

BLACK BEAR DATA ANALYSIS UNIT MANAGEMENT PLAN

Middle Arkansas

DAU B-2

GAME MANAGEMENT UNITS

58, 59, 511, 512, 581, 591

SE Region

Prepared for:

Colorado Parks and Wildlife

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DATA ANALYSIS UNIT PLAN FOR B-2

EXECUTIVE SUMMARY

GMUs: 58, 59, 511, 512, 581, & 591 (El Paso, Fremont, Park, Pueblo & Teller Counties)

Land Ownership: 48% Private, 18% USFS, 17% BLM, 9% Federal, 5% SLB, 3% Other

Current Objective: Stable, no population objective for B-2

Current Mortality Objectives: For GMUs 50, 58, 59, 500, 501, 511, 512, 581, & 591: Harvest objective- 35, Total mortality objective- 50

Interim Mortality Objectives: For condensed B-2 based on estimated population size following removal of GMUs 50, 500 & 501: Harvest objective- 67, Total mortality objective- 93

New Strategic Goal: Moderate reduction in the B-2 bear population.

New Mortality Objectives: Harvest objective -95, Total mortality objective - 120

Black bear Data Analysis Unit (DAU) B-2 is located in south central Colorado. It is bounded on the east by I-25, on the south by US Highway 50, and on the west by Kaufman Ridge and Badger Creek. From Antero Junction to the intersection of the South Platte River and US Highway 24 near Lake George, the northern boundary of the DAU is US Highway 24. From the junction of the South Platte River and US Highway 24, the DAU extends north to the Teller-Douglas county line with the South Platte River forming the western boundary. The county line between Douglas County and Teller & El Paso counties forms the northern boundary of the DAU until El Paso County intersects I-25. The DAU includes all of Teller County as well as portions of El Paso, Fremont, Park, and Pueblo counties. The Game Management Units (GMUs) in B-2 are 58, 59, 511, 512, 581, and 591. Almost half of the 1.8 million acre (7,300 km²) DAU is private land. Ninety-four percent of the DAU or 1.69 million acres is considered overall black bear range. Bear densities are high in B-2 compared to areas to the north but lower than DAUs to the south and west.

BACKGROUND

Overall annual bear mortality has fluctuated over the last 10 years in B-2. Since 2002, total bear mortality in B-2 has ranged from a low of 18 in 2005 to a high of 67 in 2002, with annual average of 42 bears. The 3-year annual average for hunting mortality is higher (24 bears) than the 10-year annual average hunting mortality (21 bears). The 29-day September rifle season has the highest average 3-year success rate (~12%) among methods of take, and is responsible for approximately 61% of the annual bear harvest in B-2. Archery and muzzleloader hunters contribute an average of 4 bears and 2 bears, respectively, per year to the harvest and have success rates below 5%. Harvest success rates for hunters in the four concurrent rifle seasons are very low. Total harvest across all 4 seasons in B-2 averages 2 bears per year. Harvest and total mortality rarely exceed current mortality objectives for maintaining a stable bear population in B-2. Between 2002 and 2011, 67 game damage claims for a total of \$34,165 were paid in B-2. The claims have averaged \$510 and the majority of claims were for either poultry

(n=22) or beehives (n=20). Conflicts between bears and humans are very common. Often these are the result of bears using developed habitats and food sources that are associated with people.

A suite of habitat and population models have been developed as part of the revision of the B-2 DAU plan to help provide estimates of the projected bear population in the unit. These include a use/occupancy surface extrapolation based on habitat classifications and two model simulations with varying constraints (liberal and conservative).

SIGNIFICANT ISSUES

Managing conflicts between bears and people is the most significant bear management issue in the DAU. These conflicts can take a number of forms including game damage to landowners, property damage to homeowners and direct contact between bears and humans across all landscape types. This management issue and what tools should be used to address it are complex and multifaceted. The structure of a DAU plan focuses on one specific tool, primarily hunting, out of a suite of tools including education, enforcement, and habitat modification, which can also be used to manage conflicts. Unfortunately, the types of conflicts that occur with bears and the landscapes they occur in often preclude simple changes in licensing or hunting structure from completely resolving the problem. This DAU plan provides harvest-related monitoring structures along with strategic goal alternatives that will impact bear population sizes in B-2.

MANAGEMENT ALTERNATIVES

The B-2 DAU is currently being managed for a stable bear population. That requires harvest mortalities and total mortality levels to fall below a threshold. This plan revision outlines three strategic goal alternatives for bear management in B-2.

Preferred Population Alternative #1: Moderate reduction in the population of bears in B-2

To achieve this objective, we will increase harvest incrementally until we have two years (consecutive or two out of three years) with composition indices that show a decreasing bear population and will then adjust harvest to stabilize the population. This alternative was selected as the preferred alternative due to the high number of bear-human conflicts in the DAU. To decrease the population, total mortality rates should be >13% of the annual bear population. The current estimate for the B-2 population is 930 bears so the total mortality should be >120 bears. The 3-year running average for non-harvest mortality in the DAU is ~25 bears, so the harvest objective will be 95.

Population Alternative #2: Maintain a stable bear population in B-2

Based on current models and density extrapolations, it is estimated that the average total mortality should be in the range of 7-13% of the annual bear population in order to achieve this strategic goal. We would adjust license numbers so that the age and gender composition rates in the hunter harvest meet the criteria for managing for a stable bear population.

Population Alternative #3: Aggressive reduction in the population of bears in B-2

To achieve this objective, we would increase harvest incrementally and seek three of five or four consecutive years with the composition indices showing a decreasing bear population. We would then adjust harvest to stabilize the population.

SCOPING PROCESS

The scoping process for this plan included three public meetings and a 30-day comment period. Stakeholders who attended the public meetings were evenly split between moderately reducing or stabilizing the bear population (Alternatives 1 and 2). After receiving feedback from the public meetings, we selected a preferred alternative of a moderate reduction in the B-2 bear population. We then finalized a draft DAU plan and posted it on the Colorado Parks and Wildlife website for the 30-day comment period. We also sent the draft DAU plan to interested stakeholders and relevant land management agencies. Comments received during the 30-day comment period were supportive of our preferred alternative of a moderate reduction in the B-2 bear population.

This DAU plan was approved by the Colorado Parks and Wildlife Commission January 10, 2013

BEAR DATA ANALYSIS UNIT (DAU) B-2
GAME MANAGEMENT UNITS
58, 59, 511, 512, 581, 591

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INTRODUCTION

Colorado Parks and Wildlife (CPW) manages wildlife for the use, benefit and enjoyment of the people of the state in accordance with the CPW's Strategic Plan, mandates from the Parks and Wildlife Commission (Commission), and the Colorado Legislature. Colorado's wildlife resources require careful and increasingly intensive management to accommodate the many and varied public demands and growing impacts from people. CPW is responsible for the maintenance of Colorado's big game at population levels that are established through a public review process and approved by the Commission.

To manage the state's big game populations, the CPW uses a "management by objective" approach (Figure 1). Big game populations are managed to achieve objectives established for DAUs. DAUs are geographic areas that typically contain an individual big game population. For large mobile carnivores like black bears, DAUs are primarily administrative constructs with generally similar habitats and/or human social considerations. DAUs are composed of smaller areas designated as game management units (GMUs), which provide a more practical framework where the management goals can be refined and applied on a finer scale, typically through hunting regulations.

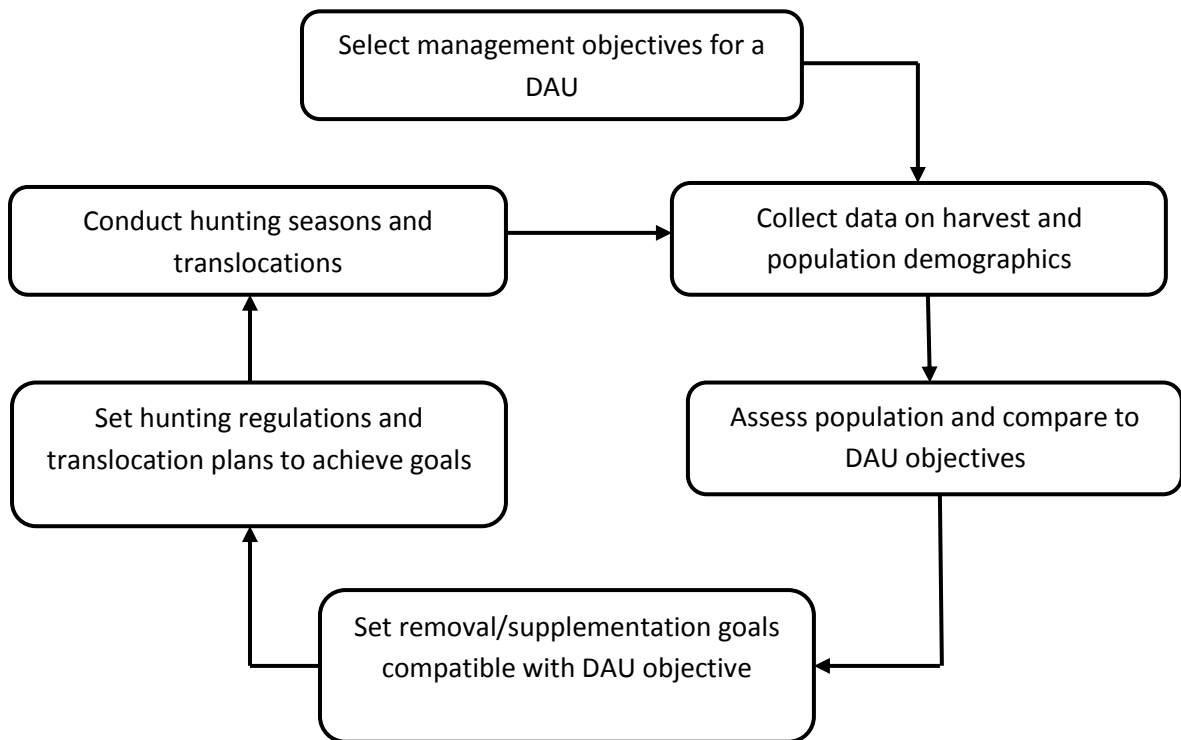


Figure 1. Management by objective process used by the CPW to manage big game populations on a DAU basis.

The DAU planning process is designed to balance public demands, habitat and big game populations into a management scheme for the individual DAU. The public, hunters, federal and local land use agencies, landowners and agricultural interests are involved in the determination of the plan objectives through input given during public meetings, the opportunity to comment on draft plans and when final review is undertaken by the Commission.

The strategic goals and specific mortality objectives defined in the plan guide a long-term cycle of annual information collection, information analysis and decision making. The end product of this process is a recommendation for numbers of hunting licenses for the DAU. The plan also specifically outlines the management techniques that will be used to reach desired objectives. CPW intends to update these plans as new information and data become available, or at least once every ten years.

DATA ANALYSIS UNIT DESCRIPTION

Location

Data Analysis Unit (DAU) B-2 is located in south central Colorado. It is bounded on the east by I-25, on the south by US Highway 50, and on the west by Kaufman Ridge and Badger Creek. US Highway 24 forms the northern boundary of the DAU from Antero Junction to the intersection of the South Platte River and US Highway 24 near Lake George. From the junction of the South Platte River and US Highway 24, the DAU extends north to the Teller-Douglas County line with the South Platte River forming the western boundary. The county line between Douglas County and Teller & El Paso Counties forms the northern boundary of the DAU until El Paso County intersects I-25. The DAU includes all of Teller County as well as portions of El Paso, Fremont, Park, and Pueblo Counties. The Game Management Units (GMUs) in B-2 are 58, 59, 511, 512, 581, and 591. The DAU is bounded by multiple cities, including Monument, Colorado Springs, and Pueblo on the eastern boundary and Canon City on the southern boundary.

The DAU includes 1.8 million acres (7,300 km²). Almost half (48% or 861,000 acres) of the DAU is in private ownership (Figure 2). The US Forest Service (USFS) and the Bureau of Land Management (BLM) manage 18% and 17% of the land in the DAU, respectively. The Department of Defense, including the US Air Force Academy (USAF) and Ft. Carson, comprise 9% of land in the DAU (156,000 acres). The State Land Board manages 5% of the DAU. The remaining 3% of land is managed or owned by CPW, City and County land management departments, the National Park Service, non-governmental organizations/land trusts, and school districts.

Ninety-four percent of the DAU, or approximately 1.7 million acres, is considered overall black bear range (Figure 3). The portion of GMU 59 between Pueblo and Ft. Carson (GMU 591) is not considered to be black bear habitat. Approximately 50% of the DAU is considered summer concentration habitat for black bears.

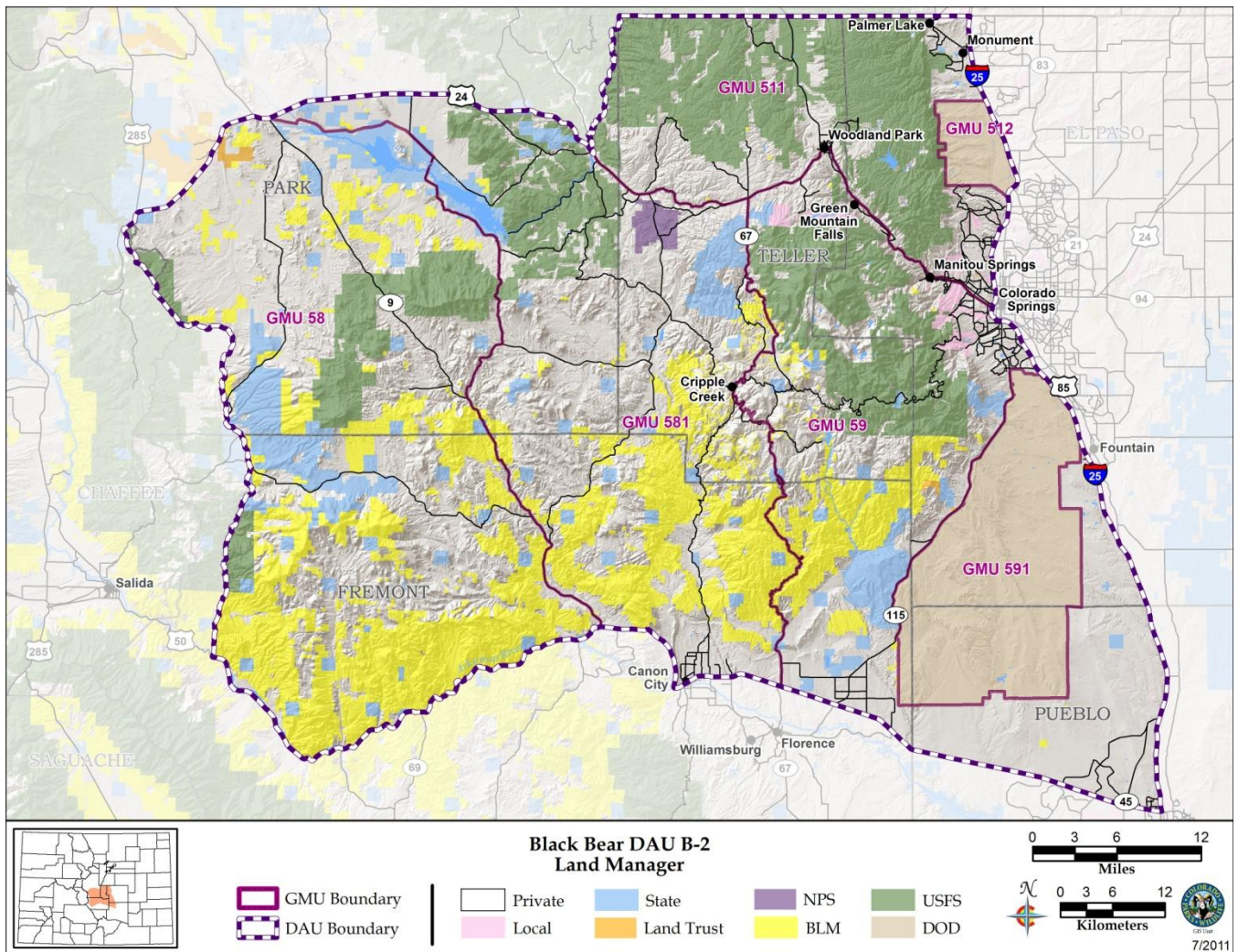


Figure 2. Location and land ownership patterns in B-2

Land Use and Land Status

As with most of Colorado, human development is the dominant issue when evaluating bear management in B-2. Over the last decade, the DAU has experienced high levels of human population growth, as well as commensurate increases in roads, property subdivision, and development in bear habitat, especially along the I-25 corridor. Additionally, the number of troops stationed at Ft. Carson (GMU 591) has increased in the last decade, leading to an increase in construction on base.

