

Responses to Comments Received on the DRAFT CONSERVATION STRATEGY

The purpose of the Conservation Strategy and the State plans are to “describe and summarize the coordinated efforts to manage the grizzly bear population and its habitat to ensure continued conservation in the GYA [Greater Yellowstone Area]; specify the population, habitat, and nuisance bear standards to maintain a recovered grizzly bear population for the foreseeable future; document the regulatory mechanisms and legal authorities, policies, management, and monitoring programs that exist to maintain the recovered grizzly bear population; and document the commitment of the participating agencies” (U.S. Fish and Wildlife Service 2007, p. 5). The Draft Conservation Strategy was available for public comment from March 2, 2000 (65 FR 11340) until June 1, 2000. We received 16,794 comments about the Draft Conservation Strategy and published a summary of public comments in October 2000 (available online at <http://www.fs.fed.us/r1/wildlife/igbc/Subcommittee/yes/cs/ContentAnalysis/Summary.htm>). The Conservation Strategy also underwent peer review, copies of which are available in the Administrative Record. We considered all comments received and summarize them below. Groups of similar concerns are categorized together under “Issues”, followed by our “Response” to each.

A. General Comments.

Issue 1: Several commenters requested more State management and discretion. Specifically, the governors of Montana, Idaho, and Wyoming that participated in the Governor’s Roundtable felt that “Decisions in the CS [Conservation Strategy] should be limited to results of monitoring within the PCA unless monitoring under State plans outside the PCA indicates the need for management review and action either inside or outside the PCA.” Some commenters felt it gave the Interagency Grizzly Bear Committee too much control over the PCA.

Response: The Service has determined that monitoring the Yellowstone grizzly bear population as a single population is the best option to assure the future of the population. This means that data from both inside and outside the PCA will be used to guide management decisions. Mortalities of grizzly bears will also be counted on an ecosystem-wide basis in all grizzly bear management areas (U.S. Fish and Wildlife Service 2007, p. 19) to ensure that peripheral mortality does not exceed the sustainable limits for the entire population. Upon delisting and implementation of the Conservation Strategy, the signatories will be responsible for implementing it and all management decisions pertaining to grizzly bear management in the GYA.

Issue 2: Comments calling for corrections to the Conservation Strategy ranged from extremely technical suggestions to changes in wording to questions of defining statements, theories and reports. For example, some commenters suggested that the Service define “grizzly bear/human conflict” and “relocation”.

Response: We have updated the Draft Conservation Strategy to include definitions of several words that are commonly used among bear managers but rarely defined

Issue 3: Numerous commenters were confused and frustrated with the acronyms used throughout the document. They thought there were too many undefined acronyms (YEA, CIS, etc.).

Response: We changed our use of YEA (Yellowstone Ecosystem Area) to the more familiar GYA (Greater Yellowstone Area) and dropped the use of uncommonly used acronyms wherever possible.

Issue 4: Many requested that maps be included with the Conservation Strategy for accuracy in locating the PCA boundary and the surrounding 10-mile buffer zone.

Response: The Service added several maps to the Final Conservation Strategy that will help the reader understand where boundaries occur relative to major highways and cities (see U.S. Fish and Wildlife Service 2007, pp. 18-19).

Issue 5: Several commenters requested that the Final Conservation Strategy explicitly state what actions will be taken and by whom to limit grizzly bear mortality and conflicts and to monitor habitat and population data. Some commenters suggested that the Service eliminate vague language like “Encourage management of carcasses...” and “allotments will be phased out.”

Response: The Final Conservation Strategy is meant to be a document that will guide the coordination and implementation of grizzly bear management in the GYA if delisting occurs. It is a dynamic document that provides a framework within which management decisions can be made but it does not attempt to give specific direction to be followed in every case. As such, we were as explicit as possible while providing some flexibility to managers that have a better understanding of the various circumstances surrounding specific situations. The Final Conservation Strategy clearly identifies which agencies will be responsible for the various management and monitoring actions. Appendix H of the Final Conservation Strategy reports estimates of the annual costs anticipated by management agencies for the various tasks associated with grizzly bear management (U.S. Fish and Wildlife Service 2007, p. 154).

