

# RAC AGENDA – December 2014

Revised December 5, 2014



1. Welcome, RAC Introductions and RAC Procedure  
- RAC Chair
2. Approval of Agenda and Minutes  
- RAC Chair
3. Wildlife Board Meeting Update  
- RAC Chair **INFORMATIONAL**
4. Regional Update  
- DWR Regional Supervisor **INFORMATIONAL**
5. R657-59 Private Fish Pond Rule Amendments  
- Drew Cushing, Warmwater Sport Fisheries Program Coordinator **ACTION**
6. 2015 Black Bear Recommendations and Rule Amendments  
- Leslie McFarlane, Mammals Coordinator **ACTION**
7. Wolf Management Plan Extension  
- Leslie McFarlane, Mammals Coordinator **ACTION**
8. R657-55 Convention Permit Rule Amendments  
- Kenny Johnson, Administrative Section Chief **ACTION**

Details of the specific recommendations can be found at [www.wildlife.utah.gov](http://www.wildlife.utah.gov)

## Region Specific Items – to be presented in the specified region only.

- SERO -1      Habitat Restoration Projects      **INFORMATION**  
Nicole Nielson, Habitat Restoration Biologist

## Meeting Locations

- |  |   |
|--|---|
| <b>CR RAC</b> – Dec. 2nd 6:30 PM<br>Springville Civic Center<br>110 S. Main Street, Springville          | <b>SER RAC</b> – Dec. 10th 6:30 PM<br>John Wesley Powell Museum<br>1765 E. Main St., Green River              |
| <b>NR RAC</b> – Dec. 3rd 6:00 PM<br>Brigham City Community Center<br>24 N. 300 W., Brigham City          | <b>NER RAC</b> – Dec. 11th 6:30 PM<br>Wildlife Resources NER Office<br>318 North Vernal Ave, Vernal           |
| <b>SR RAC</b> – Dec. 9th <b>6:00 PM (time change)</b><br>Beaver High School<br>195 E. Center St., Beaver | <b>Board Meeting</b> – Jan. 6 <sup>th</sup> 9:00 am (Tuesday)<br>DNR Boardroom<br>1594 West North Temple, SLC |



**GARY R. HERBERT**  
*Governor*

**SPENCER J. COX**  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

**MICHAEL R. STYLER**  
*Executive Director*

### Division of Wildlife Resources

**GREGORY J. SHEEHAN**  
*Division Director*

## MEMORANDUM

To: Utah Wildlife Board Members  
From: Andrew Cushing, Sportfish Coordinator  
Date: November 18, 2014  
Subject: Amendment to R657-59 (Private Pond Rule)

The Division of Wildlife Resources is recommending an amendment to the Private Pond Rule that allows pond owners to pick up their own fish from private hatcheries providing the fish are sterile rainbows, the total pounds of fish are less than 50 pounds and they sign a statement that informs them of their responsibilities and the penalties for not complying.

Currently they need a COR that is expensive, time consuming, and somewhat difficult. This current process is worthy for larger amounts of fish but not worthwhile for smaller amounts of fish.

## **R657. Natural Resources, Wildlife Resources.**

### **R657-59. Private Fish Ponds.**

#### **R657-59-1. Purpose and Authority.**

(1) Under the authority of Sections 23-15-9 and 23-15-10 of the Utah Code, this rule provides the standards and procedures for private fish ponds.

(2) This rule does not regulate fee fishing or private aquaculture as provided in Title 4, Chapter 37 of the Utah Code, and Department of Agriculture Rule R58-17.

(3) Any violation of, or failure to comply with, any provision of Title 23 of the Utah Code, this rule, or any specific requirement contained in a certificate of registration or exemption certificate issued pursuant to this rule may be grounds for suspension of the certificate or denial of future certificates, as determined by the division.

#### **R657-59-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2.

(2) In addition:

(a) "Aquaculture" means the husbandry, production, harvest, and use of aquatic organisms under controlled, artificial conditions.

(b) "Aquaculture facility" means any facility used for propagating, rearing, or producing aquatic wildlife or aquaculture products. Facilities that are separated by more than 1/2 mile, or facilities that drain to, or are modified to drain to, different drainages are considered to be separate aquaculture facilities, regardless of ownership.

(c)(i) "Aquaculture product" means privately purchased aquatic wildlife, or their eggs or gametes.

(ii) "Aquaculture product" does not include aquatic wildlife obtained from the wild.

(d) "Certified sterile salmonid" means any salmonid fish or gamete that originates from a health certified source and is incapable of reproduction due to triploidy or hybridization.

(i) Triploid salmonids accepted as sterile under this subsection shall originate from a source that is certified as incapable of reproduction using the following protocols:

(A) fish samples shall be collected, prepared, and submitted to a certified laboratory by an independent veterinarian, certified fish health professional, or other professional approved by the division;

(B) certified laboratories shall be limited to independent, professional laboratories capable of reliably testing fish sterility and approved by the division; and

(C) sterility shall be determined by sampling and testing 60 fish from each egg lot with procedures generally accepted in the scientific community as reliable for verifying triploidy with a 95% or greater success rate.

(ii) [ ] An aquaculture facility that receives certified sterile salmonid aquaculture product is not required to conduct additional sterility testing prior to stocking the aquaculture product in a private fish pond, provided the sterile salmonids are kept segregated from other fertile salmonids.

(iii) Hybrid salmonid fish species accepted as sterile under this subsection are limited to splake trout (lake trout/brook trout cross) and tiger trout (brown trout/brook trout cross).

(e) "Exemption certificate" means a document issued by the division pursuant to R657-59-7 that exempts a designated private fish pond from the requirement of obtaining a certificate of registration to stock aquaculture product in the pond.

(f)(i) "HUC" or "Hydrologic Unit Code" means a cataloging system developed by the US Geological Survey and the Natural Resource Conservation Service to identify watersheds in the United States. HUCs are typically reported at the large river basin (6-digit HUC) or smaller watershed (11-digit and 14-digit HUC) scale.

(ii) HUC maps and other associated information are available at <http://water.usgs.gov/wsc/sub/1602.html>.

(g)(a) "Ornamental aquatic animal species" means any species of fish, mollusk, or crustacean that is commonly cultured and sold in the United States' aquarium industry for display.

(b) "Ornamental aquatic animal species" does not include:

(i) fresh water:

(A) sport fish – aquatic animal species commonly angled or harvested for recreation or sport;

(B) baitfish – aquatic animal species authorized for use as bait in R657-13-12, and any other species commonly used by anglers as bait in sport fishing;

(C) food fish – aquatic animal species commonly cultured or harvested from the wild for human consumption; or

(D) native species; or

(ii) aquatic animal species prohibited for importation or possession by any state, federal, or local law; or

(iii) aquatic animal species listed as prohibited or controlled in Sections R657-3-22 and R657-3-23.

~~(i) "Private fish pond" means a pond, reservoir, or other body of water, or any fish culture system which is contained on privately owned land and used for holding or rearing fish for a private, noncommercial purpose.]~~

(h) "Private fish pond" means a pond, reservoir, or other body of water, or any fish culture system which is contained on privately owned land and used for holding or rearing fish for a private, noncommercial purpose.

(i) "Purchase" means to buy, or otherwise acquire or obtain through barter, exchange, or trade for pecuniary consideration or advantage.

(j) "Salmonid" means any fish belonging to the trout/salmon family.

### **R657-59-3. Certificate of Registration Not Required.**

(1) A certificate of registration is not required to receive and stock an aquaculture product in a private fish pond, provided the following conditions are satisfied:

(a) the pond is not located on a natural lake, natural flowing stream, or reservoir constructed on a natural stream channel;

(b) the pond is properly screened consistent with the requirements in R657-59-15 to prevent the movement of aquatic wildlife into the pond or the movement of any aquaculture product out of the pond;

(c) the aquaculture product is:

(i) delivered to the pond by a licensed aquaculture facility as defined in Section 4-37-103; or

(ii) the owner, lessee, or operator of the private pond:

(A) receives less than 50 pounds of sterile rainbow trout from a licensed aquaculture facility in a single delivery;

(B) possesses documentation from the aquaculture facility verifying the information itemized in R657-59-11(2)(b) and R58-17-14(C)(2) during transport; and

(C) assumes legal responsibility for directly transporting the fish from the aquaculture facility to the private fish pond;

(d) the owner, lessee, or operator of the pond obtains from the aquaculture facility [~~delivering~~providing] the aquaculture product a valid health approval number issued by the Utah Department of Agriculture and Food pursuant to Section 4-37-501[ ~~authorizing the aquaculture facility to culture and transport the species of aquaculture product received at the pond~~];

(e) the species, strain, and reproductive capability of the aquaculture product received is authorized for stocking in the area where the pond is located consistent with the requirements in R657-59-16;

(f) the aquaculture product received is of sufficient size to be incapable of escaping the pond through or around the screen;

(g) the owner or operator of the private fish pond provides the aquaculture facility a signed written statement that the pond and aquaculture product received are in compliance with this section; and

(h) the owner, lessee, or operator of a private fish pond or an invitee has not previously been found in violation of any provision of Title 4, Chapter 37 or Title 23 of the Utah Code, or this rule.

#### **R657-59-5. Certificate of Registration Required.**

(1) A certificate of registration must be obtained from the division to receive, stock, or possess an aquaculture product in a private fish pond where:

(a) the aquaculture product is classified under R657-59-16 as an unauthorized species, strain, or reproductive capability for the area where the pond is located;

(b) the aquaculture facility does not deliver the aquaculture product directly to the private fish pond, unless the transport of fish by the owner, lessee, or operator of the private pond is allowed without a certificate of registration pursuant to R657-59-3(1)(c)(ii); or

(c) the owner, lessee, or operator of a private fish pond or an invitee is found in violation of any provision of Title 4, Chapter 37 or Title 23 of the Utah Code, or this rule.

(2) A separate certificate of registration is required for each private fish pond as defined under “aquaculture facility” in R657-59-2.

**KEY:** wildlife, aquaculture, fish

**Date of Enactment or Last Substantive Amendment:** August 21, 2012

**Notice of Continuation:** August 5, 2013

**Authorizing, and Implemented or Interpreted Law:** 23-15-9; 23-15-10



GARY R. HERBERT  
Governor

SPENCER J. COX  
Lieutenant Governor

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
Executive Director

### Division of Wildlife Resources

GREGORY J. SHEEHAN  
Division Director

## MEMORANDUM

Date: November 19, 2014

To: Wildlife Board and Regional Advisory Council Members

From: Leslie McFarlane, Mammals Program Coordinator *leslie*

SUBJECT: **Utah Wolf Management Plan**

In 2003, the Utah Legislature directed the Division to prepare a wolf management plan. Under this direction the Division convened a diverse team with members from many different interest groups. Everyone collaborated to draft an effective plan. The group worked on development of the plan in anticipation that wolves would become delisted statewide. The final plan reflects this anticipation. After very exhaustive efforts the Utah Wolf Management Plan was approved by the Utah Wildlife Board in 2005. Wolves are still listed throughout most of Utah; their political and biological status in Utah has remained unchanged since that time.

This plan is set to expire on December 31, 2014. Because little has changed, the Division is not seeking any changes or revisions to this plan.

1. We are recommending a 5 year extension of the Utah Wolf Management Plan in anticipation that wolves will be delisted statewide.

You can review the Utah Wolf Management Plan in its entirety at [wildlife.utah.gov/wolf](http://wildlife.utah.gov/wolf).

# **UTAH WOLF MANAGEMENT PLAN**



**Utah Division of Wildlife Resources Publication #: 05-17**

**Prepared by:  
The Utah Division of Wildlife Resources  
&  
The Utah Wolf Working Group**

**UTAH WOLF MANAGEMENT PLAN**  
**Table of Contents**

<b>List of Tables</b> .....	i
<b>List of Figures</b> .....	ii
<b>Executive Summary</b> .....	iii
<b>Dedication</b> .....	iv
<b>Introduction</b> .....	1
<b>Part I. Gray Wolf Ecology and Natural History</b> .....	4
Description .....	4
Distribution .....	4
Sign .....	5
Taxonomy .....	5
Reproduction .....	6
Mortality .....	6
Social Ecology .....	6
Population Dynamics .....	7
Dispersal .....	8
Habitat Use and Home Ranges .....	8
Food Habits .....	9
Wolf-Prey Relationships .....	10
Interactions with Non-Prey .....	11
Ecosystem Level Impacts .....	11
Ecological Values .....	12
The Unknown .....	12
<b>Part II. Historic and Current Status of Wolves in the Intermountain West</b> .....	13
History .....	13
Current Status and Distribution .....	13
Wolf Management in the Intermountain West .....	14
<b>Part III. Wolves In Utah</b> .....	20
Utah’s Environment and Wolves .....	20
Potential Economic Impact of Wolves .....	20
<b>Part IV. Stakeholders and Wolves</b> .....	23
Background .....	23
Scoping Meetings .....	23
Overall Summary of Top Issues .....	23
Prioritized Top Issues .....	23
Overall Summary of Top Advice .....	24
Prioritized Top Advice .....	24
Survey of Public Attitudes .....	24



<b>Part V. Management Plan Purpose, Objectives and Strategies</b> .....	28
Purpose .....	28
Management Goal .....	28
Management Objectives .....	28
Management Strategies .....	28
Strategy I: Develop and implement outreach programs .....	29
Timeline .....	29
Strategy II: Manage wolf/human interactions to benefit both humans and wolves .....	30
Nuisance and Chronic Nuisance Responses .....	31
Human Safety Response .....	31
Implementation .....	31
Strategy III: Develop and implement wolf monitoring and research programs .....	32
Training .....	32
Programs .....	32
Reporting and Expansion .....	33
Strategy IV: Manage wolf/wildlife interactions to meet the objectives of this plan .....	33
Influence on wildlife management .....	34
Recommendations .....	34
Strategy V: Control livestock depredation and fully compensate livestock owners for losses of livestock to wolves .....	35
Preventing Livestock Depredation .....	35
Depredation actions .....	36
Private lands .....	37
Public lands .....	37
Agency actions .....	37
Compensation Program .....	39
Strategy VI: Provide funding for wolf management .....	39
<b>Literature Cited</b> .....	41
<b>Appendix 1. House Joint Resolution 12</b> .....	51
<b>Appendix 2. Utah Wolf Working Group Charter</b> .....	54
<b>Appendix 3. Defenders of Wildlife Compensation Policy</b> .....	57
<b>Appendix 4. Public Scoping Process</b> .....	59
<b>Appendix 5. Summary Report: Utah Residents' Attitudes Towards Gray Wolves</b> .....	63

## **List of Tables**

2.1 Minimum fall wolf population estimates by recovery area for the Northern Rockies wolf population from 1979 – 2004 .....	15
2.2 Estimated number of breeding pairs, by recovery area, for the Northern Rockies wolf population from 1979 – 2004 .....	16
2.3 Confirmed wolf depredation and wolf management actions in the Northern Rockies by recovery area, 1987 – 2004 .....	17
3.1 Status of Utah’s wildlife communities and the potential impact of wolves on these communities .....	21
3.2 Cattle and sheep abundance, trend and distribution in Utah .....	22
4.1 Summary of Utahns’ attitudes toward wolves.....	25

## **List of Figures**

- 2.1 2004 distribution of wolves within the Northern Rockies ..... 18
- 2.2 Wolf population trend in the Northern Rockies, 1979 – 2004 ..... 19

## Executive Summary

This plan will guide management of wolves in Utah during an interim period from delisting until 2015, or until it is determined that wolves have established<sup>1</sup> in Utah, or assumptions of the plan (political, social, biological, or legal) change. During this interim period, arriving wolves will be studied to determine where they are most likely to settle without conflict.

The goal of this plan is to manage, study, and conserve wolves moving into Utah while avoiding conflicts with the wildlife management objectives of the Ute Indian Tribe; preventing livestock depredation; and protecting the investment made in wildlife in Utah.

Under this plan, wolves will be allowed to disperse into Utah, and be conserved, except when or where:

- Wolves conflict with the wildlife management objectives of the Ute Indian Tribe;
- Wolves cause unacceptable livestock depredation; or
- Wolves contribute to wildlife populations not meeting management objectives as defined by the Utah Wildlife Board's Predator Management Policy.

Livestock owners will be fully compensated for losses of livestock to wolves.

Under this plan, six strategies are proposed:

- Develop and implement outreach programs.
- Manage wolf/human interactions to benefit both humans and wolves.
- Develop and implement wolf monitoring and research programs.
- Manage wolf/wildlife interactions to meet the objectives of this plan.
- Control livestock depredation and fully compensate livestock owners for losses of livestock to wolves.
- Provide funding for wolf management.

---

<sup>1</sup>*“Established”* is defined as “at least 2 breeding pairs of wild wolves successfully raising at least 2 young each (until December 31<sup>st</sup> of the year of their birth), for 2 consecutive years.” [USFWS, Reintroduction of Grey Wolves into Yellowstone National Park and Central Idaho, Final EIS, May 1994, US Fish and Wildlife Service, Helena, MT; Pages 6-66 and 6-67 in Appendix 8: Memorandum Regarding Definition of a Wolf Population. From EIS Team Wolf Scientist and Northern Rocky Mountain Wolf Recovery Coordinator, March 11, 1994.]

## **Dedication**

This plan is dedicated to Kevin Conway, our friend and our leader. Kevin was the Director of the Utah Division of Wildlife Resources from 2002 until his untimely death in 2004. He was the driving force behind this document, and its chief proponent. He had faith in the Utah Wolf Working Group, and he held us to his own high standards. He knew that there was no more contentious issue in America than wolves, but he assembled a diverse group of people to work together to complete a wolf management plan for Utah. Kevin had faith in us, enduring enormous physical pain to cheer us on and to show his confidence in the group. He never lost faith in what was right. He was a friend to Utah's wildlife and a model for all of us.

## Introduction

In 2003, the Utah Legislature passed House Joint Resolution 12 (HJR-12) (Appendix 1), which directed the Division of Wildlife Resources (DWR) to draft a wolf management plan for review, modification and adoption by the Utah Wildlife Board, through the Regional Advisory Council process. In April of 2003, the Wildlife Board directed DWR to develop a proposal for a wolf working group to assist the agency in this endeavor. The DWR consulted with a professional facilitator and numerous interests groups in an effort to identify a working group capable of drafting a management plan within the framework established by HJR-12 and the Utah Code.

The DWR created the Wolf Working Group (WWG) in the summer of 2003. The WWG is composed of 13 members that represent diverse public interests regarding wolves in Utah. The WWG includes representatives from academia (USU faculty), wolf advocates (Utah Wolf Forum), sportsmen representatives (Rocky Mountain Elk Foundation and Sportsmen for Fish and Wildlife), agricultural interests (Utah Farm Bureau Federation and Utah Wool Growers), local government representatives (Utah Association of Counties), the Ute Indian Tribe, two at-large conservation organization representatives, and a member of the Utah Wildlife Board. Technical advisors from the DWR, the US Fish and Wildlife Service, and the US Department of Agriculture Wildlife Services (USDA-WS) assist the working group. A professional facilitation firm, Dynamic Solutions Group, of Casper Wyoming, facilitated WWG meetings, and helped draft this plan.

Members of the WWG include:

- Jim Bowns (Utah Wildlife Board)
- Sterling Brown (Utah Farm Bureau Federation)
- Bill Burbridge (Utah Wildlife Federation)
- Bill Christensen (Rocky Mountain Elk Foundation)
- Karen Corts (Ute Tribe Fish and Game Department)
- Debbie Goodman (Audubon)
- Allison Jones (Utah Wolf Forum)
- Don Peay (Sportsmen for Fish & Wildlife)
- Robert Schmidt (Utah State University, Department of Environment and Society)
  
- Randy Simmons (Utah State University, Political Science Department)
- Trey Simmons (Utah Wolf Forum)
- Mark Walsh (Utah Association of Counties) - Did not attend any meetings
- Clark Willis (Utah Wool Growers)

A number of alternate representatives also gave unselfishly of their time and talents in developing this plan, as well:

- Sterling Brown – alternate for Wes Quinton and Todd Bingham
- Kirk Robinson – alternate for Allison Jones, Trey Simmons

Byron Bateman – alternate for Don Peay  
Bill Fenimore – alternate for Debbie Goodman, and Bill Burbridge  
Charles Kay – alternate for Randy Simmons  
Dr. Mike Wolfe – alternate for Dr. Robert Schmidt  
Lee Howard – alternate for Dr. James Bowns  
Jerry Mason (deceased) – alternate for Bill Burbridge  
Ken Young – alternate for Bill Christensen

Technical Advisors included:

Kevin Bunnell (Utah Division of Wildlife Resources)  
Craig McLaughlin (Utah Division of Wildlife Resources)  
Jim Karpowitz (Utah Division of Wildlife Resources)  
Mike Bodenchuk (USDA Wildlife Services)  
Laura Romin (U.S. Fish and Wildlife Service)

The WWG met 13 times, beginning in November 2003 and concluding in April 2005. They considered a host of issues, concerns and ideas, presented by the citizens and scientists who took the time to make themselves available to the group. These discussions took the form of lively debate, and not infrequent disagreement within the WWG. Yet the WWG persisted, and produced the following management plan using a consensus minus 2 standard for resolving disagreements (Appendix 2).

The plan is based on HJR-12 which urges that the objectives and strategies of the plan, to the extent possible:

- Be consistent with the wildlife management objectives of the Ute Indian Tribe;
- Prevent livestock depredation; and
- Protect the investments made in wildlife management efforts while being consistent with U.S. Fish and Wildlife Service regulations and other Utah species management plans.

This is that plan. The WWG has done all they can to provide a credible conservation plan for wolves, which meets the above criteria. It is intended to be an interim plan, covering that time period between delisting and the development of naturally occurring wolf packs in Utah. It is intended to be adaptive in nature, so that as conditions change, the plan may adapt to those changes.

The goal of the plan is to manage, study, and conserve wolves moving into Utah while avoiding conflicts with the wildlife management objectives of the Ute Indian Tribe; preventing livestock depredation; and protecting the investment made in wildlife in Utah.

The majority of the WWG believes that this plan is fair, sustainable and flexible. We believe it will, to the greatest extent possible, meet the needs of wolf

conservation, prevent livestock depredation and protect the existing wildlife resources of the State of Utah.<sup>1</sup>

---

<sup>1</sup> This statement pertains to the Utah Wolf Management Plan as it was presented to the Utah Wildlife Board (Board) by the WWG and some members of the WWG may not support the changes made by the Board that are identified herein.



## Part I. Gray Wolf Ecology and Natural History

### Description

The gray wolf (*Canis lupus*) is the largest species in the canid family and resembles a large domestic dog (*C. familiaris*), such as a husky. Wolves can usually be distinguished from domestic dogs by their proportionally longer legs, larger feet and narrower chest (Banfield 1974). Wolves can also be distinguished from other canids by wide tufts of hair that project down and outward from below their ears (Mech 1970). Wolves also have straight tails that do not curl up at the tip like some domestic dogs. Adult wolves, except black individuals, have white fur around their mouths, whereas most domestic dogs have black fur around their mouths (Paquet and Carbyn 2003)

Wolves are sexually dimorphic, with males being larger than females. Adult males weigh 20-80 kg (50-175 lbs) and vary in length from 1.3-1.6 m (4.2-5.4 ft). Shoulder height varies from 66-81 cm (26-32 in). Adult females weigh 16-55 kg (35-121 lbs) and are 1.4-1.5 m (4.5-5.0 ft) in length (Young and Goldman 1944, Mech 1970, Mech 1974). Wolf size follows Bergman's rule with overall size increasing with latitude (Mech 1970, Mech 1974).

Coloration of wolves is agouti (highly variable, ranging from pure white to coal black). The most common coloration is light tan mixed with brown, black and white. Black hair is usually concentrated on the back, while the forehead area tends to be brown and the lower portions of the head and body are usually whitish (Paquet and Carbyn 2003). The pelt consists of long coarse guard hairs with a much shorter, thicker and softer under fur. Dorsal hair is longer than ventral hair and the longest hair occurs in the mane, an erectile part of the coat that extends along the center of the back from the neck to behind the shoulders. Wolves undergo a single annual molt that begins in late spring (Paquet and Carbyn 2003).

### Distribution

The gray wolf is circumpolar throughout the northern hemisphere north of 15-20° N latitude, and has one of the most extensive native ranges of any terrestrial mammal species. The historical range included nearly all of Eurasia and North America. The present distribution is much more restricted with wolves found mostly in remote undeveloped areas with sparse human populations (Paquet and Carbyn 2003).

In North America the gray wolf historically occupied all habitats north of approximately 20° N latitude except the southeast U.S. where the red wolf (*Canis rufus*) was the dominant canine. During the nineteenth century the increase in human population and the expansion of agriculture resulted in a general decline in the abundance and distribution of wolves in North America. Subsequently, intensive predator control efforts from 1900-1930 virtually eliminated wolves from the western United States and adjoining parts of Canada. By 1960, wolves were

virtually extirpated from all the United States except Alaska and northern Minnesota.

Wolves were historically found throughout Utah, except the Great Salt Lake Desert (Durrant 1952). In 1888, the Utah Territorial Legislature began the extermination of wolves from the state by offering a \$1 bounty. The government-sponsored extermination of wolves continued in Utah until 1930 when the last verified wolf was killed in San Juan County. Previous to this, the U.S. Bureau of Biological Survey reported killing 162 wolves in Utah between 1917 and 1930, with a high of 48 taken in 1918. In July and August of 2002 USDA-WS personnel verified wolf predation on livestock in Cache Co. and in November of 2002 a wolf was captured north of Morgan and then returned to Yellowstone National Park (YNP) where it had been radio-collared as part of an ongoing reintroduction effort. These instances marked the first verified occurrences of wolves in Utah in 74 years.

### **Sign**

Wolves usually walk or trot in an alternating pattern but may also trot in a two-print pattern or lope in a four-print gallop pattern. Young (1944) reported that wolf tracks in the Rocky Mountains averaged 9 cm (3.5 in) in length and 7 cm (2.7 in) in width for the front foot and 8.2 cm (3.2 in) in length and 6.4 cm (2.5 in) in width for the hind foot. Recently transplanted wolves and their offspring have tracks measuring nearly 5 in (12.7 cm) in length and 4 in (10.2 cm) in width (across the toes) (Glazier, K. pers. comm.) Claw marks are almost always present; the foot pad makes up approximately 1/3 of the entire print with one lobe on the leading edge of the interdigital pad and the inside toe is slightly larger than the outside toe. Trails are usually straight and direct rather than wandering. In comparison with most dogs, wolf tracks are more elongated, have the front two prints closer together and the marks of the front two claws are more prominent (Halfpenny 2001, Paquet and Carbyn 2003). Scat varies in color from pure black to almost white and varies in consistency from toothpaste-like to almost entirely of hair and bone. Scat averages approximately 10 cm (4 in) in length and 3.2 cm (1.25 in) in diameter (Halfpenny 2001).