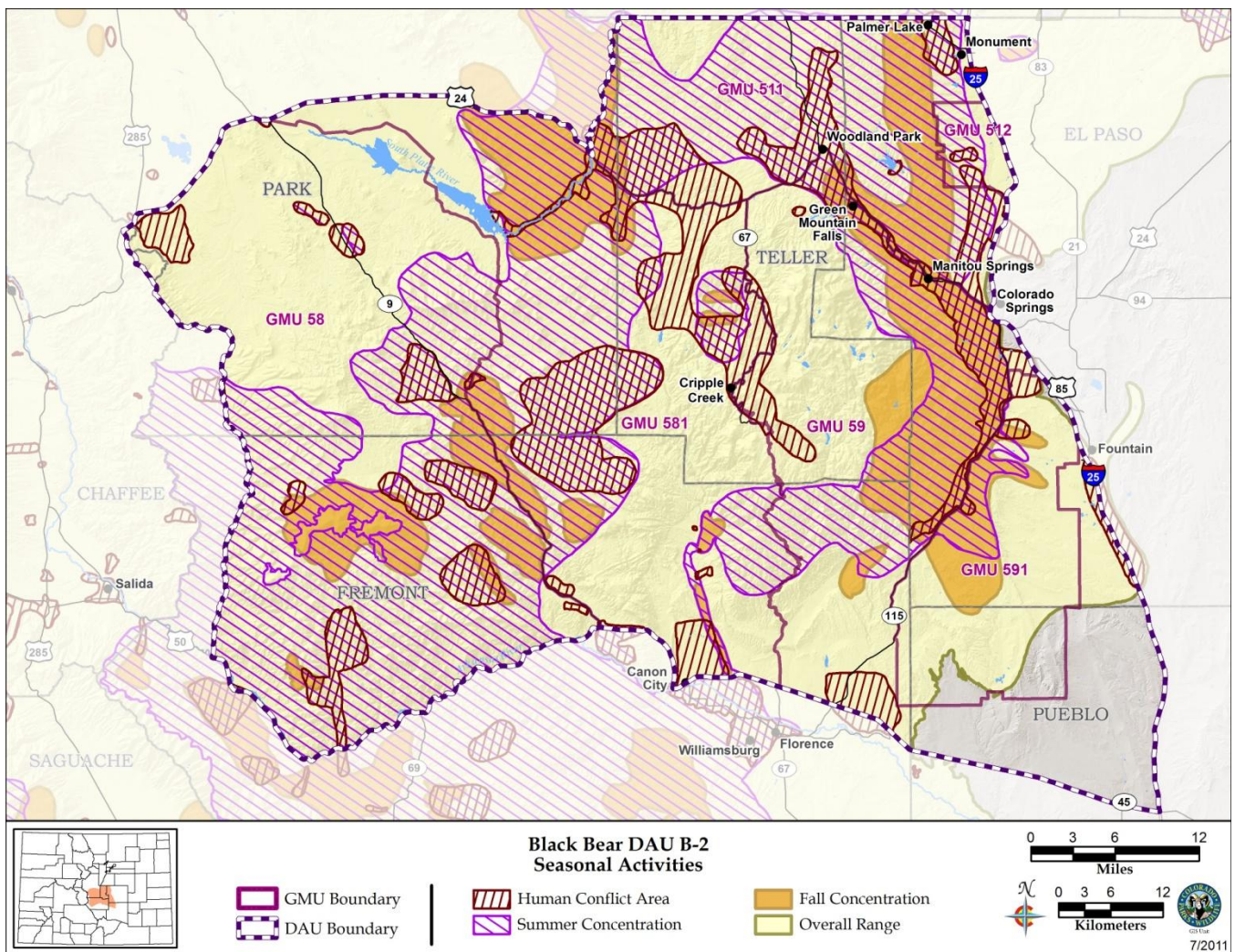


Figure 3. Black bear activity layers in B-2.

Topography & Climate

Elevations in the DAU range from 14,110 feet above sea level at the summit of Pikes Peak down to 4,850 feet above sea level at the intersections of I-25 and US 50 near Pueblo. Watersheds in the DAU generally run north to south or west to east and flow into the South Platte and Arkansas River drainages. The DAU also includes the southern portion of South Park.

As with all of mountainous Colorado, the climate varies significantly with season, elevation, and aspect. Elevations below 7,500 feet are usually hot and dry in the summer and generally remain snow-free during most of the winter. Elevations between 7,500 feet and 8,500 feet have slightly cooler and wetter summers with persistent snow cover during the winter. South-facing slopes normally remain open or have minimal snow cover throughout the winter. Above 8,500 feet elevation is much cooler and wetter during the summers and snow-covered all winter except for windswept ridges above timberline. Annual precipitation varies from 12 inches per year in Pueblo to over 25 inches per year in the higher elevations near Woodland Park. Snowfall accounts for the majority of the precipitation in the DAU with thunderstorms adding significant localized volumes in the summer.

Average daily high temperatures in Woodland Park range from 32 degrees in winter to 70 degrees in summer. Average lows range from 5 degrees in winter to 40 degrees in summer. In Pueblo, average daily high temperatures range from 45 degrees in winter to 91 degrees in summer while daily low temperatures average 14 degrees in the winter and 61 degrees in the summer.

Vegetation

Vegetation in the DAU is comprised of primarily ponderosa, pinon-juniper, and mountain shrub communities. Gambel oak is found on the eastern edge of the DAU, adjacent to Colorado Springs. Gambel oak is also found in the southwestern portion of the DAU. Some aspen and spruce/fir communities occur at the higher elevations in the DAU, with alpine terrain up in the vicinity of Pikes Peak. Bears may be found in all of these communities but are most common in the montane conifer, montane shrub and mountain meadows.

A vegetative analysis was conducted in B-2 to classify bear habitat within the DAU. Vegetation in the DAU was divided into four separate classes: primary, secondary, edge bear habitat and non-bear habitat. Primary habitats include cover types in which bears typically and normally are found at various times of year. Secondary habitats include cover types that bears occasionally use but are not preferred, and edge habitats are cover types infrequently or rarely used and might be found in mostly when adjacent to primary cover types. Almost half (47% or 843,000 acres) of the DAU is classified as primary habitat. Secondary habitat makes up 3% (63,000 acres) while 18% (320,000 acres) is classified as edge habitat. The remaining 32% (575,000 acres) of the DAU is not considered to be bear habitat. Bear densities are highest in areas with an abundance of hard and soft mast trees and shrubs, such as Chokecherry (*Prunus virginiana*), Skunkbrush sumac (*Rhus trilobata*), American plum (*Prunus americana*), and Gambel oak (*Quercus gambelii*, Figure 4).

While bears in B-2 can access natural food sources throughout most of the DAU, bears living near human communities have another significant source of high-quality nutrition in the form of anthropogenic food. This would include all sources associated with human activities including trash, pet food, barbecue grills and bird feeders. This is in addition to food associated with traditional human agricultural activities including livestock production.

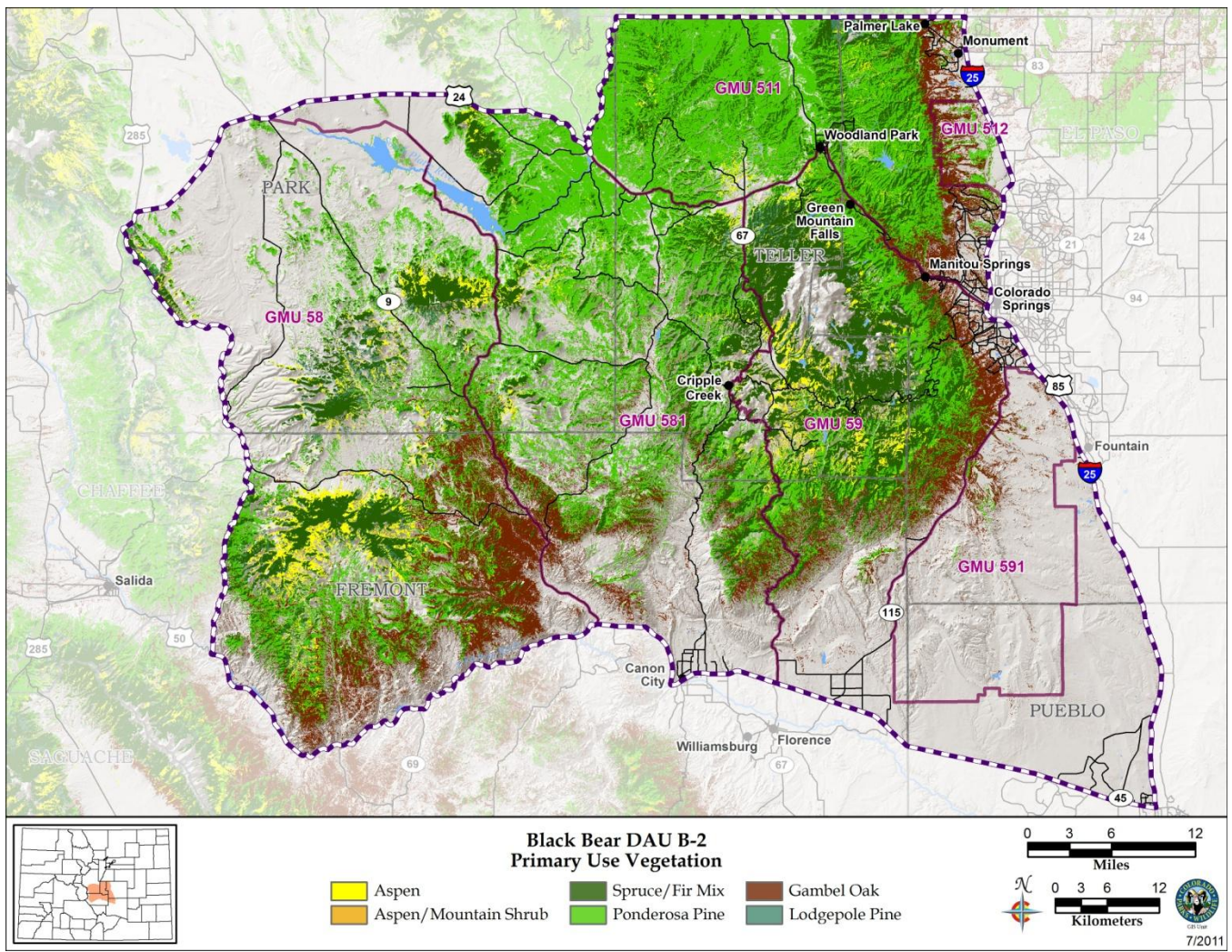


Figure 4. Black bear DAU B-2 primary use vegetation

MANAGEMENT HISTORY

Administrative

Prior to 2011, B-2 included GMUs 50, 500, and 501 along with GMUs 58, 59, 511, 512, 581, and 591. In 2011, GMUs 50, 500, and 501 were reassigned to bear DAU B-19. GMUs 50, 500, and 501 most closely align with units in the northeastern portion of the state, and all other big game species besides lions in these units are managed by the Northeast Region of CPW. This DAU plan will present historic data and future objectives for the reduced size B-2. Unless otherwise noted, historic data will not include GMUs 50, 500, and 501.

Prior to the 2011 hunting season, bear licenses in B-2 were valid for every GMU in the DAU, except 512 (USAFA) where bear hunting is not allowed. However, the Colorado Springs metro area, which is adjacent to GMUs 59, 511, and 591, saw a steady increase in bear/human conflicts. Additionally, Pueblo and Canon City, on the southern boundary of GMU 59, also saw an increase in bear/human conflicts. In all of these cities, CPW staff responded to the bear/human conflicts through public education campaigns, translocations, and euthanasia in cases where bears have either received a 2nd strike or the bear's behavior presented a threat to human safety (in accordance with CPW Administrative Directive W-2). Despite these measures, bear/human conflicts continued.

In 2010, CPW staff asked the Commission to separate GMUs 59, 511, and 591 for the limited archery, muzzleloader, and rifle seasons so we could target bear harvest in conflict areas through the allocation of licenses. The Commission approved the proposal and for the 2011 and 2012 hunting seasons, licenses were allocated separately between GMUs 59, 511, & 591 and the remaining GMUs in the DAU.

Hunting Seasons

Prior to 1935, black bears were not considered a game animal, which afforded them no protection from being shot on sight if they were encountered or preyed on livestock. In 1935, they were classified by the state legislature as a game animal, which awarded them some protection. This established limits on the annual harvest and on the number of licenses that an individual could possess. From 1935 to 1963, bears were hunted in the fall usually concurrently with the annual deer and elk seasons. In 1964, a spring hunting season was established with unlimited licenses available. This continued until 1986, when licenses for the spring season were limited (Beck 1991). The fall hunting seasons occurred concurrently with the established deer and elk seasons and licenses were unlimited until the limited September rifle seasons were established in 1989. Hunters wishing to hunt bears during the established deer and elk season still had access to unlimited licenses until 2005, when license caps were established for these licenses.

