Wyoming Grizzly Bear Management Plan

Prepared by
Wyoming Game and Fish Department

Approved by
Wyoming Game and Fish Commission
May 11, 2016

TABLE OF CONTENTS

TABLES ii
FIGURES ii
LIST OF ACRONYMS AND ABBREVIATIONS iv
FOREWORD v
INTRODUCTION AND HISTORY 1
ADAPTIVE MANAGEMENT CRITERIA 2
POPULATION STATUS 5
REGULATIONS 9
History 9
Current Wyoming Statutes and Wyoming Game and Fish Commission Regulations 9
MANAGEMENT STRATEGIES 10
Large Carnivore Section 10
Occupancy 10
Population Monitoring and Management 12
Population Monitoring 12
Grizzly Bear Foods Monitoring 15
Hunting 15
Research and Monitoring 16
Habitat and Land Management 17
Habitat Recommendations 19
Conflict Management 20
No Action 21
Aversive Conditioning, Deterrence, and Exclusion 22
Relocation 22
Removal 22
Conflict Management Procedures 22
General 22
Property Damage Management 23
Agriculture Damage Management 24
Outdoor Recreation-Grizzly Bear Conflict Management 25
Information and Education 26
Law Enforcement 28
Grizzly Bear Management Costs and Funding 28

LITERATURE CITED.....29
APPENDIX I: MEMORANDUM OF AGREEMENT.....35
APPENDIX II: REGULATORY MECHANISMS RELATED TO GRIZZLY BEAR MANAGEMENT IN WYOMING.....46
WYOMING STATE STATUTES AND WYOMING GAME AND FISH COMMISSION REGULATIONS THAT ADDRESS DAMAGE CAUSED BY TROPHY GAME..... 48
WYOMING STATUTE §23-2-101. FEES; RESTRICTIONS; NONRESIDENT APPLICATION FEE; NONRESIDENT LICENSES; VERIFICATION OF RESIDENCY REQUIRED. 48
WYOMING GAME AND FISH LAWS TITLE 23 CHAPTER 1 ARTICLE 9: DAMAGE CAUSED BY GAME ANIMALS OR GAME BIRDS 48
WYOMING GAME AND FISH COMMISSION CHAPTER 28: REGULATION GOVERNING BIG OR TROPHY GAME ANIMAL OR GAME BIRD DAMAGE CLAIMS.....50

TABLES

Table 1. Total mortality rates used to establish annual mortality limits for independent females, independent males, and dependent young grizzly bears inside the DMA (from USFWS proposed 2016 Demographic Recovery Criteria).....5

FIGURES

Fig. 1. Management and jurisdictional boundaries referenced throughout this plan.....vi
Fig. 2. Current grizzly bear management units (BMUs; *n* = 18) within the primary conservation area (PCA).....4
Fig. 3. Annual estimates of the GYA DPS based on the Chao2 estimator (with updated vital rates and ratios). Solid red line represents the minimum population size of 500 grizzly bears required to meet demographic Recovery Criterion 1. 6
Fig. 4. Annual numbers of BMUs occupied by females with young in the PCA. 6
Fig. 5. Observations of radio-marked female grizzly bears with young during two 5-year intervals (18 BMUs are outlined in black).....7
Fig. 6. Estimated annual mortalities of independent aged (≥ 2 years old) female grizzly bears in the GYA DPS. Shaded portion of chart depicts the allowable mortality range (Table 1). Refer to IGBST (2012) for description of methods used to estimate total mortality and numbers of independent females.....8
Fig. 7. Estimated annual mortalities of independent aged (≥ 2 years old) male grizzly bears in the GYA DPS. Shaded portion of chart depicts the allowable mortality range (Table 1). Refer to IGBC (2012) for description of methods used to estimate total mortality and numbers of independent males. 8
Fig. 8. Annual grizzly bear mortalities attributed to human causes in Wyoming. Linear trend lines illustrate changes in mortality sources through time. 9
Fig. 9. Grizzly bear distribution in Wyoming as of 2014 (adapted from Bjornlie et al 2014b).....11
Fig. 10. Grizzly bear flight observation units (also called Bear Observation Areas – IGBST 2015) used to systematically monitor grizzly bears throughout the DMA. 14

Fig. 11. Verified grizzly bear-human conflicts illustrating the increased frequency of conflicts beyond the Primary Conservation Area and Demographic Monitoring Area in Wyoming. 21
Fig. 12. Annual expenditures by the Department related to grizzly bear recovery and management. 28

LIST OF ACRONYMS AND ABBREVIATIONS

APA	Wyoming Administrative Procedures Act
BMU	Grizzly Bear Management Unit
BOA	Grizzly Bear Observation Area
CFR	Code of Federal Regulations
Commission	Wyoming Game and Fish Commission
COY	Cubs of the Year
Department	Wyoming Game and Fish Department
DMA	Demographic Monitoring Area
DPS	District Population Segment
ESA	Endangered Species Act
FR	Federal Register
GTNP	Grand Teton National Park
GYA	Greater Yellowstone Area
GYE	Greater Yellowstone Ecosystem
ICST	Interagency Conservation Strategy Team
IGBC	Interagency Grizzly Bear Committee
IGBST	Interagency Grizzly Bear Study Team
LCS	Large Carnivore Section
MOA	Memorandum of Agreement
PCA	Primary Conservation Area
Study Team	Interagency Grizzly Bear Study Team
The ACT	Endangered Species Act of 1973
USFS	United States Forest Service
USFWS	U.S. Fish and Wildlife Service
WGFC	Wyoming Game and Fish Commission
WGFD	Wyoming Game and Fish Department
WRR	Wind River Reservation
YES	Yellowstone Ecosystem Subcommittee
YGCC	Yellowstone Grizzly Coordinating Committee
YNP	Yellowstone National Park

FOREWORD

The Yellowstone Ecosystem Subcommittee (YES) of the Interagency Grizzly Bear Committee (IGBC) produced the original *Draft Conservation Strategy* for the grizzly bear (*Ursus arctos*) population in the Greater Yellowstone Area (IGBST 2000). That document outlined a cooperative management strategy state and federal agencies would implement for post-delisting management of the Greater Yellowstone Area (GYA) Distinct Population Segment (DPS) of grizzly bear. The U.S. Fish and Wildlife Service (USFWS) determined completion of such a plan, and a commitment to implement it, were necessary to delist the GYA DPS of grizzly bear.

During the spring of 2000, at the request of the state members of the IGBC, the governors of Idaho, Montana, and Wyoming appointed a 15-member citizen roundtable to review the *Draft Conservation Strategy* (IGBC 2000). The roundtable reached consensus on 26 recommendations provided for the governors' consideration in response to the *Draft Conservation Strategy*. The group also recommended the 3 states develop state plans addressing management in areas outside the Primary Conservation Area (PCA; Fig. 1) to:

a. Ensure the long-term viability of grizzly bears and preclude the need for re-listing;
b. Support expansion of grizzly bears beyond the PCA, in areas that are biologically suitable and socially acceptable for grizzly bear occupancy; and
c. Manage grizzly bears as a game animal – including allowing regulated hunting when and where appropriate.

Public comments on the *Draft Conservation Strategy* were reviewed and analyzed in 2000. YES ultimately developed a *Final Conservation Strategy* (ICST 2007), approved and released by the USFWS in 2007 (USFWS 2007a).

The Wyoming Game and Fish Department (WGFD or Department) developed and released a draft state management plan for public review during the summer of 2001. Over 8,000 written comments were received. In addition, the Department contracted an independent research firm to conduct a survey of Wyoming residents' attitudes related to grizzly bear management and conflict issues (WGFD 2001). Public input and survey results were considered in developing a final Wyoming Grizzly Bear Management Plan approved by the Wyoming Game and Fish Commission (WGFC or Commission) in 2002, and amended in 2005 (WGFD 2005). The Wyoming Grizzly Bear Management Plan is available online (https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/WYGRIZBEAR_MANAGEMENTPLAN.pdf) and the survey report can be requested from the Department's Office of the Director, 5400 Bishop Blvd., Cheyenne, WY 82009.

The 2016 update to the Wyoming Grizzly Bear Management Plan (this plan) is based on current U.S. Fish and Wildlife Service grizzly bear demographic monitoring and recovery criteria (Appendix I), and covers all areas under state management jurisdiction: the entire state of Wyoming excluding Yellowstone National Park (YNP), Grand Teton National Park (GTNP), and Tribal lands within the Wind River Reservation (WRR).

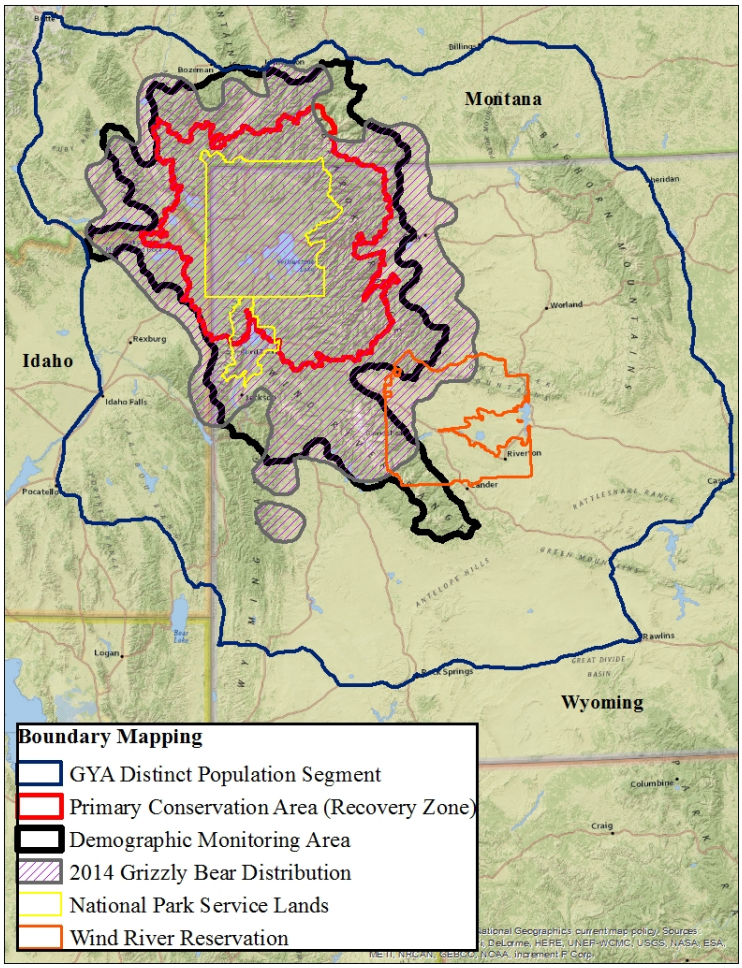


Fig. 1. Management and jurisdictional boundaries referenced throughout this plan.

The GYA DPS of grizzly bear was first delisted in 2007. Litigation immediately ensued and in 2009, threatened species status was restored under the Endangered Species Act (ESA). This reversal was due primarily to a Montana District Court's opinion that "the Service failed to articulate a rational connection between the scientific data and its conclusion that changes in whitebark pine production are not likely to impact the Yellowstone grizzly to the point where it is likely to become endangered within the foreseeable future . . ." [D.C. No. 9:07-cv-00134-DWM OPINION]. In light of this ruling, the Interagency Grizzly Bear Study Team (IGBST or Study Team) completed a comprehensive analysis demonstrating that reductions in whitebark pine have not negatively impacted grizzly bears on a population scale, and any reduction of the population growth rate is a response to density dependent factors indicative of a wildlife population approaching its environmental carrying capacity (Bjornlie et al. 2014a, van Manen et al. 2014, and van Manen et al. 2015). Updated demographic information from these studies has also been incorporated into a *Draft Revised Supplement to the Grizzly Bear Recovery Plan* (USFWS 2013) as well as the corresponding state management plans. The most current science and technical information pertaining to grizzly bear recovery and management are incorporated into this plan. The management plan is adaptive in nature and additional knowledge on GYA DPS grizzly bears gained through research,

management experience, and/or public input (e.g. improved population estimation methodologies and conflict management techniques) may warrant future updates.

After the grizzly bear is removed from its listed status under the ESA, state wildlife agencies and tribes will assume management authority and lead roles for managing the species. This plan, in conjunction with applicable Wyoming statutes and Commission regulations, shall serve as the State's regulatory mechanisms (Appendix II) assuring a recovered population of grizzly bears is sustained into the foreseeable future.

It is the objective and policy of the Department and the Commission to maintain traditional land uses and public recreation throughout the Demographic Monitoring Area (DMA – Fig. 1) while assuring those uses are compatible with, and do not threaten the GYA DPS of grizzly bear. This approach enables traditional land uses to continue, which builds local public support for a State-managed grizzly bear population. Public support is key to the long-term welfare and sustainability of the grizzly bear population. This plan will accomplish the goal of maintaining a recovered population and public support by employing the best available science to implement the management strategies described herein, in an adaptive framework.

INTRODUCTION AND HISTORY

Many consider the grizzly bear an iconic symbol of wilderness and wild places. In the Wyoming portion of the Greater Yellowstone Ecosystem (GYE), balancing grizzly bear recovery and management with other uses of the land presents many unique challenges. The Department acknowledges grizzly bears have unique social and ecological values. The species is an important attribute of a landscape rich in wildlife viewing opportunities that contribute to a regional tourism-based economy; conversely, grizzly bears also come into conflict with humans and can impact their livelihood. The Department developed this plan in recognition that diverse opinions and viewpoints exist with respect to grizzly bear management. The plan will serve as the guiding document for sustaining a recovered grizzly bear population that fulfills a range of social and ecological values in the GYE.

The purpose of this plan is to outline the adaptive framework that will be used to manage and sustain a recovered population of grizzly bears in Wyoming. The plan, along with enabling state statutes and regulations, shall constitute Wyoming's core regulatory mechanism for post-delisting management of grizzly bears. The grizzly bear was originally listed as "threatened" under the Endangered Species Act in 1975 (Fed. Reg. 40:145,31734-31736). Since then, recovery goals, management criteria, and monitoring protocols have been largely defined by the USFWS through the original *Grizzly Bear Recovery Plan* (USFWS 1993), *Interagency Grizzly Bear Guidelines* (Mealey 1986), *Final Conservation Strategy* (ICST 2007, USFWS 2007a), and *Draft Revised Supplement to the Grizzly Bear Recovery Plan* (USFWS 2013).

Section 4.(f)(1)(B)(ii) of the Endangered Species Act of 1973 (the ACT) states:

"*The Secretary shall develop and implement plans (hereafter in this subsection referred to as recovery plans) for the conservation and survival of endangered species and threatened species listed pursuant to this section, unless he finds that such a plan will not promote the conservation of the species. The Secretary, in developing and implementing recovery plans, shall, to the maximum extent practicable …incorporate in each plan …objective, measurable criteria which, when met, would result in a determination, in accordance with the provisions of this section, that the species be removed from the list.*"

The 1993 *Recovery Plan* identified specific criteria which when met would result in delisting the GYA DPS of grizzly bears. As additional data and technical information warranted, recovery criteria were updated in the 2000 *Draft Conservation Strategy* (USFWS 2003); the 2007 *Final Conservation* Strategy (ICST 2007, USFWS 2007a); and again in the 2013 *Draft Revised Recovery Plan Supplement* (USFWS 2013). Updated recovery and post-delisting management criteria are now incorporated into the *Final Revised Recovery Plan Supplement* (USFWS 2016a) and *Revised Conservation Strategy* (USFWS 2016b) based on the accumulated knowledge and experience gained from more than 40 years of grizzly bear monitoring, research and management.

The original and current demographic and habitat-based recovery criteria have been met for multiple years. After recovery criteria are met, a prerequisite for delisting requires that the USFWS demonstrate the 5 factors listed in Section 4(a)(1) of the ACT no longer threaten the GYA DPS of grizzly bear. The 5 factors are: "(A) the present or threatened destruction,

modification, or curtailment of [the species'] habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; or (E) other natural or manmade factors affecting [the species'] continued existence." In order to demonstrate existing regulatory mechanisms will not threaten GYA DPS grizzly bears (referred to as factor D in the ESA), the states must prepare post-delisting management plans. This plan provides the framework for post-delisting management of grizzly bears in Wyoming and a mechanism for public input to State management in accordance with the Wyoming Administrative Procedures Act (APA) [W.S. 16-3-107 through 112]. After the GYA DPS of grizzly bear is delisted, the Department will assume primary authority for grizzly bear management throughout Wyoming, except on National Park Service lands within YNP and GTNP, and on Tribal lands of the WRR.

The original Wyoming Grizzly Bear Management Plan (WGFD 2002) was based on criteria outlined in the first *Draft Conservation Strategy* released two years prior (USFWS 2000). That earlier management plan was developed in preparation for delisting as the grizzly bear population originally neared recovery goals set forth in the Service's *Draft Recovery Plan*. In 2005, the Department updated the management plan (WGFD 2005) prior to release of the *Final Conservation Strategy* in 2007 (USFWS 2007a). However, the 2005 plan did not incorporate some of the updated demographic criteria and monitoring protocols ultimately adopted in 2007. The 2016 plan incorporates the *Final Recovery Plan* (USFWS 2016a), *Conservation Strategy* (USFWS 2016b) criteria, and post-delisting adaptive management framework agreed upon by the USFWS and the states of Idaho, Montana, and Wyoming. In addition, the states have entered into a Memorandum of Agreement (MOA; Appendix I) committing to manage the GYA grizzly bear population in accordance with the adaptive framework outlined in Table 1 and Appendix I of this plan. The adaptive framework includes an annual process for reviewing and allocating allowable mortality. The states fully understand and accept that coordination must continue after delisting to assure pertinent information and data are shared and effectively utilized to sustainably manage the GYA DPS of grizzly bear.

Scientists and managers have delineated a Demographic Monitoring Area (DMA) based on suitable grizzly bear habitat to replace the outdated "Conservation Management Area" in the GYA (Fig. 1). In order to assure population trajectory and mortality data are reported consistently, YES and IGBC unanimously voted to incorporate the DMA concept. The PCA or "Recovery Zone" is encompassed within the exterior boundary of the DMA, but the larger DMA is the geographic area where state wildlife agencies will actively monitor the grizzly bear population and manage for its long term viability (for further information, see Population Monitoring and Management subsection, page 12). The DMA boundaries are based on biological criteria whereas the former "Conservation Management Area" was based predominantly on easily identifiable infrastructure and administrative boundaries such as roads/highways, county lines, etc. area (USFWS 2016b).

ADAPTIVE MANAGEMENT CRITERIA

The adaptive framework for post-delisting management (Appendix I) is designed to ensure the GYA DPS of grizzly bears is maintained at or above current demographic recovery

criteria. Three basic grizzly bear life history parameters are monitored as recovery criteria: (1) sufficient reproduction to offset mortality to ensure population viability; (2) adequate distribution of breeding females throughout the area; and (3) an annual evaluation of total human-caused mortality that will ensure a recovered population (*Final Recovery Plan* 2016, *Draft Final Conservation Strategy* 2016). Specific management objectives for the Wyoming grizzly bear population will be established by the Commission. Management objectives will ensure the population is managed within the range stipulated in Demographic Recovery Criterion 3 and will ensure Demographic Recovery Criterion 1 and 2 continue to be met or exceeded. It is important to note that multiple layers of protection are afforded by the demographic criteria. While the Commission may set a specific population objective within the range specified by Crierion 3, the other criteria will also determine the objective that is ultimately adopted. Objectives will be adjusted as necessary to assure all three criteria are met. The combination of a conservative population estimate, highly regulated discretionary mortality, the intensive collection and analysis of grizzly bear demographic information and the conservative mortality limits outlined in the demographic recovery criteria ensure there are multiple and layered checks and balances that serve to ensure the maintenance of a recovered grizzly bear population.