### **Taxonomy**

The gray wolf is a member of the Canidae family in the order Carnivora and is closely related the coyote (*C. latrans*) and the Simien jackal (*C. simensis*). The closest relative of the wolf is the domestic dog (Wayne et al. 1995). Along with the coyote, the wolf is generally considered morphologically primitive and is typically placed at the beginning of systematic representations of the order Carnivora. The genus *Canis* seems to have originated in the early to middle Pliocene (Wayne et al. 1995). According to Wilson et al. (2000), North America was inhabited by a common ancestor to modern canids 1-2 million years ago. Some of these animals traveled across the Bering Land Bridge where they evolved into the gray wolf in Eurasia. The remaining canids evolved in North America, developing into the coyote, which adapted to preying on smaller

mammals in the arid southwest and the red wolf (*Canis rufus*), which adapted to preying on white-tailed deer (*Odocoileus virginianus*) in eastern forests. Gray wolves later returned to North America and adapted to preying on large ungulates throughout the western and northern United States.

### **Reproduction**

Wolves mate from January to April, depending on latitude. Courtship takes place between pack members or lone wolves that pair during the mating season and estrus in breeding females lasts 5-7 days. Within a pack the dominant pair are normally the only individuals to breed and subordinate females are held in a state of behaviorally induced reproductive suppression (Harrington et al. 1982, Packard et al. 1985). Young are born in the spring after a 62-63 day gestation period. Birth usually takes place in a sheltered place such as a hole, rock crevice, hollow log, or overturned stump. Young are blind and deaf at birth and weigh an average of 450 g (14.5 oz). Litter size averages 6 pups but ranges from 1-11 and may be correlated with the carrying capacity of the environment (Mech 1970, Boertje & Stephenson 1992). Sex ratio of litters may be skewed toward males in high-density populations (Kuyt 1972, Mech 1975).

### **Mortality**

Significant natural causes of mortality in wolf populations include: starvation (Mech 1972, Seal et al. 1975, Van Ballenberghe and Mech 1975, Fuller and Keith 1980), disease (Murie 1944, Carbyn 1982a, Bailey et al. 1995), interspecific conflicts (Ballard 1982, Nelson and Mech 1985, Mech and Nelson 1990, Weaver 1992), and accidents (Fuller and Keith 1980, Boyd et al. 1992). Research has also shown that mortality resulting from intraspecific aggression, in addition to starvation, increases when wolf populations are faced with low prey densities (Van Ballenberghe and Erickson 1973, Messier 1985a, Mech 1977a). In addition, human related mortality factors are significant for most wolf populations. Common human related mortality factors include: harvest (Fuller and Keith 1980, Ballard et al. 1987, Borge and Gunson 1989, Hayes et al. 1991, Plestcher et al. 1997), poaching (Fritts and Mech 1981, Fuller 1989, Plestcher et al. 1997), vehicles (Berg and Kuehn 1982, Forbes and Therberge 1995, Paquet et al. 1996, Forshner 2000), and introduced disease such as parvovirus (Bailey et al. 1995). Annual mortality rates in exploited populations (essentially all aside from Isle Royale) range from 15% to 68% (Fuller et al. 2003).

### **Social Ecology**

Although some wolves are solitary, most are highly gregarious and live in packs with complex social structures. Packs are usually comprised of a breeding pair and their offspring of the previous 1-3 years, or occasionally two or three such families (Murie 1944, Young and Goldman 1944, Mech 1970, Clark 1971, Haber 1977, Mech and Nelson 1989). Within a wolf pack, a strict dominance hierarchy exists and the position of individuals within the hierarchy is reflected by status and privilege (Paquet and Carbyn 2003). Pack size is largest in fall and early winter when pups are integrated into the pack. Pack size normally ranges

between 5-12 individuals, although larger packs have been reported (Mech 1974). Most offspring disperse at approximately 1-2 years of age with a few remaining with the pack up to 3 years (Gese and Mech 1991, Mech et al. 1998). The proximate and ultimate mechanisms regulating pack size are highly complex and not perfectly understood; however, there is a growing body of evidence against an earlier notion that wolves live in packs to facilitate predation on larger prey (Thurber and Peterson 1993, Hayes 1995, Dale et al. 1995, Schmidt and Mech 1997). There is evidence that an increase in prey abundance produces a direct increment in the in-group recruitment and survival resulting in at least temporarily larger packs (Keith 1983). Food limitation has also been shown to be correlated with increased dispersal (Messier 1985b, Peterson & Page 1988)

Communication between wolves is accomplished through postures (Schenkel 1967, Crisler 1958, Fox 1973, Zimen 1976, Fox and Cohen 1977), vocalizations (Harrington and Mech 1983, Harrington 1989, Coscia et al 1991, Coscia 1995) and scents (Kleiman 1966, Theberge and Falls 1967, Peters 1978, Harrington 1981, Asa et al. 1985, Merti-Millhollen et al. 1986, Paquet 1989, Asa 1997, Asa and Valdespino 1998). Innate recognizable patterns of behavior communicate the inner state of a wolf to which other wolves respond. An elevated tail and erect ears conveys alertness and sometimes aggression. Facial expressions, especially the position of the lips and display of the teeth are the most dramatic form of communication. Scent from urine, and possibly feces, is used to express social status and breeding condition and to mark territorial boundaries (Peters and Mech 1978, Asa et al. 1985). Vocalization (howling) is used by wolves to maintain territories and communicate among themselves. Howls can be heard for several kilometers under certain conditions and Joslin (1967) reported that howling could advertise the presence of wolves to conspecifics over a 130 km<sup>2</sup> (50 mi<sup>2</sup>) area. Howling may also be involved in coordinating pack activities (Harrington and Mech 1978a & b). Harrington (1975) reported that howling plays an important role in maintaining pack structure, especially in populations with high mortality, helping to assemble the pack members after they have been separated. Howling may also help coordinate hunting efforts (Peterson 1977). Carbyn (1975a) reported that howling was most prominent during crepuscular hours, which may be associated with the departure and arrival of adults at rendezvous sites (Harrington and Mech 1978a&b).

### **Population Dynamics**

Many processes influence wolf population dynamics, including: habitat limitations and environmental variation that causes fluctuations in reproduction, dispersal, age structure of the population, social system and genetics (Paquet and Carbyn 2003). The influence of prey abundance on wolf populations is mediated by intrinsic social processes such as pack formation, territorialism, exclusive breeding, deferred reproduction, intraspecific aggression, dispersal, and primary-prey shifts (Packard and Mech 1980). However, the per capita availability of ungulate prey is the primary factor influencing population dynamics (Keith 1983, Messier and Crete 1985, Fuller 1989, Messier 1994, Eberhardt 1998, Eberhardt

and Peterson 1999). Secondary influences on population dynamics include disease and the level of human-induced mortality (Murie 1944, Keith 1983, Fuller 1989). Other important influences include habitat availability and arrangement (e.g., an area large enough to support only 1 pack and that is isolated from source populations will have different dynamics than an area large enough to support many packs). Some of the specific findings regarding wolf population dynamics include the following: productivity declines as per capita prey availability declines, but significant declines in productivity do not occur until the availability of prey falls below threshold levels (Boertje and Stephenson 1992). Harrington et al. (1983) found in one population, where prey was scarce and the wolf population was declining, there was an inverse correlation between pack size and litter size, while in a separate population where prey was abundant and the population was increasing, pack and litter size were positively correlated.

### **Dispersal**

Dispersal movements are important for gene flow and aid in the establishment of new packs. Dispersal in wolves appears to be a gradual dissociation process. A study in Minnesota reported up to 6 exploratory moves prior to dispersal (Fuller 1989). As offspring mature, they usually disperse when 1-2 years of age with few remaining with the pack longer than 3 years of age (Messier 1985b). Dispersal movements may be directional or nomadic and some evidence suggests that packs colonize areas that were first pioneered by dispersing lone wolves (Ream et al. 1991, Plestcher et al. 1991, Plestcher et al. 1997). Yearling and pup dispersal rates in Minnesota were highest when the population was increasing or decreasing and low when the population was stable (Gese and Mech 1991). Dispersing wolves typically establish new territories or join packs within 50-100 km (31-62 mi) of their natal pack (Fuller 1989, Gese and Mech 1991, Boyd et al. 1995). The time of reported dispersals vary, although January-February is most common (Paquet and Carbyn 2003). The fate of dispersing wolves is probably related to their age, the density of the wolf population, availability of prey, and presence of humans (Fuller 1989, Gese and Mech 1991, Boyd et al. 1995). In northern Minnesota dispersing adults had the highest denning and pairing success, yearlings had moderate pairing and low denning success, and pups had low pairing and denning success (Gese and Mech 1991).

### **Habitat Use and Home Ranges**

Gray wolves are considered a habitat generalist because they require large home ranges and move long distances and don't appear to have any habitat requirements aside from water and prey. Wolves once occurred in all major habitat types including forests, deserts, grasslands and arctic tundra (Mech 1970, Fuller et al. 1992, Mladenoff et al. 1995). Although as a species wolves are considered generalists, populations can be highly adapted to local conditions in relation to prey selection, den-site use, foraging habitat, and physiography (Fritts et al. 1995, Paquet et al. 1996, Alexander et al. 1997, Haight et al. 1998, Mladenoff and Sickley 1998, Mladenoff et al. 1999, Callaghan 2002). Factors that influence habitat use by wolves include: availability and density of prey

(Carbyn 1974, Keith 1983, Fuller 1989, Huggard 1993, Weaver 1994, Paquet et al. 1996), snow conditions (Nelson and Mech 1986a), availability of protected and public lands (Woodroffe 2000), density of domestic livestock (Bangs and Fritts 1996), road density (Theil 1985, Jensen et al. 1986, Mech 1988, Fuller 1989, Thurber et al. 1994, Alexander et al. 1996, Mladenoff et al. 1999), human presence (Mladenoff et al. 1995, Paquet et al. 1996, Callaghan 2002), and topography (Paquet et al. 1996, Callaghan 2002).

Most wolf packs occupy and defend exclusive, stable home ranges (Mech 1970, Peterson et al. 1984, Messier 1985b), however in some circumstances home ranges can be dynamic and nonexclusive (Carbyn 1981, Potvin 1987, Mech et al. 1995, Forshner 2000). Generally, wolves locate their home ranges in areas with adequate prey and minimal human disturbance (Mladenoff et al. 1997, Mladenoff and Sickley 1998). In mountainous habitat, home range selection and travel routes are influenced by topography and the use of valley bottoms and foothills corresponds to the presence of wintering ungulates during periods of deep snow at higher elevations (Singer 1979, Jenkins and Wright 1988, Paquet et al. 1996). Territory and home range sizes are primarily a function of pack size, and pack size increases with prey density (Peterson et al. 1984, Messier 1985b). Colonizing packs are likely to have larger, more variable home ranges than those surrounded by other packs (Boyd et al. 1995, Boyd and Plestcher 1999). Home range sizes for wolf packs in the Rocky Mountains of Canada range from 408 – 1,303 mi<sup>2</sup> (1,058 to 3,374 km<sup>2</sup>) (Paquet 1993), and home ranges of wolf packs in the Greater Yellowstone Ecosystem range from 35 - 368 mi<sup>2</sup> (90 - 953 km<sup>2</sup>) (Smith, D. pers comm.).

### **Food Habits**

Wolves are obligate carnivores that feed primarily on ungulates (Weaver 1994). In addition, wolves will utilize beaver (*Castor canadensis*), snowshoe hares (*Lepus americanus*), other small mammals, and scavenging to supplement ungulate food sources. In general, wolves utilize prey according to abundance and vulnerability and are known to prey on virtually every ungulate species in North America (Paquet and Carbyn 2003). When there is more than one ungulate species occupying an area, wolves usually preferentially select the smallest or easiest to catch (Mech 1970, Paquet 1992, Weaver 1994, Paquet et al. 1996). In general, wolves select individuals that are the most vulnerable (i.e. old, young or debilitated) from the available ungulate populations (Fuller and Keith 1980, Carbyn 1983, Paquet 1992). For example, the average age of cow elk killed by wolves in Yellowstone National Park (YNP) between 1995 and 2001 was 14 years (compared to an average age of 6 years for hunter killed cow elk) and data obtained by examining fat reserves in the femurs of wolf-killed elk indicated that 34% had exhausted all fat reserves and likely would not have survived (Smith et al. 2003). This is consistent with the generally low rate of hunting success (10-49%) typical for wolves (Mech & Peterson 2003). Given a low probability of success, it is intuitive that wolves preferentially target animals that exhibit some vulnerability.

Kill rates of wolves reported in scientific literature vary widely and Hebblewhite (2000) concluded that the lack of standardized methods used to estimate kill rates confounds attempts to compare rates between different studies. In Banff National Park, Hebblewhite et al. (2003) estimated a kill rate of 0.33 kills / day / pack with the majority of kills being elk (*Cervus canadensis*), which was also the most abundant ungulate. Perhaps the most relevant data to Utah are the kill rates that have been reported in YNP where Smith et al. (2003) reported that elk are by far the preferred prey of wolves with an average kill rate of 1.4 elk / wolf / 30 days, or 1 elk every 21 days. A more recent analysis of the kill rates of elk in Yellowstone covering 2000-2004 indicate that the rate has dropped to 1.1 elk / wolf / 30 days, or 1 elk every 27 days. This later kill rate is comparable to the kill rates reported in other studies including: 15-19 deer / wolf / year (Fuller 1989), 7.3 kills / wolf / year on moose and caribou (Ballard et al. 1987), 16 caribou / wolf / year (Ballard et al. 1997). However, it is important to point out that almost all kill studies (including Yellowstone's) are conducted in winter to simplify tracking, which corresponds to a time when ungulate condition is poorest. Therefore, published kill rates are probably maxima, rather than annual means.

### **Wolf-Prey Relationships**

Wolves are efficient predators that preferentially select vulnerable individuals of large ungulate prey, but are adaptable enough to readily switch to more common secondary prey species (Paquet and Carbyn 2003). As a species, wolves exhibit a remarkable plasticity in their ability to use different prey and habitats (Mech 1991, Weaver et al. 1996). Ungulate biomass per wolf is highest in areas where wolf populations are heavily exploited and lowest in unexploited wolf populations (Keith 1983, Fuller 1989). Group size, landscape structure, and winter severity may influence whether wolf predation is density dependent or density independent, and therefore regulatory or limiting to prey populations. The functional and numerical responses of wolf populations to prey populations are complex and are likely influenced by many factors including: availability of alternative prey, presence of other predators (Messier 1994, Eberhardt 1997, Eberhardt and Peterson 1999), the size of ungulate herds, and ungulate behavior (Huggard 1993, Weaver 1994, Hebblewhite 2000). In addition to the influence of wolf predation on ungulate populations several studies have also documented impacts of wolves on ungulate behavior, including movement patterns, habitat use, and spatial distribution (Carbyn 1975a, Mech 1977b, Rogers et al. 1980, Nelson and Mech 1981, Bergerud et al. 1984, Messier and Barrette 1985, Ballard et al. 1987, Messier 1994).

Smith et al. (2003) summarized wolf prey relationships in YNP for the first 6 years following reintroduction. Elk are the primary prey of wolves in YNP accounting for 92% of the kills recorded between 1995 and 2001. Wolf predation on elk in winter has been highly selective, with calves representing 43% of the kills while representing only 15% of the elk population. As mentioned above, wolves have selected very old adults with an average age of cow elk killed of 14

years (Mech et al. 2001). In addition, wolves in YNP prey on bison (*Bison bison*) and moose (*Alces alces*) although each species represents < 2% of the total winter diet (Smith et al. 2000). Preliminary results indicate that pronghorn (*Antilocapra americana*) fawn survival in YNP is positively correlated with wolf densities, probably resulting from reduced coyote densities (Smith et al. 2003). Only one kill of a bighorn sheep (*Ovis canadensis*) by wolves has been documented in YNP and very little impact is anticipated because wolves spend little time in the steep rocky terrain occupied by bighorn sheep. In addition, wolves in YNP have had very little impact on mule deer (*Odocoileus hemionus*) populations, probably because mule deer largely migrate out of the park during winter months, escaping the period when wolf predation is most intense, and many mule deer winter in areas that are close to human development, which are avoided by wolves (Smith et al. 2003).

### **Interactions with Non-Prey**

As top carnivores, wolves likely have substantial influences on other carnivores in the areas they occupy. However, except for coyotes (Fuller and Keith 1981, Carbyn 1982b, Meleshko 1986, Paquet 1991, Thurber et al. 1992, Peterson 1995, Arjo and Pletscher 1999) and red foxes (*Vulpes vulpes*) (Peterson 1995) interspecific competition between wolves and other carnivores has been the subject of very little investigation. Smith et al. (2003) summarized the observed impacts that wolves have had on predators and scavenger populations in YNP following reintroduction. The presence of wolves in Yellowstone has had profound impacts on coyote populations including reducing the density by 50% and reducing pack sizes. Besides coyotes, nine other species have been observed using wolf kills in Yellowstone; ravens (*Corvus corax*) and magpies (*Pica pica*) visit all kills and many non-winter kills are visited by both black (*Ursus americanus*) and grizzly bears (*Ursus arctos*). Wilmers and Getz (2004) concluded that the presence of wolves in YNP would benefit scavengers by providing a more tractable food resource. Cougar (*Puma concolor*) populations on the northern range of YNP have been intensively monitored throughout the period of wolf reintroductions, during which time the cougar population appears to have been slowly increasing. Interactions between wolves and cougars in Yellowstone have been rare, probably as result of differences in preferred habitats, but limited data indicates that cougars avoid wolves and are subordinate to wolves at kills (Smith et al. 2003).

### **Ecosystem Level Impacts**

Carnivores affect prey directly and indirectly, and ultimately exert an influence that cascades through the trophic levels of an ecosystem (Estes et al. 2001, Miller et al. 2001). Through predation, carnivores can reduce numbers of prey (Schoener and Spiller 1999) and, because prey animals change their behavior to avoid predation, carnivores also have an indirect effect (Schmitz 1998, Brown 1999). Long-term monitoring data from Isle Royale has shown that predation affects the number and behavior of moose, which consequently affects forest



species composition and soil nutrient dynamics (McLaren and Peterson 1994, Post et al. 1999).

The published literature on wolves demonstrates the complexity of inter-relationships between wolves, other carnivores, prey species, and the biotic and abiotic environment. Wolves can function as a “keystone species,” which exists at relatively low abundance and whose effect on its ecosystem is relatively large and involves multiple trophic levels (Power et al. 1996, Estes 1996, Soulé et al. 2003). Further, the absence of wolves from their former range may result in simplification of ecosystems (loss of species diversity) (Soulé et al. 2003). Recent studies in YNP suggest that wolves have a direct effect upon the abundance, distribution and age class of aspen and willows because wolf presence increases the vigilance and movement of large herbivores (Ripple and Beschta 2004).

### **Ecological Values**

Large predators, such as the gray wolf, may add to the integrity of many ecosystems (Estes 1996). Interactions between top-level carnivores and prey species through evolutionary time have shaped and fine-tuned each one morphologically and behaviorally into what they are today. In the absence of those functional relationships, ecological systems may be incomplete.

Top-level carnivores may speed up nutrient cycling, provide carrion for other species, cull sick or weak animals, influence the way prey species use the landscape (Beschta 2003, Ripple et. al 2001), and contribute to biological diversity as exhibited in YNP (USFWS et al. 2003). Broader habitat management and conservation purposes may also be served by the presence of large carnivores such as the gray wolf (Fritts et al. 1994).

### **The Unknown**

One of the most fundamental challenges of wolves returning to Utah is the uncertainty of the outcome. Biologists can only predict the effects of restored wolf populations on prey populations or other wildlife based on what is known from other places. The current uncertainty about the nature, cause, magnitude, and mechanisms of wildlife population fluctuations will be further complicated by the presence of wolves. Today, wolf-prey relationships are influenced by many factors, including habitat modification and fragmentation by humans, land management activities, changes in prey species distribution and numbers, economics, and social and political factors - all of which, individually, are highly dynamic. Predator-prey relationships generally, and wolf-prey relationships have been studied extensively in North America (Mech and Peterson 2003, NRC 1997); yet the results of each study were unique to the study area, as were the conditions prevailing at the time the research was conducted (e.g. predator species present, predator density, prey species present, prey density, winter severity, drought, etc.). Most of the western studies of wolf-prey relationships have been in situations where elk are the dominant ungulate. The situation in

Utah will be quite different with our relatively high population of mule deer. Consequently, obtaining Utah-specific information will be critical to the success of this plan.

## **Part II. Historic and Current Status of Wolves in the Intermountain West**

### **History**

The gray wolf historically occupied all of the Intermountain West; however, wolf populations were extirpated from the western U.S. by the 1930s. During 1940-1973, wolves from Canada occasionally dispersed south into Montana and Idaho but failed to survive long enough to reproduce. Subsequently, wolves received legal protection with the passage of the Endangered Species Act (ESA) in 1973 and began to successfully recolonize northwest Montana in the early 1980s. By 1995, there were six wolf packs in northwestern Montana. In 1995 and 1996, 66 wolves from southwestern Canada were reintroduced to Yellowstone National Park (YNP) (31 wolves) and central Idaho (35 wolves) (USFWS et al. 2004). These areas were selected for reintroduction due to their remote characteristics, low levels of human activity, and relatively large populations of wild ungulates.

### **Current Status and Distribution**

The Northern Rocky Mountain wolf population contains three recovery areas: the Northwest Montana Recovery Area (NWMT) includes northern Montana and the northern Idaho panhandle. The Greater Yellowstone Recovery Area (GYA) includes Wyoming and adjacent parts of Idaho and Montana. The Central Idaho Recovery Area (CID) includes central Idaho and adjacent parts of southwest Montana. Wolves in the three recovery areas are managed under different guidelines, depending upon their designated status under the ESA. In 2003, NWMT wolves were reclassified from endangered to threatened. However, a recent district court ruling in Oregon reversed the reclassification making wolves outside of the 10(j) area endangered again. GYA and CID wolves are classified as nonessential experimental (10(j)) populations; this status allows more flexible management than an endangered / threatened population. The USFWS, responsible for administering the ESA, believes that 30 or more breeding pairs of wolves, with an equitable distribution among the three states for three successive years, would constitute a viable and recovered wolf population. That criterion was met at the end of 2002 (Tables 2.1 and 2.2). The current distribution and population trend of wolves in the three recovery areas is depicted in figures 2.1 and 2.2. If other provisions required for delisting are met, primarily adequate regulatory mechanisms in the form of state wolf management plans that would reasonably assure that the gray wolf would not become threatened or endangered again, the USFWS will propose delisting (removal from protection under the ESA) of wolves in Idaho, Wyoming & Montana (USFWS et al. 2004). An additional 10(j) area has been designated for the Mexican gray wolf (*Canis lupus baileyi*) in Arizona and Mexico. The reintroduction of Mexican Gray wolves into their historic range in Arizona and New Mexico began in 1998 with their current numbers reaching more than 50 animals in the wild. Outside of the

designated 10(j) area the Mexican gray wolf is listed as endangered under the ESA.

Prior to the recent court ruling in Oregon the Northern Rocky Mountain wolf population and the Mexican wolf population were separated into distinct population segments (DPS) with the boundary following I-70 through Utah. The court ruling dissolved the DPS designations erasing the I-70 boundary. This situation may ultimately delay the delisting of wolves and therefore the implementation of this management plan. Until delisting, any wolves entering Utah are under the management authority of the USFWS and not subject to this management plan. Under State regulation wolves are currently listed as a Tier I (highest level of protection) sensitive species in Utah.

### **Wolf Management in the Intermountain West**

Wolf management in the Intermountain West essentially equates to management of livestock depredation and the success of wolf management will, in a large part, be judged by our ability to manage this inevitable conflict. In addition, the coordination of wolf management with the management of big game will be a significant factor relative to the success of wolf management in Utah. To a great extent, the success that managers have had in reestablishing wolves in the Northern Rockies is a result of a straightforward approach towards managing wolf-livestock conflicts that both compensates producers for their losses and provides managers a wide array of tools, ranging from non-lethal deterrent techniques to lethal control to deal with individual situations. Non-lethal techniques available to reduce wolf depredation on livestock include: (1) the use of guarding animals (i.e. dogs, donkeys, mules or llamas) (2) radio-activated guard (RAG) boxes which are programmed to make loud noises and set-off lights when a radio-collared wolf is near (3) the use of fladry (perimeter rope of vertical flagging that in some cases provides a temporary barrier) and (4) the use of non-lethal ammunition such as rubber bullets or bean bag rounds to haze wolves. Information on the relative success of these methods is largely anecdotal.

From 1987-2004 there have been 1,600 reported, confirmed wolf depredations on livestock (429 cattle, 1,074 sheep) and other animals (72 dogs, 25 other), which have resulted in 117 wolf translocations and 292 lethal wolf removals (Table 2.3) (USFWS et al. 2004). From 1987-2004, Defenders of Wildlife has paid \$475,771 in 373 separate reimbursements to ranchers for livestock losses caused by wolves (Defenders of Wildlife 2004) (Appendix 3). However, the Defenders' compensation program is not universally accepted and some livestock producers have opted not to participate. In an effort to better address the concerns of affected landowners caused by wolves in what USFWS considers a "biologically recovered wolf population" USFWS has proposed a new 10(j) rule that would provide States and Tribes, that complete federally-approved management plans, lead management authority for wolves in the experimental non-essential populations. Currently, Montana and Idaho have approved wolf management plans.