In 1992, a constitutional amendment was passed that changed bear hunting within the state by preventing bear hunting prior to September 1st and outlawed the use of bait and dogs as aids for hunting black bears. Since 1992, the annual hunting seasons have begun on September 2nd annually.

Since 2000, hunting seasons have started with an early, limited, rifle season that runs from September 2nd through September 30th each year, along with concurrent archery, muzzleloader, 1st, 2nd, 3rd and 4th rifle season licenses. Under the current season structure, the four concurrent seasons are five days, nine days, nine days and five days in length. Hunters wishing to hunt bears during the four concurrent

seasons must also have a deer or elk license valid for the same unit. Harvest in the DAU is concentrated in the limited September rifle season as it is concurrent with the initial phases of the bear hyperphagia period. Harvest and success rates dramatically decline as hunting seasons progress through the fall months (October-November) due to bears entering the initial stages of hibernation.

License Allocation History

Prior to 2005, archery, muzzleloader, and the four concurrent licenses were valid statewide. These licenses were unlimited in number and could be purchased at a license agent until midnight the day prior to opening day. Beginning in the fall of 2005, those licenses became over-the-counter (OTC) with caps. That meant that a limited number of licenses (capped number) were issued for each huntcode but licenses could be purchased without going through the limited draw (bought first-come, first-served). The limitation of the number of OTC licenses sold allowed for more controlled harvest, especially following years of fall mast crop failure when harvest success can increase greatly. This change had no functional impact on the 1st, 3rd and 4th concurrent rifle season bear hunter opportunity, as the license caps were rarely reached for these seasons. However, hunters interested in the archery, muzzleloader, and 2nd concurrent rifle season licenses did see an impact in opportunity in going from unlimited to OTC with caps because those licenses often sell out.

Between 2005 and 2009, license allocation for all the huntcodes in the DAU, including OTC with caps, remained relatively unchanged (Figure 5). However, in 2010, licenses numbers were increased in the September rifle season in response to the high number of bear-human conflicts in the DAU in 2009, including some incidents that generated national media attention. Licenses were increased again in 2011 and 2012 in response to increases in bear-human conflicts. Additionally, bear population models for the DAU suggested that there were more bears in the unit than previously thought, so the overall mortality objective for the unit was increased for the 2012 season.

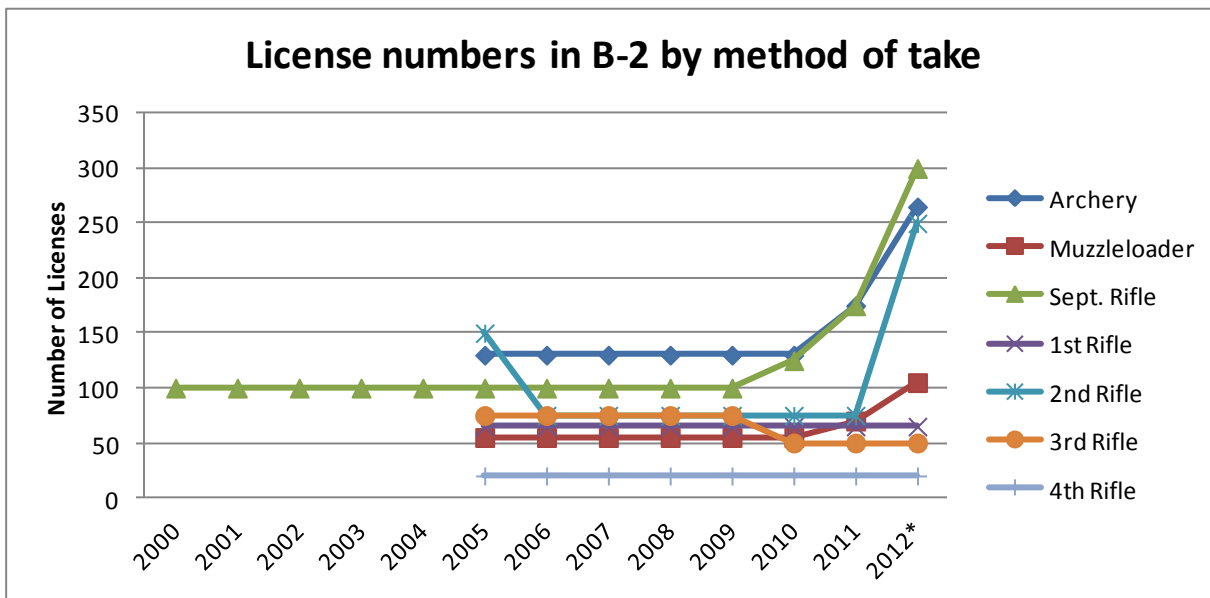


Figure 5. Ten-year license history in B-2 (*Prior to 2012, licenses were valid in GMUs 50, 58, 59, 500, 501, 511, 511, and 591. Starting in 2012, licenses were valid in 58, 59, 511, 581, and 591).

Mortality: Harvest and Non-Harvest

Overall bear mortality has fluctuated over the last 10 years in B-2 (not including GMUs 50, 500, and 501; Figure 6). The highest total bear mortality in the last 10 years occurred in 2002 when the DAU experienced a fall mast crop failure. This led to an increase in bear vulnerability to both harvest and non-harvest mortality, and a total of 67 bears were killed in the DAU that year. Non-harvest mortality includes both control kills and accidental deaths (e.g., road kill). Mortality declined in 2003 to 30 total bears. The lowest rate of mortality in the last 10 years occurred in 2005 (n=20 bears) but mortality rates have generally increased in subsequent years. The mortality rate in 2011 was near the level of 2002 with a total of 63 bears killed in the DAU. While the 10-year average of annual bear mortality is 42, the 3-year average is higher at 50 bears. Both hunter harvest and non-harvest mortality have increased over the past 10 years. The 10-year average of hunting mortality is 21 bears per year, while the 3-year average is 24 bears per year. The 10-year average for non-harvest mortality is 21 bears per year while the 3-year average is 26 bears per year.

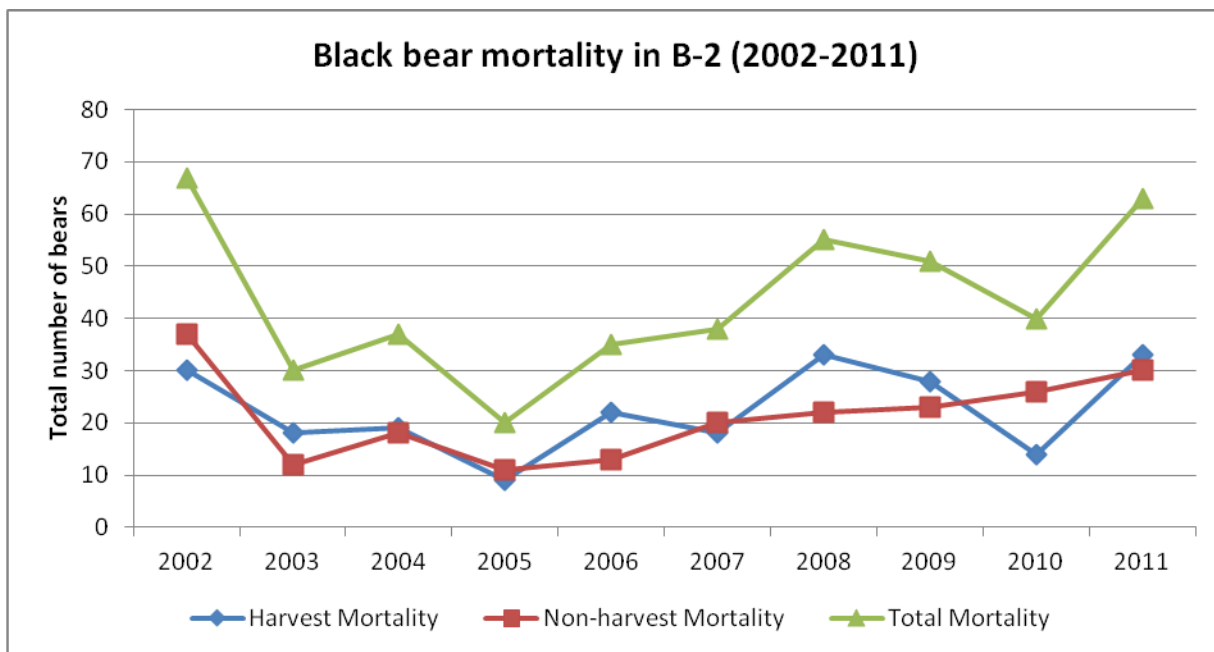


Figure 6. Total black bear mortality in B-2, 2002-2011 (includes mortality from GMUs 58, 59, 511, 512, 581, and 591).

The proportion of females in the B-2 harvest has fluctuated over the last 20 years (Figure 7). Some of this variation is due to the relatively small annual harvest numbers in B-2, where the difference of a few females in either direction can impact the proportions. While the proportion can vary significantly in any given year, the 3-year and 10-year averages of female proportions in harvest and non-harvest mortality are remarkably similar. The 3-year average proportion of females in the harvest was 45%, while the 10-year average was 42%. The 3-year average proportion of females in non-harvest mortality was 43%, while the 10-year average was 39%.

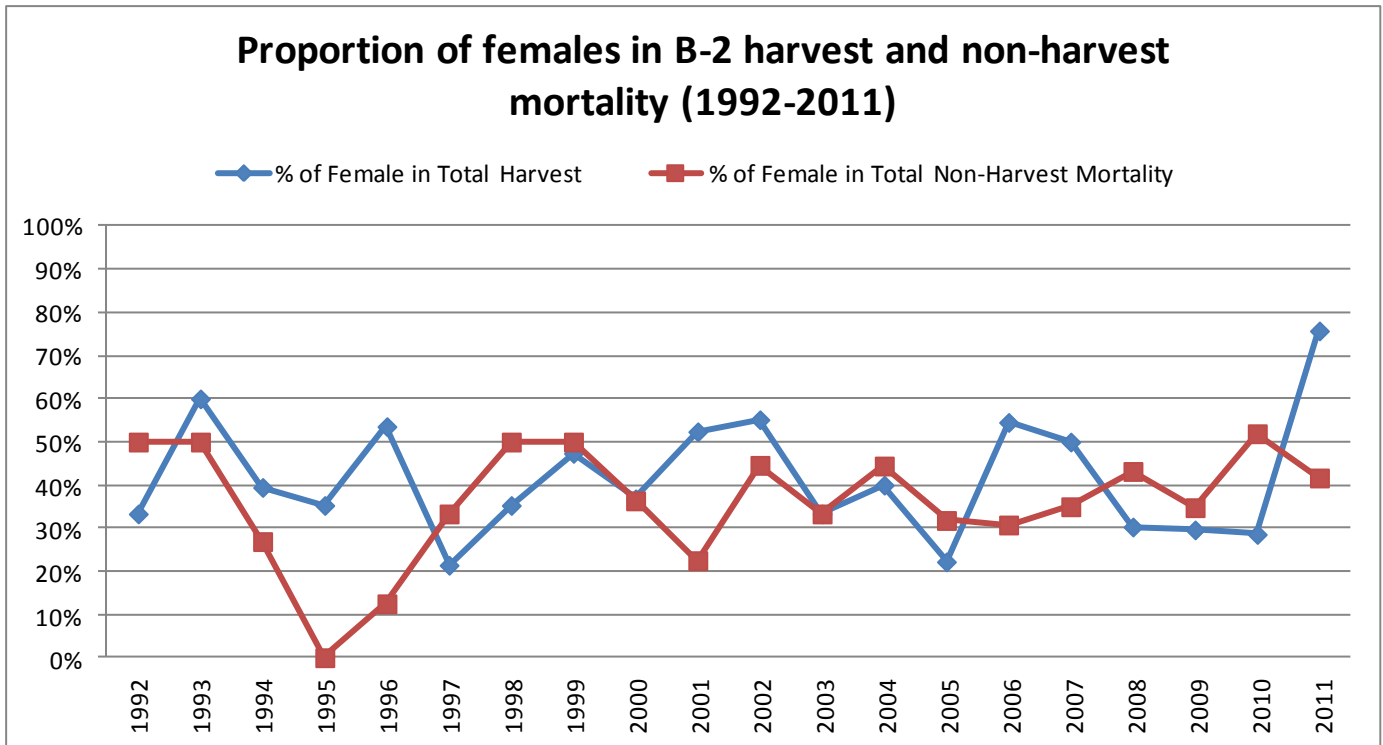


Figure 7. Proportion of females in B-2 harvest and non-harvest mortality, 1992-2011.

Mortality: Method of Take

Among methods of take, the 29-day September high-powered rifle season has the highest average 3-year success rate (~10%), and is responsible for approximately 61% of the annual bear harvest in B-2 (Table 1). Archery hunters contribute an average of 5 bears per year to the harvest and have a 3-year average success rate around 4% in B-2. Muzzleloaders harvest an average of 2 bears per year in B-2 with a 5% success rate. The total harvest of all the combined rifle seasons is similar to muzzleloading, with 2 bears harvested per year. While always very low, harvest success rates during the regular rifle seasons vary from 1-2% in the first and second rifle seasons to nearly 0% in the third and fourth when many bears are unavailable for harvest due to the onset of hibernation.

Table 1. Black bear harvest history, by method of take, in B-2, 2002-2011.

YEAR	Archery Harvest	Muzzleloader Harvest	September Rifle Harvest	1st-4th Rifle Season Harvest
2002	6	0	20	4
2003	2	0	11	5
2004	0	0	17	2
2005	0	3	3	3
2006	6	1	13	2
2007	2	1	15	0
2008	8	5	16	4
2009	10	4	12	2
2010	5	0	8	1
2011	6	3	22	2
Average	5	2	14	3

Harvest Distribution

Black bear harvest is evenly distributed across the DAU. Between 2002 and 2011, the percentage of bears killed per GMU was proportional to GMU area in the DAU ($\chi^2=7.9$, $df=4$, $p=0.1$). More than half of the harvest (58%) came from the two largest GMUs in the DAU, GMUs 58 and 581 (Figure 8). As expected, the lowest percentage (4%) of the total harvest came from GMU 591, which is the smallest GMU in the DAU (excluding GMU 512 which does not allow hunting). Most of the mortalities in the DAU also occur in areas mapped as primary bear habitat (Figures 9 & 10).

