

BLACK BEAR POPULATION MANAGEMENT PLAN FOR DATA ANALYSIS UNIT B-11

EXECUTIVE SUMMARY

GMUs: 35, 36, 43, 44, 45, 47, 361, 444, and 471 (Pitkin, Eagle, Garfield, Gunnison, and Grand counties)

Land Ownership: 63% USFS, 22% Private, 14% BLM, 1% State, <1% Local municipalities/Land trust/Non-governmental organization

Current Population Objective: Provisional since 2010: Decrease the bear population.

Current Mortality Objectives: Provisional since 2010: 80 harvested bears; 110 total bear mortalities.

Preferred New Strategic Goal: Stable bear population trend and no increase in human-bear conflicts: CPW will manage the B-11 bear population within the stable ranges of the age-sex harvest composition indices and total mortality rates. Continuing efforts will be made to engage communities in Bear Aware education and to encourage local governments to implement and strictly enforce ordinances aimed at minimizing bear attractants. To allow a few years for communities to work on education and enforcement strategies, starting in the 5th year of implementation of this management plan, we will examine whether these strategies are effective based on the number of human-bear conflicts. If human-bear conflicts have increased beyond a 3-year average of 450 conflict incidents per year, then the management strategy will transition to bear population reduction through increased harvest. (If a change in strategy is needed, the CO Parks and Wildlife Commission and public would be notified of the change in management strategy through our annual Chapter W-2 revision or license setting process). Under the current estimated population size of 1,040 bears, a stable population strategy can be achieved through annual total mortality of 104-156, which includes hunter harvest of 70-122 bears. License quotas are expected to remain similar to current levels.

BACKGROUND

Black bear Data Analysis Unit (DAU) B-11 is located in the Roaring Fork and Eagle River valleys, including the Frying Pan River, Crystal River, Homestake, Brush, Gypsum, and Gore Creeks, and also includes part of the Colorado River watershed. The DAU includes Pitkin County, most of Eagle County, and portions of Garfield, Gunnison, and Grand Counties. The Game Management Units (GMUs) in B-11 are 35, 36, 43, 44, 45, 47, 361, 444, and 471. Major towns in the DAU include Aspen, Snowmass Village, Basalt, Carbondale, Glenwood Springs, Gypsum, Eagle, Edwards, Avon, and Vail. B-11 covers approximately 7,400 square kilometers (1.83 million acres) of land, managed by various government agencies and private landowners. Nearly four-fifths of the DAU is public land.

Annual bear mortality in B-11 has been increasing over the past 2 decades. The 10-year average of annual bear mortality is 118 bears/year, and the 3-year average is 135 bears/year. Conflicts between bears and humans are frequent, especially when natural foods are scarce and when garbage and other human-related attractants are readily available. These conflicts are the combined result of increases in both bear and human populations over the past several decades, increased availability of human-related food sources, and more frequent poor natural food years. In B-11, bear conflict years are now the “new normal.”

Harvest has also increased since 2010 when license quotas were increased. The current 10-year average annual harvest mortality is 80 bears, and the current 3-year average is 100 harvested bears. Among methods of take, the September rifle season contributes the most (76%) toward total annual harvest.

CPW uses the age and sex composition of harvested bears as an indicator of population trajectory. Over the most recent 3 years (2017-2019) of available data, the age and sex composition of the harvest has averaged: (a) 20% adult male in the total harvest, (b) 40% female in the total harvest, and (c) 49% adult female in the female portion of harvest. Overall, the trend since 2010 in these age-sex composition indices considered altogether points toward a population trajectory that is relatively stable.

A suite of 4 habitat and population models was developed to estimate the bear population size in the unit. Because the population size of black bears is challenging to accurately measure, the model estimates of

population vary widely, from ~600 to ~1,400 bears, depending on the assumptions within each model. For the purposes of establishing management guidelines and objectives, we averaged the 4 models, yielding an estimate of 1,040 adult and subadult bears as the current presumed population size.

SIGNIFICANT ISSUES

The most significant issue regarding bear management in B-11 is managing conflicts between bears and people. These conflicts generally involve bears feeding on trash, entering and damaging houses and vehicles, or killing livestock. On rare occasions, direct contact between bears and humans has resulted in human injuries. Conflicts are common in most towns within the DAU, especially during poor natural food years. Trash ordinances have been adopted by many towns and counties in B-11 and have had varied success at reducing available anthropogenic foods. In reality, however, trash continues to be a problem in many communities due to poor compliance with trash ordinances. In 8 of the last 15 years, B-11 has had unprecedentedly high human-bear conflicts, which have exceeded CPW field staff's time and resources to reasonably handle.

The cost of bear-related game damage claims in B-11 between 2002-2017 averaged \$26,633 per year. Domestic sheep kills were the overwhelming majority of claims. Landowner-caused bear mortalities account for 15-20% of total non-harvest bear mortalities, but there is no clear correlation between fall forage quality and the number of landowner-caused mortalities.