Table 2.1 Minimum fall wolf population estimates by recovery area for the Northern Rockies wolf population from 1979 – 2004 (USFWS et al. 2005)

Year:	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04
Recovery Area																										
NW Montana	2	1	2	8	6	6	13	15	10	14	12	33	29	41	55	48	66	70	56	49	63	64	84	108	92	59
Yellowstone																	21	40	86	112	118	177	218	271	301	324
Central Idaho																	14	42	71	114	156	196	261	284	368	452
<b>Total</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>8</b>	<b>6</b>	<b>6</b>	<b>13</b>	<b>15</b>	<b>10</b>	<b>14</b>	<b>12</b>	<b>33</b>	<b>29</b>	<b>41</b>	<b>55</b>	<b>48</b>	<b>101</b>	<b>152</b>	<b>213</b>	<b>275</b>	<b>337</b>	<b>437</b>	<b>563</b>	<b>663</b>	<b>761</b>	<b>835</b>

Table 2.2 Estimated number of breeding pairs, by recovery area, for the Northern Rockies wolf population from 1979 – 2004 (USFWS et al. 2005)

Year:	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04
<b>Recovery Area</b>																										
NW Montana								1	2	1	1	3	2	4	4	5	6	7	5	5	6	6	7	12	4	6
Yellowstone																	2	4	9	6	8	14	13	23	21	30
Central Idaho																		3	6	10	10	10	14	14	26	30
<b>Total</b>								<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>5</b>	<b>8</b>	<b>14</b>	<b>20</b>	<b>21</b>	<b>24</b>	<b>30</b>	<b>34</b>	<b>49</b>	<b>51</b>	<b>66</b>

Table 2.3 Confirmed wolf depredation and wolf management actions in the Northern Rockies by recovery area, 1987 – 2004 (USFWS et al. 2005)

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
<b>Northwest Montana</b>																			
<b>Recovery Area:</b>																			
Cattle	6	0	3	5	2	1	0	6	3	9	16	9	13	10	8	9	6	6	<b>112</b>
Sheep	10	0	0	0	2	0	0	0	0	0	30	0	19	2	5	13	3	1	<b>85</b>
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	5	0	1	<b>10</b>
Dogs	0	0	0	1	0	0	0	0	3	1	0	0	2	3	1	4	0	0	<b>15</b>
Wolves Moved	0	0	4	0	3	0	0	2	2	10	7	0	4	0	5	0	0	0	<b>37</b>
Wolves Killed	4	0	1	1	0	0	0	0	0	4	14	4	9	4	3	9	14	1	<b>68</b>
<b>Yellowstone Recovery Area:</b>																			
Cattle									0	0	5	3	4	7	22	33	45	100	<b>219</b>
Sheep									0	13	67	7	13	39	117	71	90	99	<b>516</b>
Other									0	0	0	0	1	0	0	0	10	4	<b>15</b>
Dogs									1	0	0	4	7	8	4	1	0	6	<b>31</b>
Wolves Moved									6	8	14	0	0	6	8	0	0	0	<b>42</b>
Wolves Killed									0	1	6	3	9	6	9	23	38	54	<b>149</b>
<b>Central Idaho Recovery Area:</b>																			
Cattle									0	2	1	9	16	15	10	10	3	22	<b>98</b>
Sheep									0	24	29	5	57	39	16	15	118	170	<b>473</b>
Other									0	0	0	0	0	0	0	0	0	0	<b>0</b>
Dogs									0	1	4	1	6	0	1	4	6	3	<b>26</b>
Wolves Moved									0	5	0	3	15	10	5	0	0	0	<b>38</b>
Wolves Killed									0	1	1	0	5	10	7	14	7	30	<b>75</b>
<b>Total, All 3 Recovery Areas:</b>																			
Cattle	6	0	3	5	2	1	0	6	3	11	22	21	33	32	40	52	64	128	<b>429</b>
Sheep	10	0	0	0	2	0	0	0	0	37	126	12	89	80	138	99	211	270	<b>1074</b>
Other	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	5	10	5	<b>25</b>
Dogs	0	0	0	1	0	0	0	0	4	2	4	5	15	11	6	9	6	9	<b>72</b>
Wolves Moved	0	0	4	0	3	0	0	2	8	23	21	3	19	16	18	0	0	0	<b>117</b>
Wolves Killed	4	0	1	1	0	0	0	0	0	6	21	7	23	20	19	46	59	85	<b>292</b>

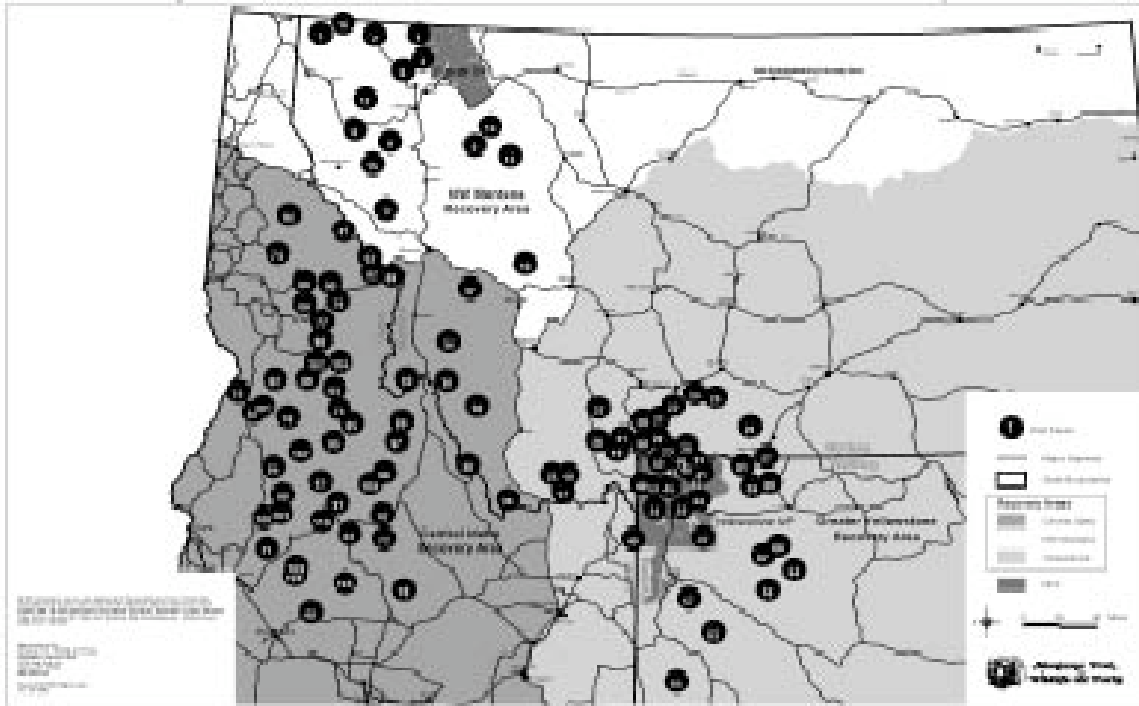


Figure 2.1 2004 distribution of wolves within the Northern Rockies (USFWS et al. 2005)

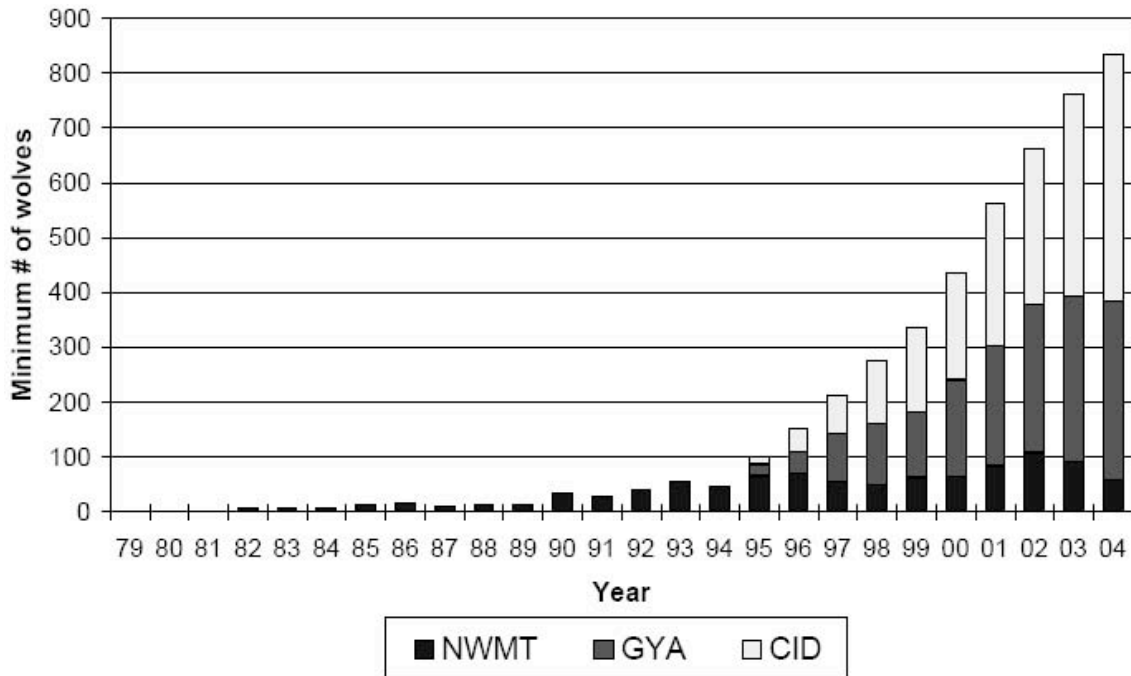


Figure 2.2 Wolf population trend in the Northern Rockies, 1979 – 2004 (USFWS et al. 2005)



## **Part III. Wolves In Utah**

### **Utah's Environment and Wolves**

Switalski et al. (2002) evaluated potential dispersal corridors for wolves into Utah from Idaho and Wyoming and potential habitat for wolves in Utah through a geographic information systems (GIS) analysis. This analysis identified high connectivity of intact habitat between occupied wolf habitat and the both the Bear River Range and Flaming Gorge National Recreation Area. The analysis of potential wolf habitat in Utah concluded that most forested, mountainous habitat in Utah has the potential to support wolves. However, high road densities resulted in many areas being classified as only marginal habitat. Despite this, a number of relatively large potential core areas were identified. Although valuable, this analysis did not include the potential for conflict with livestock in the model of potential wolf habitat; wolf-livestock conflict has been the most significant factor restricting the expansion of wolf populations and the establishment of new packs in the northern Rocky Mountains.

Wolves moving into Utah will inevitably impact wildlife populations. However the level and direction of these impacts will likely vary by species. Table 3.1 documents the current trend, status (in relation to management objectives) and potential impacts of wolves on Utah's wildlife populations. In addition, wolf-livestock conflicts are a potential limiting factor to wolf establishment in Utah. Table 3.2 documents the abundance, trend and distribution of sheep and cattle in the State.

### **Potential Economic Impact of Wolves**

Switalski et al. (2002) also looked at the potential economic impacts of wolves in Utah and although the analysis is admittedly incomplete some generalizations were made. First, other studies (Rosen 1997, Gaillard et al. 1999) suggest that the presence of wolves in Utah might have a beneficial impact on Utah's tourism industry. Second, direct costs associated with having wolves in Utah include: (1) agencies costs associated with management, (2) livestock losses due to depredation, and (3) costs associated with reduced hunting opportunities. Switalski et al. (2002) estimated that the costs associated with wolf management in Utah would not exceed \$130,000 annually and the costs associated with livestock depredations would be about \$47,000 annually based on a wolf population of 200 animals. However, it is anticipated that there will not be more than 25 wolves in Utah during the life of this management plan so if these estimates are accurate, actual costs will substantially lower.

Table 3.1 Status of Utah's wildlife communities and the potential impacts of wolves on these communities.

Species	Abundance	Distribution	Limiting Factors / Conservation Issues	Trend	Management Objectives	Potential Impacts of Wolves
<b>Ungulates</b>						
Deer	268,180*	Statewide in montane and shrub-steppe habitats	Habitat loss / degradation, Winter Kill, Predation, Drought, Sagebrush die offs, Private property depredation, Disease	5 year: Down 20 year: Down	Population: 426,100 Habitat: Conserve / Improve Recreation: Increased opportunity and quality	Little population level impact expected based on the results of wolf reintroductions in YNP and Idaho (Smith et al. 2003), however local herds could experience reductions
Elk	58,025*	Statewide in montane and shrub-steppe habitats	Habitat loss / degradation, Predation, Drought, Sagebrush die offs, Private property depredation, Disease	5 Year: Down 20 Year: Up	Population: 68,400	Local population reductions assuming wolves in Utah prey primarily on elk as they have in the Northern Rockies
Moose	3,400**	Uinta and Wasatch Mountains	Habitat availability / suitability, Habitat loss / degradation, Predation	5 Year: Stable 20 Year: Up	Population: 4,100 Habitat: Conserve Recreation: Increased opportunity and quality	Little population level impacts expected although may be a locally important food source based on results in YNP and Idaho following wolf reintroduction (Husseman and Power 1999, Smith et al. 2003)
Bighorn Sheep	3,460***	Statewide within suitable habitat	Disease, Predation, Habitat loss / degradation,	5 Year: Up 20 Year: Up	Population: 5,300 Habitat: Conserve / Improve Recreation: Increased opportunity and quality Population: None	Little to no impact expected because wolves avoid the rugged habitats inhabited by bighorn sheep (Smith et al. 2003)
Pronghorn	12,000*	Statewide within suitable habitat	Drought, Sagebrush die offs	5 Year: Down 20 Year: Up	Habitat: Conserve / Improve Recreation: Increased opportunity and quality	Little to no impact expected
<b>Predators/ Scavengers</b>						
Black Bear	3,000	Statewide in most suitable habitat	Drought, Habitat loss / degradation, Livestock conflicts, Human conflicts / nuisance, Harvest	5 Year: Stable 20 Year: Up	Maintain populations and increase distribution into unoccupied suitable habitat	Long term positive impact because of increased scavenging opportunities (Smith et al. 2003)
Cougar	3,000	Statewide in suitable habitat	Habitat loss / degradation, Livestock conflicts, Harvest	5 Year: Down 20 Year: Up	Maintain healthy populations within existing occupied habitat	None expected
Bobcat	No estimate	Statewide in suitable habitat	Habitat availability, Prey density, Harvest	5 Year: Down 20 Year: Stable	Maintain healthy populations	None expected
Coyote	100,000	Statewide	None	5 Year: Down 20 Year: Stable	None	Possible negative impact as a result of interspecific aggression (Smith et al. 2003)
Scavengers	No estimate	Statewide	None identified	5 Year: Unknown 20 Year: Unknown	None	Positive long term impact as a result of increased scavenging opportunities (Smith et al. 2003)

\* 2003 Population estimate, \*\* 2000 Population estimate, \*\*\*1999 Population estimate

Table 3.2 Cattle and sheep abundance, trend and distribution in Utah.

Species	Abundance*	Trend	Distribution**
Cattle	901,000	Stable or slightly down	Northern: 292,000 Central: 254,500 Eastern: 193,500 Southern: 130,000
Sheep	335,000	Down	Northern: 76,500 Central: 87,500 Eastern: 53,000 Southern: 40,500

\* Average 1997-2004 (Utah Agricultural Statistics Service 2004)

\*\*Average 2003-2004 (Utah Agricultural Statistics Service 2004)

## Part IV. Stakeholders and Wolves

### Background

Wolves and wolf management are contentious topics in Utah and across the Intermountain West. With the reintroduction of gray wolves to a northern Rocky Mountain recovery area within Wyoming, Idaho and Montana in 1995 and 1996, and the subsequent reintroduction of captive-bred Mexican gray wolves (a subspecies endemic to the region) within a recovery area in Arizona and New Mexico, this topic has grown even more controversial. The presence of wolves documented in Oregon, Utah and Colorado has given rise to the need to involve the people of Utah in wolf conservation and management, and the need to develop a plan that is responsive to Utah needs.

### Scoping Meetings

With the growth of reintroduced wolf populations, especially in the Northern Rocky Mountains, the wolf controversy has become an important issue for the State of Utah. In March 2004, UDWR and the WWG conducted a series of public scoping meetings in Utah communities. This section provides a summary of public comment obtained through those meetings.

It is important to note that the purpose of the scoping meetings was to identify issues that would be important in the development of the wolf management plan, and to gain some idea of the relative importance of these issues to the people who attended the scoping meetings. Therefore, the results from these meetings should not be extrapolated to any larger population.

### Overall Summary of the Top Issues

Top issues, by definition, are those that were among the top three identified by one of the independent work groups during one of the public meetings. Many identical or very similar issues were identified at more than one meeting.

#### Prioritized Top Issues

The following is a listing of top issues from all locations, in descending order of frequency. In order to be included on this list, the issue must have been selected as a top issue by one of the independent working groups and been selected in the prioritization process. The following criteria were used to summarize these issues:

**Issues that were selected 100 or more times are in bold and underlined.**

**Issues that were selected 75-99 times are in bold.**

*Issues that were selected 50-74 times are in italics.*

Issues that were selected less than 25-49 times are in regular font. Issues that were selected less than 25 times are not included. A complete list of all top issues appears in Appendix 5.

#### **Opposition to wolves in Utah**

Creating a safe area for wolves in Utah

Support for wolves in Utah

Positive impacts of wolves on biodiversity, etc.

Need for sound science in planning, management  
Livestock depredation  
Impact on current game populations, license revenue  
Creating a balanced plan

### **Overall Summary of the Top Advice**

Top items of advice, by definition, are those that were among the top three identified by one of the independent work groups during one of the public meetings. Many identical or very similar items were identified at more than one meeting.

### Prioritized Top Advice

The following is a listing of top items of advice from all locations, in descending order of frequency. In order to be included on this list, the item must have been selected as a top item by one of the independent working groups and been selected in the prioritization process. The following criteria were used to summarize these items:

### **Items that were selected 100 or more times are in bold and underlined.**

**Items that were selected 75-99 times are in bold.**

*Items that were selected 50-74 times are in italics.*

Items that were selected 25-49 times are in regular font. Items that were selected less than 25 times are not included. A complete list of all top items of advice appears in Appendix 5.

### **Do not allow wolves in Utah.**

**Manage wolves as predators – eliminate protection.**

*Identify, protect and manage quality native ecosystems for wolves and prey.*

*Allow wolves in Utah.*

Implement public education programs on wolves, wolf issues.

Base the plan and management on science.

### **Survey of Public Attitudes**

A survey of over 700 Utah residents (Bruskotter 2004) concluded that Utah citizens were generally positive in their attitudes about wolves and wolf management. Attitudes were “remarkably stable” compared to an earlier survey (La Vine 1995).

Results of the survey suggest that the attitudes of Utah urban residents are considerably different than the attitudes of rural residents and big game hunters. As shown in Table 4.1 below, significantly more urban residents than rural residents or big game hunters say that they like wolves and believe wolves are a necessary component of a healthy ecosystem. Likewise, more rural residents and many more big game hunters believe that wolves are a threat to big game and livestock, that wolf numbers should be kept low to minimize their impacts, and that Utah is better off without wolves. Urban residents are much more likely than rural residents or big game hunters to believe that it is wrong to hunt wolves for fur and trophies. They are also much more likely to indicate that they would like to see wolves in Utah.

Table 4.1. Summary of Utahns' attitudes toward wolves.

Response Item	Urban	Rural residents (north)	Rural residents (south)	Big game hunters
What best describes your attitude toward wolves? (% "Like")	61.5	47.3	39.7	43.0
Wolves are a necessary component of a healthy ecosystem. (% "Agree")	71.2	52.8	51.5	39.9
Wolves kill and therefore pose a threat to livestock and big game. (% "Agree")	24.4	41.6	44.4	55.2
Wolf numbers should be kept low to minimize their impacts on human activities. (% "Agree")	49.0	59.6	60.7	74.5
Utah is better off without wolves. (% "Agree")	20.5	37.4	33.6	43.5
It is wrong to hunt and trap wolves for furs and trophies even where they're common. (% "Agree")	47.5	33.8	36.0	23.9
I would like to see wolves in Utah. (% "Agree")	56.9	41.5	42.3	40.2

Still, these differences in attitude between urban Utahns, rural Utahns and big game hunters should not be over-simplified. While it is true that both northern and southern rural residents were less supportive of wolves overall, the survey indicates that there is support for wolves in rural Utah.

Consider the sample of northern rural residents. For example:

- Significantly more indicated that they "liked" wolves than "disliked" wolves.
- Significantly more indicated that they "agreed" rather than "disagreed" that wolves were a necessary component of a healthy ecosystem.
- More "disagreed" than "agreed" that Utah would be better off without wolves.
- Slightly more "agreed" than "disagreed" that they would like to see wolves in Utah.

Some similar attitudes were observed in southern rural residents. In this case:

- More indicated that they "liked" wolves than "disliked" wolves.
- Significantly more indicated that they "agreed" rather than "disagreed" that wolves were a necessary component of a healthy ecosystem.
- More "agreed" than "disagreed" that they would like to see wolves in Utah.

Big game hunters sampled in this survey were, in general, the least supportive group toward wolves. While slightly more indicated that they "liked" wolves than "disliked wolves", they also indicated disagreement with the idea that wolves were a necessary component of a healthy ecosystem. They indicated strong concern about potential impacts of wolves on big game and livestock, and a strong desire to keep wolf numbers low to minimize impacts. Slight pluralities

agreed that Utah was better off without wolves and disagreed that they would like to see wolves in Utah.

Rural and urban residents were very similar in their attitudes with respect to wolf management. For example, both groups strongly supported the idea that state wolf managers should be able to kill wolves that kill pets or livestock. Few in either group indicated that wolf managers should “never” be able to kill wolves. Both agreed that the top priority of wolf management in Utah should be to minimize negative economic impacts and minimize livestock-wolf conflicts.

A more complete description of Utahns’ attitudes towards wolves and wolf management is presented in Appendix 4 and 5.

In summary, the qualitative results of the scoping meetings and the quantitative results of a scientific survey present two very different pictures. A strong majority of those who attended the meetings were very much opposed to wolves in Utah. This attitude is not reflected in the results of the survey. It is likely that the attitudes of those who attended the scoping meetings are not representative of the attitudes of all Utahns on this topic.

Most Utah residents are urban residents. In general, urban Utahns are more positive than rural residents or big game hunters toward the concept of wolves in their state. They are strongly in agreement about the management actions that might be acceptable for wolves, and generally in agreement about what the goals of wolf management in Utah should be, and on the issues of economic impacts and the related issues of minimizing impacts to livestock and big game. There is a substantial group, while not a majority, that opposes wolves in Utah.

The scoping meetings suggest that Utahns who attended these meetings were mixed in the top issues they identified in regard to wolves and wolf management. The top issue identified was opposition to wolves. However, immediately below that issue were issues that involved creating a safe area for wolves, support for wolves and the positive impacts associated with wolves. Below that, were a host of concerns that can be summarized in at least six categories:

- Wolf/human interactions and their impacts on both humans and wolves;
- Conducting wolf monitoring and research programs;
- Wolf/wildlife interactions and their impacts on both wolves and wildlife;
- Livestock depredation and compensation for livestock owners;
- Funding for wolf management; and
- Developing and implementing information/education (outreach) programs.

The top advice identified by these scoping meetings was similar in nature. By far, the top advice offered to UDWR and the WWG was to not allow wolves in Utah or to manage wolves as predators. Again immediately below that were items of advice that were supportive of wolves and the protection of wolves and wolf habitat in Utah. Advice regarding the content of the plan and the six concerns noted above constituted the majority of the remaining advice.

It should not be concluded that the sentiments expressed at the scoping meetings were representative of any larger population than those people who attended these meetings. The qualitative results of the meetings suggest that there is a very vocal segment of the Utah population that is strongly opposed to wolves in Utah, but that another constituency strongly supports wolves. The quantitative results of the survey suggest that support exists across demographic sectors for wolves and wolf management, but that opposition is strongest in big game hunters.



## **Part V. Management Plan Purpose, Objectives, and Strategies**

### **Purpose**

Within the authority of the State of Utah, this plan will guide management of wolves in Utah during an interim period from delisting until 2015, or until it is determined that wolves have established<sup>1</sup> in Utah, or assumptions of the plan (political, social, biological, or legal) change. During this interim period, arriving wolves will be studied to determine where they are most likely to settle without conflict.

### **Management Goal**

To manage, study, and conserve wolves moving into Utah while avoiding conflicts with the wildlife management objectives of the Ute Indian Tribe; preventing livestock depredation; and protecting the investment made in wildlife in Utah.

### **Management Objectives**

1. Allow wolves to disperse into Utah, and be conserved, except when or where:
  - Wolves conflict with the wildlife management objectives of the Ute Indian Tribe;
  - Wolves cause unacceptable livestock depredation; or
  - Wolves contribute to wildlife populations not meeting management objectives as defined by the Utah Wildlife Board's Predator Management Policy.<sup>2</sup>
2. Fully compensate livestock owners for losses of livestock to wolves.

### **Management Strategies**

These strategies will guide management of wolves in Utah during three specific time frames:

- Pre-plan: Prior to the implementation of the wolf management plan;
- Prior to delisting: While wolves are still listed under the federal Endangered Species Act; and
- Post-listing: From delisting until 2015, or until it is determined that wolves have established in Utah, or assumptions of the plan (political, social, biological, or legal) change.

---

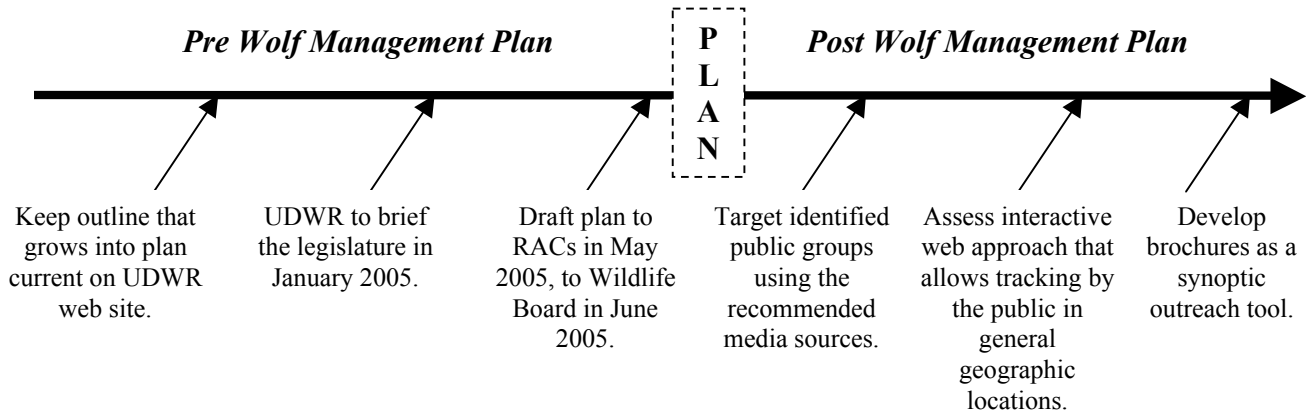
<sup>1</sup> "Established" is defined as "at least 2 breeding pairs of wild wolves successfully raising at least 2 young each (until December 31<sup>st</sup> of the year of their birth), for 2 consecutive years." [USFWS, Reintroduction of Grey Wolves into Yellowstone National Park and Central Idaho, Final EIS, May 1994, US Fish and Wildlife Service, Helena, MT; Pages 6-66 and 6-67 in [Appendix 8: Memorandum Regarding Definition of a Wolf Population](#). From EIS Team Wolf Scientist and Northern Rocky Mountain Wolf Recovery Coordinator, March 11, 1994.]

<sup>2</sup> "Managing Predatory Wildlife Species" dated January 19, 1996.

**Strategy I: Develop and implement outreach programs.**

Outreach efforts will be developed and implemented in three phases. First, it is important to conduct outreach efforts as the plan is being developed. These efforts will keep Utah citizens and other interested parties involved in the process and increase broad-based support for the plan that is developed.

Second, it will be important to conduct outreach efforts as the plan moves through the Regional Advisory Councils and to the Wildlife Board. These efforts will ensure that the voices of all concerned parties are heard during this process. Finally, it will be important to conduct ongoing outreach efforts as the plan is being implemented. The following diagram illustrates the outreach timeline.



As this Wolf Management Plan is implemented, it will be necessary to identify and address the broad array of questions concerning wolves and their impacts on livestock, wildlife, and humans. Because wolf management procedures will be closely scrutinized, a balanced approach must be built that acknowledges the complexity of the political, social, and environmental factors associated with wolves and their management.

