 years will indicate need. This method of determining need will be considered appropriate so long as viable populations of coyotes are maintained. In each case, documentation of livestock losses, including evidence that such losses were caused by coyotes, would be required.

M-44s would only be authorized as part of the integrated management system involving all land ownership in the control area.

The APHIS-ADC, BLM, and the WGF will evaluate the season and location for multiple-use resource conflicts and, if necessary, make on-the-ground inspections with APHIS-ADC personnel. APHIS-ADC would inform BLM of the location and area of M-44 use on private, state, and BLM intermingled land so that BLM can assure that public concerns are fully considered.

Only APHIS-ADC certified employees would place M-44s on public lands.

Use of M-44s by APHIS-ADC will be reported to the BLM District Manager by submitting APHIS-ADC Form 72 (Appendix C). This information would be available for a public review upon request of the BLM District Manager or APHIS-ADC District Supervisor.

Use of M-44s will not be authorized within the boundaries of the following areas:

- Human safety zones (No Control Zones)
- Agricultural zones
- Wildlife refuges
- National parks
- National monuments
- National forests
- National wilderness areas
- Corrals
- BLM intermingled land
- Emergency or disaster areas
- Candidate Species
- Specified areas
- Areas of potential habitat
- Public safety
- Railroad rights-of-way
- Existing occupations
- Natural landmarks
- Habitat areas
- And any other areas that could cause environmental harm.

6. Emergency Predator Control - Within Human Safety Zones, No Planned Control Areas, or Restricted Control Areas, emergency situations may arise, such as an outbreak of rabies, documented loss of livestock to predators, etc., that could justify authorization for control. On a case-by-case basis, APHIS-ADC would submit a written request to the appropriate Area Manager (Pinedale, Kemmerer, or Green River) for consideration. Methods of control authorized would be commensurate with public safety first and taking the offending animal second. In an emergency situation involving immediate threats to public health or safety, APHIS-ADC would not be required to obtain prior approval, but would notify the appropriate Area Manager the same day control is initiated, and when it is completed. Documentation of emergency response activities would be completed in the same manner as normal control activities. Once the emergency situation is over, the area would revert to its control status.

7. Threatened/Endangered and Candidate Species - In compliance with section 7 of the Endangered Species Act and EPA Use Restrictions on the use of the M-44 sodium cyanide capsule, the M-44 device request of the BLM District Manager or APHIS-ADC District Supervisor.

California condor
- California grizzly bear
- Endangered Species
- Fossil Butte National Monument
- Seedskadee National Wildlife Refuge
- Flaming Gorge National Recreation Area
- Designated Wilderness Areas
- Greater Sand Dunes Area of Critical Environmental Concern
- Natural Corrals Historic Site
- One mile of the Green River
- Threatened/Endangered Species Habitat
- Bird/Waterfowl Hunting Seasons

Black-footed Ferret Habitat - Lohed traps will not be used within an active white-tail prairie dog colony or complex of more than 200 acres, or less than 200 acres with neighboring white-tailed prairie dog towns, unless they are equipped with a pan tension device to prevent animals weighing less than three (3) pounds from tripping the traps. Snare equipped with stop devices which allow the snare to close to no less than three (3") diameter to preclude ferret capture may be used.

Gray Wolf and Grizzly Bear Habitat - Because of the potential for the gray wolf and grizzly bear, a conservative and cautious approach to protect any potential resident or dispersing wolves or grizzlies will be implemented. Control activity in the foothill areas of the Wind River and
Where to place capsules in areas of wildlife species, a conservative and cautious adverse impact does not occur to candidate wolves and grizzly bear personnel trained in calling and shooting to ensure gas cartridges, positive identification of grizzlies; 2) alternative means to accomplish. Wildlife Services and WGF will cooperatively identify areas where wolves and/or grizzlies are observed, will be approved on a case-by-case basis by the appropriate Area Manager (Pinedale, Kemmerer, or Green River).

10. Bird Hunting Area/Dog Protection - To protect hunting dogs, sled dogs, or domestic pets, no steel traps or M-44s will be set on public lands: 1) during the sage grouse hunting season (i.e., the entire Rock Springs District) September 1 through September 30, 2) in chukar partridge and forest grouse habitat during the hunting seasons October 1 through December 31; or 3) within one-half mile of open waters used by waterfowl hunters during the entire hunting season beginning about October 1 through January 31.

To protect sled dogs, APHIS-ADC would provide, upon request, a detailed map (1:24,000 scale) to dog sledders showing areas of M-44 and leghold trap placement.

To discourage domestic dogs from activating an M-44 when contacting one, APHIS-ADC has M-44 capsules filled with powder that they use around sheep camps to train sheep dogs to avoid the device. When pulled, the dog receives a dose of powder that causes it to avoid these devices. APHIS-ADC has worked very effectively. APHIS-ADC personnel would provide concerned individuals the opportunity to expose their dog to an M-44 pepper capsule, thereby reducing the likelihood of them ever pulling one on the public rangelands. This would be arranged by appointment at the APHIS-ADC office in Rock Springs.

11. Wilderness Study Areas, Areas of Critical Environmental Concern, and Wild Horse Herd Management Areas are Restricted Control Areas.

Wilderness Study Areas - The Rock Springs District has 15 wilderness study areas (Map B, Appendix D): Scab Creek, Lake Mountain, Raymond Mountain, Buffalo Hump, Sand Dunes, Alkali Draw, South Pinnacles, Alkali Basin-East Sand Dunes, Red Lake, Honeycomb Buttes, Oregon Buttes, White Horse Creek, Devils Playground-Twin Buttes, Red Creek, and Adobe Town.

Special restrictions apply to wilderness study areas. Within these areas, predator control activities would be conducted in accordance with the guidelines established in BLM Manual 6830, Animal Damage Control and BLM Manual H-8550-1, Interim Management Guidelines For Wilderness Study Areas. Acceptable control measures include lethal and nonlethal methods, depending upon need, justification, location, condition, efficiency, and applicability of state and federal laws. Control will be directed at individual animals causing the problem and use only the minimum amount of control necessary to solve the problem. The use of chemicals (i.e., M-44 sodium cyanide devices) may occur only where other measures are impractical. Shooting of animals from aircraft may be allowed, in accordance with State law and upon the approval of the District Manager.

Predator control within designated wilderness areas would be approved by the State Director on a case-by-case basis. Such approval would be required only for those activities that are to take place in the designated area.

Areas of Critical Environmental Concern (ACECs) - The Rock Springs District has 10 ACECs (Map B, Appendix D). Six of them coincide with all or part of a Wilderness Study Area. The Management Plan prescriptions for each ACEC do not preclude predator control activities. However, those coinciding with Wilderness Study Areas would be required to comply with the Interim Management Policy and Guidelines for Lands Under Wilderness Review and the special provisions of the ACEC Management Plans to protect important natural, cultural, and scenic resources (BLM Manual 1613). ACEC management prescriptions may seasonally restrict the method or technique of predator control (e.g., some are raptornestine concentration areas, so aerial hunting may be restricted during nesting; some are crucial winter range for big game animals, so aerial hunting may be restricted in areas of big game concentrations and/or during severe winters in these areas). Table III-4 lists the ACECs by BLM Resource Area, identifies those that coincide with Wilderness Study Areas, and lists predator control activity restrictions.

Wild Horse Herd Management Areas - The Rock Springs District has 4 wild horse herd management areas (Map C, Appendix D). Aerial hunting within these areas could cause harassment of wild horse herds. During spring foaling, the horses are most susceptible to the adverse effects of harassment. Pilots would be required to avoid horse herds when conducting aerial hunting within these areas. BLM will monitor aerial hunting activities within these areas during this period.

12. Black Bear/Mountain Lion - Black bear or mountain lion (trophy game animals) control will occur only at the request of the WGFD.

13. Raptor Concentration Areas - In identified raptor concentration areas (Map D, Appendix D), aerial predator control activities during the nesting season (March 15 to July 15) or winter roost period (October 1 to April 30) will be approved by the appropriate Area Manager (Pinedale, Kemmerer, or Green River) on a case-by-case basis only after a field inspection of the area. APHIS-ADC will avoid disturbing active raptor nests or winter roost sites by not conducting aerial hunting within a 1/2-mile radius of the nest site or roost site. Current data on nest site and winter roost concentrations will be updated to provide information annually on the APHIS-ADC map.
14. Big Game Protection - APHIS-ADC will, at all times, avoid harassing non-target wildlife and will avoid concentrations of big game. Aerial hunting in crucial big game winter range from November 15 to April 30, and from May 1 to June 30 in elk calving areas, will occur in accordance with WGFD restrictions to protect wildlife during crucial periods of the year. Exceptions to these restrictions may be approved by the BLM District Manager following consultation with the WGFD. Documentation of any exceptions by the WGFD will be provided by the APHIS-ADC District Supervisor to the BLM District Manager. APHIS-ADC will consult with the WGFD for advice regarding the severity of winters and where animals are concentrated. APHIS-ADC personnel will acquaint themselves with the locations of crucial winter ranges and anticipated concentrations, so disturbances can be avoided.

15. Posting Control Areas - The APHIS-ADC trapper would post signs to provide adequate warning in all areas where control devices are in use. Signs would be posted at all gates, access points, and where appropriate, near the specific device location, to ensure public notification. The EPA Use Restrictions have special posting requirements for the use of the M-44. These are defined in Appendix B. The APHIS-ADC trapper would be responsible for maintaining the site, ensuring signs are up, and that the device is removed.

16. Checking of Control Devices - APHIS-ADC personnel would check control devices (traps, snares, and other devices) at intervals consistent with state regulations, to facilitate the release of nontarget animals. State regulations require traps to be checked within 72 hours (3 days) of being set. Snares will be checked weekly as provided by APHIS-ADC policy guidelines.

APHIS-ADC would adhere to EPA Use Restrictions which require M-44 devices to be inspected by the applicator at least once every week, weather permitting access, to check for interference or unusual conditions, and shall be serviced as required.

17. Document Effectiveness of Non-Lethal Control - APHIS-ADC personnel will document livestock producer use of non-lethal control. APHIS-ADC will encourage the use of guard dogs and other effective non-lethal action where feasible.

Alternative A (Present Management Plus Limited M-44 Use)

Alternative A would be the same as the Proposed Action with one exception, the use of the chemical toxicant sodium cyanide in the M-44 device would be more restrictive. Additions (shaded) and deletions (strikeout) to the Proposed Action are indicated as appropriate in the description of this alternative.

APHIS-ADC preventative lethal damage control initiated prior to the onset of predator losses to livestock in Planned Control Areas and Restricted Control Areas would only be authorized for conventional methods, i.e., aerial shooting, calling and shooting, trapping, snares, denning, and decoy dogs. No M-44 sodium cyanide devices would be authorized for preventative lethal control.

Within Planned Control Areas, the use of the M-44 sodium cyanide device would be authorized on public lands in sheep allotments after losses have been confirmed only on winter and lambing ranges (January 1 to June 30, December 1 to August 30). Within Restricted Control Areas, no M-44 use would be authorized during the restricted periods. The following changes are made to the Stipulations and Restrictions.

4. Lethal Control Methods Period of Use - Table II-2 shows the lethal control methods that would be authorized for use.

<table>
<thead>
<tr>
<th>TABLE II-2</th>
<th>PERIODS OF AUTHORIZED LETHAL CONTROL METHODS (ALTERNATIVE A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned Control Area</td>
<td>Period Control Allowed</td>
</tr>
<tr>
<td>Calling, Shooting, Decoy Dogs</td>
<td>Year-round</td>
</tr>
<tr>
<td>Traps, Snares</td>
<td>12/1 - 8/31</td>
</tr>
<tr>
<td></td>
<td>10/1 - 1/31 (not within 1/2 mile of open waters during waterfowl hunting season)</td>
</tr>
<tr>
<td></td>
<td>3/1 - 7/15</td>
</tr>
<tr>
<td></td>
<td>1/1 - 6/30</td>
</tr>
<tr>
<td>Restricted Control Area</td>
<td>Period Control Not Allowed; Restricted Purpose and Period</td>
</tr>
<tr>
<td>Traps, Snares</td>
<td>Bird Hunting, 9/1 - 11/30</td>
</tr>
<tr>
<td></td>
<td>Waterfowl Hunting, 10/1 - 1/31</td>
</tr>
<tr>
<td></td>
<td>Raptor Nesting, 3/15 - 7/15</td>
</tr>
<tr>
<td></td>
<td>Big Game Winter, 11/15 - 4/30</td>
</tr>
<tr>
<td></td>
<td>Special Management Areas (as approved on a case-by-case basis)</td>
</tr>
</tbody>
</table>

5. M-44 Sodium Cyanide Devices - The M-44 sodium cyanide device (M-44) would be authorized only in accordance with current EPA Use Restrictions. A list of the 26 EPA Use Restrictions is contained in Appendix B. M-44s would be authorized on a case-by-case basis by the BLM District Manager, on public lands in sheep allotments only during winter use (January 1 to April 30) and during lambing (May 15 to June 30). M-44s would be authorized only during winter use (January 1 to April 30) and during lambing (May 15 to June 30). Requests to the BLM District Manager for authorization to use M-44s on public land would originate with the APHIS-ADC District Supervisor or his representative. Authorization by the BLM District Manager would be given only when the following criteria have been met:

- The APHIS-ADC request is in conformance with the 26 EPA Use Restrictions (Appendix B) and all applicable requirements under the Stipulations and Restrictions.

Although most sheep trail to Former Service lands during the summer months, some sheep remain on BLM-administered public lands during this period. Aerial shooting, therefore, may be necessary year-round within the Rock Springs District.

M-44s would be authorized only on water sheep ranges 1/1 - 4/30, and lambing ranges 5/15 - 6/30.

During the critical periods of raptor nesting and big game winter use, APHIS-ADC will avoid identified raptor nesting concentration areas and consult with the WGFD to avoid identified big game concentrations during severe winter periods.

27
BLM stipulations and restrictions listed in this section would supersede EPA Use Restrictions where they are more stringent (e.g., distance from human habitation). EPA Use Restrictions of critical consideration are:

(7). The M-44 device shall only be used on or within three (3) seven (7) miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock predation, including evidence that such losses were caused by wild canids, will be required before applications of the M-44 is undertaken. This use restriction is not applicable when wild canids are controlled to protect federally designated threatened or endangered species or are vectors of a communicable disease.

(8). The M-44 device shall not be used:
(1) in areas within national forests or other Federal lands set aside for recreational use,
(2) areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or, (4) except for the protection of federally designated threatened or endangered species, in National and State Parks; National or State Monuments; federally recommended or designated wilderness areas; and wildlife refuge areas.

(10). One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field.

(12). The M-44 device shall not be laced within 200 feet of any lake, stream, or other body of water, provided that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered “bodies of water” for purposes of this restriction.

(14). The M-44 device shall be placed at least one-quarter mile at a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to remove it from the sight of persons and domestic animals using any such public road or pathway. NOTE: Within the Rock Springs District, the device must be at least one-quarter mile from any federal or state highway, and maintained BLM, county, or private road.

(15). The maximum density of M-44s placed in any 100-acre pasturesland area shall not exceed 10; and the density in any 1 square mile of open range shall not exceed 12.

(16). No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station and no more than five draw stations shall be operated per square mile.

(20). An M-44 device shall be removed from an area if, after 15 30 days, there is no sign that a target predator has visited the site.

(23). Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

(26). Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:
   a. The number of devices placed.
   b. The location of each device placed.
   c. The date of each placement, as well as the date of each inspection.
   d. The number and location of devices which have been discharged and the apparent reason for each discharge.
   e. Each species of animals taken.
   f. All accidents or injuries to humans or domestic animals.

The APHIS-ADC has completed an evaluation of the need to use the M-44 device and determined that a significant impact to the livestock producer would occur unless it is used in conjunction with other control methods. (Significance of impact to the livestock operator would consider such factors as losses incurred to date, terrain, effectiveness of conventional control methods, increased cost effectiveness of ADC, and economic hardship.) Need will be determined by reported losses as documented. A history of verified losses over the previous 3 years, and where other tools have been used but failed to bring losses under control or where terrain precludes the use of aerial shooting, will indicate need. This method of determining need will be considered appropriate so long as viable populations of coyotes are maintained. In each case, documentation of livestock losses, including evidence that such losses were caused by coyotes, would be required. M-44s would only be authorized as part of the integrated management system involving all land ownership in the control area.

APHIS-ADC, BLM, and WGFD would evaluate the season and location for multiple-use resource conflicts and, if necessary, make on-the-ground inspections with APHIS-ADC personnel. APHIS-ADC would inform the BLM of the location and area of M-44 use on private, state, and BLM intermingled land so that the BLM can assure that public concerns are fully considered.

Only APHIS-ADC certified employees would place M-44s on public lands. Use of M-44s by APHIS-ADC will be reported to the appropriate BLM Area Manager by submitting APHIS-ADC Form 72 (Appendix C). This information would be available for public review upon request of the BLM District Manager or APHIS-ADC District Supervisor.

Use of M-44s will be authorized within the boundaries of the following areas:

- Human safety zones (No Control Zones)
- Fossil Butte National Monument
- Seedskadee National Wildlife Refuge
- Flaming Gorge National Recreation Area
- Designated Wilderness Areas
- Greater Sand Dunes Area of Critical Environmental Concern
- Natural Corrals Historic Site
- One mile of the Green River
- Threatened/Endangered Species Habitat
- Bird/Waterfowl Hunting Seasons
- Wilderness Study Areas
- One mile of the White Mountain
- Patroglphs ACEC
- Cedar Canyon ACEC
- The following guidelines will be used in any M-44 use request:
  - A written request from permittee to APHIS-ADC for predator damage control.
  - A written request from the APHIS-ADC District Supervisor to the BLM District Manager for allotment specific M-44 use.
Thought the Rock Springs District has 15 Wilderness Study Areas, delineated on Map B (Appendix D): Scab Creek, Lake Mountain, Raymond Mountain, Buffalo Ham, Sand Dunes, Alkali Draw, South Pinnacles, Alkali Basin-East Sand Dunes, Red Lake, Honeycomb Buttes, Oregon Buttes, White Horse Creek, Devils Playground-Twin Buttes, Red Creek, and Adobe Town.

Special restrictions apply to Wilderness Study Areas. Within these areas, predator control activities would be conducted in accordance with the guidelines established in BLM Manual 6830, Animal Damage Control and BLM Manual H-8550-1, Interim Management Guidelines For Wilderness Study Areas. Acceptable control measures include lethal and nonlethal methods, depending upon need, justification, location, condition, efficiency, and applicability of state and federal laws. Control will be directed at individual animals causing the problem and use only the minimum amount of control necessary to solve the problem. The use of chemicals (i.e., M-44 sodium cyanide devices) would not be allowed may occur only where other measures have failed or are impractical. Shooting of animals from aircraft may be allowed, in accordance with State law and upon the approval of the District Manager.

Alternative B (Present Management With No M-44 Use)

Alternative B represents the present predatory animal damage management program within the Rock Springs District. Alternative B would provide for APHIS-ADC operations as described in the Proposed Action except there would be no use of M-44s on the public lands administered by BLM. All reference to M-44s included in the description in the Proposed Action would be dropped. However, APHIS-ADC would reserve the right to use M-44s on intermingled private lands in accordance with the EPA Use Restrictions.

Techniques that would be used and authorized include all nonlethal techniques that help to prevent or reduce predation (e.g., husbandry techniques, guard dogs, flashing lights, noise-making devices, distress and alarm calls, and electrified fences, herding, night corralling, human harassment of predators, and live traps); and the lethal techniques of aerial hunting, shooting (calling and shooting), trapping, snaring, and sodium nitrite gas cartridge. The same procedure would be utilized for approval and authorization of a predator control program for the Rock Springs District as described in the Proposed Action.

APHIS-ADC, under agreements with County Predator Managers, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices.

Alternative C (No Lethal Control Methods)

Alternative C would authorize no lethal control methods by APHIS-ADC on public lands. This alternative would result in the County Boards and individual livestock permittees doing their own predator control. In this alternative, APHIS-ADC would not be available to provide assistance in situations where lethal methods of control are needed on public lands. APHIS-ADC would only be available to provide assistance with nonlethal methods of control. These would include working with livestock operators to improve or try new animal husbandry practices; limiting the number of animals and moving them to areas where problems would not be expected; increased use of frightening devices to scare animals from damage sites; and physical exclusion methods to prevent or reduce access of predators to livestock. Techniques that could be used and authorized would include guard dogs, flashing lights, noise-making devices, distress and alarm calls, and electrified fences, herding, night corralling, human harassment of predators, and live traps.

Although there are large blocks of public land within the district, the southern portion of the district is located within a "checkerboard" land pattern area where nearly every other section is privately owned 20 miles north and 20 miles south of the Union Pacific Railroad tracks. Also, relatively large blocks of private, interspersed with state and/or federal, land exist in the southwest corner of the district and in the northern parts around Pinedale and Star Valley. APHIS-ADC, under agreements with County Predator Managers, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices.

Alternative D (No Action - No APHIS-ADC Predator Control)

The No Action Alternative is not a BLM prerogative which can be selected without elimination or modification of the Animal Damage Control Act of 1931, as amended. It is, nevertheless, within the discretion of BLM to restrict or deny use of individual methods or techniques, either seasonally or by locale where justification warrants.

Alternative D would allow no lethal predator control activities by APHIS-ADC personnel on BLM administered public lands within the Rock Springs District. However, lethal and non-lethal tools could continue to be used on public lands by livestock producers, their agents, and the general public as long as they act within Wyoming Statutes. As stated in Assumption H, the coyote and red fox are classified by the WGF as predators and are hunted and trapped for sport and fur. The BLM and APHIS-ADC recognize that predator control (primarily coyotes), both lethal and non-lethal, will continue to occur on public and private lands by the general public for recreation, by stockgrowers to protect their livestock, and by independents for the stockgrowers. Under State law, the taking of predators can occur on public lands by...
anyone, using such methods as trapping, snaring, aerial hunting, ground shooting, or calling with the aid of decoy dogs, so long as they comply with Wyoming State Statutes (e.g., aerial hunting requires a permit from the Wyoming Department of Agriculture; pilots must obtain landowner permission prior to hunting). No chemical control, however, may be used on public lands administered by the BLM without BLM authorization. Nevertheless, use of the M-44 device and other legal chemicals can be used on private lands, as long as their use is in compliance with Wyoming Statutes.

As stated under Alternative C, there are large blocks of public land within the district, but the southern portion of the district is located within the “checkerboard” area 20 miles north and south of the Union Pacific Railroad tracks where nearly every other section is privately owned. Large blocks of private land interspersed with state and/or federal land exist in the southwest corner of the district and in the northern parts. APHIS-ADC, under agreements with County Predatory Animal Control Boards, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices.

When there is no federal government predator control program or if livestock growers become dissatisfied with the federal program, livestock growers will take personal action to protect their livestock from predation. They may form an organization of control agents through the County Predatory Animal Board or may conduct coyote control programs individually. In either case, the opportunity arises for abuse of control techniques and subsequent environmental damage and increased potential for danger to humans, their pets, and non-target animals.