In March of 2016, the USFWS proposed updated Demographic Recovery Criteria as listed below:

- Demographic Recovery Criterion 1: Maintain a population size of at least 500 bears and at least 48 females with cubs in the demographic monitoring area (DMA) as indicated by methods established in published, peer-reviewed scientific literature and calculated by the IGBST using the most updated protocol as posted on their website. The current method (2016) used to estimate population size is the model-averaged Chao2 method. If the estimate of total population size drops below 500 in any one year, or counts of females with cubs go below 48 unduplicated females with cubs in 3 consecutive years, this criterion will not be met. The population estimate and counts of unduplicated females with cubs will be calculated by the IGBST using data obtained within the DMA.
- Demographic Recovery Criterion 2: Sixteen of 18 grizzly bear management units (BMUs; Fig. 2) within the Recovery Zone must be occupied by females with young, with no 2 adjacent bear management units unoccupied, during a 6-year sum of observations. A 6-year sum of observations means a BMU is considered occupied if it has a female with young in at least 1 year of each 6-year period. The GYA DPS of grizzly bears will be managed to meet this criterion. Should this criterion not be met for 3 consecutive years, the IGBST will initiate a Biology and Monitoring Review to inform an appropriate management response. This criterion is important as it ensures that reproductive females occupy the majority of the Recovery Zone and are not concentrated in one portion of the ecosystem.

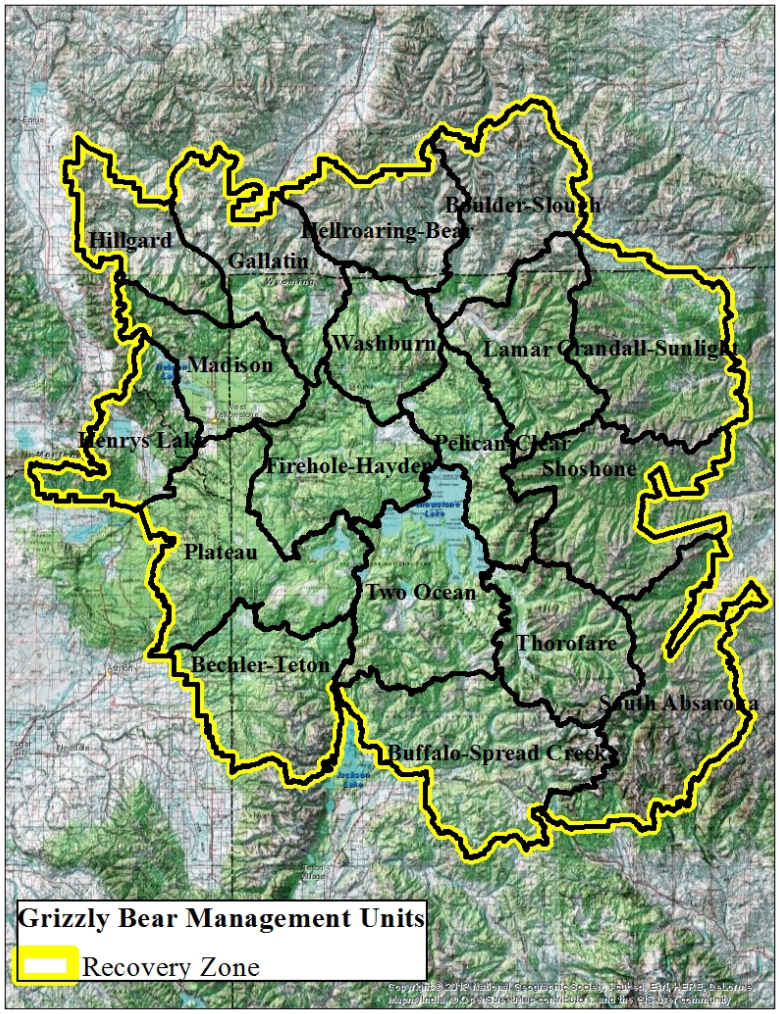


Fig. 2. Current grizzly bear management units (BMUs; n = 18) within the primary conservation area (PCA).

- <u>Demographic Recovery Criterion 3</u>: Maintain the population around the 2002-2014 Chao 2 modeled average ($\overline{X}$= 674; 95% CI = 600-747; 90% CI = 612-735) by maintaining annual mortality limits for independent females, independent males, and dependent young as shown in Table 1. If mortality limits are exceeded for any sex/age class for three consecutive years and any annual population estimate falls below 612 (the lower bound of the 90% confidence interval), the IGBST Study Team will produce a Biology and Monitoring Review to inform the appropriate management response. If any annual population estimate falls below 600 (the lower bound of the 95% confidence interval), this criterion will not be met and there will be no discretionary mortality, except as necessary for human safety.

Table 1. Total mortality rates used to establish annual mortality limits for independent females, independent males, and dependent young grizzly bears inside the DMA (from USFWS proposed 2016 Demographic Recovery Criteria).

	Annual Grizzly Bear Population Estimate		
	≤674	675-747	>747
Total mortality rate for independent FEMALES.	≤7.6%	9%	10%
Total mortality rate for independent MALES.	15%	20%	22%
Total mortality rate for dependent young.	≤7.6%	9%	10%

POPULATION STATUS

The GYA DPS of grizzly bears exceeded the demographic recovery criteria many years ago. Summaries of the GYA DPS recovery progress and its current status follow.

Demographic Recovery Criterion 1 is met with a minimum population of at least 500 grizzly bears within the DMA. Fig. 3 depicts annual population estimates with an overall increasing population since 2000. The GYA DPS of grizzly bear has exceeded this criterion since at least 2002. The Commission will establish management objectives that ensure this recovery criterion continues to be exceeded. The annual documentation of independent female grizzly bears with cubs is a primary driver of the current Chao2 population estimation technique. This criterion has been achieved since at least 2004; however it should be noted that using females with cubs as a specific recovery criterion is problematic in that is merely a portion of the data used to derive a population estimate and also does not account for the future potential of incorporating new methodologies to estimate population size. It should be noted that currently with the most updated best available science, 48 females with cubs equates to approximately 600 grizzly bears. In addition, achievement of Recovery Criterion #3 ensures the population remains above 500 grizzly bears within the DMA.

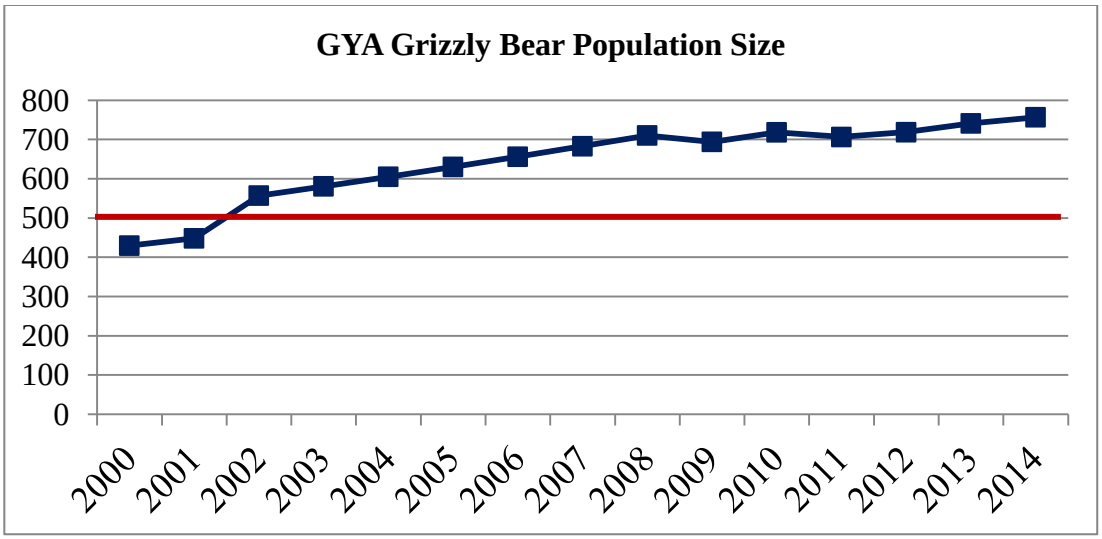


Fig. 3. Annual estimates of the GYA DPS based on the Chao2 estimator (with updated vital rates and ratios). Solid red line represents the minimum population size of 500 grizzly bears required to meet demographic Recovery Criterion 1.

Demographic Recovery Criterion 2 is a distributional criterion that requires 16 of 18 BMUs within the PCA must be occupied by females with young, with no 2 adjacent BMUs unoccupied, during a 6-year sum of observations. Fig. 4 illustrates BMU occupancy by females with young within the PCA since 1996. Fig. 5 demonstrates the increase in occupancy between two 5-year periods (2001-2006 and 2007-2012), and also depicts the expansion outside the PCA since 2006. This recovery criterion has been met or exceeded since 1999.

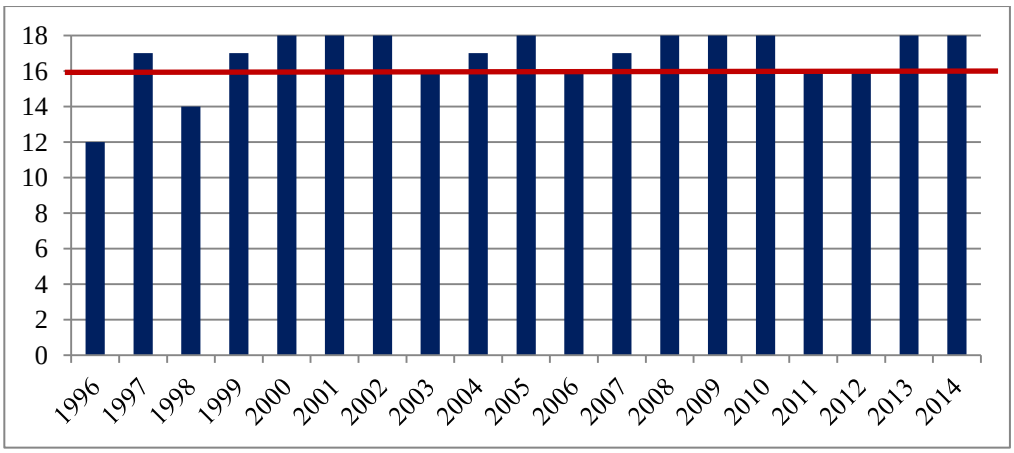


Fig. 4. Annual numbers of BMUs occupied by females with young in the PCA.

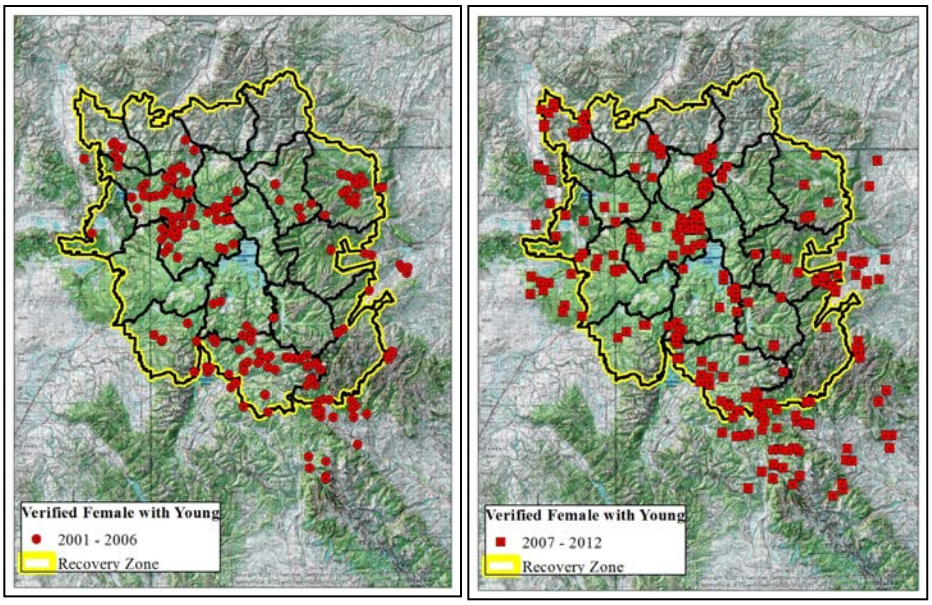


Fig. 5. Observations of radio-marked female grizzly bears with young during two 5-year intervals (18 BMUs are outlined in black).

Demographic Recovery Criterion 3 establishes that grizzly bear mortalities within the DMA should not exceed population-based thresholds established for identified age and sex cohorts of grizzly bears. The mortality limits in the adaptive framework (Table 1) are calibrated to maintain the GYA grizzly bear population at least within a range of 600-747. Figs. 6 and 7 depict annual mortality rates of independent-aged male and female grizzly bears in relation to annual mortality thresholds.

Conservative mortality limits allow for population growth if the population declines below 674 and even more conservative limits would be applied should the population decline below 600. The Commission will establish mortality limits based on their population management objectives to at least within the limits established in Appendix I and the Recovery Criteria. Mortalities will be counted and reported annually based on data obtained from within the DMA. Total mortality estimates of independent males and females will include unreported/undocumented mortalities based on the method described by Cherry et al. (2002). Natural mortalities are estimated based on survival data obtained from representative samples of radio-collared grizzly bears. If the grizzly bear population within the DMA is less than 674 and any one of the mortality limits specified at that level (7.6% for independent females or dependent young, 15% for independent males) is exceeded for 3 consecutive years and the population falls below 612, the IGBST will initiate a Biology and Monitoring Review to inform an appropriate management response.

Federal law allows the take of any grizzly bear that is an immediate threat to human safety. Authorized state or federal agencies continue to take grizzly bears chronically involved in livestock depredations, property damage, or threatening public safety. These are classified as management removals. From 1990-2000, management removals and illegal take averaged 1.0 grizzly bear per year. An annual average of 2.6 grizzly bears was taken by the public in self-defense situations during the same time period (Fig. 8). As the grizzly bear population has

grown and expanded into areas outside the Recovery Zone, and in some instances outside the DMA, the Department has documented an increase in aggressive encounters, self defense mortalities, and management removals. From 2001-2014, the Department documented annual averages of 5.1 grizzly bears taken in self defense, and 7.1 grizzly bears removed for management reasons in Wyoming (Fig. 8).

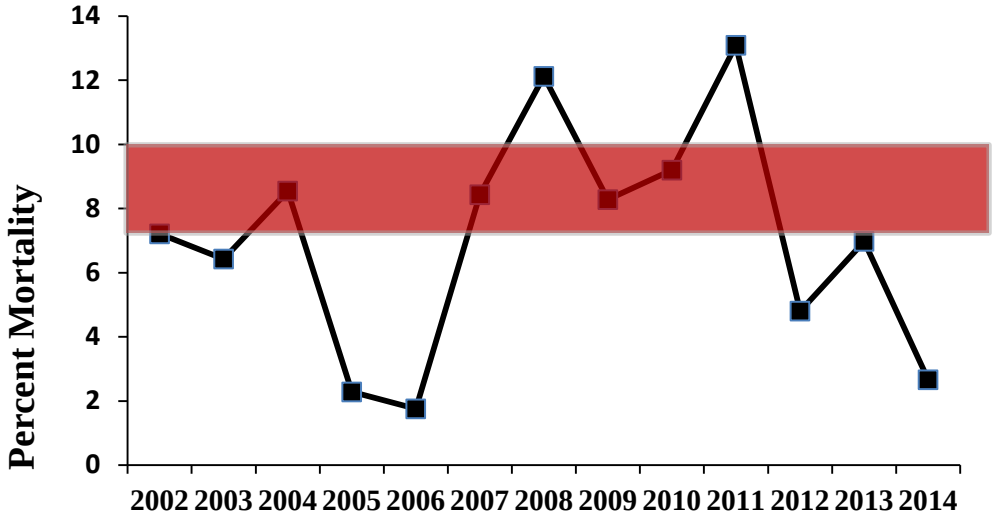


Fig. 6. Estimated annual mortalities of independent aged (≥ 2 years old) female grizzly bears in the GYA DPS. Shaded portion of chart depicts the allowable mortality range (Table 1). Refer to IGBST (2012) for description of methods used to estimate total mortality and numbers of independent females.

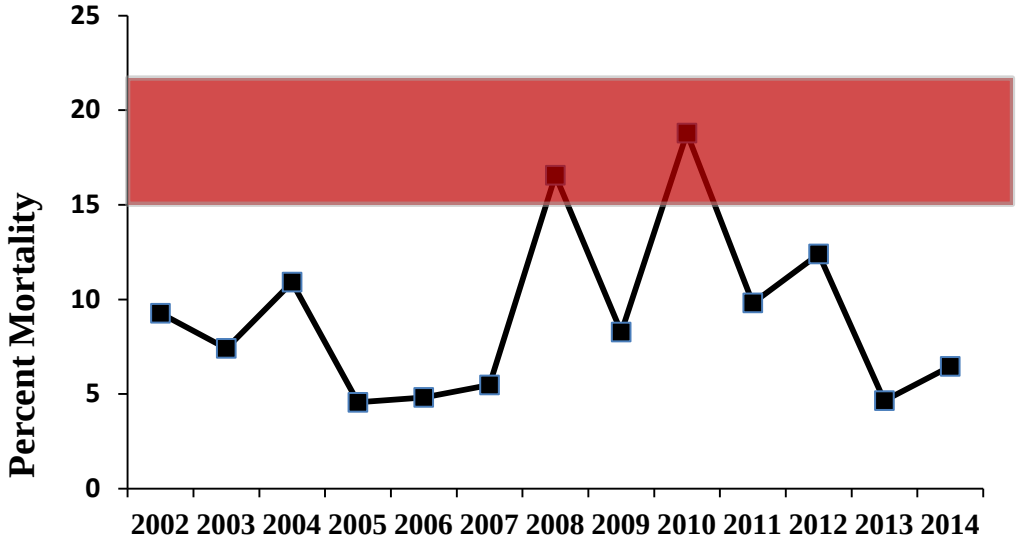


Fig. 7. Estimated annual mortalities of independent aged (≥ 2 years old) male grizzly bears in the GYA DPS. Shaded portion of chart depicts the allowable mortality range (Table 1). Refer to IGBC (2012) for description of methods used to estimate total mortality and numbers of independent males.