Specific constituencies targeted for outreach efforts include:

- Members of the general public;
- Sportsmen & wildlife watching groups, including but not limited to: the Cooperative Wildlife Management Unit (CWMU) Association, Utah Nature Conservancy, Sierra Club, Utah Audubon Council, National Rifle Association, Foundation for North American Wild Sheep, Boone & Crockett Club, Pope & Young Club, Sportsmen for Fish and Wildlife, Rocky Mountain Elk Foundation, Trout Unlimited, Ducks Unlimited, Utah Wildlife Federation, etc.
- Utah Department of Tourism’s Utah Travel Council;
- Livestock producers, via the Woolgrower’s Association, Cattlemen’s Association, and Utah Farm Bureau;
- Elected officials, including Utah’s congressional delegation, Utah legislators, Association of Governments, county commissioners, and municipal leaders;

- Education community, including K-12 schools, community colleges, state colleges and universities;
- Other government entities, including federal agencies such as the Bureau of Land Management (BLM), US Forest Service (USFS), Natural Resource Conservation Service (NRCS) state agencies such as School and Institutional Trust Lands Administration (SITLA), and those within the Ute Tribe.
- Other established groups who have an interest in wolves dispersing to Utah.

These targeted groups should in turn provide their members and interested parties information pertaining to wolf management.

To facilitate outreach efforts, a variety of media sources are available. These sources should be involved in regular updates on the status of wolf management, as well as special segments to educate the public on the wolf when timely or appropriate. The following media sources are available for this purpose:

- Newspapers (47 of which 6 are daily);
- Television (13 stations--channels 5, 2, 4 & 13 are most viewed);
- Radio [over 28 are regularly contacted by the Utah Division of Wildlife Resources' (UDWR) Discover Utah Radio Program];
- UDWR magazine and UDWR television program;
- Constituent group newsletters;
- UDWR Wildlife News (weekly press release to nearly 280 writers);
- UDWR website (1.3 million visits/year), which should provide timely updates, and facilitate an electronic subscription process for Wildlife News;
- UDWR brochures; and
- Direct presentations by UDWR and the Wolf Working Group (WWG) prior to plan release.

*Note: UDWR will fund & conduct the aforementioned and also seek partners to broaden outreach efforts.*

**Strategy II: Manage wolf/human interactions to benefit both humans and wolves.**

The WWG expects that for the duration of this initial Wolf Management Plan there will be few, if any, human/wolf interactions beyond those attendant to livestock depredation, due to the low number of wolves expected and the nature of dispersing wolves. When these interactions occur, they are envisioned as being both positive experiences (wolf viewing opportunities) and potentially negative experiences (wolves killing hunting dogs, wolf habituation to humans). A plan to manage those interactions should be proactive and may be important to gaining public acceptance for wolf conservation in Utah.

The UDWR will adopt a 3-level response for wolves (similar to that defined in the management plans for bears and cougars) that addresses nuisance, chronic nuisance and human safety responses.

### **Nuisance and Chronic Nuisance Responses**

Nuisance and chronic nuisance wolves may be harassed, trapped and relocated or aversively conditioned (e.g., less than lethal munitions) according to established protocol.

### **Human Safety Response**

Wolves that pose a direct threat to human safety will be lethally removed.

### **Implementation**

The UDWR and the U.S. Department of Agriculture-Wildlife Services (USDA-WS) will work with private landowners and land managing agencies to mitigate negative impacts due to wolves. In general, the presence of wolves will not initiate a UDWR request for public land closures and/or allocations, with the possible exception of small, seasonal restrictions to protect dens and rendezvous sites. The size and timing of these restrictions should be developed to meet specific needs by the UDWR and USDA -WS and the appropriate land management agencies. UDWR and these agencies will retain emergency authority to address legitimate human safety concerns (e.g., an aggressive wolf in a camp area), but these restrictions, like those used for bears, would be for a short period of time and limited in scope.

Additionally, the use of hounds for cougar and bear hunting will not be curtailed due to wolves. Hounds killed by wolves are included under the compensation program, but wolves that kill hounds (during the act of hunting) will not be removed.

Recreational and commercial trapping of protected and unprotected furbearers will not be curtailed due to wolves, but seasonal restrictions may be appropriate to protect den and rendezvous sites. The UDWR will develop a contingency plan to deal with incidental captures of wolves by commercial and recreational trappers, including protocols (e.g., radio collaring, medical attention and relocation) as appropriate. The Division will coordinate with the Utah Trappers Association to address their concerns.

The UDWR and USDA-WS will participate in proactive strategies to preclude the habituation of wolves to humans. This may include educational programs for rural residents, collaborating with land managing agencies to prevent "campground wolves," removing road-killed wildlife if wolves begin feeding on the carcasses, and training personnel in appropriate responses (e.g., less than lethal munitions, radio-activated guard (RAG) boxes, etc.).

When wolves are confirmed in an area, a communications plan will be implemented that protects information regarding the location of the wolves to

preclude unnecessary harassment (from either a wolf viewing public or would-be wolf shooters). This information will be shared with members of the local community at a level that educates them, but does not negatively impact the wolves.

### **Strategy III: Develop and implement wolf monitoring and research programs.**

To the extent practical, every wolf identified in Utah will be radio-collared and monitored, consistent with the livestock depredation policy. In doing so, the use of global positioning system (GPS) collars will be a priority.

Additionally, a comprehensive protocol will be developed for procedures to be followed when a wolf is handled. This protocol will include, at a minimum, procedures for minimizing stress to the animal during handling, as well as for determining the health of the animal, and for collecting relevant biological data (e.g., age, sex, blood and DNA samples).

### **Training**

In terms of preparation to support this monitoring, UDWR field personnel and USDA-WS personnel will be trained in methods for field identification of wolves (i.e. howling, visual ID, scat, tracks). Similar training will take place among other reliable sources for wolf sighting information (e.g., USFS, BLM, trappers), and will be offered to livestock producers and hunters. A more intensive training for a subset of DWR and USDA-WS field personnel will occur, to include implementation of the protocol for handling wolves described above, as well as other relevant skills.

### **Programs**

UDWR and WS will develop a “reactive response” program to verify reported wolf sightings. As wolf numbers increase, it may be appropriate to actively search for the presence of wolves in certain areas. UDWR will maintain a comprehensive database of relevant wolf information, such as:

- wolf sightings,
- current wolf locations,
- wolf movements,
- relevant biological data, and
- results of any wolf-related investigations.

UDWR will also coordinate tracking and monitoring efforts with the appropriate agencies from surrounding states.

Additional monitoring will occur as UDWR monitors pre- and post- wolf arrival patterns. To the extent practicable, baseline data (i.e., numbers & distribution) will be established for big game herds and livestock before wolves arrive. When wolves frequent a given area, the UDWR will monitor that area to determine whether wolves are impacting big game herds and livestock, and to what extent. If one or more mating pairs form, UDWR will be prepared to locate and monitor den sites and assess reproduction.

### **Reporting and Expansion**

UDWR will publish a comprehensive annual report including the activities under this section, to be available for members of the public, organizations, and agencies.

Finally, when wolves disperse into or near Utah, the above activities described under this strategy will be implemented to include those wolves.

### **Strategy IV: Manage wolf/wildlife interactions to meet the objectives of this plan.**

The State of Utah has been successful in managing big game populations. Currently there are approximately 280,000 mule deer in Utah. The 2008 objective for mule deer is 320,000, with a long -term objective of 426,100. There are currently approximately 58,000 elk in the state. The statewide objective for elk is 68,000. There are currently about 1,000 Rocky Mountain bighorn sheep and 4,000 moose in Utah.

Hunters and hunting organizations have been instrumental in this success. With political support and funding from these organizations, big game numbers have increased, as has big game harvest. For example, in the mid-1980s, Utah's overall elk harvest was approximately 4,000 animals. Today, Utah hunters harvest over 10,000 elk annually; many of which are trophy class bulls. Considerable investments are being made to improve habitat conditions on public and private lands to maintain and increase big game populations.

High percentages of these animals depend on public BLM and National Forest lands. However, in northern Utah especially, large areas of private land provide big game habitat and are managed for fee hunting under the State's CWMU program.

For at least the next ten years, it is the opinion of wolf experts in Idaho and Wyoming that any wolves in Utah will be dispersing individuals and it is unlikely that packs will be formed in that time period.<sup>1</sup> Therefore, it is believed that impacts to big game should be negligible during this 10 year period.

---

<sup>1</sup> Steve Nadeau (Idaho Fish and Game Department) presentation to the Utah Wolf Working Group, 29 June 2004. Doug Smith (National Park Service) presentation to the Utah Wolf Working Group, 27 July 2004.

As observed in scoping meetings hosted by the WWG, many Utahns of diverse backgrounds, opinions, and interests believe that Utah could support some wolves without adversely impacting overall big game populations. However some stakeholders fear that once wolves arrive in Utah, organized groups, within and outside Utah, will take legal or administrative actions to prevent any control actions that are necessary to manage wolves and protect big game.

In central Idaho and in the Yellowstone area, where wolves were transplanted from Canada, their population growth has exceeded expectations. It is believed that in both locations the populations may have peaked, and may stabilize or even decline to levels that are in balance with prey and available habitat. In central Idaho and in the Yellowstone area, wolf predation has probably been a factor in localized elk population declines. It should, however, be noted that big game populations are affected by a host of factors, including drought, winter severity, birth rates, and natural and human causes of mortality. As a natural cause of mortality, wolf predation will be included in big game management decisions.

### **Influence on Wildlife Management**

Intrinsic to the management of wolves in Utah is the ability to protect the investments made in wildlife management efforts. Wolves in Utah will be opportunistic feeders, preying on available big game, primarily elk and mule deer. The impact that wolves have on big game will not necessarily be related to the number of wolves in Utah. To mitigate these adverse effects, should they occur, investments of funds, personnel time, and volunteer efforts may be necessary.

Under this plan, when de-listed by the U.S. Fish and Wildlife Service, wolves in Utah will have the same legal management status and be subjected to the same UDWR predator management policies as the black bear and cougar.<sup>1</sup> The UDWR will have the responsibility to recommend and/or implement actions that are necessary to manage wolves, including a full range of conservation and control actions, consistent with House Joint Resolution (HJR) 12.

There is overall agreement amongst biologists in Utah and in the northern Rockies that, if necessary, wolf populations can be controlled with available techniques. It is not likely that the UDWR will ever have the level of information necessary to definitively determine the effects wolves are having on big game. Just as with cougars and bears, professional judgment will be important in considering management options.

Wolves will be controlled or populations reduced when they cause unacceptable impacts to big game. At the UDWR Director's discretion, an emergency management action may be implemented for wolves preying on populations of

---

<sup>1</sup> For the cougar management plan, see <http://www.wildlife.utah.gov/pdf/cmgtplan.pdf> .  
For the bear management plan, see <http://www.wildlife.utah.gov/bear/pdf/00bearplan.pdf> .

wildlife that are being re-established, and/or are at low levels. Such an action might include non-lethal control, such as relocation, or lethal control actions.

### **Recommendations**

To implement this strategy, the UDWR will consider having an employee who can dedicate an appropriate amount of their time to wolf management. Similarly, the Northern and Northeast Regions of UDWR will consider having at least one wildlife biologist who is available to field verify credible wolf sightings and investigate wildlife and livestock losses suspected of being caused by wolves.

This plan recommends that the UDWR and the Legislature establish a compensation/incentive program for CWMU operators to foster tolerance for wolves on their CWMU units.

In the event that wolf predation causes a loss of big game hunting opportunity (antlered or antlerless) or decreased age class of male animals, the Utah Wildlife Board has instructed DWR to take the necessary actions to correct the situation.

The Utah Wildlife Board recommends that the legislature establish a fund to mitigate the impacts of wolf predation on big game populations. This fund will be used by DWR to mitigate the impacts that wolves might have on the investment made by DWR and its partners in establishing and enhancing Utah's big game populations. This fund will not be used to reimburse conservation organizations. It is recommended that this fund be in addition to the traditional DWR appropriation of general fund money.

### **Strategy V: Control livestock depredation and fully compensate livestock owners for losses of livestock to wolves.**

#### **Preventing Livestock Depredation**

The first opportunity to avoid wolf conflicts with domestic livestock may be in prevention before conflicts occur. In some instances, non-lethal management tools can effectively address depredation concerns and are the most cost-effective, least intrusive method of managing conflict. If successful, non-lethal methods may also eliminate the need for more intensive management actions later. A number of non-lethal techniques may be implemented, including monitoring wolf locations using radio telemetry or other techniques, changing livestock husbandry practices, harassing or relocating wolves, or attempts to modify wolf behavior. Both aversive and disruptive techniques are available. Aversive techniques cause discomfort or pain to the wolf after it demonstrates certain behaviors. Examples include rubber bullets, taste aversion or electric shock collars. Disruptive techniques are designed to prevent some predator behaviors by making the predator retreat, rather than prey on livestock. Examples include pasture fencing, noise makers or siren devices triggered when a wolf approaches livestock too closely. Information on the relative success of these techniques is largely anecdotal. While these techniques may not be effective in all situations, they may present an important tool for livestock producers and wolf managers in Utah for the life of this plan.



The following section deals with depredation actions. Depredation situations cannot always be controlled by non-lethal means. Conversely, not every depredation situation immediately necessitates lethal action. In crafting these protocols, the WWG has endeavored to meet the intent of HJR-12 by balancing the need to conserve wolves with the need to protect livestock and livestock producers. The intent in allowing livestock producers to non-lethally harass wolves is to avert potential conflicts by discouraging wolves from becoming accustomed to human presence or frequenting areas near livestock.

### **Depredation Actions**

Dealing with depredation caused by wolves is likely to remain a contentious issue among the public as management authority is given to the state and wolf populations grow. It is important to note that the goal of depredation management is to prevent losses of livestock, and not to “punish” offending wolves. That is, it is of paramount importance to keep Utah livestock producers from losing livestock by keeping wolves and livestock separate, by conditioning wolves to avoid livestock where possible, and by controlling wolves by both non-lethal and lethal means where necessary. It is further important to note that responsive management in this area is critical to wolf conservation.

Landowners and livestock producers have a lot at stake during this stage of dispersing wolves and the potential establishment of wolf packs. Livestock production is a historic livelihood and continues to be an important part of the economy and culture of our state. The livestock industry recognizes that depredation is a risk and reality within the industry. As such, to minimize depredation and "prevent livestock depredation." as quoted in HJR-12. Livestock owners, immediate family members and employees of livestock owners should be allowed to protect the investments and assets of their livestock-operation

Livestock owners should not be required to obtain a permit or participate in training prior to protecting their investments. Further, it should be recognized that livestock owners are voluntarily and wisely practicing non-lethal control measures to protect livestock from wolves and other predators. As such, livestock owners should not be required to follow specific non-lethal control measures prior to using lethal controls to protect livestock. However, UDWR and USDA-WS will provide voluntary training on non-lethal control options for livestock owners, their employees and other interested parties.

Livestock owners or landowners who take actions against wolves (with or without permit) will be required to report the incident within 72 hrs and an investigation will be conducted to assure the action was appropriate. General wildlife protection rules will preclude harassment of wolves by non-livestock owning public.

During their efforts to comply with the National Environmental Policy Act (NEPA) process, Utah WS will consider methods to reduce the incidental take of wolves during coyote control.

Below are the management actions that will be implemented in a variety of wolf-livestock interactions on both public and private lands for state-managed gray wolves. In each case, the implementation of management actions is assumed to be in ascending order of intensity. For example, in the case of a wolf sighting (without livestock harassment, chasing, biting, grasping, etc.) on private land, a livestock owner should consider non-injurious harassment prior to use of injurious harassment or lethal control.

#### Private and Public Lands

- Sighting, hearing, or tracks only:
  - ✓ Report to agency (DWR or WS) if concerned.
  - ✓ Non-injurious harassment allowed.
  - ✓ Professional consultation with agency if requested.
  - ✓ Lethal control not an option.
  
- Harassment of Livestock (*defined as chasing, actively disturbing or harming*):
  - ✓ Report to agency (DWR or WS) if concerned.
  - ✓ Non-injurious harassment allowed.
  - ✓ Injurious harassment (rubber bullets, etc.) without a permit
  - ✓ Professional consultation with agency if requested.
  - ✓ Lethal control allowed without a permit by livestock owners, immediate family members or an employee of a livestock owner on a regular payroll, and not hired specifically to take wolves. Action must be reported to UDWR within 72 hours.
  
- “In the Act of” (*biting or grasping*):
  - ✓ Report to agency (UDWR or WS) if concerned.
  - ✓ Non-injurious harassment allowed.
  - ✓ Injurious harassment (rubber bullets) without permit.
  - ✓ Professional consultation with agency if requested.
  - ✓ Lethal control allowed without a permit by livestock owners, immediate family members or an employee of a livestock owner on a regular payroll, and not hired specifically to take wolves. Action must be reported to UDWR within 72 hours.
  
- Confirmed Loss:
  - ✓ Report to Agency (UDWR or WS) if concerned.
  - ✓ Non-injurious harassment allowed.
  - ✓ Injurious harassment (rubber bullets) without permit.
  - ✓ Professional consultation with agency if requested.
  - ✓ Lethal control allowed without a permit, within 72 hours of the confirmed loss, by livestock owners, immediate family members or an employee of a livestock owner on a regular payroll, and not hired specifically to take wolves. Action must be reported to UDWR within 72 hours.

- ✓ Landowner may get a limited duration permit to shoot a wolf on sight following the 72 hour period if deemed necessary by UDWR.

#### Agency actions

- Sightings, hearing, or tracks only:
  - ✓ Agency personnel will record credible sightings to maintain some records of possible wolf dispersal into the state. Where practical, credible sightings will be investigated with the intent of confirming the presence of wolves.
  - ✓ If requested, agency personnel will provide professional consultation for livestock producers or rural residents. This consultation will include information to preclude livestock loss or other conflict as well as relevant biological information.
  - ✓ In some cases, training in the use of non-lethal scare tactics (rubber bullets, radio-activated guard [RAG] boxes, etc.) may be provided and a permit for injurious harassment may be issued by the UDWR.
- Harassment of livestock (*defined as chasing, actively disturbing or harming*):
  - ✓ Agency personnel will investigate and record all reported incidents of livestock harassment. To the extent practical, verification of livestock harassment should be made by agency personnel.
  - ✓ If requested, agency personnel will provide professional consultation for livestock producers or rural residents. This consultation will include information to preclude livestock loss or other conflict as well as relevant biological information.
  - ✓ In some cases, training in the use of non-lethal scare tactics (rubber bullets, RAG boxes, etc.) may be provided and a permit for injurious harassment may be issued by the Division. Agencies will not remove wolves for the harassment of livestock.
- “In the Act of” (*biting or grasping*):
  - ✓ Agency personnel will investigate actions taken by livestock producers under this clause.
  - ✓ If requested, agency personnel will provide professional consultation for livestock producers or rural residents. This consultation will include information to preclude livestock loss or other conflict as well as relevant biological information.
  - ✓ In some cases, training in the use of non-lethal scare tactics (rubber bullets, radio activated guard (RAG) boxes, etc.) may be provided.
- Confirmed Loss:
  - ✓ Agency personnel will investigate all reports of livestock killed by wolves with the intention of confirming losses for the compensation program.
  - ✓ The results of all investigations will be reported on forms developed by the Division, including status (confirmed, probable, possible, and unknown), location and proximity to known wolves.

- ✓ UDWR or WS may translocate or remove an offending wolf or member of an offending group after a confirmed loss, provided that livestock remain vulnerable to predation.

## **Compensation Program**

HJR-12 urges the Utah Department of Natural Resources to "fully compensate private landowners for losses, not covered by other mitigation sources, resulting from depredation to livestock by wolves." Full market/production value compensation should be available to livestock owners who experience loss due to wolves. After depredated livestock has been investigated by proper authorities, livestock owners should be fully compensated for cases where wolves are the "possible," "confirmed" or "probable" predator. A compensation program should also include a multiplier affect to account for missing livestock

Guidelines of a compensation program are as follows:

- Compensation will come first from State funds.
- Investigations (whether confirmed, probable or possible depredation) will be conducted by WS and/or DWR.
- Compensation rules will apply statewide.
- Compensation for confirmed loss to livestock categories other than cattle and sheep (horses, guard dogs, stock dogs, etc.) will have a monetary cap (per animal).
- Compensation will be available for a confirmed loss of any animal (other than companion animal/pet) that is killed.

It should not be assumed that the only means for compensating livestock owners is that of government funding. Defenders of Wildlife (Defenders), a non-profit wildlife advocacy organization, provides funding to shift the economic liability away from ranchers and towards wolf advocates through a compensation program that reimburses livestock owners from wolf depredation in other western states. The Wolf Compensation Fund was established in 1987 and has paid substantial claims to livestock owners in Idaho, Montana and Wyoming. In some cases, veterinary bills for livestock injured by wolves have been reimbursed. Funds from the Wolf Compensation Fund have also been used to purchase livestock feed, lease supplemental pasture, purchase additional guarding animals or fencing materials, and to cost-share other modifications to husbandry practices to minimize the potential for future depredations. While some Utah livestock interests have regarded this program with some skepticism, it may represent a viable alternative to government funding for compensation. If the State of Utah establishes a compensation fund for wolf damages, Defenders will not compensate Utah livestock producers under their program. Defenders also provides resources to livestock operators through the Bailey Wildlife Foundation in the form of non-lethal depredation management tools.

## **Strategy VI: Provide funding for wolf management.**

Summarized below is a breakdown of estimated funding requirements:

Description	Timeframe*	Estimated cost	Agencies bearing this cost	Possible funding sources
<b>Livestock compensation:</b> Paying claims to livestock producers for wolf kills.	Current and future expense, incurred regardless of oversight authority.	Approx. \$7,000/yr., expected to increase	UDWR	Endangered Species Mitigation Fund (ESMF); private donations (Defenders of Wildlife, etc.), tax check-off, General Fund.
<b>Research and monitoring:</b> Personnel, equipment, flights, etc.	Current and future expense, data needed regardless of oversight authority.	\$30,000 for initial equipment and preparation; \$5,000-\$10,000 operating/yr., increasing to \$120,000/yr. with breeding population.	UDWR, USDA-Wildlife Services (WS)	State Wildlife Grants (SWG), ESMF, private donations, tax check-off, General Fund, federal WS funds, USFWS.
<b>Monitoring and analysis of wolf impacts on other wildlife.</b>	Future expense, primarily not included in the interim plan.	Limited costs in the interim period will be covered in research costs above.	N/A	N/A
<b>Incentives for private landowners,</b> including CWMU operators.	Future expense.	Costs estimated to be similar to livestock compensation.	WWG recommends that the UDWR and the Legislature consider establishing this program.	
<b>Public outreach,</b> including radio, TV, publications, etc.	Current and future expense.	Current: \$15,000-\$20,000/yr.; Future: up to \$50,000/yr. as wolf numbers increase.	UDWR	General Fund
<b>Costs to the Ute Tribe:</b> livestock compensation, training, depredation incident response, etc.	Future expense.	Livestock compensation: \$5,000/yr.; monitoring: \$5,000/yr.; Training: \$2,500/yr.; Depredation response: \$2,500/yr.	Ute Tribe	Unknown at this time.
<b>Law enforcement:</b> response to public safety and depredation conflicts, investigations of illegal wolf kills	Current and future expense, incurred regardless of oversight authority.	1-2 investigations/yr would cost about \$10,000. Cost increases with wolf population.	UDWR	General Fund, tax check-off.
Description	Timeframe*	Estimated cost	Agencies bearing this cost	Possible funding sources
<b>Administration:</b> RAC/Wildlife Board interaction, planning, accounting, federal aid coordination, etc.	Most costs are current. Planning efforts increase when state receives management authority.	\$20,000-\$25,000/yr.	UDWR	General Fund, SWG, tax check-off, federal aid funds, private donations.
<b>Personnel training:</b> Employee training in sighting, tracking, collaring, etc.	Current and future expense.	UDAF/WS: \$3,500/yr.; UDWR: \$15,000-\$20,000/yr.	UDAF/WS, UDWR	General Fund, tax check-off, private donations. Possibly ESMF or SWG.
<b>Depredation incident response and action:</b> travel, gather/analyze evidence, and remove/relocate offending wolves.	Current and future expense.	Current minimum: \$20,000/year; Future: USDA -- \$20,000-\$100,000/yr, UDWR: \$5,000/yr.	USDA/WS, DWR, possibly Ute Tribe.	Federal funding while wolves under federal protection. General fund and tax check-off when state assumes management.

\* - Current expenses are those incurred now, while wolves are managed by USFWS. Future expenses are those incurred when management authority is transferred to the state.

## Literature Cited

- Alexander, S., C. Callaghan, P. C. Paquet, and N. Waters. 1996. GIS Predictive Model of Habitat Use by Wolves (*Canis lupus*). CD Rom publication, GIS '96: Ten years of Excellence, GIS World 1996 Conference Proceedings. Vancouver, British Columbia.
- Alexander, S., P. C. Paquet, and N. Waters. 1997. Playing God with GIS: Uncertainty in wolf habitat suitability models. Pages 449-453 in GIS '97 Integrating Spatial Information Technology for Tomorrow. Eleventh Annual GIS World Conference Proceedings. Vancouver, British Columbia.
- Arjo, W. M., and D. H. Pletscher. 1999. Behavioral responses of coyotes to wolf recolonization in northwestern Montana. *Canadian Journal of Zoology* 77:1919-1927.
- Asa, C. S. 1997. Hormonal and experiential factors in the expression of social and parental behavior in canids. Pages 129-149 in N. G. Solomon and J. A. French, eds. *Cooperative breeding in mammals*. Cambridge University Press, Cambridge.
- Asa, C. S. and C. Valdespino. 1998. Canid reproductive biology: An integration of proximate mechanisms and ultimate causes. *American Zoologist* 38:251-259.
- Asa, C. S., L. D. Mech, and U. S. Seal. 1985. The use of urine, faeces and anal gland secretions in scent marking by a captive wolf (*Canis lupus*) pack. *Animal Behavior* 33:1034-1036.
- Bailey, T. N., E. E. Bangs, and R. O. Peterson. 1995. Exposure of wolves to canine parvovirus and distemper on the Kenai National Wildlife Refuge, Kenai Peninsula, Alaska, 1976-1988. Pages 441-446 in L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Ballard, W. B. 1982. Gray wolf-brown bear relationships in the Nelchina Basin of south-central Alaska. Pages 71-80 in F. H. Harrington and P. C. Paquet, eds. *Wolves of the world: Perspectives of behavior, ecology, and conservation*. Noyes Publications, Park Ridge, New Jersey.
- Ballard, W. B., J. S. Whitman, and C. L. Gardner. 1987. Ecology of an exploited wolf population in south-central Alaska. *Wildlife Monographs* 98:1-54.
- Banfield, A. W. F. 1974. *The mammals of Canada*. University of Toronto Press, Toronto, Ontario.
- Bangs, E. E., and S. H. Fritts. 1996. Reintroducing the gray wolf into central Idaho and Yellowstone National Park. *Wildlife Society Bulletin* 24:402-413.
- Berg, W. E., and D. W. Kuehn. 1982. Ecology of wolves in north-central Minnesota. Pages 4-11 in F. H. Harrington and P. C. Paquet, eds. *Wolves of the world: Perspectives of behavior, ecology, and conservation*. Noyes Publications, Park Ridge, New Jersey.