With stockgrowers initiating control activities on their own to protect their herds, the probability of certain individuals using toxicants illegally could increase. M-44s and the toxic 1080 collars available from the Wyoming Department of Agriculture to certified pesticide operators could end up in the hands of unauthorized persons. In addition, chemical toxicants such as insecticides that could be used as predicides are available on the legal market. A no lethal control restriction on public lands could encourage some users to illegally hunt coyotes from aircraft. Because of its vastness and remoteness, it would be extremely difficult to stop illegal predator control practices on BLM-administered public lands. Individual actions may not be confined to private lands, but carry over onto public lands.
CHAPTER III - AFFECTED ENVIRONMENT

INTRODUCTION

This section describes the environmental parameters that may be affected by animal damage control activities on public lands within the Rock Springs District.

It has been determined that the following elements would not be affected by the proposed or alternative predator control activities and therefore will not be discussed further in this document: air quality, water quality, regional hydrology, floodplains and riparian zones, soils/watershed, vegetation, visual resources, prime/unique farmlands, fisheries, threatened and endangered fish and plants, wild horses, Native American religious concerns, cultural values, paleontological values, hazardous/solid wastes, wild and scenic rivers, minerals, and forest resources.

GENERAL SETTING

The Rock Springs District is located in the southwestern quarter of Wyoming and includes all of Uinta County, portions of Sweetwater, Lincoln, and Sublette Counties, and a very small part of Fremont County (General Location Map). The District boundaries include over 10 million acres, of which 6.5 million acres (60 percent) are public lands administered by BLM. The District borders Colorado and Utah on the south, and Utah and Idaho on the west. Bridger-Teton National Forest forms the northern boundary. The BLM Rawlins District borders this District to the east. A small part of the Wasatch-Cache National Forest and the Ashley National Forest extend into the district.

The Rock Springs District also includes within its boundaries the following areas managed by other agencies: Fossil Butte National Monument managed by the U.S. Park Service; Flaming Gorge National Recreation Area managed by the U.S. Forest Service, Ashley National Forest; Seedskadee National Wildlife Refuge managed by the U.S. Fish and Wildlife Service; and Fontenelle Reservoir and the Farson/Eden Project Area managed by the U.S. Bureau of Reclamation.

There are also significant segments of the Oregon/California/Mormon Historic Trail System that cross the district from east to west that is managed jointly by the U.S. Park Service and the BLM.

CLIMATE/VEGETATION

The area of southwestern Wyoming is primarily a high altitude, cold desert with elevations within the Rock Springs District ranging from 6,000, to 10,000 feet above sea level. Southwestern Wyoming seasonal temperatures vary widely. The typical mean annual temperature is 43°F, with extreme lows of 60°F and highs of 104°F. Recorded. The annual mean precipitation ranges from 7.56 inches at Farson, 8.88 inches at Rock Springs, 9.36 inches at Kemmerer, 10.98 inches at Evanston, to 11.04 inches at Pinedale. Snow falls in the region from September through May. The annual number of days with one inch or more of snow cover ranges from 68 at the Rock Springs Airport to 175 days at Kendall north of Pinedale (Science Applications, Inc. 1980).

Approximately 95 percent of the Rock Springs District is located within the Green River Basin. The Green River Basin is that portion of the Upper Colorado River Subregion located in the State of Wyoming. The Green River Basin extends north from the Wyoming-Colorado-Utah state line about 168 miles. Roughly triangular in shape, it is about 213 miles wide at the baseline. It includes the Great Divide Basin, all of Wyoming drained by the Green River and its tributaries, and the Little Snake River drainage and its tributaries located in Wyoming (USDA 1978).

Physiographically, the Rock Springs District is located within the Wyoming Basin Physiographic Region (Kuchler 1964). Vegetation associated with this region consists mostly of desert shrubs (e.g., sagebrush steppe (Artemisia - Agropyron) and saltbrush-grassland (Atriplex - Salsola); short grasses and mid-grasses grow on the more favorable sites. Areas of mountain mahogany, juniper woodland, and pine and aspen forest also occur. Isolated mountain ranges have steep slopes and narrow valleys which rise sharply from desert basins. Broad intermountain basins and a few isolated small mountain ranges merge into plateaus. Alluvial fans at the edges of the basins merge into flat plains in the centers. The plateaus have gently sloping tops that are cut by steep-walled canyons (Kuchler 1964).

WILDLIFE RESOURCE

Game Animals

Big game species occurring within the District are elk, moose, mule deer, and pronghorn antelope, with black bear and mountain lion classified as trophy game. Big game species have generally received the most management emphasis due to their importance to the local economy. Hunting and fishing activities have historically been one of the high income-generating industries within the District. Nationally, heavy winter snow lasting four to six months reduce the amount of suitable winter range to the extent that BLM-administered lands provide the bulk of crucial winter habitat for pronghorn antelope, mule deer, and elk populations found in the upper Green River Basin. Moose occur predominantly on riparian areas associated with willows, most of which are on private lands. Approximately 43 percent of the District is classified as big game crucial winter range.

Elk

Elk utilize BLM-administered land primarily as winter range, but a substantial area is used for rutting, parturition, and summer feeding purposes. In general, elk inhabit wind blown, grassy slopes in elevations between 6,500 to 8,000 feet during the winter. Within these areas are crucial ranges for elk where they are confined at heaviest snow cover (8 winters out of 10) - not necessarily a severe snow cover or condition (1 winter out of 10). These areas are crucial in that they are a determining factor to a population's ability to maintain certain objectives. Parturition and summer feeding areas are characterized by dense timber and parkland meadows, usually occurring above 8,000 feet in elevation. Ten WGFD elk herd units are located in whole or in part within the District. The Steamboat Mountain herd north of Rock Springs is one of two desert herds of elk in existence today. The other is located in Hanford, Washington where there is a herd of about 100 head. Disease and predation effects on elk are not known but appear to be minimal.

Deer

Mule deer, both resident and migratory, occur throughout the District. Resident populations are common along riparian, agricultural, and adjacent foothills areas. Deer spend the winter on crucial ranges (same as defined for elk) around 6,000 to 7,000 feet in elevation, along ridge complexes, juniper foothills, and dry washes which offer sufficient cover and feed. Eight WGFD deer herd units are located in whole or in part within the District. White-tailed deer may occur along the Green River and the east end of the Wind River Range; these deer are closely associated with riparian/agricultural areas.

Pronghorn Antelope

Pronghorn antelope occur throughout the District even though movement is somewhat restricted by barrier fences, topography, timber, and water distribution. Winter ranges generally occur between 6,000 to 7,000 feet in elevation in basins and benchlands where Wyoming big sagebrush communities dominate and snow depths are relatively shallow. These areas are roughly associated with mule deer winter range in some areas.
Mountain Lion

Mountain lion and are widely distributed within the District in very limited numbers. The wide distribution of mountain lion kills of wildlife and livestock, and observations of lion over the past several years indicates that it can be found throughout much of the District. Mountain lion are very secretive by habit and are rarely seen by humans, except in relation to hunting pursuits. Mountain lion reside in the broken juniper and rimrock areas and canyon country in conjunction with male deer and elk populations. Cats have been observed on Cooper Ridge, in Adobe Town, on Steamboat Mountain, in the Wind River foothills, west of Kemmerer around Fossil Butte National Monument, and in the juniper breaks around Carter. Mountain lion are carnivores and are more dependent on prey animals for their livelihood. Deer constitute the main component of the lion’s diet. They will also eat elk calves, carrion, porcupines, gophers, rats, squirrels, wild horse foals, and livestock. They may return to a carcass and feed for several days. It is not uncommon for lion to roam as far as 100 miles (APFIS-ADC EIS, 1990). The main habitat component restricting mountain lion populations is the absence of large, undisturbed, remote wild areas. Human presence and continuing activities throughout the lion’s habitat will continue to limit lion population numbers.

Black Bear

Suitable black bear habitat exists in the timbered areas along the Wind River Mountains, the Wyoming Range, and in the mountain foothills along the Wyoming-Colorado-Utah border. Black bear usually inhabit mixed timber stands with associated parkland areas and riparian habitat along streams where berries are readily available in late summer and early fall. At times, drought may cause bears to follow stream courses down to lower elevations in search of food. Black bears are very secretive by habit and are rarely seen by humans, except in relation to hunting pursuits. Evidence of bear activity has been found on Little and Pine Mountains, and reported sightings along the Sweetwater River and its tributaries and upper reaches of Little and Bandy Creeks, and upper Pine Creek east of Cokeville. Sport hunting removes a few bear each year and is monitored closely by the WGFD to ensure a viable population is maintained. Most of the harvested bear are taken on the Bridger-Teton National Forest. Black bears may kill or injure sheep and cattle, though these are omnivorous and eat large quantities of berries and grasses. During drought periods when berries and herbaceous foods are less available, bears tend to be more dependent on prey species and predation incidents would probably increase.

Game Birds

Upland

Sage grouse, forest grouse, and chukar partridge are the principal upland game birds, with sage grouse being the most numerous and widespread throughout the District. However, as reported in a local newspaper, hunters in southwestern Wyoming have become concerned with the decreasing numbers of sage grouse during the past several years (Rock Springs Rocket Miner 1993). It is speculated that this decrease may be due, in part, to ungulates in populating predators in southwest Wyoming, particularly the fox, coyote, eagle, and raven. Sage grouse utilize areas with substantial densities of sagebrush to provide cover and camouflage. Forest grouse (blue and ruffed) are restricted to the aspen/coniferous foothill and mountain areas within the District. Chukar partridge are confined to the area around Flaming Gorge National Recreation Area or that area between Wyoming Highways 191 and 320.

Waterfowl

The District lies within the Pacific flyway. The period of occupancy by waterfowl is short term. Historically, duck and goose populations are composed of migrants, some of which use waters in the District for nesting as well as for resting and feeding. The cold winters freeze the water, making it unavailable. The WGFD maintains that the lack of nesting habitats for ducks and geese is a limiting factor. The Green River receives the major populations of nesting geese and ducks. However, the Green River tributaries, particularly the New Fork River, the Poholes north of Pinedale, the Big Sandy and Black’s Fork Rivers, the Henry’s Fork, and the Bear River also provide important nesting habitat.

The Seedskadee National Wildlife Refuge, located on the Green River below Fontenelle Reservoir, was established in 1965 to help offset the loss of marshlands habitat resulting from construction of both the Fontenelle Dam and the Flaming Gorge Dam, which is about 100 miles downstream in Utah. The Refuge is a very important and productive waterfowl and shorebird breeding, nesting, and brood rearing area.

Waterfowl production objectives are 10,000 ducks and 800 Canada geese annually. Predation on nesting waterfowl has been a continuous problem. Prior to the introduction of predator management in 1988, annual production of ducks was less than 500 and annual production of geese was less than 100. During 1990, Seedskadee National Wildlife Refuge staff concluded a four-year research study to determine the effects of predation to waterfowl nesting in the vicinity of the developed refuge wetlands. During the period when no predator control occurred, waterfowl nest success was only 5 percent. Control of small predators (red fox, skunk, and raccoon) during the waterfowl nesting season, over a three-year period, increased the waterfowl nest success rate to a range of 45 to 71 percent (a 900 to 1,400 percent increase). The most destructive nest predator, and the most difficult to control, was the red fox.

Nongame

White-tailed prairie dogs exist throughout the District. Prairie dogs are of special importance because they are the most important prey for the endangered black-footed ferret, as well as being an important prey species for other predators.

Marmots, cottontail rabbits, jackrabbits, ground squirrels, and smaller rodents also occur throughout the District.

Furbearers

The following eight species are classified as furbearers by the WGFD within the District: bobcat, beaver, martin, ermine, long-tailed weasel, mink, muskrat, and badger. The bobcat prefers rocky canyons with ledges and areas of dense vegetation in broken, brushy country or mountains. Vegetation commonly associated with bobcat habitat includes juniper, sagebrush, and mountain mahogany. The beaver and muskrat are associated with aquatic habitats - open water areas adjacent to aspen, willow, or cottonwood trees. The martin and ermine are associated with riparian woodlands of coniferous forests or cottonwood river bottoms. The long-tailed weasel and mink are associated with riparian-shrublands or areas near open water. The badger is associated with the sagebrush grasslands and basin grasslands.

Raptors

There are over 27 species of hawks, eagles, and owls either nesting, thought to nest, or have the potential of nesting in the District. If not nesting, species are either wintering populations, migrants, or possible migrants. The bald eagle, peregrine falcon, ferruginous hawk, prairie falcon, osprey, and golden eagle are raptors of high priority and subject to conservation and habitat criteria for management. The burrowing owl is state-listed as a species in the "rare" abundance category with a biological status designation indicating declining populations and/or habitat conditions. Raptors nest on hilltops, low cliffs, and rock escarpments found within the sagebrush steppe community, marsh/grasslands, and riparian/cottonwoods.

Predators

The WGFD defines predatory animals as coyote, jackrabbit, porcupine, raccoon, red fox, skunk, and stray cat (Title 23, Wyoming Game and
Fish Laws (1989). The Rock Springs District is inhabited by all these species. The coyote and red fox are the predatory animals of concern, because of their predation on domestic livestock, primarily sheep, and they are the principle species targeted for control. The red fox is targeted primarily during the lambing season.

No numbers are available and no accurate census method exists (WGFD, Casper Star Tribune, February 21, 1993), but it is believed that the coyote population is healthy and increasing.

The APHIS-ADC predator control program within the Rock Springs District is implemented by four (4) trappers and one (1) District Supervisor. These individuals are responsible for responding to animal damage control requests within an area of over 10 million acres of public, private, and state land. There are between 60 and 70 bands of sheep that utilize public lands at some time during the nine-month use period. Generally, the mode of operation during this time consists of cutting/shooting and aerial gunning with little use of the control devices during lambing. The reason for this is that ewes and lambs are scattered so that traps and snares are impractical. The M-44, however, is used on private lands and is the most effective mechanical device used during this time since it can be used without harming a ewe or lamb. During the winter, the mechanical devices are most effective since the sheep are more closely bunched.

Each trapper is issued the necessary control equipment to conduct their control work. This includes approximately 100 each of leghold traps, M-44 devices, and snare traps. This amounts to a total of approximately 400 each of traps and M-44's that are available for use within the District. Not all the mechanical devices are placed out at one time. Between 15 and 20 devices - traps, snares, and/or M-44's (on private lands) - may be associated with a band of sheep. Generally, there is a band of sheep there could be mechanical devices nearby, although not in every case.

Coyote

The coyote, a very adaptable, prolific, and opportunistic animal, occupies almost every habitat in North America. The coyote has survived intensive predator-control programs similar to that which exterminated the wolf in most of the continental U.S. Moreover, it has expanded its range. The coyote inhabits brush, prairies, and plains, as well as wooded and mountainous areas. Coyotes are found throughout the Rock Springs District in all habitat types.

The coyote's ability to expand its range and adapt to so many habitat types is partly due to its versatile food habits (BLM 1979). Coyote foods include carrion, eggs, insects, berries, melons, and other fruits and vegetables. They also prey on rodents, rabbits, birds, reptiles, poultry, and livestock. They may prey individually, in pairs, or in packs (Niebauer and Rongstad 1977; Berg and Chesness 1978; Huegel 1979; Weaver 1979). According to Spowart and Samson (BLM 1986), coyotes are primarily carnivorous, but their diet depends on the food resources most available, so they easily adapt to being omnivorous.

Spowart and Samson cite an extensive food habits study conducted by Sperry in 1941 in 17 western states that showed the major diet items of the coyote were "lagomorphs (33%), carrion (25%), rodents (18%), and domestic livestock (13.5%)." In the sagebrush habitat of north-eastern Utah and south-central Idaho, Clark (1972) reported "coyotes ate about 90% animal matter; black-tailed jackrabbits approached 75% of their year-round diet." This dependence on a single prey species will influence coyote density in a region. The opportunistic nature of the coyote causes domestic livestock (primarily sheep and particularly during lambing and calving) to be especially vulnerable to predation by the coyote. Adult sheep, lambs, and calves are easy prey for the coyote because they are not aggressive, cannot outrun the coyote and are easily overpowered and quickly killed. So if ewes, lambs, or calves are within the coyotes cruising range for food, they will very likely be taken as prey.

As noted in several of the studies, although extremely adaptable and opportunistic, like most species of carnivores, coyote populations are regulated largely by food abundance and availability. Population densities of coyotes and their principal prey are strongly correlated (Clark 1972; Wagner and Stoddart 1972; Johnson and Hansen 1979). Clark (1972) estimates that typical coyote population densities range from 0.5 to 3.5 per square mile. Following a 2-month gestation period, coyotes may bear four to eight pups. Typically, a population of 100 coyotes would produce 180 young each year and the mortality rate would range from 24 to 76 percent. Food availability has a strong influence on litter size and survival but, as yet, the carrying capacity of coyote habitat in terms of prey abundance cannot be evaluated on an absolute basis (USDI 1981a; Voight and Berg 1987).

There is no census of coyotes within the Rock Springs District. Exact population data does not exist. However, population data of a relative nature, in the form of population trend indices, do exist and are maintained by APHIS-ADC. These include records of depredation incidents (confirmed and unconfirmed loss, Table I-2), coyotes removed per aerial hour, and coyotes removed per unit of ground effort (APHIS-ADC 1993).

Depredation Incidents - Each year, all depredation incidents are recorded on APHIS-ADC Project Report Forms. This information represents an estimate of annual livestock depredation losses that occur within the Rock Springs District. For the period of 1989 through 1992, the index of depredation change or trend provided by the depredation incidents on sheep, using Wyoming Agricultural Statistics Service sheep numbers (Table I-1) and APHIS-ADC confirmed and unconfirmed sheep losses (Table I-2), is a substantial increase (0.9 percent in 1989, 1.5 percent in 1990, 2.5 percent in 1991, and 3.5 percent in 1992). Generally, when coyote depredations are up, so is the coyote population and vice versa.

Coyotes Removed Per Aerial Hour - This information is recorded with each aerial flight and reported to the BLM District and APHIS State Offices. This data gives APHIS-ADC an indication of the general trend in the coyote population. APHIS-ADC's recorded aerial information for 1989 and 1993 within the Rock Springs District shows 1.75 and 3.0 coyotes taken per aerial hour, respectively, which indicates a 71 percent increase in 1993 over 1989. This suggests a dramatic increase in the coyote population within the Rock Springs District.

Coyotes Removed Per Unit of Ground Effort - Each coyote that is removed by ground methods is recorded on an APHIS-ADC Daily and Monthly Itinerary Form. APHIS-ADC trappers usually work the same areas and spend the same amount of time on those areas each season (e.g., winter or lambing range). The number of coyotes removed during this time usually will indicate what direction the population is trending: up, down, or static. APHIS-ADC records show that between 1989 and 1992, 5.3 times more coyotes were taken by control activities in 1992 (a 530 percent increase). Coyotes comprised 96 percent of all predators taken by APHIS-ADC in the District during this period (Table III-1). APHIS-ADC consistently used the same level of APHIS-ADC personnel and control activity during this period. This statistical index suggests that a substantial increase in the coyote population has occurred.

Based upon these indices, APHIS-ADC has determined that coyote populations are increasing.
occurred, w3lerfowl during animal control during the developed predation on W3Ierfowl nesting percm.

Foxes can bear young in a variety of habitats, including deep forests, meadows, and prairies. Red foxes can be found in sagebrush-grasslands, shrublands, and forests. They prefer open areas with cover, but can also be found in more封闭 areas.

Red Fox

Like the coyote, the red fox has adapted to a wide range of habitat types and foods. While it ranges from deep forests to the most exposed tundra, it prefers a mixture of forest and meadows. Red foxes are also opportunistic feeders, eating foods in proportion to their availability. They are omnivores and eat rabbits, mice, birds, reptiles, amphibians, fruits, and corn. Foxes may also prey on lambs and have been recorded in cases where lambs were severely depleted.

Foxes are reproductively mature at one year and can bear up to 13 pups in a litter. Densities can range from 0.3 to 2.6 per square mile. Red foxes may live up to 12 years, but annual mortality has been reported as high as 80 percent (Voight, et al. 1985).

The 1990 Seedskadee National Wildlife Refuge four-year research study on the effects of predation to waterfowl nesting in the vicinity of the developed refuge wetlands showed that during the period when no predator control occurred, waterfowl nest success was only 5 percent. With the introduction of predatory animal control (red fox, skunk, and raccoon) during the waterfowl nesting season, over a three-year period, the waterfowl nesting success rate increased by 45-71 percent (a 900 to 1,400 percent increase). The most destructive nest predator, and the most difficult to control, was the red fox.

The red fox has expanded its range within the Rock Springs District from concentrations in and around the farming and agricultural areas of Farson/Eden, Big Piney, LaBarge, Lyman, Mountain View, Cokeville, and along the major rivers to expanded zones around these areas. Frequent reports are received by the WGFD that the red fox populations have increased substantially over the past couple of years, along with the coyote, eagle, and raven, which may be one factor contributing to sage grouse population decline in southwest Wyoming. So much concern has been expressed that sage grouse ranchers and hunters have asked the WGFD to take immediate action to correct the problem, such as reduce the hunting season (Rock Springs Rocker Miner 1993). One theory for the fox expansion is that they have expanded to fill niches vacated by the more dominant predator (wolf and/or coyote) which has been eliminated or reduced.

An indicative of red fox population increase used by APHIS-ADC is the number of fox taken by predator control activities. APHIS-ADC records show that between 1989 and 1992, 4.3 times more red fox were taken by predator control activities in 1992 (a 430 percent increase). Red fox comprised 4 percent of all predators taken by APHIS-ADC in the District during this period (Table III-1). On the basis of the same assumption stated above for coyotes, that APHIS-ADC consistently used the same level of APHIS-ADC personnel and control activity during this period, this indicates that a substantial increase in the red fox population has occurred.

Jackrabbit, Porcupine, Raccoon, and Skunk

Both the black-tailed and white-tailed jackrabbits occur within the District. The white-tailed is by far the most prevalent species. Low growing shrub-grasslands (sagebrush-grasslands) and prairie areas are the most commonly used habitat. It can also be found in openings in football conifer stands, montane coniferous forests, and alpine tundra (WGFD 1991). Populations of jackrabbit do not reach extremely high densities. Uniform densities of 1 to 3 per acre would be considered high (BLM 1986). The lagomorphs, including the jackrabbit, are important in many food chains, being prey for many avian and terrestrial predators, such as the coyote and fox (Bittner and Rongstand 1982; Chapman, et al. 1982; Dunn, et al. 1982).

Population can be cyclic, but are more often than not influenced by environmental factors such as weather and temperature.

Porcupine occur throughout the District. They may be seen in deciduous and coniferous forests, and sometimes in shrublands or prairies, miles from the nearest trees. Raccoon occur in riparian areas where stands of deciduous trees grow along the Green River (particularly Seedskadee National Wildlife Refuge), Farson/Eden farms, the Bridger Valley, and Bear River. Skunk occur in most habitat types, including mixed woodlands, brushy areas, and rocky outcrops.

