

EXECUTIVE SUMMARY

Montana has never developed a statewide comprehensive document for managing Rocky Mountain bighorn sheep. Despite of lacking such a guiding document, Montana has had a very viable bighorn sheep program. Much effort has been expended to understand the ecology of bighorns in Montana and to reestablish populations in historically occupied habitats. Trapping and transplant efforts have established bighorns in much of their former range and provided stock to many western states in their efforts to also establish populations. This Conservation Strategy, compiled by Montana Fish, Wildlife & Parks (FWP) documents the history of bighorns in Montana and defines future management direction for this popular big game species.

The decision was made early in the development of the Conservation Strategy to produce as comprehensive a document as possible. The document is divided into two chapters, with Chapter 1 providing a history of past and current management of bighorn sheep in Montana plus overall direction for future management. The reestablishment of bighorn sheep through trapping and transplanting is documented as well as the role hunting has played in managing bighorns in Montana. In Chapter 2, the concepts developed in Chapter 1 for managing populations are actually applied in detail, and management recommendations are correlated to monitoring efforts.

Chapter 1 contains subsections, which provide overall direction on how populations, herd health, and habitat will be monitored and managed. Herd health currently is focused on maintaining separation between wild sheep and domestic sheep and goats to prevent potential disease transmission. In the event mixing does occur, a protocol for resolving those situations has been developed as part of this document. Further, if a die-off of bighorns occurs, a protocol on how FWP will respond has also been developed.

FWP's Translocation Program has been revised and now includes a process for evaluating potential new habitat. As part of these revisions, criteria for moving bighorns to new areas, aug-

menting existing populations and prioritizing potential transplants have been developed.

A focus of bighorn sheep management in recent years is the concept of managing sub-populations of bighorns as a metapopulation. Implications for this type of management for bighorns in Montana are discussed.

Chapter 2 contains individual management plans for bighorn populations in each of Montana's bighorn sheep hunting districts as well as five small populations that are not currently hunted. These individual management plans are essential in the future management of bighorn sheep in Montana. Each individual management plan contains a comprehensive history of the population, objectives for habitat and population objectives, and strategies for meeting those objectives. The objectives for each population of bighorns will direct the future management of the species in that area. The Population Management section in Chapter 1 includes processes for managing population numbers and characteristics of the herd. Where it is appropriate, management is based on an Adaptive Harvest Management (AHM) approach, which depends on where populations are in relation to objectives.

In spite of extensive restoration efforts, bighorn sheep have not recovered across the West as successfully as other big game species. Continued health issues tied to disease transmission from domestic animals restrict full recovery and distribution of bighorns. The exact mechanisms of disease transmission from domestic animals to bighorn sheep may not be known, but there is considerable evidence that indicates significant risk of disease transmission exists. In fact, significant die-off events correlated with contact with domestic animals have affected many bighorn populations in Montana. Nine populations that have gone through a die-off have yet to recover, some after more than a decade and in spite of augmentations of more sheep. Additionally, 60% of Montana's 45 bighorn sheep populations have less than 125 animals and because of the small number of sheep, threatens their long-term viability and makes it less likely the population can sustain a major mortality event.

While Montana's human population hasn't

These individual management plans are essential in the future management of bighorn sheep in Montana.

increased significantly in recent years, the western portion of the state has attracted development activities that have contributed to loss of habitat, which has negatively impacted wildlife including bighorn sheep and has the potential to increase the opportunity for contact with domestic sheep and goats.

Bighorn sheep management plans, status reports, and other such documents produced by other states and Canadian provinces have been used extensively in developing this Conservation Strategy. Further, in 2007 the Western Association of Fish and Wildlife Agencies (WAFWA), which is comprised of 23 state and provincial wildlife agencies from the western United States and western Canada, established a Wild Sheep Working Group (WSWG). The WSWG, which includes wildlife professionals from across the West, was tasked with developing management guidelines dealing with potential contact or interaction between wild sheep and domestic sheep and goats. The WAFWA directors subsequently endorsed a report and recommendations produced by the WSWG titled "Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitat." This report is the basis for recommended actions in this Conservation Strategy in relation to health issues that can be caused by the interaction of wild sheep and domestic sheep and goats. The protocol developed by FWP to address the use of domestic sheep and goats for noxious weed control in the vicinity of existing bighorn sheep populations is one example.