- Bergerud, A. T., H. E. Butler, and D. R. Miller. 1984. Antipredator tactics of calving caribou: Dispersion in mountains. *Canadian Journal of Zoology* 62:1566-1575.
- Beschta, R.L. 2003. Cottonwoods, elk, and wolves in the Lamar Valley of Yellowstone National Park. *Ecological Applications* 13: 1295-1309.
- Bjorge, R. R., and J. R. Gunson. 1989. Wolf, (*Canis lupus*), population characteristics and prey relationships near Simonette River, Alberta. *Canadian Field-Naturalist* 103:327-34.
- Boertje, R. D., and R. O. Stephenson. 1992. Effects of ungulate availability on wolf reproduction potential in Alaska. *Canadian Journal of Zoology* 70:441-443.
- Boyd, D. K., and D. H. Pletscher. 1999. Characteristics of dispersal in a colonizing wolf population in the central Rocky Mountains. *Journal of Wildlife Management* 63:1094-1108.
- Boyd, D. K., L. B. Secrest, and D. H. Pletscher. 1992. A wolf, (*Canis lupus*), killed in an avalanche in southwestern Alberta. *Canadian Field-Naturalist* 106:526.
- Boyd, D. K., P. C. Paquet, S. Donelon, R. R. Ream, D. H. Pletscher, and C. C. White. 1995. Transboundary movements of a recolonizing wolf population in the Rocky Mountains. Pages 135-141 *in* L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Brown, J.S. 1999. Vigilance, patch use, and habitat selection: foraging under predation risk. *Evolutionary Ecology Research* 1:49-71.
- Bruskotter, J. 2004. (Utah State University) presentation to the Utah Wolf Working Group, 27 April 2004.
- Bruskotter, Jeremy T. 2004. Utah residents' attitudes toward wolves: 1994-2003. MS thesis. Utah State University, Logan UT. 127 pp.
- Callaghan, C. J. 2002. The ecology of gray wolf (*Canis lupus*) habitat use, survival, and persistence of gray wolves in the central Rocky Mountains. Dissertation, University of Guelph, Guelph, Ontario.
- Carbyn, L. N. 1974. Wolf population fluctuations in Jasper National Park, Canada. *Biological Conservation* 6:94-101.
- Carbyn, L. N. 1975a. Wolf predation and behavioral interactions with elk and other ungulates in an area of high prey density. Dissertation, University of Toronto, Toronto, Ontario.
- Carbyn, L. N. 1981. Territory displacement in a wolf population with abundant prey. *Journal of Mammalogy* 62:193-195.
- Carbyn, L. N. 1982a. Incidence of disease and its potential role in the population dynamics of wolves in Riding Mountain National Park, Manitoba. Pages 106-116 *in* F. H. Harrington and P. C. Paquet, eds. *Wolves of the world: Perspectives of behavior, ecology, and conservation*. Noyes Publications, Park Ridge, New Jersey.
- Carbyn, L. N. 1982b. Coyote population fluctuations and spatial distribution in relation to wolf territories in Riding Mountain National Park, Manitoba. *Canadian Field-Naturalist* 96:176-183.

- Carbyn, L. N. 1983. Wolf predation on elk in Riding Mountain National Park, Manitoba. *Journal of Wildlife Management* 47:963-976.
- Clark, K. R. F. 1971. Food habits and behavior of the tundra wolf on central Baffin Island. Dissertation, University of Toronto, Toronto, Ontario.
- Coscia, E. M. 1995. Ontogeny of timber wolf vocalizations: Acoustic properties and behavioral contexts. Dissertation, Dalhousie University, Halifax, Nova Scotia.
- Coscia, E. M., D. P. Phillips, and J. C. Fentress. 1991. Spectral analysis of neonatal wolf (*Canis lupus*) vocalizations. *Bioacoustics* 3:275-293.
- Crete, M. 1999. The distribution of deer biomass in North America supports the hypothesis of exploitation ecosystems. *Ecology Letters* 2:223-227.
- Crisler, L. 1958. *Arctic wild*. Harper and Row, New York.
- Dale, B. W., L. G. Adams, and R. T. Bowyer. 1995. Winter wolf predation in a multiple ungulate prey system, Gates of the Arctic National Park, Alaska. Pages 223-230 in L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Defenders of Wildlife. 2005. The Bailey Wildlife Foundation wolf compensation trust payments to ranchers for livestock losses caused by wolves. <http://www.defenders.org/wildlife/wolf/wolfcomp.pdf>
- Defenders of Wildlife. The Bailey Wildlife Foundation Wolf Compensation Trust. 2004. Accessed 11/04. <http://www.defenders.org/wolfcomp.html>.
- Durrant, S.D. 1952. *Mammals of Utah: taxonomy and distribution*. University of Kansas Press. Lawrence KS. 549 pp
- Eberhardt, L. L. 1997. Is wolf predation ratio-dependent? *Canadian Journal of Zoology* 75:1940-1944.
- Eberhardt, L. L. 1998. Applying difference equations to wolf predation. *Canadian Journal of Zoology* 76: 380-386.
- Eberhardt, L. L., and R. O. Peterson. 1999. Predicting the wolf-prey equilibrium point. *Canadian Journal of Zoology* 77:494-498.
- Estes, J.A., K. Crooks, and R. Holt. 2001. Predators, ecological role of. Pp. 857-878 in S.A. Levin, ed. *Encyclopedia of Biodiversity*. Academic Press, Vol. 4.
- Estes, James A. 1996. Predators and ecosystem management. *Wildlife Society Bulletin* 24(3): 390-396.
- Forbes, G. J., and J. B. Theberge. 1995. Influences of a migratory deer herd on wolf movements and mortality in and near Algonquin Park, Ontario. Pages 303-314 in L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Forshner, S. A. 2000. Population dynamics and limitation of wolves (*Canis lupus*) in the Greater Pukaskwa Ecosystem, Ontario. Thesis, University of Alberta, Edmonton, Alberta.
- Fox, M. W. 1973. Social dynamics of three captive wolf packs. *Behaviour* 47:290-301.
- Fox, M. W., and J. A. Cohen. 1977. Canid communication. Pages 728-748 in T. A. Sebeok, ed. *How animals communicate*. Indiana University Press, Bloomington.



- Fritts, S. H., and L. D. Mech. 1981. Dynamics, movements and feeding ecology of a newly protected wolf population in northwestern Minnesota. *Wildlife Monographs* 80:1-79.
- Fritts, S. H., E. E. Bangs, J. A. Fontaine, W. G. Brewster, and J. F. Gore. 1995. Restoring wolves to the northern Rocky Mountains of the United States. Pages 107-126 in L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Fritts, S. H., E.E. Bangs, and J.F. Gore. 1994. The relationship of wolf recovery to habitat conservation and biodiversity in the northwestern United States. *Landscape and Urban Planning* 28:23-32.
- Fuller, T. K. 1989. Population dynamics of wolves in north-central Minnesota. *Wildlife Monographs* 105:1-41.
- Fuller, T. K., and L. B. Keith. 1980. Wolf population dynamics and prey relationships in northeastern Alberta. *Journal of Wildlife Management* 44:583-602.
- Fuller, T. K., and L. B. Keith. 1981. Non-overlapping ranges of coyotes and wolves in northeastern Alberta. *Journal of Mammalogy* 62:403-405.
- Fuller, T. K., W. E. Berg, G. L. Radde, M. S. Lenarz, and G. B. Joselyn. 1992. A history and current estimate of wolf distribution and numbers in Minnesota. *Wildlife Society Bulletin* 20:42-55.
- Gese, E. M., and L. D. Mech. 1991. Dispersal of wolves (*Canis lupus*) in northeastern Minnesota, 1969-1989. *Canadian Journal of Zoology* 69:2946-2955.
- Haber, G. C. 1977. Socio-ecological dynamics of wolves and prey in a subarctic ecosystem. Dissertation, University of British Columbia, Vancouver, British Columbia.
- Haight, R. G., D. J. Mladenoff, and A. P. Wydeven. 1998. Modeling disjunct gray wolf populations in semi-wild landscapes. *Conservation Biology* 12:879-888.
- Halfpenny, J.C. 2001. Scats and tracks of the Rocky Mountains second edition: a field guide to the signs of seventy wildlife species. A Falcon Guide. The Globe Pequot Press, Guilford Connecticut. 144 pp.
- Harrington, F. H. 1975. Response parameters of elicited wolf howling. Dissertation, State University of New York, Stony Brook.
- Harrington, F. H. 1981. Urine-marking and caching behavior in the wolf. *Behaviour* 76:280-288.
- Harrington, F. H. 1989. Chorus howling by wolves: Acoustic structure, pack size, and the Beau Geste effect. *Bioacoustics* 2:117-136.
- Harrington, F. H., and L. D. Mech. 1978a. Wolf vocalization. Pages 109-132 in R. L. Hall and H. S. Sharp, eds. *Wolf and man: Evolution in parallel*. Academic Press, New York.
- Harrington, F. H., and L. D. Mech. 1978b. Howling at two Minnesota wolf pack summer homesites. *Canadian Journal of Zoology* 56:2024-2028.
- Harrington, F. H., and L. D. Mech. 1983. Wolf pack spacing: Howling as a territory-independent spacing mechanism in a territorial population. *Behavioral Ecology and Sociobiology* 12:161-168.

- Harrington, F. H., L. D. Mech, and S. H. Fritts. 1983. Pack size and wolf pup survival: Their relationship under varying ecological conditions. *Behavioral Ecology and Sociobiology* 13:19-26.
- Harrington, F. H., P. C. Paquet, J. Ryon, and J. C. Fentress. 1982. Monogamy in wolves: A review of the evidence. Pages 209-222 in F. H. Harrington and P. C. Paquet, eds. *Wolves of the world: Perspectives of behavior, ecology, and conservation*. Noyes Publications, Park Ridge, New Jersey.
- Hayes, R. D. 1995. Numerical functional responses of wolves and regulation of moose in the Yukon. Thesis, Simon Fraser University, Burnaby, British Columbia.
- Hayes, R. D., A. M. Baer, D. G. Larsen. 1991. Population dynamics and prey relationships of an exploited and recovering wolf population in the southern Yukon. Final Report TR-91-1. Yukon Fish and Wildlife Branch.
- Hebblewhite, M. 2000. Wolf and elk predator-prey dynamics in Banff National Park. Thesis, University of Montana, Missoula.
- Hebblewhite, M., P. C. Paquet, D. H. Pletscher, R. B. Lessard, and C. J. Callaghan. 2003. Development and application of a ratio estimator to estimate wolf kill rates and variance in a multiple-prey system. *Wildlife Society Bulletin* 31:933-946.
- Huggard, D. J. 1993. Effect of snow depth on predation and scavenging by gray wolves. *Journal of Wildlife Management* 57:382-388.
- Interactive Species. *Conservation Biology*, 17(5): 1238-1250.
- Jenkins, K. J., and R. G. Wright. 1988. Resource partitioning and competition among cervids in the northern Rocky Mountains. *Journal of Applied Ecology* 25:11-24.
- Jensen, W. F., T. K. Fuller, and W. L. Robinson. 1986. Wolf, (*Canis lupus*), distribution on the Ontario-Michigan border near Saulte Ste. Marie. *Canadian Field-Naturalist* 100:363-366.
- Joslin, P. W. B. 1967. Movements and home sites of timber wolves in Algonquin Provincial Park, *American Zoologist* 7:279-288.
- Keith, L. B. 1983. Population dynamics of wolves. Pages 66-77 in L. N. Carbyn, ed. *Wolves in Canada and Alaska: Their status, biology, and management*. Report Series 45. Canadian Wildlife Service, Ottawa, Ontario.
- Kleiman, D. G. 1966. Scent marking in the Canidae. *Symposium of the Zoological Society of London* 18:167-178.
- Kuyt, E. 1972. Food habits and ecology of wolves on barren-ground caribou range in the Northwest Territories. Report Series 21. Canadian Wildlife Service, Ottawa, Ontario.
- La Vine, K. P. 1995. Attitudes of Utah residents toward gray wolves. M.S. Thesis. Utah State University, Logan, Ut. 136pp.
- McLaren, B.E., and R.O. Peterson. 1994. Wolves, moose, and tree rings on Isle Royale. *Science* 266: 1555-58.
- Mech, L. D. 1970. The wolf: The ecology and behavior of an endangered species. Natural History Press, Garden City, New York.
- Mech, L. D. 1972. Spacing and possible mechanisms of population regulation in wolves. *American Zoologist* 4:642.
- Mech, L. D. 1974. *Canis lupus*. *Mammalian Species* 37:1-6.

- Mech, L. D. 1975. Disproportionate sex ratios of wolf pups. *Journal of Wildlife Management* 39:737-740.
- Mech, L. D. 1977a. Productivity, mortality, and population trends of wolves in northeastern Minnesota. *Journal of Mammalogy* 58:559-574.
- Mech, L. D. 1977b. Population trend and winter deer consumption in a Minnesota wolf pack. Pages 55-83 in R. L. Phillips and C. Jonkel, eds. *Proceedings of the 1975 predator symposium*. Montana Forest and Conservation Experiment Station, University of Montana, Missoula.
- Mech, L. D. 1988. *The arctic wolf: Living with the pack*. Voyageur Press, Stillwater, Minnesota.
- Mech, L. D. 1991. *The way of the wolf*. Voyageur Press, Stillwater, Minnesota.
- Mech, L. D., and M. E. Nelson. 1989. Polygyny in a wild wolf pack. *Journal of Mammalogy* 70:675-676.
- Mech, L. D., and M. E. Nelson. 1990. Evidence of prey-caused mortality in three wolves. *American Midland Naturalist* 123:207-208.
- Mech, L. D., D. W. Smith, K. M. Murphy, and D. R. MacNulty. 2001. Winter severity and wolf predation on a formerly wolf-free elk herd. *Journal of Wildlife Management* 65:998-1003.
- Mech, L. D., S. H. Fritts, and D. Wagner. 1995. Minnesota wolf dispersal to Wisconsin and Michigan. *American Midland Naturalist* 133:368-370.
- Mech, L.D. and R.O. Peterson. 2003. Wolf-prey relations, Pp. 131-160 in L.D. Mech and L. Boitani, eds. *Wolves: behavior, ecology, and conservation*. University of Chicago Press, Chicago. 448pp.
- Meleshko, D. 1986. Feeding habits of sympatric canids in an area of moderate ungulate density. Thesis, University of Alberta, Edmonton, Alberta.
- Merti-Millhollen, A.S., P.A. Goodmann, and E. Klinghammer. 1986. Wolf scent marking with raised-leg urination. *Zoo Biology* 5:7-20.
- Messier, F. 1985a. Social organization, spatial distribution, and population density of wolves in relation to moose density. *Canadian Journal of Zoology* 63:1068-1077.
- Messier, F. 1985b. Solitary living and extraterritorial movements of wolves in relation to social status and prey abundance. *Canadian Journal of Zoology* 63:239-245.
- Messier, F. 1994. Ungulate population models with predation: A case study with the North American moose. *Ecology* 75:478-488.
- Messier, F., and C. Barrette. 1985. The efficiency of yarding behavior by white-tailed deer as an antipredator strategy. *Canadian Journal of Zoology* 63:785-789.
- Messier, F., and M. Crete. 1985. Moose-wolf dynamics and the natural regulation of moose populations. *Oecologia* 65:503-512.
- Miller, B., B. Dugelby, D. Foreman, C. Martinez del Rio, R. Noss, M. Phillips, R. Reading, M.E. Soulé, J. Terborgh, L. Wilcox. 2001. The importance of large carnivores to healthy ecosystems. *Endangered Species Update* 18:202-210.
- Mladenoff, D. J., and T. A. Sickley. 1998. Assessing potential gray wolf restoration in the northeastern United States: A spatial prediction of favorable habitat and potential population levels. *Journal of Wildlife Management* 62:1-10.

- Mladenoff, D. J., R. G. Haight, T. A. Sickley, and A. P. Wydeven. 1997. Causes and implications of species restoration in altered ecosystems: A spatial landscape projection of wolf population recovery. *Bioscience* 47:21-31.
- Mladenoff, D. J., T. A. Sickley, and A. P. Wydeven. 1999. Predicting gray wolf landscape recolonization: Logistic regression models vs. new field data. *Ecological Applications* 9:37-44.
- Mladenoff, D. J., T. A. Sickley, R. G. Haight, and A. P. Wydeven. 1995. A regional landscape analysis and prediction of favorable gray wolf habitat in the northern Great Lakes region. *Conservation Biology* 9:279-294.
- Murie, A. 1944. The wolves of Mount McKinley. U.S. National Park Service Fauna Series, No. 5. U.S. Government Printing Office, Washington D.C.
- National Research Council. 1997. Wolves, bears, and their prey in Alaska. National Academy Press, Washington, D.C.
- Nelson, M. E., and L. D. Mech. 1981. Deer social organization and wolf predation in northeastern Minnesota. *Wildlife Monographs* 77:1-53.
- Nelson, M. E., and L. D. Mech. 1985. Observations of a wolf killed by a deer. *Journal of Mammalogy* 66:187-188.
- Nelson, M. E., and L. D. Mech. 1986a. Relationship between snow depth and gray wolf predation on white-tailed deer. *Journal of Wildlife Management* 50:471-474.
- Packard, J. M., and L. D. Mech. 1980. Population regulation in wolves. Pages 135-150 in M. N. Cohen, R. S. Malpass, and H. G. Klein, eds. *Biosocial mechanisms of population regulation*. Yale University Press, New Haven, Connecticut.
- Packard, J. M., U. S. Seal, L. D. Mech, and E. D. Plotka. 1985. Causes of reproductive failure in two family groups of wolves (*Canis lupus*). *Zeitschrift fur Tierpsychologie* 68:24-40.
- Paquet, P. C. 1989. Behavioral ecology of sympatric canids in an area of moderate ungulate density. Dissertation, University of Alberta, Edmonton, Alberta.
- Paquet, P. C. 1991. Winter spatial relationships of wolves and coyotes in Riding Mountain National Park, Manitoba. *Journal of Mammalogy* 72:397-401.
- Paquet, P. C. 1992. Prey use strategies of sympatric wolves and coyotes in Riding Mountain National Park, Manitoba. *Journal of Mammalogy* 73:337-343.
- Paquet, P. C. 1993. Summary reference document: Ecological studies of recolonizing wolves in the Central Canadian Rocky Mountains. Canadian Parks Service, Banff, Alberta.
- Paquet, P. C., and L. N. Carbyn. 2003. Gray wolf (*Canis lupus* and allies). Pages 482-510 in G. A. Feldhamer, B. C. Thompson, and J. A. Chapman, eds. *Wild mammals of North America: Biology, management, and conservation*. Second edition. The Johns Hopkins University Press, Maryland.
- Paquet, P. C., J. Wierzchowski, and C. Callaghan. 1996. Summary report on the effect of human activity on gray wolves in the Bow River Valley, Banff National Park, Alberta. Chapter 7 in J. Green, C. Pacas, S. Bayley, and L. Cornwell, eds. *A cumulative effects assessment and futures outlook for*

- the Banff Bow Valley. Prepared for the Banff Bow Valley Study, Department of Canadian Heritage, Ottawa, Ontario.
- Peters, R. P. 1978. Communication, cognitive mapping, and strategy in wolves and hominids. Pages 95-107 *in* R. L. Hall and H. S. Sharp, eds. *Wolf and man: Evolution in parallel*. Academic Press, New York.
- Peters, R. P., and L. D. Mech. 1978. Scent-marking in wolves. Pages 133-147 *in* R. L. Hall and H. S. Sharp, eds. *Wolf and man: Evolution in parallel*. Academic Press, New York.
- Peterson, R. O. 1977. Wolf ecology and prey relationships on Isle Royale. U.S. National Park Service Fauna Series No. 11, U.S. Government Printing Office, Washington D.C.
- Peterson, R. O. 1995. Wolves as interspecific competitors in canid ecology. Pages 315-324 *in* L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Peterson, R. O., J. D. Woolington, and T. N. Bailey. 1984. Wolves of the Kenai Peninsula, Alaska. *Wildlife Monographs* 88:1-52.
- Peterson, R.O., and R.E. Page. 1988. The rise and fall of Isle Royale wolves, 1975-1986. *Journal of Mammalogy* 69:89-99.
- Pletscher, D. H., R. R. Ream, D. K. Boyd, M. W. Fairchild, and K. E. Kunkel. 1997. Population dynamics of a recolonizing wolf population. *Journal of Wildlife Management* 61:459-465.
- Post, E., R.O. Peterson, N.C. Stenseth, and B.E. McLaren, 1999. Ecosystem consequences of wolf behavioural response to climate. *Nature* 401:905-7.
- Potvin, F. 1987. Wolf movements and population dynamics in Papineau-Labelle Reserve, Quebec. *Canadian Journal of Zoology* 66:1266-1273.
- Power, M.E., D. Tilman, J.A. Estes, B.A. Menge, W.J. Bond, L.S. Mills, G. Daily, J.C. Castilla, J. Lubchenco, and R.T. Paine. 1996. Challenges in the quest for keystones. *Bioscience* 46(8):609-620.
- Ream, R.R., M. W. Fairchild D.K. Boyd, and D.H. Pletscher, 1991. Pages 349-66 *in* R.B. Keiter and M.S. Boyce, eds. *The Greater Yellowstone Ecosystem: Redefining America's wilderness heritage*. Yale University Press, New Haven, CT.
- Ripple, W.J. and R.L. Beschta. 2004. Wolves, elk, willows, and trophic cascades in the upper Gallatin Range of Southwestern Montana, USA. *Forest Ecology and Management*. 200: 161–181.
- Ripple, W.J., E. J. Larsen, R.A. Renkin, and D.W. Smith. 2001. Trophic cascades among wolves, elk and aspen on Yellowstone National Park's northern range. *Biol. Conserve*. 102: 227-34.
- Rogers, L. L., L. D. Mech, D. K. Dawson, J. M. Peek, and M. Korb. 1980. Deer distribution in relation to wolf pack territory edges. *Journal of Wildlife Management* 44:253-258.
- Schenkel, R. 1967. Submission: Its features and function in the wolf and dog. *American Zoologist* 7:319-329.
- Schmidt, P. A., and L. D. Mech. 1997. Wolf pack size and food acquisition. *American Naturalist* 150:513-517.
- Schmitz, O.J. 1998. Direct and indirect effects of predation and predation risk in old-field interaction webs. *American Naturalist* 151:327-340.

- Schoener, T.W. and D.A. Spiller. 1999. Indirect effects in an experimentally staged invasion by a major predator. *American Naturalist* 153:347-358.
- Seal, U. S., L. D. Mech, and V. Van Ballenberghe. 1975. Blood analyses of wolf pups and their ecological and metabolic interpretation. *Journal of Mammalogy* 56:64-75.
- Singer, F. J. 1979. Status and history of timber wolves in Glacier National Park, Montana. Pages 19-42 *in* E. Klinghammer, ed. *The behavior and ecology of wolves*. Garland STPM Press, New York.
- Smith, D. W., L. D. Mech, M. Meagher, W. E. Clark, R. Jaffe, M. K. Phillips, and J. A. Mack. 2000. Wolf-bison interactions in Yellowstone National Park. *Journal of Mammalogy* 81:1128-1135.
- Smith, D. W., R. O. Peterson, and D. B. Houston. 2003. Yellowstone after wolves. *Bioscience* 53:330-340.
- Soulé, M.E., et. al. 2003. *Ecological Effectiveness: Conservation Goals for Switalski, T.A., T. Simmons, S.L. Duncan, A.S. Chavez & R.H. Schmidt. 2002. Wolves in Utah : An analysis of potential impacts and recommendations for management. Natural Resources and Environmental Issues Vol. 10. S.J. and Jessie E. Quinney Natural Resources Research Library, Logan Utah.*
- Theberge, J. B., and J. B. Falls. 1967. Howling as a means of communication in timber wolves. *American Zoologist* 7:331-338.
- Theil, R. P. 1985. Relationship between road densities and wolf habitat suitability in Wisconsin. *American Midland Naturalist* 113:404-407.
- Thurber, J. M., and R. O. Peterson. 1993. Effects of population density and pack size on the foraging ecology of gray wolves. *Journal of Mammalogy* 74:879-889.
- Thurber, J. M., R. O. Peterson, J. D. Woolington, and J. A. Vucetich. 1992. Coyote coexistence with wolves on the Kenai Peninsula, Alaska. *Canadian Journal of Zoology* 70:2494-2498.
- Thurber, J. M., R. O. Peterson, T. D. Drummer, and S. A. Thomasma. 1994. Gray wolf response to refuge boundaries and roads in Alaska. *Wildlife Society Bulletin* 22:61-68.
- U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, and USDA Wildlife Services. 2004. *Rocky Mountain Wolf Recovery 2003 Annual Report*. T. Meier, ed. USFWS, Ecological Services, 100 N Park, Suite 320, Helena MT. 65 pp.
- U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, Montana Fish, Wildlife and Parks, Idaho Fish and Game, and USDA Wildlife Services. 2005. *Rocky Mountain Wolf Recovery 2004 Annual Report*. D. Boyd, ed. USFWS, Ecological Services, 100 N Park, Suite 320, Helena MT. 72 pp.
- U.S. Fish and Wildlife Service, Nez Perce Tribe, National Park Service, Montana Fish, Wildlife and Parks, Idaho Fish and Game, and USDA Wildlife Services. 2004. *Rocky Mountain Wolf Recovery 2004 Annual Report*. D. Boyd, ed. USFWS, Ecological Services, 100 N Park, Suite 320, Helena MT. 72 pp.
- Van Ballenberghe, V., and A. W. Erickson. 1973. A wolf pack kills another wolf. *American Midland Naturalist* 90:490-493.

- Van Ballenberghe, V., and L. D. Mech. 1975. Weights, growth, and survival of timber wolf pups in Minnesota. *Journal of Mammalogy* 56:44-63.
- Wayne, R. K., N. Lehman, and T. K. Fuller. 1995. Conservation genetics of the gray wolf. Pages 399-408 in L. N. Carbyn, S. H. Fritts, and D. R. Seip, eds. *Ecology and conservation of wolves in a changing world*. Occasional Publication No. 35. Canadian Circumpolar Institute, Edmonton, Alberta.
- Weaver, J. L. 1992. Two wolves, (*Canis lupus*), killed by a moose, (*Alces alces*), in Jasper National Park, Alberta. *Canadian Field-Naturalist* 106:126-127.
- Weaver, J. L. 1994. Ecology of wolf predation amidst high ungulate diversity in Jasper National Park, Alberta. Dissertation, University of Montana, Missoula.
- Weaver, J. L., P. C. Paquet, and L. F. Ruggiero. 1996. Resilience and conservation of large carnivores in the Rocky Mountains. *Conservation Biology* 10:964-976.
- Wilmers, C. C., and W. M. Getz. 2004. Simulating the effects of wolf-elk population dynamics on resource flow to scavengers. *Ecological Modelling* 177:193-208.
- Wilson, P. J., S. Grewal, I. D. Lawford, J. N. M. Heal, A. G. Granacki, D. Pennock, J. B. Theberge, M. T. Theberge, D. R. Voigt, W. Waddell, R. E. Chambers, P. C. Paquet, G. Goulet, D. Cluff, and B. N. White. 2000. DNA profiles of the eastern Canadian wolf and the red wolf provide evidence for a common evolutionary history independent of the gray wolf. *Canadian Journal of Zoology* 78:1-11.
- Woodroffe, R. 2000. Predators and people: Using human densities to interpret declines of large carnivores. *Animal Conservation* 3:165-173.
- Young, S. P. 1944. History, life habits, economic status, and control. Pages 1-385 in S. P. Young and E. A. Goldman, eds. *The wolves of North America*. American Wildlife Institute, Washington D.C.
- Young, S. P., and E. A. Goldman. 1944. *The wolves of North America*. American Wildlife Institute, Washington D.C.
- Zimen, E. 1976. On the regulation of pack size in wolves. *Zeitschrift fur Tierpsychologie* 40:300-341.