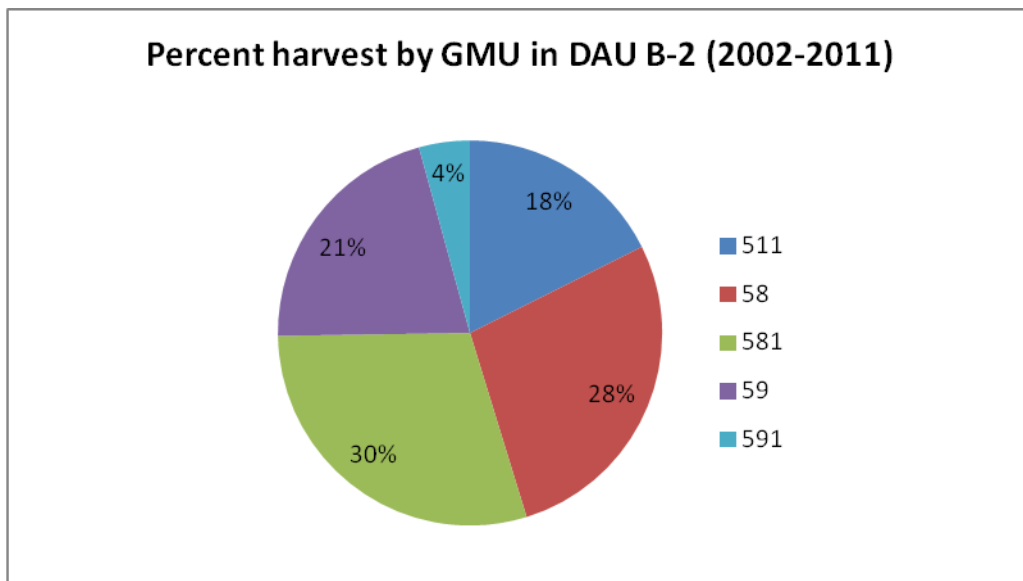


Figure 8. Percent harvest by GMU in DAU B-2, 2002-2011.

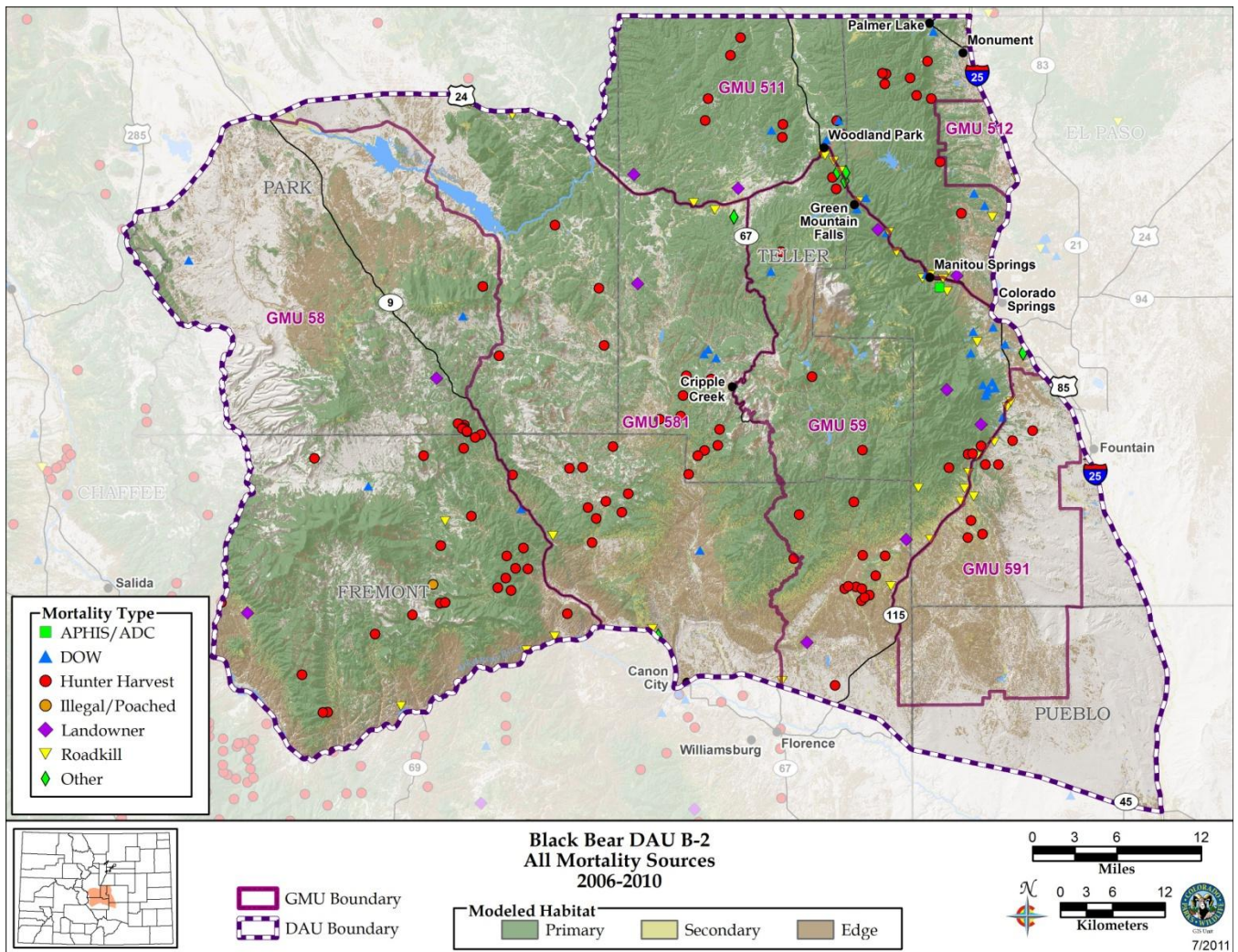


Figure 9. Location of bear mortalities in B-2, 2006-2010.

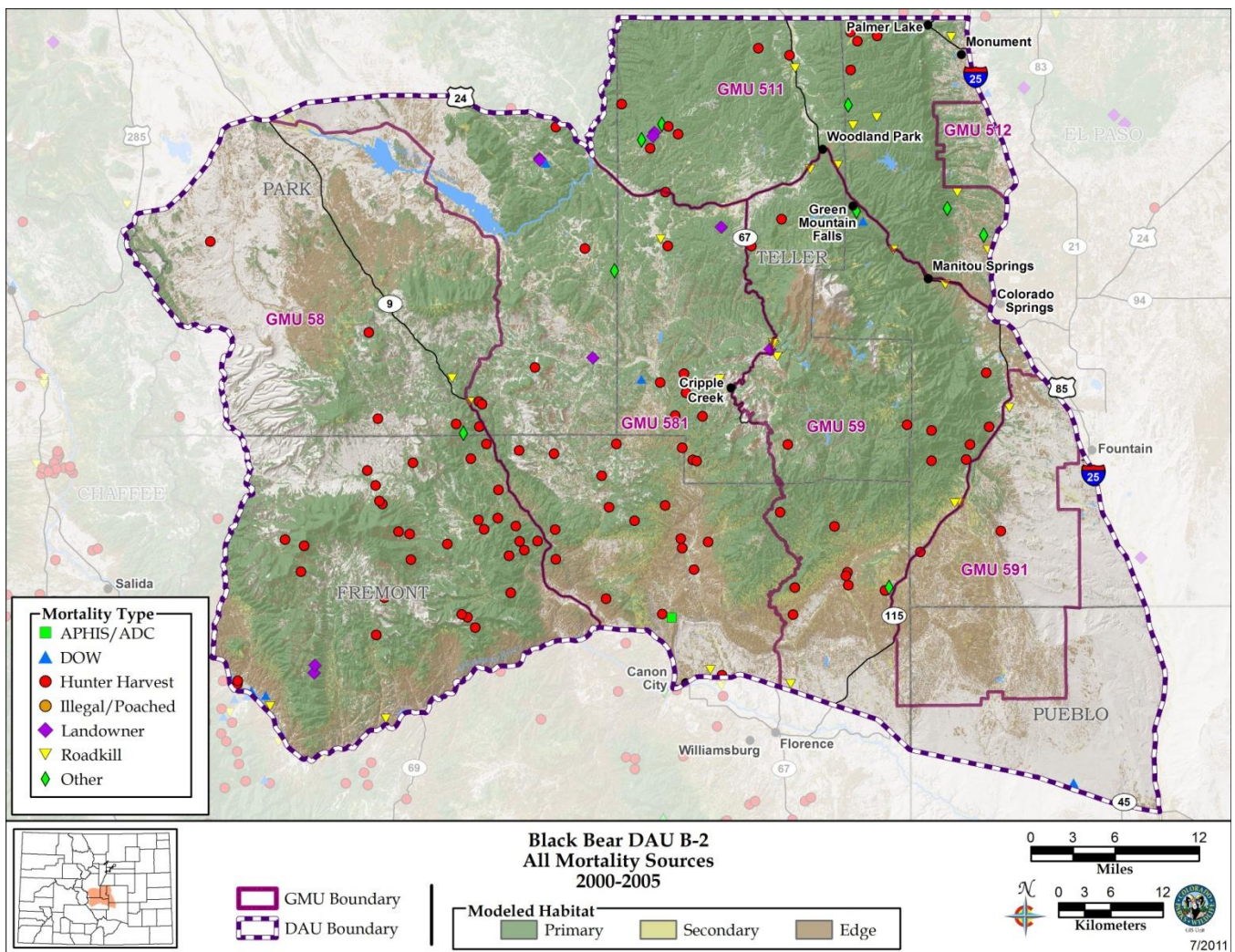


Figure 10. Location of bear mortalities in B-2, 2000-2005.

Mortality: Age and Gender

Beginning in 2007, a premolar was extracted from harvested bears and other deceased bears handled by CPW. These teeth were collected and submitted annually for aging via cementum annuli sectioning. Currently, age data are available through 2010.

The technique of counting annual rings in cementum of bear teeth is a reliable method for determining ages of black bears (Harshyne et al. 1998, Costello et al. 2004). This is especially true for bears less than five years of age. For bears five years of age or older, errors increased with the age of the bear (McLaughlin et al. 1990, Harshyne et al. 1998, Costello et al. 2004). Since most female black bears in Colorado do not reproduce until their 5th year, classification of females into sub-adult (non-reproducing) and adult (reproducing) age classes using cementum annuli is quite reliable. Therefore, all female black bears age five and over are considered adults for the purposes of harvest data analyses.

Below are figures showing the frequency of each bear year-class, by gender from the 2007-2009 and 2008-2010 datasets (Figures 11 & 12). Both harvest and non-harvest mortality are greatly skewed towards the sub-adult age classes. For the 2007-2009 timeframe, we aged 25 females and 43 males that

were harvested by hunters. From this sample, 79% of female teeth and 72% of male teeth were from subadult age classes (<5 years old). During the same time frame, 71% (n=38) of females and 76% (n=59) of males from all mortality sources were subadults. The percentage of mortalities in the subadult age class was lower for bears collected from 2008 through 2010. Seventy-six percent (76%) of harvested females (n=22) and 64% of harvested males (n=45) were subadults from the 2008-2010 sample. Including all sources of mortality, 71% of females (n=45) and 64% of males (n=66) were subadults.

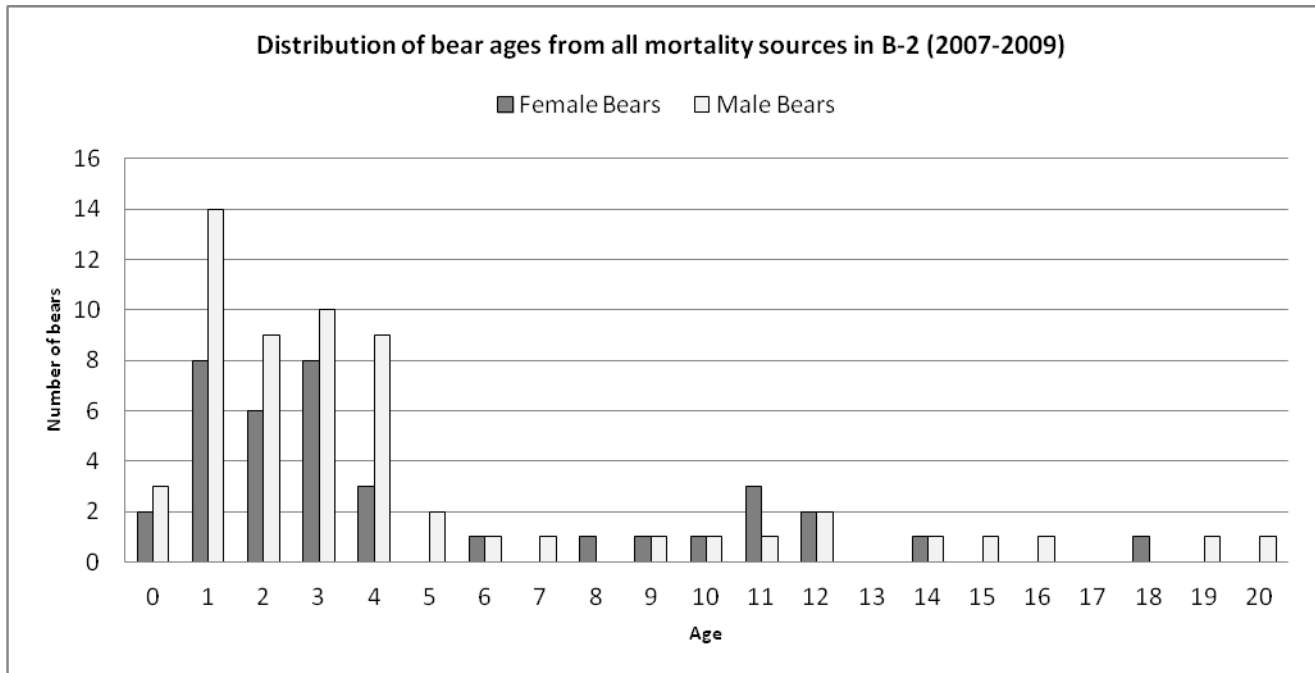


Figure 11. Age distribution of bears from all mortality sources in B-2, 2007-2009.