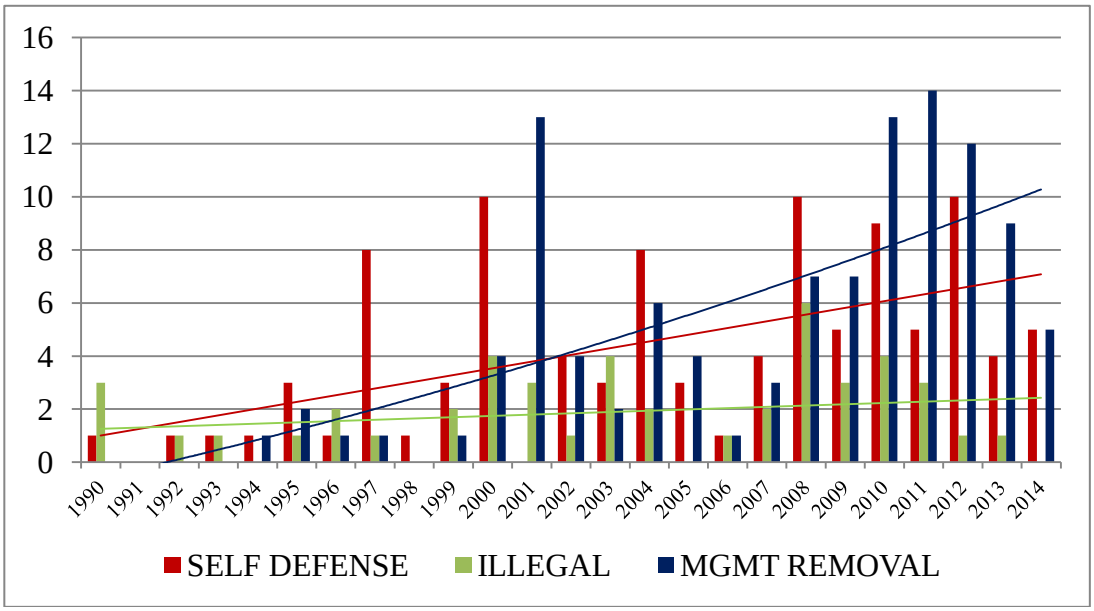


Fig. 8. Annual grizzly bear mortalities attributed to human causes in Wyoming. Linear trend lines illustrate changes in mortality sources through time.

REGULATIONS

History

The state did not devote much attention to grizzly bear management during the early part of the 20th century. The 1899 *Game and Fish Laws of Wyoming* made no mention of grizzly bears. The 1903 *State Game Warden Report* simply stated it was a misdemeanor to hunt, kill, or trap grizzly bears upon any of the National Forest Reserves in the state, except during the open game (ungulate) seasons. In 1937, black bears and grizzly bears were classified as game animals on most national forests and in the Black Hills; however they remained classified as predatory animals throughout the remainder of the state. Wildlife classified as “game animals” could not be trapped or hunted with dogs without approval of the Chief Game Warden or local game warden. Hunting seasons for black and grizzly bears generally corresponded with elk or deer hunting seasons. Any person holding an elk and/or deer license could kill one bear of either species.

Current Wyoming Statutes and Wyoming Game and Fish Commission Regulations

Wyoming Statute (W.S.) 23-1-101 (a) (xii) (A) classifies the grizzly bear as a "trophy game animal." This classification empowers the Commission to regulate take of grizzly bears. State regulatory mechanisms authorizing the Commission to manage grizzly bears are summarized in Appendix II.

MANAGEMENT STRATEGIES

Large Carnivore Section

The Department established the Large Carnivore Section (LCS) to effectively manage grizzly bears and other large carnivores in Wyoming. The LCS works with regional wildlife managers, information /education personnel and agency leadership to ensure the strategies and directives in this plan are executed. With respect to grizzly bears, LCS's primary responsibilities include monitoring and management of a recovered grizzly bear population, promptly addressing human-grizzly bear conflicts, participation in research that informs management, and conducting appropriate planning based on the best available science. Additionally, the LCS conducts public education and outreach through a variety of forums including the Bear Wise Wyoming Program. Outreach and education efforts are designed to proactively prevent conflicts, address public safety issues, and provide general education about grizzly bear ecology and management. The LCS works closely with all Department personnel to ensure agency efforts are coordinated and consistent with this plan.

The following sections address six key components of the Department's grizzly bear management program.

Occupancy

The distribution of grizzly bears in Wyoming currently encompasses all of YNP and GTNP, and extends east of the Absaroka and Owl Creek Mountains, and south into the Wind River Range and the Wyoming Range (Fig. 9).

Habitats that are biologically and socially suitable for grizzly bear occupancy are the portions of northwestern Wyoming within the DMA that contain large tracts of undisturbed habitat, minimal road densities, and minimal human presence (Fig. 9). Suitable habitat is the area capable of sustaining a viable grizzly bear population now and into the future, based on findings of the IGBST. The DMA is based on the United States Fish and Wildlife Service (USFWS) biological suitability model (USFWS 2007b) with additional consideration given to data on grizzly bear occupancy, mortality, and social tolerance (IGBST 2012). The USFWS provides a comprehensive discussion of how suitable habitat is delimited at: http://www.fws.gov/mountain-prairie/es/species/mammals/grizzly/BackgroundOnUSFWS_SuitableHabitatMarch2013.pdf.

The suitable habitat areas are within the geographic area commonly known as the Greater Yellowstone Area (GYA). For purposes of this plan, GYA and GYE are geographically synonymous. The Wyoming portion of the GYA includes parts of Park, Hot Springs, Fremont, Teton, Sublette and Lincoln counties. The GYA includes all lands within the Shoshone, Bridger-Teton, and Caribou-Targhee National Forests, YNP, GTNP, the National Elk Refuge, and the western portion of the WRR. It also incorporates private, state and BLM lands within and adjacent to the above mentioned national forests (Fig. 9).

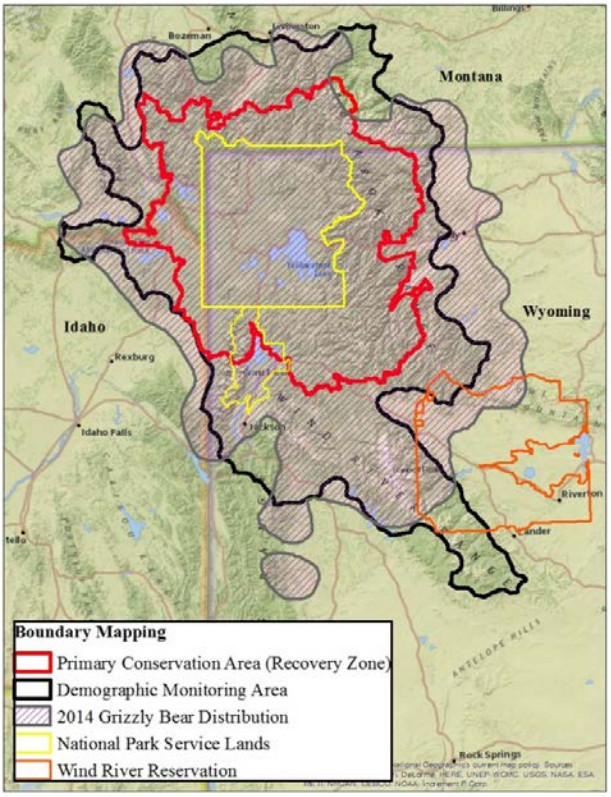


Fig. 9. Grizzly bear distribution in Wyoming as of 2014 (adapted from Bjornlie et al 2014b).

Areas outside the DMA, including isolated mountain ranges such as the Bighorns, Sierra Madres, Snowy Range, Laramie Range, and the Black Hills, do not contain sufficient amounts of suitable habitat (as defined by the IGBST) needed to meet essential requirements for occupancy by grizzly bears. The potential for conflicts is extraordinarily high and resulting mortality levels would be too great to sustain a grizzly bear population in those locations.

A recovered grizzly bear population will be maintained within the DMA. The State will apply more conservative management policies within portions of the PCA outside the national parks to assure the demographic distribution criterion (at least 16 of 18 BMUs occupied by females with young over a 6-year sum of observations) is met. Management flexibility will be greater outside the PCA boundary. However overall mortality within the DMA should not exceed the mortality limits prescribed in the adaptive management framework (Table 1, Appendix I) and the updated *Conservation Strategy* (USFWS 2016b).

Human activities and traditional land uses outside the DMA would contribute to a higher frequency of human-grizzly bear conflicts potentially resulting in a lower public tolerance for grizzly bears. Accordingly, those areas identified outside the DMA where the potential for conflict is high will generally be managed to proactively discourage these occurrences from happening (see Conflict Management page 20). Public hunting seasons may also be used to limit grizzly bear occupancy outside the DMA, but will be regulated to assure overall population and distribution goals continue to be met within the DMA.

Grizzly bears will inevitably continue to disperse outside the DMA due to success of the grizzly bear recovery program, and associated increase in abundance and distribution. However, this does not imply that the Department will manage for grizzly bear occupancy in these areas. The DMA identifies the areas containing biologically suitable and socially acceptable habitats where we are committed to maintain a recovered grizzly bear population. Grizzly bears occupying areas outside the DMA contribute little to population maintenance due to high frequency of conflicts and lower reproduction compared to grizzlies within the DMA. Although grizzly bears will not be actively discouraged from occupying all areas outside the DMA, management decisions will focus on minimizing conflicts and may proactively limit occupancy where potential for conflicts or public safety issues are very high. It should also be noted that the areas lying beyond the DPS boundary are within the area where grizzly bears will remain listed as a threatened species under the Endangered Species Act.

Population Monitoring and Management

Reliable status and trend data are essential to effectively manage the GYA DPS of grizzly bear. Investigations are continually underway to refine population estimators and improve monitoring efficacy. The current population estimator is the model averaged Chao2 (Keating et al. 2002, IGBST 2005, Cherry et al. 2007) with updated vital rates (IGBST 2012, USFWS 2013). Because it is conservative and sensitive to changes in trend, the model averaged Chao2 estimator will continue to be used until a more accurate estimator is available. Improved data collection protocols and population analysis techniques may be implemented if they are demonstrated to be reliable, approved by the IGBST and the Yellowstone Grizzly Coordinating Committee YGCC, and reasonably cost-effective. All monitoring data will be compiled, analyzed and reported annually in grizzly bear job completion reports.

Population Monitoring

The Department has invested enormous fiscal and personnel resources to monitor and manage the GYA DPS of grizzly bears over a period of decades. Those efforts have included capturing many individual bears and fitting them with radio collars, collecting and analyzing biological samples, monitoring physiological condition, conducting radio telemetry and observation flights, monitoring food sources, and other aspects of grizzly bear ecology and general management activities of the Department. In recent years, annual costs of the Department's grizzly bear program have approached and exceeded the $2 million mark. After the GYA DPS of grizzly bears is delisted, the Department will continue to annually assess population trends, mortality, reproduction, distribution, and other factors to be considered in management decisions. Every bear captured by the Department represents an opportunity to gain additional insight into the overall health of the grizzly bear population. The Department will continue to collect biological samples (i.e., hair, tissue, and blood as applicable) for monitoring purposes. Cataloging biological samples will enable the Department to monitor the genetic diversity of the population, as well as provide valuable information related to condition, diet, and potential for disease prevalence.

Recent research evaluating genetic viability of GYE grizzly bears (Kamath et al. 2015) has demonstrated the effective population size (N_e) of the GYE grizzly bear population increased

from 102 in 1982 to 469 in 2010, which is greater than four times the minimum effective population size needed to maintain genetic health (Miller and Waits 2003). According to the authors, the observed heterozygosity and current effective population size are sufficient to avoid inbreeding depression, and to reduce concerns regarding genetic viability of GYE grizzly bears (Kamath et al 2015). The Department will continue to collect genetic samples from grizzly bears (i.e., captures, reported mortalities, hair collected from rub trees) on an annual basis in order to evaluate potential changes in heterozygosity and overall genetic diversity of the population. Should genetic issues become a concern in the future, translocation of genetic material into the GYE DPS will be considered.

Data from radio-collared grizzly bears will continue to provide crucial information about distribution, movements, reproduction, mortality, habitat use, and home range size of grizzly bears. Movements of marked grizzly bears have been analyzed to map seasonal, annual, and lifetime home ranges, and to identify important seasonal habitats and foods, potential travel or linkage corridors, activity patterns, and den sites. Information obtained from a representative subset of the population has enabled managers to estimate survival rates for various demographic classes, age at first reproduction, rate of reproduction, and life expectancy. Over time these metrics can change as a function of habitat quality and population density, and must be continually monitored and calibrated to accurately estimate rate of change in the population. Information on causes of grizzly bear mortalities also informs management and assists with efforts to identify potential areas where additional attention may be needed.

Regular observation flights have been conducted in the GYA since the 1980s. Originally, the Recovery Zone was divided into 18 BMUs that served as the geographic basis for monitoring. As the grizzly bear population expanded, it was necessary to increase the area and number of units flown to effectively monitor the entire population. Grizzly Bear Observation Areas (BOAs) (Fig. 10) were established for this purpose (IGBST 2015). BOAs will be the geographic reference areas used for observation flights and other population monitoring efforts as well as for recording mortalities. In order to report data consistently and provide a basis for long-term trend evaluation, BOA boundaries are intended to remain fixed. However, some limited modifications may be considered to improve monitoring efficacy and accuracy. Female distributional data will continue to be reported based on the original 18 BMUs to address requirements of the demographic recovery criteria (USFWS 2013, 2016a, 2016b).

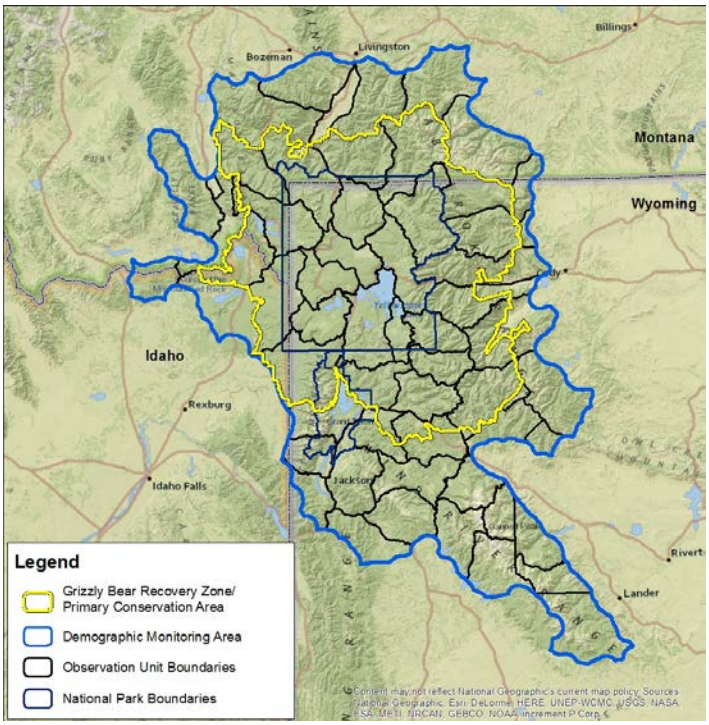


Fig. 10. Grizzly bear flight observation units (also called Bear Observation Areas – IGBST 2015) used to systematically monitor grizzly bears throughout the DMA.

All forms of mortality will be monitored for Wyoming grizzly bears. The Department will manage human-caused mortality to assure overall mortality limits for the DMA are not exceeded. Allowable discretionary mortality within the Wyoming segment of the GYA grizzly population will be determined annually based on demographic and monitoring information provided by the Department and the IGBST and the allocation process outlined in the tri-state MOA (Appendix I). The Commission will determine where to apply discretionary mortality within the state based on Commission established management objectives and recommendations from the Department and considering public comments. The Commission will ensure that distributional recovery criteria are met within the PCA. The Department will manage non-hunting sources of mortality through education, enforcement, and implementation of the conflict management guidelines (Appendix IV). Consultation with the appropriate state and federal agencies will continue to ensure management objectives for Montana, Idaho and the National Parks are not compromised.

Portions of the WRR are known to be occupied by grizzly bears. The WRR is located entirely outside the PCA and represents less than 5 percent of the DMA. The Department lacks management jurisdiction on Tribal lands, but will continue coordination with the Eastern Shoshone and Northern Arapaho Tribes to ensure our collective management actions sustain a recovered grizzly bear population. The Tribes are members of the YES (YGCC) and management of WRR grizzly bears is fully coordinated with the other agencies in the context of ecosystem-scale management. Upon delisting, Tribes will assume full authority to manage grizzly bears on Tribal lands.

Grizzly Bear Foods Monitoring

Grizzly bears are opportunistic omnivores capable of surviving in a variety of habitats (Craighead 1998) by utilizing a broad range of food items (Craighead and Mitchell 1982, IGBST 2013, Gunther et al. 2014). Changes in climate may affect regional vegetation, hydrology, fire regimes, and pathogen prevalence, which may in turn influence the abundance, range, and elevational distribution of foods consumed by GYA grizzly bears (Gunther et al. 2014). However changes in abundance of various food sources are not likely to negatively impact grizzly bears at the population scale due to their dietary plasticity (IGBST 2013, van Manen et al. 2014, van Manen et al. 2015). An in-depth dietary analysis revealed 266 different species from 200 genera and 4 kingdoms are consumed by grizzly bears in the ecosystem (Gunther et al. 2014), indicative of the grizzly bear's broad dietary flexibility (Gunther et al. 2014). Moreover, past changes in key food abundance resulting from the Yellowstone fires, cutthroat trout declines, and whitebark pine die-off were not associated with population-level responses by grizzly bears.

The Department will continue to participate in coordinated monitoring of grizzly bear food sources and will consult with land management agencies and private landowners regarding issues related to grizzly bear habitat protection, disturbance, enhancement and mitigation. The Department will continue to work closely with the USFS to assist in the monitoring of selected whitebark pine stands and army cutworm moth aggregation sites based on methodology implemented by the IGBST (IGBC 2000). Whitebark pine stands will be inventoried and monitored for seed production, tree health (i.e. tree mortality, evidence of blister rust, *Cornartium ribicola* and mountain pine beetle, *Dendroctonus ponderosae* infestation), and evidence of grizzly bear use. Grizzly bear use at existing and newly identified moth aggregation sites will also be monitored. The Department will continue to identify areas of interest related to grizzly bear diet in order to better understand and manage the population.

Hunting

Since the early 20th century, regulated hunting has played an instrumental role in the recovery and health of wildlife populations. Regulated hunting is not only a pragmatic and cost effective tool for managing populations at desired levels; it also generates public support, ownership of the resource, and funding for conservation as well as greater tolerance for some species such as large predators that may cause safety concerns and come in conflict with certain human uses.

Regulated hunting may be a component of the Department's grizzly bear management program. Hunting, along with other management tools, may be utilized to ensure the long-term conservation of grizzly bears in Wyoming by maintaining the population within a healthy, sustainable range and by potentially limiting occupancy of unsuitable habitats. Public take may also be directed, when appropriate, to areas with high frequencies of human-grizzly bear conflicts. If implemented, this strategy will evaluate the use of hunter harvest to replace some of the mortality that might otherwise result from agency take in conflict situations. Any proposed grizzly bear hunting seasons will be promulgated in a manner similar to that used for other trophy game species in Wyoming. Wildlife managers will

consider population objectives, annual population data and trends, grizzly bear distribution information, species specific characteristics (i.e. reproductive rates and behavior) and habitat data to develop hunting season proposals.

Regulations governing grizzly bear management will be promulgated in conformance with the Wyoming Administrative Procedures Act (APA) and presented for Commission action each year. The APA mandates public review of all agency rulemaking. Initial proposals will be thoroughly reviewed and approved by the Department. The Commission will ultimately take formal action on the proposed seasons, either adopting as presented, or making modifications based on biological data and social concerns expressed by the public. Hunting regulations must also be promulgated in conformance with Wyoming Statutes governing legal methods of take. W.S. 23-3-109(a) prohibits use of dogs to take trophy game animals. (This statute directs the Commission to regulate the use of dogs to take mountain lions).

Female grizzly bears with dependent young as well as dependent young will be protected from hunter harvest. Hunting seasons may also be timed to reduce exposure of females to harvest. Early spring and late fall hunts tend to focus hunting pressure on males because females with young are more likely to be in dens at those times. Persons who draw a grizzly bear license will be required to participate in training on grizzly bear ecology, identification, and safety. In general, males are more exposed to harvest because they range more widely and are more likely to be encountered by hunters. At any given time, approximately 67 percent of independent females are accompanied by dependent young (WGFD 2014, IGBST Annual Report 2015). A regulation that prohibits take of females with young will functionally extend protection to approximately two-thirds of the adult females in the population. Protecting females will serve to focus regulated harvest on the male segment of the population.