**APPENDIX 1**  
**House Joint Resolution 12**

WOLVES IN UTAH  
2003 GENERAL SESSION  
STATE OF UTAH  
Sponsor: Michael R. Styler

**This joint resolution of the Legislature urges the United States Fish and Wildlife Service to expedite the process for transferring authority to manage wolves to the states. The resolution also urges the United States Fish and Wildlife Service to reject requests to establish additional recovery areas that would include the state of Utah; urges the Utah Division of Wildlife Resources to draft a wolf management plan that is to the extent possible consistent with the wildlife management objectives of the Ute Indian Tribe, prevents livestock depredation, and protects the investments made in wildlife management efforts; and urges the Division of Wildlife Resources to prepare a grant proposal recommending that the Department of Natural Resources' Endangered Species Mitigation Fund fully compensate private landowners for losses, not covered by other mitigation sources, resulting from depredation to livestock by wolves.**

*Be it resolved by the Legislature of the state of Utah:*

WHEREAS, wolves have become well established in the Northern Rocky Mountain states of Idaho, Montana, and Wyoming, and dispersing young wolves from these expanding populations are traveling into and attempting to recolonize parts of Utah;

WHEREAS, the biological status of wolves in the Northern Rocky Mountain Recovery Area has recently exceeded criteria for full recovery under the Northern Rocky Mountain Wolf Recovery Plan;

WHEREAS, the United States Fish and Wildlife Service has stated that the presence of wolves in Utah is not necessary for the recovery of wolves in the Northern Rocky Mountain Recovery Area;



WHEREAS, Utah is not a participating state in the Northern Rocky Mountain recovery effort for Gray Wolves;

WHEREAS, the wolf is currently protected in Utah by state statute as well as by the Federal Endangered Species Act;

WHEREAS, the state of Utah has a legislated, public process for the purpose of developing policy for the management of protected wildlife, which includes the Regional Advisory Councils and the Utah Wildlife Board;

WHEREAS, the Utah Wildlife Board has been recognized by the Western Association of Fish and Wildlife Agencies for its ability to resolve complex, controversial wildlife management issues;

WHEREAS, the Utah Wildlife Board has approved a Policy on Managing Predatory Wildlife Species that provides direction to the Division of Wildlife Resources in managing predator populations;

WHEREAS, recent biological assessments recognize that lands within the original boundaries of the Uintah and Ouray Reservation in the Uinta Basin of Utah contain suitable wolf habitat;

WHEREAS, the state of Utah and the Ute Indian Tribe are party to a Cooperative Management Agreement which recognizes the need for cooperation in the management of wildlife within the original boundaries of the Reservation;

WHEREAS, citizens and conservation organizations in Utah have invested significant resources to restore populations of wildlife in Utah; and

WHEREAS, hunting, ranching, and livestock production contribute significantly to the economy, heritage, and quality of life in Utah;

NOW, THEREFORE, BE IT RESOLVED that the Legislature of the state of Utah urges the United States Fish and Wildlife Service to expedite the delisting process for wolves

in the Western Gray Wolf Distinct Population Segment, thereby transferring authority to manage wolves to the states.

BE IT FURTHER RESOLVED that the Legislature urges the United States Fish and Wildlife Service to reject requests to establish additional recovery areas that would include the

state of Utah, leaving the entire state in the Western Gray Wolf Distinct Population Segment.

BE IT FURTHER RESOLVED that the Legislature strongly urges the Utah Division of

Wildlife Resources to draft a wolf management plan for review, modification, and adoption by

the Utah Wildlife Board through the Regional Advisory Council process.

BE IT FURTHER RESOLVED that the Legislature urges that the objectives and

strategies of the plan, to the extent possible, be consistent with the wildlife management

objectives of the Ute Indian Tribe, prevent livestock depredation, and protect the investments

made in wildlife management efforts while being consistent with United States Fish and

Wildlife Service regulations.

BE IT FURTHER RESOLVED that the Legislature strongly urges the Division of

Wildlife Resources to prepare a grant proposal for consideration by the Department of Natural

Resources' Endangered Species Mitigation Fund to fully compensate private landowners for

losses not covered by other mitigation sources and resulting from depredation to livestock by

wolves.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to the United

States Fish and Wildlife Service Region Six, the United States Secretary of the Interior, the

Utah Wildlife Board, the Utah Division of Wildlife Resources, and the members of Utah's

congressional delegation.

Legislative Review Note  
as of 1/20/03 3:20 PM

A limited legal review of this legislation raises no obvious constitutional or statutory concerns.

Office of Legislative Research and General Counsel

**APPENDIX 2**  
**Utah Wolf Working Group Charter**  
(04/19/04)

**1) Purpose:**

- a. The purpose of the Utah Wolf Working Group (WWG) is to assist the Division of Wildlife Resources in developing a Wolf Management Plan for the State of Utah. This plan will incorporate House Resolution 12, the Utah Wildlife Code, and pertinent federal regulations.

**2) Authority:**

- a. The Utah State Legislature and the Utah Wildlife Board have the authority under state law to direct the Utah Division of Wildlife Resources (UDWR) to complete a wolf management plan. UDWR has the technical capability to complete this plan.
- b. However, the Board and UDWR have chosen to convene a working group to develop this plan, in order to insure that the various stakeholder interests are adequately represented. The members of the working group were selected to represent various interests related to wolves in Utah.
- c. The authority of the WWG is limited to that of producing a draft wolf management plan by the date specified. The WWG is fundamental to the development of that plan, but the content of the plan may be altered by UDWR, the Wildlife Board, or the Utah State Legislature, prior to its approval and implementation.

**3) Expectations:**

- a. The WWG will produce a draft wolf management plan, ready for presentation to the Regional Advisory Councils (RACs) by May 1, 2005. Following review and comment by the RACs, the WWG will submit a revised draft to the Wildlife Board in July 2005.
- b. The plan will include biological and social assessments, including a summary of public scoping meetings, issues, goals, objectives and strategies, as appropriate.
- c. The plan will include only one proposed management alternative, except that multiple damage management alternatives will be provided to accommodate USDA-APHIS Wildlife Services involvement in managing wolf depredations on livestock and domestic animals, including pets.
- d. The WWG will hold public scoping meetings in as many locations as necessary, up to 10 locations.

**4) Time Frame:**

- a. The WWG will not continue past the completion and presentation of the draft plan to the Wildlife Board in July 2005.
- b. Specific timing of WWG activities in drafting the plan include:

- i. March 2005: Final draft approved by WWG, posted on website
- ii. April 2005: WWG reviews public comment on draft, makes revisions
- iii. May 2005: Plan submitted to RACs for review and comment
- iv. June 2005: WWG considers RAC comments, drafts final plan
- v. July 2005: Final plan to Wildlife Board for review and approval

**5) Roles and Responsibilities:**

- a. Members of the WWG are expected to:
  - i. Read and learn information quickly and accurately.
  - ii. Attend meetings regularly. Each member may designate one alternate, who may attend meetings and represent the member.
  - iii. Articulate interests, concerns and perspectives on issues.
  - iv. Maintain an open mind regarding other views.
  - v. Work as a team member to address the responsibilities of the WWG.
  - vi. Participate collaboratively in group decision-making.
  - vii. Constructively manage conflict between group members.
  - viii. Communicate on a regular basis with interests the individual was selected to represent.
  - ix. Support group decisions.
  - x. Commit to participating until May 1, 2005.
  
- b. UDWR has contracted with Dynamic Solutions Group, LLC (DSG) as facilitators and process coaches to assist the WWG in developing this draft plan. DSG is expected to help the WWG achieve the state outcomes by:
  - i. Serving the WWG as an impartial “process” specialist, ensuring that meetings are conducted as efficiently and effectively as possible.
  - ii. Assessing the WWG’s progress in meeting agenda items set for each meeting and managing the group’s time accordingly.
  - iii. Working with WWG and UDWR to develop an agenda for each meeting, keeping a record during the meeting, and ensuring that flip chart records are distributed to WWG members in a timely fashion.
  - iv. Establishing a clear context and structured framework for deliberations.
  - v. Ensuring the participation of all WWG members by creating an environment where all parties are comfortable.
  - vi. Developing and maintaining trust and respect within the group so that all individuals can express their opinion.

- vii. Helping identify participant interests (rather than positions) and encourage collaboration and creative thinking.
- viii. Evoking and encouraging the creativity of the group.
- ix. Asking appropriate questions as necessary to stimulate understanding and consensus among group participants.

c. UDWR is expected:

- i. To provide media resources to the WWG, including but not limited to:
  - 1. Website
  - 2. News releases
  - 3. Video
  - 4. Magazine articles
- ii. To provide advice and counsel to the WWG.
- iii. To notify the WWG of changing circumstances, new information, etc.
- iv. To provide clear direction to the WWG, regarding the roles, responsibilities, etc. as noted in the charter.

d. The technical resource persons designated to serve the WWG will provide information to the group upon request.

- i. These resource persons should plan to attend all WWG meetings, but will not take part in WWG discussions unless asked by the group.

e. The general public is encouraged to assist the WWG. Several mechanisms will be used to encourage and allow public participation.

- i. All WWG meetings will be open to public attendance.
- ii. A series of public meetings around the state will be scheduled and conducted specifically for the purpose of obtaining input from various interests to assist WWG.
- iii. Limited public participation periods may be scheduled during some WWG meetings.
- iv. Public input will be solicited through the UDWR website.

**6) Funding and Support:**

- a. WWG operating expenses (meeting facilities/equipment/expert speakers/etc.) will be funded via the UDWR budget and various grants as needed.
- b. Non-governmental agency WWG member travel expenses (motel/meals/mileage) will be reimbursed by the UDWR.

## **APPENDIX 3**

### **Defenders of Wildlife Compensation Policy**

#### **Eligibility**

It is our intent to offer this compensation to help reduce wolf-related economic losses for individual ranchers and farmers while promoting wolf conservation. To best serve these goals, Defenders is refining the eligibility and documentation guidelines for compensation of wolf-related livestock losses. Livestock owners who demonstrate best management practices, including reasonable use of non-lethal methods, will remain eligible for compensation. When possible, we will assist with appropriate non-lethal deterrents to help livestock owners reduce future conflicts with wolves. Please contact us for more information or see our website for details at [www.coexistingwithcarnivores.org](http://www.coexistingwithcarnivores.org).

To be eligible for compensation from Defenders of Wildlife, the following requirements must be met:

- 1) The livestock in question were legally present on the land where the depredation occurred.
- 2) Defenders of Wildlife must receive claims within six months of the depredation event.
- 3) There is no evidence of long-term or habitual presence of dead or dying livestock in the immediate area, which attracted the wolves and possibly caused the depredation.
- 4) The loss is determined by Wildlife Services, or the authorized agency equivalent, as a \*confirmed or \*\*probable loss.
- 5) The livestock covered under these guidelines include sheep, cattle, horses, mules, goats, llamas, donkeys, pigs, chickens, geese, turkeys, herding dogs and livestock guarding dogs.
- 6) The livestock loss is not being compensated by a private insurance policy or compensation process other than that offered by Defenders of Wildlife.
- 7) a. In areas where wolves currently exist, Landowners, permittees or their representatives in the northern Rockies (Idaho, Montana and Wyoming) have been broadly alerted to the presence of wolves in their region; therefore, their animal husbandry practices should reflect this knowledge. As in the past, to receive compensation, regional livestock owners must demonstrate reasonable use of non-lethal methods. These methods include, but are not limited to: increased human presence, herders or range riders, electric or predator-resistant fencing, livestock guard dogs (use of several per band), predator deterrent lighting, and electronic alarm systems. Defenders of Wildlife, in consultation with

livestock owners and field agency representatives, will evaluate the effectiveness and appropriate execution of these methods.

b. In those areas beyond the northern Rockies where wolves may disperse (e.g., Oregon, Utah, Colorado, etc.), provided requirements 1 – 6 have been met and producers are otherwise eligible per requirements 8 and 9, livestock owners will be compensated the first time they lose livestock to wolves. For subsequent losses, livestock owners or their agents in these areas must follow the same criteria described in section 7a for the northern Rockies region.

8) The livestock owner seeking compensation must not be a publicly-owned entity, since the goal of this fund is to shift economic responsibility for wolf recovery away from individual farmers and ranchers.

9) Defenders of Wildlife reserves the right to deny compensation or assistance to anyone who intentionally submits fraudulent claims, purposefully attempts to entice wolves to kill livestock, illegally wounds or kills wolves, refuses to utilize reasonable nonlethal deterrents, or acts in an abusive or threatening manner toward any Defenders' employee.

## **Process**

The compensation fund will pay 100 percent of the current market value of adult livestock or the projected market value of livestock below marketable age for \*confirmed losses up to \$2,000 per animal. The compensation fund will pay 50 percent of the value for \*\*probable losses. Appropriate documentation, such as a contract, previous sale record or current market reports, is required. Most claims are processed in less than 6 weeks. To expedite processing and help clarify the eligibility guidelines for compensation, a standard investigation report form has been adopted. In order to process a compensation claim for wolf depredations on livestock, the following information must be submitted:

A completed copy of the standard investigation report form for \*confirmed and/or \*\*probable losses due to wolf predation. These reports should provide a reasonable record of evidence based on standard criteria. The report should contain a complete record of this evidence or it will be referred back to the livestock owner with instructions to contact their field investigator for more information.

## APPENDIX 4 Public Scoping Process

In March 2004, UDWR and the WWG conducted a series of public scoping meetings in Utah communities and summarized the public input from these meetings. Evening meetings were held in the following communities, on the following dates. Attendance by the public at each meeting is noted.

Date	Community	Attendance
March 8, 2004	Roosevelt	47
March 9, 2004	Vernal	64
March 10, 2004	Salt Lake City	203
March 11, 2004	Ogden	109
March 12, 2004	Logan	145
March 15, 2004	Cedar City	88
March 16, 2004	Richfield	96
March 17, 2004	Moab	25
March 18, 2004	Price	57
March 19, 2004	Spanish Fork	63

Total attendance at this series of meetings was 897.

A typical public meeting was conducted according to the following process:

- Meetings began at approximately 7 p.m. with a welcome from the facilitator, who explained the meeting process, followed by a welcome by a WWG member and a presentation by UDWR on wolves and wolf management.
- Meeting participants were seated at individual tables, with the 4-8 people seated at each table functioning as an independent working group.
- The participants were given specific instructions for providing their ideas.
- A member of the group wrote the group's ideas on flip chart paper.
- On separate pages, the group recorded issues and advice or suggestions.
- The group selected their "top three" issues and "top three" items of advice or suggestions.
- The top three issues and advice were consolidated by WWG members and UDWR staff and posted on a wall of the meeting room.
- Participants prioritized the top issues and advice from those posted.
- At the conclusion of this public input session, UDWR staff and WWG members informally answered questions and engaged in further dialogue with members of the public.
- Meetings typically concluded by 9:30 p.m.

### **Overall Summary of the Top Issues**

Top issues, by definition, are those that were among the top three identified by one of the independent work groups during one of the public meetings. Many identical or very similar issues were identified at more than one meeting.

### Prioritized Top Issues



The following is a listing of top issues from all locations, in descending order of the number of votes they received in prioritization. The total number of votes is noted for each. In order to be included on this list, the issue must have been selected as a top issue by one of the independent working groups and have received votes in the prioritization process.

Opposition to wolves in Utah – 239  
Creating a safe area for wolves in Utah - 45  
Support for wolves in Utah – 44  
Positive impacts of wolves on biodiversity, etc. – 44  
Need for sound science in planning, management – 41  
Livestock depredation – 28  
Impact on current game populations, license revenue – 28  
Creating a balanced plan - 25  
Economic loss and compensation for others – 22  
Public education about wolves - 22  
Depredation compensation for livestock owners – 18  
Impacts on wildlife – 17  
I-70 boundary issue – 17  
Quantity/quality of available wolf habitat in Utah – 13  
Impacts on multiple use, land use planning – 9  
Managing wolf-human interactions (includes human safety, protecting wolves from illegal kills, etc) – 9  
Legal status of wolves in Utah (predator, game animal, etc.) - 6  
Funding/costs of wolf management/depredation – 5  
Impact of adding an additional predator – 5  
Documenting existing wolves in Utah – 5  
Wildlife should be managed by the state - 4  
Wolf control – lethal, non-lethal - 4  
Emphasis of UDWR, legislature on game animals - 3  
Determining desired wolf numbers – 3  
Scientific assessment to determine wolf sustainability - 3  
Private property rights – 3  
Management options – hunting trapping – 2  
Wolf de-listing - 2  
Managing wolf distribution to minimize conflicts - 2  
Controlling wolf hybrids – 2  
Addressing needs of wildlife watchers - 1  
Spread of CWD, other diseases – 1  
Compensation from federal government – 1

### **Overall Summary of the Top Advice**

Top items of advice, by definition are those that were among the top three identified by one of the independent work groups during one of the public meetings. Many identical or very similar items were identified at more than one meeting.

### Prioritized Top Advice

The following is a listing of top items of advice from all locations, in descending order of the number of votes they received in prioritization. The total number of votes is noted for each. In order to be included on this list, the item of advice must have been selected as a top item by one of the independent working groups and have received votes in the prioritization process.

- Do not allow wolves in Utah. – 719
- Manage wolves as predators – eliminate protection. – 57
- Identify, protect and manage quality native ecosystems for wolves and prey. - 53
- Allow wolves in Utah. – 44
- Implement public education programs on wolves, wolf issues. - 31
- Base the plan and management on science. – 25
- Use information from other states and Canada. – 21
- Livestock should not have preference over wolves on public land. – 19
- Consider and fairly compensate for economic losses. – 16
- Plan should consider local, county and tribal plans. - 15
- Move the I-70 boundary. – 13
- No wolves? How? – 12
- Develop a plan for wolves when they impact livestock and native big game. – 10
- Preserve ranching to save habitat. - 6
- Wolves should be managed by the Department of Agriculture. – 5
- Establish protected areas of critical habitat for wolves. - 5
- Use a fair process that allows for public involvement throughout. – 5
- Get money from wolf advocates to help manage wolves. If all dollars come from license buyers, we should be allowed to hunt/trap them. - 5
- Develop management objectives that won't allow wolves south of I-70. – 4
- Develop an effective management plan for wolves in Utah. – 4
- Maintain protected status until they are established in Utah. - 4
- Work toward delisting in S. Utah; state control management – 4
- Assemble a task force to make sure wolves do not establish in Utah. - 4
- Reimbursement from private enterprise or non-profits for losses of privately owned livestock and wildlife. – 4
- Definitely listen to majority voice in Utah; not special interest groups. Those who attend wolf meetings. - 3
- Establish technical advisory committee similar to bears & lions. - 3
- No wolves in UT until we see what happens in ID, MT and WY. – 3
- Turn control/management to DWR immediately (using federal dollars). – 3
- Antelope Island would be a good place for wolves. – 3
- Develop a balanced plan. – 3
- Conduct a science based assessment of suitable wolf habitat. – 3
- Let Utah citizens vote in an election on wolves. – 3
- Allow wolves in certain locations, but if problems occur, manage the problem. – 2
- Every management tool should be available for wolf control. - 2
- Evaluate both positive and negative impacts on big game. - 2
- If other states reduce wolves and they are not de-listed, it limits our options. – 2
- Complete the plan in a timely manner. – 2
- Federal government should pay for damage to livestock, pets at 3x replacement cost. - 2

Communicate with property owners. – 2  
 Establish minimum number of breeding pairs to establish viable populations in Utah. - 2  
 Coordinate with land agencies on best locations for wolf management. - 2  
 Relocation is the best way of handling problem wolves, rather than euthanasia. – 2  
 Assign someone to focus on wolf activity and keep public informed. - 1  
 Have someone else manage wolves other than DWR. - 1  
 Develop a plan where DWR will issue tags to keep down numbers. - 1  
 Financial considerations should be paramount. - 1  
 Protect life, property, private rights over wolves. - 1  
 Delay allowing wolves until they are de-listed – 1  
 Keep track of wolves. - 1  
 Develop a system that involves all concerned groups – 1  
 Add a non-hunter/rancher/farmer to the Wildlife Board - 1  
 Balance conservation and recreational interests – 1  
 Develop a range of alternatives from “no wolves” to “designated recovery areas” - 1  
 Prepare a statement of issues and factual information to be distributed to the public before the plan is completed - 1  
 Make wolf management volunteer work – 1  
 Beware of special interests taking control – 1  
 Pay attention to the benefits (monetary, ecological, social, etc.) of wolves. - 1  
 Private property owners should have strongest voice – 1  
 Bounty on wolves – 1  
 Conduct a study to determine viable population size for wolves in UT - 1  
 Speed up delisting. - 1  
 Find a way to get Wyoming’s wolf management plan accepted. - 1  
 Maintain Utah’s current wildlife populations (though it will be a challenge due to human population growth – even without adding another compounding factor). -1  
 No wolf introduction or transplant (ever). - 1

## APPENDIX 5

### Summary Report: Utah Residents' Attitudes Towards Gray Wolves

Jeremy T. Bruskotter, Minnesota Cooperative Fish & Wildlife Research Unit,  
College of Natural Resources, University of Minnesota, 1980 Folwell  
Avenue, St. Paul, Minnesota 55108.

Robert H. Schmidt, Department of Environment and Society, Utah State  
University, Logan, UT 84322-5215

**Abstract:** We conducted a mail survey of Utah residents in order to determine their attitudes toward gray wolves (*Canis lupus*) and preferences regarding the management of wolves in Utah. The populations of interest for this study included urban and rural residents (sampled separately) and big game hunters, who identified themselves via the survey questionnaire. Residents generally reported positive attitudes toward wolves, were very supportive of non-lethal management, and supported "natural" re-population versus reintroduction. Hunters were split in terms of their attitudes toward wolves (urban hunters were slightly positive, while rural hunters were slightly negative), more supportive of lethal control methods, and supportive of natural re-population.

#### Introduction: Wolves in Utah

In November of 2002, a radio-collared, male wolf was captured in a coyote trap in north-central Utah, becoming the first confirmed wild wolf (*Canis lupus*) in Utah in approximately 70 years. This incident captured the public's interest and sparked a debate about what, if anything, should be done with wolves found inside Utah's borders. With wolves moving into the state, wildlife managers, politicians, and residents are faced with the dilemma of how to live with and manage wolves.

#### Study objectives

The primary goal of this study was to assess Utah residents' attitudes toward the wolf and their support for recovering a population of wolves in the state. Secondary objectives were to (1) determine the acceptability of various control methods, (2) determine residents' evaluations of several management options, (3) assess residents' priorities regarding wolf management, and (4) determine the acceptability of various sources of funding for wolf management.

#### Methods

A random sample of adult Utah residents was obtained from a private sampling firm, and data were collected through the use of mail-back questionnaires administered during October-November of 2003. In order to ensure adequate representation of rural residents, the sample was disproportionately stratified into 2 regions, urban counties (Davis, Salt Lake, Utah, and Weber) and rural counties, and 1000 residents from each region were sampled. We also used the question, "have you hunted big game animals within the last 3 years" in order to identify big game hunters, as we were interested in determining if big game

hunters differed from non-hunters in terms of their attitudes toward wolves and preferences concerning wolf management.

### **Data collection**

We received Institutional Review Board approval to study human subjects on October 7<sup>th</sup>, 2003, and began mailing surveys approximately 1 month later. Each household first received a letter explaining the study, accompanied by a questionnaire entitled “Wolves for Utah?,” with a return postage-paid cover. Subsequent mailings included a post-card reminder sent 10 days after the initial mailing, and a second questionnaire sent approximately 3 weeks after the initial mailing.

### **Measurement**

Utah residents’ overall attitudes toward wolves were measured based on their response to a single item: On a 0 to 10 scale, “please circle one answer that best describes your attitude toward wolves.” However, 4 other questions were used in order to ascertain respondents’ support for the management of wolves in Utah. These items were: (1) “Wolf numbers should be kept low to provide for plentiful deer and elk in an area,” (2) “Wolf populations should be kept low to minimize their impact on livestock production,” (3) “If wolves do not return to Utah by themselves then they should be actively returned to the state,” and (4) “Wolves should not be reintroduced, but they should be allowed to repopulate Utah naturally.” Finally, we included several questions designed to assess resident’s preferences regarding specific management practices regarding wolves.

### **Results**

#### Response Rates

The adjusted response rate for our survey was 709 of 1750, or 40.5%. The response rate for rural residents was higher (n = 373, 43.1%) than urban (n = 334, 37.7%), and may reflect a higher level of interest among rural residents due, in part, to higher rates of participation in hunting (rural = 39.7%, urban = 27.8%) and a greater likelihood to perceive the issue of wolf management as very important (rural = 33.3%, urban = 23.8%).

#### Demographics

Compared with data from the 2000 U.S. Census, 2003 respondents tended to be older (55% of urban respondents and 68% of rural respondents were 45 or older, compared with 40% for Census 2000; [Table 1](#)). Respondents also had higher levels of education (40% of urban residents and 44% of rural residents had at least a bachelors degree, compared with 26% for Census 2000), and more frequently male (almost 3/4s in both samples, as opposed 50% reported in the previous Census; U.S. Census Bureau 2000). The percentage of respondents who reported having hunted big game in at least one of the previous 3 years was also quite high (24% of urban residents and 35% of rural residents), and could reflect higher levels of interest in this issue among hunters.

## Utah residents' attitudes toward wolves

Utah resident' attitudes toward wolves were assessed primarily on their response to the following item: On a 0 (strongly dislike) to 10 (strongly like) scale, "*please circle one answer that best describes your attitude toward wolves.*" Based on this measure, we found strong differences between urban and rural residents: 60.3% of urban respondents reported liking wolves (mean = 6.46), whereas 46% of rural residents (mean = 5.39) reported liking them ( $P \leq 0.001$ ; [Table 2](#)). Similarly, urban residents who reported having hunted big game in one of the 3 previous years expressed a higher degree of like for wolves than rural big game hunters. Specifically, 50.8% of urban big game hunters reported liking wolves (mean = 5.76), compared with 38.2% of rural big game hunters (mean = 4.54). Although similar differences existed between urban and rural residents who did not hunt big game, these differences were not statistically significant.