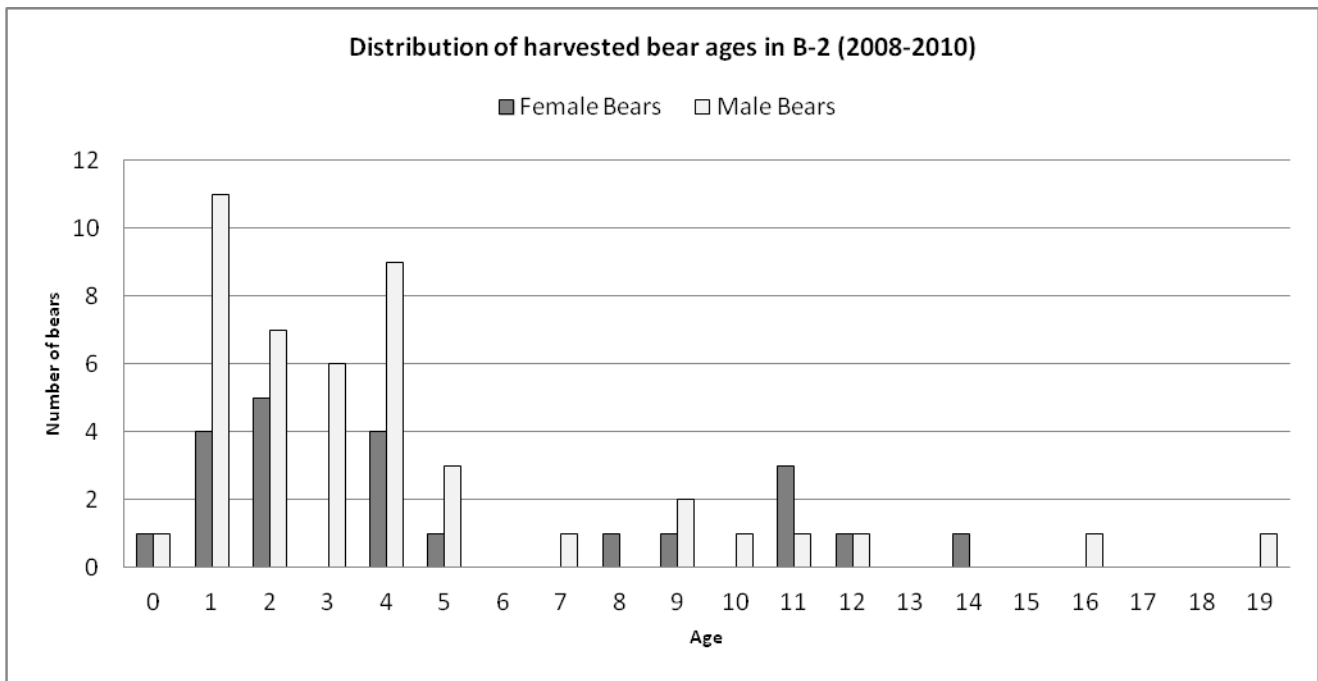


Figure 12. Age distribution of harvested bears in B-2, 2008-2010.

Game Damage and Human Conflict Management

Prior to August 2001, CPW was liable for personal property damage caused by bears. Since personal property claims were removed from CPW liability 11 years ago, there have been 67 black bear claims paid out in B-2 (Table 2). Damage to poultry (n=22 or 33%) and beehives (n=20 or 30%) represented over 60% of the total number of claims (Table 2). However, the highest amount of monetary payout went to beehive complaints, with the 20 claims totaling \$13,473. The mean claim payment since 2001 is \$510, with a range from \$14- \$3,500. The majority of the claims have been in GMUs 511 (n=27) and 581 (n=21), followed by 59 (n=14), 58 (n=4) and 512 (n=1).

Table 2. Complaints of game damage caused by from bears by damage unit, number of complaints, total cost and average cost per complaint in B-2, 2002-2011

Damage Unit	Number of Complaints	Total Cost	Average Cost per Complaint
beehives	20	\$13,473	\$674
buildings	1	\$83	\$83
cattle	2	\$973	\$486
exotics	6	\$6,336	\$1,056
goats	5	\$1,804	\$361
horses	4	\$5,030	\$1,257
other	4	\$836	\$209
pigs	2	\$288	\$144
poultry	22	\$4,442	\$202
sheep	1	\$901	\$901
Total	67	\$34,165	\$510

Human conflicts with black bears in B-2 occur frequently. In many cases, human interactions with bears are reported to the CPW call centers or field staff. This subset of conflicts is documented in written form by CPW staff and range from a secondhand report of a bear being seen in a town or suburb to a physical incident between a bear and a person. While these conflict reports provide a snapshot of individual incidents, lumping reports into categories or evaluating summary statistics can be misleading. There are a number of issues related to capturing the location of the incident versus the location the report was filed from, the reliability of some reports, and the bias in reporting associated with increased media coverage on an event or location that can all significantly increase or decrease the number of conflict reports.

The frequency of conflicts appears to be increasing, especially in the Colorado Springs metro area. Between 2009 and 2011, the number of bear reports logged at the Colorado Springs CPW office increased from 834 to 1,037. The CPW continues to document reported human conflicts with bears, and will continue to improve and refine the system and methods used for collecting and synthesizing those reports. Bears involved in conflicts will be handled per policy at the discretion of the field officer or supervisor.

Current Harvest and Total Mortality Objectives

When the DAU included GMUs 50, 500, and 501, the harvest objective was 35 and the total mortality objective was 50. Hunters rarely approached the harvest objective but, in the three years prior to the removal of these units from the DAU (2008-2010), the DAU neared the total mortality objective due to a high number of control kills and other types of mortalities (e.g., roadkills). In 2008, hunters killed 33 bears but only harvested 28 bears in 2009 and 14 bears in 2010 (3-year harvest average = 26 bears). As with harvest mortality, between 2008 and 2010 the highest total mortality for bears in the DAU was in 2008 with a total of 55 bears killed. The total mortality was 51 in 2009 and 40 in 2010 (3-year total mortality average = 49 bears).

GMUs 50, 500, and 501 contributed a relatively small percentage of the total harvest in the DAU. Between 2002 and 2010, the average percentage of the total DAU harvest that came from these three units was 10% with range between 0% and 22% of the total harvest.

The B-2 harvest and total mortality objectives of 35 and 50, respectively, were retained for the 2011 season following the removal of GMUs 50, 500, and 501. In 2011, hunters neared the harvest objective with 33 bears harvested in the remaining five GMUs. An additional 30 bears were killed in the DAU so the total mortality exceeded the objective. For the 2012 hunting season, we set an interim harvest objective of 67 and a total mortality objective of 93 to reflect new estimates of the bear population size in the DAU.

MANAGEMENT CONSIDERATIONS

Habitat and Habitat Models

Use/occupancy Density Extrapolation

The habitat resources within the DAU are related to elevation, and their use by bears depends on the time of year and plant morphology that best meets the bears' foraging needs. Being omnivores, bears can utilize a variety of food resources that allows them to exist at elevations of less than 5,000 ft. on the

juniper breaks along I-25 to the alpine interface that extends above 12,000 ft. Bears adjust to changes in plant morphology by moving either in elevation or restricting their movements to areas with increased production near water sources.

Lower elevation food sources are, at times, limited and heavily influenced by drought, but during certain periods of time may be very productive. The main vegetative foods available at lower elevation include: juniper berries (*Juniperus* spp.) and oaks (*Quercus* spp.).

Mid-elevation habitat types are dominated by ponderosa pine (*Pinus ponderosa*) and juniper (*Juniperus* spp.) forests along with Gamble oak (*Quercus gambelii*). These areas provide fair early spring forage along with excellent fall food sources and would be considered primary habitats in the area.

High elevation habitat types are dominated by spruce-fir (*Picea* and *Abies* spp.) forests interspersed with aspen (*Populus tremuloides*) and willow (*Salix* spp.). This area often has a very good forb and grass understory and provides good year-round bear habitat.

Habitat in the DAU can be considered fair for spring food sources, which consist of forbs and grasses along with carrion and juvenile ungulates. The habitat is poor for summer food sources as the grasses and forbs mature and prior to the maturity of the fall mast crops. Fall food sources, which include soft mass such as choke cherry and hard mass such as acorns, can be excellent if moisture and temperature fall within normal ranges.

Often the maturity of the summer foods causes a shift in bear foraging to human-associated foods and the level of human conflicts increase during this time frame.

In 2008, using the CPW Basinwide Geographic Information System Vegetation Classification project data, we ranked each vegetation type for its utility as basic bear habitat (use/occupancy) and relative forage value. This classification resulted in a tiered habitat ranking system. Use/occupancy was defined with 4 levels (primary, secondary, edge and out). Use/occupancy terms were defined as follows:

Primary – cover types that bears typically and normally are found at various times of year.

Secondary – cover types that bears occasionally use, but are not preferred.

Edge – cover types infrequently used, but bears may be found in when adjacent to Primary cover types.

Out – cover types that are not black bear habitat or those in which bears would only travel through.

The result of this analysis was the quantification of bear habitat and relative use and state of occupancy. This work resulted in a matrix for assigning habitat quality and, subsequently, for assigning bear densities to different habitat quality to extrapolate a potential population. The population results can be incorporated into population modeling or used as a comparison to independent population model runs.

Applying these criteria to the B-2 DAU, we determined that within the 2,814 mi² (7,288 km²) DAU we had 1,317 mi² (3,410 km²) of Primary Habitat, 98 mi² (255 km²) of Secondary Habitat, 501 mi² (1,295 km²) of Edge Habitat and 898 mi² (2,327 km²) of Non-habitat.

Published black bear densities across Rocky Mountain states range from 1.35 bears/100 km² in Rocky Mountain National Park (Baldwin and Bender 2007) to 31-77 bears/100 km² in Idaho (Beecham and Rohlman 1994). However, two 2009 Colorado mark-recapture surveys indicate higher densities than

those found by most studies, analyses, or management reports in the western US (45-52 bears/100 km²) (Apker et al. 2010; Table 3). Although density estimates are influenced by the size of the study area and the methods by which density estimates were derived (see Apker et al. 2010), overall habitat quality in the two 2009 study areas in Colorado is probably better than that found in most other areas in the state. It should also be noted that both the Colorado 2009 survey areas were selected, in large part, because they were considered among the highest overall quality habitat in Colorado, and the exact survey grid areas were structured to include mostly the highest quality cover and forage value habitat for the survey season. One of the study sites used in Apker et al. 2010 was located in DAU B-7, which is directly south of B-2. Apker et al. 2010 estimated the density of bears in primary, high quality habitat in B-7 to be 47-52 bears/km². Only a small portion of B-2 is comparable to the study site in B-7. Therefore, black bear densities are likely lower in B-2 compared to B-7.

To extrapolate bear densities in B-2, we used estimates with the range of published estimates for black bears in the Rocky Mountain states. In all GMUs in the DAU except 591, we used bear densities of 25 bears/100 km² for primary habitat, 19 bears/100 km² for secondary habitat, and 2.5 bears/km² for edge habitat. Black bear habitat quality in GMU 591 is poorer quality compared to the rest of the DAU, so bear densities were assigned as follows: 17 bears/100 km² for primary habitat, 13 bears/100 km² for secondary habitat, and 1.7 bears/100 km² for edge habitat. When these values were extrapolated based on the total amount of habitat available in the DAU, we projected a bear population size of approximately 930 bears in the DAU, including both adults and sub-adults.

Table 3. Reported black bear densities from research, analysis, or management reports in diverse locations and habitat types. Bullet ●, indicates results of two Colorado mark-recapture surveys using the jackknife method of density estimation.

Location	Source	Per 100 km ²
Washington	Lindzey 1977	112 – 149
Nevada – Tahoe Basin (urban)	Beckmann and Berger 2003	120
●Colorado – SESA	Apker et al. 2010 unpublished	47 – 52
Wisconsin	Belant et al. 2005	50 – 64
Idaho	Beecham and Rohlman 1994	31 – 77
●Colorado – NWSA	Apker et al. 2010 unpublished	45 – 50
Idaho	Beecham 1980	43 – 47
Alberta	Kemp 1976	38
Montana	Jonkel and Cowan 1971	38
Colorado – Uncompahgre	Beck 1995 Fed Aid Rpt	36
Idaho	Rohlman 1989	34
Arizona	LeCount 1982	33
Nevada – Sierra Range	Goodrich 1990	20 – 40
Arizona	Waddel and Brown 1984	27.8
Colorado – BMSA	Beck 1991	17.9
New Mexico	Costello et al. 2001	9.4 – 17
Colorado – Middle Park	Beck 1997 Fed Aid Rpt	8.1
Utah	Utah Division of Wildlife Resources 2000	7.7
Arizona	LeCount 1987	6
Wyoming	Grogan and Lindzey 1999	2.1 – 3.0
Colorado - RMNP	Baldwin and Bender 2007	1.35

Forage Condition - Mast Production Surveys

In the fall of 2008, CPW began inventory of mast production conditions. Following survey protocols developed by Costello et al. (2001), we made only slight modifications to provide a basic 5-point matrix of fall mast fruit productions for Gambel oak, juniper spp., chokecherry, and serviceberry. Forage condition results within DAUs can then be represented numerically to reflect annual forage conditions. These results can provide managers objective information about relative forage conditions over time and, in conjunction with their professional judgment, can influence management recommendations. In addition, the results can be used as population model inputs, because forage conditions influence bear reproductive success as well as vulnerability to mortality (Beck 1991, Costello et al. 2001).

Mast production ratings are represented on a scale of 1 to 10, with 1 representing the worst conditions possible and 10 representing the best conditions. We currently have ratings in B-2 for 2008, 2010 and 2011. The mast production rates for B-2 have ranged from a low of 4.96 in 2008 to a high of 6.44 in 2010. The average rating for the entire state over this time period was 6.08.

Results from this survey have been incorporated into population models in three ways. Fall forage production influences 1) cub production in the following year, 2) cub survival in the current year, and 3) non-hunt mortality multipliers in the current year. Of these, the cub production and survival values used in the models have a significant influence on model results.

Population Models

Deterministic population models were developed on a framework of annual biological, harvest and density assumptions to project assumed populations using available data. We used a starting population at the higher end of the range taken from an early 1990s vegetation/density extrapolation (500 bears; Gill and Beck 1990) and projected it to 2017. We used harvest levels that would be necessary to stabilize the population at 2011 levels. We used plausible values for age-specific survival, number of cubs per litter, and the model includes input values to account for changes to reproduction and mortality rates due to poor forage years. We also assumed that age-specific survival & age of primiparity were unaffected by human food sources. For years 2008, 2010, and 2011 we had actual forage condition monitoring data. For prior years we used the relative amount of non-hunt mortality to provide an index of forage conditions. The models use mortality data with harvest as a direct model input and non-hunt mortality adjusted upward since we know our records do not document all non-hunt mortality. Sub-adult and adult survival rates were largely midpoints of published ranges in New Mexico and Colorado (Costello et al. 2001, Beck 1991, Beck 1997), while cub survival fell within published ranges but was modulated by a mast index that is intended to reflect documented forage conditions on a yearly basis.

Two models in B-2 were compared; one projects a liberal population with attendant liberal, but plausible model parameters, the other is a conservative population projection with more conservative parameters. Model parameters are presented in Table 4.

The conservative model produced a 2011 post-hunt population estimate of 933 bears (401 females, 297 males, and 235 cubs). The liberal model produced a 2011 post-hunt population estimate of 1,316 bears (543 females, 430 males, and 343 cubs). Excluding cubs, the estimated population size of independent bears was 698 for the conservative model and 973 for the liberal model.