Two items not addressed in detail in the Conservation Strategy are the basic ecology of bighorns and the effect of predation on bighorn sheep. To learn more about basic ecology of bighorns, the reader is advised to refer to several excellent texts on bighorn sheep that are referenced in the Conservation Strategy. Predation on bighorn sheep can be a significant form of mortality affecting populations. The primary predator of bighorns across much of the West is the mountain lion. Montana has a relatively large and viable lion population that is effectively managed through hunting. At this time, predation of bighorn sheep is not a significant factor influencing bighorn populations in Montana.

Bighorn sheep are a special wildlife species to many Montanans and are cherished as both a trophy animal and species that fosters memories of wildlife encounters long remembered. During the development of this Conservation Strategy FWP has made a concerted effort to meet with all interested parties to discuss the future of bighorn sheep management in Montana. That effort has included meeting with a diverse

consortium of individuals and groups across the state including groups often at odds regarding bighorn sheep management. As a wildlife managing agency part of FWP's focus is to make sure the species managed are healthy and have the greatest distribution and abundance societal and environmental constraints allow. Across the west where bighorn sheep occur there often is controversy where that distribution overlaps with domestic animals, particularly domestic sheep. The controversy stems from the concept that when domestic sheep or goats come together with bighorn sheep the bighorn sheep often die. While supported by research and widely recognized, this concept is not accepted by all parties. The way most wildlife management agencies attempt to deal with this issue is to keep the different species from coming together. Much of this Conservation Strategy provides direction in those regards. One potential response to this complex situation is to adjust domestic animal use where feasible on public lands and where it may conflict with bighorn sheep. While FWP should vigorously defend existing bighorn sheep populations against recognized threats to the bighorn sheep or to their habitat and should vigorously pursue additional bighorn sheep where circumstances allow, FWP believes that any localized removal, transfer, or conversion of established domestic sheep allotments on public lands for the benefit of bighorns should only come with the willing participation of the producer and land managing agencies. FWP has spent much time listening to all sides of this issue and while it is FWP's direction to see bighorn sheep populations expand in distribution and numbers, as a wildlife-managing agency FWP readily acknowledges the contribution of livestock producers in providing valuable wildlife habitat and wildlife presence on their private lands. Additionally, something heard repeatedly in conversations with livestock producers was their desire to see viable populations of bighorn sheep in Montana. That feeling appears not to be held universally across the west where these domestic and wild species come together. FWP believes that bighorn sheep will prosper in Montana by diverse groups of interest working together and respecting the contribution those groups make not only to local and statewide economies but also to Montana's rich cultural diversity.

The Conservation Strategy is intended to provide management guidance for bighorns for at least the next 10 years. It is intended to be flexible and incorporate new ideas and technological and scientific advances, and adapt management efforts to changes in bighorn populations and their habitats as they occur. Ultimately, this document will assist biologists

in making decisions regarding the management of particular populations, provide direction to other agencies relative to their management efforts that may affect bighorn sheep, and aide the FWP Commission in their decisions regarding bighorn sheep in Montana. Although the Bighorn Sheep Conservation Strategy will serve as a source of information and guidance to the FWP Commission, it does not preempt Commission authority to formulate annual rules, augment or transplant, set hunting seasons and regulations, or implement emergency actions in response to unexpected events or circumstances.

To assist the reader, a glossary of terms associated with bighorn sheep is included in Appendix A. Additionally, bighorn sheep have been the focus of much scientific research in Montana. Appendix B contains citations for research projects conducted on bighorn sheep in Montana, listed by specific topics.

Mission of FWP

Mission

FWP, through its employees and citizen commission, provides for the stewardship of the fish, wildlife, parks, and recreational resources of Montana while contributing to the quality of life for present and future generations.

