

YES-Population Management Subgroup Report

Theme 1: Harvest focused away from park boundaries in areas where human bear conflicts are prevalent.

Originated by: NPS

Is the Theme necessary to update the CS based on changes that have occurred in the science, delisting framework or to improve the strategy? None of the above

Is this item relevant to the Conservation Strategy or should it be addressed somewhere else? Not relevant to the CS. This is partially addressed in State Grizzly Management Plans and Tri-State MOA

Additional time required by sub-group to address theme: No further time needed.

Notes: NPS would like to be included in discussions about hunter harvest outside of NPS land and avoid harvest adjacent to NPS boundaries.

Written comments from NPS to Wyoming: 'The NPS recognizes and appreciates that the WGBMP identifies a number of management actions that would support the overall objective of focusing harvests away from park boundaries, and acknowledges the state would *"apply more conservative management policies within portions of the [Primary Conservation Area] PCA outside of national parks to assure demographic distribution criteria"* (page 10). However, we request the plan affirmatively state that Wyoming supports an approach of focusing bear harvests away from park boundaries and would work to integrate such an approach in future management actions.'

"The NPS requests that the WGBMP more affirmatively state that human-bear conflict areas would be used as a primary consideration in identifying hunting areas and establishing hunting objectives."

NPS expressed to subgroup they would like the intent of the states to be recorded-how will hunting be directed away from the park? Forest Service stated there are areas within FS jurisdiction that may become sensitive in terms of hunting acceptance by the public and would like to have the opportunity to discuss these situations/areas with state agencies annually. States explained they have identified strategies to manage discretionary mortality in state management plans and the Tri-State MOA. The MOA commits state agencies to discuss these issues with NPS and USFS on an annual basis (see below).

- Draft 2016 CS-The CS has few references to hunting but does support management of grizzly bears as game animals ("allowing hunting when and where appropriate"- page 3) and reference hunting of nuisance bears on page 93; "Outside of national parks, individual nuisance bears deemed appropriate for removal may be taken by a legal hunter in compliance with rules and regulations promulgated by the appropriate state wildlife agency commission, as long as such taking is in compliance with existing state and federal laws, and as long as mortality limits specified for the GYE as described in this CS are not exceeded."
- State Management Plans do not identify strategies to focus bear harvest away from NPS lands (except WYO page 10), but each state plan contains language regarding focusing hunting in areas where conflicts may be reduced. In some cases this can be in areas adjacent to the park (i.e. Gardiner Area).

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- The Tri-State MOA describes how discretionary mortality will be calculated and allocated within the DMA, and how states will coordinate with other agencies annually. “The Parties will confer with the NPS and USFS annually. The parties will invite representatives of both GYE National Parks, the NPS regional office and GYE USFS Forest Supervisors to attend the annual meeting “(page 6).

Theme 1 Recommendation: This discussion does not impact the CS. The annual coordination commitment to discuss issues on monitoring and discretionary mortality management (includes hunting when seasons are authorized) is important to USFS, NPS, and State agency representatives. However, NPS remains concerned about hunting that may occur adjacent to NPS lands and wants a commitment from state agencies that hunting will be focused away from parklands. States cannot make such a commitment but welcome input from NPS. Decisions regarding harvest outside of the Parks are the purview of the states. This issue requires additional discussions between NPS, USFS, and State F&G agency leadership.

Theme 2: Hunting will not be permitted in the John D Rockefeller, Jr. Memorial Parkway (JODR)

Originated by: NPS

Is the Theme necessary to update the CS based on changes that have occurred in the science, delisting framework or to improve the strategy? None of the above

Is this item relevant to the Conservation Strategy or should it be addressed somewhere else? Not relevant to the CS. This is addressed by a state agency during their big game season setting process. Areas open or closed are designated by the commission and identified in the hunting regulations.

Additional time required by sub-group to address theme: No further time needed

Notes: The Wyoming Game and Fish Commission (WGFC) has ultimate authority and discretion for the establishment of take seasons in Wyoming including lands within the JODR. The Commission has both allowed and restricted hunting in this area previously (i.e. wolf hunting was not allowed in JODR). The decision to allow or restrict hunting in JODR will be made during the season setting process as the commission considers the biological and social aspects of a department proposal. NPS is opposed to grizzly bear hunting in the JODR and submitted comments to Wyoming in opposition during the public comment period for the Wyoming management plan revision and also to the Service for the proposed delisting rule. As described in the previous issue, States will confer with the NPS annually to discuss issues with monitoring and management. Additionally, Wyoming will conduct open public meetings prior to setting a future grizzly bear season.