If hunting seasons are promulgated, license allocation and mortality limits will be developed annually within geographically-defined hunt areas to attain an appropriate distribution of harvest, both within and outside the DMA. A great deal of interstate and interagency collaboration and communication will be incorporated into season planning processes. Hunting season structures will be evaluated and adaptively managed to achieve desired harvest results, thereby ensuring recovery criteria continue to be met.

Research and Monitoring

Applied research to develop more accurate and efficient population and/or density estimation techniques will continue to be a priority. The Department also has interest in research addressing how an intact large carnivore guild may directly and indirectly impact ungulate populations in northwest Wyoming. This research question has management, social and ecological implications. The Department will continue to evaluate interactions among grizzly bears, ungulates, and other large carnivores. There are also multiple questions related to efficacy of management strategies for population stabilization and conflict resolution. The GYA grizzly bear population affords unique research opportunities to address these types of questions from the perspective of a long-term dataset.

Increased abundance and expansion of grizzly bears within areas with differing land use patterns will afford unique opportunities to look at potential changes to survivorship and birth rate as well as habitat selection patterns outside the core recovery zone. In addition, managers will have the opportunity to evaluate how changes in the population may relate to anthropogenic influences on the landscape (e.g., human-grizzly bear conflicts, habituation) as well as how the population responds to management and changing habitat conditions (Bjornlie et al. 2014a, van Manen et al. 2015). It will be particularly important to evaluate how harvest management influences population demographics should hunting occur. Questions may arise regarding survivorship, recruitment, movements, genetic diversity, and behavioral adaptations in response to hunting and other anthropogenic influences.

Much of the PCA is designated wilderness and national parks, whereas lands outside of the PCA, while still containing wilderness and roadless areas, are predominantly multiple-use. Given the diverse land use patterns, differences in grizzly bear demographic characteristics and habitat utilization may emerge. Understanding these differences may have implications for management of grizzly bears outside the PCA.

The Department will continue to identify questions that have specific management implications, and will develop hypotheses to test through relevant research projects. The Department will continue to serve on the IGBST and will play a key role in furthering the body of information available for managers to adaptively manage this and other grizzly bear populations.

Habitat and Land Management

Effective grizzly bear habitat consists of areas where biological needs of grizzly bears are met and mortality risk is low – in other words, large contiguous areas that are remote from human activities [USFWS 2007, Schwartz et al. 2010]. The majority of secure habitat inside the PCA is within national parks and designated wilderness. Outside the PCA, most habitat occupied by grizzly bears is on USFS lands. The Department is responsible for managing grizzly bears on all lands in Wyoming, excluding national parks and Tribal lands; however the Department has no direct authority to manage habitat except on Commission-owned lands.

The six national forests within the GYA, in their capacity as members of YES, have committed to maintain secure grizzly bear habitat at 1998 levels (ICST 2007, FR 72:14925, USFWS 2016b). All six forest plan revisions include standards ensuring habitat will be conserved at levels needed to sustain the recovered GYA DPS grizzly bear population [FR 72:14923]. Once the grizzly bear is delisted, the YES will continue as the YGCC. The Department will provide data and input to all appropriate land management decisions in our capacity as a member of YGCC, and when providing agency comments on proposed planning and permitting actions on federal lands. Coordination among state and federal agencies and private landowners will be essential to assure adequate grizzly bear habitat is maintained.

The central reason why grizzly bear populations declined in North America was the settlement of vast tracts of land and conversion of those lands to more intensive anthropogenic uses, leading to increasing frequencies of encounters and conflicts with grizzly bears, and consequently increased grizzly bear mortality. The result of these

combined factors was fewer tracts of suitable habitat where grizzlies could survive. The following factors contribute to loss of suitable habitat: conversions of native vegetation, depletion of food resources, disturbance, displacement from human activities and developments such as roads and subdivisions, and fragmentation of habitat into increasingly smaller blocks that are inadequate to maintain viable grizzly bear populations.

Roads contribute significantly to degradation of suitable grizzly bear habitat. Grizzly bears living near roads also have a higher probability of mortality (Schwartz et al. 2010). Road development has displaced adult females from approximately 16 percent of the total available habitat in YNP (Mattson et al. 1987). Female displacement is higher in areas having higher road densities. The distances at which grizzly bears appear to be displaced from roads vary in different habitats and seasons. The impact of roads is greatest in spring. During the fall, grizzly bears tend to move to higher elevations where they forage in locations that are typically more isolated from existing roads. Consequently, roads are a less important source of disturbance during the fall season. The amount of traffic also appears to influence the degree of road avoidance.

The Department supports maintaining roadless areas where they currently exist within occupied grizzly bear habitat (primarily within the PCA). This is consistent with forest management plan commitments to maintain secure grizzly bear habitat at 1998 levels. Grizzly bears rely on security cover to insulate themselves from threats and disturbances. Overall habitat suitability can be impacted by loss of security cover as a direct or indirect consequence of various human activities. Such activities may include: land management practices, recreational developments and primary roads (Mattson et al. 1987), restricted roads and motorized trails (Mace et al. 1996); human use (Knight et al. 1988, Mattson 1989, McLellan and Shackleton 1989); oil and gas development (Schallenberger 1977, Reynolds et al. 1983, McLellan and Mace 1985); logging practices (Zager et al. 1983, Archibald et al. 1987, Bratkovich 1986, Hillis 1986, Skinner 1986); and forest fires (Zager et al. 1983, Blanchard and Knight 1990). The Department will continue to provide technical advice, including data and expertise regarding grizzly bear ecology, to inform decisions of land management agencies. We will encourage jurisdictional agencies to address the impact of human activities in their land management plans and permitting actions.

The majority of suitable habitat occupied by the GYA DPS of grizzly bears is a contiguous region of northwest Wyoming that, for the most part, remains intact. A comparatively limited number of two-lane highways bisect portions of the GYA. The Department will work with appropriate land management agencies and the Wyoming Department of Transportation to minimize impacts if additional highway projects should be proposed in the future.

Human activities, including recreation in occupied grizzly bear habitat, are also linked to disturbance, human-grizzly bear conflicts and grizzly bear mortalities. The Department promotes the use of bear pepper spray in areas occupied or likely to be occupied by grizzly bears. The Department also recommends that land management agencies require proper food/waste handling practices (i.e. food storage orders) that reduce the potential for conflicts.

Habitat Recommendations

The following general guidelines will be considered in formulating Department comments on land use plans and permitted actions in occupied grizzly bear habitat:

- Work with land management agencies to monitor habitat conditions and trends potentially affecting all sensitive and priority wildlife species.

- As mandated by Sections 1502.16, 1508.7, and 1508.8 of the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act [40 CFR Parts 1500-1508], identify and evaluate the cumulative effects of all past, present, and reasonably foreseeable actions potentially affecting sensitive and priority wildlife or their habitats. The potential significance of impacts created by the project being analyzed must be evaluated in the context of an overall cumulative effects analysis covering an appropriate unit of land or the ecosystem as a whole.

- Monitor human activities that may reduce habitat effectiveness on seasonally important wildlife habitats and recommend changes in management of human uses if warranted.

- Base road construction proposals on completed transportation plans that take into consideration important wildlife habitats and seasonal-use areas.

- Use minimum road design and construction specifications based on projected transportation needs. Schedule construction to avoid important seasonal use periods as identified in species-specific guidelines.

- Recommend site-specific design and mitigation standards to locate roads, drill sites, landing zones, etc. in a manner that avoids adversely impacting important wildlife habitat.

- Stabilize and reclaim disturbed areas with native plant species whenever possible to provide proper watershed protection. Species that provide wildlife forage and/or cover should be used in rehabilitation projects where deemed appropriate. However, to reduce potential for traffic collisions and mortalities, plant species that attract wildlife should not be planted within road rights-of-way.

- As general guidance, the Department recommends the average density of open roads should not exceed one mile of road per square mile. This is consistent with the Department's elk management guidelines.

- When necessary, recommend seasonal road closures and/or vehicle restrictions during important seasonal use periods. Road closures may also be recommended in specific situations where there is concern about potential conflicts due to increased bear activity.

- Encourage the USFS and Bureau of Land Management to enforce regulations banning motorized travel off established roads as well as food storage orders within USFS lands.

- Focus efforts to improve habitat quality in areas of recurring grizzly bear mortalities related to human causes. Such efforts may include improved sanitation, seasonal road closures, and enhanced educational efforts.

The Department recognizes large tracts of roadless areas are crucial for successful conservation of grizzly bears. The Department will work with local groups and land managers to develop compatible travel management plans. In general, the density of open roads has remained the same or decreased in most bear management subunits since 1998 (IGBST 2015).

Conflict Management

The guidelines outlined in the final *Conservation Strategy* (USFWS 2016) along with the guidelines below will be used to manage human conflict both inside and outside of the DMA. Human welfare will receive priority consideration when grizzly bears and people come into conflict. Management actions will be based on a risk assessment that considers the impact to humans as well as the grizzly bear population and mortality status. Department responses to conflict include no action, aversive conditioning, deterrence, exclusion, relocation, and/or removal. Situations involving grizzly bears occupying locations where the potential for conflicts is high (e.g. subdivisions) will be managed proactively to prevent damage and address human safety concerns. All management actions will be documented in the annual grizzly bear job completion report. As the grizzly bear population has increased in abundance and distribution, the Department has documented a corresponding increase in abundance and distribution of conflicts (Fig. 11). The Department will continue to stress the importance of conflict resolution and maintain vigilance in response to grizzly bear/human conflicts.

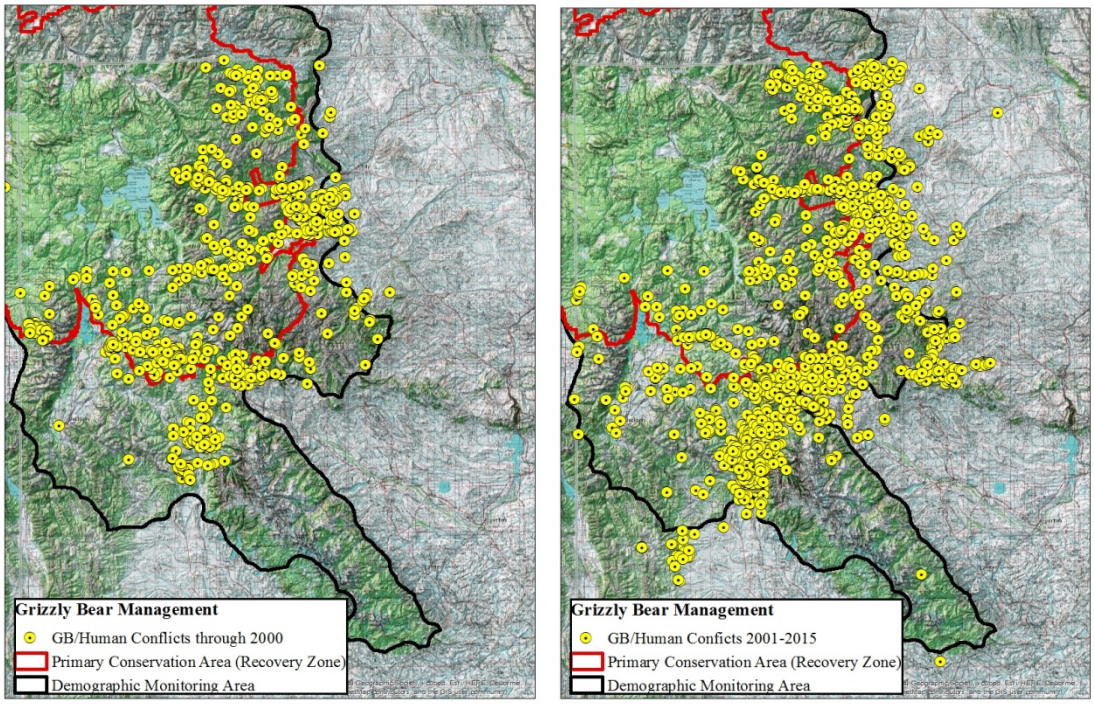


Fig. 11. Verified grizzly bear-human conflicts illustrating the increased distribution of conflicts beyond the Primary Conservation Area and Demographic Monitoring Area in Wyoming.

The Department's conflict management program will focus on education and preemptive management strategies. Public safety will remain the paramount consideration in all Department management decisions related to grizzly bear conflicts. To the extent possible given logistical and manpower constraints, situations involving grizzly bear conflicts will be handled in a timely and effective manner. Non-lethal control measures will be exercised whenever appropriate and practical. Location, cause of incident, severity of incident, history of the offending grizzly bear(s), and bear's health, age, and sex will be considered in any decisions to identify appropriate management actions. Additionally, the Department will include the prevention of future conflict as a consideration when developing strategies to deal with individual situations. Appropriate circumstances in which response actions may be taken are described below:

No Action

The Department may elect to take no action after the initial investigation if the circumstances do not warrant control or if the opportunity for effective control of the situation is low.

Many human-grizzly bear conflicts are one-time events. The activities and circumstances leading to the conflict may not be repeated, thus a management response becomes unnecessary. In other situations, the location of the grizzly bear involved is unknown, or the location where the next conflict may occur cannot be reliably anticipated.

Aversive Conditioning, Deterrence, and Exclusion

The Department may employ various options to prevent or reduce the potential for conflicts and/or depredations (e.g. electric fencing, bear proof structures or containers, scare devices). As circumstances warrant, the Department will employ nonlethal methods such as removing the source of the conflict or altering the behavior of the bear(s) that may be contributing to a conflict.

Often the most effective action is to manage the root cause(s) of the conflict. Implementing property protection (bear exclusion) measures or eliminating attractants will often result in grizzly bears abandoning the area and discontinuing undesirable behaviors. Aversive conditioning by actively deterring grizzly bears from a specific site or area will sometimes have the same effect depending on the situation.

Relocation

The Department may capture grizzly bears and relocate them away from conflict situations when other options are likely to be ineffective, or where human safety is a concern. Capture and relocation efforts will be initiated in a timely manner when practical. The Department will attempt to relocate conflict grizzly bears to locations where the probability of causing additional problems is low. Grizzly bears captured to manage conflicts will not be relocated into unoccupied habitat. Grizzly bears not suitable for release will be removed from the population. All sub-adult and adult grizzly bears to be relocated or released on site will be permanently marked and may be radio-collared when applicable.

Removal

Lethal control may be employed when other options are not practical or feasible, in particular when bears become food-conditioned, human-habituated, or aggressive toward humans. Grizzly bears displaying these behaviors are a public safety threat and often continue to be involved in property damage incidents. In other circumstances, some grizzly bears may not be suitable for release due to injuries, illness or their physical condition. When the option to lethally remove a bear is exercised, the source of the conflict should also be managed as appropriate. As with other known human-caused mortalities, Department removals will be reported annually.

Conflict Management Procedures

General

The following conflict management procedures shall be implemented in accordance with the guidelines above:

- The Department will ensure that appropriate LCS and regional personnel are trained to manage conflicts involving grizzly bears. Conflict management is a high priority for the Department.

- Conflict reporting procedures will be made available to the public.

- Appropriate personnel within other state and federal agencies may be trained, authorized, and equipped to manage conflicts in appropriate circumstances as determined and approved by the Department.

- Livestock depredation information and training may be made available to livestock producers and their employees. It shall remain essential, however, for Department personnel to respond to and verify instances of livestock depredation in a timely manner.

- The Department will provide a timely response to reports of human-grizzly bear conflicts. Appropriate actions to address human-grizzly bear conflicts will be identified and implemented in accordance with Department guidelines and protocols.

- The Department will evaluate reports of human-grizzly bear interactions and will promptly conduct an investigation when warranted. The Department will inform the affected parties or their representatives of the findings as soon as feasible.

- The Department will provide information and technical assistance to prevent, manage, and mitigate human-grizzly bear interactions.

- The Department may provide deterrent or aversive conditioning devices or supplies for use in preventing or managing interactions and conflicts.

- The Department may preemptively capture and relocate grizzly bears to prevent interactions and conflicts with humans in cases where this is deemed necessary.

- Grizzly bears involved in conflicts may be captured and relocated to prevent additional conflicts.

- When action is necessary to prevent additional conflicts or to address public safety, grizzly bears may be removed from the population in cases where relocation is not possible or practicable, or where prior relocation attempts have proven ineffective.

- Grizzly bears displaying aggression or considered to present a continued threat to human safety will be removed from the population as the situation warrants.

- Grizzly bears displaying food-conditioned or habituated behaviors may be relocated, aversively conditioned, or removed from the population dependent on the specific details of the incident.

Property Damage Management

Grizzly bears are attracted to processed human foods, gardens, garbage, bird feeders, livestock and pet feed, livestock carcasses, improperly stored big game carcasses, and septic

treatment systems near camps and residential areas. These types of attractants often lead to property damage by grizzly bears.

The Department has developed a statewide proactive outreach program called "Bear Wise Wyoming Program" to improve public awareness of conditions or circumstances that may lead to conflicts, how to avoid conflicts, and how to respond appropriately in a bear encounter. The Department will continue to identify potential sources of attractants and work with private property owners and land management/local government agencies to reduce sources of attractants throughout areas potentially occupied by grizzly bears. When an attractant cannot be eliminated, the Department will provide technical advice to protect property and reduce the potential for human-grizzly bear conflicts. Techniques to prevent damage may include aversive conditioning, physical exclusions such as electric fencing, relocation or removal of offending animals, and use of deterrent devices. The Department will encourage further development of effective, non-lethal damage management techniques and equipment. The Department will implement the following actions as warranted to manage property damage caused by grizzly bears:

- The Department will evaluate reports of property damage and will promptly investigate when warranted. The Department will inform the affected parties or their representatives of the findings as soon as feasible.

- The Department will provide information and technical assistance to prevent, manage, and mitigate property damage caused by grizzly bears.

- The Department may provide deterrent or aversive conditioning devices or supplies for use in preventing damage.

- The Department may preemptively capture and relocate grizzly bears to prevent damage in cases where this is deemed necessary.

- Grizzly bears causing property damage may be captured and relocated to prevent additional damage.

- When relocation is not possible or practical, or when it is unlikely to resolve the problem because of food conditioning, habituation, or other behavioral traits, grizzly bears may be removed from the population.

Agriculture Damage Management

Grizzly bears can cause extensive damage to unprotected agricultural commodities including livestock, livestock feeds, and apiaries. The Department will cooperate with livestock producers and land management agencies to promote livestock management techniques that reduce depredations. Grizzly bear management actions will emphasize long-term, non-lethal solutions, however, it will be necessary to relocate or remove offending animals to resolve specific conflicts. The Department will continue to promote development and improvement of techniques and devices to protect agricultural products from damage. Responsible Department personnel maintain awareness and knowledge of current literature on depredation

management techniques. The Department will implement the following actions as warranted to manage and mitigate agricultural damage caused by grizzly bears:

- The Department will evaluate reports of damage to livestock or agricultural products caused by grizzly bears and will promptly investigate when warranted. The Department will inform the affected parties or their representatives of the findings as soon as feasible.

- The Department will provide information and technical assistance to prevent, manage, and mitigate agricultural damage caused by grizzly bears.

- The Department may provide protective, deterrent, or aversive conditioning devices or supplies to prevent damage.

- The Department may preemptively capture and relocate grizzly bears to prevent agricultural damage in cases where this is deemed necessary.

- Grizzly bears causing agricultural damage may be captured and relocated to prevent additional damage.

- Grizzly bears that are involved in livestock depredations may be removed from the population.