Non-Target Animals Taken During Predator Control

Non-target animals taken during predator control activities are generally comprised of other species such as bobcat, badger, raccoon, porcupine, fox, and skunk. Within the District, non-target species were taken with the leghold trap and were comprised of the badger, porcupine, and skunk (Table III-1). All badgers were released with only the porcupine and skunk taken. APHIS-ADC trappers make an effort to reduce the frequency of capturing non-target animals by proper placement of traps, use of scent stations to attract coyotes, and use of pan tension devices on traps to reduce capture of light weight animals. Non-target animals taken (killed) collectively represent less than one percent of the annual predator kill by APHIS-ADC in the District.

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NR = no record

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<td>1993</td>
<td>1,331</td>
<td>35</td>
<td>14</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>

NR = no record

1 Non-target animals taken were comprised of badger, porcupine, and skunk. Badgers were all released, porcupine and skunks were killed.
2 Based upon calendar year. January through December
3 Partial year: covers the period January through July.
Threatened or Endangered Species

The U.S. Fish and Wildlife Service has provided, by Memorandum dated June 2, 1993 (Appendix E), a list of threatened, endangered, and candidate species of mammals, fish, birds, amphibians, and plants that either occur or have the potential to occur within the District and that could be affected by predator control activities (Table III-2). The grizzly bear is not listed, although reported to be extending its range south into the Wind River Mountains, because the area adjacent to BLM-administered lands within the Pinatula Resource Area is not within the recovery zone for the grizzly (Mark Bruscino, WGFD, personal communication). Although fish, amphibians, and plants are listed, only mammals and birds have the potential to be affected by predator control activities. Therefore, affected habitat descriptions for fish, amphibians, and plants are not discussed any further.

Listed Species

Black-Footed Ferret

The black-footed ferret is a large, buckskin-colored weasel with black face mask, black-tipped tail, and black feet, and can weigh up to 3 pounds. They depend upon prairie dogs for both food and shelter and have never been found where prairie dogs do not exist. Today, at least partly due to the extensive prairie dog poisoning campaigns of the 1930's, the black-footed ferret is one of the rarest native mammals in North America.

The black-footed ferret has been threatened with extinction since the 1940s. The fragmentation and loss of habitat along with declining ferret populations is well documented. Despite massive inventory efforts, no wild, free-ranging populations of black-footed ferrets are known to exist today. The only hope of preventing extinction depends on reestablishing several populations in the wild along with intensive management to offset causal factors of the decline.

The last known wild black-footed ferrets were found in Meeteetse, Wyoming, but this species once ranged from the great plains of Canada to intermontane regions of the interior Rocky Mountains and Southwest. The likelihood of other populations of ferrets being found in the wild is considered low, and if some remain, the probability of their continued survival and viability in the wild for long periods of time is considered low by population biologists.

However, the occurrence of ferrets within the historic range of the species must still be considered possible (USFWS 1992).

There is a continuing effort within the District to map and search the white-tailed prairie dog colonies for the ferret. Dozens of ferret sightings have been reported by reliable sources in a variety of habitats. Night searches and daytime hole-to-hole examinations have not yet revealed a black-footed ferret. There is historical documentation of the presence of ferrets to as late as 1963 when a ferret and kits were commonly seen by several persons in the southwest part of Eden Valley, in Sweetwater County. Other areas where the ferret has been reported to have occurred are Sublette Flats, Seedskadee National Wildlife Refuge, and the Red Desert. Several prairie dog towns in Lincoln County may support ferrets. Two ferret skulls, estimated at five years old, were found in the Cumberland Valley in 1980. Several unconfirmed sightings per year are documented. Extensive ferret surveys continue to be conducted in prairie dog colonies located throughout the District, primarily in conjunction with oil and gas development and pipeline right-of-way authorizations.

Gray Wolf

There is currently no documented evidence that the gray wolf occurs within the Rock Springs District. Historically, the gray wolf ranged throughout the Wyoming and Wind River Mountain Ranges (USFWS 1987). The last wolf pack activity was in the first quarter of this century. Since 1969, there have been

<table>
<thead>
<tr>
<th>Species</th>
<th>Status/Category</th>
<th>Scientific Name</th>
<th>Expected Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-footed ferret</td>
<td>E</td>
<td>Mustela nigripes</td>
<td>Potential resident in prairie dog (Cynomys sp.) colonies</td>
</tr>
<tr>
<td>Gray wolf</td>
<td>E</td>
<td>Canis lupus</td>
<td>Potential resident</td>
</tr>
<tr>
<td>Bald eagle</td>
<td>E</td>
<td>Haliaeetus leucocephalus</td>
<td>Nesting, winter resident and migrant</td>
</tr>
<tr>
<td>Peregrine falcon</td>
<td>E</td>
<td>Falco peregrinus</td>
<td>Potential nesting and migrant</td>
</tr>
<tr>
<td>Whooping crane</td>
<td>E</td>
<td>Grus americana</td>
<td>Migrant</td>
</tr>
</tbody>
</table>

**Threatened, Endangered, and Candidate Species Potentially Occurring Within the Rock Springs District**

**TABLE III-2**

<table>
<thead>
<tr>
<th>Species</th>
<th>Status/Category</th>
<th>Scientific Name</th>
<th>Expected Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preble’s shrew</td>
<td>2</td>
<td>Sorex preblei</td>
<td>Western Wyoming</td>
</tr>
<tr>
<td>Allen’s 13-lined ground squirrel</td>
<td>2</td>
<td>Spermophilus tridecemlineatus almani</td>
<td>Upper Green River</td>
</tr>
<tr>
<td>Pygmy rabbit</td>
<td>2</td>
<td>Brachylagus idahoensis</td>
<td>Southwest Wyoming</td>
</tr>
<tr>
<td>North American wolverine</td>
<td>2</td>
<td>Gulo gulo</td>
<td>Mountains statewide</td>
</tr>
<tr>
<td>North American lynx</td>
<td>2</td>
<td>Felis lynx canadensis</td>
<td>Mountains statewide</td>
</tr>
<tr>
<td>Trumpeter swan</td>
<td>2</td>
<td>Cygnus buccinator</td>
<td>Northwest Wyoming</td>
</tr>
<tr>
<td>White-faced ibis</td>
<td>2</td>
<td>Plegadis chihi</td>
<td>Wetlands statewide</td>
</tr>
<tr>
<td>Ferruginous hawk</td>
<td>2</td>
<td>Buteo regalis</td>
<td>Grasslands statewide</td>
</tr>
<tr>
<td>Northern goshawk</td>
<td>2</td>
<td>Accipiter gentilis</td>
<td>Forests statewide</td>
</tr>
<tr>
<td>Mountain plover</td>
<td>1</td>
<td>Charadrius montanus</td>
<td>Grasslands statewide</td>
</tr>
<tr>
<td>Long-billed curlew</td>
<td>3C</td>
<td>Numenius americanus</td>
<td>Grasslands/wetlands</td>
</tr>
<tr>
<td>Black tern</td>
<td>2</td>
<td>Chlidonias niger</td>
<td>Wetlands statewide</td>
</tr>
<tr>
<td>Loggerhead shrike</td>
<td>2</td>
<td>Lanius ludovicianus</td>
<td>Woodlands/shrublands</td>
</tr>
<tr>
<td>Western boreal toad</td>
<td>2</td>
<td>Bufo boreas boreas</td>
<td>Western mountains</td>
</tr>
<tr>
<td>Spotted frog</td>
<td>2</td>
<td>Rana pretiosa</td>
<td>Northwest Wyoming</td>
</tr>
</tbody>
</table>
Species | Scientific Name | Expected Occurrence
---|---|---
**Fish**
| | |
| Colorado cutthroat trout | Salmo clarki pleuriticus | Currant Creek
| Bonneville cutthroat trout | Salmo clarki utah | Bear River
| Flannelmouth sucker | Catostomus latipinmis | Green River & tributaries
| Roundtail chub | Gila robusta | Green River & tributaries
| Leatherside chub | Gila copei | Bear & upper Snake Rivers, and Slate Creek

**Plants**

| | |
| Tweedy's sand verbena | Abronia annuophila | Sublette County
| Meadow pinyGenes | Antennaria accuta | South Pass area
| Mystery wormwood | Artemisia biennis diffusa | Red Desert
| Small rockcress | Arabis pusilla | South Pass area
| Bastard draba milkvetch | Astragalus drabelliformis | Sublette County
| Precocious milkvetch | Astragalus proemianthus | Henry's Fork area
| Wyoming tansy mustard | Descuraina torulosa | Red Desert
| Large-fruited bladderpod | Lesquerella macrocarpa | Steamboat Mountains/Continental Peak
| Payson's bladderpod | Lesquerella paysonii | Pineola area
| Cary beardtongue | Penstemon caryi | Henry's Fork area
| Opal phlox | Phlox sp. nov. | Kemmerer area
| Dem's twinpod | Physaria densii | Nugget Canyon area
| Uinta greenthread | Thelesperma pubescens | Hickey Mountain area

17 unconfirmed wolf sightings within the Bridger-Teton National Forest, Kemmerer Ranger District, which borders the BLM Rock Springs District. Efforts by the Forest Service, in cooperation with the WQFD and U.S. Fish and Wildlife Service, in 1986 and 1987 to confirm sightings through intensive searches were unsuccessful. In the west, the gray wolf is presently known to occur, as a result of ongoing natural recolonization, in Idaho, north-central Washington, and northwestern Montana (USFWS 1992). The nearest recovery area for wolves is in Yellowstone National Park, approximately 100 air miles north of the District.

**Bald Eagle**

The bald eagle is a wide ranging species, found in all of the 48 contiguous states at some point in its life cycle. Currently, bald eagles are federally listed as endangered in 43 states and threatened in 5 states (Washington, Oregon, Minnesota, Wisconsin, and Michigan). Since the cancellation of DDT by the EPA in 1972, bald eagle breeding populations have been increasing. On February 7, 1990, the U.S. Fish and Wildlife Service published a Notice of Intent (55 FR 4209) to reclassify the bald eagle from endangered to threatened throughout all or portions of its range, but to date no formal reclassification proposal has been published (USFWS 1992).

The locations of wintering concentrations of bald eagles are predictable but more loosely defined, and usually occur in response to prey availability (ice-free areas affording fishing opportunities, waterfowl concentrations, etc.) and favorable habitat conditions (roost sites, etc.) (USFWS 1992). During mid-winter periods when ice-free waters are not available, bald eagles change from a prey base of fish and waterfowl to forage primarily upon road kill, winter kill, and other carrion.

Bald eagle use within the District is primarily by migrant and wintering bald eagles (October through May). Winter finds bald eagles along major waterways. Bald eagles from the northern states and Canada begin arriving about the second week of October on the Green River and Bear River. On the Green River, this coincides with the kokanee salmon and brown trout run, which is probably a primary source of autumn food.

Three known bald eagle winter roost and activity areas are located within the District. These are the Henry's Fork at the confluence of Antelope Creek, primarily on private land, where as many as 11 bald eagles may be seen in mid-winter; Woodruff Narrows, located along the Bear River about 15 miles north of Evanston, where one of the largest wintering populations of bald eagles in Wyoming occurs; and Morgan Canyon, about 12 miles northwest of Kemmerer, which supports from 5 to 15 wintering eagles from November to March.

Woodruff Narrows, from November through February, provides roosting habitat for approximately 25 to 75 birds in the cottonwood trees along the river. Roosting eagles feed on carrion in the surrounding mule deer and domestic sheep winter range. Waterfowl that winter along the Bear River drainage also serve as a food source. During March and April, the Woodruff Narrows roost is used as a spring staging area for the wintering eagles. In 1980, over 200 eagles were observed using the roost site on a single day.

Bald eagle winter use areas run from the confluence of the New Fork and Green Rivers in Sublette County, south along the Green River and Flaming Gorge Reservoir in Sweetwater County; on the Big Sandy and Little Sandy Rivers in Eden Valley; along the Black's Fork, Henry's Fork and Bear River in Uinta and Lincoln Counties, and along their major tributaries. Bald eagles are frequently seen foraging on carrion around wintering concentration areas of mule deer and domestic sheep.

Bald eagle nesting is limited. Since 1983, a pair of bald eagles has attempted to nest in cottonwoods along the Green River south of Big Piney. Thus far these attempts have been unsuccessful. A successful nest was established in 1986 on the Green River near Daniel. At least one young eagle fledged off this nest, according to the land owner. An active bald eagle nest was discovered within Seedskadee National Wildlife Refuge in 1990. There are potential nesting sites along Flaming Gorge Reservoir, Henry's Fork River, and other waterways.
Peregrine Falcon

The peregrine falcon is a medium-sized raptor, which is highly migratory as much as it is of its prey. It breeds in the forest regions of Alaska and the Yukon Territory, and south of the tree line in northern and eastern Canada to the northern Mexico. The falcon winters from southern United States to South America, with northern populations tending to winter further south (USFWS 1992).

Extensive use of organochlorine pesticides is considered the primary reason for the decline of peregrine falcons (USFWS 1991d). Since restrictions were placed on the use of DDT in the early 1970s, populations stabilized, and in 1978 began to increase. Population increases continue to the present in nearly all areas.

Peregrine falcon use the Green River as a spring and fall migration corridor; however, there are no known breeding pairs of the peregrine within the area. Observations of peregrine falcon within the District have been limited to occasional sightings of migrant birds near Big Piney, Wyoming.

In hopes of establishing nesting pairs of peregrine in the New Fork Lake area, on July 15, 1993, six 35-day-old peregrine falcon were placed at a BLN hacking site north of Cora, Wyoming by Peregrine Fund personnel. As of the first of September 1993, the falcon had left the area to migrate south for the winter. It is hoped that these birds will return next year, and begin nesting within 3 years. This peregrine falcon release project was the result of the combined efforts of the BLN, Forest Service, WGFD, the Peregrine Fund, and Bill and Sherry Keller, whose ranch surrounds the BLN-administered land used for the hack tower. The U.S. Forest Service also has a hack site in the Soda Lake Area. One pair has been observed in the area.

Whooping Crane

The wild whooping crane occurring in Wyoming is the Rocky Mountain whooping crane flock. This whooping crane flock is due to the cross-foster parent program initiated in 1974 at the Grays Lake National Wildlife Refuge, Idaho. Whooping crane eggs were placed in greater sandhill crane nests to be hatched and reared by the sandhill crane foster parents. These whooping crane foster nests have adopted the migration routes of the sandhills. This flock migrates in March and April from New Mexico and passes through Colorado and Wyoming and summers in Wyoming, Idaho, and Montana. The fall migration of the Rocky Mountain population occurs from mid-September through early November, reversing the spring route.

Whooping cranes have found wetlands in the areas of Parson/Eden, Big Piney, Llargins, Daniel, Green River, Bear River, and the Cumberland Valley suitable for summer habitat, though none are known to nest in these areas. The crane’s habitat within these areas includes a broad range of natural and human-influenced wetlands, croplands, and pasture. The crane is omnivorous, eating natural foods (insects, frogs, fish, plant tubers, acorns, berries, clams, crayfish, aquatic insects, cultivated grains (barley, corn, milo, sorghum, wheat) left after harvest (Lewis 1980). However, in relation to western Wyoming, there is no corn, milo, sorghum, or wheat for them to eat.

Candidate Species

Preble’s Shrew - This mammal is not known to occur within southwest Wyoming. The only Wyoming specimen was collected from Lamar Valley, Yellowstone National Park, at 6,000 feet. Shrews usually inhabit moist locations. They are found along most streams in most areas such as under logs, marshgrass, bogs bordered by willow or riparian shrub, occasionally wetter areas of open conifer stands, mountain foothills grasslands, or in thick vegetation of seepages (WGFD 1991).

Allen’s 13-Lined Ground Squirrel - This species has been observed is the Green River Basin. It is found in association with juniper, basin-prairie and mountain-foothills shrub, grasslands, small grain agricultural lands, barren areas, roadside/railroad banks, mined areas, and overgrazed areas. Grasses, seeds, insects, and occasionally birds, young cottontails, lizards, and snakes make up its diet (WGFD 1991).

Pygmy Rabbit - This species has been observed in Uinta and southwestern Sweetwater Counties. Pygmy rabbits are always found in sagebrush. They prefer tall sagebrush (3 to 5 feet), often in ravines. They dig their own burrows which are found at the base of sagebrush clumps (Chapman, et al. 1982). The pygmy rabbits were observed usually along intermittent streams or riparian areas in sagebrush-grasslands. Ninety-nine percent of its diet is sagebrush; it also utilizes some grasses in mid- to late summer. Overgrazing by livestock may impact habitat values (WGFD 1991).

North American Wolverine - This species has been observed in the coniferous forests, especially dense, continuous stands in remote areas of the Wyoming and Wind River Mountain Ranges. However, its main distribution is north of Wyoming. The wolverine may feed on any animal it comes in contact with (e.g., deer, elk, moose, rabbits, porcupines, etc.). It also feeds on berries in summer and carrion in late winter/early spring (WGFD 1991).

North American Lynx - The lynx has been observed within the District (Pine Mountain and Wyoming Range) in the past, but breeding cannot be assumed. Lynx are more restrictive in habitat and food selection than bobcats, making them more vulnerable to a changing environment. Lynx are associated with dense coniferous forests, especially Engelmann spruce and subalpine fir. Throughout their range, lynx depend on snowshoe hares for most of their diet. This dependence is reflected in cyclical fluctuations of lynx populations with changing snowshoe hare densities (WGFD 1991; BLM 1986).

Ferruginous Hawk - The ferruginous hawk is a common resident that can be found throughout the District. It is associated with riparian-cottonwood, basin-prairie shrublands, mountain foothill grasslands, and juniper woodlands. It is found in xeric sites that other raptors. It avoids mountainous areas, steep canyons, and high cliffs. The ferruginous hawk nests on low rocky outcrops (preferred), on the ground, on cut banks, in small groves of trees, and artificial platforms. It feeds mostly on small mammals (ground squirrels, pocket gophers, and rabbits). There is a noticeable drop in numbers in winter (WGFD 1991; BLM 1986).

Northern Goshawk - The goshawk is a common resident that has been observed, including nuns, in coniferous (lodgepole), deciduous (aspen), and mixed forest types throughout the District (Pine, Little, and Raymond Mountains and foothills of Wyoming and Wind River Mountain Ranges). Its habitat
is in areas of gentle slopes or flat areas near a steep incline or canyon, often near water. The goshawk nests in trees and forages in a variety of habitats. It feeds mostly on birds and small mammals (WGFD 1991; BLM 1986).

Mountain Plover - The mountain plover is a common summer resident, migrating out of the state during the winter. It has been observed throughout the District. Its habitat is associated with the sagebrush-grassland areas in the District providing open areas of shortgrass and midgrass height. The plover is a grassland nesting shorebird. The plover nests on the ground, somewhat exposed. It feeds on insects, particularly grasshoppers.

Long-Billed Curlew - The long-billed curlew is an uncommon summer resident that migrates out of the area during the winter. It is most frequently associated with wet-moist meadow grasslands, and irrigated native meadows with aquatic areas nearby, agricultural lands, and shorelines. Areas within the District where this species may be found are the irrigated native haylands and farmlands along the Bear River, the Henry's Fork, Hams Fork, Green River, Farsen/Eden area, New York River, and the many tributaries of the upper Green River. The curlew is a grassland curlew that prefers nesting on the ground near water, sometimes in moist hollows. They feed on insects and aquatic invertebrates (WGFD 1991; BLM 1986).

Black Tern - The black tern is a common summer resident associated with freshwater marsh and aquatic habitats in the District. Its potential habitat areas would coincide with those of the long-billed curlew. It nests on floating mats of dead vegetation, often on a muskrat house. It feeds on insects, aquatic invertebrates, and small fish (WGFD 1991).

Loggerhead Shrike - The shrike is a common summer resident associated with pinyon-juniper, woodlands, and basin-prairie and mountain foothill shrublands within the District. It nests in deciduous trees or shrubs where it hides its nest by locating it below the crown in a crotch or low branch. The shrike feeds on insects, small vertebrates, and carrion.

Western Boreal Toad - The toad is a common resident. It occurs in wet situations in the foothills, and montane and subalpine zones. It feeds primarily on ants, but may eat larval and adult beetles, moths, and other insects. Egg laying occurs in shallow water. Toads have been observed in the Kemmerer area.

Spotted Frog - The spotted frog is a common resident. It occurs in ponds and sloughs, as well as small streams in foothills and montane zones. Animals have been observed in the Cokeville area.

SPECIAL MANAGEMENT AREAS

Wilderness Study Areas/Instant Study Areas

There are 14 wilderness study areas and 1 instant study area in the District (Map B, Appendix D). The Rock Springs District has recommended six of the wilderness study areas and the instant study area for designation as wilderness. This recommendation has been submitted by the Secretary of the Interior to Congress and is awaiting their action. Table III-3 lists, by BLM Resource Area, the name and acreage for each wilderness study area and instant study area. Until Congress takes action on the BLM suitability recommendations, all the wilderness study areas and instant study area will be managed under the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM Manual H-8550-1). The acreage in Table III-3 reflects the acreage analyzed in the Final Wilderness Study Area EIS (1990) and does not necessarily indicate the acreage recommended for wilderness designation.

Areas of Critical Environmental Concern (ACECs)

There are ten designated ACECs within the District (Map B, Appendix D). Six of them coincide with all or part of a wilderness study area. The term ACEC is defined in the Federal Land Policy and Management Act (1976) as, "an area within the public lands where special management attention is required (when such areas are developed or used, or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources or other natural systems or processes, or to protect life and safety from natural hazards." The management prescriptions for the ACECs do not preclude predator control activities. However, those coinciding with wilderness study areas would be required to comply with the Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM Manual H-8550-1), and others may seasonally restrict the method or technique of predator control (e.g., some are raptor nesting concentration areas, so aerial gunning may be restricted during nesting; some are crucial winter range for big game animals, so aerial hunting may be restricted during severe winters in these areas). Table III-4 lists the ACECs by BLM Resource Area, identifies those that coincide with wilderness study areas, and lists predator control restrictions.
Wild Horse Herd Management Areas

There are four wild horse herd management areas within the District and one interim management area, all of which are located within the Green River Resource Area (Map C, Appendix D). They are the White Mountain, Divide Basin, Salt Wells Creek, and Adobe Town wild horse herd management area. The Adobe Town wild horse herd management area is located in both the Rock Springs and Rawlins Districts and managed by the Rawlins Districts. Three areas occupied by wild horses during the year, outside the wild horse herd management areas, are Firehole, North Baxter/Jack Morrow, and Little Colorado. Wild horses within these areas are considered excess and subject to removal. The Rock Springs District manages the wild horses within the four wild horse herd management areas to maintain an average population of 1,350 head (range of 1,100 to 1,600) plus an average of 80 head (range of 59 and 100) in the Little Colorado Interim wild horse herd management area. No wild horse losses have been reported that would be attributable to predation.