### **Wolf management preferences**

*Control of wolves.* The majority of respondents from both the rural and urban samples supported killing wolves if: (1) wolves attack livestock (75% for rural and 74% for urban), and (2) wolves attack pets, (64% for rural and 65% for urban; [Table 3](#)). None of the other eight items were agreeable to the majority of respondents, though the item, "if wolves are shown to have a significant impact on big game" approached this mark with support from 50% of rural residents and 42% of urban residents. The majority of big game hunters also supported lethal control of wolves that attack livestock or pets. In addition, big game hunters supported lethal controls if wolves were shown to have a "significant negative impact" on big game populations or hunter success.

*Acceptability of control methods.* Rural and urban residents exhibited significant differences when asked to rate the acceptability of various methods for controlling wolves that kill livestock ([Table 4](#)). Rural residents rated the acceptability of lethal controls significantly ( $P < 0.05$ ) higher than urban residents in 4 out of 5 cases (7 point scale, where 1 = never acceptable and 7 = always acceptable). Urban residents, in turn, rated non-lethal methods significantly higher in 2 of 3 cases. However, non-lethal forms of control were rated the highest, in terms of acceptability, for both groups. These included: live trap and relocate (urban mean = 5.87, rural = 5.28), use of livestock guarding dogs (urban mean = 5.52, rural = 5.18), and harassment (urban mean = 5.20, rural = 4.96). The methods found to be least acceptable were poisoning wolves (urban mean = 2.24, rural = 2.61) and shooting wolves from the air (urban mean = 3.13, rural = 3.60). Big game hunters tended to rate lethal forms of control higher than the general population.

*Wolf management priorities.* We asked respondents to identify their "top priority" for the management of wolves in Utah from a list of items: (1) Ensure there are always wolves in Utah, (2) Maximize the number of wolves, (3) Minimize livestock – wolf conflicts, (4) Minimize any effects wolves might have on big game populations, (5) Minimize any and all negative economic impacts due to the presence of wolves, and (6) Maximize the visibility of wolves to increase

tourism opportunities. The priority most frequently selected by both rural and urban residents, as well as big game hunters, was to minimize any and all negative economic impacts due to the presence of wolves. The second most frequently selected priority for all groups of interest was to minimize livestock – wolf conflicts ([Table 5](#)).

*Funding wolf management in Utah.* The most acceptable funding sources for all groups of interest were those that would allow people a choice in supporting wolves. Respondents favored (1) voluntary contributions on state tax forms, (2) revenue generated from the sale of a wolf hunting license, and (3) revenue generated by the sale of a “wolf-logo” vehicle license plate, while they opposed (1) an additional tax for all citizens, (2) using money from the state’s general fund, and (3) an additional surcharge on the sale of all hunting licenses.

*Support for the management of wolves.* Utah residents generally supported the idea that wolf populations should be kept low to minimize their impact on livestock production (54% of urban residents agreed, 63% of rural residents; [Table 6](#)). However, rural and urban residents disagreed as to whether wolf numbers should be kept low to provide for plentiful deer and elk (49% of rural residents agreed, 34% of urban;  $P = .001$ ). While urban residents were split on whether or not wolves should be reintroduced if they fail to return to Utah, the majority of rural residents opposed reintroductions. However, both rural and urban residents generally supported the idea that wolves should be allowed to repopulate Utah naturally (49% of urban residents agreed, 28% disagreed; and 50% of rural residents agreed while 31% disagreed). Interestingly, these numbers were almost identical for hunters.

## **Conclusions**

Overall, our data indicate that Utah residents are generally supportive of recolonizing gray wolves. More importantly, while urban and rural residents differed in terms of their attitudes and level of support for wolves, they were very similar in terms of the preferences and stated priorities regarding wolf management. Furthermore, additional analysis indicated that public attitudes toward wolves have remained relatively stable over the past decade (Bruskotter 2004). In sum, these data suggest that Utah residents generally support the return of the wolf, though they desire to keep management costs to a minimum.

## Literature Cited

- Bangs, E. E., and S. H. Fritts. 1996. Reintroducing the gray wolf to central Idaho and Yellowstone National Park. *Wildlife Society Bulletin* 24:402-413.
- Bright, A. D., and M. J. Manfredo. 1996. A conceptual model of attitudes toward natural resource issues: a case study of wolf reintroduction. *Human Dimensions of Wildlife* 1:1-21.
- Bright, A. D., and M. J. Manfredo. 1997. The influence of balanced information on attitudes toward natural resources issues. *Society & Natural Resources* 10:469-484.
- Bruskotter, J. T. 2004. Utah residents' attitudes toward wolves: 1994-2003. Thesis, Utah State University, Logan, Utah, USA.
- Butler, J. S., J. Shanahan, and D. J. Decker. 2003. Public attitudes toward wildlife are changing: a trend analysis of New York residents. *Wildlife Society Bulletin* 31:1027-1036.
- DeBloois, D. L. 2001. Utah big game annual report 2001. Utah Division of Wildlife Resources, Publication 01-30, Salt Lake City, Utah, USA.
- Duda, M. D., Bissell, S. J., and K. C. Young. 1998. Wildlife and the American mind. Responsive Management Unit, Harrisonburg, Virginia, USA.
- Enck, J. W., and T. L. Brown. 2002. New Yorkers' attitudes toward restoring wolves to the Adirondack Park. *Wildlife Society Bulletin* 30:16-28.
- Ericsson, G., and T. A. Heberlein. 2003. Attitudes of hunters, locals, and the general public in Sweden now that the wolves are back. *Biological Conservation* 111:149-159.
- Feldman, J. W. 1996. The politics of predator control, 1964-1985. Thesis, Utah State University, Logan, Utah, USA.
- Fischer, H. 1995. Wolf wars. Falcon Press, Helena, Montana, USA.
- Fulton, D. C., M. J. Manfredo, and J. Lipscomb. 1996. Wildlife value orientations: a conceptual and measurement approach. *Human Dimensions of Wildlife* 1:24-47.
- Heberlein, T. A. 1991. Changing attitudes and funding for wildlife-preserving the sport hunter. *Wildlife Society Bulletin* 19:528-534.
- Kellert, S. R., M. Black, C. R. Rush, and A. J. Bath. 1996. Human culture and large carnivore conservation in North America. *Conservation Biology* 10:977-990.
- Kellert, S. R. 1999. The public and the wolf in Minnesota, 1999. A report for the International Wolf Center, Ely, Minnesota, USA.
- La Vine, K. P. 1995. The attitudes of Utah residents toward gray wolves. Thesis, Utah State University, Logan, Utah, USA.
- Lohr, C., W. B. Ballard, and A. J. Bath. 1996. Attitudes toward gray wolf reintroduction to New Brunswick. *Wildlife Society Bulletin* 24:414-420.



- Manfredo, M. J., T. L. Teel, and A. D. Bright. 2003. Why are public values toward wildlife changing? *Human Dimensions of Wildlife* 8:287-306.
- Messmer, T. A., D. Reiter, and B. C. West. 2001. Enhancing wildlife sciences' linkage to public policy: lessons from the predator-control pendulum. *Wildlife Society Bulletin* 29:1253-1259.
- Schmidt, R. H. 1996. A modest proposal to assist in the maintenance of a hunting culture. *Wildlife Society Bulletin* 24:373-375.
- Switalski, T. A., T. Simmons, S. L. Duncan, A. S. Chavez, and R. H. Schmidt. 2002. Wolves in Utah: an analysis of potential impacts and recommendations for management. *Natural Resource and Environmental Issues* 10:1-54.
- Teel, T. L. 1999. Utah stakeholder's attitudes toward wildlife-related issues. Thesis, Utah State University, Logan, Utah, USA.
- U.S. Census Bureau. 2000. United States Census Bureau. Online at [www.census.gov](http://www.census.gov) (accessed 24 February 2004).
- USFWS. 2004. Rocky Mountain wolf recovery 2003 annual report. United States Fish and Wildlife Service, Nez Perce Tribe, National Park Service, and USDA Wildlife Services. Helena, Montana, USA.
- Williams, C. K., G. Ericsson, and T. A. Heberlein. 2002. A quantitative summary of attitudes toward wolves and their reintroduction (1972-2000). *Wildlife Society Bulletin* 30:575-584.
- Wood, W. 2000. Attitude change: persuasion and social influence. *Annual Review of Psychology* 51:539-570.

Table 1. Demographic description of survey respondents by region sampled (%).<sup>a</sup>

Variable	Sample		
	Urban	Rural	
<i>Age of respondent</i>			
	18-34	28.0	19.3
	35-44	16.9	12.4
	45-54	23.1	20.4
	55-64	10.8	18.8
	65+	21.2	29.0
	(n)	(325)	(362)
<i>Respondent's level of education</i>			
	H.S. grad or less	13.8	18.5
	Some college	46.2	37.7
	Bachelor or 4 year degree	21.5	21.2
	Graduate work	18.5	22.6
	(n)	(325)	(363)
<i>Years in current residence</i>			
	0-10 yrs.	26.1	34.2
	11-20 yrs.	12.4	13.9
	21-30 yrs.	18.0	15.6
	31+ yrs.	43.5	36.4
	(n)	(322)	(360}
<i>Respondent's sex</i>			
	Female	27.6	25.1
	Male	72.4	74.9
	(n)	(322)	(359)
<i>Hunted big game within past 3 yrs</i>			
	Yes	24.3	34.7
	No	75.7	65.3
	(n)	(309)	(346)

<sup>a</sup> Urban: Davis, Salt Lake, Weber, and Utah counties; Rural north: Cache, Rich, Tooele, Morgan, Wasatch, Summit, Daggett, Duchesne, Uintah, and Box Elder counties; Rural south: Beaver, Carbon, Emery, Garfield, Grand, Iron, Juab, Kane, Millard, Piute, San Juan, Sanpete, Sevier, Washington, and Wayne counties.

Table 2. Utah residents' attitudes toward wolves.

Population of interest	<i>n</i>	Mean	Std. Dev.	<i>t</i>	%A / L	%N	%D	$\chi^2$
Urban	295	6.46	2.68	4.84***	60.3	23.7	15.9	16.92***
Rural	311	5.39	3.22		46.0	25.4	28.6	
Male	429	5.81	3.14	1.58	53.4	20.7	25.9	18.93***
Female	161	6.25	2.61		52.8	34.8	12.4	
Urban BG hunter	63	5.76	3.33	2.30*	50.8	23.8	25.4	5.31
Rural BG hunter	102	4.54	3.31		38.2	18.6	43.1	

\*Significant at  $P \leq 0.05$ , \*\*  $P \leq 0.01$ , \*\*\*  $P \leq 0.001$ .

Table 3. Utah residents' tolerance for lethal control measures.

Response item:	Urban <i>n</i> = 315	Rural <i>n</i> = 357	$\chi^2$
As soon as they enter the state.....	12.7	24.4	14.87***
As soon as the state wolf population is able to sustain itself.....	20.3	17.9	0.62
If wolves attack pets.....	64.8	64.4	0.01
If wolves attack livestock.....	74.0	75.4	0.17
If wolves are shown to have a significant negative impact on hunter success...	24.8	33.3	5.93*
If wolves are shown to have a significant negative impact on big game.....	42.2	49.6	3.65
Whenever wolves wander on to private property.....	30.5	36.4	2.64
Never.....	7.9	5.9	1.11
Other.....	10.5	12.0	na

\*Significant at  $P \leq 0.05$ , \*\*  $P \leq 0.01$ , \*\*\*  $P \leq 0.001$ .

Table 4. Utah residents' assessment of the acceptability of control methods for wolves that kill livestock.<sup>a</sup>

Response item:	Sample	<i>n</i>	Mean	Std. D.	Std. Err.	<i>t</i>	<i>P</i>
Live trap and relocate.	Urban	306	5.87	1.76	0.10	3.77	0.001
	Rural	338	5.28	2.17	0.12		
Live trap and shoot.	Urban	299	3.52	2.20	0.13	3.35	0.001
	Rural	344	4.12	2.30	0.12		
Live trap and lethal injection.	Urban	298	3.48	2.11	0.12	3.77	0.001
	Rural	336	4.15	2.31	0.13		
Shooting from the air.	Urban	297	3.13	2.17	0.13	2.57	0.1
	Rural	336	3.60	2.40	0.13		
Hunting wolves.	Urban	299	4.41	2.22	0.13	2.7	0.007
	Rural	341	4.88	2.16	0.12		
Poisoning wolves.	Urban	295	2.24	1.86	0.11	2.27	0.024
	Rural	334	2.61	2.22	0.12		
Livestock guarding dogs.	Urban	299	5.52	1.73	0.10	2.22	0.027
	Rural	332	5.18	2.03	0.11		
Harassment.	Urban	301	5.20	1.90	0.11	1.42	0.157
	Rural	328	4.96	2.19	0.12		

<sup>a</sup> Based on a 7-point scale: 1 = never acceptable to 7 = always acceptable.

Table 5. Utah residents' top priority for wolf management (% who selected item).

Response item:	Urban <i>n</i> = 313	Rural <i>n</i> = 352	Rank
Ensure there are always wolves in Utah.....	17.3	8.5	3 -- 5
Maximize the number of wolves.....	2.9	3.4	6 -- 6
Minimize livestock - wolf conflicts.....	29.1	24.4	2 -- 2
Minimize any effects wolves might have on big game....	5.4	8.8	5 -- 4
Minimize negative economic impacts.....	37.4	39.2	1 -- 1
Maximize the visibility of wolves to increase tourism.....	1.6	2.8	7 -- 7
Other.....	6.4	12.8	4 -- 3

Table 6. Utah residents' support for various wolf management options.

Variable	Sample	<i>n</i>	Mean	Std. Dev.	<i>t</i>	%A	%N	%D	$\chi^2$
Wolf numbers should be kept low to provide for plentiful deer and elk in an area. <sup>a</sup>	Urban	316	4.83	2.88	4.54***	34.2	22.8	43.0	20.13***
	Rural	346	5.91	3.23		49.4	22.8	27.7	
Wolf populations should be kept low to minimize their impact on livestock production. <sup>a</sup>	Urban	318	5.68	2.95	3.80***	53.8	15.4	30.8	6.99*
	Rural	349	6.60	3.25		63.3	14.0	22.6	
If wolves do not return to Utah by themselves, then they should be actively returned to the state. <sup>a</sup>	Urban	320	4.69	3.05	4.01***	36.3	25.6	38.1	15.84***
	Rural	350	3.69	3.40		26.6	20.0	53.4	
Wolves should <u>not</u> be reintroduced, but they should be allowed to repopulate Utah naturally. <sup>b</sup>	Urban	319	4.41	1.87	0.901	48.9	22.9	28.2	1.91
	Rural	361	4.39	2.10		49.9	18.8	31.3	

\*Significant at  $P \leq 0.05$ , \*\*  $P \leq 0.01$ , \*\*\*  $P \leq 0.001$ .

<sup>a</sup> Item measured on an 11-point scale where 0 = strongly disagree and 10 = strongly agree.

<sup>b</sup> Item measured on an 7-point scale where 1 = strongly disagree and 7 = strongly agree.



GARY R. HERBERT  
*Governor*

SPENCER J. COX  
*Lieutenant Governor*

# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Wildlife Resources

GREGORY J. SHEEHAN  
*Division Director*

## MEMORANDUM

To: Utah Wildlife Board Members  
From: Kenny Johnson, Administrative Services Chief  
Date: November 18, 2014  
Subject: Amendment to R657-55 (Wildlife Convention Permits Rule)

The Division of Wildlife Resources is proposing three changes to this rule. First is to replace the term “Convention” with the term “Expo” to more clearly separate these permits from conservation permits, reducing confusion of the two. This name change will modify the wording of seven other rules where we reference “convention”. The second proposed change is to allow the conservation organization named in the Expo contract the option to extend for up to 5 additional years upon mutual agreement of the division and approval of the Wildlife Board. The third proposed change is to formalize in rule the amount of application fee revenue that can be retained by the contractor for overhead at \$3.50 per application, and specify that the remaining revenue be utilized for division director approved projects that advance wildlife interests in the state.

We believe these changes are positive for the public as they will reduce confusion, allow the division and Wildlife Board to discuss and extend successful contracts, and bring transparency to the revenue generated with application fees.





**[R657. Department of Natural Resources, Wildlife Resources.**

**R657-55. Wildlife [~~Convention~~] Expo Permits.**

**R657-55-1. Purpose and Authority.**

(1) Under the authority of Sections 23-14-18 and 23-14-19 of the Utah Code, this rule provides the standards and requirements for issuing wildlife [~~convention~~] expo permits.

(2) Wildlife [~~convention~~] expo permits are authorized by the Wildlife Board and issued by the division to a qualified conservation organization for purposes of generating revenue to fund wildlife conservation activities in Utah and attracting and supporting a regional or national wildlife [~~convention to~~] exposition in Utah.

(3) The selected conservation organization will conduct a random drawing at [~~a convention~~] an exposition held in Utah to distribute the opportunity to receive wildlife [~~convention~~] expo permits.

(4) This rule is intended as authorization to issue one series of wildlife [~~convention~~] expo permits per year [~~beginning in 2012 through 2016~~] to one qualified conservation organization.

**R657-55-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2.

(2) In addition:

(a) "Conservation organization" means a nonprofit chartered institution, corporation, foundation, or association founded for the purpose of promoting wildlife conservation.

(b) "Special nonresident [~~convention~~] expo permit" means one wildlife [~~convention~~] expo permit for each once-in-a-lifetime species that is only available to a nonresident hunter legally eligible to hunt in Utah.

(c) "Wildlife [~~Convention~~] exposition" means a multi-day event held within the state of Utah that is sponsored by [~~multiple~~] one or more wildlife conservation organizations as their national or regional convention or event that is open to the general public and designed to draw nationwide attendance of more than 10,000 individuals. The wildlife [~~convention~~] exposition may include wildlife conservation fund raising activities, outdoor exhibits, retail marketing of outdoor products and services, public awareness programs, and other similar activities.

(d) "Wildlife [~~Convention Audit~~] exposition audit" means an annual review by the division of the conservation organization's processes used to handle applications for [~~convention~~] expo permits and conduct the drawing, [~~and~~] the protocols associated with collecting and using client data, the revenue generated from expo permit application fees, and the expenditure of designated expo permit application fee revenue on division-approved projects.

(e) "Wildlife [~~Convention Permit~~] expo permit" means a permit which:

(i) is authorized by the Wildlife Board to be issued to successful applicants through a drawing or random selection process conducted at a Utah wildlife [~~convention~~] exposition; and

(ii) allows the permittee to hunt [~~for~~] the designated species on the

designated unit during the respective season for each species as authorized by the Wildlife Board.

(f) "Wildlife [~~Convention Permit~~] expo permit series" means a single package of permits to be determined by the Wildlife Board for:

- (i) deer;
- (ii) elk;
- (iii) pronghorn; (iv) moose; (v) bison;
- (vi) rocky mountain goat;
- (vii) desert bighorn sheep;
- (viii) rocky mountain bighorn sheep;
- (ix) wild turkey;
- (x) cougar; or
- (xi) black bear.

(g) "Secured [~~Opportunity~~] opportunity" means the opportunity to [~~participate in~~] receive a specified [~~hunt~~] wildlife expo permit that is secured by an eligible applicant through the exposition drawing process.

(h) "Successful [~~Applicant~~] applicant" means an individual selected to receive a wildlife [~~convention~~] expo permit through the drawing process.

#### **R657-55-3. Wildlife [~~Convention~~] Expo Permit Allocation.**

(1) The Wildlife Board may allocate wildlife [~~convention~~] expo permits by May 1 of the year preceding the wildlife [~~convention~~] exposition.

(2) Wildlife [~~convention~~] expo permits shall be issued as a single series to one conservation organization.

(3) The number of wildlife [~~convention~~] expo permits authorized by the Wildlife Board shall be based on:

(a) the species population trend, size, and distribution to protect the long-term health of the population;

(b) the hunting and viewing opportunity for the general public, both short and long term; and

(c) a percentage of the permits available to nonresidents in the annual big game drawings matched by a proportionate number of resident permits.

(4) Wildlife [~~convention~~] expo permits, including special nonresident [~~convention~~] expo permits, shall not exceed 200 total permits.

(5) Wildlife [~~convention~~] expo permits designated for the [~~convention~~] exposition each year shall be deducted from the number of public drawing permits.

#### **R657-55-4. Obtaining Authority to Distribute Wildlife [~~Convention~~] Expo Permit Series.**

~~[-(1) The]~~ (1)(a) Except as provided in Subsection (b), the wildlife [~~convention~~] expo permit series is issued for a period of five years ~~[-as provided in Section R657-55-1(4)].~~

(b) Upon mutual agreement of the division and conservation organization and with the approval of the Wildlife Board, the original five year term may be extended an additional period not to exceed five years.

(2) The wildlife [~~convention~~] expo permit series is available to eligible conservation organizations for distribution through a drawing or other random selection process held at a wildlife [~~convention~~] exposition in Utah open to the public.

(3) Conservation organizations may apply for the wildlife [convention] expo permit series by sending an application to the division between August 1 and September ~~[1, 2010.]~~ 1 of the year preceding the expiration of each wildlife exposition term, as provide in R657-55-4(1).

(4) Each application must include:

- (a) the name, address and telephone number of the conservation organization;
- (b) a description of the conservation organization's mission statement;
- (c) the name of the president or other individual responsible for the administrative operations of the conservation organization; and
- (d) a detailed business plan describing how the wildlife [convention] exposition will take place and how the wildlife [convention] expo permit drawing procedures will be carried out.

(5) An incomplete or incorrect application may be rejected.

(6) The division shall recommend to the Wildlife Board which conservation organization may receive the wildlife [convention] expo permit series based on:

- (a) the business plan for the [convention] wildlife exposition and drawing procedures contained in the application; and
- (b) the conservation organization's, including its constituent entities, ability, including past performance in marketing conservation permits under Rule R657-41, to effectively plan and complete the wildlife [convention] exposition.

(7) The Wildlife Board shall make the final assignment of the wildlife [convention] expo permit series based on the:

- (a) division's recommendation;
- (b) applicant conservation organization's commitment to use [convention] expo permit handling fee revenue to benefit protected wildlife in Utah;
- (c) historical contribution of the applicant conservation organization, including its constituent entities, to the conservation of wildlife in Utah; and
- (d) previous performance of the applicant conservation organization, including its constituent entities.

(8) The conservation organization receiving the wildlife [convention] expo permit series must: (a) require each wildlife [convention] expo permit applicant to [~~verify they~~] possess a current Utah hunting or combination license before [~~allowing them to apply~~] applying for a [convention] wildlife expo permit[-];

(b) select successful applicants for [~~the~~] wildlife convention permits by drawing or other random selection process in accordance with law, provisions of this rule, proclamation, and order of the Wildlife Board;

(c) allow applicants to apply for [~~the~~] wildlife [convention] expo permits without purchasing admission to the wildlife [convention] exposition;

(d) notify the division of the successful applicant of each wildlife [convention] expo permit within 10 days of the applicant's selection;

(e) maintain records demonstrating that the drawing was conducted fairly; and

(f) submit to an annual wildlife [convention] exposition audit by a division[-] appointed auditor.

(9) The division shall issue the appropriate wildlife [convention] expo permit to the designated successful applicant after:

- (a) completion of the random selection process;
- (b) verification of the recipient being ~~[found]~~ eligible for the permit; and
- (c) payment of the appropriate permit fee is received by the division.

(10) The division and the conservation organization receiving the wildlife ~~[convention]~~ expo permit series shall enter into a contract, including the provisions outlined in this rule.

(11) If the conservation organization awarded the wildlife ~~[convention]~~ expo permit series withdraws before the end of the 5 year period or any extension period under R657-55-4(1)(b), any remaining co-~~[participants]~~ participant with the conservation organization may be given an opportunity to assume the contract and to distribute the ~~[convention]~~ expo permit series consistent with the contract and this rule for the remaining years ~~[left]~~ in the ~~[5-year]~~ applicable period, provided:

(a) The original contracted conservation organization submits a certified letter to the division identifying that it will no longer be participating in the ~~[convention]~~ exposition.

(b) The partner or successor conservation organization files an application with the division as provided in ~~[subsection-]~~ Subsection (4) for the remaining period.

(c) The successor conservation organization submits its application request at least 60 days prior to the next scheduled ~~[convention]~~ exposition so that the ~~[wildlife board]~~ Wildlife Board can evaluate the request under the criteria in this section.

(d) The Wildlife Board authorizes the successor conservation organization to assume the contract and complete the balance of the ~~[5-year-convention]~~ expo permit series period.

(12) The division may suspend or terminate the conservation organization's authority to distribute wildlife ~~[convention]~~ expo permits at any time during the original five year award term or any extension period for:

(a) violating any of the requirements set forth in this rule or the contract;

or

(b) failing to bring or organize a wildlife ~~[convention]~~ exposition in Utah, as described in the business plan under R657-55-4(4)(d), in any given year.

#### **R657-55-5. ~~[Hunter]~~ Wildlife Expo Permit Application Procedures.**

(1) Any ~~[hunter]~~ person legally eligible to hunt in Utah may apply for a wildlife ~~[convention]~~ expo permit, except that only a nonresident of Utah may apply for a special nonresident ~~[convention]~~ expo permit.

(2) ~~[Any]~~ The handling fee assessed by the conservation organization to process applications shall ~~[not exceed]~~ be \$5 per application submitted ~~[at the convention]~~.

(3)(a) Except as provided in Subsection (3)(b), applicants must validate their application in person at the wildlife ~~[convention]~~ exposition to be eligible to participate in the ~~[random drawing process, for]~~ wildlife ~~[convention-permits, and no]~~ expo permit drawing.

(i) No person may submit an application in behalf of another.

(ii) A person may validate their wildlife expo permit application at the exposition without having to enter the exposition and pay the admission charge.

(b) An applicant that is a member of the United States Armed Forces and

unable to attend the wildlife ~~[convention]~~ exposition as a result of being deployed or mobilized in the interest of national defense or a national emergency is not required to validate their application in person; provided ~~[convention]~~ exposition administrators are furnished a copy of the written deployment or mobilization orders and the orders identify:

(i) the branch of the United States Armed forces from which the applicant is deployed or mobilized;

(ii) the location where the applicant is deployed or mobilized;

(iii) the date the applicant is required to report to duty; and

(iv) the nature and length of the applicant's deployment or mobilization.

(c) The conservation organization shall maintain a record, including copies of military orders, of all applicants that are not required to validate their applications in person pursuant to Subsection (3)(b), and submit to a ~~[Division]~~ division audit of these records as part of its annual audit under R657-55-4(8)(f).

(4) Applicants may apply for each individual hunt for which they are eligible.

(5) Applicants m

(6) Applicants must submit an application for each desired hunt.

(7) Applicants must possess a current Utah hunting or combination license in order to apply for a wildlife expo permit.