- Grizzly bears involved in livestock depredation often times create human safety risks and may be handled as such if the circumstances warrant.

- The Department will reimburse landowners for compensable damage to agricultural products as directed by Wyoming Statutes and Commission regulation (Appendix II).

- The Department will develop and update outreach materials that explain the damage claim process. Some related papers, agreements, and brochures include: Demaree (1985), Iverson (1989), WADMB et al. (2002), Bruscino and Cleveland (2004), and WGFD and WADMB (undated).

Outdoor Recreation-Grizzly Bear Conflict Management

Encounters between grizzly bears and humans that live, work, and recreate in grizzly bear occupied habitats may increase the potential for grizzly bear mortalities to occur due to self-defense actions, and may also result in injuries or death of humans engaged in activities such as hunting, fishing, hiking, camping, recreating or working in grizzly bear country. The Department will implement the following actions to manage human grizzly bear conflicts.

- The Department will encourage the reporting all instances of conflicts with grizzly bears.

- The Department will encourage the carrying of bear pepper spray when recreating and working in locations potentially occupied by grizzly bears.

- The Department will encourage the development of additional products and techniques outdoor resource users can utilize to avoid or manage interactions with grizzly bears in a non-lethal manner.

- The Department will annually publicize news releases with safety tips for recreating and working in grizzly bear occupied habitat [e.g., https://wgfd.wyo.gov/News/Hunters-urged-to-use-caution-when-hunting-in-grizz]

- The Department will utilize a multi-faceted information and education program to assist in managing outdoor resource user-grizzly bear conflicts [e.g., the "Bear Wise Wyoming Program" https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Large-Carnivore/Grizzly-Bear-Management/Bear-Wise-Wyoming]. Also see next section.

- The Department will investigate all reported human-grizzly bear conflicts that result in death or injury to a person or grizzly bear.

Grizzly bears identified for removal may be captured and donated alive to public research institutions or public zoological parks for appropriate educational or scientific purposes in accordance with Wyoming statutes and Wyoming Game and Fish Commission regulations. Grizzly bears not suitable for release, research, or educational purposes will be lethally removed. The Department will direct the disposition of all grizzly bears that are lethally removed by other than a licensed hunter. Grizzly bears lethally removed in authorized management actions shall be retained by the Department or donated to scientific or educational institutions in accordance with Wyoming Statutes and Wyoming Game and Fish Commission regulations.

Information and Education

In 1991, the Department launched an education outreach effort that emphasizes learning to co-exist with grizzly bears by reducing human-grizzly bear conflicts. Its focus was to increase public understanding and awareness of grizzly bears, their behavior and physical characteristics, and how to avoid conflicts.

Three target audiences were originally identified and continue to be highest priorities. They include:

- Persons hunting in occupied grizzly bear habitat.

- Schools, teachers and youth organizations with particular emphasis on grades 3-12 in the GYA.

- Persons residing in and visiting the GYA.

In 2004, a subcommittee of the IGBST analyzed causes and spatial distribution of grizzly bear mortalities and conflicts occurring from 1994-2003 throughout the GYA DPS. The majority of known, human-caused grizzly bear mortalities resulted from agency management actions in response to conflicts (34%), self-defense killings, primarily by big game hunters (20%), and

illegal (vandal) killings (11%). The report contained 33 recommendations to reduce human-grizzly bear conflicts and identified the following 3 sources of grizzly bear mortality that Department programs could effectively influence: 1) conflicts at developed sites; 2) self-defense killings; and 3) illegal killings (IGBST 2006).

To address the first mortality source, the committee recommended implementing enhanced management strategies in a "demonstration area" where developed site conflicts and Department management actions had been historically high. The North Fork of the Shoshone River, comprised primarily of private lands west of Cody, was selected to implement a multi-agency/public approach to reduce bear conflicts at developed sites.

In 2005, the Department also began implementation of the Wyoming Bear Wise Community Program [https://wgfd.wyo.gov/Wildlife-in-Wyoming/More-Wildlife/Large-Carnivore/Grizzly-Bear-Management/Bear-Wise-Wyoming]. Although efforts were focused primarily in the initial demonstration area, the Department also initiated a smaller scale project in the Jackson, Wyoming area to address the increased frequency of black and grizzly bear conflicts. For the past 10 years, the Wyoming Bear Wise Community programs in Cody and Jackson areas have been effective at educating the public, minimizing human-grizzly bear conflicts and promoting proper attractant management. Although challenges remain and vary among communities, progress is expected to continue as the Wyoming Bear Wise Community Program effort reaches more people. In an effort to broaden the program, the Department branded this work as the "Bear Wise Wyoming Program" beginning in 2013. This rebranding was in response to increasing distribution of grizzly bears and the realization that interest in Wyoming's grizzly bears has broadened to statewide, national, and even international scales. Efforts to proactively reduce human-grizzly bear conflicts have been accomplished through the Bear Wise Wyoming Program and are summarized in grizzly bear annual job completion reports (Bjornlie et al. 2012, 2013; Atkinson et al. 2014):

The Department will continue to implement and expand its information and education efforts. Resources will continue to be allocated to the Bear Wise Wyoming Program to maintain current levels of service and for future expansion as recommended by the Department and approved by the Commission. This statewide program focuses on the proactive measures designed to reduce conflicts, and on educational efforts to inform the public about grizzly bear ecology, management and conflict resolution. Presentations will continue throughout the state, as well as on a national and international scale.

Law Enforcement

The Commission will ensure the fair, consistent and effective enforcement of laws and regulations related to grizzly bears. As is the case with all Wyoming wildlife, the Department's law enforcement charge and mission is a high priority. The Department will invest in the protection of the grizzly bear population, the thorough investigation of reported and discovered violations and will work with local prosecutors to adjudicate violations appropriately and in accordance with state law. Additionally, the Department will focus many of its' grizzly related education efforts towards ensuring understanding and compliance with Commission regulations and Wyoming statutes.

Grizzly Bear Management Costs and Funding

As the grizzly bear population size and distribution increase, management costs have continued to rise (Fig. 12) primarily due to the increasing costs of conflict management. From 1990-2015, the Department expended over $40 million to manage grizzly bears. Total future costs are difficult to predict, however costs associated with data collection and conflict management will vastly exceed any revenue generated by the grizzly bear program. The Department will continually seek ways to use new technology, new science and new methodologies to improve efficiency of the grizzly bear management program. The Department has the infrastructure and personnel in place to continue the current management program. Costs associated with managing a delisted grizzly bear population will not increase. The Department is legally bound and committed to maintaining the viability of all Wyoming wildlife.

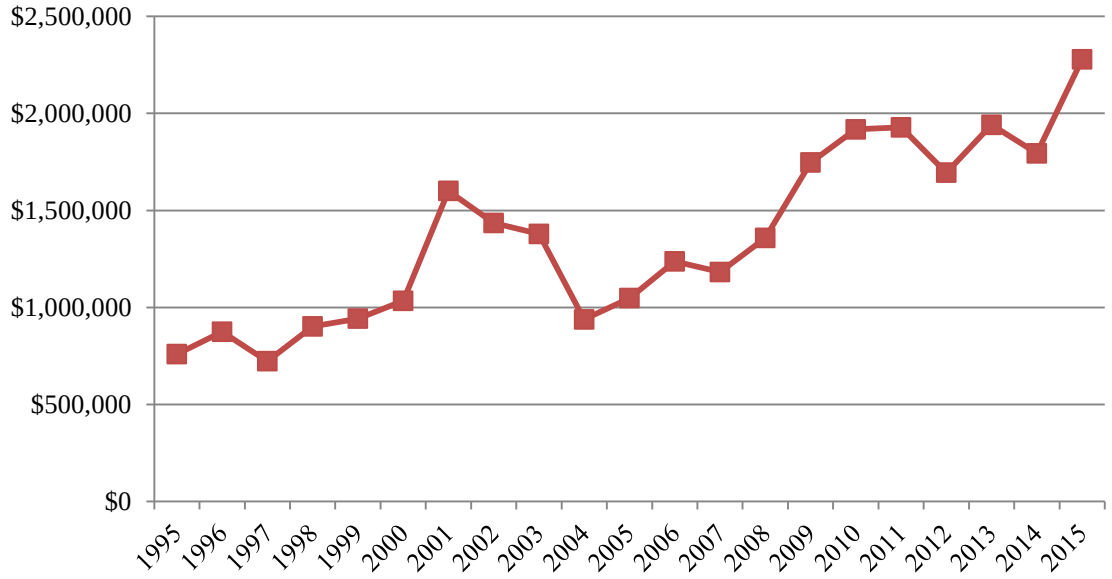


Fig. 12. Annual expenditures by the Department related to grizzly bear recovery and management.

— W G F D —

LITERATURE CITED

Archibald, W.R., R. Ellis and A. N. Hamilton. 1987. Responses of grizzly bears to logging truck traffic in the Kimsquit River Valley, British Columbia. International Conference on Bear Research and Management 7:251-257

Atkinson, C. D. Bjornlie, K. Bales, M. Boyce, J. Clapp, C. Clark, B. DeBolt, L. Ellsburry, Z. Gregory, D. Lasseter, K. Mills, D. Thompson, B. Trebelcock, and Z. Turnbull, and J. Wilmot. 2014. 2013 Wyoming Grizzly Bear Job Completion Report. Wyoming Game and Fish Department, Cheyenne. 37pp. https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/JCR_GRIZZLY_2013.pdf

Bjornlie, D., M. Boyce, M. Bruscino, J. Clapp, B. DeBolt, L. Ellsbury, K. Mills, D. Thompson, B. Trebelcock, Z. Turnbull, T. Teaschner, L. Downing, and P. Hnilicka. 2012. 2011 Wyoming Grizzly Bear Job Completion Report. Wyoming Game and Fish Department, Cheyenne. 40pp.

Bjornlie, D., M. Boyce, M. Bruscino, B. DeBolt, L. Ellsbury, Dusty Lasseter, D. Thompson, Z. Turnbull, and T. Teaschner. 2013. 2012 Wyoming Grizzly Bear Job Completion Report. Wyoming Game and Fish Department, Cheyenne. 37pp. https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/JCR_GRIZZLY_2012.pdf

Bjornlie, D. D., F. T. van Manen, M. R. Ebinger, M. A. Haroldson, D. J. Thompson, C. M. Costello. 2014a. Whitebark pine, population density, and home-range size of grizzly bears in the Greater Yellowstone Ecosystem. PloS ONE doi 10.1371/journal.pone.0088160.

Bjornlie, D. D., Thompson, D. J., Haroldson, M. A., Schwartz, C. C., Gunther, K. A., Cain, S. L., Tyers, D. B., Frey, K. L. and Aber, B. C. 2014b. Methods to estimate distribution and range extent of grizzly bears in the Greater Yellowstone Ecosystem. Wildlife Society Bulletin, 38: 182–187. doi: 10.1002/wsb.368

Blanchard, B. M., and R. R. Knight. 1990. Reactions of grizzly bear, *Ursus arctos horribilis*, to wildfire in Yellowstone National Park. The Canadian Field-Naturalist 104: 592-594

Bratkovich, A. A. 1986. Grizzly bear habitat components associated with past logging practices on the Libby Ranger District, Kootenai National Forest. pp 180-184 in: G. P. Contreras and K.E. Evans,(eds). Proceedings: grizzly bear habitat symposium. Gen. Tech. Rep. INT-207. U.S. Dep. Agric. For. Serv., Intermountain Res. Stn., Ogden, Utah. 252pp.

Bruscino, M.T. and T.L. Cleveland. 2004. Compensation program in Wyoming for livestock depredation by large carnivores. Sheep & Goat Research Journal. Paper 5:47-49. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1004&context=icwdmsheepgoat

Cherry, S., M.A. Haroldson, J. Robison-Cox, and C.C. Schwartz. 2002. Estimating total human-caused mortality from reported mortality using data from radio-instrumented

grizzly bears. Ursus 13:175-184. (http://www.bearbiology.com/fileadmin/tpl/Downloads/URSUS/Vol_13/Cherry_13.pdf).

Cherry, S., G.C. White, K.A. Keating, M.A. Haroldson, and C.C. Schwartz. 2007. Evaluating estimators for numbers of females with cubs-of-the-year in the Yellowstone grizzly bear population. Journal of Agricultural, Biological, and Environmental Statistics 12(2): 195-215.

Craighead, D. J. 1998. An integrated satellite technique to evaluate grizzly bear habitat use. Ursus 10:187-201

Craighead, J. J., and J. A. Mitchell. 1982. Grizzly Bear. pp 515-556 in: J. A. Chapman and G. E. Feldhamer, eds. Wild Mammals of North America. The Johns Hopkins University Press Baltimore, Maryland, USA.

Demaree, J.R. 1985. Big game depredations and damage compensation in Wyoming. Great Plains Wildlife Damage Control Workshop Proceedings. Paper 303:102-105. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1302&context=gpwdcwp

Gunther, K., R. Shoemaker, K. Frey, M. A. Haroldson, S. L. Cain, F. T. van Manen, and J. K. Fortin. 2014. Dietary breadth of grizzly bears in the Greater Yellowstone Ecosystem. Ursus 25(1):60–72.

Harris, R. 1986. Sustainable harvest rates for grizzly bear populations. *in* Dood, A., B. Brannon, and R. Mace eds. Final programmatic EIS: the grizzly bear in northwest Montana. Montana Department of Fish, Wildlife, and Parks, Helena, Montana. 287pp.

Hillis, M. 1986. Enhancing grizzly bear habitat through timber harvesting. Pages 176-179 in: G. P. Contreras and K. E. Evans, eds. Proceedings of Grizzly Bear Habitat Symposium. U. S. D. A., Forest Service, Intermountain Research Station, Ogden, Utah. U.S.A. Utah General Technical Report Int-07.

ICST [Interagency Conservation Strategy Team]. 2007. Final conservation strategy for the grizzly bear in the greater Yellowstone area. Tasks Y426 and Y423 of the Grizzly Bear Recovery Plan (USFWS 1993). http://www.fws.gov/mountain-prairie/species/mammals/grizzly/Final_Conservation_Strategy.pdf

ICST [Interagency Conservation Strategy Team]. 2007. Final conservation strategy for the grizzly bear in the greater Yellowstone area. Tasks Y426 and Y423 of the Grizzly Bear Recovery Plan (USFWS 1993). http://www.fws.gov/mountain-prairie/species/mammals/grizzly/Final_Conservation_Strategy.pdf

IGBC. 2000. Draft conservation strategy for the grizzly bear in the Yellowstone Area. Interagency Grizzly Bear Committee, United States Fish and Wildlife Service. University of Montana, Missoula.

IGBST [Interagency Grizzly Bear Study Team]. 2006. Supplement to Reassessing sustainable mortality limits for the Greater Yellowstone Ecosystem grizzly bear. Interagency Grizzly Bear Study Team, USGS Northern Rocky Mountain Science Center, Montana State University, Bozeman, Montana, USA.

IGBST [Interagency Grizzly Bear Study Team]. 2012. Updating and evaluating approaches to estimate population size and sustainable mortality limits for grizzly bears in the Greater Yellowstone Ecosystem. Interagency Grizzly Bear Study Team, U.s. Geological Survey, Northern Rocky Mountain Science Center, Bozeman, MT, USA. http://nrmsc.usgs.gov/files/norock/IGBST/GYEGBMonMortWksRpt2012(2).pdf

IGBST [Interagency Grizzly Bear Study Team]. 2013. Response of Yellowstone grizzly bears to changes in food resources: a synthesis. Report to the Interagency Grizzly Bear Committee and Yellowstone Ecosystem Subcommittee. Interagency Grizzly Bear Study Team, U.S. Geological Survey, Northern Rocky Mountain Science Center, Bozeman, MT, USA. http://www.nrmsc.usgs.gov/files/norock/IGBST/IGBST_FoodSynReport120213.pdf

IGBST [Interagency Grizzly Bear Study Team]. 2015. Yellowstone grizzly bear investigations 2014: Annual report of the Interagency Grizzly Bear Study Team. F.T. van Manen, M.A. Haroldson, and S.C. Soileau (eds). Interagency Grizzly Bear Study Team, USGS Northern Rocky Mountain Science Center, Montana State University, Bozeman, MT. 121pp. http://nrmsc.usgs.gov/files/norock/products/IGBST/2014Report.pdf

Iverson, R. 1989. Trophy game animal damage in Wyoming. Great Plains Wldlife Control Workshop Proceedings. Paper 401:34-39. http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1400&context=gpwdcwp

Keating, K.A., C.C. Schwartz, M.A. Haroldson, and D. Moody. 2002. Estimating the number of females with cubs-of-the-year in the Yellowstone grizzly bear population. Ursus 13:161-174.

Knight, R.R., B.M. Blanchard, and L.L. Eberhardt. 1988. Mortality patterns and population sinks for Yellowstone grizzly bears, 1973-1985. Wildlife Society Bulletin 16:121-125.

Mace, R. D., J. S. Waller, T.L. Manley, L. J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads, and habitat in the Swan Mountains, Montana. Journal of Applied Ecology 33:367-377

McLellan, B. N., and R. D. Mace. 1985. Behavior of grizzly bears in response to roads, seismic activity, and people. Preliminary Report, Canadian Border Grizzly Project. Cranbrook, British Columbia, Canada. 53pp.

McLellan, B. N., and D. M. Shackleton. 1989. Immediate reactions of grizzly bears to human activity. Wildlife Society Bulletin 17:269-274.

Mattson, D. J., R. R. Knight, and B. M. Blanchard. 1987. The effects of developments and primary roads on grizzly bear habitat use in Yellowstone National Park, Wyoming. International Conference on Bear Research and Management 7:259-273.

Mattson, D. J. 1989. Human impacts on bear habitat use. International Conference on Bear Research and Management 8:33-56

Mattson, D. J., B. M. Blanchard, and R. R. Knight. 1991. Food habits of Yellowstone grizzly bears, 1977-1987. Canadian Journal of Zoology 69:1619-1629.

Mealey, S. (compiler). 1986. Interagency Grizzly Bear Guidelines. U.S. Forest Service, U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, Wyoming Game and Fish Department, Montana Department of Fish, Wildlife, and Parks, Idaho Fish and Game Department, and Washington Game Department. 100pp. http://www.igbconline.org/images/pdf/1986%20IGBC_guidelines.pdf.

Moody, D. S., C. R. Anderson, D. D. Bjornlie, and J. M. Emmerich. 2005. Wyoming grizzly occupancy management guidelines. Wyoming Game and Fish Department, Cheyenne, WY. 23pp.

Reynolds, P. E., H. V. Reynolds, and E. H. Follmann. 1983. Responses of grizzly bear to seismic surveys in northern Alaska. International Conference on Bear Research and Management 6:169-175.

Schallenberger, A. 1977. Review of oil and gas exploration impacts on grizzly bears. International Conference on Bear Research and Management 4:271-276.

Schwartz, C. C., M. A. Haroldson, and G. C. White. 2010. Hazards affecting grizzly bear survival in the Greater Yellowstone Ecosystem. Jounral of Wildlife Management 74:654-667.

Servheen, C., R. Knight, D. Mattson, S. Mealy, D. Strickland, J. Varley, and J. Weaver. 1986. Report to the Interagency Grizzly Bear Committee on the availability of foods for grizzly bears in the Yellowstone ecosystem. Unpublished report. 21pp.

Skinner, A. 1986. Influence of forest clearcuts on grizzly bear use of *Hedysarum* spp. Undergraduate thesis, Department of Animal Science, University of British Columbia. Vancouver, British Columbia, Canada.