Vision for the 21st Century

FWP will provide the leadership necessary to create a commitment in the hearts and minds of people to ensure that, in our second century, and in partnership with many others, we will sustain our diverse fish, wildlife, and parks resources and the superior recreational opportunities that are essential to a high quality of life for Montanans and their guests.

Guiding Principles

We understand that serving the people of Montana to achieve this vision is both a privilege and a responsibility. We also understand that we cannot achieve our vision alone. The following principles will guide FWP as we pursue our objectives:

We will maintain the long-term viability of Montana's natural, cultural, and recreational resources.

We will actively involve people in decisions that affect them, help people to participate by providing them with credible and objective information, and develop programs with a clear understanding of public expectations for FWP service.

We will serve as an advocate for responsible

management and for equitable allocation of public use of the limited resources, that we are entrusted to manage.

We will manage fish and wildlife resources with pride in Montana's hunting and angling heritage.

We will create and strengthen working partnerships with individuals, organized groups, and other natural, historical, and cultural resource management agencies.

We will use innovation and technology to improve our services.

Agency Goals

Create a work environment where priorities are clear; the decision-making process is efficient and effective; and where employees feel a sense of accountability, value, and satisfaction in their achievements and their contributions to the agency mission.

Provide quality opportunities for public appreciation and enjoyment of fish, wildlife, and parks resources.

Maintain and enhance the health of Montana's natural environment and the vitality of our fish, wildlife, and cultural and historical resources through the 21st century.

Emphasize education, communication, and responsible behavior to afford citizens the opportunity to better understand and participate in the decision-making processes that will sustain our natural, recreational, and cultural resources for future generations.

Statewide Objectives

The structure of this Conservation Strategy is such that management objectives and efforts are largely implemented at the population level. Chapter 2 of the Conservation Strategy contains the individual management plans for each hunting district where populations are hunted and for populations that currently aren't being hunted. These individual management plans contain the specific objectives for habitat and population management along with strategies designed to meet those objectives. Chapter 1 is intended to provide some overall direction to help facilitate the implementation of the objectives and strategies developed at the population level.

To provide overall direction statewide objectives have been developed. Strategies for implementing and details regarding each objective are contained in the appropriate heading in Chapter 1. The statewide objectives are:

The Conservation Strategy is intended to provide management guidance for bighorns for at least the next 10 years.

We understand that serving the people of Montana to achieve this vision is both a privilege and a responsibility.

- 1) Monitor bighorn sheep populations in a consistent manner statewide to determine demographic trends, which will aide in making management decisions.
- 2) Manage populations at levels consistent with available habitat, other land uses, and at levels providing consumptive and non-consumptive use of the wildlife resource.
- 3) Identify metapopulation structure and function and develop strategies to protect and enhance the long-term connectivity in those populations.
- 4) Work with private landowners and land managing agencies to identify, maintain and enhance bighorn sheep habitat. FWP will provide science-based and other reasonable comment to private landowners and land managing agencies regarding opportunities and limitations for bighorn populations in relation to identifying, maintaining and enhancing bighorn sheep habitat. FWP will participate in discussions and negotiations on opportunities and techniques to eliminate and/or mitigate possible negative impacts of bighorn transplants or introductions.
- 5) Manage existing populations at objectives as outlined in Chapter 2. Note: There are 45 actively managed populations of bighorn sheep in Montana of which 20 are at objective, 7 are over objective and 18 are below objective. Statewide objectives for the total number of bighorns in the 45 populations are 6,615 sheep and numbers are currently 921 below that objective. FWP needs to assess on a population basis what feasibly can be done to achieve those objectives.
- 6) Establish five new viable and huntable populations over the course of the next 10 years and augment existing populations where appropriate.
- 7) Monitor the health of all bighorn sheep populations under the management authority of FWP including source (sheep used as transplant animals) and non-source populations.
- 8) Implement strategies designed to facilitate the effective separation between wild sheep and domestic sheep and goats.
- 9) Pursue the better understanding of bighorn population genetics to evaluate genetic diversities of herds and overall genetic fitness of populations and subpopulations forming metapopulations.