Theme 2 Recommendation: This discussion does not impact the CS. Any restrictions regarding harvest management of grizzly bears in the JODR would be addressed through WGF Commission Regulation.

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Theme 3: If a new estimator other than Chao 2 is used in the future, the states will recalibrate the population thresholds and proportions of allocated hunter harvest based on the estimates provided by the new model in comparison to Chao 2.

Originated by: NPS and States

Is the Theme necessary to update the CS based on changes that have occurred in the science, delisting framework or to improve the strategy? The theme is necessary based on changes that have occurred in the science (i.e. 2012 Updated Demographics Rates Document).

Is this item relevant to the Conservation Strategy or should it be addressed somewhere else? Yes this theme appears in Appendix C-Calculation of Total Population Size and Mortality limits.

Additional time required by sub-group to address theme: No additional time is necessary.

Notes: The NPS would like to recalculate sustainable mortality rates based on new population estimates if/when new population estimators are proposed by the IGBST and approved by YGCC. This proposal could in effect establish new minimum required numbers of females with cubs of the year, independent females, and independent male bears. The Chao 2 estimator is well known to provide conservative bear numbers.

Calculation of Total Population Size and Mortality Limits (for GYE grizzly bears) is described in Appendix C of the CS and has been updated in the 2016 Draft. The Service stated that Appendix C was rewritten by the IGBST staff based on new demographic analyses reported in the Updated Demographics Rates Document (IGBST 2012).

This theme is addressed in new language (2016 Draft) that has been inserted on page 2 of Appendix C (paragraph 2). This language is supported by NPS as written. However, the three state fish and game agencies do not support this new language and requested that the recalibration reference be removed from Appendix C.

The states believe it is not adaptive-it holds future management to a period of time regardless of new information and conditions in the future. The second concern has been about the utility of a new estimator; it must detect trends as good as the current estimator, and it must be able to back calculate estimates during 2002-2014. There is no new estimator able to do this at this time. Lastly, recovery criteria should not automatically be reset based on a change in monitoring technique.

The states do support the YGBCC process to make changes to monitoring methods and the CS as described on page 2 (paragraph 1) of Appendix C. Members of the subgroup discussed the importance of the YBCC process that is required to change monitoring methods and want to clarify that (1) changes to monitoring methods include adoption of alternative population estimation methods, and (2) analysis from the Study Team is required in this process.

Theme 3 Recommendation: This discussion does impact the CS. The group recommends adding clarifying language to paragraph 1 and deletion of paragraph 2 (pages 1-2) of Appendix C as follows:

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The IGBST will use the protocol described in this Appendix to annually estimate population size within the Demographic Monitoring Area (DMA), and then set mortality limits inside the DMA for the following year based on the sliding scale in Table 1. Methods used in this protocol are described in the Reassessing Methods Document (IGBST 2005), summarized in the Supplement to the Reassessing Methods Document (IGBST 2006), and revised in the Updated Demographics Rates Document (IGBST 2012). Any change in the methods described below, or adoption of an alternative population estimation method, would be considered a change to the Conservation Strategy and would be developed and/or evaluated by the IGBST, and revised through the Yellowstone Grizzly Bear Coordinating Committee process with the requirement that any proposed changes: 1) be based upon the best available science; and 2) go through public review before they are accepted, as per p. 99 of this Conservation Strategy.

~~The population goal is set for the average population size 2002–2014 inside the DMA. The current and approved method to estimate population size in the DMA uses the model-averaged Chao2 estimator. If another population estimator was adopted as per the Conservation Strategy procedures described above, this new population estimator will be applied to the 2002–2014 data to estimate the average population size 2002–2014. The new population estimate results would be inserted in Table 1 to reset the population size numbers with the same sliding scale, with the intent to maintain the population goal of the average population size 2002–2014. If a review of the vital rate data by the IGBST (similar to that in the 2012 report) resulted in new mortality rate for a sustainable population at the 2002–2014 average population size, then the new sustainable mortality rate for the average 2002–2014 population size would replace the 7.6% for independent females and dependent young in Table 1. Any such change would be considered a change to the Conservation Strategy and would be revised through the Yellowstone Grizzly Bear Coordinating Committee process, which requires that any proposed changes: 1) be based upon the best available science; and 2) go through public review before they are accepted, as per p. 99 of this Conservation Strategy.~~

Theme 4: Harvest will be based on the number of grizzly bears available to be hunted outside of NPS units rather than the entire population.