These bear management issues and the approaches needed to address them are complex and multifaceted. The structure of a Bear Population Management Plan focuses primarily on one specific tool, hunting, out of a suite of tools, including education, enforcement, and habitat modification, that can also be used to manage conflicts. This plan provides harvest-related monitoring structures along with strategic goal alternatives to manage the bear population size and human-bear conflicts in B-11. However, the types of conflicts that occur between people and bears often require more than simple changes in licensing or hunting structure in order to completely resolve the problem. Preventing human-bear conflicts by removing attractants for bears is critical to addressing the source of the conflicts, rather than only dealing with the later consequences through lethal removal of bears. Active and consistent involvement by residents and businesses in the communities, trash companies, HOAs, local governments, and federal land management agencies to substantially reduce and ideally eliminate the availability of human food sources for bears is needed to truly and effectively resolve these bear management issues.

PREFERRED MANAGEMENT STRATEGY

The top management priority in DAU B-11 is to reduce conflicts between humans and bears. In addition, the quality of bear hunting experience and the persistence of a sustainable bear population are additional priorities after human-bear conflict management. **Importantly, without significantly reducing trash and other human-associated attractants, human-bear conflicts will likely continue. CPW's management authority (and therefore this bear management plan) only directly covers management of wildlife, so it is incumbent upon municipalities, residents and other stakeholders to collaboratively address the human behaviors and activities which in turn affect bears' foraging patterns.**

We considered two alternatives for future strategic goals for B-11's bear population: Alternative 1 would manage for a stable bear population and no increase in human-bear conflicts, and Alternative 2 would prescribe a reduction in the bear population through increased harvest until a 50% decrease in human-bear conflicts is achieved. The preferred management strategy that CPW staff is recommending blends the two alternatives, starting with the approaches outlined in Alternative 1 to maintain the current bear population size and to avoid an increase in conflicts. If human-bear conflicts increase, however, the management strategy would shift to Alternative 2 and the CO Parks and Wildlife Commission and public would be notified of the change in management strategy through our annual Chapter W-2 revision or license setting process.

Alternative 1: Stable population trend with social metric threshold

Under Alternative 1, B-11 would be managed for a stable bear population trajectory and for no increase in human-bear conflicts. A decrease in human-bear conflicts is desired and CPW will continue to work

with communities to educate residents and visitors on Bear Aware practices, and encourage municipal and county authorities to strictly enforce trash ordinances. To allow a few years for communities to work on education and enforcement strategies, starting in the 5th year of implementation of this management plan, we will examine whether these strategies are effective based on the number of human-bear conflicts. If human-bear conflicts have increased beyond a 3-year average of 450 conflicts per year, then the management strategy for B-11 would be changed to a bear population reduction strategy by increasing harvest, as described in Alternative 2.

The trend in 3-year averages of age/sex composition of the harvest should be consistent with that of a stable population:

- (a) proportion of adult males in the harvest within 25-35%,
- (b) total females at 30-40% of total harvest,
- (c) adult females at 45-55% of the female harvest.

The total mortality rate as a proportion of the population should fall in the 10-15% range. Based on the current population estimate in B-11 of 1,040 bears, total mortality needed to maintain a stable population is 104-156 total bear mortalities per year. Deducting the current 3-year average non-harvest human-caused mortality of 34 mortalities from the total mortality objective, the harvest objective should be 70-122 harvested bears per year.

CPW will continue to work with local municipalities, communities, and trash companies to emphasize both Bear Aware information and education, as well as enforcement of trash ordinances and other regulations aimed at reducing or prohibiting artificial food sources available to bears. Funding for efforts to reduce human-bear conflicts will be instrumental. Internal CPW funds have been allocated to address human-bear conflicts in B-11, but additional matching funds from local governments and organizations will also be necessary to affect change on a scale significant enough to positively influence outcomes.

In the 5th year of this plan, if the number of human-bear incidents (based on incidents logged in CPW's Wildlife Incidents App that are classified as conflicts) exceeds a 3-year average of 450 conflicts/year, then the management strategy would shift to a bear population reduction objective through increased harvest (as described in Alternative 2).

Under Alternative 1, opportunities to obtain a bear license would remain under a limited license structure and license quotas would remain similar to those of recent years. Unless communities are successful at securing trash and other human food sources, human-bear conflicts would likely continue to be high in years of poor natural foods. Vehicle collisions with bears and game damage would also remain similar to current levels, assuming a stable bear population.

Alternative 2: Decreasing population trend with social metric thresholds

B-11 would be managed for a decreasing population trend until social metrics show a reduction in human-bear conflicts of at least 50% over a running 3-year average, or until harvest composition indices indicate 3 consecutive years of declining population, at which time CPW would conduct a survey of B-11 bear hunters to assess hunter satisfaction. (See main text for further details.)

CPW's primary tool to manage the overall bear population size is through regulating the amount of harvest, but the agency does not have authority over enforcing people to secure their garbage. **As observed in other communities in the U.S. and Canada dealing with human-bear conflicts, a meaningful reduction in conflicts only occurs when human-source foods are made unavailable to bears. CPW strongly encourages people to follow bear-proofing guidelines and supports strict enforcement by local law enforcement authorities of ordinances to secure garbage and other attractants.**