(8) The conservation organization shall advertise, accept, and process applications for wildlife ~~[convention]~~ expo permits and conduct the drawing in compliance with this rule and all other applicable laws.

#### **R657-55-6. Drawing Procedures.**

(1) A random drawing or selection process must be conducted for each wildlife ~~[convention]~~ expo permit.

(2) ~~[No preference or]~~ Preference and bonus points ~~[shall be]~~ are neither awarded nor applied in the drawings.

(3) Waiting periods do not apply, except any person who obtains a wildlife ~~[convention]~~ expo permit for a once-in-a-lifetime species is subject to the once-in-a-lifetime restrictions applicable to obtaining a subsequent permit for the same species through a division application and drawing process, as provided in Rule R657-5 and the proclamation of the Wildlife Board for taking big game.

(4) No predetermined quotas or restrictions shall be imposed in the application or selection process for wildlife ~~[convention]~~ expo permits between resident and nonresident applicants, except that special nonresident ~~[convention]~~ expo permits may only be awarded to a nonresident of Utah.

(5) Drawings will be conducted within five days of the close of the ~~[convention.]~~ exposition.

(6) Applicants do not have to be present at the drawing to be awarded a wildlife ~~[convention]~~ expo permit.

(7) The conservation organization shall identify all eligible alternates for each wildlife ~~[convention]~~ expo permit and provide the division with a finalized list. This list will be maintained by the conservation organization until all permits are issued.

(8) The division shall contact successful applicants by phone or mail, and the conservation organization shall post the name of all successful

applicants on a designated website.

#### **R657-55-7. Issuance of Permits.**

(1) The division shall provide a wildlife ~~[convention]~~ expo permit to the successful applicant, as designated by the conservation organization.

(2) The division m

(3) The division shall provide each successful applicant a letter indicating the permit secured in the drawing, the appropriate fee owed the division, and the date the fee is due.

(4)(a) Successful applicants must provide the permit fee payment in full to the division ~~[and will be issued]~~.

(b) Subject to the limitation in Subsection (8), the division will issue the designated wildlife ~~[convention permit upon receipt of the appropriate permit fee and providing proof they possess a current Utah hunting or combination license.] expo permit to the applicant.~~

(5) Residents will pay resident permit fees and nonresidents will pay nonresident permit fees.

(6) Applicants are eligible to obtain only one permit per species, except as provided in Rule R657-5, but no restrictions apply on obtaining permits for multiple species.

(7) ~~[If]~~ If an applicant is selected for more than one ~~[convention]~~ expo permit for the same species, the ~~[Division]~~ division will contact the applicant to determine which permit the applicant selects.

(a) The applicant must select the permit of choice within five days of receiving notification.

(b) If the ~~[Division]~~ division is unable to contact the applicant within 5 days, the ~~[Division]~~ division will issue to the applicant the permit with the most difficult drawings odds based on drawing results from the ~~[Division's Big Game]~~ division's big game drawing for the preceding year.

(c) Permits not issued to the applicant will go to the next person on the alternate drawing list for that permit.

(8) Any successful applicant who fails to satisfy the following requirements will be ineligible to receive the wildlife ~~[convention]~~ expo permit and the next drawing alternate for that permit will be selected~~[-]~~:

(a) The applicant fails to return the appropriate permit fee in full by the date provided in Subsection (3) ~~[-of]~~;

(b) The applicant ~~[did]~~ does not possess a valid Utah hunting or combination license at the time the ~~[convention]~~ expo permit application was submitted and the permit received; or(c) The applicant is legally ineligible to possess the permit.

#### **R657-55-8. Surrender or Transfer of Wildlife ~~[Convention]~~ Expo Permits.**

(1)(a) ~~[If a]~~ A person selected to receive a wildlife ~~[convention]~~ expo permit that is also successful in obtaining a Utah limited entry permit for the same species in the same year or successful in obtaining a general permit for a male animal of the same species in the same year, ~~[that person cannot]~~ may not possess both permits and must select the permit of choice.

(b) In the event ~~[the]~~ a secured opportunity is willingly surrendered before the permit is issued, the next eligible applicant on the alternate drawing list

will be selected to receive the ~~[secured opportunity]~~ permit.

(c) In the event the wildlife ~~[convention]~~ expo permit is surrendered, the next eligible applicant on the alternate drawing list for that permit will be selected to receive ~~[the permit]~~ it, and the permit fee may be refunded, as provided in Sections 23-19-38, 23-19-38.2, and R657-42-5.

(2) A person selected by a conservation organization to receive a wildlife ~~[convention]~~ expo permit, may not sell or transfer the permit, or any rights thereunder to another person in accordance with Section 23-19-1.

(3) If a person is successful in obtaining a wildlife ~~[convention]~~ expo permit but is legally ineligible to hunt in Utah, the next eligible applicant on the alternate drawing list for that permit will be selected to receive ~~[the permit]~~ it.

#### **R657-55-9. Using a Wildlife ~~[Convention]~~ Expo Permit.**

(1) A wildlife ~~[convention]~~ expo permit allows the recipient to:

(a) take only the species for which the permit is issued;

(b) take only the species and sex printed on the permit; ~~[and]~~

(c) take the species only in the area and during the season

specified on the permit; ~~and~~

(d) take the species only with the weapon type specified on the permit.

(2) The recipient of a wildlife ~~[convention]~~ expo permit is subject to all of the provisions of Title 23, Wildlife Resources Code, and the rules and proclamations of the Wildlife Board for taking and pursuing wildlife.

#### **R657-55-10. Wildlife Expo Permit -- Application Fee Revenue.**

(1) All wildlife expo permit, application fee revenue generated by the conservation organization under R657-55-5(2) will be deposited in a separate, federally insured account to prevent commingling with any other funds.

(a) All interest earned on application fee revenue may be retained and used by the conservation organization for administrative expenses.

(2) The conservation organization may retain up to \$3.50 of each \$5.00 application fee for administrative expenses.

(3) The remaining balance of each \$5.00 application fee will be used by the conservation organization to fund projects advancing wildlife interests in the state, subject to the following:

(a) project funding will not be committed to or expended on any project without first obtaining the division director's written approval;

(b) cash donations to the Wildlife Habitat Account created under Section 23-19-43 or Division Species Enhancement Funds are authorized projects that do not require the division director's approval; and

(c) application fee revenue dedicated to funding projects must be completely expended on or committed to approved projects by September 1<sup>st</sup>, two years following the year in which the application fee revenue is collected, unless otherwise authorized in writing by the division director.

(4) All records and receipts for projects under Subsection (3) must be retained by the conservation organization for a period not less than five years, and shall be produced to the division for inspection upon request.

(5) The conservation organization shall submit a report to the division and Wildlife Board each year no later than September 1<sup>st</sup> that accounts for and

documents the following:

(a) gross revenue generated from collecting \$5 wildlife expo permit application fees;

(b) total amount of application fee revenue retained for administrative expenses;

(c) total amount of application fee revenue set aside and dedicated to funding projects, including bank statements showing account balances; and

(d) description and records of each project funded with application fee revenue, including the date of funding, the amount of funding contributed, and the completion status of the project.

(6) An organization that individually receives application fee revenue from the expo permit drawing pursuant to a co-participant contract with the conservation organization is subject to the provisions in Subsections (1) through (5).

**KEY:** wildlife, wildlife permits

**Date of Enactment or Last Substantive Change:** February 7, 2011

**Notice of Continuation:** March 26, 2010

**Authorizing, and Implemented or Interpreted Law:** 23-14-18; 23-14-19



## 2014 EXPO PERMIT RULE AMENDMENTS

### R657. Natural Resources, Wildlife Resources.

#### R657-5. Taking Big Game.

##### R657-5-2. Definitions.

- (1) Terms used in this rule are defined in Section 23-13-2.
- (2) In addition:
  - (a) "Antlerless deer" means a deer without antlers or with antlers five inches or shorter.
  - (b) "Antlerless elk" means an elk without antlers or with antlers five inches or shorter.
  - (c) "Antlerless moose" means a moose with antlers shorter than its ears.
  - (d) "Arrow quiver" means a portable arrow case that completely encases all edges of the broadheads.
  - (e) "Buck deer" means a deer with antlers longer than five inches.
  - (f) "Buck pronghorn" means a pronghorn with horns longer than five inches.
  - (g) "Bull elk" means an elk with antlers longer than five inches.
  - (h) "Bull moose" means a moose with antlers longer than its ears.
  - (i) "Cow bison" means a female bison.
  - (j) "Doe pronghorn" means a pronghorn without horns or with horns five inches or shorter.
  - (k) "Draw-lock" means a mechanical device used to hold and support the draw weight of a conventional or compound bow at any increment of draw until released by the archer using a trigger mechanism and safety attached to the device.
  - (l) "Hunter's choice" means either sex may be taken.
  - (m) "Limited entry hunt" means any hunt published in the hunt tables of the guidebook of the Wildlife Board for taking big game, which is identified as limited entry and does not include general or once-in-a-lifetime hunts.
  - (n) "Limited entry permit" means any permit obtained for a limited entry hunt by any means, including conservation permits, wildlife [convention expo](#) permits, sportsman permits, cooperative wildlife management unit permits and limited entry landowner permits.
  - (o) "Once-in-a-lifetime hunt" means any hunt published in the hunt tables of the guidebook of the Wildlife Board for taking big game, which is identified as once-in-a-lifetime, and does not include general or limited entry hunts.
  - (p) "Once-in-a-lifetime permit" means any permit obtained for a once-in-a-lifetime hunt by any means, including conservation permits, wildlife [conventions expo](#) permits, sportsman permits, cooperative wildlife management unit permits and limited entry landowner permits.
  - (q) "Ram" means a male desert bighorn sheep or Rocky Mountain bighorn sheep.
  - (r) "Spike bull" means a bull elk which has at least one antler beam with no branching above the ears. Branched means a projection on an antler longer than one inch, measured from its base to its tip.
  - (s) "Drone" means an autonomously controlled, aerial vehicle of any size or configuration that is capable of controlled flight without a human pilot aboard.

**R657. Natural Resources, Wildlife Resources.**

**R657-38. Dedicated Hunter Program.**

**R657-38-13. Obtaining Other Permits.**

(1) Participants may not apply for or obtain any general season buck deer permit, including general landowner buck deer permits, or respective preference points issued by the Division through the big game drawing, license agents, over-the-counter sales, or the internet during an enrollment period in the program.

(a) Any general season deer permit obtained is invalid and must be surrendered prior to the beginning date of that permit. A refund may not be issued pursuant to Section 23-19-3.

(2)(a) Participants may apply for or obtain a limited entry season buck deer permit, including CWMU, limited entry landowner, conservation, ~~convention expo~~, and poaching rewards permits

(i) The limited entry buck deer permit may be obtained without the completion of the annual program requirements, but does not exempt the participant from fulfilling the minimum requirements of the entire enrollment.

(ii) Obtaining a limited entry buck deer permit during the enrollment shall not extend the enrollment period, but shall take the place of one of the 3 possible permit years.

(iii) Harvest with a limited entry buck deer permit shall not be counted as a program harvest.

(b) If the participant obtains a limited entry buck deer permit and has been issued a Dedicated Hunter permit, that permit or the Dedicated Hunter permit must be surrendered as permissible by R657-38-11 and R657-42. A refund may not be issued pursuant to Section 23-19-38.

(i) A participant who obtains a limited entry buck deer permit may only use that permit in the prescribed area and season listed on the permit. Dedicated Hunter privileges are not transferred to that permit.

(ii) The limited entry buck deer permit may not be obtained if the Dedicated Hunter permit has been in possession of the participant during any open portion of the general buck deer season.

(3)(a) Participants may apply for or obtain antlerless deer permits as provided in Rule R657-5 and the guidebook of the Wildlife Board for taking big game.

(b) Except as provided in R657-38-10, harvest of an antlerless deer with an antlerless deer permit shall not be considered a program harvest.

**R657. Natural Resources, Wildlife Resources.**

**R657-41. Conservation and Sportsman Permits.**

**R657-41-12. Special Antelope Island State Park Conservation Permit.**

(1) If the Wildlife Board authorizes a hunt for bighorn sheep or mule deer on Antelope Island State Park, one permit for each species will be made available as a Special Antelope Island State Park Conservation Permit.

(2) Special Antelope Island State Park Conservation Permits will be issued for one year.

(3) Special Antelope Island State Park Conservation Permits will be issued under this section and will not be limited by the requirements of R657-41-3 through R657-41-8.

(4) Special Antelope Island State Park Conservation Permits will be provided to the conservation group awarded the wildlife convention expo permit series as provided in R657-55 for marketing at the wildlife convention exposition where the wildlife convention expo permits are awarded.

(5) The division and conservation organization receiving Special Antelope Island State Park Conservation Permits shall enter into a contract

(6) The conservation organization receiving Special Antelope Island State Park Conservation Permits must insure that the permits are marketed and distributed by lawful means.

(7) The conservation organization must:

(a) obtain the name of the proposed permit recipient at the event where the permit recipient is selected; and

(b) notify the division of the proposed permit recipient within 10 days of the recipient selection or the permit may be forfeited.

(8) If a person is selected by a qualified organization to receive a Special Antelope Island State Park Conservation Permit and is also successful in obtaining a permit for the same species in the same year through a division drawing, that person may designate another person to receive the Special Antelope Island State Park Conservation Permit, provided the permit has not been issued by the division to the first selected person.

(9) If a person is selected by a qualified organization to receive a Special Antelope Island State Park Conservation Permit, but is unable to use the permit, the conservation organization may designate another person to receive the permit provided:

(a) the conservation organization selects the new recipient of the permit;

(b) the amount of money received by the division for the permit is not decreased;

(c) the conservation organization relinquishes to the division and otherwise uses all proceeds generated from the re-designated permit, pursuant to the requirements provided below:

(i) the conservation organization and the initial designated recipient of the permit, sign an affidavit indicating the initial designated recipient is not profiting from transferring the right to the permit; and

(ii) the permit has not been issued by the division to the first designated person.

(10) Except as otherwise provided under Subsections (8) and (9), a person designated by a conservation organization as a recipient of a Special Antelope Island State Park Conservation Permit, may not sell or transfer the rights to that designation to any other person. This does not preclude a person from bidding or otherwise lawfully

acquiring a permit from a conservation organization on behalf of another person who will be identified as the original designated recipient.

(11) A person cannot obtain a Special Antelope Island State Park Conservation Permit for a bighorn sheep or mule deer and any other permit for a male animal of the same species in the same year.

(12) The person designated to receive a Special Antelope Island State Park Conservation Permit must possess or obtain a current Utah hunting or combination license before being issued the permit.

(13) Within 30 days of the convention wildlife exposition, but no later than May 1 annually, the conservation organization must submit to the division:

(a) a final report on the distribution of the Special Antelope Island State Park Conservation Permits;

(b) the total funds raised on each permit; and

(c) the funds due to the division.

(14)(a) Permits shall not be issued until the permit fees are paid to the division.

(b) If the conservation organization is paying the permit fees for the permit recipient, the fees must be paid from the 10% retained by the conservation organization as provided in R657-41-9(5)(a).

(15)(a) Conservation organizations shall remit to the division 90% of the total revenue generated by the Special Antelope Island State Park Conservation Permit sales in that year.

(b) Failure to remit 90% of the total permit revenue to the division by the September 1 deadline may result in criminal prosecution under Title 76, Chapter 6, Part 4 of the Utah Code.

(16) A conservation organization may retain 10% of the revenue generated by the permits for administrative expenses.

(17) Upon receipt of the permit revenue from the conservation organization, the division will transfer the revenue in its entirety to the Division of Parks and Recreation as provided in a cooperative agreement between the two divisions.

**R657. Natural Resources, Wildlife Resources.**

**R657-42. Fees, Exchanges, Surrenders, Refunds and Reallocation of Wildlife Documents.**

**R657-42-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2 and the applicable rules and guidebooks of the Wildlife Board.

(2) In addition:

(a) "Alternate drawing lists" means a list of persons who have not already drawn a permit and would have been the next person in line to draw a permit.

(b) "CWMU" means cooperative wildlife management unit.

(c) "Deployed or mobilized" means that a person provides military or emergency services in the interest of national defense or national emergency pursuant to the demand, request or order of their employer.

(d) "General season permit" means any:

(i) bull elk, buck deer, or turkey permit identified in the guidebooks of the Wildlife Board as a general season permit;

(ii) antlerless permit for elk, deer, or pronghorn antelope; or

(iii) harvest objective cougar permit.

(e) "Landowner association operator" for purposes of this rule, means:

(i) a landowner association or any of its members eligible to receive limited entry landowner permits as provided in Rule R657-43; or

(ii) CWMU - landowner association or its designated operator as provided in Rule R657-37.

(f) "Limited entry permit" means any permit, including a CWMU, conservation, convention expo, sportsman, or limited entry landowner permit, identified in the guidebooks of the Wildlife Board as limited entry or premium limited entry for the following;

(i) bull elk, buck deer, buck pronghorn, bear, cougar, or turkey; and

(ii) antlerless moose.

(g) "Once-in-a-lifetime permit" means any permit, including a CWMU, conservation, convention expo, sportsman, or limited entry landowner permit, identified in the guidebooks of the Wildlife Board as once-in-a-lifetime for the following:

(i) bison, bull moose, Rocky Mountain goat, desert bighorn sheep, and Rocky Mountain bighorn sheep

(h) "Wildlife document" means any license, permit, tag, or certificate of registration issued by the division.

**R657. Natural Resources, Wildlife Resources.**

**R657-57. Division Variance Rule.**

**R657-57-4. Division Variance Authority Scope.**

(1)(a) The Division may grant a season extension variance extending the hunting season on an applicant's wildlife document to the same or substantially similar hunt in the following year, provided:

(i) the variance request involves a wildlife document for a:

(A) once-in-a-lifetime hunt under R657-5;

(B) conservation permit hunt under R657-41;

(C) limited entry landowner permit hunt under R657-43;

(D) poaching-reported reward permit hunt under R657-5; or

(E) CWMU hunt obtained through the operator or landowner under R657-37-9.

(ii) the applicant was substantially precluded during the prescribed hunting season from using a wildlife document because of a qualifying event or condition set forth in R657-57-6; and

(A) the qualifying event or condition was not the result of the applicant's willful misconduct or gross negligent acts or omissions; and

(B) the applicant was unsuccessful in harvesting an animal for which the wildlife document was issued; and

(iii) the season extension occurs the following year and is restricted to the same species, gender, unit, weapon type, and season as the original wildlife document;

(iv) any changes in unit descriptions and season dates in the extension year are applied; and

(v) the variance is otherwise requested and issued in compliance with the standards, requirements and procedures set forth in this rule.

(b) Any waiting period associated with a wildlife document for which a season extension variance is granted begins on the date the original wildlife document is obtained.

(2)(a) The Division may grant a variance by restoring forfeited bonus points and waiving an incurred waiting period, provided:

(i) the variance request involves a wildlife document for a:

(A) limited entry hunt or once-in-a-lifetime hunt; or

(B) any other hunt that triggers a waiting period to participate in a Division administered drawing;

(ii) the applicant was substantially precluded during the prescribed hunting season from using a wildlife document because of a qualifying event or condition set forth in R657-57-6; and

(A) the qualifying event or condition was not the result of the applicant's willful misconduct or gross negligent acts or omissions; and

(B) the applicant was unsuccessful in harvesting an animal for which the wildlife document was issued; and

(iii) the variance is otherwise requested and issued in compliance with the standards, requirements and procedures set forth in this rule.

(b) The Division may not restore a bonus point on a wildlife document that did not cause a bonus point forfeiture.

(3)(a) The Division may grant a variance by restoring forfeited preference points, provided:

(i) the variance request involves a wildlife document obtained through a Division administered drawing and for which preference points are awarded to unsuccessful applicants and forfeited by successful applicants;

(ii) the applicant was substantially precluded during the prescribed hunting season from using a wildlife document because of a qualifying event or condition set forth in R657-57-6; and

(A) the qualifying event or condition was not the result of the applicant's willful misconduct or gross negligent acts or omissions; and

(B) the applicant was unsuccessful in harvesting an animal for which the wildlife document was issued; and

(iii) the variance is otherwise requested and issued in compliance with the standards, requirements and procedures set forth in this rule.

(4)(a) The Division may grant a variance by awarding a bonus or preference point to a person who filed an untimely wildlife document application in a Division administered drawing, provided:

(i) the variance request involves a wildlife document for any hunt identified in Subsections (2)(a)(i) or (3)(a)(i);

(ii) the applicant was significantly impaired from filing a timely application in a Division administered drawing because of a qualifying event or condition set forth in R657-57-6;

(iii) the untimely application was rejected and a bonus or preference point was not awarded for the selected species;

(iv) the applicant would have been eligible to receive the bonus or preference point had the application been timely filed; and

(v) the variance is otherwise requested and issued in compliance with the standards, requirements and procedures set forth in this rule.

(5) A Division administered drawing for purposes of subsection (2) does not include a drawing conducted at a wildlife convention exposition pursuant to R657-55.

(6) The Division may not refund wildlife document fees, except as authorized in Sections 23-19-38, 23-19-38.2 and R657-42-5.

## **R657. Natural Resources, Wildlife Resources.**

### **R657-62. Drawing Application Procedures.**

#### **R657-62-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2.

(2) In addition:

(a) "Application" means a form required by the Division which must be completed by a person and submitted to the Division in order to apply for a hunting permit.

(b) "Landowner" means any individual, family or corporation who owns property in Utah and whose name appears on the deed as the owner of eligible property or whose name appears as the purchaser on an executed contract for sale of eligible property.

(c) "Limited entry hunt" means any hunt listed in the hunt tables published by the Wildlife Board and is identified as a premium limited entry hunt or limited entry hunt. "Limited entry hunt" does not include cougar pursuit or bear pursuit.

(d) "Limited entry permit" means any permit obtained for a limited entry hunt, including conservation permits, convention expo permits and sportsman permits.

(e)(i) "Valid application" means an application:

(A) for a permit to take a species for which the applicant is eligible to possess;

(B) for a permit to take a species regardless of estimated permit numbers;

(C) for a certificate of registration; and

(D) containing sufficient information, as determined by the division, to process the application, including personal information, hunt information, and sufficient payment.

(ii) Applications missing any of the items in Subsection (i) may be considered valid if the application is timely corrected through the application correction process.

(f) "Waiting period" means a specified period of time that a person who has obtained a permit must wait before applying for the same permit type.

(g) "Once-in-a-lifetime hunt" means any hunt listed in the hunt tables published by the Wildlife Board and is identified as once-in-a-lifetime, and does not include general or limited entry hunts.

(h) "Once-in-a-lifetime permit" means any permit obtained for a once-in-a-lifetime hunt by any means, including conservation permits, sportsman permits, cooperative wildlife management unit permits and limited entry landowner permits.

#### **R657-62-8. Bonus Points.**

(1) Bonus points are used to improve odds for drawing permits.

(2)(a) A bonus point is awarded for:

(i) each valid unsuccessful application when applying for limited-entry permits; or

(ii) each valid application when applying for bonus points.

(b) Bonus points are awarded by species for;

(i) limited-entry deer including cooperative wildlife management unit buck deer and management buck deer;

(ii) limited-entry elk including cooperative wildlife management unit bull elk and management bull elk;

(iii) limited-entry pronghorn including cooperative wildlife management unit buck pronghorn;

(iv) once-in-a-lifetime species including cooperative wildlife management units;



- (v) bear;
- (vi) antlerless moose;
- (vii) cougar; and
- (viii) turkey

(3)(a) A person may not apply in the drawing for both a permit and a bonus point for the same species.

(b) A person may not apply for a bonus point if that person is ineligible to apply for a permit for the respective species.

(c) Group applications will not be accepted when applying for bonus points.

(d) A person may apply for bonus points only during the applicable drawing application for each species.

(4)(a) Fifty percent of the permits for each hunt unit will be reserved for applicants with the greatest number of bonus points.

(b) Based on the applicant's first choice, the reserved permits will be designated by a random drawing number to eligible applicants with the greatest number of bonus points for each species.

(c) If reserved permits remain, the reserved permits will be designated by a random number to eligible applicants with the next greatest number of bonus points for each species.

(d) The procedure in Subsection (c) will continue until all reserved permits are issued or no applications for that species remain.

(e) Any reserved permits remaining and any applicants who are not selected for reserved permits will be returned to the applicable drawing.

(5)(a) Each applicant receives a random drawing number for:

- (i) each species applied for; and
- (ii) each bonus point for that species.

(6) Bonus points are forfeited if a person obtains a permit through the drawing for that bonus point species including any permit obtained after the drawing.

(7) Bonus points are not forfeited if:

(a) a person is successful in obtaining a conservation permit, [convention expo](#) permit or sportsman permit;

(b) a person obtains a landowner or a cooperative wildlife management unit permit from a landowner; or

(c) a person obtains a poaching-reported reward permit.

(8) Bonus points are not transferable.

(9) Bonus points are averaged and rounded down when two or more applicants apply together on a group application.

(10)(a) Bonus points are tracked using social security numbers or division-issued customer identification numbers.

(b) The division shall retain electronic copies of applications from 1996 to the current drawings for the purpose of researching bonus point records.

(c) Any requests for researching an applicant's bonus point records must be submitted within the time frames provided in Subsection (b).

(d) Any bonus points on the division's records shall not be researched beyond the time frames provided in Subsection (b).

(e) The division may void or otherwise eliminate any bonus point obtained by fraud, deceit, misrepresentation, or in violation of law.

**R657. Natural Resources, Wildlife Resources.**

**R657-68. Trial Hunting Authorization.**

**R657-68-2. Definitions.**

(1) Terms used in this rule are defined in Section 23-13-2.

(2) In addition:

(a) "Commercial hunting area" means a parcel of land where privately owned game birds are released under Section 23-17-6 and R657-22 for the purpose of allowing hunters to take them for a fee.

(b) "Division drawing" means a random selection process administered by the division or under its authority for the purpose of allocating hunting permits to the public.

(i) "Division drawing" includes the wildlife convention expo permit drawing administered under R657-55.

(c) "Multi-year license" means a license issued by the division under R657-45-3 that is valid for a period exceeding 365 days.

(d) "Supervising hunter" means a person qualified under R657-68-5(1)(b) that accompanies a trial hunter while participating in hunting activities.

(e) "Trial hunter" means a person who possesses a valid hunting license or permit obtained with a trial hunting authorization pursuant to this rule.

(f) "Trial hunting authorization" means a document issued by the division authorizing the holder to obtain and use specified hunting licenses and permits without having completed an approved hunter education course, subject to the qualifications, requirements and limitations set forth in this rule.

(g) "Written consent" means a written or typed document containing the:

(i) full name, date of birth, and home address of the trial hunter;

(ii) full name, home address, and phone number of the supervising hunter;

(iii) nature of the planned hunting activity and the general area where it will occur;

(iv) parent or legal guardian's consent for the:

(A) trial hunter to participate in the described hunting activity; and

(B) supervising hunter to transport and accompany the trial hunter in the activity;

and

(v) name, signature, and phone number of the authorizing parent or legal guardian.