**PUBLIC LAND USES**

Public land is used for a variety of purposes and may be industrial or recreational in nature. Industrial uses include, but are not limited to, oil and gas exploration and production, livestock grazing, mining, and timber production. Recreational uses include, but are not limited to, hunting, fishing, camping, trapping, sightseeing, horseback riding, hiking, rock hunting, and off-road vehicle use. The land use plans for the respective BLM Resource Areas (Pinedale, Kemmerer, and Green River) provide detailed information on these and other uses and any limitations on their use on public lands.

**Livestock Grazing Operations**

Livestock production is a major industry in Wyoming and the Rock Springs District. Wyoming ranks 3rd in the nation in sheep and lamb production and 26th in cattle and calves. Uinta, Lincoln, Sweetwater, and Sublette Counties, Wyoming rank 4th, 7th, 11th, and 19th, respectively, in stock sheep production, and 17th, 18th, 22nd, and 31st in all cattle production. Presently, the District administers 511 livestock grazing allotments, 425 of which are administered under section 3 of the Taylor Grazing Act, and 64 under section 15. An average of 355 permittees are licensed each year, with approximately one third utilizing multiple allotments within a resource area or multiple resource areas. Approximately 60 of the permittees are sheep or sheep and cattle operators. The following discussion concentrates on sheep operations because the need for predatory animal damage control is predominately associated with sheep operations.

Many of the allotments located in the District, primarily the Green River and Kemmerer Resource Areas, provide winter lambing ranges for sheep operators. Sheep operators trail or truck their sheep, beginning around the first of October, from areas within the District, or from National Forest lands, as well as from Colorado and Utah, to winter in these areas allotments (Map E, Appendix D). Winter cattle use also occurs in some areas on public lands, but most cattle operators gather their cattle and winter them at their ranch, feeding them hay produced on their base property (i.e., land owned or controlled by a permittee that has the capability to produce enough hay or forage that can be used to support licensed livestock for a specified period of the year, 43 CFR 4100.0-5 and 4100.2-1). In the spring, April and May, sheep operators trail or truck their sheep from winter ranges to shearing and lambing ranges, generally located near their ranch headquarters (Map F, Appendix D).

The typical sheep operation is comprised of seven periods of activity in the annual cycle of sheep husbandry. These are generally described by the Tigner and Larson study (1977). (The Tigner and Larson study was conducted in the Rawlins BLM District between 1973 and 1975. It was a 3-year research study, under the Division of Research, U.S. Fish and Wildlife Service, conducted to determine the magnitude and causes of sheep loss during range operations in the mountain West. Five southern Wyoming sheep ranching operations were closely monitored year-round. This study is referenced because of the proximity of the study area to the Rock Springs District (comparable physiography, climatic conditions, vegetation, etc.) and because of the similarity in ranching operations.)

**Summer Grazing** - Usually during the period of July through September sheep graze the mountain allotments located on the Bridger-Teton, Ashley, and Wasatch-Cache National Forests. A few operators remain on BLM allotments during the summer period.

**Sorting and Shipping** - In September, the sheep are trailed, or occasionally hauled by truck, from the summer range to the operators shipping point. Here lambs (except for replacement ewes) are separated and shipped either to a farming area for further fattening or directly to market. Winter herds (bands) of about 2,000 ewes and replacement ewe-lambs are readied for trailing to winter range.

**Trailing to Winter Range** - Trailing to winter range may take a week to ten days depending on how far the operator's shipping point is from his winter range allotment. Predation occurs during this period, but is generally light since the sheep are maintained in a fairly tight bunch and guard dogs and herders are near.

**Winter Range Use** - October through March is usually the winter use period. Rams are put with the ewes for breeding about mid-December and removed about mid-January. The ewes graze on the winter range until shearing, mid-April to mid-May. The winter period is the second highest period of death loss during the year. Causes include exposure, starvation, predation, disease and poisonous plants, and accidents. Tigner and Larson found during this season, for the five sheep operations studied, a 3-year average
confirmed loss due to all causes at 2.6 percent lambs and 1.6 percent ewes. Thirty-nine (39) percent of the lamb loss and 22 percent of the ewe loss was due to predation. For lambs lost, exposure was the next highest percent, with accidents and disease following at 9 and 8 percent, respectively. For ewes lost, disease/poisonous plants was highest at 32 percent, and accidents 19 percent.

**Trail to Spring Range - Trailing to spring (lambing) range** - It takes a week to ten days depending on how far the operator's range is from his winter range allotment. Predation occurs during this period, but it is generally light since the sheep are maintained in a fairly tight bunch and guard dogs and herdsmen are near. Some operators shear their sheep at pens while still on their winter range. Following shearing, they trail their sheep to lambing range.

**Spring Shearing/Lambing - At the shearing pens in April** — often located at or near the ranch headquarters, ewes are sheared and then herded to a nearby lambing range. Range lambing then begins by forming herds of about 1,000 to 2,000 ewes as they leave the shearing pens in late April or early May. Herds are usually tended by herdsmen while still on lambing range. Lambing begins about May 10. When the first 500 ewes have lamb, the ewes and their lambs are then gathered so the lambs can be tail-docked, marked, and castrated (males only). When 500 more ewes have lamb and the lambs are docked, marked, and castrated, then these two bands of 500 ewes and their lambs are combined into a lambing or summer herd of 1,000 ewes and lambs. They are then moved away to wait for trailing to summer range.

The lambing season is the period of highest death loss. This is the period in a sheep's life, particularly as newborn lambs, when it is most vulnerable to a variety of natural, life threatening causes. These causes include predators, exposure, starvation, stillbirth and abnormalities, disease and poisonous plants, and accidents. Losses during the lambing season always exceed those for the other seasons combined. Tigert and Larson found during this season, for the five sheep operations studied, a 3-year average confirmed loss due to all causes at 12.8 percent lambs and 1.3 percent ewes. Sixteen (16) percent of the lamb loss and 10 percent of the ewe loss was due to predation. For lambs lost, starvation and exposure was higher, at 18 and 17 percent, respectively. For ewes lost, disease/poisonous plants and accidents caused the problems, at 27 and 25 percent, respectively.

**Trailing to Summer Range - In June or July** — As lambing is completed, and lambs docked, males castrated, the ewes and their lambs are formed into summer herds. When herds of 2,000 animals are formed (approximately 1,000 ewes and 1,000 lambs), the herdsmen begin trailing the sheep to summer ranges, generally on National Forest lands, taking about a week to make the trip. Occasionally they are trailed in two days. Dry ewes are separated out and readied for shipping to market.

Contrary to the belief of some, livestock producers are not reimbursed for losses due to predation. The WGFD will consider claims for livestock damaged or killed by big or trophy game animals (e.g., bear, lion, etc.) if submitted no later than 15 days after the damage is discovered by the owner of the property or the representative of the owner, to the nearest game ward, damage control ward, supervisor, or commission member. No award shall be allowed to any landowner who has not permitted hunting on his property during authorized hunting seasons. Any bear, mountain lion, or bobcat doing damage to private property may be immediately taken and killed by the owner of the property, employee of the owner, or lessee of the property. The owner, employee, or lessee shall immediately notify the nearest game warden of the killing (WGFD Laws, 23-1-901 and 23-3-115).

In an attempt to reduce predator losses, all sheep operators use herdsmen. One to two herdsmen accompany each band (2,000 head) of sheep on summer and winter ranges. Lambing is the most difficult time as herdsmen are spread thin. One herder must stay with the early-lambing ewe herd while the other stays with the ewes not yet lambing or in the process of lambing (drop bunch). Whether on lambing range, summer range or winter range, herdsmen must constantly be alert for anything that may cause the loss of an animal. The importance of a competent herder at all times is critical. Tigert and Larson noted that, "...although there are still a few good middle-aged herdsmen and a few old-timers in their sixties, most of the herdsmen hired are young and inexperienced. The combination of inexperience and poor supervision of the herdsmen resulted in mixing of herds, accidents, missing sheep, death and abandonment on the lambing grounds, scattering of the herds, theft of lambs, and numerous other problems including predation."

Good competent herdsmen are very hard to find. U.S. citizens are not interested in this kind of work because it is very isolated, remote, lonely, requires going long periods without bathing, or seeing or talking with anyone. The majority accepting this work are immigrants from other countries. This in itself creates further complications. In most cases, these immigrants have had little or no experience, and there is a language barrier. Immigrants must learn the livestock operation including the trailing routes; the winter, summer, and lambing ranges; learn the ways of the predator; and learn the precautionary measures that must be taken to prevent loss.

Tigert and Larson found that predators were responsible for indirect damage to herds as well as outright killing. Scattering of a herd by predators, particularly a drop bunch (ewes giving birth that drop out of the slowly moving lambing herd to tend their young) during lambing, cause some ewes and their lambs to become separated so that lambs die from starvation, trampling, or exposure without their death being attributed to predation. Tigert and Larson also noted that while the wild predators may take the weak and sick first, domestic sheep are so defenseless that it makes little difference whether lambs are healthy or not - coyotes, fox, or bear kill them with ease. In fact, it is possible that the healthier, more active lambs attract the attention of predators more.

**Recreation**

Recreation activities occur throughout the Rock Springs District. Recreational activities are considered an important use of the public lands by the local citizens and the visiting public. Most of the public lands occur during the snow-free periods with the summer and fall seasons receiving the highest use. However, winter use also occurs, but the level of human use during this period is generally very limited or non-existent in large portions of the winter grazing use areas, where most of the APHIS-ADC activity would occur. Map A (Appendix D) shows concentration areas of recreational use (human concentration areas). Some of the activities that occur in areas where predator control activities would take place include:

**Spring/Summer - Off-road vehicle use, sightseeing, bird watching, hiking, horseback riding, photography, fishing, rock hounding, camping, and fuelwood gathering.** Localized high levels of public use occurs at prominent points and stretches along the historic Oregon/California/Mormon Trail. Of particular interest are South Pass, South Pass Overlook, False Pass of the Ways, Plume Rocks, Dry Sandy Swales, True Parting of the Ways, Simpson Hollow, Pilot Butte Overlook, and Lombard Ferry Crossing on the Green River. The wilderness study areas, ACEC's, and perennial streams with fishing potential also receive localized high use by visitors during this period. Some hunting seasons begin in the late summer months such as
upland game birds (grouse), antelope, and archery season for big game.

*Fall* - Hunting (big game, small game, waterfowl) is the primary activity that occurs during this period, with lower levels of the other types of recreational activity listed under spring/summer continuing.

*Winter* - Hunting (small game, late big game seasons) and trapping are probably the highest level of winter use that occurs, with snowmobiling, cross country skiing, and dog sledding representing other recreational uses.

**SOCIOECONOMICS**

As noted in Chapter 1, approximately 141,000 sheep and 147,000 cattle were on southwest Wyoming farms and ranches in 1993, nearly all of which utilized public lands at some time during the year (Table 1-1). This level of production represents a significant part of Wyoming's livestock production (17.5 percent of the cattle and 20.0 percent of the sheep). Approximately 355 livestock operators graze livestock on public lands administered by the BLM. These operators and their families are dependent upon the income from their ranching operations for their livelihood. Approximately 60 of these livestock producers are sheep or sheep and cattle operators.

The value of cattle/calves, sheep/lambs, and wool within the State of Wyoming in 1992 was estimated at $463 million. For this same period, the four-county area (Lincoln, Uinta, Sweetwater, and Sublette) of southwest Wyoming had an estimated value of $112 million or 24 percent of the total value of all livestock production within the State (WASS 1993).

The Wyoming Agricultural Statistical Service's 1993 analysis found that "Statewide, sheep producers lost an estimated 143,000 sheep and lambs to all causes during 1992, 10 percent more than in 1991. Predators accounted for 60 percent of the total death losses while weather related deaths accounted for 8 percent of all losses. Total predator losses, at 86,300 head, were up 27 percent from the previous year. Coyotes continued to cause the most predator losses, followed by fox and eagles. The economic loss to sheep and lamb producers caused by predators in 1992 was an estimated $3,303,800. Total loss to all causes was estimated at $5,857,500."
### TABLE III-5
APHIS-ADC ANIMAL DAMAGE CONTROL FUNDING SOURCE
(Fiscal Years 1992 and 1993)

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Dollar Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal Government Funding</strong></td>
<td>1992</td>
</tr>
<tr>
<td>Sweetwater County</td>
<td>$33,250</td>
</tr>
<tr>
<td>Uinta County</td>
<td>28,500</td>
</tr>
<tr>
<td>Lincoln County (part time, 3/4 position)</td>
<td>15,750</td>
</tr>
<tr>
<td>Sublette County*</td>
<td>0</td>
</tr>
<tr>
<td>District Supervisor (office, equipment, etc.)</td>
<td>53,525</td>
</tr>
<tr>
<td><strong>Cooperative Funding (For Aerial Hunting Only)</strong></td>
<td></td>
</tr>
<tr>
<td>Sweetwater County Grazing Board</td>
<td>$15,000</td>
</tr>
<tr>
<td>Uinta County Grazing Board</td>
<td>5,000</td>
</tr>
<tr>
<td>Lincoln County Grazing Board</td>
<td>10,000</td>
</tr>
<tr>
<td>Sublette County*</td>
<td>0</td>
</tr>
<tr>
<td>Union Pacific Railroad</td>
<td>4,000</td>
</tr>
<tr>
<td><strong>County Predatory Animal Board (PAB)</strong></td>
<td></td>
</tr>
<tr>
<td>Sweetwater County PAB (includes contribution from WGFDP)</td>
<td>$27,645</td>
</tr>
<tr>
<td>State Department of Agriculture</td>
<td>2,940</td>
</tr>
<tr>
<td>Uinta County PAB (includes contribution from WGFDP)</td>
<td>31,880</td>
</tr>
<tr>
<td>State Department of Agriculture</td>
<td>2,940</td>
</tr>
<tr>
<td>Lincoln County PAB (includes contribution from WGFDP)</td>
<td>15,990</td>
</tr>
<tr>
<td>State Department of Agriculture</td>
<td>2,940</td>
</tr>
<tr>
<td>Sublette County PAB</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$249,360</strong></td>
</tr>
</tbody>
</table>

* Federal funding is based upon the number of APHIS-ADC trappers located in the work area. Within the Rock Springs District, there are 5 trappers and one District Supervisor. The U.S. Department of Agriculture allocates $19,000 per trapper and $56,000 per District Supervisor to cover salaries and the benefit, travel, and vehicles of the trappers and equipment expense (phone, office building maintenance, etc.).

**APHIS-ADC has predatory animal control operating agreements to do all control work within county boundaries, with all but one of the four County Boards within the Rock Springs District. Sublette County Board is not covered by an agreement with APHIS-ADC, but livestock operators who have paid a predatory animal control fee to a County Board that has an agreement with APHIS-ADC will be honored when they make use in Sublette County. County Boards without an agreement fund and administer their own control program.**

Contributions from the WGFDP have averaged $1,500 per year per county to compensate APHIS-ADC for anticipated efforts in controlling damage or conflict caused by trophy game animals, predatory animals, or other wildlife (e.g., lions, bears, beaver, and nuisance calls).

### TABLE III-6
COSTS IN 1992

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost with predatory animal control</td>
<td></td>
</tr>
<tr>
<td>With 3.5 percent loss = 4,450 animals lost @ $58 per animal</td>
<td>$258,100</td>
</tr>
<tr>
<td>Plus predator control costs</td>
<td>$249,360</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$507,460</td>
</tr>
<tr>
<td>Cost without predatory animal control**</td>
<td></td>
</tr>
<tr>
<td>With loss at 18 percent = 23,000 animals lost @ $58 per animal</td>
<td>$1,344,000</td>
</tr>
<tr>
<td>Increased standard livestock production costs**</td>
<td>$ unknown</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$ unknown</td>
</tr>
<tr>
<td>With loss at 30 percent = 38,000 animals lost @ $58 per animal</td>
<td>$2,204,000</td>
</tr>
<tr>
<td>Increased standard livestock production costs**</td>
<td>$ unknown</td>
</tr>
<tr>
<td>Total Cost</td>
<td>$??????????</td>
</tr>
</tbody>
</table>

**Calculated based upon the research findings of Dr. Fred Knowles, Research Associate Professor, Utah State University, which have shown that if coyotes and other predatory animals are not controlled, losses may jump as high as 18 to 30 percent.**

**Without animal damage control, there would be increased non-lethal predator control costs to the livestock producer. These would vary from operator to operator. They would consist of hiring additional herders, building lambing sheds, fencing to exclude predators, acquiring additional guard dogs, hiring independents to conduct control, etc.**

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57

58
CHAPTER IV - ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

This section includes a discussion of the environmental impacts of the proposed action and alternatives. The discussion will provide sufficient evidence and analysis for the District Manager to determine, following public review and comment, whether an environmental impact statement will be required or whether a finding of no significant impact can be supported (40 CFR 1508.9).

As noted at the beginning of Chapter III, it has been determined that the following elements would not be affected by the proposed or alternative animal damage control activities and therefore will not be analyzed for impacts: air quality, water quality, regional hydrology, floodplains, wetland/riparian zones, soils/watershed, vegetation, visual resources, prime/unique farmlands, fisheries, threatened and endangered fish and plants, wild horses, Native American religious concerns, cultural values, paleontological values, hazardous/solid wastes, wild and scenic rivers, minerals, and forest resources. Predator control activities do not have the potential to impact or change the character or value of the listed resources. Only those components that would be affected by the proposed and alternative predator control activities are analyzed.

IMPACTS OF CONTROL METHODS

The APHIS-ADC Animal Damage Control Program Supplement to the Draft Environmental Impact Statement, (Appendix T), provides a detailed risk assessment of wildlife damage control methods used by the USDA Animal Damage Control Program. This document is referenced and is available for review for more detail on study and research findings regarding methods, risk to the environment and public safety, and mitigating opportunities. The following assessment focuses on the effects of control methods as implemented by APHIS-ADC on projects within the Rock Springs District.

Under the Proposed Action and Alternatives A and B, the APHIS-ADC Program would use chemical and nonchemical methods to control the wildlife damage problems caused by coyote and red fox predation on domestic livestock. The chemical methods are sodium cyanide (M-44 cyanide capsules) and sodium nitrate (gas cartridge for coyotes). No other chemical method is proposed — no 1080 baits or 1080 collars. The use of 1080 in any form is illegal except under special, closely monitored conditions. The nonchemical methods are leghold traps, snares, aerial hunting, and calling and shooting.

Chemical

Sodium Cyanide Capsule (M-44) - The M-44 capsules are applied on rangelands for the control of coyote predation on sheep. The capsules are placed along game trails, livestock trails, and ridges near seldom-used ranch roads and along fencelines. The application rate cannot exceed 10 M-44 capsules per 100 acres or 12 per square mile (640 acres). The capsules are checked weekly. This chemical is applied in the winter and spring. The olfactory attractive attracts animals occurring on rangeland that are attracted to the scent and that are likely to activate the ejector device.

A very high level of concern and opposition was expressed by the public to the use of sodium cyanide and the M-44 device. Four reasons were expressed repeatedly: 1) sodium cyanide is comparable to 1080 and therefore will have secondary poisoning effects; 2) the M-44 will attract and kill personal hunting dogs or pets when they are out being exercised or hunting; 3) sodium cyanide is an inhumane method of taking predators; and 4) the M-44 could cause the death of a human.

In response to these concerns, our analysis shows the following: 1) Sodium cyanide does not have secondary poisoning effects. A canid or carnivore killed from the ingestion of the chemical will not cause the death of another canid, carnivore, animal, or bird that feeds upon it. Due to the application method and mode of toxicity, the only potential exposure scenario would occur through direct contact. 2) Although the M-44 was designed to specifically target only canids (i.e., coyotes, foxes, and feral dogs) it has resulted in the death of not only nontarget canids, including domestic dogs, but also other animals that are not canids, such as the badger, bobcat, skunk, porcupine, raccoon, ring-tailed cat, black bear, raven, crow, and vulture. A total of 1,052 nontarget deaths were reported as a result of predator control in 16 western states during fiscal year 1988, or approximately 6 percent of the total animal kill resulting from the use of the M-44 (APHIS-ADC Direct Control Methods Report 1992). 3) Death occurs by propelling sodium cyanide into the animals mouth, causing death through the inhalation of toxic fumes. When in contact with moisture, sodium cyanide releases hydrogen cyanide, the actual toxicant. coma and death follow within 60 to 120 seconds. No pain is experienced since the chemical prevents oxygen use by the tissues. 4) No human has ever been killed by the M-44. The likelihood of this ever happening would be almost non-existent. Those at greatest risk are the trappers who set the devices.

Although numerous restrictions have been issued relating to application of sodium cyanide, this chemical is difficult to mitigate because of the unique mode of application and the difficulties associated with controlling potential nontarget exposure. However, the potential adverse effects can be mitigated with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II, including the EPA use Restrictions listed in Appendix B. Through the careful administration of these measures, the likelihood of nontarget species being taken can be reduced substantially. For example, the APHIS-ADC method of placement would be on winter and lambing ranges (December 1 through June 30) in proximity to sheep herds using the area where losses due to predation are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Placement patterns influenced by the presence or absence of nontarget animals would affect the likelihood of nontarget animals being taken. EPA measures 7, 8, 9, 12, 15, 23, and 26 (Appendix B), coupled with the Stipulations and Restrictions 3, 4, 5, 7, 8, 10, 11, 15, and 16 would mitigate the potential for unnecessary adverse effects on nontarget animals.

Nonchemical

Leghold Traps - A leghold trap captures an animal by gripping its leg or foot. Injuries may occur to the animals caught either from the force of the trap closing or from efforts of the animal trying to escape. By law, leghold traps must be checked every 72 hours. At that time, if a nontarget animal is caught, the APHIS-ADC specialist releases the animal if not injured or precluded from maintaining itself in the wild. Non-target species (e.g., skunk, badger, rabbit, raven, bobcat, etc.) that are injured and are not capable of maintaining themselves in the wild.
will be disposed of quickly and humanely. If the animal is an eagle, raptor, or other protected species, it will be removed from the trap and given to the nearest U.S. Fish and Wildlife Service official or local WGFD official for handling.

Leghold traps capture the greatest variety of species of any of the control methods used in the APHIS-ADC program. This method may be used year long, except in restricted areas and time periods. Leghold traps are either placed beside or, in specific situations, in travel-ways being actively used by the target species. Placement of these traps is contingent upon the habits of the respective target species, habitat conditions, and presence of nontarget animals. Scent sets (olfactory attractants), placed near the trap, are used to entice the animal into the trap. Scent formulas vary, but their objective is to attract target animals. Traps placed around visual attractants (e.g., a sheep carcass) must be no closer than 30 feet from the attractant to protect nontarget species, such as raptors. APHIS-ADC trappers within the Rock Springs District commonly use 30 steps, which equates to 60 to 90 feet, greatly reducing the chance of a non-target species being caught.