Issue 6: Many people criticized the management strategy, the data, and the models we used. These critics usually suggested other biologists or scientists they saw as having more credible, up-to-date data that merits consideration. Another letter suggested that the Service work directly with Merrill to incorporate his results into the Conservation Strategy, the habitat-based recovery criteria, and the Grizzly Bear Recovery Plan and incorporate the conclusions of Brook et al. (2000, p. 386) about the validity and accuracy of Population Viability Analyses.

Response: The work of the investigators mentioned certainly constitutes an important contribution to understanding the management of small populations. Brook et al. (2000,

p. 386) demonstrated that existing population viability analysis software can accurately predict population viability, and they included the GYA grizzly bear data in their analyses. Boyce et al. (2001, pp. 10-11) conducted a population viability analysis for the GYA population in which they determined that the probability of extinction of the GYA grizzly bear population in the next 100 years is very low. The Conservation Strategy was finalized using the best available science.

Issue 7: The Governor of Wyoming asked that the Service identify a date when the Conservation Strategy is no longer in effect.

Response: The Final Conservation Strategy will guide the management and monitoring of the Yellowstone grizzly bear population in perpetuity. Adequate management of any species requires a management plan. It is a dynamic document that can be modified if the best available science indicates there is a need for change but there is no date at which the Conservation Strategy will no longer be in effect.

B. Public Involvement.

Issue 1: Several commenters felt the Executive Summary and the Draft Conservation Strategy were inaccessible to the average citizen and that copies were hard to come by, cryptically written, vague, and incomprehensible without a background in biology.

Response: The sources from which paper and digital copies of the Draft Conservation Strategy could be obtained were listed in the Federal Register Notice (65 FR 11340, March 2, 2000). The public could obtain a paper copy by contacting Grizzly Bear Recovery Coordinator or could view and print a copy of the document that was posted online. We realize that many of the concepts discussed in the Draft were difficult to understand without a background in biology. This level of expertise and understanding is necessary to adequately manage the Yellowstone grizzly bear population. The Executive Summary in the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, pp. 5-11) is written so that it is accessible and comprehensible to an average member of the public who has no background in biology.

Issue 2: A few comments concerned the treatment of form letters and their 'weight' in the process. Some felt that if more letters with a certain viewpoint were received, they should have more impact on the final decision. Others felt that only letters from residents of the Greater Yellowstone Area should be considered.

Response: Comments received during the public comment period do not constitute "votes." The public comment period is an opportunity for the Service to hear about the commenters' beliefs and opinions as well as any relevant data that they might provide. The public comment process considers all comments equally and gives no preference based on where commenters live or what format commenters use to comment.

Issue 3: Many felt that diverse interests had not been adequately included in the development of the Draft Conservation Strategy. Rather, it was a secretive process

carried out by agencies without consent of local conservation, environmental, or other interests (timber, landowners, rancher/farmers, outfitters, recreationists, oil companies, county governments).

Response: Development of the Conservation Strategy began in 1993, when biologists representing the National Park Service, U.S. Forest Service, U.S. Fish and Wildlife Service, the Interagency Grizzly Bear Study Team, Idaho Department of Fish and Game, Wyoming Game and Fish Department, and Montana Fish, Wildlife, and Parks were appointed to the Interagency Conservation Strategy Team. In March 2000, the Draft Conservation Strategy was released to the public for review and comment (65 FR 11340, March 2, 2000). Later that same year, a Governors' Roundtable was organized to provide recommendations from the perspectives of the three States that would be involved with management of grizzly bears after delisting. The Final Conservation Strategy was revised based on public comments and the Governor's Roundtable recommendations. The Final Conservation Strategy was written based on the best available science and the management experience of professional grizzly bear biologists and managers

Issue 4: One commenter suggested that the Conservation Strategy clearly define and explain the concept of adaptive management, how adaptive management will be applied, and how the Conservation Strategy may be amended in the future. This process of adaptive management should reduce probabilities of Type II errors [e.g. failure to detect a declining population or a deteriorating food source] to demonstrably acceptable levels and document the ability to respond in a timely, effective manner in the face of time lags imposed by resource biology and by management/political processes.