While the models do yield population estimates, these estimates are predicated on many plausible, yet assumed input values. The results do appear to conform to population extrapolations derived by the habitat models, especially the liberal model. Nonetheless, the value of the models is most worthwhile in the population trajectories and responses to mortality and forage condition variability than the absolute population numbers they produce.

Table 4. Model parameters used in conservative and liberal deterministic population models for the B-2 DAU. Parameters that are equal between both models are italicized.

Model Parameter		Conservative Model	Liberal Model
<i>Starting Population Size</i>		<i>500 bears</i>	<i>500 bears</i>
<i>Birth Interval</i>		<i>2 years</i>	<i>2 years</i>
<i>Adult Age (Both Sexes)</i>		<i>5+ years</i>	<i>5+ years</i>
<i>Sex Ratio at Birth</i>		<i>50:50</i>	<i>50:50</i>
Non-hunt mortality multiplier		1.25	1.5
Litter Size		1.8	2.0
Cub Survival	Poor Forage Years	37%	40%
	<i>Average Forage Years</i>	<i>65%</i>	<i>65%</i>
	<i>Good Forage Years</i>	<i>80%</i>	<i>80%</i>
Yearling Survival	Males	90%	91%
	Females	89%	90%
Sub-adult Survival	Males	89%	90%
	Females	91%	92%
Adult Survival	<i>Males</i>	<i>89%</i>	<i>89%</i>
	<i>Females</i>	<i>93%</i>	<i>93%</i>
2011 Post-hunt Population Estimate		933 bears	1,316 bears

Mortality Density and Rates

Miller (1990) demonstrated that under optimal conditions of reproduction and survival, maximum sustainable total mortality for black bears could be as high as 14.2%. Beck and White (1996 unpublished) conducted black bear population simulation analyses which, given their assumptions, produced stable bear populations with annual mortality at up to 15%.

It is unlikely that bears annually experience optimum reproduction and survival conditions due to environmental variation affecting forage conditions and black bear vulnerability to mortality factors. Therefore, we have formulated mortality rate thresholds associated with different management strategies which are somewhat lower than the foregoing:

Management Strategy	Mortality Rate Threshold	Total Mortality Level for 930 Bears
Increasing	<7%	<65 bears/year
Stable	7%-13%	65- 120 bears/year
Decreasing	>13%	>120 bears/year

The amount of human-caused mortality in relation to the amount of suitable habitat available can be used to calculate mortality rates relative to these thresholds. This calculation can be useful in illustrating impacts on a more local scale and standardizing mortality between DAUs with varying habitat suitability. The number of human-caused mortalities divided by the area of primary and secondary habitat yields a mortality density.

In the past 10 years, the total mortality in the DAU has averaged 44 bears and B-2 has 3,665 km² of primary and secondary habitat. Therefore, the mortality density in B-2 over the past 10 years has been 1.19 bears/100 km². Assuming that the bear population is about 930 bears, which is roughly the mid-point between the various habitat and population model projections, then the median bear population density in the DAU is about 25.4 bears/100km². Using these figures to calculate a mortality rate yields $1.19/25.4 = 5\%$. Therefore, under the mortality rate threshold criteria, the B-2 population is likely increasing.

Mortality Composition and Management Criteria

Black bear vulnerability to harvest and other mortality factors varies depending upon differences in habitat, hunter effort or pressure, access, and forage conditions. Bears are less vulnerable where cover is dense over large geographic areas. They are more vulnerable where vehicle access is good. The greatest influence in annual variation in bear vulnerability is forage conditions. When natural forage quality or availability is poor, bears must become much more mobile in search of food, especially during fall hyperphagic periods. Increased mobility tends to result in bears being more visible to hunters, more likely to encounter human food sources, more frequently found along or crossing roads, and more concentrated in areas where there may be relatively more forage available. All of these tendencies can result in increased hunter harvest, increased human conflict mortality, more roadkills and other forms of mortality. Not all segments of bear populations are equally vulnerable however, regardless of other influences. Hunting pressure affects harvest rate, which affects age structure, sex ratios, and densities of black bear populations. Adult males are typically most vulnerable because they are bold (often use open areas) and have larger home ranges. Sub-adult males are slightly less vulnerable. Consequently, the adult male segment of a population is the first to be reduced under hunter pressure. As harvest rates increase, the proportion of sub-adult black bears (those less than 5 years old) in the harvest typically increases, whereas the proportion of adult males declines. **A low percentage of adult males (≥ 5 years old) in the harvest may be an indication of over-harvest.** This criterion is a more sensitive indicator of black bear population levels than median age (Idaho Dept. of Fish and Game 1998). The mean percent of adult males in the harvest in relatively stable populations in Idaho (Beecham and Rohlman 1994) and New Mexico (Costello et al. 2001) under moderate to high harvest levels was 30% and 28%, respectively. Studies of black bear populations in Alaska, Virginia, and Arizona showed similar relationships between lightly and heavily hunted populations. **Therefore, 25% to 35% adult males in the harvest could indicate a stable black bear population.** Levels lower than 25% may indicate a higher level of harvest, which has reduced the adult male segment of the population; whereas levels higher than 35% may indicate a much lighter harvest level. Based on the four years of available composition data from B-2, it appears that current harvest levels could be moderate-high, as adult males have only comprised 13-16% of the total harvest (Figures 13 & 14). However, the increasing amount of adult males in harvest data may indicate the population is recovering from prior exploitation.

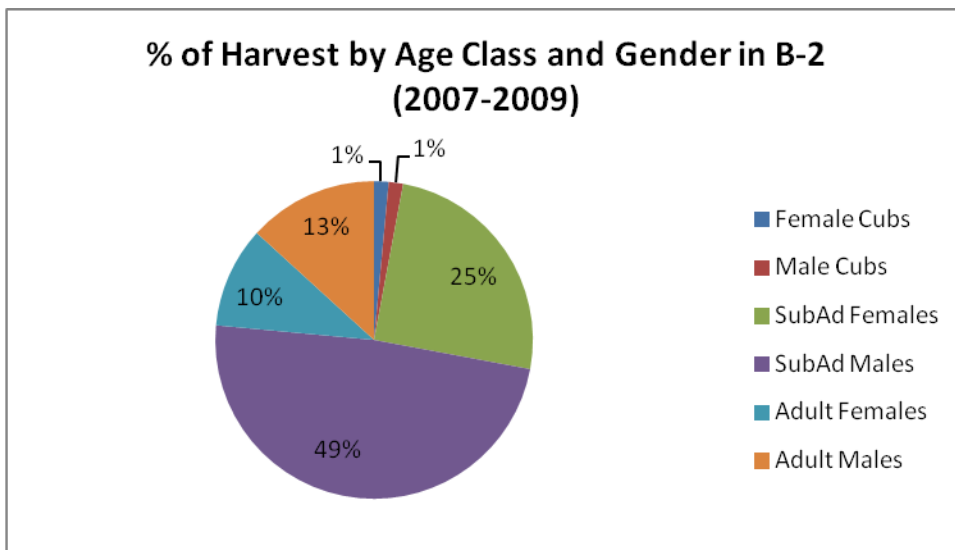


Figure 13. Black bear harvest in B-2 by proportion of age class and gender, 2007-2009.

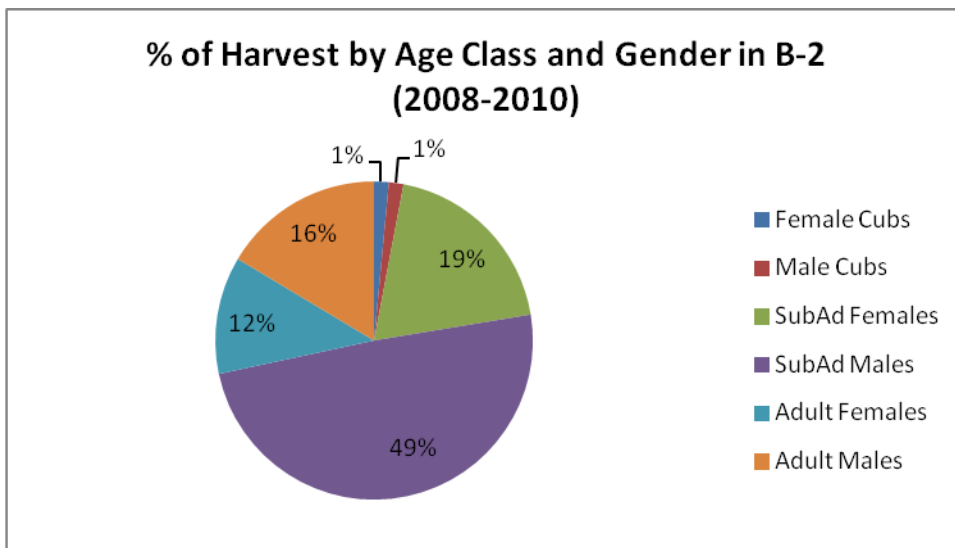


Figure 14. Black bear harvest in B-2 by proportion of age class and gender, 2008-2010.

As harvest levels increase and additional adult and sub-adult males are removed from an area, the proportion of females in the harvest begins to increase (Fraser et al. 1982, Kolenosky 1986, Beecham and Rohlman 1994), because females are least vulnerable, especially if accompanied by cubs. The average percent of females in the harvest of black bear populations under moderate and high hunting pressure in Idaho (Beecham and Rohlman 1994) and New Mexico (Costello et al. 2001) was 35% and 40%, respectively. Beecham and Rohlman (1994) suggest a desired proportion of female harvest of 35% to maintain a stable population, whereas Beck (1991) suggested maintaining <40% females in harvest. **Therefore, a range of 30% to 40% females in the total harvest could indicate a stable black bear population.** Data Analysis Unit B-2 appears to be towards the lower end of the stable range using this indicator, with a 32% female harvest rate over the 3-year period from 2008-2010. Proportions higher than 40% may suggest reduction of the number of females in the population. Monitoring this criterion

helps ensure a stable reproductive portion of the population and the ability of the population to rebound in the event of a decline.

With increasing harvest of a black bear population, younger females are removed and older females become more common in the harvest. **Thus, the proportion of adults in the female harvest should rise with harvest rates, increasing mean age of females in the harvest** (Kolenosky 1986, Beecham and Rohlman 1994). This phenomenon is especially important with late-reproducing species like bears, since removing adult females has the enhanced effect of not only reducing the number of bears in the population, but also decreasing reproductive potential of the population and, thus, its ability to respond to declines. The delayed response of slow reproducing populations to reductions was noted by Harris (1984) and was demonstrated in modeling efforts by Miller (1990), who predicted black bear populations reduced by 50% would take an average of 17 years to recover if hunting pressure was reduced by 25%.

The percent of adults in the female harvest, rather than mean or median age of the females in the harvest, can also be used to gauge the presumed population trajectory. Averaged over a 3-year period, this criterion provides a more meaningful measurement of female harvest age structure, especially in areas with small sample sizes. The mean percent of adult females in the harvest of two New Mexico black bear populations under moderate and high harvest pressure was 55% and 70%, respectively (Costello et al. 2001). The mean percent adult females in the Wyoming statewide female black bear harvest from 1994-2005 was 47%, with a range of 32% – 57%, **suggesting that 45 – 55% adult female harvest provides a stable proportion of adult females** (Wyoming Game and Fish Dept. 2007). In B-2, adult females comprised 36% of the female harvest from 2008-2011, indicative of an increasing population under this criterion.

Looking at criteria independently could give very different results than when considering them together or over a period of years. For instance, looking only at a reduced percentage of adult males in the harvest may indicate a population is moving from light to moderate harvest. However, evaluating the other criteria may show an increased proportion of females and higher proportion of adult females in the harvest, indicating a much higher level of harvest than looking at males alone. Alternatively, a high percentage of adults in the female harvest, assessed independently, would indicate population reduction. However, when the percent adult males and percent females in the harvest are both in the population increase or stable range, the population might actually be thriving. This situation might occur when the DAU is adjacent to an area providing a source of immigrating black bears. Source areas can be defined as areas of suitable habitat with little to no human-caused mortality that may provide dispersing bears to surrounding areas (Beecham and Rohlman 1994, Powell et al. 1996). Areas adjacent to sources may have a lower proportion of adults in the harvest due to sub-adults dispersing to occupy vacant home ranges of harvested bears. These areas may also be able to rebound more quickly from overharvest (Beecham and Rohlman 1994). Dispersing sub-adult males may also supplement surrounding populations and absorb much of the harvest to the point where female harvest remains low and adult females comprise a higher proportion of the population. All of the harvest parameters, except the percentage of adult males in the harvest, suggest that B-2 is a stable to increasing population.

To better evaluate harvest data, black bear seasons are set for a 5-year period as with most other big game species in Colorado. We recommend that harvest objectives and attendant license allocations be set for 3-year periods. This would allow for a more complete analysis of the effects of harvest by holding dates and quotas the same for each 3-year season cycle. In order to increase the sample size of

the harvest data and to reduce the influence of high or low annual harvest rates due to environmental or other factors, 3-year running averages will be used in harvest data analyses rather than analyzing annual data independently. While the evaluation of harvest criteria will be analyzed using a 3-year average, data from the previous 10 years (two black bear generations) or longer should be analyzed to illustrate longer-term trends in harvest and related population trends.

Social Factors

The social factors that influence management scenarios in B-2 include game damage and human conflicts. As stated above in the game damage section, the 10-year annual average number of game damage claims in the DAU is 6.7, with the largest number being for damage to poultry and beehives. Most of these farmers and beekeepers are small, non-commercial operations with a relatively small number of livestock or hives. However, in one night a single bear can significantly impact an individual with poultry or beehives. The majority of claims in B-2 have been in GMU 511, which is likely a reflection of the habitat and significant number of rural, small-acreage landowners who keep bees or hobby livestock.

Direct, significant human conflicts with black bears in B-2 typically involve a bear entering or attempting to enter a home, cabin, trailer or car. Following CPW policies and directives, any bear caught after entering or attempting to enter an inhabited dwelling is euthanized for public safety. In B-2, bears are also frequently found in and around garbage cans and bird feeders. These conflicts are dealt with by CPW field staff differently depending on severity of the incident, other site-specific qualities and whether the bear in question had been previously handled by the CPW. CPW has a policy for handling bears that have already received a first “strike,” as well as procedures to follow if a bear makes physical contact with a person.

Colorado Springs is on the eastern edge of B-2. A significant number of human-bear conflicts occur in this area. Many of these conflicts are not reported in B-2 statistics because everything east of I-25 is considered to be in a separate DAU. Nonetheless, management actions that occur in B-2 could have an impact on issues throughout Colorado Springs because most bears found east of I-25 likely came from the west. Therefore, human-bear conflicts in the Colorado Springs metro area will be considered in population and harvest management strategies for B-2.