USFWS [U.S. Fish and Wildlife Service]. 1993. Grizzly bear recovery plan. Missoula, MT. 181pp. http://www.fws.gov/mountain-prairie/species/mammals/grizzly/ Grizzly_bear_recovery_plan.pdf.

USFWS [U.S. Fish and Wildlife Service]. 2000. Draft conservation strategy for the grizzly bear in the Greater Yellowstone Area.

USFWS [U.S. Fish and Wildlife Service]. 2003. Draft Final Conservation Strategy for the

Grizzly Bear in the Greater Yellowstone Area. U.S. Fish and Wildlife Service, Missoula, Montana, USA. 397 pp.

USFWS [U.S. Fish and Wildlife Service]. 2007a. Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area. U.S. Fish and Wildlife Service, Missoula, Montana, USA. 88 pp.

USFWS [U.S. Fish and Wildlife Service]. 2007b. Grizzly bears; Yellowstone distinct population; Notice of petition finding; Final rule. Federal Register 72:14865. Available from: http://www.fws.gov/mountain-prairie/species/mammals/grizzly/FR_Final_YGB_rule_03202008.pdf

USFWS [U.S. Fish and Wildlife Service]. 2013. Draft revised supplement to the grizzly bear recovery plan. Electronic copy accessible via link in Fed. Reg. Vol. 78, No. 56, March 22, 2013: pages 17708-17709. http://ecos.fws.gov/docs/recovery_plan/RP%20supplement_Yellowstone%20Grizzly%20bear_final.pdf.

USFWS [U.S. Fish and Wildlife Service]. 2016. Recovery Plan Supplement: Revised demographic criteria for the Greater Yellowstone Ecosystem. Missoula, Montana, USA.

USFWS [U.S. Fish and Wildlife Service]. 2016. Draft 2016 Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Ecosystem. U.S. Fish and Wildlife Service, Missoula, Montana, USA. 128 pp.

van Manen, F.T., M.R. Ebinger, M.A. Haroldson, R.B. Harris, M.D. Higgs, S. Cherry, G.C. White, and C.C. Schwartz. 2014. Re-Evaluation of Yellowstone Grizzly Bear Population Dynamics not Supported by Empirical Data: Response to Doak & Cutler. Conservation Letters 7(3):323-332. http://onlinelibrary.wiley.com/doi/10.1111/conl.12095/epdf

van Manen, F. T., M. A. Haroldson, and D. D. Bjornlie, M. R. Ebinger, D. J. Thompson, C. M. Costello, and G. C. White 2015. Density Dependence, Whitebark Pine Decline, and Vital Rates of Grizzly Bears. Journal of Wildlife Management. DOI: 10.1002/jwmg.1005

WADMB [Wyoming Animal Damage Management Board], WGFC [Wyoming Game and Fish Commission], WDA [Wyoming Department of Agriculture], and USDA APHIS [United States Department of Agriculture, Animal and Plant Health Inspection Services]. 2002. Memorandum of Understanding. 19pp. http://www.swccd.us/docs/Z1_mou5-6-02.pdf

WGFD [Wyoming Game and Fish Department]. 2001. Special Report, Draft Grizzly Bear Management Plan. A Summary of the public involvement process, written comments and analysis, telephone survey results, costs, conclusions and recommendations.

WGFD [Wyoming Game and Fish Department]. 2005. Wyoming grizzly bear management Plan. Cheyenne, WY. 50pp.

(https://wgfd.wyo.gov/WGFD/media/content/PDF/Wildlife/WYGRIZBEAR_MANAGEMENTPLAN.pdf).

WGFD [Wyoming Game and Fish Department] and WADMB [Wyoming Animal Damage Management Board]. Wolves in Wyoming: A Guide for Livestock Producers. Downloadable Brochure at: https://wgfd.wyo.gov/WGFD/media/content/PDF/Regulations/WOLF_LIVESTOCK_BROCHURE.pdf

Zager, P., C. Jonkel, and J. Habeck. 1983. Logging and wildfire influence on grizzly bear habitat in northwestern Montana. International Conference on Bear Research and Management 5:124-132. http://www.bearbiology.com/fileadmin/tpl/Downloads/URSUS/Vol_5/Zager_Jonkel_et_al_Vol_5.pdf

APPENDIX I: MEMORANDUM OF AGREEMENT REGARDING THE MANAGEMENT AND ALLOCATION OF DISCRETIONARY MORTALITY OF GRIZZLY BEARS IN THE GREATER YELLOWSTONE ECOSYSTEM

Among

Wyoming Game and Fish Commission, Wyoming Game and Fish Department, Montana Fish and Wildlife Commission, Montana Fish, Wildlife and Parks, Idaho Fish and Game Commission, and Idaho Department of Fish and Game

This Memorandum of Agreement (MOA) is made and entered into by and among the Wyoming Game and Fish Commission and the Wyoming Game and Fish Department (collectively WGFD), the Montana Fish and Wildlife Commission and Montana Fish, Wildlife and Parks (collectively MFWP), and the Idaho Fish and Game Commission and the Idaho Department of Fish and Game (collectively IDFG), collectively referred to as the Parties.

I. Purpose

The purpose of this MOA is to define the process by which the Parties will coordinate the management and allocation of discretionary mortality of grizzly bears in the Greater Yellowstone Ecosystem (GYE). The Parties enter into this MOA in support of the re-designation of the Distinct Population Segment (DPS) of GYE grizzly bears and delisting of this DPS under the federal Endangered Species Act. The Parties intend this MOA to be consistent with the 2007 interagency *Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area* (Strategy) and individual state management plans, and with revisions to these documents made in conjunction with the delisting process.

II. Background

The Interagency Conservation Strategy Team, with the participation of the Parties and various federal agencies, developed the Strategy to implement regulatory mechanisms, interagency cooperation, and population and habitat management and monitoring, and other actions to ensure continued recovery of the GYE grizzly bear. The Strategy was subject to public comment and scientific peer review. The Strategy's key mechanisms for maintaining a recovered GYE grizzly population are its population and habitat standards, which are based on the recovery criteria originally set forth in the USFWS Recovery Plan. The Strategy incorporated the Parties' individual state management plans that have different, but compatible, management objectives. USFWS has published for public comment draft revisions to the Strategy. The signatories to the Strategy, including representatives of the Parties and federal agencies, will finalize revisions to the Strategy in conjunction with the delisting process.

On February 19, 2016, USFWS approved a draft Supplement to Demographic Recovery Criteria for obtaining public comment. For purposes of this MOA, the Parties assume adoption of the Demographic Monitoring Area (DMA) identified in the 2016 draft Supplement as the geographic area used to monitor continued achievement of GYE population and distribution objectives. The Interagency Grizzly Bear Study Team (IGBST) and the Yellowstone Ecosystem Subcommittee (YES) of the Interagency Grizzly Bear Committee (IGBC) have recommended the use of the DMA for population monitoring, including mortality monitoring.

USFWS' draft 2016 Supplement would use a recovery criterion for a conservative total population size

of at least 500 GYE bears. This minimum population size includes a conservative buffer in addition to the recommendation of Miller and Waits (2003) for a minimum population size of at least 400 bears to adequately mitigate the potential effects of genetic drift and inbreeding depression in light of the relative isolation of the GYE population. This draft 2016 recovery criterion would also reflect a goal of at least 48 females with cubs in the DMA. For purposes of this MOA, the Parties assume the conservative criterion for minimum population size and number of females with young will apply.

USFWS' draft 2016 Supplement would keep in place the conservative recovery criterion for female occupancy standards in the Primary Conservation Area (PCA). For purposes of this MOA, the Parties assume this conservative criterion will remain in place.

The demographics and vital rates of the GYE population have changed over time. USFWS' draft 2016 Supplement proposes a revision to mortality standards to reflect changes in these rates to ensure a total GYE population of at least 500 bears and to meet the occupancy standard for female bears. For purposes of this MOA, the Parties identified adjustable mortality rates (see Paragraph IV. 2) to manage human-caused mortality within the DMA to levels that will sustain a population range based on the 2002-2014 model-averaged Chao2 population estimate of 674 grizzly bears within the DMA (95% Confidence Interval = 600 to 747).

Adjustable mortality levels allow for higher or lower mortality rates and correspond to the upper and lower 95% confidence intervals of the 2002-2014 model-averaged Chao2 estimate. Adjustable mortality rates enable the Parties to address higher human-bear conflict levels that may occur when the bear population is well above the population recovery criterion. They also ensure the population stays above the recovery criterion of a minimum population size of 500 animals in the GYE. The Parties will review the population vital rates and demographics (compiled by IGBST) a minimum of every 5 years to recommend appropriate adjustments to mortality rates.

From 2002 to the present, the IGBST has used the Chao2 estimator and model averaging process to calculate population size on an annual basis. As the bear population has grown, the model-averaged Chao2 estimates have become increasingly conservative (i.e., prone to underestimation). The IGBST has also made population estimates more recently using a mark-resight based technique (IGBST Report, 2012). The mark-resight approach has no known density-associated bias, and should better reflect actual bear abundance; however, current implementation of the approach is less precise than Chao2 at tracking population trend. For purposes of this MOA, the Parties assume that USFWS will, as a matter of best available science and appropriate conservatism, rely on the model-averaged Chao2 estimate for assessing the population size for at least the 5-year post-delisting monitoring period. The Parties recognize that methods for population estimation may change in the future as circumstances warrant and new methods are scientifically vetted and accepted.

III. Definitions

1. "Discretionary mortality" is the amount of human-caused grizzly bear mortality over which agencies have discretionary authority, such as management removals and regulated harvest.

2. "Non-Discretionary mortality" is documented loss over which agencies do not have discretionary authority, such as naturally occurring mortality or human-caused mortality such as illegal shootings, defense-of-human-life shootings, and vehicle collisions.

3. “Greater Yellowstone Ecoystem” (GYE) is defined as that portion of Idaho that is east of Interstate Highway 15 and north of U.S. Highway 30; that portion of Montana that is east of Interstate Highway 15 and south of Interstate Highway 90; that portion of Wyoming south of Interstate Highway 90, west of Interstate Highway 25, Wyoming State Highway 220, and U.S. Highway 287 south of Three Forks (at the 220 and 287 intersection), and north of Interstate Highway 80 and U.S. Highway 30. This definition of GYE was used in the 2007 USFWS rule to designate a distinct population segment (DPS) of grizzly bears under the Endangered Species Act, and to delist that DPS; in 2010 USFWS vacated this rule in response to a court decision. The Parties assume USFWS will re-designate a grizzly bear DPS for the GYE geographic area as defined herein.

4. “The Recovery Zone,” also known as the “Primary Conservation Area” (PCA), is the area whose boundaries are approximately depicted on the map attached hereto as Attachment A; the Recovery Zone is divided into 18 Bear Management Units.

5. “Demographic Monitoring Area” (DMA) is the area that includes the Recovery Zone and an additional area surrounding the Recovery Zone, approximately 19,279 mi^2 in area and whose boundaries are depicted on the map attached hereto as Attachment A. The DMA is based on suitable habitat. The DMA is the area within which the GYE population is annually surveyed and estimated and within which the total mortality limits will apply.

6. “Chao2” is the population estimation technique currently used for the GYE population of Grizzly Bears.

IV. Responsibilities

1. The Parties will employ best science and adaptive management approaches to collectively manage grizzly bears within the GYE.

2. To achieve population criteria to support a recovered GYE grizzly bear population, the Parties will:

   a. Maintain a minimum population size of 500 bears in the GYE.

      i. The Parties agree to manage the GYE grizzly bear population within the DMA, to at least within the 95% confidence intervals associated with the 2002-2014 long-term average grizzly bear population estimate calculated using the model-averaged Chao2 estimator (i.e, 600-747).

   b. Ensure that 16 of the 18 Bear Management Units within the PCA are occupied by at least one female with offspring over a six-year period, with no two adjacent Bear Management Units unoccupied over a six-year period.

   c. Ensure annual total mortality rates are not exceeded within the DMA for independent males, independent females and dependent young, as set forth in the following table, based on the 2002-2014 model-averaged Chao2 estimate for the total population with 95% confidence intervals (600-747). These adjustable mortality rates were calculated as those necessary to manage the population around the 2002-2014 Chao 2 modeled average ($\overline{X}$= 674; 95% CI = 600-747 which occurred during the time period when the population reached a biological carrying capacity.

	Total Grizzly Bear Population Estimate		
	≤674	675-747	>747
Total mortality rate for independent FEMALES.	≤7.6%	9%	10%
Total mortality rate for independent MALES.	≤15%	20%	22%
Total mortality rate for dependent young.	≤7.6%	9%	10%

i. The Parties agree to achieve this criterion using an adaptive management framework that will include, but not be limited to, the following:

- If the population is less than 600, the Parties will not allow discretionary mortality unless necessary to address human safety issues.
- At any population level greater than 600, if total allowable independent male or female mortality is exceeded, the number exceeding the total allowable mortality will be subtracted from the next year's discretionary mortality available for harvest for that gender.
- If a state meets any of its allocated regulated harvest limits at any time of the year, the respective state will cease hunting within the DMA.
- If the total mortality limit for independent males, independent females, or dependent young is exceeded for three consecutive years and any population estimate falls below 612 (the lower bounds of the 90% confidence interval), the Parties will evaluate alternatives to reduce discretionary mortality and request IGBST biology and monitoring review. The Parties will consider the results of the IGBST review in determining appropriate changes to the management framework.
- If the distribution of reproductive females does not meet the criterion for Bear Management Unit occupancy, the Parties will request IGBST biology and monitoring review. The parties will consider the results of the IGBST review in determining appropriate changes to the management framework.

3. The Parties will support the IGBST in the annual monitoring of the GYE grizzly bear population.

4. a. The Parties will meet annually in the month of January to review population monitoring data supplied by IGBST and collectively establish discretionary mortality limits for regulated harvest for each jurisdiction (MT, ID, WY) in the DMA, so DMA thresholds are not exceeded, based upon the following allocation protocol.

- Begin with DMA Chao2 total population estimate and estimates for independent males, independent females, and dependent young (demographic classes) for the previous calendar year, as reported by the IGBST.
- Determine the maximum allowable mortality limit for each demographic class based on the mortality rates identified in the table above.
- Determine total mortality during the previous calendar year for each demographic class.
- Subtract the previous year's total mortality from the maximum allowable mortality limit for each demographic class. If the difference is negative (*i.e.,* a DMA annual mortality limit is

exceeded for any of the three classes), the number of mortalities above the limit will be subtracted from the corresponding DMA discretionary mortality limit for that class for the current year.

- Allocate discretionary mortality available for regulated harvest for independent males and females to each management jurisdiction as provided in the following table. The Parties may agree to adjust the allocation of discretionary mortality based on management objectives and spatial and temporal circumstances.

Management Jurisdiction*	% of DMA outside NPS lands
WY inside DMA	58%*
MT inside DMA	34%
ID inside DMA	8%

*Four percent (4%) of the DMA outside of National Park System lands in Wyoming is under the jurisdiction of the Joint Business Council of the Eastern Shoshone and Northern Arapaho Tribes of the Wind River Reservation.

b. The Parties will prohibit hunting of females accompanied by young, and young accompanied by females, and discretionary mortality of such animals will only occur for management removals.

c. Each party has discretion as to how it applies its allocation of discretionary mortality pursuant to its respective regulatory processes and management plan.

d. The Parties will coordinate with IGBST to review and make any appropriate adjustments to mortality rates at least every five years.

5. The Parties will confer with the National Park Service (NPS) and United States Forest Service (USFS) annually. The Parties will invite representatives of both GYE National Parks, the NPS regional office and GYE USFS Forest Supervisors to attend the annual meeting.

6. The Parties will monitor mortality throughout the year, and will communicate and coordinate with each other and with federal land management agencies as appropriate to minimize the likelihood of exceeding mortality limits.

7. Each party has discretion to manage grizzly bears within its jurisdiction of the GYE that are outside the DMA pursuant to its respective regulatory processes and state management plan.

8. Each party will designate one representative as a respective Point of Contact for purposes of achieving the objectives of this MOA.

V. Authorities and Regulatory Mechanisms

The Parties enter this MOA pursuant to their respective state authorities as set forth in Title 87 Montana Code Annotated, Title 23 Wyoming Statutes Annotated, and Title 36 Idaho Code.

The Parties have the authority, capability and biological data to implement appropriate hunting restrictions, management relocations and removals, and population management. The Parties will use their respective individual authorities to regulate discretionary mortality as allocated to their

jurisdictions under this MOA. The Parties' respective regulatory mechanisms to manage, monitor, restrict, and adjust mortality include, but are not limited to, those identified in Attachment B.

This MOA in no way restricts the Parties from participating in similar activities with other states, agencies, tribes, local governments, or private entities.

VI. No Obligation of Funds

This MOA is neither a fiscal nor a funds obligation document. Any endeavor or transfer of anything of value involving reimbursement or contribution of funds among the Parties will be handled in accordance with applicable laws, regulations, and procedures and such endeavors will be outlined in separate agreements or contracts that shall be made in writing by representatives of the Parties. This MOA does not provide such authority.

VII. Term, Termination and Effective Date

This MOA shall become effective upon the date of signature of all Parties. It shall remain in effect until it is terminated by the Parties. Any party may terminate its participation in the MOA by providing one hundred-eighty (180) days written notice to the other Parties, which notice shall be transmitted by hand or other means of delivery confirmation.

VIII. Amendment

The Parties will meet annually to review implementation of the MOA and to recommend any appropriate modifications to the MOA based on changes to the Strategy, state management plans or other pertinent regulatory documents. Any modification to the MOA will only become effective upon the written consent of all Parties.

IX. No Third Party Beneficiary

Nothing contained herein shall be construed as granting, vesting, creating or conferring any right of action or any other right or benefit upon any third party.

X. Severability

Should any portion of this MOA be judicially determined to be illegal or unenforceable, the remainder of the MOA shall continue in full force and effect.

XI. Sovereign Immunity

The states of Wyoming, Montana, and Idaho do not waive their sovereign immunity by entering into this MOA, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of this MOA.