The highest risk of nontarget species being taken is with the leg hold traps. These devices reduce the chance of any of the control methods used in the program. This method is used throughout the year, but use is greatest during the fall, winter, and spring. This method is highly selective for target animals. All flight activities are conducted in accordance with the Airborne Hunting Act (50 C.F.R. 1.19), Federal Aviation Agency regulations, and APHIS-ADC program Aviation Safety and Operations guidelines. Hazards to the public are minimal and are limited to flight activities at and near airports and inhabited areas. Harassment of nesting or winter roosting raptors and of wintering concentrations of big game during severe winters are potential adverse effects. However, the adverse effects can be mitigated with implementation of the Assumptions and the Stipulations and Restrictions 2, 3, 4, 9, 11, 13, and 14, (specified in Chapter II), which would mitigate potential adverse effects to safety and nontarget species.

**PROPOSED ACTION (PRESENT MANAGEMENT WITH M-44 USE)**

The Proposed Action would provide for the continuation of APHIS-ADC’s ongoing program of predator control on public lands, plus the addition of the M-44 sodium cyanide device as a lethal control method. The Proposed Action would utilize the cooperative integration of all available non-lethal and lethal methods of control. The proposed predator control would be conducted within the planned and restricted control areas shown on the maps in Appendix D and in accordance with the Stipulations and Restrictions in Chapter II.

Non-lethal methods used at the discretion (and affordability) of the livestock producer would include animal husbandry practices (e.g., use of herders, guard dogs, diligent herding, use of sheds and pens during lambing and calving, herding sheep away from high risk areas); and animal behavior modification techniques (e.g., electronic distress sounds, propane exploders, pyrotechnics, lights, and aversive agents such as chemical repellents). However, these tactics have limited application since predators tend to adapt or habituate to the scare or aversive tactic. Lethal methods of control would be aerial shooting, calling and shooting, leghold traps, snares, denning, decoy dogs, and M-44 sodium cyanide devices.

**Wildlife Resource**

**Game Animals**

Elk, Deer, and Pronghorn Antelope

No significant adverse impact to elk, deer, pronghorn antelope or other big game would occur under the Proposed Action with implementation of the Stipulations and Restrictions, particularly numbers 4, 5, 11, 14, and 16. The use of the M-44 as an additional tool, used in combination with the other conventional methods, would be expected to slightly enhance elk, deer, and pronghorn antelope populations by reducing predation on young. A deer and pronghorn antelope may be caught in a steel trap or leg snare; however, the incident rate would be minor (1 per year) and the 72-hour trap and weekly snare checking requirements would provide appropriate opportunity for animal release if not injured or precluded from maintaining itself in the wild.

Mountain Lion, Black Bear, and Grizzly Bear

No significant adverse impact to mountain lion or black bear would occur under Alternative A with implementation of the Stipulations and Restrictions, particularly numbers 5, 6, 7, 8, 12, and 16. The potential for a grizzly bear encounter is remote. Some reports of grizzly sightings in the Green River Lakes area of the Bridger-Teton National Forest have been received by the WGFD, however, these have been confirmed by biologists (personal communication). The potential for the mountain lion, black bear, or grizzly bear to be taken as a non-target species through the use of the M-44 is low since BLM-administered lands where control would be conducted lack suitable habitat and because of the implementation of the Stipulations and Restrictions and the required conformance with the EPA Use Restrictions (Appendix B), particularly numbers 7 and 8.

**Upland Game and Waterfowl**

The Proposed Action would benefit upland game birds and waterfowl in areas of predatory animal control by reducing predation on game birds, particularly sage grouse and waterfowl. The beneficial effects of control to waterfowl has been demonstrated by the study conducted by the U.S. Fish and Wildlife Service on the Seedskadee National Wildlife Refuge, where nesting success increased by over 1,000 percent with predator control (see Chapter III, Waterfowl, for further information). One reason for the high predator effects on waterfowl within the Seedskadee Refuge is the “island effect” - an oasis of ducks and other bird and mammal life - which draws predators. However, the more widespread occurrence and nesting of sage grouse would not have as strong a predator draw. If conditions arise (e.g., severe winter) which would cause control activities to become a disturbance factor, implementation of the Proposed Action Stipulations and Restrictions would reduce any adverse impacts.

**Nongame and Furbearers**

No significant impacts are expected to occur to populations of nongame or furbearing species. Prairie dogs, jackrabbits, and other small animals could accidentally be caught in leghold traps or snares; however, with the APHIS-ADC using 3-pound pan tension devices in leghold traps, the likelihood would be low. Adverse impacts should be negligible with the 72-hour trap and weekly snare checking requirements.
which would provide appropriate opportunity for animal release if not deterred or precluded from maintaining itself in the wild. APHIS-ADC reported for the years of 1991, 1992, and 1993 (Table III-I), catching in traps and snares 69 non-target species (1.7 percent of the total animals taken), with 45 of the animals being released, leaving 0.6 percent actually killed.

The impact, therefore, on non-target species would remain low. M-44’s are very selective to the canine family. Implementation of the Stipulations and Restrictions would reduce or eliminate potential adverse effects. This impact should be insignificant.

Raptors

Under the Proposed Action, with implementation of the Stipulations and Restrictions, particularly numbers 4, 7, 10, 11, 13, and 16, impacts to raptors would be expected to be minimal to nesting and fledgling raptors, and to wintering concentrations. Potential impact to ground nesting raptors and burrowing owls would be mitigated by the requirement that all vehicular travel across public lands be confined to existing roads and trails (see Chapter II, Assumption F).

Predators

The coyote and red fox are the primary targets of predator control activities; not for eradication, but for damage control within localized areas. No control activities conducted by APHIS-ADC are for the purpose of extirpating a species. The APHIS-ADC program operates in accordance with international, national, and state laws and regulations enacted to ensure species maintenance and viability. Eradication may be an achievable goal only in limited cases, such as on islands or in isolated areas where the target species population is confined to a relatively small, well-defined area.

The effects of control would not adversely impact these species under the Proposed Action with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II. The objective of control is to take offending animals, thus the effects to the coyote or fox populations would be local. The substantial removal of predators within the localized areas around lambing, calving, or winter range would result in an influx of a new predator population and an increase in productivity. The control effort would be short term; a new population will have moved into the vacated territory by the following year; thus, the reason for continued control within the lambing and winter range areas year after year. Livestock producers contend that control must continue if livestock losses to predation are to be kept under reasonable control.

As noted in the studies cited in Chapter III, the coyote and fox are very adaptable, prolific, and opportunistic and occupy almost every habitat in North America. Because of their omnivorous natures, the coyote has expanded its range by adapting to all habitat types within the District, and the red fox has expanded to many of the previously unoccupied farm and wetland/riparian habitats. The effect of predator control activities on the coyote and red fox populations would continue to be negligible because, overall, the angler’s resource will continue to maintain itself, with high and lows in populations influenced by prey availability. Sheep loss figures in Table I-2 and the coyote and fox taken figures in Table III-1 provide indices on population change. They indicate that predator populations have steadily increased over the past five years.

When fur prices are high (e.g., $50 to $100 per coyote pelt) there is active trapping and hunting by the general public. Under these conditions, APHIS-ADC activities could reduce the successful opportunity for the public to take coyotes or fox for their fur. On the other hand, if fur prices go up, the public take of the coyote and fox would go up and the need for APHIS-ADC would be reduced. However, for the past ten years, fur prices have been low with no increase in sight, and the public take of coyotes and fox has been low; therefore the need for APHIS-ADC activities has increased, but would have little effect on this form of public recreation.

Non-Target Animals Taken During Predator Control

For the APHIS-ADC program within the Rock Springs District, the percentage of non-target animals that were inadvertently destroyed as a result of being trapped (percent of total captured) by traps or snares was 0.6, 0.9, and 0.4 percent, respectively for the years 1991, 1992, and 1993, for a three-year average of 0.6 percent (Table III-I). These data demonstrate the impact of traps and snares on non-target species directly affected were minimal. The impact is locally specific and short term.

The added use of the M-44, although canid specific, would increase the risk of taking non-canid, non-target species. These would include badger, skunk, raccoon, black bear, mountain lion, bobcat, and domestic dog and cat. However, with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II, including the EPA Use Restrictions as discussed above under Predator Control Methods, the likelihood of non-target species being taken can be reduced substantially.

Threatened or Endangered Species

The U.S. Fish and Wildlife Service consultation memorandum and biological opinion to USDA-APHIS, Washington, D.C., dated July 28, 1992, is referenced in the assessment of potential impacts to threatened or endangered species.

A determination that the Proposed Action is "not likely to adversely affect" the black-footed ferret is made on the basis of the above information and implementation of Assumption F, the Stipulations and Restrictions, numbers 2, 5, 7, and 16, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9). With these provisions, the Proposed Action is not likely to affect the black-footed ferret.

Gray Wolf

The use of M-44’s, leghold traps, and snares to control coyotes could adversely affect the gray wolf. The incidental shooting of a wolf while hunting coyotes is an extremely remote possibility because wolves are distinguishable from the air, but such incidents have occurred.
There is no documented evidence of gray wolf occurrence, nor is there any defined "occupied gray wolf range" within the Rock Springs District. The nearest recovery area for wolves is in Yellowstone National Park, approximately 100 air miles north of the District. Because the potential exists, however, precautionary measures will continue.

A determination that the Proposed Action is "not likely to adversely affect" the gray wolf is made on the basis of the above information and implementation of Assumption F, the Stipulations and Restrictions, numbers 2, 5, 7, 13, and 16, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9). With these provisions the action is not likely to affect the gray wolf.

Bald Eagle

Leghold trap and snare sets commonly used bait to attract the target species to them. Many non-target species are also attracted causing them to be captured. However, APHIS-ADC's policy of not setting traps or snares within 30 feet from a draw station to prevent the capture of non-target species should eliminate the potential of an eagle being captured. Aerial hunting could cause harassment of nesting or winter roosting birds. This could adversely affect nesting success or result in collision loss(s). However, BLM has identified bald eagle nesting and winter roost areas and these will be avoided during aerial hunting.

A determination that the Proposed Action is "not likely to adversely affect" the bald eagle or adversely modify its critical habitat is made on the basis of existing information and implementation of Assumption F, the Stipulations and Restrictions, numbers 2, 5, 7, 13, and 16, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9). With these provisions the action is not likely to affect the peregrine falcon.

Peregrine Falcon

A determination that the Proposed Action is "not likely to adversely affect" the peregrine falcon or adversely modify its critical habitat is made on the basis of existing information and implementation of Assumption F, the Stipulations and Restrictions, numbers 2, 5, 7, 13, and 16, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9). With these provisions the action is not likely to affect the peregrine falcon.

Whooping Crane

A determination that the Proposed Action is "not likely to adversely affect" the whooping crane or adversely modify its critical habitat is made on the basis of existing information and implementation of Assumption F, the Stipulations and Restrictions, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9). With these provisions the action is not likely to affect the whooping crane.

Candidate Wildlife Species

Implementation of Assumption F, the Stipulations and Restrictions, numbers 2, 5, 7, 13, and 16, defined in Chapter II, and the EPA Use Restrictions (numbers 8 and 9) would be required. With these provisions the action is not likely to affect candidate species. To ensure that adverse impact does not occur to these species, a conservative and cautious approach to protect any potential populations will be implemented. APHIS-ADC control activity in potential habitat areas of these species, where they are observed or sign of use is observed, will initiate consultation with the U.S. Fish and Wildlife Service, and WGFD to cooperatively identify alternative means to accomplish the identified goals (control of target species) while minimizing the potential for incidental take of a non-target sensitive species.

Mammals

The Preble’s shrew, Allen’s 13-lined ground squirrel, and Pygmy rabbit are not likely to be adversely affected by the proposed action. The Preble’s shrew is not known to occur within southwest Wyoming. The only Wyoming specimen was collected from Lamar Valley, Yellowstone National Park, at 6,000 feet. The Allen’s 13-lined ground squirrel has been observed in the Green River Basin and the Pygmy rabbit has been observed in Uinta and southwestern Sw -water Counties. None of the methods APHIS-ADC would use as part of their Proposed Action are likely to adversely affect these species or their habitat. They would be too small to activate the leghold trap or the snare. A beneficial impact is more likely through the control of the coyote and fox which are predators of these species.

The North American wolverine has been observed in the coniferous forests of the Wyoming and Wind River Mountain Ranges. However, its main distribution is north of Wyoming. The North American lynx has been observed with the District (Pine Mountain and Wyoming Range) in the past, but breeding cannot be assumed. Lynx are associated with dense coniferous forests and throughout their range depend on snowshoe hares for most of their diet. It is very unlikely that the wolverine or the lynx occur within the District because of the lack of suitable habitat. For this reason it is not likely that they would be adversely affected by the Proposed Action. However, because wolverine and lynx habitat occurs within National Forests adjacent to the District, there is the potential for one to venture onto BLM-administered lands. Leghold traps, snares, and the M-44 could inadvertently capture or kill a wolverine or lynx. To guard against this happening, APHIS-ADC would implement the Stipulations and Restrictions listed in the introductory paragraph for Candidate Wildlife Species.

Birds

The candidate bird species would not be adversely affected by any of the proposed APHIS-ADC control activity or methods of control used. None of the methods APHIS-ADC would use as part of their Proposed Action are likely to adversely affect these species or their habitat. APHIS-ADC implementation of Assumption F, and the Stipulations and Restrictions listed in the introductory paragraph for Candidate Wildlife Species would reduce or eliminate the likelihood of birds being taken. A beneficial impact is more likely through the control of the coyote, fox, and skunk which are predators of these species.

Amphibians

Neither the Western boreal toad nor the Spotted frog would be adversely affected by any of the proposed APHIS-ADC control activity or methods of control used. A beneficial impact is more likely through the control of the coyote, fox, and skunk which are predators of these species.

Special Management Areas

No significant adverse impact to wilderness study areas, ACECS, or wild horse management areas would occur under the Proposed Action with implementation of Assumptions F and G, the Stipulations and Restrictions, numbers 2, 3, 4, 5, 9, 11, 13, 14, 15, and 16, defined in Chapter II, and the EPA Use Restrictions. With these provisions, the likelihood of any adverse effects would be minimal.

Tables III-3 and III-4 list the wilderness study areas and areas of environmental concern, and the wild horse management areas are described in Chapter III. Use of the M-44 within the wilderness study areas and ACECS would be considered only after other methods
have failed to acceptably control predation. The Sand Dunes, Buffalo Hump, Red Creek, and Oregon Buttes Wilderness Study Areas are the most frequented for recreation uses by the public throughout the year. All may receive heavy visitation during the fall hunting season. The Cedar Canyon, Natural Corrals, and White Mountain Recreation Unit Area receive high public recreation use during the summer and fall periods. Cognizance of this use and care in the consideration of control methods and activities used would be required within these areas.

Aerial hunting within the wild horse herd management areas and within the areas outside the wild horse management areas could cause harassment of wild horse herds. Harassment would be a violation of the Wild Horse and Burro Act. Since horses are rounded up annually in the late summer and fall and removed to meet court-ordered population levels, they have become conditioned to reacting to low flying aircraft, especially helicopters, by the perceived need to escape, running from the threat of capture. Spring would be the most susceptible period, when the mares are foaling. Pilots would be instructed to take extreme care to avoid horse herds when conducting aerial hunting within these areas.

### Public Land Uses

#### Livestock Grazing Operations

Under the Proposed Action the APHIS-ADC predator control program would be maximized through the integration of non-lethal and lethal predator control techniques. APHIS-ADC would be able to provide optimal predatory animal damage control assistance to livestock producers. The Proposed Action would be the most beneficial to the livestock producer, particularly the sheep producer during the nine-month period most utilize public lands in the Rock Springs District.

Through the APHIS-ADC integrated management system (i.e., the combined use of non-lethal and lethal methods of controlling predatory animal damage), livestock production losses could be kept to a minimum (approximately 1 to 3 percent per year total sheep loss). Loss of livestock and economic impact on livestock producers would be optimally reduced from current levels by approximately 620 animals with the added use of the M-44 on public lands. A study of coyote take in 15 western states showed that between 1980 and 1986 the M-44 accounted for 14.0 percent of coyotes taken (Connolly 1988). More coyotes were taken by aerial hunting, with leghold traps second, and the M-44 third. This suggests that livestock losses could potentially be reduced by approximately 620 coyote and fox with the M-44 as one of the control tools. It could be surmised that availability of the M-44 as a control tool, the trend in losses to predation over the past five years (0.9 percent in 1989 to 3.5 percent in 1992) would continue.

No compensation, either tax credit or WGFD wildlife damage compensation, is available to livestock producers for losses to coyote and fox predation. Compensation is provided for predation by bear or lion, for which the WGFD will reimburse the livestock producer.

No significant adverse impact would be expected to the livestock producers under the Proposed Action with implementation of the Assumptions, the Stipulations and Restrictions, defined in Chapter II, and the EPA Use Restrictions. With these provisions, the likelihood of any adverse effects should be minimal.

#### Recreation/Public Health and Safety

No adverse effects should result to public land recreation uses or users or to public health and safety with implementation of the Assumptions and the Stipulations and Restrictions numbers 3, 4, 5, 6, 8, 9, 10, 11, 15, and 16, defined in Chapter II, including the EPA Use Restrictions listed in Appendix B. Through the careful administration of these measures the risk of adverse effects can be reduced to a negligible level.

Although it has never happened, there is the potential for a recreation user to be harmed by reaching down and pulling on an M-44 or stepping into a leghold trap. The use of the M-44 and leghold traps would also pose a threat to domestic dogs that may be running on public lands in areas where and when these control methods are being used (i.e., sheep winter and lambing ranges, December 1 through June 30). There are dog sleds resident in the Rock Springs-Green River Area who run their dogs and sleds on the public lands in the vicinity of these communities. Since sheep winter within a 20- to 40-mile radius of these communities and the use of the M-44 would be made under the Proposed Action, the potential exists for a sled dog to locate and pull one of the M-44s. The public has expressed great concern over the possibility of this occurring to any domestic dog.

APHIS-ADC, in addition to enforcement of EPA Use Restrictions (Appendix B) numbers 7, 8, 10, 11, 12, 14, 15, 16, 17, 18, and 23, proposes two mitigating opportunities to add assurance that such an event would not occur.

1. To discourage domestic dogs from activating an M-44 when contacting one, APHIS-ADC has M-44 capsules filled with pepper that use around sheep camps to train sheep dogs to avoid the device. When pulled, the dog receives a dose of pepper that causes it to avoid these in the future. It has worked very effectively. APHIS-ADC personnel would make available to concerned individuals the opportunity to expose their dog to an M-44 pepper capsule thereby reducing the likelihood of themever pulling one on the public rangelands. This would be arranged at the APHIS-ADC office facility in Rock Springs.

2. To protect hunting dogs, sled dogs, or domestic pets, there will be no steel traps, snares, or M-44s set in groups of greater than two miles. There is a problem with the open hunting seasons beginning September 1 and ending about November 30; or within one-half mile of open waters used by waterfowl hunters during the entire hunting season beginning October 1 through January 31. To protect sled dogs, upon request, APHIS-ADC would provide a detailed map (1:24,000 scale) to dog-sledding showing areas of M-44 and trap placement.

### Socioeconomics

#### Sociocultural - The APHIS-ADC Program

Support to the Draft EIS (1993) cites a study that reflects the same concerns expressed by the publics responding to the scopeing conducted for the Rock Springs District proposed predator control program. That study was by Stubey, et al. (1979). Parts of that study are repeated here because of the close similarity in responses.

The researchers found an almost equal concern for the killing of coyotes by humans as for the killing of sheep by coyotes. Although 77 percent supported the right of a rancher to destroy an animal that had killed his livestock, less than one-half of these individuals approved of killing other animals to prevent further loss.

With respect to the animal damage control program, several interests were identified that are likely to respond differently to wildlife damage control options because of varying views. These interests were grouped into four categories: environmental, animal welfare, animal rights, and recipients of predator control services.

The environmental view favored the protection of natural ecosystems and T/E species. This view is held by many individuals in society, including wildlife managers. Their view is to appropriately manage wildlife, that managers must understand the biological systems (ecosystems) they work with and try to protect.

The animal welfare view is concerned for the well-being of the individual animal. Their goal is to minimize the pain inflicted on animals and the unnecessary killing of animals. Most animal welfare organizations do not oppose the concept of wildlife damage control but support more restrictions on control methods such as poisons and traps, research into improved methods or control, and greater application of nonlethal controls such as guard dogs. They maintain that
the predator control program needs to be sensitive to animal pain and suffering and the risks of releasing toxicants into the environment.

The animal rights view is the philosophical and political position that animals have inherent rights comparable to humans. Animal rights advocates oppose killing or harming animals for human gain.

The recipients of predator control program services hold strong opinions concerning wildlife damage control. There are many segments of society that benefit from the predator control program. These groups generally feel that the APHIS-ADC predator control program should be strong and have a major role in reducing wildlife damage affecting their interests. There are strong feelings on the part of ranchers that predators and other wildlife adversely affect their operation by killing livestock. With this group are individuals who attach high positive values to wildlife and understand that conservation is a part of good environmental stewardship. This group is also economically tied to animal welfare and possesses a general interest in outdoor experiences. Probably the largest group within American society that benefits from the APHIS-ADC predator control program (i.e., consumers of livestock protected by the program) is completely unaware of the program’s existence.

The Proposed Action would most satisfy the views of the recipients of the predator control program services, partially satisfy the views of the environmental group, but adversely affect the views of the animal welfare, and animal rights groups. Appendix A provides a summary of the concerns and questions raised by the public in response to scoping for the APHIS-ADC predator control program within the BLM Rock Springs District.

Economics - The Proposed Action would have a positive economic effect on livestock producers and rural communities because it would provide optimum control of predators and the fewest livestock losses. Expenditures by APHIS-ADC within the Rock Springs District were $249,360 in 1992 and $302,900 in 1993. Table III-5 shows the breakdown of the funding source and amount for each year. Under the proposed action, expenditures for predator damage control would average about the same as during Fiscal Year 1992.

Within the Rock Springs District, the economic loss to livestock producers due to predators in 1992 is estimated at $507,460. This loss is inclusive of the market value of the animals as well as the animal damage control costs. Other standard livestock production costs that are involved, but not included in the cost estimate are direct and indirect investment and operational costs to the producer for feed, supplies, herders, dogs, fencing, etc. The cumulative economic loss to livestock producers due to predation over the past five years is estimated at $1.9 million. Losses would have been much greater ($5 to $10 million more) in the absence of predator control.

Under the Proposed Action, the number of livestock loss could be expected to decline approximately 630 animals since the M-44 would be authorized, making predator control more efficient. The economic loss to livestock producers due to predators would be an estimated $470,516, a decline of approximately 9 percent. This loss is inclusive of the market value of the animals as well as the animal damage control costs.

On the basis of 1992 livestock loss estimates and predator control costs, this would indicate a predator control cost/benefit ratio for the Proposed Action of an estimated $0.87 million, or, for every dollar spent on animal damage control, a savings of approximately $3.50.