Response: The Service adheres to the description of adaptive management given by the Interagency Grizzly Bear Study Team (2005, pp. 44-45). This description consists of six steps: 1) assessment of the current system and development of testable hypotheses; 2) design of management actions, monitoring, and research that will help address the hypotheses; 3) implementation of the management, monitoring, and research; 4) monitoring of management actions through collection of data designed to answer hypotheses; 5) evaluation of management outcomes against predictions made by hypotheses; and 6) adjustments to management design, objectives, direction as indicated by the evaluation. The multiple indices used to monitor both bear foods and bear vital rates provide a dynamic and intensive data source to allow the agencies to respond to results that might indicate problems. The Conservation Strategy's adaptive management process (U.S. Fish and Wildlife Service 2007, pp. 25-56) is one of the most detailed monitoring systems developed for any wildlife species.

Issue 5: Some commenters recommended that local citizen input be included when developing nuisance bear protocols. The Governor's Roundtable suggested that clear, effective protocols, including sensitivity to the placement of nuisance bears, be part of the Conservation Strategy as well as State plans.

Response: As the Governor's Roundtable suggested, nuisance bear protocols inside the PCA are stated clearly in the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, pp. 59-60). Although local citizen input was not considered directly in the development of these protocols, they are based on decades of management experience in the GYA and concerns of local residents as conveyed by grizzly bear managers.

Issue 6: Some commenters felt the habitat-based criteria should have been finalized before the Draft Conservation Strategy was released.

Response: The Service had all the supporting documents out for public comment and review prior to the publication of the proposed rule. These documents are interdependent and are all referenced as to their content and application in the proposed rule. Since public comment on the proposed rule also references the application and substance of these documents, and the final versions of these documents and the final rule will be dependent on consideration of public comments received on the proposed rule, these documents will be finalized using the public comments received on these documents combined with comments received on the proposed rule

C. Further Research or Analysis Needed.

Issue 1: There were several suggestions and requests for specific research and analysis. Many commenters cited research by Troy Merrill, and requested that his results be incorporated into the Conservation Strategy, the Habitat Based Recovery Criteria, and any revised Recovery Plan.

Response: The Service is familiar with the work of Troy Merrill and considered it in the development of the Final Conservation Strategy. Merrill et al. (1999, p. 231) analyzed suitable landscapes for reoccupation by grizzly bear in Idaho. They concluded that the Palisades Area in Idaho is potentially suitable habitat for grizzly bears based on road and trail access and habitat productivity (Merrill et al. 1999, p.231). Accordingly, the Idaho State grizzly bear management plan which is incorporated into the Final Conservation Strategy as Appendix M, identifies the Palisades Area as one of several areas outside the PCA where grizzly bear occupancy is expected in the next 5 to 10 years (Idaho's Yellowstone Grizzly Bear Delisting Advisory Team 2002, pp.8-9). Merrill and Mattson (2003, pp. 171-174) also analyzed potential grizzly bear habitat that is currently unoccupied. Their study examined the Greater Yellowstone Area and identified several unoccupied areas as potential source habitats that may be suitable for recolonization by grizzly bears. These included the Wind River Range, the Centennial Mountains, and the Palisades Area (Merrill and Mattson 2003, p. 184). These areas correspond roughly to the Grizzly Bear Management Areas identified in the Final Conservation Strategy (see U.S. Fish and Wildlife Service 2007, p. 19).

Issue 2: Many commenters requested that the Service analyze what the projected declines in the key foods will be.

Response: The extent to which each food will be affected across the landscape is unknown and infeasible to calculate with any degree of certainty. Fluctuations in major foods for grizzly bears, and the bears' response to those changes, due to possible environmental factors, such as changes in average temperature and/or precipitation, the possibility of forest fires, the impacts of introduced species like lake trout or blister rust, and the impacts of resident insects like spruce bud worms or mountain pine beetles are the norm rather than the exception in natural systems. The possibility of these fluctuations has been recognized by the Service and the State and Federal agencies as the recovery program has proceeded

The Conservation Strategy contains an adaptive monitoring program to detect changes in the production and distribution of foods in relation to grizzly bear vital rates (U. S. Fish and Wildlife Service 2007, pp. 45-52). The monitoring results on food production; extent and impact of disease and impacts on food production; bear mortality locations, numbers, and causes; bear reproductive success; and age-specific survival will be reported annually by the Interagency Grizzly Bear Study Team to the Yellowstone Grizzly Bear Coordinating Committee in responding to these changes in ways that benefit the bear population.