- 10) Develop a central database for storing and analyzing bighorn sheep data, including population survey, harvest, health, (including genetic status), and translocation data.
- 11) Continue involvement with the Western Association of Fish and Wildlife Agencies and associated Wild Sheep Working Group to ensure coordination of bighorn sheep management issues with western states and provinces and to provide information to FWP staff on the latest management issues with wild sheep.

Process for Changing Population Objectives and Regulation Packages

As the AHM process evolves and we gain additional information from this process, there may be a need to change population objectives and regulation packages. Similarly, catastrophic events that create significant habitat changes or declines in populations, reasonable recommendations from community working groups, and changes in landownership might also affect bighorn sheep populations, objectives, and regulations. The public has been concerned about how and when such changes might be possible.

We suggest that internal or external proposed changes resulting from factors and events such as described above be submitted annually to FWP Wildlife Division by July 1. Any proposals submitted would be reviewed internally and, if determined to be appropriate, have merit, or wide public support, would be forwarded to the FWP Commission for their consideration at the August commission meeting to adopt as tentative proposals for public comment. The Commission would take final action at the September commission meeting on these proposals. Changes to objectives and/or regulation packages would then be in place to guide Commission action during the general season-setting process in December and February of each year.

Initial Public Participation

Public Scoping Process

FWP announced on November 9, 2007, its intention to prepare a Rocky Mountain bighorn sheep conservation strategy. Public comment was sought through December 20 on issues and concerns associated with bighorn sheep and bighorn sheep hunting. Comments were solicited through news releases to Montana newspapers and radio stations and by announcement on the FWP Web site. The announcement indicated

Comments were solicited through news releases to Montana newspapers and radio stations and by announcement on the FWP Web site.

this was to be the first statewide conservation strategy developed for bighorn sheep and FWP intended to document Montana's bighorn sheep management history and future goals and objectives, and to include survey priorities and techniques, hunting seasons, recommended permit levels, health and habitat monitoring, and guidelines for trapping and transplant activities. The following initial issues were cited as concerns by wildlife managers:

- Systematic long-term health monitoring
- Genetic integrity of native populations
- Health issues related to contact with domestic sheep or goats
- Establishment of bighorn sheep populations to new areas
- Loss of habitat and development impacts to some bighorn populations
- Hunting and other recreational opportunities

FWP received a total of 31 comments, with the majority (19) coming from the FWP Web site. Respondents were from 18 different Montana towns, and one was from out of state. Respondents were from Lewistown, Missoula, Stockett, Bozeman, Thompson Falls, Glendive, Belt, Plains, Stanford, Livingston, Dillon, Lakeside, Trout Creek, Laurel, Florence, Butte, Helena, and Noxon. The out-of-state comment was from Boise, Idaho. One comment was received from a federal land management agency, the Charles M. Russell National Wildlife Refuge. Organizations providing responses were Montana Chapter of the Foundation for North American Wild Sheep (FNAWS), Gallatin Wildlife Association, Hellgate Hunters and Anglers, Montana Wildlife Federation, Montana Woolgrowers Association, Friends of Makoshika, and Beaverhead Outdoors Association.

Issues Identified Through Public Involvement

Listed below are the seven major issues and 46 sub-issues identified by the public. The majority of comments were related to more than one issue. Issues raised that were not relevant to the bighorn sheep Conservation Strategy are not discussed in this summary. The issues here are not listed in any particular priority. The number of comments pertaining to the issue is shown in parentheses.