Losses would be expected to be much less than estimated with the addition of the M-44 as a tool for predator control. The Proposed Action would result in the least economic impact to the livestock producer, particularly since livestock producers are not compensated for predatory animal losses, either through tax credits, insurance, or by the WGFD for wildlife damage (except for predation by bear or lion).

**ALTERNATIVE A (PRESENT MANAGEMENT PLUS LIMITED M-44 USE)**

Alternative A would be the same as the Proposed Action except that use of the M-44 would be more restricted. The more restrictive measures would be:

- Preventative lethal damage control in Planned Control Areas and Restricted Control Areas would only be authorized for conventional methods, i.e., aerial shooting, calling and shooting, trapping, snare, denning, and decoy dogs. No M-44 would be used; cyanide devices would be authorized for preventative lethal control.

- Within Planned Control Areas, the use of the M-44 would be authorized by the BLM District Manager only on a case-by-case basis and only in sheep allotments after losses have been confirmed during winter use (January 1 to April 30) and during lambing (May 15 to June 30). Within Restricted Control Areas, no M-44 use would be authorized during the restricted periods.

- EPA restriction 7 would change to: The M-44 device shall only be used on or within three (3) miles of a ranch unit or allotment where losses due to predation by wild canids are occurring on the ranch unit or allotment.

- EPA restriction 8 would change to include: The M-44 device shall not be used: (4) in federally recommended or designated wilderness areas; and wildlife refuge areas.

- EPA restriction 14 would change to: The M-44 device shall be placed at least one-quarter mile distance or at such a greater distance from any public road or pathway...

- EPA restriction 20 would change to: An M-44 device shall be removed from an area if, after 15 days, there is no sign that a target predator has visited the site.

- Need for use of the M-44 would be determined by reported losses as documented. A history of verified losses over the previous 3 years, and where other tools have been used but failed to bring losses under control or where terrain precludes the use of aerial shooting.

- Use of M-44 will not be authorized within the boundaries of the following additional areas: wilderness study areas, one mile of the White Mountain Petroglyphs ACEC, and Cedar Canyon ACEC.

The proposed control would be conducted within the planned and restricted control areas shown on the maps in Appendix D and in accordance with the Assumptions, Stipulations, and Restrictions in Chapter II, and the EPA Use Restrictions (Appendix B) except as changed.

**Wildlife Resource**

**Game Animals**

Elk, Deer, and Pronghorn Antelope

Same as the Proposed Action.

Mountain Lion and Black Bear

With the M-44 device use restriction to winter and lambing ranges only, the potential for taking mountain lion or black bear as a non-target species should be minimal. Implementation of the Stipulations and Restrictions, particularly numbers 5, 6, 8, 12, and 16, would ensure this protection. Other impacts would be the same as the Proposed Action.

**Upland Game and Waterfowl**

Same as the Proposed Action. However, the beneficial effect of predatory animal control to upland game and waterfowl may be slightly lower since the M-44 would be restricted to winter and lambing ranges only. The M-44
accounted for 14.0 percent of the coyotes taken between 1980 and 1986 in 15 western states (Connolly 1988).

**Nongame and Furbearers**

Same as the Proposed Action.

**Raptors**

Same as the Proposed Action.

**Predators**

Alternative A would be essentially the same as the Proposed Action. The more restricted use of the M-44 would mean slightly fewer coyote and fox taken as well as some non-target species. The effects of control would not adversely impact the coyote or fox under this alternative with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II.

**Non-Target Animals Taken During Predator Control**

Same as the Proposed Action.

**Threatened or Endangered Species**

Potential environmental consequences to threatened or endangered and candidate species and conclusions as to adverse affect would be the same as the Proposed Action. The same constraints and cautions would be applied.

**Special Management Areas**

Same as the Proposed Action.

**Public Land Uses**

**Livestock Grazing Operations**

Same as the Proposed Action except, under Alternative A, M-44s would be authorized only on a case-by-case basis by the District Manager. The use of the M-44 on public lands would be restricted, in addition to the EPA Use Restrictions (Appendix B).

This alternative would continue the present APHIS-ADC predator control program plus make available limited use of the M-44. This alternative would adversely affect the livestock producer in that some additional sheep losses would be expected that could have been prevented with the less restrictive use of the M-44 of the Proposed Action. Through the APHIS-ADC integrated management system, livestock production losses could be kept low (approximately 2 to 3 percent per year total sheep loss). Loss of livestock and economic impact on livestock producers would be reduced from current levels by approximately 315 animals with the added limited use of the M-44 on public lands. It is estimated that this alternative would reduce the use of the M-44 by half that which would occur under the Proposed Action.

**Recreation/Public Health and Safety**

Same as the Proposed Action.

**Socioeconomics**

**Sociocultural** - This alternative would satisfy the views of the recipients of predator control program services, but adversely affect the views of the environmental, animal welfare, and animal rights groups.

**Economic** - Under Alternative A, a positive economic effect on livestock producers and rural communities would be expected, similar to the Proposed Action, but to a lesser degree because the use and number of M-44s would be considerably restricted. However, fewer livestock losses to predators would be expected than under the present predator control program (Alternative B) which authorizes only conventional lethal control methods. Expenditures by APHIS-ADC within the Rock Springs District would be expected to be the same as in 1992, $249,360.

Under Alternative A, the number of livestock lost could be expected to be reduced by approximately one-half the reduction for the Proposed Action, or 315 animals, with the authorization of the M-44 on a restricted basis. The estimated economic loss to livestock producers would be $49,190, a reduction of approximately 4 percent from 1992 levels. This loss is inclusive of the market value of the animals as well as the animal damage control costs.

On the basis of 1992 livestock loss estimates and predator control costs, this would indicate a predator control cost/benefit ratio for Alternative A of an estimated $0.85 million, or, for every dollar spent on animal damage control, a savings of approximately $3.43.

Losses would be expected to be less than estimated with the addition of the M-44 as a tool for predator control, even though restricted. Alternative A would result in the second highest economic impact to the livestock producer.

**ALTERNATIVE B (PRESENT MANAGEMENT - NO M-44 USE)**

Alternative B represents the present predatory animal damage management program within the Rock Springs District. Alternative B would provide for APHIS-ADC operations the same as the Proposed Action except there would be no use of M-44s on the public lands administered by BLM. All reference to M-44s included in the description under the Proposed Action would be dropped. However, APHIS-ADC would reserve the right to use M-44s on intermingled private lands in accordance with the EPA Use Restrictions.

Techniques that would be used and authorized on public lands would include all non-lethal techniques that help to prevent or reduce predation (e.g., habitat modifications, guard dogs, flashing lights, noise-making devices, distress and alarm calls, and electrified fences, herding, night coralling, human harassment of predators, and live traps); and the lethal techniques of aerial hunting, shooting (calling and shooting), trapping, snaring, and denning (sodium nitrite gas cartridge). The same procedure would be utilized for approval and authorization of a predator control program for the Rock Springs District as described under the Proposed Action. The proposed control would be conducted within the planned and restricted control areas shown on the maps in Appendix D and in accordance with the Stipulations and Restrictions in Chapter II.

APHIS-ADC, under agreements with County Predatory Animal Boards, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices. The same constraints and cautions for the use of the lethal conventional methods and the M-44 would be applied by APHIS-ADC on private lands as in the Proposed Action.

**Wildlife Resource**

**Game Animals**

Elk, Deer, and Pronghorn Antelope

Without the use of the M-44 as a tool for use on public lands in combination with the other conventional methods, predation on the young would be expected to continue at a rate comparable to that which exists now or slightly higher than under the Proposed Action or Alternative A. Other impacts would be the same as the Proposed Action.

**Mountain Lion and Black Bear**

No potential adverse impact to mountain lion or black bear would occur.

**Upland Game and Waterfowl**

Predation on upland game and waterfowl would be expected to be slightly higher than the Proposed Action or Alternative A. The beneficial effect of predatory animal control to upland game and waterfowl may be slightly
lower in some areas since the M-44 would not be authorized.

N. Game and Furbearers
Same as the Proposed Action.

Raptors
Same as the Proposed Action.

Predators
Alternative B could have an adverse impact upon the efficiency and/or effectiveness of the overall control program, particularly coyote control, because more employee time would be required using the other methods. Slightly fewer coyote and fox would be taken. The effects of control would not adversely impact the coyote or fox populations under this alternative with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II.

Non-Target Animals Taken During Predator Control
Present methods of control authorized under Alternative B would continue. Use of the M-44’s would continue on private lands, including the private lands within the checkerboard, as they are presently. The same constraints and cautions for the use of the lethal conventional methods and the M-44 would be applied by APHIS-ADC on private lands as in the Proposed Action. Alternative B would reduce the possibility of non-target species such as bear, fox, badger, dogs, and cats being inadvertently attracted to and killed by the device on public lands. Thus, slightly fewer non-target species would be taken on public lands. The adverse effects on non-target species taken by the M-44 would be reduced but not eliminated.

Threatened or Endangered Species
Potential environmental consequences to the listed threatened or endangered and candidate species and conclusions as to adverse affect would be the same as the Proposed Action, except the elimination of the M-44 as a tool would eliminate the risk (chance) of an inadvertent loss of a black-footed ferret, gray wolf, wolverine, or lynx due to the unexpected occurrence of one of the species. The same constraints and cautions for the use of the lethal conventional methods and the M-44 would be applied by APHIS-ADC on private lands as in the Proposed Action.

Special Management Areas
Same as the Proposed Action. However, the elimination of the M-44 as a control tool within these areas would eliminate the risk of adverse impact to recreational uses (e.g., domestic dog use). Sheep use would be without the benefit of the added predator protection, however, its elimination would not seriously impact livestock loss since control methods authorized would still include conventional methods.

Public Land Uses
Livestock Grazing Operations
Under Alternative B, non-lethal methods would continue to be applied, and only the conventional lethal methods of predator control would be authorized on public lands. Adverse effect would be expected to livestock, principally sheep, and the livestock producer. Sheep losses would continue to range between 1 and 3.5 percent as prey and predator (coyote and fox) populations fluctuate. Eliminating the M-44 as an available control tool could make predator control less efficient and effective. A study of coyote take in 15 western states showed that between 1980 and 1986 the M-44 accounted for 14.0 percent of coyotes taken (Connolly 1988). More coyotes were taken by aerial hunting, with leghold traps second and the M-44 third. This suggests that livestock losses could potentially be reduced significantly with the M-44 as one of the control tools. It could be surmised that without the availability of the M-44 as a control tool, present levels of livestock loss (1 to 3.5 percent) to predation would continue.

Recreation/Public Health and Safety
The potential for adverse impact to health and safety of recreating public would be reduced under Alternative B since the M-44 would not be authorized on public lands. No adverse effects from the use of conventional methods and the gas cartridge should result to recreation uses on the public lands or to public health and safety with implementation of the Assumptions and the Stipulations and Restrictions defined in Chapter II. Through the careful administration of these measures, the risk of adverse effects would be negligible.

Socioeconomics
Sociocultural - Alternative B would partially satisfy the views of the recipients of predator control program services, and partially satisfy the views of the environmental, animal welfare, and animal rights groups.

Under this alternative an adverse effect to livestock grazing operators would occur. Without the M-44 as a tool, predator control would be less efficient and effective.

Economic - Under Alternative B, the economic effect on livestock producers and rural communities would be comparable to the present. The economic effect would be less beneficial than either the Proposed Action or Alternative A, because the use of M-44 would not be permitted on public lands. Livestock losses to predators would be expected to continue in the same cyclic trend as the past five years. Expenditures by APHIS-ADC within the Rock Springs District would be expected to be the same as in 1992, $249,360.

Under Alternative B, for purposes of analysis, the number of livestock lost could be expected to continue as in 1992 or approximately 4,450 animals without the M-44 as a management tool. The estimated economic loss to livestock producers due to predators under this alternative would be expected to be as present, $507,460. This loss is inclusive of the market value of the animals as well as the animal damage control costs.

On the basis of 1992 livestock loss estimates and predator control costs, this would indicate a predator control cost/benefit ratio for Alternative B of an estimated $0.83 million, or, for every dollar spent on animal damage control, a savings of approximately $3.35.

Alternative B would result in the third highest economic impact to the livestock producer.

ALTERNATIVE C (ADC WITH NO LETHAL METHODS)

Under Alternative C, APHIS-ADC would not be available to provide assistance in situations where lethal methods of control are needed on public lands. APHIS-ADC would only be available to provide assistance with non-lethal methods of control. These would include working with livestock operators to improve or try new livestock husbandry practices; live trapping animals and moving them to areas where problems would not be expected; increased use of frightening devices to scare animals from damage sites and physical exclusion methods to prevent or reduce access of predators to livestock.

Although there are large blocks of public land within the district, the southern portion of the district is located within a “checkerboard” land pattern area where nearly every other section is privately owned 20 miles north and 20 miles south of the Union Pacific Railroad (UPR)
tracks. Also, relatively large blocks of private, interspersed with state and/or federal land, exist in the southwest corner of the district and in the northern parts around Pine Ridge and Star Valley. APHIS-ADC, under agreements with County Boards, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices.

As noted in Assumption H, lethal control of the coyote and red fox will continue to occur on public and private lands by the general public for recreation, by stockgrowers to protect their livestock, and by independents for the stockgrowers. These animals are classified by the WGFD as predators and are hunted and trapped for sport and fur. Under State Law, the taking of predators can occur on public lands by anyone, using such methods as trapping, snaring, aerial hunting, ground shooting, or calling with the aid of decoy dogs, so long as they comply with Wyoming State Statutes (e.g., aerial hunting requires a permit from the Wyoming Department of Agriculture; pilots must obtain landowner permission prior to hunting; traps must have a current trapping license and comply with specified WGFD Trapping Laws, 23-2-303). No chemical control may be used on public lands administered by the BLM without BLM authorization.

Without the availability of APHIS-ADC to conduct lethal methods of a small damage control on public lands, livestock producers could take personal action to protect their investment and livestock from predation. They may form an organization of control agents through the County Predatory Animal Board, conduct individual coyote control programs, or hire independent trappers, and hunters, including aerial hunters. This could lead to the inadvertent use of chemical toxics illegally on public lands, since M-44s and 1080 poisons are available from the Wyoming Department of Agriculture to certified pesticide operators. In addition, chemical toxics such as insecticides that are usable as predicides are available on the legal market and could be inadvertently used illegally on public lands. Because of the vast and remote areas involved, it would be extremely difficult to monitor animal damage control activities on public land.

Under this scenario, without APHIS-ADC administering predator control activities on public lands, there would be little or no accountability for control methods used, less consistent and accurate monitoring of livestock losses, predators and non-target species taken; and less professional help at conducting control. This could increase the opportunity for abuse of control techniques, subsequent environmental damage, and potential for danger to humans, their pets, and non-target animals.

Wildlife Resource

Game Animals

Elk, Deer, and Pronghorn Antelope

No direct adverse impact to elk, deer, or pronghorn antelope should occur. However, indirect impacts may result in lowered reproduction success without continuation of lethal control methods.

Mountain Lion and Black Bear

No potential adverse impact to mountain lion or black bear would occur.

Upland Game and Waterfowl

Under Alternative C, predation on upland game and waterfowl would be expected to increase substantially, particularly with the current high population levels of fox and coyote. With no lethal methods of control authorized, increased predation on sage grouse and other upland game and waterfowl would be expected. Predator populations would be regulated through natural functions, including predation, resulting in cyclic effects of predator/prey relationships. Adverse impacts to sage grouse and other game birds from private control activities are not expected unless spring or winter disturbance occurs from this activity.

Nongame and Furbearers

Alternative C should have no significant impacts to populations of nongame or furbearing species.

Raptors

Under Alternative C, impacts to raptors would be negligible. However, uncontrolled private predator control activities may occur within raptor concentration areas during the nesting or winter roosting season which could adversely impact successful nesting or fledgling of raptors, or cause winter mortality. Private control would not be regulated as closely as APHIS-ADC control activities nor would private control involve trained professionals as APHIS-ADC personnel.

Predators

Under Alternative C, none of the lethal methods of predatory animal control would be authorized on public lands. However, use of these methods would continue, including the M-44, on private lands throughout the District and within the checkerboard by private predatory animal control activities. Under this alternative, there would still be impacts to non-target species and to predators, particularly coyotes and foxes because of private control activities. Thus, only slightly fewer coyote and fox may be taken as well as non-target species. Other furbearers and trophy game would be adversely affected if private individuals did not exercise restraint in their control activities and avoid non-target species. There could be abuses because of the restriction on the use of lethal control methods on public lands. Inadvertent illegal use of the M-44 and other toxics could occur on public lands with their increased use on private lands. There would be a corresponding reduction in non-target species, such as bear, fox, badger, dogs, and cats, being inadvertently killed by the M-44 device.

Non-Target Animals Taken During Predator Control

Under Alternative C, impacts to non-target species and to predators would still occur, particularly to coyotes and foxes because of private control activities. Other furbearers and trophy game would be adversely affected if private individuals did not exercise restraint in their control activities and avoid non-target species. There could be abuses by some individuals because of the restriction on lethal control methods on public lands. Inadvertent illegal use of the M-44 and other toxics may occur on public lands with their increased use on private lands.

Threatened or Endangered Species

Under Alternative C, the potential for an adverse affect to a listed threatened or endangered Species or candidate species from one of the lethal control methods would be eliminated. However, this assumes private and state predatory animal control activities comply with the provisions of the Endangered Species Act. If they do not, there is the possibility of an adverse impact exists. APHIS-ADC would not be available to assist in situations where lethal wildlife damage control activities are necessary to protect a threatened or endangered species from other wildlife. For example, assistance would not be available to the Seedskadee Wildlife Refuge to help control predation on nesting waterfowl. The U.S. Fish and Wildlife Service would have to conduct all required damage control activities. APHIS-ADC would only be available to provide assistance with non-lethal methods of control on public lands. These would include working with the WGFD and/or the U.S. Fish and Wildlife Service to improve or try new wildlife management practices; live trapping animals and moving them to areas where problems would not be expected.
increased use of frightening devices to scare animals from damage sites; and physical exclusion methods to prevent or reduce access of predators to endangered wildlife.

Special Management Areas

There would be no adverse impact to wilderness study areas, ACECs, or wild horse herd management areas under this alternative.

Public Land Uses

Livestock Grazing Operations

Alternative C would be expected to cause significant adverse impact to the livestock producer, particularly the sheep producer. The economic viability of maintaining a sheep ranching operation by those dependent on public rangelands would be jeopardized. Sheep operators would be forced to convert to cattle or improve or try new animal husbandry practices; live trap predatory animals and move them to areas where problems would not be expected; increase the use of frightening devices to scare animals from damage sites; construct fences to prevent or reduce access of predators to livestock; hire more herdsmen; obtain more guard dogs, etc. To implement any two or more of these measures would likely be cost prohibitive for most, if not all, sheep operators. In most cases, the operator may be left with only one choice, get out of the business entirely. The importance of predatory animal damage control and the efficiency of these activities is best demonstrated in three studies comparing losses incurred with and without lethal methods of damage control in place. The three studies cited are in USDA's Animal Damage Control Program Supplement to the Draft Environmental Impact Statement (1993), and are summarized as in the following:

- A 3-year study of sheep losses to predators (mostly coyotes) on the 8,000-acre Cook Ranch in Florence, Montana, recorded a 44 percent reduction in sheep depredation using conventional and experimental coyote damage controls (USDI 1978). Controls were purposely withheld during years 1 and 2 to document loss levels without predator control.
- An assessment of seven years of data on sheep losses and coyote removal on a ranch in Whitman County, Washington, showed an inverse relationship between the number of sheep killed by coyotes and the number of coyotes killed by a government trapper (USDA 1978). The lowest number of sheep killed per week (two) occurred in 1970 when the government trapper killed the highest number of coyotes (23). Conversely, the highest loss (8.3 sheep per week) occurred in 1972 when only nine coyotes were removed.
- Studying the effectiveness of denning, Till and Knowlton (1983) reported a decrease of over 90 percent in the number of sheep killed when coyote adults and pups, and pups only, were removed from study areas on the open range in south-central Wyoming. When both adults and pups were removed, predation incidents declined 98 percent, and the number of sheep killed was reduced by 99 percent. When only the pups were removed, recorded predation incidents decreased 88 percent, and the number of sheep killed decreased by 92 percent (USDA 1993).

Recreation/Public Health and Safety

Under Alternative C, no adverse impacts to the recreating public or to the health and safety of the public would be expected. However, the potential for adverse impacts could increase because of unregulated use of predator control methods. Use of these methods would continue, including use of the M-44, on private lands throughout the District and within the checkerboard by private predator control activities. There may be abuses by some individuals because of the restriction on the use of lethal control methods on public lands. Inadvertent illegal use of the M-44 and other toxicants may occur on public lands with the expected increased use on private lands.

Socioeconomics

Sociocultural - This alternative would be completely contrary to and adversely effect the views of the recipients of predator control program services, and most satisfy the views of the environmental, animal welfare, and animal rights groups.

Economic - Under Alternative C, an adverse effect to livestock grazing operators would occur. Loss of all lethal methods of predatory animal control would be devastating to the sheep producer and industry. Without lethal methods of control permitted, the number of livestock lost could be expected to increase from 18 to 30 percent or approximately 23,000 to 38,000 animals. The estimated economic loss to livestock producers due to predators under this alternative could range from $1,300,000 to $2,200,000. This loss is based entirely on the market value of the animals. Other standard livestock production costs are also involved, but are not included (e.g., direct and indirect investment and operational costs to the producer for feed, supplies, herdsmen, dogs, fencing, etc.).

Under this alternative, a direct impact to the local economy would also occur. It is anticipated that without a predator control program that includes lethal methods of control, sheep loss to predation would be significant. The effect of this could mean that the livestock producers, grazing approximately 141,650 sheep on public lands, would be forced to make a choice, including one or more of the following: develop a private predator control program, convert to cattle, go out of business, improve or try new animal husbandry practices, increase the use of frightening devices, construct predator-proof fences, hire more herdsmen, obtain more guard dogs, etc. To implement any two or more of these measures would likely be cost prohibitive for most sheep operators, if not all. In some cases, the operator may be left with only one choice, get out of the business entirely.

Alternative C would result in the fourth highest economic impact to the livestock producer.

ALTERNATIVE D (NO ACTION - NO ANIMAL DAMAGE CONTROL)

The No Action Alternative is not a BLM prerogative which can be selected without elimination or modification of the Animal Damage Control Act of 1931, as amended. It is, nevertheless, within the discretion of BLM to restrict or deny use of individual methods or techniques, either seasonally or by locale where justification warrants. This Alternative would also be unrealistic for reasons explained in Assumption H and in Alternative C.

Alternative D would assume there would be no form of animal damage control occurring on public lands within the Rock Springs District. As research has demonstrated, if this were in fact possible to implement, sheep predation would rise such that the levels of loss would range between 18 and 30 percent or higher. At this level of livestock loss, sheep operators could not maintain an economically viable operation and would quickly be out of business.