Issue 3: Some commenters see a strong economy and protection of the grizzly bears as going hand-in-hand. Others disagreed and viewed grizzly bears as having an adverse effect on the local economy. Many feared a loss in recreational opportunities due to access restrictions. Some requested that a social/economic analysis be completed for the area. Others felt the economic costs analysis in the Conservation Strategy is underestimated and ask for a better analysis of conflict data.

Response: The Final Environmental Impact Statement for the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests includes an analysis of the potential beneficial and negative economic impacts of implementing the Conservation Strategy (USDA Forest Service 2006a, pp.242-254).

D. Area Necessary for a Recovered Population.

Issue 1: Numerous commenters were concerned with the size of the PCA. Many commenters suggested that the area be enlarged to include areas currently and potentially occupied by Yellowstone grizzly bears. A few individuals supported the size of the primary conservation area and the 10-mile monitoring buffer zone as described in the Conservation Strategy while some commenters felt the size of the primary conservation area is too large.

Response: In the Final Conservation Strategy, the use of the 10-mile buffer has been dropped, and the PCA boundaries correspond exactly to the current boundaries of the Yellowstone Recovery Zone. The buffer zone was eliminated because mortalities are now being managed throughout the entire Conservation Strategy management area. The PCA contains between 84-90 percent of the females with cubs (Schwartz et al. 2006b, p. 64). Adult females are the most important age and sex group contributing to population growth. The population was increasing at a rate between 4 and 7 percent

per year between 1983 and 2002 (Harris et al. 2006, p. 48). Most of this growth has been inside the PCA and most of the females with cubs occur within the PCA (Schwartz et al. 2006b, p. 64). Thus, the biological evidence demonstrates that the PCA contains the habitat necessary for a healthy and viable grizzly bear population in the long-term. Sixty percent of suitable habitat outside the PCA is Designated Wilderness, Wilderness Study Area, or Inventoried Roadless Area. This amount of protected habitat combined with the GYA National Forests' commitment to manage habitat to ensure a viable grizzly bear population, forest-wide food storage orders, and designation of the grizzly bear as a species-of-concern on GYA National Forests give the Service reasonable assurance that grizzly bears outside of the PCA will continue to be protected adequately.

Issue 2: Several comments were received concerning the lack of management direction outside of the PCA. "The fundamental shortcoming of this document is the absence of a clear strategy for protecting grizzlies outside of the PCA. While the requirements in this area may be less stringent, they can't be nonexistent."

Response: Currently, there are 22,783 sq km (8,797 sq mi) of suitable habitat outside of the PCA within the DPS boundaries, including 17,292 sq km (6,676 sq mi) of National Forest lands. About 10-16 percent of the population of female grizzly bears with cubs occurs outside the PCA (Schwartz et al. 2006b, p. 64). Approximately 79 percent of lands outside the PCA on GYA National Forests are Designated Wilderness (6,799 sq km (2,625 sq mi)), Wilderness Study Area (708 sq km (273 sq mi)), or Inventoried Roadless Area (6,179 sq km (2,386 sq mi)). These designations mean that most grizzly bear habitats outside of the PCA are protected by regulatory mechanisms other than the Final Conservation Strategy. In addition, the selected alternative in the Final Environmental Impact Statement and Record of Decision for the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests (USDA Forest Service 2006a, 2006b) includes guidance and direction for managing suitable habitat, as described in the State plans, outside of the PCA. There is now a goal for accommodating grizzly bears outside the PCA, direction on managing livestock allotments with recurring conflicts through retirement of such allotments with willing permittees, direction emphasizing the use of food storage orders to minimize grizzly bear/human conflicts, a guideline to maintain, to the extent feasible, important grizzly bear food resources, and several monitoring items that will enhance habitat management outside of the PCA (USDA Forest Service 2006b, pp. 4-7).

Issue 3: Some commenters felt that the plan did not adequately demonstrate that sufficient habitat exists to provide for long-term conservation "...in the light of habitat threats, vegetation and climate changes, human population increases, resource extraction, and recreational development/uses."