ISSUE SOLICITATION PROCESS

Initial Meetings

We held public meetings in three locations: Colorado Springs, Canon City, and Woodland Park. The meetings were advertised through press releases (Appendix B) and the CPW Insider. The Woodland Park meeting, which was originally scheduled for June 27th, was rescheduled for July 24th due to the Waldo Canyon Fire. Seven members of the public attended the Canon City meeting, ten attended the Woodland Park meeting, and none attended the Colorado Springs meeting.

At each meeting, we gave a presentation about the history of bear management in the DAU and discussed current management issues as well as proposed strategic goals. We also discussed the possibility of using private-land only licenses to help mitigate human-bear conflicts in the DAU. Following the presentation, we had an open discussion with attendees.

Brief surveys were provided to meeting attendees. In the survey, we asked stakeholders to describe their interest in bear management (e.g., landowner, hunter, outfitter), to choose preferred population strategic goals, and their opinions about a private-land only season in GMUs 59 and 511. We received a total of 15 surveys (Appendix A). The majority of survey respondents identified themselves as hunters (n=11 of 15) and/or landowners (n=10 of 15). We received five responses each for the categories of business owner, rancher/farmer, and outfitter/guide. Three attendees indicated they were interested citizens and one indicated they had another interest in bear management besides the categories listed. Written feedback from the surveys can be found in Appendix A.

Meeting Discussion: Canon City

We received multiple comments from Canon City meeting attendees. One attendee was concerned that license numbers allocated in GMUs 59, 511, and 591 for 2012 hunting season were too high for the area because there was a limited amount of public land available in those units. The attendee felt that hunter density in the area could reduce the quality and efficacy of the hunt.

The attendees asked multiple questions about whether we could reinstate: 1) a spring bear season, 2) pursuit of bears with dogs, or 3) baiting of bears. They also asked if we could extend the bear season. The attendees generally felt that these techniques might help us better manage bears in the state. We explained that neither CPW nor the Commission have the authority to reinstate these options or to extend the bear season because they are prohibited under a state statute (CRS 33-4-101.3). The attendees expressed interest in overturning CRS 33-4-101.3, but acknowledged that it would be difficult under the current political climate.

The attendees suggested we ask additional questions at mandatory bear checks to help us improve our data collection. Specifically, they thought we should ask hunters how many bears they saw during their hunt and where the bears were located (types of habitat, general locations). They asked if we were going to change our habitat model following the Springer and Waldo Canyon fires. We told them we were still in the initial evaluation stages following the fire, but that we would need to reevaluate habitat for multiple species in the burned areas. We also explained that we have some precedent for bear population recovery following the 1988 fire in Yellowstone. There was general sentiment from the group that wildlife managers should be the ones making the decisions on wildlife management in the state since we are paid to manage the state's wildlife resources.

Meeting Discussion: Woodland Park

At the Woodland Park meeting, we received comments about the allocation of over-the-counter with caps licenses. One attendee was specifically concerned that OTC with caps licenses sell out so quickly in popular units that the system creates panic among hunters. There was also concern that recent management changes in B-2 (i.e., license increases and boundary realignments) had not been widely publicized, which has led to confusion among hunters. Attendees expressed concern about any proposed decrease in the bear population. They enjoy viewing and hunting bears and thus did not want to see a decrease in the population since a decline could reduce their recreational opportunities. There was also concern from one individual that non-consumptive users were buying bear tags to prevent hunters from harvesting bears.

We talked at length about the implications of a proposed private-land only (PLO) season in the DAU. There was discussion about whether the tool could be effective. One attendee commented that it might be the best option available to the CPW for managing bears in areas of human conflict, especially given the restrictions placed on the agency by CRS 33-4-101.3. During the meeting, we told attendees that under our proposal, hunters would not be required to buy a concurrent deer or elk license to hold the PLO license. Attendees expressed concern about the potential law enforcement issues that might be created with this proposal (e.g., party hunting). Other attendees felt that this was not a concern and would negate the purpose of the PLO license.

Stakeholder Responses: Strategic Goals

Stakeholders were presented four options for strategic goals for the B-2 bear DAU: 1) Stable, 2) Reduce the bear population by 15%, 3) Reduce the bear population by 25%, and 4) Other. During our presentation, we told respondents to mark the “Other” category if they preferred an alternative strategic goal, including an increase in the population. Stakeholders were evenly split between the strategic goal of a stable bear population (n=7) and a reduction in the population by 15% (n=7). The remaining respondent preferred a strategic goal that would allow more hunting while increasing the bear population.

Stakeholder Responses: Private-Land Only Season

Meeting attendees supported a private land only season with 12 of 15 survey respondents marking “strongly agree” as their choice for supporting a PLO season. One respondent marked that they neither agreed nor disagreed with the PLO season, one respondent indicated that they strongly disagreed with the PLO license, and one individual marked that they were not sure whether it was a good idea.

30-day Public Comment Period

After receiving feedback from the public meetings, we finalized a draft DAU plan and used multiple avenues to solicit stakeholder feedback. The draft DAU plan was online from August 14, 2012 through September 14, 2012. We sent the DAU plan to the Bureau of Land Management, the US Forest Service, Ft. Carson, the State Land Board, and pertinent County Commissioners from Park, Fremont, Teller, El Paso, and Pueblo Counties. We also sent the draft to stakeholders who had expressed an interest in reading the draft during the initial scoping process.

Written feedback from the 30-day comment period is in Appendix C. Personnel from the El Paso County Community Services Department were supportive of our management approach and agreed with the proposed preferred alternative of a moderate reduction in population size. We received no other feedback during the 30-day comment period.

STRATEGIC GOALS AND MANAGEMENT OBJECTIVES

Strategic Goals

Subsequent total mortality and harvest objectives are presented as a range of probable amounts necessary to achieve the strategic goal of the DAU. Annual monitoring of mortality amounts, gender and age structure, Colorado black bear density study, and annual forage condition survey results are all

incorporated into determining annual mortality objectives. However, the models and their results have not been validated with demographic data from Colorado bear populations. Moreover, the data that has been collected and used for model inputs result from relatively new efforts. We anticipate that the models will change and be improved over time and, thus, should be viewed as **presumptive** estimates. Therefore, although the plan identifies mortality and age and gender objectives, these are initial values. Modeling will be conducted every other to every third year, while other mortality data and demographics are collected and analyzed annually. Population extrapolations based on predicted densities, range-wide or within vegetation associations, will be re-evaluated as new data is gathered via research and mark-recapture surveys. While unlikely, objectives may be periodically adjusted in order to achieve the DAU strategic goals based on changes in the information sources above. Specific objectives will be documented in annual objective sheets approved by the Commission. These objective sheets will also govern annual license levels to achieve the DAU strategic goals.

Three Alternative Strategic Goals in B-2:

Preferred Population Alternative #1: Moderate decrease in the bear population in B-2

Under this alternative we would manage for a moderate decrease in the bear population. To accomplish this goal we would incrementally increase harvest until we have two years (consecutive or two out of three years) with composition indices that show a decreasing bear population (Table 5). We would then adjust harvest to stabilize the population. A reduction strategic goal was selected as the preferred alternative due to the high level of human-bear conflicts in Teller and El Paso counties. Also, during the issue solicitation process, just under 50% (7 of 15) stakeholders indicated this was the preferred alternative. We chose this approach over a more aggressive strategy (i.e., Alternative 3) so we could retain a sufficient number of bears in the population to provide quality hunting opportunities in GMUs 58 and 581, which are highly sought after units. As such, under this alternative, harvest would be more heavily targeted in the GMUs adjacent to the Colorado Springs metro area.

Based on current models and density extrapolations, in order to achieve this alternative it is estimated that the average total mortality should be $\geq 13\%$ of the bear population annually while we are managing for a declining bear population. For the remaining years of the management plan the harvest should be 7-13% of the bear population annually.

The percent of total females in the harvest should be monitored and if the percent of all females in total harvest exceeds 40% for three consecutive years, annual hunting licenses will be reduced by 25% for a minimum of two years to allow a recovery of adult females in the population.

Table 5. Composition indices used to show a decreasing or stable B-2 bear population under the three alternative strategic goals.

Criteria	Proportion of Harvest	
	Decreasing Population	Stable Population
Adult Males in Total Harvest	<25%	25-35%
Females in Total Harvest	>40%	30-40%
Adult Females in Female Harvest	>55%	45-55%

Population Alternative #2: Maintain a stable bear population in B-2

Based on current models and density extrapolations, in order to achieve this proposed DAU strategic goal, it is estimated that the average total mortality should be in the range of 7-13% of the annual bear population. It is estimated that the 3-year running average proportion of age and gender structure in hunter harvest should meet the criteria for managing for a stable bear population (Table 5). As with the previous alternative, the percentage of females in the harvest would be monitored. If the percent of females in the harvest were to extend the 40% threshold, licenses would be reduced by 25% to allow for a recovery of adult females in the population.

Population Alternative #3: Aggressive decrease in the bear population in B-2

Under this alternative, we would manage for an aggressive population decrease in bears in B-2. To achieve this objective, we would incrementally increase harvest until we have three out of five or four consecutive years with the composition indices showing a decrease in the bear population (Table 5). We would then adjust harvest to stabilize the population. As with population alternative #1, we would target harvest in the GMUs adjacent to Colorado Springs.

Based on current models and density extrapolations, it is estimated that the average total mortality should be $\geq 13\%$ of the bear population annually while we are managing for a decrease in the bear population. For the remaining years of the management plan the harvest should be 7-13% of the bear population annually. As with the previous two alternatives, female harvest would also be monitored for the 40% threshold.

MONITORED DATA TO INFORM MANAGEMENT

All known dead black bears, from both harvest and non-harvest sources, are checked by CPW staff to obtain biological information. The proportion in total mortality of each gender will continue to be closely monitored on an annual basis to assure that female mortality rates are not contrary to the DAU strategic goals. Age structure in total mortality and reproductive history are derived from extraction of a premolar tooth from bears when bear harvest and non-hunt mortality is reported through the mandatory check.

In 2009 and 2010, hair snag surveys were conducted in two locations in Colorado. Additional hair snag survey areas may be established in the future during the term of this DAU plan. Results about bear density, gender, and possibly age structure from these surveys may be incorporated into the habitat model/density extrapolations.

Because of low reproductive rates, black bear populations cannot sustain high harvest levels over prolonged periods. Research has shown that high harvest levels can quickly reduce black bear populations to levels where severe reductions in harvest quotas and season lengths may be necessary for greater than 10 years for full recovery of a population (Miller 1990, Beecham and Rohlman 1994). Therefore, the following harvest criteria will be assessed at the DAU level, with each DAU strategic goal set to achieve the criteria for reduced, stable, or increasing black bear numbers.

Total Mortality

Monitoring harvest and overall mortality totals in relation to projected population size will be important in interpreting mean age and relative proportions of age/gender classes as indices. Based on the preferred strategic goal of *decreasing the bear population*, the total mortality off-take range that would allow managers to reach that goal is $\geq 13\%$ of the population.

Proportion of Mortality by Age and Gender

The following three harvest criteria will be monitored annually, using a 3-year average in B-2.

	Population Trend		
	Decreasing	Stable	Increasing
% of Adult Males in Total Harvest	< 25%	25 - 35%	> 35%
% of All Females in Total Harvest	> 40%	30 - 40%	< 30%
% of Adult Females in Total Female Harvest	> 55%	45 - 55%	< 45%

Forage Condition Monitoring

Collected annually, this data can be used when projecting reproductive rates, cub survival, vulnerability to harvest, and other factors related to modeling and predicting population trends for the upcoming year. Annual forage condition/mast production surveys are conducted in representative GMUs in DAU B-2. Results of these surveys are incorporated into population modeling efforts, as are mortality, age and gender structure data.

Game Damage & Human Conflict

Levels of submitted game damage claims and documented conflicts between humans and bears will be evaluated on an ongoing basis. In most cases, management efforts will be targeted at individual bears/locations that are involved in these situations. Management actions include a wide array of techniques and strategies that are employed on a case-by-case basis.

In an effort to reduce the high level of game damage and human conflict in the areas adjacent to Colorado Springs while minimizing hunting pressure on public land, CPW personnel are proposing a private land only bear season for B-2. If approved by the Commission, this license would be valid in 58 & 581 or 59 & 511. The license would be valid from September 2 through the end of the 4th combined season for deer and elk (end date varies annually). This would also be a list B license so that a sportsman could hold two bear licenses in a year. The efficacy of this license will be evaluated based on the total number of bears harvested on private land and the reduction in game damage and human conflicts in the area. Since multiple factors likely lead to game damage and human conflicts, CPW personnel will have to monitor the license over the term of this DAU plan.

Management Objectives

The specific total mortality and harvest objectives are based on present information and assumptions about population status and trajectory. These represent starting points in an ongoing process. Annual

changes to mortality and harvest objectives are anticipated based on new information and evaluation of monitored data. Annual quantitative objectives will be documented in DAU objective sheets approved by the Commission during annual regulation cycles.

Using the three different models/techniques to project plausible bear population sizes in B-2 yields the following:

Use/occupancy density model population extrapolation 2011 post-hunt = 930 independent bears
 Conservation Population Model for 2011 = 933 bears (698 independent)
 Liberal Population Model for 2011 = 1,316 bears (973 independent)

For purposes of calculating mortality objectives to correspond with the strategic goal in the DAU, a 2011 presumptive post-hunt population of 930 bears will be used. This is based on the suite of models and extrapolations above and is supported by the ranges provided by those estimates. Overall mortality and hunter harvest objectives will be calculated based on this population projection and application of the harvest criteria that are appropriate for the selected strategic goal.

Mortality Objectives – 3-year running average

Total Mortality Objective

In order to achieve a DAU strategic goal of *decreasing the bear population* in B-2, it is estimated that the average total mortality should be *>120 bears* (until the goal of a moderate reduction is met, then total mortality objective will be 7-13% of population).

Hunter Harvest Objective

Annual hunter harvest objectives are determined by deducting the 3-year running average amount of non-hunter mortality from the total mortality objective. If the strategic goal is to *reduce* the population, then hunter harvest objectives could be adjusted up or down to (presumably) increase or decrease the rate of population growth or decline. Based on a total mortality objective of *>120 bears*, the hunter harvest objective will be *>95 bears* until the goal of a moderate reduction is met.