Realistically, as stated under Alternative C, there are all large blocks of land within the district, but the southern portion of the district is located within the "checkerboard" area 20 miles north and south of the UPR tracks where nearly every other section is privately owned. Large blocks of private land interspersed with state and/or federal land exist in the southwest corner of the district and in the northern parts. APHIS-ADC, under agreements with County Predatory Animal Boards, would still conduct animal damage control activities on private and state lands utilizing all methods of control previously discussed, including use of M-44 devices. As in Alternative C, without APHIS-ADC to conduct lethal methods of animal damage control on public lands, livestock producers would likely take personal action to protect their investment and livestock from predation. The same
concerns over the inadvertent use of chemical poisons on public lands would be minimized. Additional rangers to monitor animal damage control activities within the District would be required.

As in Alternative C, without APHIS-ADC administering predator control activities on public lands, there would be little or no accountability for control methods used, monitoring of livestock losses, predators and non-target species taken, and less professional help at conducting control. This could increase the opportunity for abuse of control techniques, subsequent environmental damage, and potential for danger to humans, their pets, and non-target animals.

**Wildlife Resource**

**Game Animals**

Elk, Deer, and Pronghorn Antelope  
Same as Alternative C.

Mountain Lion and Black Bear  
Same as Alternative C.

Upland Game and Waterfowl  
Same as Alternative C.

**Nongame and Furbearers**  
Same as Alternative C.

**Raptors**  
Same as Alternative C.

**Predators**  
Same as Alternative C.

**Non-Target Animals Taken During Predator Control**

Same as Alternative C.

**Threatened or Endangered Species**

Same as Alternative C, except APHIS-ADC would not be available to assist in any situations where wildlife damage control activities are necessary to protect a threatened or endangered species from other wildlife, even with non-lethal methods.

**Special Management Areas**

Same as Alternative C.

**Public Land Uses**

Livestock Grazing Operations  
Same as Alternative C.

Recreation/Public Health and Safety  
Same as the Alternative C.

**Socioeconomics**

Same as Alternative C.

**Cumulative Environmental Impacts**

Cumulative impact of predator damage control would be the impact on the environment which results from the incremental impact of predator control when added to other actions (past, present, and reasonable foreseeable), regardless of who undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7).

The effect of predator control is the removal of offending predators to reduce livestock losses. Cumulative impact consideration is given to the coyote and fox as target species of predator control. In the process, local populations would be reduced and non-target species would also be removed. Other actions that, when added to predator control activities, could incrementally impact the predator populations or non-target species include: hunting coyote and fox for recreation or value of the pelt, or predator control activities on private lands.

No significant cumulative environmental impact should occur to coyote or fox populations or to non-target species populations. This conclusion is based on the premise that the overall goal of the APHIS-ADC program is to minimize predatory animal impacts on livestock and the livestock industry while complying with the strict measures (the Assumptions, Stipulations and Restrictions, and EPA Use Restrictions specified in Chapter II) to ensure maintenance of predatory populations and non-target species as well as the protection of domestic animals, public safety, and threatened and endangered species. Predatory control has been ongoing since the beginning of this century and populations continue to thrive - cyclically fluctuating under the influence of prey availability. Predatory animals on public lands within the Rock Springs District are not in danger of eradication. Research has demonstrated that the coyote and fox, the principle targets of predator control, readily adapt to changes in their environment, and that, because of their prolific nature, they are not threatened with decline or eradication. In addition, large areas of the Rock Springs District will not receive any predator control. These areas include all human safety zones, no planned control areas, and many of the cattle allotments. The primary areas of predator control are the sheep winter and lambing ranges. For the most part, these areas do not overlap, so that it is unlikely that even local populations will ever be eliminated.

Recreational or fur hunting/trapping of coyote or fox occur within the District. Presently this activity is low. When fur prices are high (e.g., $50 to $100 per coyote pelt) there is active trapping and hunting by the general public. Under these conditions, APHIS-ADC activities could result in a beneficial opportunity for the public to take coyotes or fox for their fur. On the other hand, if fur prices go up, the public take of the coyote and fox would go up and the need for APHIS-ADC predator control would be reduced. However, for the past ten years fur prices have been low, with no increase in sight. The public take of coyotes and fox has been low, and therefore the need for APHIS-ADC activities remains high. APHIS-ADC predator control, for reasons explained above, would have no significant cumulative impact on the coyote or fox populations or the recreational pursuit of the public in hunting and trapping.

Private predator control programs will occur only if APHIS-ADC is denied lethal methods of control. As discussed under Alternatives C and D, APHIS-ADC would not be available to provide assistance in situations where lethal methods of control are needed on public lands. They would be able to assist with the application of lethal control only on private lands. However, as noted in Assumption H, lethal control of the coyote and red fox will continue to occur on public and private lands by the general public for recreation, by stockgrowers to protect their livestock, and by independents for the stockgrowers. These animals are classified by the WGF as predators and are hunted and trapped for sport and fur. Under Alternatives C and D, the potential for significant cumulative impacts is higher than under the Proposed Action or Alternatives A and B. Without APHIS-ADC administering predator control activities on public lands, there would be little or no accountability for control methods used, less consistent and accurate monitoring of livestock losses, predators and non-target species taken; and less professional help at conducting control. This could increase the opportunity for abuse of control techniques, subsequent environmental damage, and potential for danger to humans, their pets, and non-target animals.
MITIGATION MEASURES

In addition to the mitigation measures presented in the description of the Proposed Action and Alternatives, others measures that could be considered for APHIS-ADC research and use include the following:

- Develop and adopt the use of tranquilizer tabs for use on leghold traps to immobilize captured animals, thus reducing trap-related injuries and increasing the likelihood that non-target animals may be released successfully.

- Adopt a requirement for checking snares every 72 hours (3 days) to minimize the time that snared animals will be restrained, thus reducing the snare-related injuries and increasing the likelihood that non-target animals may be released successfully.

- Adopt the use of padded-jaw traps to reduce trap-related injuries to captured animals.

- Develop agreements with two or three sheep operators within the District to test the use of burros as a supplement to the non-lethal techniques of animal damage control. It is reported that burros are very intelligent animals that have a natural dislike for foxes, coyotes, and dogs and will attack or aggressively chase them away from herds they have adopted.
CHAPTER V - CONSULTATION AND COORDINATION

In April 1992, the BLM Rock Springs District and APHIS-ADC issued a scoping notice announcing plans to begin an environmental analysis on APHIS's proposed Predatory Animal Damage Control Plan.

In June 1992, the BLM Rock Springs District and APHIS-ADC held a public meeting in Rock Springs to provide the public the opportunity to ask questions and to express their concerns.

In November 1992, the Rock Springs District published the Green River Resource Management Plan and Draft Environmental Impact Statement (RMP/DEIS). This resulted in additional comments on predator control within the District.

A wide range of issues, concerns, and questions were identified through the scoping process (Appendix A). They have been addressed as appropriate in the environmental assessment.

Interagency scoping sessions were conducted between the BLM and APHIS to list and summarize the issues and concerns identified during the scoping process. The proposed predator damage control program was discussed with the Rock Springs District Multiple Use Advisory Council and Grazing Advisory Board. The Bridger-Teton, Ashley, and Wasatch-Cache National Forests and BLM Rawlins and Vernal Districts were contacted to inform them of the start of the District environmental analysis process on predator control and to obtain a copy of their respective predator control environmental documents.

Periodic briefings of the Congressional representatives for Craig Thomas, Alan Simpson, and Malcolm Wallop were conducted to inform them of the issues and of progress in the preparation of this environmental assessment.

Interviews with newspaper reporters have resulted in several articles in Wyoming newspapers.

Individuals were contacted with the WGFD, U.S. Fish and Wildlife Service, and Forest Service for information, clarification, or other reasons throughout preparation of the environmental assessment.

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REFERENCES


APPENDIX A

ANIMAL DAMAGE CONTROL
SCOPING

Summary of Comments Received
APPENDIX A

ANIMAL DAMAGE CONTROL SCOPING

ISSUES AND CONCERNS - SCOPING RESULTS

In April 1992, the BLM Rock Springs District and the APHIS-ADC issued a scoping notice announcing plans to begin an environmental analysis on APHIS's proposed Predator Animal Damage Control Plan. The scoping notice was distributed to the general public, livestock industry, and local, state, and federal governmental agencies. The scoping notice was issued for the purpose of soliciting comments on the APHIS-ADC proposed Predator Animal Damage Control Plan to help BLM and APHIS-ADC identify issues and concerns regarding animal damage control on public lands within the Rock Springs District, and to help identify reasonable alternatives. In addition, in June 1992 the BLM Rock Springs District and APHIS-ADC held a public meeting in Rock Springs to provide the public to opportunity to ask questions and to express their concerns. In November 1992, the Rock Springs District published the Green River Resource Management Plan and Draft Environmental Impact Statement (RMP/DEIS). This resulted in additional comments on predator control within the District. A wide range of issues, concerns, and questions were identified through this scoping process, and have been addressed and analyzed as appropriate in this environmental assessment.

Summary of Comments Received

In total comments were received from 1,536 individuals.

<table>
<thead>
<tr>
<th>TYPE OF COMMENT</th>
<th>NUMBER RECEIVED</th>
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<tr>
<td>Written and recorded statements</td>
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<td>Names on petitions</td>
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<tr>
<td>Phone calls</td>
<td>21</td>
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<tr>
<td>TOTAL</td>
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</tbody>
</table>

The actual comment letters are not contained in this document. However, they are available for review in the Rock Springs District Office. A summary of each comment letter received has been prepared and a copy is available for public review upon request. Overwhelmingly, the majority (97 percent) of the comments received opposed the use of the M-44, but recognized the basic need for predator control; 1.4 percent supported predator control; 1.2 percent indicated no position relative to predator control; and 0.4 percent opposed predator control entirely.

Most comments raised similar issues and concerns as well as questions pertaining to predator control. Therefore, they have been grouped into eight subject categories. The eight categories are:

1. Predatory Animals
2. Predation Impact On Agricultural Industry
3. ADC Cost/Benefit
4. ADC Control Methods
5. ADC Objectives
6. ADC Objections
7. ADC Control Areas/Plans
8. Cumulative impacts of the ADC program.

A summary of the issues/concerns and questions identified during scoping follows. The issues and questions are followed by a page number(s) corresponding to the page in the environmental assessment where the subject is addressed or an answer to the question can be found.

1. Predatory Animals

Issues:

How many coyotes (predators) are there killed each year? (Pages 38-42, and Table III-1.) How many sheep (lambs/ewes), calves and colts are killed each year by predators? (Page 4, Table I-2.) Who did the counting? (Page 1, Table I-2 Footnote 3.) Is it possible that the high mortality of sheep is a function of a larger sheep population? (Page 1, 5, and 38-42 Predators)

2. Predation Impact On Agricultural Industry

Issues:

Sheep ranchers have no way of being reimbursed for losses to predators. The losses cannot be deducted off taxes. Ranchers pay an average of $3.10 out of each sheep sold for predator control. (Pages 7-8, 54-55 Livestock Grazing Operations, and 55-58 Socioeconomics)

Within the checkerboard and other areas of the Rock Springs District, the livestock producers own private lands which are open to recreation; private lands provide food and fiber to the public; federal lands intermingled should be open to predator control. (Pages 12 #E, 18-20 Proposed Action, 28-34 Alternatives, and 74-75, 78-79 Alternatives C & D)

Predatory animal control is necessary for the livestock producers to survive; to produce red meat and beneficially support the local economy. Wyoming is the largest sheep State in the Nation.
lies the need for the M-44. (Pages 1-5, 38-42 Predators, 51-54 Livestock Grazing Operations, and 55-58 Socioeconomics)

Agriculture contributes $1.4 billion to the State's economy annually. Ranching industry is vital to the welfare of rural communities; they serve as the market place; they are dependent upon new dollars and tax dollars generated by livestock industry. (Pages 1-5, 51-52, 55, and 69, 71, 74, and 78 Socioeconomics)

3. Predator Control Cost/Benefit

Issues:
A cost benefit analysis should be completed for predator control. The environmental analysis should address cumulative impacts of the APHIS-ADC program with and without use of M-44s. (Pages 55-58 Socioeconomics, 69, 71, 74, and 78 Socioeconomics) Are we spending a lot of money on a program that doesn't work? (Pages 55-58 Socioeconomics) Is the total annual loss to farmers from predation really higher than the cost of lethal predator control? (Pages 1-5, 38-42 Predators, and 55-58 Socioeconomics) What is the source of the funding to conduct predator control? (Pages 56-58) Is it the sheep ranchers contention that the minute loss of 1 or 2 percent is intolerable? (Pages 1-5, 53-54, and 67, 71, 73, 77 Livestock Grazing Operations, and 69, 71, 74, 78 Economics)

Questions:
What is the cost of predator control each year? (Pages 1-5, and 55-58 Socioeconomics) How does predator control benefit the American people? (Pages 1 Purpose and Need, and 17 Proposed Action) What is the effectiveness of the predator control program? (Pages 1-5, 38-42 Predators, 51-54 Livestock Grazing Operations, 55-58 Socioeconomics, 69, 71, 74, and 78 Socioeconomics) Are we spending a lot of money on a program that doesn't work? (Pages 55-58 Socioeconomics) Is the total annual loss to farmers from predation really higher than the cost of lethal predator control? (Pages 1-5, 38-42 Predators, and 55-58 Socioeconomics) What is the source of the funding to conduct predator control? (Pages 56-58) Is it the sheep ranchers contention that the minute loss of 1 or 2 percent is intolerable? (Pages 1-5, 53-54, and 67, 71, 73, 77 Livestock Grazing Operations, and 69, 71, 74, 78 Economics)

4. Predator Control Methods

Issues:
Seek non-lethal means of predator control. Explore effective, non-traditional, non-lethal methods. Livestock operators should improve herding and control of sheep. The environmental analysis should address use of decoys, live natural enemies, use of live traps and relocation of captured animals. (Pages 6, 11 #D, 14, 18-20, 27 #18, 28-34, 61-62 Proposed Action, 72 Alternative B, 74-75 Alternative C, and 78-79 Alternative D)

Lethal control should require concrete, site-specific data which conclusively proves that lethal control is necessary to adequately protect livestock. Lethal control measures should be specific for the offending animal(s), not merely species-specific. Aerial gunning may be species-specific but is not specific to the coyote with a taste for livestock. Lethal predator control efforts should be concentrated only in areas where predation was reported and verified. (Pages 6, 11 #D, 14-17, 18-20, 20-27, 28-34, and 59-61 Control Methods)

Use of M-44s should be limited to circumstances where other methods are not effective. M-44s will kill animals other than coyotes. The M-44 is cruel and inhumane and should never be considered as a predator control method. (Pages 17, 20-24, 25 #7, 26 #10 & #11, 28-34, 38-42 Predators, and 59-61 Control Methods)

There has never been a death of a human being from an M-44, however there have been numerous deaths of children by coyotes. M-44s cannot be put in place where not dangerous to small children and non-target species, no matter how careful. (Pages 12 #F, 19-24, 25 #10 & 18, 27 #15 & 16, Appendix B #3, 7, 8, and 23, and 38-39 Predators, and 59-61 Control Methods)

The 26 EPA M-44 use restrictions will mitigate concerns on the use of the M-44. (Appendix B)

APHIS proposes they be allowed to set cyanide guns, leghold traps and snares on public land which is not compatible with recreation. How can the public be warned when access can come from all points of the compass? The sign placed within 25 feet of each M-44 is very small and it is doubtful that everyone will notice it before their pet smells the scent. (Pages 18-27, 20 #3, 21 #4, 22 #5, 27 #15, and 38-39 Predators, and 59-61 Control Methods, and 66-68 Special Management Areas and Recreation/Public Health and Safety)

Questions:
What has changed in recent years to require a reversal in the position of no M-44 use on public land? (Pages 1-5, 38-42 Predators, 51-54 Livestock Grazing Operations, 67, 71, 73, and 77 Livestock Grazing Operations, and 69, 71, 74, 78 Economics) If M-44s are placed on public lands, who will be in charge of maintaining the site, ensure signs are up, and that the device is removed? (Pages 11 #B, 13 #L, 22 #5, 27 #15, Appendix B #26) How will record-keeping required by EPA be dealt with? (Pages 11 #B, 13 #L, 18-19, and 22 #5) Who is responsible for disposal of the M-44 device? (Pages 27 #16 and Appendix B #22) Would a citizen like myself be able to visit your office unannounced and do a check of record keeping that the EPA guidelines require and maybe do an audit of a couple of them in the field? (e.g., signs properly placed)? (Pages 13 #L and 22-24 #5)

It was stated by APHIS that there is no desire to decimate the coyote population, but to control problem animals. Does this mean that when no sheep herds are between Green River and Rock Springs or between Rock Springs and Flaming Gorge there won't be any M-44s placed in those areas? (Pages 19-27, 28-34, and 38-39 Predators)

Is APHIS-ADC trying to say the M-44 is going to cure the predation problem? (Pages 5, 14-17, 38-39 Predators, 67, 71, 73, and 77 Livestock Grazing Operations, and 69, 71, 74, 78 Economics) There has to be a compromise; with all the scientific technology today, can't something better than the M-44 be used? (Pages 11 #B & D, 19-21, and 81)

What will the density of M-44s be on public land and in the checkerboard? (Pages 38-39 Predators, 59-60 Control Methods, and 74-78 Alternative C) Would ranchers not be allowed to place M-44s on public land either for themselves or as employees of BLM or APHIS-ADC? (Pages 12 #H, 17, 22-24 #5, 72 Alternative B, and 74-75 Alternative C) Would M-44s be used only to protect herds and not left year round? (Pages 23 #20, 30 #29, 38-39 Predators, 60-61, and Appendix B #20) Would BLM office be able to tell me the location of these devices with any accuracy should I wish to go out to the field? (Pages 23 #10, 24 #26, and Appendix B #10 & 11) What evidence is there on the effectiveness of each type of lethal control method proposal? (Pages 59-60 Control Methods)

5. Predator Control Objectives
Issues:

Some felt the livestock producers objective was to eradicate coyotes. Some livestock producers commented that they don't want to eradicate coyotes. Rather, they only want to control some so that ranchers can make a living. They acknowledge the fact that coyotes are beneficial, they help control rodents and other wildlife. (Pages 11 #B, 12 #E, 38-42 Predators, and 63 Predators)

Public lands should be managed for a natural balance of wild animals. Nature is no longer able to control predators naturally; man has entered the scene. The APHIS plan should state the goals and objectives concerning coyote population including how will success be measured. The environmental assessment should analyze how continued predator killing will affect predator/prey relationships and the balance of the ecosystem. (Pages 11 #B, 12 #E, 13-14 #L, 38-42 Predators, and 79-80 Cumulative Environmental Impacts)

APHIS-ADC responsibility is not just to kill predators but to also evaluate effects on ecosystems. Before predator control is implemented, BLM should estimate the number of coyotes, fox etc., using public lands and what percentage is causing damage. BLM should consider the type of threshold level established in a recent decision by Manti La-Sal National Forest. (Pages 13-14 #L, 38-42 Predators, 51-54 Livestock Grazing Operations, and 70 Alternative A)

Questions:

What proof is there to support the need for lethal control? (Pages 1-5, 38-42 Predators, 51-54 Livestock Grazing Operations, 51-54 Livestock Grazing Operations) What objectives have APHIS-ADC and BLM set upon which the plan can be evaluated for annually? (Pages 11 #B, 12 #F, 13-14 #L, and 27 #17) What would a study of coyote food habits show? (Pages 39-40 coyote, and 41 red fox) What is the impact of predator control on biodiversity? (Pages 79-80) What is the effect of predator control on the target (coyote and fox) population and prey species? (Pages 38-42 Predators, 63 Predators) What are the ranchers responsibilities in regards to minimum level and types of animal husbandry and herd protection? (Pages 14, 18-19, and 51-54 Livestock Grazing Operations)

6. Predator Control Objections

Issues:

Ranchers should accept losses to predation as part of cost of doing business. Stray sheep left behind get reported as loss due to predation. Some reported losses are awfully suspect, e.g., reported loss of 200 to 300 one year and 1,300 the next. (Pages 5, 38-42 Predators, 51-54 Livestock Grazing Operations, 67, 71, 73, and 77 Livestock Grazing Operations, and 69, 71, 74, 78 Economics)

Disapprove of the use of the M-44 (1080) poison used by APHIS-ADC on public lands. Oppose the use of poison. The poison 1080 is still being used. Concerned about the health and safety risks to children and domestic dogs. The issue is safety. APHIS cannot insure protection of human safety, domestic animals, nontarget species and threatened and endangered species. The M-44 cannot be implemented in accordance with the 26 EPA use restrictions. (Pages 11 #A, B, & D, 12 #H, 13-14 #L, 17, 19-27, 59-60, 61-62 Proposed Action, 67-68 Recreation/Public Health and Safety, 70 Alternative A)

Don't use public money to kill the public's wildlife on public land to benefit a few people. Tax dollars could be better utilized to clear the national deficit. Predator control only benefits a few people. (Pages 1-5, 55-58 Socioeconomics, 69, 71-72, and 78)

Questions:

Why are some sheep ranchers losing more lambs than others? How accurate are reported losses? (Pages 1-5, 18-19, 38-42 Predators, 51-54 Livestock Grazing Operations)

7. Predator Control Areas/Plans

Issues:

Expand "Open Control Area" to include all of Uinta County. Use Highway 530 south as the boundary between the "Open Control Area" to the west and the "No Control Area" to the east within the Flaming Gorge National Recreation Area. (Pages 19, 21, and 22-24 #5)

All areas designated big game crucial winter range and elk parturition range should be placed in the category of "Open Control With Restriction." During severe winter there should be no control on occupied crucial winter ranges. Elk calving grounds should be protected (restricted) from May 1 to June 15. (Pages 21-22 #4, and 27 #14)

APHIS-ADC plan must address how each of the 26 EPA Use Restrictions are going to be enforced. The APHIS plan should provide for yearly evaluation of the effectiveness of the predator control program and any additional recommendations should be incorporated. The APHIS-ADC plan needs to ensure compliance with applicable laws. APHIS-ADC plan must consider non-lethal control including use of guard dogs, herders and the effective actions. (Pages 11 #B & C, 12 #F, G, H, & I, 13-14 #L, 18-19, 27 #17, 28-34, and 74-78 Alternative C)

Questions:

What are the APHIS-ADC enforcement and penalties for not complying with the law? How does predator control conform to the BLM's District planning documents? (Pages 6, 11 #B, and 12 #F & G)

8. Cumulative impacts of the predator control program

Issues:

The cumulative impact of predatory animal control needs to be evaluated in relation to ecological diversity, including the predator populations. (Pages 79-80)
APPENDIX B
ENVIRONMENTAL PROTECTION AGENCY
M-44 CYANIDE CAPSULE
M-44 USE RESTRICTIONS
[EPA Registration No. 56228-15]
July 15, 1993

1. Use of the M-44 device shall conform to all applicable Federal, State, and local laws and regulations.

2. Applicators shall be subject to such other regulations and restrictions as may be prescribed from time-to-time by the U.S. Environmental Protection Agency (EPA).

