2 August 2016

Bulleted summary of peer review and public comments, organized into issues

Green = agency and public comment
Blue = peer review
Purple = both public comment and peer review

GYE Grizzly Bears Recovery Criteria and management objectives

- **ISSUE:** There is confusion about whether the population objective is 500, 600, or 674 and concern that large declines in the population would be allowed.

Measurement of and interpretation of population parameters

- **ISSUE:** Adoption of a new population estimator and method (rather than Chao2)
  - Any new population estimation method needs to be calibrated to ensure long-term comparability of data. Harvest levels should not increase in light of a new, less biased estimator.
- **ISSUE:** General lack of trust in the science and analysis
- **ISSUE:** Issues regarding Chao2, population estimate, and population trend:
  - Need to provide more details on how the methods are implemented, the model assumptions, biases, and all of the variables that factor into the models.
- **ISSUE:** Concerns with how mortality measured and current levels of human-caused mortality.
- **ISSUE:** Concerns about our detection and interpretation of trends in vital rates
- **ISSUE:** Concerns about adequacy of our discussion of carrying capacity.
- **ISSUE:** Density-dependence or density-independence: concerns about claims in trends in bear density and density-dependent effects.

Human-caused mortality

- **ISSUE:** Concerns about the boundaries of hunting activities (where hunting will be allowed to occur):
  - Misconception that there will be no hunting in the PCA.
  - Concerns that there shouldn't be hunting inside the PCA, inside the DMA, in connectivity areas, at food aggregate sites (i.e., moth sites).
- **ISSUE:** Concerns and confusion about proposed mortality limits:
  - What is the biological basis for mortality limits of >7.6% for independent females? Need scientific justification for the mortality limits and modeling of the ability to detect the population trend under managed population decline.
  - The uncertainty (i.e., confidence intervals) around the mortality limits should be provided and included in the mortality limit thresholds.
  - The rule provides definitions and example calculations not included in the CS that should be included for clarity (i.e., total mortality, background mortality, discretionary mortality, Table 3 and subsequent 3 paragraphs)

- **ISSUE:** Other concerns with human-caused mortality: mistaken identification, incidental take from trapping of other species, poaching, trafficking of grizzly bear parts, the use of bear spray by hunters.

Genetic health

- **ISSUE:** Concerns about our analysis of genetic viability: short-term versus long-term genetic viability, 50/500 is outdated science, fitness consequences of genetic loss, natural dispersal versus potential transplantation

Habitat management

- **ISSUE:** Concerns about how we defined "suitable habitat" and what is included/excluded in suitable habitat.
- **ISSUE:** Concerns about how we defined secure habitat and the scientific basis for the definition.
- **ISSUE:** Concerns about use and development in secure habitat (inside and outside the PCA), including livestock allotments, oil, gas, and mineral projects, logging, private lands, and increases in other human recreation.
- **ISSUE:** Concerns about our use of the 1998 baseline and if everyone is in compliance.
- **ISSUE:** Concerns with adequacy of our discussion of habitat connectivity:
  - The current CS discussion is limited to road construction.
  - Suggestions regarding measurement/monitoring of connectivity using genetic sampling.
  - Commenters and peer reviewers emphasize the importance of facilitating connectivity and concerns about lack of effective plans for facilitating connectivity.
- **ISSUE:** Concerns about our discussion of habitat fragmentation → when you consider all the sources of fragmentation together (i.e. private land, livestock allotments, logging, energy development etc.), fragmentation becomes more of an issue

Food resources

- **ISSUE:** Need additional monitoring and analysis of food sources in addition to the four high-caloric foods: vital rates, body condition, carrying capacity.
- **ISSUE:** Army cutworm moths: changes in availability and use, impacts of climate change, bear use may not be a good indicator of relative abundance of moths.
- **ISSUE:** Cutthroat trout have declined and bears have used elk instead, questions about disparity in the conclusions of previous research.
- **ISSUE:** Whitebark pine (WBP): decline is a bigger threat than acknowledged.
- **ISSUE:** Ungulates: decline is a bigger threat than acknowledged, increased meat use by females has led to a decline in cub and yearling survival rates, increased conflicts with livestock and hunters.

Other potential factors

- **ISSUE:** Role of YGCC

  - What is the role of the YGCC in sponsoring and approving changes to the 2016 CS? Discrepancy in language between the PR and the CS.
  - Question the functionality of YES/YGCC
- **ISSUE:** Concerns about our discussion of interpretation and education, need to increase I&E effort, incorporate modern media

Adequate regulatory mechanisms and post-delisting monitoring

- **ISSUE:** All language should firm: remove will, anticipated, expect, etc. (are we firm and committed to doing this or are we leaving the option open?)
- **ISSUE:** Though the adaptive strategies outlined in this document will address many of the management challenges, I encourage an adaptive process to the plan itself, through periodic assessment and revision as warranted, to ensure any unanticipated mechanisms affecting population-level outcomes are addressed.
- **ISSUE:** Need increased detail in all aspect of the plans, including habitat, food, and self-defense kills
- **ISSUE:** Who is responsible for tasks, preparation, and what is the timetable for completion
- **ISSUE:** What can we consider as an adequate regulatory mechanism?
  - State plans, regulations, and the MOA must be finalized to a final rule. MOAs and management plans cannot be considered adequate regulatory mechanisms.
  - The 2006 FS plan no longer represents the best available science and the rule says "the amendments to the GYE National Forest Land Management Plans would become effective if, and when, delisting is finalized". Therefore, the FS doesn't currently have regulatory mechanisms to exhibit adequate regulatory mechanisms.
  - YNP incorporated the 2007 CS into its compendium and do not reflect the revised CS and are therefore insufficient. GTNP "will incorporate grizzly bear management standards into their 2016 Superintendent's Compendium" reads as if it'll include the 2007 CS and not the revised CS.
- **ISSUE:** Concerns about adequacy of state management plans and their ability to appropriately manage grizzlies
- **ISSUE:** Concerns about adequacy of funding for implementation
- **ISSUE:** Concerns about standardized management of conflict bears
- **ISSUE:** Concerns about the triggers for Service status review: potential lag effect, additional triggers proposed.
- **ISSUE:** Concerns about triggers for IGBST review
  - Should occur every 5 years.
  - The timeframe for completion of an IGBST Biology and Monitoring review needs to be stated and a time period for a remedy to the issue.
- **ISSUE:** Concerns about limiting monitoring to the DMA
- **ISSUE:** Concerns about the Service's authority: potential overreach and post-delisting role
- **ISSUE:** Implementation period of the Conservation Strategy
- **ISSUE:** Additional clarification to add to the Conservation Strategy

  - The Service should clarify in the preamble that the 2016 Conservation change will evolve with new science. Clarify when referring to the document reviewing now as the 2016 versus a future version of the document.
  - Clarify that the CS is a cooperative agreement and that the Service's role is not to oversee management but evaluate the five factors under the ESA should it be necessary.
- **ISSUE:** No mention of BLM's sensitive species program, its requirements, and how grizzly bears will be classified for planning and management purposes on those lands post-delisting

Forest Service specific issues:

- **ISSUE**: Forest Service designation of "sensitive species" or "species of conservation concern".
- **ISSUE**: Clarification needed for wilderness, wilderness study areas, and roadless area designations
- **ISSUE**: Forest Service plans and implementation: how does the 2012 Planning Rule affect implementation? How will the previous 2006 Amendment be "reactivated" and updated?

MOA issues

- **ISSUE**: Needs to be consistent with the 2016 Conservation Strategy and provide more details than it currently does.