Age & Gender Structure (harvest composition) in Hunter Harvest Objective

It is estimated that the 3-year running average proportion of age and gender structure in hunter harvest should meet the following criteria:

Harvest Criteria	Strategic Goal	
	Decrease	Stable
% of Adult Males in Total Harvest	< 25%	25 - 35%
% of All Females in Total Harvest	> 40%	30 - 40%
% of Adult Females in Total Female Harvest	> 55%	45 - 55%

Game Damage and Human Conflict Objectives

Standard CPW management techniques will be employed in B-2 to reduce game damage and human conflicts with bears. The application of lethal control to remove conflict individuals will be at the discretion of local field staff and their supervisors. Other methods of non-lethal intervention will be used when warranted.

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APPENDIX A—STAKEHOLDER SURVEYS



**DRAFT BLACK BEAR
MANAGEMENT PLAN
STAKEHOLDER SURVEY**



1. Please describe your interest in black bear management in El Paso, Teller, Pueblo, Fremont, and Park counties (check all that apply) *n=15 responses*

Landowner <u><i>n=10</i></u>	Rancher/Farmer or Operator <u><i>n=5</i></u>	Interested Citizen <u><i>n=3</i></u>
Sportsmen/Hunter <u><i>n=11</i></u>	County Commissioner <u><i>n=0</i></u>	Other <u><i>n=1</i></u>
Business Owner <u><i>n=5</i></u>	Outfitter/Guide <u><i>n=5</i></u>	

2. **Black Bear Population Strategic Goals** (Please select preferred) *n=15 responses*

7 **Stable:** Maintain current bear population numbers. Bear hunting opportunity will likely remain similar to current levels. Small localized bear management areas within the DAU will be managed for reducing bear conflicts.

7 **Reduce the bear population by 15%.** This alternative would require increased bear harvest over 5 years to drive the bear population down 15%; after the desired population level is reached, harvest will be reduced to hold the bear population stable at the reduced level. Small localized bear management areas within the DAU will be managed for reducing bear conflicts.

0 **Reduce the bear population by 25%.** This alternative would require increased bear harvest over 7 years to drive the bear population down 25%; after the desired population level is reached, harvest will be reduced to hold the bear population stable at the reduced level. Small localized bear management areas within the DAU will be managed for reducing bear conflicts.

1 **Other (Please Specify):** *Allow more hunting and raise population of bears*

3. To what extent do you agree with the statement below? (Please check one) *n=15 responses*

I think the Private Land Only List B bear license proposed for Teller and El Paso counties is a good idea.

- Strongly agree *n=12*
- Somewhat agree *n=0*
- Neither agree, nor disagree *n=1*
- Somewhat disagree *n=0*
- Strongly disagree *n=1*
- I am not sure *n=1*

Written Comments to Stakeholder Survey

1	Extend the seasons & reduce the bear population by 25% on the south side of the Arkansas River
2	I think you should look at PLO for 581 and 58 as well
3	Extend List B licenses to public land too. Sportsmen and bear hunters are the best resource to use to achieve objective.
4	As human populations increase, the bear (etc.) population comes into conflict, and the animals are not to blame. It is a sticky situation. The animals deserve to at least have a chance. Good luck!!!
5	<p>It appears the reason not to have higher populations of bears is human contact in urban settings. Having PLO hunts does address this issue. If possible having a system that would allow private property owners to be listed on a website or hang signs like land owners that allow bird hunting out east might help. Many hunters seem “afraid” to ask for permission to hunt on private. Having a “preauthorized” sign hanging would get the hunting pressure to move bears away from the urban population. As was state at the meeting, having more bears and bear sightings in the “forest” would be good. It’s when they raid houses that problems occur.</p> <p>The meeting was good, thank you. If something like the above cannot be worked in as a management practice the PLO hunt seems like the next best thing or the PLO hunt while working in a system like the above.</p>
6	Reduce the human population in bear areas

APPENDIX B—PUBLIC MEETING PRESS RELEASES



News from Colorado Parks and Wildlife

Contact Name: Randy Hampton

Contact Phone: 303-291-7482

INPUT SOUGHT FOR MIDDLE ARKANSAS BEAR MANAGEMENT

COLORADO SPRINGS, Colo. - Colorado Parks and Wildlife is seeking input from the public on the development of bear management plans for hunting units west of Colorado Springs, part of an agency-wide effort to update bear management plans statewide.

During late June and July, Colorado wildlife managers will host public meetings in Colorado Springs, Woodland Park and Canon City to provide information on bear management in Colorado. Managers will be soliciting input on how to maintain healthy bear populations while reducing bear conflicts. The updated plan will apply to Game Management Units in Park, Fremont, Teller, Pueblo and El Paso Counties.

"Colorado's wildlife belongs to all Coloradans," said wildlife biologist Julie Stiver. "We manage wildlife based on science and research, but public input is critical in helping us arrive at the best possible plans. We strongly urge Coloradans to participate in managing their wildlife."

Bear management plans will also consider input from various land management agencies.

At the meetings, members of the public can learn about the current and historic status of black bears around Pikes Peak and areas to the south and west. Wildlife managers will solicit public input on future objectives and management strategies, including trends in population size. Hunting will be the primary tool for meeting agreed-upon population objectives.

For more information, contact Stiver at 719-227-5225 or Julie.Stiver@state.co.us

WHAT: Bear Management Meetings

WHEN: 6 p.m. Wednesday, June 27th

WHERE: Woodland Park Public Library

218 E Midland Ave.

Woodland Park, CO

WHEN: 6 p.m. Thursday, July 5th

WHERE: Colorado Springs CPW Office

4255 Sinton Road

Colorado Springs, CO

WHEN: 6 p.m. Monday, July 9th

WHERE: Canon City Hunter Education Building
Highway 50
Canon City, CO

Colorado Parks and Wildlife was created by the merger of Colorado State Parks and the Colorado Division of Wildlife, two nationally recognized leaders in conservation, outdoor recreation and wildlife management. Colorado Parks and Wildlife manages 42 state parks, all of Colorado's wildlife, more than 300 state wildlife areas and a host of recreational programs.

To learn more about Colorado's state parks, please see: <http://www.parks.state.co.us>.

To learn more about Colorado's wildlife programs, please see: <http://wildlife.state.co.us>.

For more news about Division of Wildlife go to:

<http://wildlife.state.co.us/NewsMedia/PressReleases>

For more information about Division of Wildlife go to: <http://wildlife.state.co.us>.



News from Colorado Parks and Wildlife

Contact Name: Michael Seraphin

Contact Phone: 719-227-5211

BEAR MEETING MOVED FROM WOODLAND PARK TO COLORADO SPRINGS

COLORADO SPRINGS, Colo. - Due to the Waldo Canyon fire and the closure of Hwy. 24, a black bear management meeting previously scheduled for Woodland Park on Wednesday June 27 has been moved from Woodland Park to the Colorado Parks and Wildlife office in Colorado Springs.

During late June and July, Colorado wildlife managers will host public meetings in Colorado Springs and Canon City to provide information on bear management in Colorado. Managers will be soliciting input on how to maintain healthy bear populations while reducing bear conflicts. The updated plan will apply to Game Management Units in Park, Fremont, Teller, Pueblo and El Paso Counties.

"Colorado's wildlife belongs to all Coloradans," said wildlife biologist Julie Stiver. "We manage wildlife based on science and research, but public input is critical in helping us arrive at the best possible plans. We strongly urge Coloradans to participate in managing their wildlife."

Bear management plans will also consider input from various land management agencies.

At the meetings, members of the public can learn about the current and historic status of black bears around Pikes Peak and areas to the south and west. Wildlife managers will solicit public input on future objectives and management strategies, including trends in population size. Hunting will be the primary tool for meeting agreed-upon population objectives.

For more information, contact Stiver at 719-227-5225 or Julie.Stiver@state.co.us

WHAT: Bear Management Meetings

WHEN: 6 p.m. Wednesday, June 27th

WHERE: Colorado Springs CPW Office

4255 Sinton Road

Colorado Springs, CO

WHEN: 6 p.m. Thursday, July 5th

WHERE: Colorado Springs CPW Office

4255 Sinton Road

Colorado Springs, CO

WHEN: 6 p.m. Monday, July 9th
WHERE: Canon City Hunter Education Building
Highway 50
Canon City, CO

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<http://wildlife.state.co.us/NewsMedia/PressReleases>

For more information about Division of Wildlife go to: <http://wildlife.state.co.us>.



News from Colorado Parks and Wildlife

Contact Name: Michael Seraphin
Contact Phone: 719-227-5211

BEAR MANAGEMENT MEETING MONDAY, JULY 9

CAÑON CITY, Colo. - Colorado Parks and Wildlife is seeking public input on the development of bear management plans in the Cañon City area as part of an agency-wide effort to update bear management plans statewide.

Wildlife managers are soliciting input on how to maintain healthy bear populations while reducing bear conflicts. The updated plan will apply to Game Management Units in Park, Fremont, Teller, Pueblo and El Paso Counties.

"Colorado's wildlife belongs to all Coloradans," said wildlife biologist Julie Stiver. "We manage wildlife based on science and research, but public input is critical in helping us arrive at the best possible plans. We strongly urge Coloradans to participate in managing their wildlife."

Bear management plans will also consider input from various land management agencies.

At the meeting, members of the public can learn about the current and historic status of black bears around Pikes Peak and areas to the south and west. Wildlife managers will solicit public input on future objectives and management strategies, including trends in population size. Hunting will be the primary tool for meeting agreed-upon population objectives.

For more information, contact Stiver at 719-227-5225 or Julie.Stiver@state.co.us

WHAT: Bear Management Meetings
WHEN: 6 p.m. Monday, July 9th
WHERE: Canon City Hunter Education Building
Highway 50
Canon City, CO

Colorado Parks and Wildlife was created by the merger of Colorado State Parks and the Colorado Division of Wildlife, two nationally recognized leaders in conservation, outdoor recreation and wildlife management. Colorado Parks and Wildlife manages 42 state parks, all of Colorado's wildlife, more than 300 state wildlife areas and a host of recreational programs.



News from Colorado Parks and Wildlife

Contact Name: Michael Seraphin

Contact Phone: 719-227-5211

WOODLAND PARK BEAR MEETING RE-SCHEDULED

WOODLAND PARK, Colo. - As part of an effort to update bear management plans, Colorado Parks and Wildlife is seeking public input on bear management plans for the Woodland Park area.

Wildlife managers are soliciting input on how to maintain healthy bear populations while reducing bear conflicts. The meeting pertains to bear management plans in Park, Fremont, Teller, Pueblo and El Paso Counties.

The meeting is at 6 p.m. July 24 at the Woodland Park Library.

"Colorado's wildlife belongs to all Coloradans," said wildlife biologist Julie Stiver. "We manage wildlife based on science and research, but public input is critical in helping us arrive at the best possible plans. We strongly urge Coloradans to participate in managing their wildlife."

Final bear management plans will also consider input from various land management agencies.

Citizens who attend the meeting can learn about the current and historic status of black bears around Pikes Peak and areas to the south and west. Wildlife managers will solicit public input on future objectives and management strategies, including trends in population size. Hunting will be the primary tool for meeting agreed-upon population objectives.

For more information, contact Stiver at 719-227-5225 or Julie.Stiver@state.co.us

WHAT: Black Bear Management Meeting

WHEN: 6 p.m., Tuesday, July 24

WHERE: Woodland Park Public Library, 218 E. Midland Ave, Woodland Park

Colorado Parks and Wildlife was created by the merger of Colorado State Parks and the Colorado Division of Wildlife, two nationally recognized leaders in conservation, outdoor recreation and wildlife management. Colorado Parks and Wildlife manages 42 state parks, all of Colorado's wildlife, more than 300 state wildlife areas and a host of recreational programs.

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<http://wildlife.state.co.us/NewsMedia/PressReleases>

For more information about Division of Wildlife go to: <http://wildlife.state.co.us>.

APPENDIX C—WRITTEN FEEDBACK RECEIVED DURING 30-DAY COMMENT PERIOD

From: Tim Wolken
Sent: Friday, September 07, 2012 1:56 PM
To: 'Julie.Stiver@state.co.us'
Cc: Sallie Clark; Kathy Andrew
Subject: FW: El Paso County Bear Management
Afternoon Julie -

Commissioner Clark asked County staff to review the draft bear management plan. Please find comments below and attached. Nice job on the draft and we wish you the best as you proceed. If you have questions, please contact Kathy Andrew.

Thanks -

Tim Wolken, Director
Community Services Department

From: Kathy Andrew
Sent: Friday, September 07, 2012 11:57 AM
To: Tim Wolken
Subject: El Paso County Bear Management
Hi Tim:

Per your request below, both Nancy and I have reviewed the Draft Black Bear Data Analysis Unit Management Plan submitted by Colorado Parks and Wildlife (CPW).

The management models outlined to reduce human and bear interaction in specific areas to prevent human / bear conflicts appear reasonable. While the citizens of El Paso County enjoy the close proximity that our community has to the natural world, high levels of human-bear conflict are not good for either species and therefore El Paso County agrees that management decisions regarding suppression and control are necessary and appropriate. The CPW's preferred alternative #1 of 15% population suppression through land management activities and other conditioning techniques seems to be a rational, sensible, achievable approach.

Based upon the level of skill, knowledge and professionalism that the CPW consistently exhibits, El Paso County is comfortable with the control measures

and recommendations set forth in the plan. El Paso County commends CPW on their exemplary job of managing Colorado's wildlife.

On another note: While reading the material, several typographical errors were noted which are redlined in the attached for your consideration.

Thank you for allowing us to comment,

Kathy Andrew

Environmental Division Manager
El Paso County Community Services Department
3255 Akers Drive
Colorado Springs, CO 80923
719-520-7879 P
719-520-7827 F
719-331-3226 C

From: Tim Wolken
Sent: Tuesday, August 21, 2012 9:55 AM
To: Kathy Andrew
Subject: FW: El Paso County Bear Management

Morning Kathy -

I would appreciate if your staff can review and prepare draft comments by September 7.

Thanks -

Tim

From: Sallie Clark
Sent: Tuesday, August 21, 2012 9:35 AM
To: Tim Wolken
Subject: Fwd: El Paso County Bear Management
Be interested what you think about this.

Sent from my iPhone

Begin forwarded message:

From: "Stiver, Julie" <Julie.Stiver@state.co.us>
Date: August 21, 2012 9:32:23 AM MDT
To: Sallie Clark <sallieclark@elpasoco.com>
Subject: El Paso County Bear Management

Dear Commissioner Clark:

Colorado Parks and Wildlife is seeking input on the management of bears in portions of El Paso County west of I-25. I have attached a copy of our draft management plan for your review. The plan, along with more information about our planning process, can also be found on our website:

<http://wildlife.state.co.us/Hunting/BigGame/HerdManagementDAUPlans/Pages/HerdManagementDAUPlans.aspx>

We will be accepting comments through September 14, 2012. Please let me know if you have any questions or need additional information. Thank you.

Sincerely,
Julie Stiver

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