3. Each applicator of the M-44 device shall be trained in: (1) safe handling of the capsules and device, (2) proper use of the antidote kit, (3) proper placement of the device, and (4) necessary recordkeeping.

4. M-44 devices and sodium cyanide capsules shall not be sold or transferred, or entrusted to the care of any person not supervised or monitored by the Animal and Plant Health Inspection Service (APHIS), Animal Damage Control (ADC) program or any agency not working under an APHIS-ADC cooperative agreement.

5. The M-44 device shall only be used to take wild canids suspected of preying on: (1) livestock or poultry; (2) Federally designated threatened or endangered species, or (3) that are vectors of a communicable disease.

6. The M-44 device shall not be used solely to take animals for the value of their fur.

7. The M-44 device shall only be used on or within 7 miles of a ranch unit or allotment where losses due to predation by wild canids are occurring or where losses can be reasonably expected to occur based upon recurrent prior experience of predation on the ranch unit or allotment. Full documentation of livestock depredation, including evidence that such losses were caused by wild canids, will be required before applications of the M-44 is undertaken. This use restriction is not applicable when wild canids are controlled to protect Federally designated threatened or endangered species or are vectors of a communicable disease.

8. The M-44 device shall not be used: (1) in areas within national forests or other Federal lands set aside for recreational use, (2) areas where exposure to the public and family and pets is probable, (3) in prairie dog towns, or, (4) except for the protection of federally designated threatened or endangered species, in National and State Parks, National or State Monuments, federally designated wilderness areas, and wildlife refuge areas.
9. The M-44 device shall not be used in areas where federally listed threatened or endangered animal species might be adversely affected. Each applicator shall be issued a map, prepared by or in consultation with the U.S. Fish and Wildlife Service, which clearly indicates such areas.

10. One person other than the individual applicator shall have knowledge of the exact placement location of all M-44 devices in the field.

11. In areas where more than one governmental agency is authorized to place M-44 devices, the agencies shall exchange placement information and other relevant facts to ensure that the maximum number of M-44s allowed is not exceeded.

12. The M-44 device shall not be placed within 200 feet of any lake, stream, or other body of water, provided that natural depression areas which catch and hold rainfall only for short periods of time shall not be considered "bodies of water" for purposes of this restriction.

13. The M-44 device shall not be placed in areas where food crops are planted.

14. The M-44 device shall be placed at least at a 50-foot distance or at such a greater distance from any public road or pathway as may be necessary to remove it from the sight of persons and domestic animals using any such public road or pathway.

15. The maximum density of M-44s placed in any 100-acre pastureland area shall not exceed 10; and the density in any 1-square mile of open range shall not exceed 12.

16. No M-44 device shall be placed within 30 feet of a livestock carcass used as a draw station. No more than four M-44 devices shall be placed per draw station and no more than five draw stations shall be operated per square mile.

17. Supervisors of applicators shall check the records, warning signs, and M-44 devices of each applicator at least once a year to verify that all applicable laws, regulations, and restrictions are being strictly followed.

18. Each M-44 device shall be inspected by the applicator at least once every week, weather permitting access, to check for interference or unusual conditions and shall be serviced as required.

19. Damaged or nonfunctional M-44 devices shall be removed from the field.

20. An M-44 device shall be removed from an area if, after 30 days, there is no sign that a target predator has visited the site.

21. All persons authorized to possess and use sodium cyanide capsules and M-44 devices shall store such capsules and devices under lock and key.

22. Used sodium cyanide capsules shall be disposed of by deep burial or at a proper landfill site. Incineration may be used instead of burial for disposal. Place the capsules in an incinerator or refuse hole and burn until the capsules are completely consumed. Capsules may be incinerated using either wood or diesel fuel.

23. Bilingual warning signs in English and Spanish shall be used in all areas containing M-44 devices. All such signs shall be removed when M-44 devices are removed.

24. Each authorized or licensed applicator shall carry an antidote kit on his person when placing and/or inspecting M-44 devices. The kit shall contain at least six pears of amyl nitrite and instructions on their use. Each authorized or licensed applicator shall also carry on his person instructions for obtaining medical assistance in the event of accidental exposure to sodium cyanide.

25. In all areas where the use of the M-44 device is anticipated, local medical people shall be notified of the intended use. This notification may be through a poison control center, local medical society, the public health service or directly to a doctor or hospital. They shall be advised of the antidotal and first-aid measures required for treatment of cyanide poisoning. It shall be the responsibility of the supervisor to perform this function.

26. Each authorized M-44 applicator shall keep records dealing with the placement of the device and the results of each placement. Such records shall include, but need not be limited to:

   a. The number of devices placed.
   b. The location of each device placed.
   c. The date of each placement, as well as the date of each inspection.
   d. The number and location of devices which have been discharged and the apparent reason for each discharge.
   e. Each species of animals taken.
   f. All accidents or injuries to humans or domestic animals.

U.S. Department of Agriculture
Animal and Plant Health Inspection Service
Hyattsville, MD 20782
July 15, 1993
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER
Sodium Cyanide may be fatal if swallowed or inhaled. Use only with adequate ventilation and do not breathe the gas or dust. When handling, setting out or checking M-44 cyanide capsules, always have at least six feet of Amyl Nitrite readily available in case sodium cyanide is swallowed or inhaled.

While handling sodium cyanide capsules, protect hands with gloves and shield eyes to prevent eye burns and skin irritation. Wash thoroughly before eating or smoking.

Do not use in areas frequented by humans or domestic dogs.

ENVIRONMENTAL HAZARDS
This pesticide is TOXIC TO WILDLIFE. Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes. The M-44 ejector device cannot be used in areas inhabited by endangered species and birds.

CHEMICAL HAZARDS
Contact with acid liberates poisonous and flammable hydrogen cyanide gas.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For use in specific situations to reduce canids (coyotes, red fox, gray fox and wild dogs) that depredate livestock and poultry or federally designated threatened or endangered species. For use on pastures, range land and forest land only. Do not place in areas where food crops are planted.

IMPORTANT: Before handling or placing M-44 cyanide capsules or M-44 ejector devices, consult the Use Restriction Bulletin for specific use directions, additional precautions, information on endangered species, warning signs and antidotal measures.

WARNING SIGNS:
Bilingual (Spanish/English) warning signs must be posted in the general area and at the application site.

REstricted USE PESTICIDE
For retail sale and use only by certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator certification.

M-44 CYANIDE CAPSULES
For use in the M-44 ejector device to control coyotes (Canis latrans), red fox (Vulpes vulpes), gray fox (Urocyon cinereoargenteus) and wild dogs that depredate livestock and poultry or federally designated threatened or endangered species.

ACTIVE INGREDIENT:
Sodium Cyanide

INERT INGREDIENTS:
TOTAL:
50 Capsules Net Weight 45.5 grams

KEEP OUT OF REACH OF CHILDREN
DANGER—POISON

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY!

IF SWALLOWED OR INHALED: Prompt treatment is of the utmost importance. Carry patient to fresh air, have him lie down. Patient should breathe the contents of an Amyl Nitrite pearl 15-30 seconds each minute if necessary, until five pearls have been used. Use artificial respiration if breathing has stopped. Remove contaminated clothing, but keep patient warm. CALL A PHYSICIAN IMMEDIATELY.

IF ON SKIN: Immediately wash with plenty of water.

IF IN EYES: Immediately flush with plenty of water and call a physician.

SEE LEFT SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

United States Department of Agriculture
Animal and Plant Health Inspection Service
National Technical Support Staff/ADC
Hyattsville, MD 20782
EPA Est. No. 56229-ID-1
EPA Reg. No. 56228-15

STORAGE AND DISPOSAL

STORAGE: Store M-44 cyanide capsules under lock and key in a dry place away from food, domestic animals and acids. Do not contaminate feed or food stuffs.

DISPOSAL: Dispose of defective and used M-44 capsules by burial in a safe location in the field or at a proper land fill site.
PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

After ignition, cartridge produces the toxic gas, carbon monoxide. Fumes may be harmful if inhaled.

ENVIRONMENTAL HAZARDS

This product is highly toxic to wildlife. Check all burrows for signs of non-target species. If present, do not treat burrows.

CHEMICAL HAZARDS

Once ignited by the fuse, this cartridge will burn vigorously until completely spent and is capable of causing severe burns to exposed skin and clothing and of igniting dry grass, leaves and other combustible materials.

GAS CARTRIDGE FOR COYOTES

For control of coyotes (Canis latrans) in dens only.

NOT FOR SALE TO PERSONS UNDER 16 YEARS OLD

ACTIVE INGREDIENTS:

Sodium Nitrate ............... 65.0%
Charcoal .................... 35.0%
TOTAL .................... 100.0%

KEEP OUT OF REACH OF CHILDREN

WARNING

STATEMENT OF PRACTICAL TREATMENT
CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY!

If ignited and person has poisoning symptoms (headache, nausea, dizziness, weakness), transfer victim to fresh air. Have victim lie down and keep warm. If respiration is inadequate, recovery will be rapid. If breathing has stopped, use artificial respiration. If available, pure oxygen should be given.

SEE LEFT SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

STORAGE: Store in cool, dry place away from fire, heat and direct sunlight.

PESTICIDE DISPOSAL: To dispose of unused cartridges, soak in water, crush and bury at least 6" in loose soil.

CONTAINER DISPOSAL: Place in trash collection.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

USE RESTRICTIONS

For control of coyotes (Canis latrans) in dens only on rangelands, and crop and non-crop areas. Do not use near flammable material or inside buildings.

APPLICATION DIRECTIONS

First select den for treatment. Make sure cartridge will pass easily into opening and obtain material to plug the entrance. Then, with a nail at least 1/8" in diameter, puncture cap at end of cartridge at points marked. Insert fuse in one of center holes. Insure there is a minimum of 3 inches of exposed fuse. Hold cartridge away from face and body, then light.

NOTE: The minimum burn time for these fuses is 3 seconds.

Place cartridge, fuse-end first, as far into the entrance as possible. Close entrance to burrow immediately. (If burrow is steep, contents of cartridge may flow out of lit end. If so, place cartridge as deep in burrow as possible with fuse-end up, light, and close burrow.)

UNITED STATES DEPARTMENT OF AGRICULTURE

ANIMAL AND PLANT HEALTH INSPECTION SERVICE

ANIMAL DAMAGE CONTROL

Hyattsville, MD 20782

EPA Est. No. 56228-ID-1

EPA Reg. No. 56228-21

Net Weight 240 grams
APPENDIX C
APHIS-ADC MANAGEMENT INFORMATION SYSTEM FORMS FOR DOCUMENTING PREDATOR CONTROL ACTIVITIES
### AERIAL HUNTING

#### BASIC DATA
- **AGREEMENT NO./TASK CODE:** [Redacted]
- **SPECIES:** Coyote
- **NUMBER KILLED:** 1
- **TIME:** [Redacted]
- **DATE:** [Redacted]

#### STATE
- **FLIGHT INFORMATION**
  - **AGREEMENT NO./TASK CODE:** [Redacted]
  - **SPECIES:** Coyote
  - **NUMBER KILLED:** 1
  - **TIME:** [Redacted]
  - **DATE:** [Redacted]

#### FLIGHT INFORMATION
- **AGREEMENT NO./TASK CODE:** [Redacted]
- **SPECIES:** Coyote
- **NUMBER KILLED:** 1
- **TIME:** [Redacted]
- **DATE:** [Redacted]

#### SIGNATURE BLOCK & COMMENTS
- **ADJ SPECIALIST SIGNATURE:** [Redacted]
- **DATE:** [Redacted]

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### TECHNICAL ASSISTANCE PROJECT

#### BASIC DATA
- **STATE CODE:** [Redacted]
- **DATE:** [Redacted]
- **TIME:** [Redacted]

#### FLIGHT INFORMATION
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- **SPECIES:** Coyote
- **NUMBER KILLED:** 1
- **TIME:** [Redacted]
- **DATE:** [Redacted]

#### FLIGHT INFORMATION
- **AGREEMENT NO./TASK CODE:** [Redacted]
- **SPECIES:** Coyote
- **NUMBER KILLED:** 1
- **TIME:** [Redacted]
- **DATE:** [Redacted]

#### SIGNATURE BLOCK & COMMENTS
- **DATE:** [Redacted]

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### EQUIPMENT DATA
- **METHOD:** [Redacted]
- **QUANTITY:** [Redacted]
- **DATE:** [Redacted]

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### DEPREDATING BIRDS
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]

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### DAMAGE DATA
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]

---

### DEPREDATION REFERRAL PERMITS
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]
- **TOTAL QUANTITY:** [Redacted]

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### DEPREDATION BLOCK & COMMENTS
- **DATE:** [Redacted]

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### DEPREDATION BLOCK & COMMENTS
- **DATE:** [Redacted]

---

### DEPREDATION BLOCK & COMMENTS
- **DATE:** [Redacted]
# Agreement for Control Supplement

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<th>ADC Code:</th>
<th>County:</th>
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<td></td>
</tr>
<tr>
<td>Resource Owner:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City:</td>
<td>State:</td>
<td>Zip:</td>
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<td>Phone No:</td>
<td>Date:</td>
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<th>Total Lost (All Causes)</th>
<th>Resource</th>
<th>Total Amount</th>
<th>Total Lost (All Causes)</th>
<th>Resource</th>
<th>Total Amount</th>
<th>Total Lost (All Causes)</th>
<th>Resource</th>
<th>Total Amount</th>
<th>Total Lost (All Causes)</th>
</tr>
</thead>
<tbody>
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<td># Lost</td>
<td>Total Value</td>
<td>Species 2</td>
<td># Lost</td>
<td>Total Value</td>
<td>Species 3</td>
<td># Lost</td>
<td>Total Value</td>
<td>Species 4</td>
<td># Lost</td>
<td>Total Value</td>
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</table>

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |

| Species 1 | # Lost | Total Value | Species 2 | # Lost | Total Value | Species 3 | # Lost | Total Value | Species 4 | # Lost | Total Value |
APPENDIX D

MAPS

Map A - Predatory Animal Damage Control Areas
Map B - Wilderness Study Areas and Areas of Critical Environmental Concern
Map C - Wild Horse Management Areas
Map D - Raptor Concentration Areas
Map E - Sheep Winter Range
Map F - Sheep Lambing Range
Map A
General Predatory Animal Damage Control Areas
Rock Springs District

Map B
General WSA's and ACEC's
Rock Springs District

Wilderness Study Areas
1. Lake Mountain
2. Raymond Mountain
3. Buffalo Hump
4. Sand Dunes
5. Alkali Draw
6. South Pinnacles
7. Alkali Basin-East Sand Dunes
8. Red Lake
9. Honeycomb Buttes
10. Oregon Buttes
11. Whiplash Creek
12. Devil Playground-Twin Buttes
13. Red Creek Badlands
Map E
General Sheep Winter Range
Rock Springs District

Sheep Winter Range
November 1 to May 30

Map F
General Sheep Lambing Range
Rock Springs District

Sheep Lambing Range
April 1 to June 30
APPENDIX E

U.S. FISH AND WILDLIFE SERVICE
ROCK SPRINGS DISTRICT ANIMAL DAMAGE CONTROL PLAN
POTENTIAL THREATENED AND ENDANGERED SPECIES LIST

MEMORANDUM

To: Mr. Bill McMahan, BLM, Rock Spring District, WY
From: State Supervisor, ES, Cheyenne, WY (ES-61411)
Subject: Rock Springs District Animal Damage Control Plan

This responds to your scoping notice and request for a list of threatened and endangered species potentially affected by the subject plan.

In accordance with Section 7(c) of the Endangered Species Act of 1973, as amended (ESA), my staff has determined that the following threatened or endangered (T/E) species may be present in the project area:

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>STATUS</th>
<th>EXPECTED OCCURRENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black-footed ferret</td>
<td>Endangered</td>
<td>Potential resident in prairie dog (Cynomys sp.) colonies.</td>
</tr>
<tr>
<td>Peregrine falcon</td>
<td>Endangered</td>
<td>Migrant.</td>
</tr>
<tr>
<td>Whooping crane</td>
<td>Endangered</td>
<td>Potential nesting. Migrant.</td>
</tr>
<tr>
<td>Gray wolf</td>
<td>Endangered</td>
<td>Potential resident.</td>
</tr>
<tr>
<td>Colorado squawfish</td>
<td>Endangered</td>
<td>Downstream resident of Green River System.</td>
</tr>
<tr>
<td>Humpback chub</td>
<td>Endangered</td>
<td></td>
</tr>
<tr>
<td>Bonytail chub</td>
<td>Endangered</td>
<td></td>
</tr>
</tbody>
</table>

If your proposed action will lead to water depletion (consumption) in the Colorado River System, you should include the following species in your evaluation:

<table>
<thead>
<tr>
<th>SPECIES</th>
<th>STATUS</th>
<th>EXPECTED OCCURRENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado squawfish</td>
<td>Endangered</td>
<td>Downstream resident of Green River System.</td>
</tr>
<tr>
<td>Humpback chub</td>
<td>Endangered</td>
<td></td>
</tr>
<tr>
<td>Bonytail chub</td>
<td>Endangered</td>
<td></td>
</tr>
</tbody>
</table>

June 2, 1993

ES-61411
spb/W.02(blmsadc.spl)
Razorback sucker  
*(Xarachaenus texanus)*  

**Candidate species** that may occur within the project area are identified below. Many Federal agencies have policies to protect candidate species from further population declines. I would appreciate receiving any information available on the status of these species in or near the project area.

### SPECIES

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>SCIENTIFIC NAME</th>
<th>EXPECTED OCCURRENCE</th>
</tr>
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<tbody>
<tr>
<td><strong>Mammals</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preble's shrew 2</td>
<td><em>Sorex preblei</em></td>
<td>W. Wy.</td>
</tr>
<tr>
<td>Allen's 13-lined ground squirrel 2</td>
<td><em>Spermophilus tehuixilis</em></td>
<td>W. slope BH mts. &amp; upper Green R.</td>
</tr>
<tr>
<td>Pygmy rabbit 2</td>
<td><em>Spermophilus idahoensis</em></td>
<td>S.W. Wy.</td>
</tr>
<tr>
<td>North Amer. wolverine 2</td>
<td><em>Gulo gulo luscus</em></td>
<td>mountains statewide</td>
</tr>
<tr>
<td>North Amer. lynx 2</td>
<td><em>Felis lynx canadensis</em></td>
<td>mountains statewide</td>
</tr>
<tr>
<td><strong>Birds</strong></td>
<td></td>
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</tr>
<tr>
<td>Trumpeter swan 2</td>
<td><em>Cygnus buccinator</em></td>
<td>NW Wyoming</td>
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<tr>
<td>White-faced ibis 2</td>
<td><em>Plegadis chihi</em></td>
<td>wetlands statewide</td>
</tr>
<tr>
<td>Ferruginous hawk 2</td>
<td><em>Buteo regalis</em></td>
<td>grasslands statewide</td>
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<tr>
<td>Northern Goshawk 2</td>
<td><em>Accipiter gentilis</em></td>
<td>forests statewide</td>
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<td>Mountain plover 1</td>
<td><em>Charadrius montanus</em></td>
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<tr>
<td>Long-billed curlew 3C</td>
<td><em>Numenius americanus</em></td>
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<td>Black tern 2</td>
<td><em>Chlidonias niger</em></td>
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<td>Loggerhead shrike 2</td>
<td><em>Lanius ludovicianus</em></td>
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<td><strong>Amphibians</strong></td>
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<td>Western boreal toad 2</td>
<td><em>Bufo boreas boreas</em></td>
<td>MB mts., western mts</td>
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<td>Spotted frog 2</td>
<td><em>Rana pretiosa</em></td>
<td>NW WY; YNP</td>
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<td><strong>Fish</strong></td>
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<td>Colorado cutthroat trout 2</td>
<td><em>Salmo clarki pleuriticus</em></td>
<td>L. Snake R., Current Cr.</td>
</tr>
<tr>
<td>Bonneville cutthroat trout 2</td>
<td><em>Salmo clarki utah</em></td>
<td>Bear R.</td>
</tr>
<tr>
<td>Flannelmouth sucker 2</td>
<td><em>Catostomus latipinnis</em></td>
<td>Green &amp; Little Snake Rivers &amp; trib., Green &amp; Little Snake River Dreges, Bear &amp; upper Snake Rivers, and Slate Cr.</td>
</tr>
<tr>
<td>Roundtail chub 2</td>
<td><em>Gila robusta</em></td>
<td></td>
</tr>
<tr>
<td>Leatherside chub 2</td>
<td><em>Gila copei</em></td>
<td></td>
</tr>
<tr>
<td><strong>Plants</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tweedy's sand verbena 2</td>
<td><em>Abronia ammophila</em></td>
<td>Sublette County</td>
</tr>
<tr>
<td>Meadow pussytoes 2</td>
<td><em>Antennaria arcuata</em></td>
<td>South Pass area</td>
</tr>
</tbody>
</table>

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**Endangered**

*Artemisia biennis diffusa*  
*Arabie pusilla*  
*Astragalus drabelliformis*  
*Astragalus promontius*  
*Descurainia torulosa*  
*Lesquerella macrocarpa*  
*Lesquerella paysonii*  
*Penstemon caryi*  
*Physaria dornii*  
*Physaria pubescens*  
*Red Desert*  
*South Pass area*  
*Sublette County*  
*Henry's Fork area*  
*Red Desert*  
*Steamboat Mtn.*  
*Pinedale area*  
*Henry's Fork area*  
*Kemmerer area*  
*Nugget Canyon area*  
*Hickey Mt. area*  

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Please note that the status changes recommended by the Wyoming Rare Plant Committee in 1991 for candidate plant species have been accepted by the Washington, D.C. office of the Fish and Wildlife Service, and may now be considered official. Publication in the Federal Register is anticipated, but we do not have any indication when this will occur. These changes are reflected in the list above.

Section 7(c) of ESA requires that Federal agencies proposing major construction actions complete a biological assessment to determine the effects of the proposed actions on listed and proposed species. If a biological assessment is not required (i.e., all other actions), the lead Federal agency is responsible for review of proposed actions to determine whether listed species will be affected. I would appreciate the opportunity to review your determination document.

For those actions where a biological assessment is necessary, it should be completed within 180 days of initiation, but can be extended by mutual agreement between the lead agency and the Fish and Wildlife Service (Service). If the assessment is not initiated within 90 days, the list of T/E species should be verified with me prior to initiation of the assessment. The biological assessment may be undertaken as part of your agency's compliance of Section 102 of the National Environmental Policy Act (NEPA), and incorporated into the NEPA documents. The Service recommends that biological assessments include:

1. a description of the project;  
2. a description of the specific area potentially affected by the action;  
3. the current status, habitat use, and behavior of T/E species in the project area;  
4. discussion of the methods used to determine the information in item 3;  
5. direct and indirect impacts of the project to T/E species;  
6. an analysis of the effects of the action on listed and proposed species and their habitats including cumulative impacts from Federal, State, or private projects in the area;  
7. ...