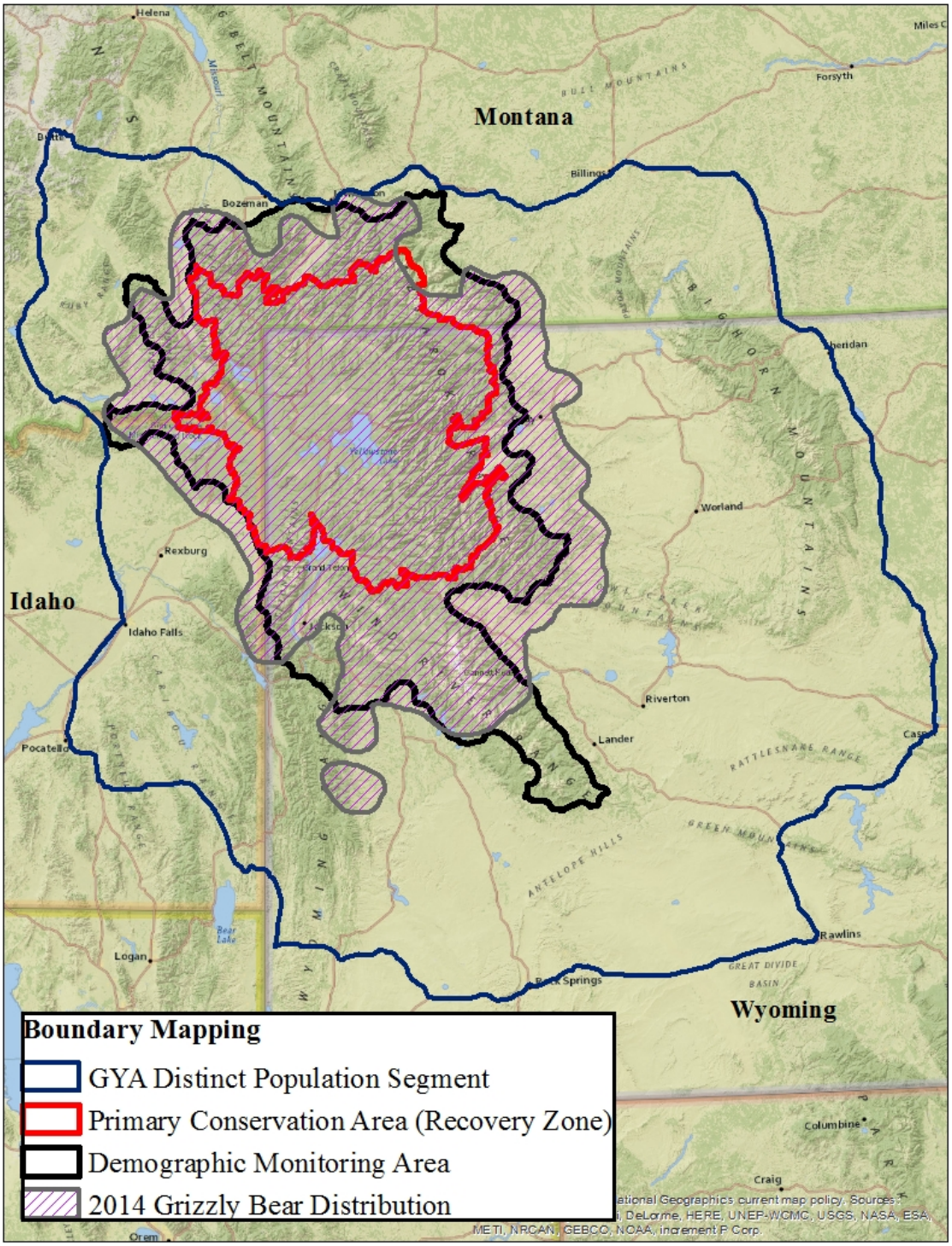
In Witness Thereof, the Parties hereto have executed this MOA as of the last written date below.

_____ _____

President, Wyoming Game and Fish Commission **Date**

_____	_____
Director, Wyoming Game and Fish Department	**Date**
_____	_____
Chairman, Montana Fish and Wildlife Commission	**Date**
_____	_____
Director, Montana Fish, Wildlife and Parks	**Date**
_____	_____
Chairman, Idaho Fish and Game Commission	**Date**
_____	_____
Director, Idaho Department of Fish and Game	**Date**

ATTACHMENT A



ATTACHMENT B

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	**Montana** MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	**Idaho** IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
Protected Classification	W.S. 23-1-101 (a)(xii)(A) (classified as trophy game animal)	MCA 87-2-101 (4) (classified as a game animal)	IC 36-201 IDAPA 13.01.06.100.01(e) (classified as big game animal)
No Take without Statutory/Commission/Director Authorization	W.S.23-3-102(a)	MCA 87-1-301; MCA 87-1-304; MCA 87-5-302	IC 36-1101(a)
Commission restriction of season, location boundaries, limits, gender, age	W.S. 23-1-302(a)(ii), WGBMP	MCA 87-1-304 (1); MCA 87-5-302	IC 36-104(b)(2) seasons, locations, sex, limits, methods of take; ISP
Commission limit of harvest to automatically close season, including gender-based limits	W.S. 23-1-302(a), WGBMP	MCA 87-1-304; MCA 87-5-302	IC 36-104(b)(2); ISP
Commission authority to restrict hunter effort (e.g., controlled hunts, tag limits)	W.S. 23-1-302(a)(i), WGBMP	MCA 87-1-201(8); MCA 87-1-304 (1); MCA 87-2-702; MCA 87-5-302;	IC 36-104(b)(2) IC 36-104(b)(5) authority to designate controlled hunt IC 36-408(1),(2); ISP
Prohibition against take of females with young present	W.S. 23-1-302(a)	MCA 87-1-304; MCA 87-5-302; MCA 87-5-302	IC 36-104(b)(2) (Commission authority to prohibit in conjunction with season setting); ISP Commission authority to enact through rule (*see* IDAPA 13.01.08.300)
Requirement for license and tag	W.S. 23-3-102(a)	MCA 87-1-201(8); MCA 87-2-701; MCA 87-2-702; MCA 87 2-814; MCA 87-5-302	IC 36-401 IC 36-409(c)
Mandatory Check/Report to	W.S. 23-1-302(a)	MCA 87-1-301; MCA 87-5-302	IC 36-104(b)(3)

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	**Montana** MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	**Idaho** IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
Monitor Harvest			Commission authority for rules for mandatory check and report requirements (see IDAPA 13.01.08.420-422 for rules for all big game species open to harvest)
Authority for Emergency Season Closure based on Change in Conditions affecting mortality/habitat	W.S. 16-3-103(b)	MCA 87-1-304 (5); MCA 87-5-302	IC 36-104(b)(3) Commission emergency closure authority IC 36-106(e)(6) Director authority, closure in emergency effective upon written order
Permit required for response to depredation unless self-defense/defense of others/defense of property under threat to human life or domestic animals	W.S. 23-1-302(a)(viii)	MCA 87-1-201(8); MCA 87-1-304(1)(e); ARM 12.9.103(1)(d)	IC 36-1107 (carcass remains property of state)
Mandatory Education	W.S. 23-1-302(a)(xxii)	MCA 87-1-301; MCA 87-1-304 MFWC Black Bear Regulations	IC 36-412(a) Hunter education mandatory for those born after 1/1/1975 IDAPA 13.01.02.100 Recommended additional materials and exam regarding bear identification available on-line.
Penalties	W.S. 23-3-102(d), W.S. 23-6-202, W.S. 23-6-206, W.S. 23-6-208	MCA 87-6-413. (Hunting or killing over limit)	IC 36-1404(c)Misdemeanor IC 36-1404(d) Felony IC 36-1404(e) Revocation of hunting license for certain violations, including for take during

	Wyoming WS=Wyoming Statute WGBMP=Wyoming Grizzly Bear Management Plan	**Montana** MCA= Montana Code Annotated ARM=Admin. Rules of Montana MTFWC – Montana Fish and Wildlife Commission Regulation	**Idaho** IC=Idaho Code IDAPA=Idaho Admin. Code ISP=Idaho Season Proclamation
			closed season, exceeding bag/possession limit IC 36-1404(g): license revocation in Idaho revokes hunting privileges in all 44 states participating in the Interstate Wildlife Violator compact
Civil Penalty	W.S 23-6-204(e)		IC 36-1404(a)(3)
Procedural Aspects of State Regulatory Mechanisms	W.S. 16-3-101, Wyoming Administrative Procedures Act	MCA 2-4-101, et seq, Montana Administrative Procedures Act	IC 74- Open Meeting Requirements, including notice for all meetings of Idaho Fish and Game Commission IC Title 67, Chapter 52 (Idaho Administrative Procedure Act), requirements for public notice and comment, legislative review IC 36-105(3) Public Notice & Publication requirements for season setting

APPENDIX II: REGULATORY MECHANISMS RELATED TO GRIZZLY BEAR MANAGEMENT IN WYOMING

The regulatory mechanisms listed below are codified in current Wyoming Statutes, currently or pending in Wyoming Game and Fish Commission (WGFC) Regulations, pending in the final approved WGFC Grizzly Bear Management Plan or pending a completed and executed Memorandum of Agreement (MOA) between the Idaho Fish and Game Commission (IFGC) and the Montana Fish Wildlife and Parks Commission (MFWPC)

- Wyoming Statutes define "Trophy game animal" as: Black bear, grizzly bear or mountain lion" (W.S. 23-1-101 (a)(xii)(A))
- "For the purpose of this act, all wildlife in Wyoming is the property of the state. It is the purpose of this act and the policy of the state to provide an adequate and flexible system for control, propagation, management, protection and regulation of all Wyoming wildlife. There shall be no private ownership of live animals classified in this act as big or trophy game animals or of any wolf or wolf hybrid. (W.S. 23-1-103)
- "The commission is directed and empowered: To fix season and bag limits, open, shorten or close seasons including providing for season extensions for hunters with disabilities as established by commission rules and regulation, on any species or sex of wildlife for any type of legal weapon, except predatory animals, predacious birds, protected animals, and protected birds, in any specified locality of Wyoming, and to give notice thereof;" (W.S. 23-1302(a)(i))
- "The commission is directed and empowered: To establish zones and areas in which trophy game animals may be taken as game animals with a license or, with the exception of gray wolves, in the same manner as predatory animals without a license, giving proper regard to the livestock and game industries in those particular areas; (W.S. 231302(a)(ii))
- The WGFC will enter into a Memorandum of Agreement (MOA) with the IFGC and the MFWPC detailing the allocation of discretionary mortality in the GYA DPS of grizzly bears on an annual basis (Three State MOA)
- The WGFC shall establish standards and requirements for mortality in accordance with demographic recovery criteria mortality thresholds as outlined in the three state MOA and the *Conservation Strategy* (Three State MOA, Conservation Strategy)
- No person shall take any grizzly bear in Wyoming without a proper license (W.S.23-3-102(a))
- No person shall take any grizzly bear outside of WGFC established hunting seasons or hunt areas (WGFC Regulation Chapter 16, pending)

- Hunting seasons, mortality limits and grizzly bear hunting regulations will be approved by the WGFC through a public process (WGFC Grizzly Bear Management Plan, pending)
- No person shall take any grizzly bear with dependent young at side, nor shall they take dependent young (WGFC Regulation Chapter 16 pending)
- Any person taking a grizzly bear will report the harvest to the Wyoming Game Fish Department (WGFD) office, game warden or biologist within 24 hours (WGFC Regulation Chapter 16, pending)
- Any person taking a grizzly bear will be required to present the hide and skull to a WGFD regional office within 5 days (WGFC Regulation Chapter 16, pending)
- Hunting license allocations will be based on a limited draw/mortality limit system within the DMA (WGFC Regulation Chapter 44, pending)
- Hunting seasons will close if female mortality limits are reached or exceeded (WGFC Grizzly Bear Management Plan, WGFC Regulation Chapter 16, pending)
- If adult female, adult male or dependent young mortality limits are exceeded, the following year's discretionary mortality allocation will be adjusted accordingly (WGFC Grizzly Bear Management Plan, pending)
- All hunters licensed to take grizzly bears must complete an informational grizzly bear ecology and management course focused on harvest regulations, safety, proper identification, and ethics related to hunting grizzly bears (WGFC Regulation Chapter 16, pending).
- All grizzly bear hunters must carry bear spray while engaged in the act of grizzly bear hunting (WGFC Regulation Chapter 16, pending)
- In order to annually evaluate the grizzly bear population, the Department will look at multiple recovery factors (population size, distribution, annual mortality) to evaluate the overall status of the population (WGFC Grizzly Bear Management Plan)
- Grizzly bears shall only be taken from ½ hour before sunrise to ½ hour after sunset (WGFC Regulation, Chapter 2)
- Grizzly bears shall only be taken with a legal firearm or archery equipment. WGFC regulations specify legal firearms including caliber and cartridge size as well as legal archery equipment including bow draw weight and arrow specifications to ensure adequate lethality (WGFC Regulation, Chapter 32).

WYOMING STATE STATUTES AND WYOMING GAME AND FISH COMMISSION REGULATIONS THAT ADDRESS DAMAGE CAUSED BY TROPHY GAME.

WYOMING STATUTE §23-2-101. FEES; RESTRICTIONS; NONRESIDENT APPLICATION FEE; NONRESIDENT LICENSES; VERIFICATION OF RESIDENCY REQUIRED.

(e) Resident and nonresident license applicants shall pay an application fee in an amount specified by this subsection upon submission of an application for purchase of any limited quota drawing for big or trophy game license or wild bison license. The resident application fee shall be five dollars ($5.00) and the nonresident application fee shall be fourteen dollars ($14.00). The application fee is in addition to the fees prescribed by subsections (f) and (j) of this section and by W.S. 23-2-107 and shall be payable to the department either directly or through an authorized selling agent of the department. At the beginning of each month, the commission shall set aside all of the fees collected during calendar year 1980 and not to exceed twenty-five percent (25%) of the fees collected thereafter pursuant to this subsection to establish and maintain a working balance of five hundred thousand dollars ($500,000), to compensate owners or lessees of the property damaged by game animals and game birds.

WYOMING GAME AND FISH LAWS TITLE 23 CHAPTER 1 ARTICLE 9: DAMAGE CAUSED BY GAME ANIMALS OR GAME BIRDS

W.S. §23-1-901. Owner of damaged property to report damage; claims for damages; time for filing; determination; appeal; arbitration.

(a) Any landowner, lessee or agent whose property is being damaged by any of the big or trophy game animals or game birds of this state shall, not later than fifteen (15) days after the damage is discovered by the owner of the property or the representative of the owner, report the damage to the nearest game warden, damage control warden, supervisor or commission member.

(b) Any landowner, lessee or agent claiming damages from the state for injury or destruction of property by big or trophy game animals or game birds of this state shall present a verified claim for the damages to the Wyoming game and fish department not later than sixty (60) days after the damage or last item of damage is discovered. The claim shall specify the damage and amount claimed. As used in this subsection, "verified claim" means a claim, which the claimant has signed and sworn to be accurate before a person authorized to administer oaths.

(c) The department shall consider the claims based upon a description of the livestock or bees damaged or killed by a trophy game animal, the damaged land, growing cultivated crops, stored crops including honey and hives, seed crops, improvements and extraordinary damage to grass. The commission is authorized to establish by rule, methods, factors and formulas to be used for determining the amount to compensate any landowner, lessee or agent for livestock damaged as a result of, missing as a result of, or killed by trophy game animals. Claims shall be investigated by the department and rejected or

allowed within ninety (90) days after submission, and paid in the amount determined to be due. In the event the department fails to act within ninety (90) days, the claim, including interest based on local bank preferred rates, shall be deemed to have been allowed. No award shall be allowed to any landowner who has not permitted hunting on his property during authorized hunting seasons. Any person failing to comply with any provision of this section is barred from making any claim against the department for damages. Any claimant aggrieved by the decision of the department may appeal to the commission within thirty (30) days after receipt of the decision of the department as provided by rules of practice and procedure promulgated by the commission. The commission shall review the department decision at its next meeting following receipt of notice of request for review. The commission shall review the investigative report of the department, and it may approve, modify or reverse the decision of the department.

(d) Within ninety (90) days after receiving notice of the decision of the commission, the claimant may in writing to the department call for arbitration. Within fifteen (15) days after the department receives the call for arbitration, the claimant and the department shall each appoint a disinterested arbitrator who is an elector residing in the county where the damage occurred and notify each other of the appointment. Within twenty (20) days after their appointment, the two (2) arbitrators shall appoint a third arbitrator possessing the same qualifications. If the third arbitrator is not appointed within the time prescribed, the judge of the district court of the county or the court commissioner in the absence of the judge shall appoint the third arbitrator upon the application of either arbitrator.

(e) At least twenty (20) days before the hearing, the board of arbitrators shall provide the claimant and department notice of the time and place in the county when and where the parties will be heard and the claim investigated and decided by the board. A written copy of the decision shall be promptly served upon each party. Within ten (10) days after receipt of the decision, either party may apply to the board for modification of the decision under W.S. 1-36-111. Either party may apply to the district court for vacation of a decision under W.S. 1-36-114(a) or correction or modification of a decision under W.S. 1-36-115 within thirty (30) days after receipt of the decision or within twenty (20) days after action by the board on an application for modification under W.S. 1-36-111.

(f) If no applications under subsection (e) of this section are made after receipt of the decision, the commission shall promptly pay the amount, if any, including interest based on local bank preferred rates, awarded by the board. Within thirty (30) days after the award is final, the board's reasonable service and expense charges shall be paid by:

(i) The claimant if the award is no greater than the amount originally authorized by the commission;

(ii) Otherwise, the commission.

(g) For purposes of this section, “trophy game animals” shall include gray wolves located in the area described in W.S. 23-1-101(a)(xii)(B)(II) regardless of the date on which the damage occurs.

WYOMING GAME AND FISH COMMISSION CHAPTER 28: REGULATION GOVERNING BIG OR TROPHY GAME ANIMAL OR GAME BIRD DAMAGE CLAIMS

Section 1. Authority. This regulation is promulgated by authority of W.S. §23-1-101, §23-1-102, §23-1-302, §23-1-304 and §23-1-901.

Section 2. Definitions. Definitions shall be as set forth in Title 23, Wyoming Statutes, Commission regulations, and the Commission also adopts the following definitions:

(a) "Authorized hunting seasons" means any hunting season during the twelve (12) month period immediately preceding the date when the claimant filed the verified claim with the Office of the Department that is established by Commission regulation, including Depredation Prevention Hunting Seasons and kill permits, for the harvest of the species of big game animals, trophy game animals, or game birds for which the verified claim was filed.

(b) "Award" means compensation for damage offered to a claimant by the Department.

(c) "Board" means a board of arbitrators.

(d) "Claimant" means any landowner, lessee or agent whose livestock, bees, hives or honey have been damaged or killed by a trophy game animal; or, whose land, growing cultivated crops, stored crops, seed crops, or improvements have been damaged by big game animals or game birds; or, whose grass has been extraordinarily damaged by big game animals or game birds.

(e) "Commercial garden" means a business that grows fruits or vegetables for commercial sale.

(f) "Commercial nursery" means a business that grows or stores trees, shrubs or plants solely for commercial sale and that is required under W.S. § 39-15-106 to be licensed with the Wyoming Department of Revenue to collect and remit sales and use tax.

(g) "Commercial orchard" means a business that grows trees for fruit or nut production for commercial sale.

(h) "Confirmed by the Department or its representative" means the Department or its representative conducted an inspection or investigation of the damage and determined the damage was more likely than not caused by a big or trophy game animal or game bird.

(i) "Consequential damages" means damage, loss, or injury that does not flow directly and immediately from the act of the big game animal, trophy game animal or game bird, but only from some of the consequences or results of such act. Consequential damages include, but are not necessarily limited to, future or anticipated production (except as

otherwise provided in this regulation for young of the year livestock), sentimental value, and labor or equipment costs to remove damaged property.

(j) “Damage” means actual damage to land, growing cultivated crops, stored crops, seed crops or improvements that is caused by big game animals or game birds, and sworn by the claimant on the verified claim to have occurred; or, extraordinary damage to grass that is caused by big game animals or game birds and sworn by the claimant on the verified claim to have occurred; and, actual damage to livestock or bees including honey and hives, that is caused by trophy game animals and sworn by the claimant on the verified claim to have occurred. Damage shall not include damage to other real or personal property including, but not necessarily limited to: other vegetation or animals; motor vehicles; structures; damages caused by animals other than big game animals, trophy game animals or game birds; diseases; lost profits; consequential damages; or, any other damages whatsoever that are not specified in this regulation.

(k) “Disinterested arbitrator” means an elector residing in the county where the damage occurred, who is capable of making a reasoned and unbiased decision based on evidence presented to the Board by the claimant and the Department.

(l) “Extraordinary damage to grass” means the loss or harm as proven by the landowner, lessee, or agent that significantly exceeds the usual, customary or average use of non-cultivated grass plants of the Family Graminae.