- 21% of DMA are NPS managed units
- 39% of PCA are NPS managed units, and stated as "secure habitat" in the conservation strategy. What does "secure habitat" mean?

Originated by: NPS

Is the Theme necessary to update the CS based on changes that have occurred in the science, delisting framework or to improve the strategy? No

Is this item relevant to the Conservation Strategy or should it be addressed somewhere else?

Allocation of total discretionary mortality is appropriate for the Tri-State MOA.

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Additional time required by sub-group to address theme: No additional time is necessary-this topic will be elevated to the Steering Committee.

Notes:

The theme as stated involves two issues; (1) Allocation of total allowable mortality within the DMA, and (2) what does hunting mean to “secure habitat” in the PCA

NPS would like 21% of the total allowable discretionary mortality for the DMA assigned to NPS lands and not available for discretionary mortality management outside NPS lands. NPS states that by reducing the total allowable mortality outside of NPS lands, bears will continue to expand outside of the PCA (this also relates to Theme 1). This may also assist with connectivity to NCDE.

The 1993 Recovery Plan demographic recovery criteria focused on the PCA and a 10-mile perimeter, and grizzly bear expansion outside of the PCA has occurred to the point that the bear population has reached carrying capacity throughout the suitable habitat (DMA). The Demographic Monitoring Area approach intends to manage the entire GYE population as a whole regardless of landownership.

The Tri-State MOA does not allocate discretionary mortality to NPS but does combine all mortalities that occur within NPS lands (and across the DMA) when calculating the total allowable discretionary mortality for the DMA the following year. The MOA identifies adjustable mortality rates to manage human-caused mortality throughout the DMA to levels that will sustain a population range based on the 2002-2014 model-averaged Chao2 population estimate and above recovery criteria.

Secure habitat is defined in the CS (page 62) on the basis of habitat and not population management parameters. Secure habitat for grizzly bears is therefore blocks of habitat equal to or greater than 10 acres that are more than 500 meters from an open or gated road. One subgroup member asked if it would improve the CS if regulated hunting was added as an activity allowed in the PCA to the existing bullet list on page 64.

Theme 4 Recommendation: This discussion does not impact the CS. The group defers this issue to the Steering Committee at the request of YNP Superintendent Dan Wenk

Theme 5 & 6: Concern about FCOY being set at 48 – does this limit flexibility of managers; Secondly, if a new method is used to estimate population, does FCOY number change? Needs to be clear what happens to all of the metrics if we move to a new methodology

Originated by: County Commissioners

Is the Theme necessary to update the CS based on changes that have occurred in the science, delisting framework or to improve the strategy? Yes

Is this item relevant to the Conservation Strategy or should it be addressed somewhere else? Yes this theme appears in Chapter 2-Population Standards and Monitoring of the Conservation Strategy and Appendix C-Calculation of Total Population Size and Mortality limits.

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Additional time required by sub-group to address theme: No additional time is necessary

Notes: Dan Thompson, Jennifer Fortin-Noreus , and Frank Van Mannen drafted edits for the group to review and discuss relating to FCOY, females with cubs, and females with young. The group had a conference call to discuss the science and policy issues related to the proposed edits.

In the Conservation Strategy, most of the proposed edits are minor and found in Chapter 2, pages 33-51. These clarify that when monitoring the population size and trend, counting females with cubs-of-the-year (as opposed to cubs) is the standard protocol. This monitoring protocol relates to recovery criterion 1, and to avoid making any major change to the Conservation Strategy that may become inconsistent with other documents, we simply added one sentence on page 35 for clarification purposes:

The 48 females with cubs metric is a model-averaged number of documented unduplicated females with cubs-of-the-year (see Monitoring Protocol section).

There is also a technical correction needed to Demographic Recovery Criterion 1 on page 35, correct to “~~two~~ three consecutive years.”

The group also received a proposed replacement to figure 3 (page 38) that helps convey the difference between raw observations of unduplicated females with cub-of-the-year and model-averaged unduplicated females with cubs-of-the-year. This would replace the previous figure that illustrated the sightings and resightings of unduplicated females with cubs-of-the-year within and outside of the DMA.

Lastly, there are no changes to Appendix C that are necessary to clarify the monitoring protocol. However, there is a technical correction needed in step 20, correct to “~~two~~ three consecutive years.”

Theme 5 & 6 Recommendation: The subgroup recommends making the proposed edits as seen in the attached document (in track changes-pages 6, 22, 33, 34, 35, 37, 38, 39, 40, 51). This includes replacing Figure 3 with the following figure. This figure does need a better figure title. Lastly, Appendix C needs a correction to step 20.

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