A. Restore Bighorn Sheep to Suitable Habitats (42)

- 1) Transplant sites suggested include Hunting District 410 south of the Missouri River and east of Fred Robinson bridge, Little and Big Belt Mountains, Crazy Mountains, Snowy Mountains, Bridger Mountains, Lewis and Clark Caverns, Makoshika State Park, Smith River, Bighorn Mountains, Sheep Mountain north of Yellowstone River, Bull Mountains, Greenhorn Mountains, East Pioneer Mountains (15)
 - 2) Transplant sites in Montana should be given priority (10)
 - 3) Hunting pressure on ewes should be decreased to provide additional transplant stock (3)
 - 4) New transplant sites should be identified; experiment in previously rejected or unsuccessful locations (2)
 - 5) Restock herds following die-offs (1)
 - 6) Consider private or mixed private and public lands for future transplants, with landowner agreement (2)
 - 7) Do not transplant sheep into areas where domestic sheep currently occur (1)
- #### B. Expand Hunting Opportunities (29)
- 1) Ensure harvest of mature rams in unlimited areas (2)
 - 2) Stop poaching; increase fines (3)
 - 3) Maintain unlimited areas; evaluate unlimited areas periodically to determine if public remains supportive (2)
 - 4) Implement landowner preference (1)
 - 5) Increase ram-license cost; keep cost affordable; consider once in a lifetime licenses; change preference point system to benefit 20-plus-year applicants (4)
 - 6) Sell more out-of-state tags during archery season (1)
 - 7) Lower the cost of ewe licenses; remove seven-year wait for ewe license after obtaining a ram license (3)
 - 8) End season earlier, before rams come to lower-elevation roads (Oct 31); consider full-curl and early seasons in some areas to reduce success and allow for an increase in hunter numbers (3)
 - 9) Continue to favor residents over nonresidents in license allocations (1)

- 10) Improve access to hunt on or to travel through private land (1)
 - 11) Require only application fee in application process (1)
- C. Long-Term Survival of Bighorn Sheep (37)
- 1) Manage metapopulations and encourage interconnectivity between herds to reduce risk of loss
 - 2) Develop individual herd management plans (3)
 - 3) Obtain conservation easements or fee title to critical sheep winter range (3)
 - 4) Improve bighorn sheep habitat (1)
 - 5) Monitor changes in bighorn sheep habitat (3)
 - 6) Work cooperatively with conservation groups, Canadian provinces, and Indian tribes (5)
 - 7) Establish one FWP point of contact for sheep program (2)
 - 8) Manage predators (wolves) (4)
 - 9) Increase funding for sheep management program; request funding support from the national WSF (3)
 - 10) Monitor conservation strategy effectiveness (1)
 - 11) Provide for genetic diversity; improve genetics through transplant of sheep from other areas (e.g., Cadamin mine area in Alberta) (2)
 - 12) Work to prevent land development in critical sheep habitats (2)
 - 13) Evaluate mountain goat competition in Absaroka range (1)
 - 14) Evaluate fences that hinder sheep movement to critical habitats (1)
 - 15) Use preemptive measures to combat negative effects of wildfires and drought (1)
 - 16) Combat invasion of noxious weeds in bighorn sheep habitat (1)
- D. Bighorn and Domestic Sheep and Goat Interactions (18)
- 1) Use sound science and provide for public education on issues associated with domestic sheep and goat interactions with bighorn sheep (2)
 - 2) Limit domestic sheep incursions into bighorn sheep areas; confront issue of domestic sheep allotments in bighorn sheep ranges; encourage buy-outs of domestic sheep and goat grazing leases in critical areas by organizations; terminate domestic sheep trailing agreement on Rob Ledford WMA; use preventative measures; use medicated licks (12)
- 3) Discourage the proliferation of small domestic sheep and goat herds (1)
- E. Bighorn Sheep Herd Health and Disease (14)
- 1) Develop plan to monitor herd health (1)
 - 2) Develop protocol to decrease impact from disease (2)
 - 3) Provide for research on disease (2)
 - 4) Maintain native herd genetic integrity (1)
 - 5) Decrease bighorn sheep road fatalities; provide for public road safety education; establish speed limits at sheep crossings on narrow highways (e.g., Weeksville Road to Thompson Falls 50 mph); consider width changes for narrow roads at crossings; build fence along highways at crossings; substitute sand for road deicer where it attracts sheep to roadway (9)
 - 6) Give priority to herd health (1)
 - 7) Conduct sheep trapping in sensitive manner; reduce harassment (1)
- F. Public Enjoyment and Viewing Opportunities (2)
- G. Damage to Private Property (3)
- 1) Increase ewe permits to address landowner damage complaints (e.g., Lower Rock Creek) (2)
 - 2) Continue to use 1995 Bighorn Sheep Transplant Policy (1)