(m) “Growing cultivated crops” means crops or other vegetation that are grown on privately owned or leased land and harvested or utilized annually for commercial sale or to feed livestock, or for human consumption. “Growing cultivated crops” can include grasses and legumes maturing for harvest, small grains, row crops and vegetables, plants grown in commercial nurseries, commercial orchards, commercial gardens, and native hay meadows that are managed for hay or livestock forage. If the crop is not harvested or utilized annually, it is not a growing cultivated crop unless it requires more than one (1) year to become established and ready for harvest. “Growing cultivated crops” do not include rangelands managed for livestock forage, or products of nurseries, orchards, and gardens that are not intended for commercial sale.

(n) “Hearing” means a procedurally correct arbitration hearing as described in Section 8 of this Regulation that shall be conducted in such manner as to afford the claimant and the Department the opportunity to present, examine, and cross-examine all witnesses and other forms of evidence presented to the Board.

(o) “Hives” means an artificial structure designed and constructed specifically for housing bees.

(p) “Improvements” means a valuable addition made to real estate to increase the productivity or value of land, including fences and man made structures erected or windbreaks or shelterbelts planted on privately owned or leased land to enhance or improve crop or livestock production or grazing management or as a protection for livestock.

Improvements shall not include windbreaks or shelterbelts, if they are not planted solely to enhance or improve crop production or grazing management or as a protection for livestock.

(q) “Investigated by the Department” means an inspection determined by the Department to be a reasonable assessment of the damage caused by big or trophy game animals or game birds.

(r) “Kill permit” means a permit authorized by a Game and Fish Commissioner and the Chief Game Warden granting authority to take big game animals, trophy game animals or game birds that are causing substantial damage to property.

(s) “Land” means soil on privately owned or leased land.

(t) “Lessee” means a person who leases fee title land or State land for agricultural purposes.

(u) “More likely than not” means evidence reasonably tending to support the conclusion. Evidence that is competent, relevant, and material, and which to a rational and impartial mind naturally leads, or involuntarily leads to conclusion for which there is valid, just and reasonable substantiation.

(v) “Office of the Department” means the Wyoming Game and Fish Department, 5400 Bishop Blvd., Cheyenne, Wyoming 82006-0001 or the Wyoming Game and Fish Department, 3030 Energy Lane, Casper, Wyoming 82604.

(w) “Permitted hunting during authorized hunting seasons” means permitted hunting as described in Section 4 of this regulation.

(x) “Promptly served upon each party” means within ten (10) days following the arbitration hearing, the Board shall serve a written copy of its decision to the Office of the Department and the claimant.

(y) “Property” means livestock or bees, land, growing cultivated crops, stored crops including honey and hives, seed crops, improvements or grass that has been extraordinarily damaged.

(z) “Reasonable expense charges” means compensation given to an arbitrator while performing duties as an arbitrator that is the same compensation rate afforded to State employees by State statute for per diem and vehicular mileage; and, actual expenses incurred by the arbitrator and documented by receipt including, but not necessarily limited to, telephone calls, paper supplies, and mail service.

(aa) “Reasonable service charges” means reimbursement in the amount of one hundred ($100) dollars per day for performing duties as an arbitrator.

(bb) “Seed crops” means any crop intentionally planted, managed, and grown in accordance with accepted agricultural practices on privately owned or leased land for the production of seed for future propagation and that is harvested annually by manual or mechanical means. If the crop is not harvested annually, it shall not be classified as a seed crop unless the crop normally requires an establishment period of longer than one (1) year to be harvested or unless the crop is alfalfa seed or crested wheat grass seed.

(cc) “Stored crops” means crops that have been harvested and saved or stored for future use in accordance with accepted agricultural practices.

(dd) “Supervisor” means Regional Wildlife Supervisor.

(ee) “Trophy game animals” means black bear, gray wolf, grizzly bear or mountain lion or gray wolf in accordance with W.S. §23-1-901(g).

(ff) “Value of livestock” means the monetary value of individual livestock on the date the verified claim was filed with the Office of the Department based upon the fair market value on that date for like livestock at a rate substantiated by a livestock sales barn or other credible written valuation of the livestock provided by the claimant. However, the monetary value of young of the year livestock on the date the verified claim was filed with the Office of the Department shall be based upon the fair market value on that date for like livestock at the weaning weight substantiated by a livestock sales barn or other credible written valuation of the livestock provided by the claimant.

(gg) “Verified claim” means a Trophy Game Animal Damage Claim Affidavit or a Big Game Animal or Game Bird Damage Claim Affidavit that has been signed by the claimant and sworn to be accurate before a person authorized to administer oaths, that has been filed with the Office of the Department and contains all information required in Section 9 of this regulation.

Section 3. Damage to Livestock by Trophy Game Animals. Except as specified in subsection (a) of this section, the Department shall only offer payment for damage to individual livestock confirmed by the Department or its representative as having been injured or killed by a trophy game animal.

(a) In geographic areas determined by the Department to have terrain, topography, and vegetative characteristics that influence the ability of the claimant and Department to find missing calves and sheep that are believed to have been damaged as a result of a trophy game animal, the Department shall utilize the methods, factors and formulas in this subsection to determine the amount to compensate any landowner, lessee or agent for calves and sheep missing as a result of damage caused by a trophy game animal.

(i) Any claimant whose verified claim is for missing sheep or calves believed to have been damaged as a result of a trophy game animal, shall include on his verified claim the total known death loss, including missing animals, for the

sheep or calves for the grazing season together with the number of such losses known to be due to causes other than damage by a trophy game animal.

(ii) Notwithstanding the use of the formulas in this section, the Department shall not offer compensation for more than the total known death loss less the number of such losses known to be due to causes other than damage by a black bear, grizzly bear, mountain lion, or gray wolf in those areas where gray wolves are designated as trophy game animals in accordance with Commission regulation. In order to utilize any formula, the Department or its representative must have confirmed the claimant had at least one (1) calf or one (1) sheep injured or killed by a trophy game animal.

(A) Calves and sheep in areas occupied by grizzly bears. To determine the amount of compensation due to a claimant for calves and sheep believed to be missing as a result of being damaged by a black bear, grizzly bear, or mountain lion in areas occupied by grizzly bears, the Department shall utilize the following formula:

(I) Number of individual calves or sheep confirmed by the Department or its representative killed by a black bear, grizzly bear, or mountain lion multiplied by three and one-half (3.5) multiplied by the value of livestock equals the amount of compensation.

(II) Sheep in areas not occupied by grizzly bears. To determine the amount of compensation due to a claimant for sheep believed to be missing as a result of being damaged by a black bear or mountain lion in areas not occupied by grizzly bears, the Department shall utilize the following formula:

(III) Number of individual sheep confirmed by the Department or its representative killed by a black bear or mountain lion multiplied by three (3) multiplied by the value of livestock equals the amount of compensation.

(iii) Sheep in areas set forth by Commission regulation where gray wolves are designated as trophy game animals. To determine the amount of compensation due to a claimant for sheep believed to be missing as a result of being damaged by gray wolves, in areas occupied by wolves, the Department shall utilize the following formula:

(A) Number of individual sheep confirmed by the Department or its representative killed by a gray wolf multiplied by seven (7) multiplied by the value of livestock equals the amount of compensation.

(iv) Calves in areas set forth by Commission regulation where gray wolves are designated as trophy game animals. To determine the amount of compensation due to the claimant for calves believed to be missing as a result of being damaged by gray wolves, in area occupied by gray wolves, the Department shall utilize the following formula:

(A) Number of individual calves confirmed by the Department or its representative killed by gray wolves multiplied by seven (7) multiplied by the value of livestock equals the amount of compensation.

(b) Veterinary costs for the treatment of individual livestock that have been injured by a trophy game animal shall be considered up to a maximum amount that is not to exceed the value of the livestock injured, only in cases where a licensed veterinarian believes the individual livestock in question had a reasonable chance to survive and return to a productive state. If the individual livestock died as a result of an injury inflicted by a trophy game animal, even though the livestock received veterinary care, payment shall only be made up to a maximum of the value of the livestock.

Section 4. Permitted Hunting During Authorized Hunting Seasons.

(a) A landowner shall not be eligible to receive an award for damage caused by big game animals, trophy game animals, or game birds unless the landowner has permitted hunting during authorized hunting seasons for the species for which the verified claim has been filed on his privately owned or leased land and adjoining Federal or State land within the herd unit in which the damage occurred in accordance with this section. For an award to be allowed, the landowner shall permit hunting during authorized hunting seasons delineated in subsection (i)(A) if the species of big game animals, trophy game animals, or game birds for which the verified claim was filed were present on the landowner's privately owned or leased land and adjoining Federal or State land during authorized hunting seasons delineated in subsection (i)(A). If the species of big game animals, trophy game animals, or game birds for which the verified claim has been filed were not present on the landowner's privately owned or leased land and adjoining Federal or State land during the authorized hunting seasons as delineated in subsection (i)(A), for an award to be allowed the landowner shall permit hunting during authorized hunting seasons delineated in (i)(B) and (i)(C) if requested by the Department. The landowner shall permit hunting during authorized hunting seasons delineated in (i)(B) and (i)(C) without access fees to hunters or the Department.

(i) Authorized hunting seasons include:

(A) Hunting seasons as established by Wyoming Game and Fish Commission rule and regulation;

(B) Depredation prevention hunting seasons as approved by a District Wyoming Game and Fish Commissioner and the Chief Game Warden; or,

(C) Lethal taking of wildlife through a kill permit as approved by a District Wyoming Game and Fish Commissioner and the Chief Game Warden.

(b) The Department shall determine if the landowner permitted hunting during authorized hunting seasons for the species of big game animals, trophy game animals, or game birds for which the verified claim has been filed. For an award to be allowed, the Department shall have to determine the landowner allowed sufficient numbers of hunters to access his privately owned or leased land and adjoining Federal or State land to harvest more than the number of big game animals, trophy game animals or game birds recruited in the preceding twelve (12) months into the segment of the population responsible for doing damage. The landowner shall contact the game warden to whom he reported the damage to determine how many big game animals, trophy game animals, or game birds meets the requirement of more than the number of big game animals, trophy game animals or game birds recruited in the preceding twelve (12) months into the segment of the population responsible for doing damage. An award may be allowed if the Department determines a reduction in big game animals, trophy game animals or game birds affects the Department's ability to sustain the population at the objective the Commission has established for the herd unit.

Section 5. Notification of Damage and Filing of Damage Claims.

(a) Any claimant who has incurred damage as defined in Section 2 of this Regulation shall report the damage to the nearest game warden, supervisor, or Commission member within fifteen (15) consecutive days following the date damage was discovered. If the claimant intends to take actions that prevent the damage being investigated by the Department, such as harvest of damaged crops or removal of damaged livestock, the claimant shall notify the nearest game warden, supervisor, or Commission member as soon as reasonably possible after discovery of the damage so the damage can be investigated by the Department prior to removal, harvest, modification, or destruction of the damaged property; however, in no case shall the claimant take actions that preclude the damage being investigated by the Department. If the claimant denies or precludes the damage being investigated by the Department, the Department shall deny the verified claim.

(b) The claimant shall present a verified claim in accordance with Section 9 of this regulation to the Office of the Department within sixty (60) consecutive days following the date the last item of damage was discovered.

(i) For verified claims of damage to individual livestock by a trophy game animal, the sixty-day (60) period shall commence from the last date the livestock were present on the grazing allotment or geographic location where the damage occurred;

(ii) For verified claims of damage to bees, honey, and hives by a trophy game animal, the sixty (60) day period shall commence from the last date damage

occurred or from the last date the bees, honey, or hives were present on the location where the damage occurred, whichever date occurs first; and,

(iii) For verified claims of damage to land, growing cultivated crops, seed crops, stored crops, improvements, or extraordinary damage to grass by big game animals or game birds, the sixty (60) day period shall commence from the last date the growing cultivated crop or seed crop was harvested or the land, stored crops, or improvements were damaged or the extraordinary damage to grass occurred.

(c) If a claimant chooses to appeal the Department's decision regarding a verified claim to the Commission, the claimant shall file a written appeal that is received by the Office of the Department within thirty (30) consecutive days from the date the claimant received the Department's notification of its decision on the verified claim.

(d) The claimant shall have no right of appeal to the Commission of the Department's denial of the claim if based upon the information provided by the claimant in the verified claim, the claimant failed to comply with subsection (a) or (b) of this section. The claimant shall have no right of appeal to the Commission of the Department's decision on a verified claim if the claimant failed to comply with subsection (c) of this section.

Section 6. Investigation and Payment of Verified Claims.

(a) When investigating damage claims, the Department shall utilize the standard of "more likely than not" in determining whether or not the damage was the result of big or trophy game animals or game birds.

(b) The Department shall consider damage that was discovered by the claimant and reported to the nearest game warden, supervisor or Commission member within fifteen (15) consecutive days after the date the damage was discovered. Any damage that was reported more than fifteen (15) consecutive days after the date it was discovered by the claimant shall not be considered by the Department as damage under this regulation.

(c) The Department shall investigate the verified claim and either reject the claim or provide for full or partial payment to the claimant within ninety (90) consecutive days following the date the Office of the Department received the verified claim.

Section 7. Reasons for Denial of a Verified Claim.

(a) The Department shall deny the verified claim for any of the reasons specified in this subsection.

(i) The claimant did not report the damage to the nearest game warden, supervisor or Commission member within fifteen (15) consecutive days after the date the damage was discovered. Any damage that was reported more than fifteen (15) consecutive days after the date it was discovered by the claimant shall not be considered by the Department as damage under this regulation.

(ii) The damage was caused by animals or wildlife other than big game animals, trophy game animals or game birds.

(iii) The big or trophy game animals or game birds causing damage were on the landowner's privately owned or leased land and adjoining Federal or State land during authorized hunting seasons as specified in Section 4(a)(i)(A), and the landowner did not permit hunting in accordance with Section 4(a) of this regulation.

(iv) The big or trophy game animals or game birds causing damage were not on the landowner's privately owned or leased land and adjoining Federal or State land during authorized hunting seasons as specified in Section 4(a)(i)(A), and the landowner would not agree to the Department's implementation of a depredation prevention hunting season as specified in Section 4(a)(i)(B) or insisted on charging an access fee to hunters to participate in a depredation prevention hunting season as specified in Section 4(a).

(v) The big or trophy game animals or game birds causing damage were not on the landowner's privately owned or leased land and adjoining Federal or State land during authorized hunting seasons as specified in Section 4(a)(i)(A), and the landowner would not agree to the Department's implementation of a kill permit as specified in Section 4(a)(i)(C) or insisted on charging an access fee to the Department to implement a kill permit as specified in Section 4(a).

(vi) The verified claim was for property not defined as property in Section 2 of this regulation.

(vii) The claimant was compensated by crop or livestock insurance or a Federal subsidy program for the property damaged to the extent the claimant received compensation under that insurance or program.

(viii) The claimant did not present a verified claim complete with all required information specified in Section 9 of this regulation to the Office of the Department within sixty (60) days after the damage or last item of damage was discovered by the claimant.

(ix) The verified claim was for consequential damages.

(x) Hunting was not permitted during authorized hunting seasons on land in a platted subdivision where the damage occurred due to the actions of a municipal or county ordinance, or homeowners' association covenant prohibiting the discharge of firearms.

(xi) Due to actions of the claimant, the damage was not investigated by the Department.

(xii) The landowner prevented the Department's attempts to mitigate or alleviate the damage through such actions as moving the big or trophy game animals or game birds responsible for the damage or the claimant refused to utilize fencing materials provided by the Department to protect stored crops, including honey and hives.

Section 8. Arbitration.

(a) If the claimant wishes to appeal the Commission's decision regarding a verified claim, the claimant shall file a written call for arbitration with the Office of the Department within ninety (90) consecutive days from the date the claimant received written notice from the Office of the Department of the Commission's decision.

(b) If the claimant calls for arbitration, the claimant and the Office of the Department shall each appoint a disinterested arbitrator within fifteen (15) consecutive days from the date the Office of the Department received the written call for arbitration.

(c) When the claimant and the Office of the Department appoint arbitrators, written notification of the name, mailing address, and telephone number of arbitrators they selected shall be made by each party to the other within fifteen (15) consecutive days from the date the Office of the Department received the written call for arbitration.

(d) Within twenty (20) consecutive days after their appointment, the two (2) arbitrators shall appoint a third arbitrator. The two (2) arbitrators selected shall notify both the claimant and the Office of the Department in writing of the name, mailing address, and telephone number of the third arbitrator selected. If the third arbitrator is not appointed within this time period, the judge of the district court of the county or the court commissioner in the absence of the judge shall appoint the third arbitrator upon the application of either arbitrator.

(e) The three (3) arbitrators shall appoint a chairman who shall chair the Board and serve as secretary to carry out the correspondence of the Board.

(f) At least twenty (20) consecutive days before the hearing, the Board shall provide the claimant and the Office of the Department written notice of the time and place in the county when and where the testimony of the claimant and the Department shall be heard and the claim investigated and decided by the Board.

(g) Following the arbitration hearing, the Board shall within ten (10) days provide a written copy of its decision to the Office of the Department and the claimant.

(h) Unless otherwise specified in this section, the Uniform Arbitration Act, W.S. § 1-36-101 et seq. shall apply to the hearing.

(i) The decision of the Board shall become part of the Office of the Department's file and shall be made part of the record in the event of an appeal of the Board's decision

and any appeal to district court shall be conducted in conformity with the Uniform Arbitration Act, W.S. §1-36-114(a) or W.S. §1-36-115.

Section 9. Verified Claim Requirements. The verified claim required by W.S. 23-1-901(b) shall be submitted on the form prescribed by the Department. The verified claim shall contain the following information:

(a) A description of the land on which the damage occurred, including the legal description (section, range, township), the county in which the land is located, and whether the land is privately owned, leased, or federally owned;

(b) Whether the claimant is the landowner, lessee, or agent of the landowner or lessee;

(c) A description of individual livestock, including the number, age class and sex if known, or description of bees, including honey and hives, damaged or killed by a trophy game animal;

(d) A description of the land, growing cultivated crops, stored crops, seed crops, or improvements damaged by a big game animal or game bird; or a description of the grass extraordinarily damaged by a big game animal or game bird;

(e) Competent, relevant and material evidence provided by the claimant that a big game animal, trophy game animal, or game bird caused the damage;

(f) The dates during which damage took place, to include the specific date the damage was discovered by the claimant and the specific date the damage ended;

(g) The amount and value of livestock or property damaged, including all calculations and evidence supporting the value determination;

(h) The species and number, if known, of big or trophy game animals or game birds that caused the damage;

(i) The name of the game warden, supervisor or Commission member to whom the claimant reported the damage and the specific date it was reported;

(j) Information to allow the Department to determine whether or not the landowner permitted hunting during authorized hunting seasons for the species causing damage in accordance with Section 4 of this regulation;

(k) Information as to whether or not an access fee was charged by the claimant for permitting hunting during authorized hunting seasons for the species of big game animal, trophy game animal or game bird for which the verified claim was filed; the total amount of access fee charged per hunter; and, the total number of hunters permitted to hunt during authorized hunting seasons for the species causing damage;

(l) Information by which the Office of the Department can recognize the claimant signed and swore before a person authorized to administer oaths (notarized) the verified claim to be accurate;

(m) For verified claims for calves and sheep missing as a result of damage by a trophy game animal, the total known death loss, including missing animals, for the sheep or calves for the grazing season together with the number of such losses known to be due to causes other than damage by a trophy game animal;

(n) Information to indicate if all or what portion of the property damaged was compensated for by crop or livestock insurance or a Federal subsidy program to the extent the claimant received compensation under that insurance or program; and,

(o) The claimant may submit additional supporting information, which shall be considered as part of the verified claim.

WYOMING GAME AND FISH COMMISSION
Dated: January 22, 2014