Response: The PCA contains between 84-90 percent of the females with cubs (Schwartz et al. 2006b, p. 64). Adult females are the most important age and sex group contributing to population growth. The population was increasing at a rate between 4 and 7 percent per year between 1983 and 2002 (Harris et al. 2006, p. 48). Most of this growth has been inside the PCA and most of the females with cubs occur within the

PCA (Schwartz et al. 2006b, p. 64). Thus, the biological evidence demonstrates that the PCA contains the habitat necessary for a healthy and viable grizzly bear population in the long-term. The monitoring plan and the adaptive management approach described in the Final Conservation Strategy ensure that any substantial declines in the population due to changes in habitat will be detected and addressed.

Issue 4: Many people were concerned with the reduction in natural food sources and recommended that the Service increase the total area of protected habitat to account for declines in food sources. A few commenters called for a bigger recovery area so the bears can absorb changes in their food supply caused by habitat degradation and fragmentation.

Response: Aside from the well-documented association between whitebark pine cone crop size and subsequent management removals of grizzly bears (Mattson et al. 1992, p. 432), we have not been able to detect any cause-effect relationships between abundances of the other 3 major foods and population level effects on grizzly bears. Although we know the other major foods are used heavily by grizzly bears (Mattson et al. 1991a, p. 1623; Mattson et al. 1991b, p. 2432; French et al. 1994, p. 394; Mattson and Reinhart 1995, p. 2072; Green et al. 1997, p. 140; Mattson 1997, p. 165; Felicetti et al. 2004, pp. 496, 499), there are no data indicating decreases in grizzly bear survival when these foods are not abundant. These foods have either naturally fluctuated (e.g., ungulates, army cutworm moths) or declined (e.g., cutthroat trout) during the period in which the GYA grizzly population was increasing at an annual rate between 4 percent and 7 percent.

Because the majority (79 percent or 13,686 sq. km or 5,284 sq. mi.) of suitable habitat outside the PCA on National Forest lands is designated Wilderness Area, Wilderness Study Area, or Inventoried Roadless Area in the GYA, much of the habitat outside the PCA will continue to be available for grizzly bears to meet their habitat needs over time. Ninety-one percent of the suitable habitat outside the PCA is public land. The GYA National Forests have committed (USDA Forest Service 2006b, pp. 4, 26).

E. Population Size and Demographic Criteria.

Issue 1: Some individuals believed the population criteria and mortality standards, like the habitat criteria should apply only to the PCA. Others took the opposite view and believed the population criteria should extend to the 10-mile buffer area or to the entire GYA.

Response: The population criteria and the mortality standards described in the Final Conservation Strategy are designed to manage the Yellowstone grizzly bear population as a single population. As such, they will be applied across the entire ecosystem as illustrated by the Grizzly Bear Management Areas in Figure 3 of the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, p. 19). The overall population growth rate will be managed for a stable to increasing population as per the methods and direction in the Reassessing Methods to Estimate Population Size and Sustainable

Issue 2: Several commenters were particularly concerned with how the population trend analysis was interpreted. They claimed we misinterpreted the population data as unequivocal evidence that the grizzly bear population has recovered and can be removed from its threatened status under the ESA. Some questioned the double-standard used by the Service where half the "confirmed" sightings of grizzly bears in the Yellowstone area were by bear biologists and some were by individuals or groups with no proven ability to identify bears, much less unique, unduplicated bears.

Response: The Service does indeed interpret the population data as evidence that the population has reached recovery goals, in the context of the population's response to reduced or eliminated threats, which is the basis of the delisting.

The Interagency Grizzly Bear Study Team uses a strict protocol for accepting females with cubs-of-the-year (FCOY) sightings, and only observations from qualified agency personnel are used. Sightings from the general public are only used when they can be verified by an agency biologist after reviewing a photograph or video clip. The Interagency Grizzly Bear Study Team is developing a computer program to remove the human element from the evaluation of FCOY sightings.

Issue 3: Several people and organizations requested that a habitat-based PVA be done and felt that this population cannot be considered "recovered" without one. They believed it is imperative to determine the carrying capacity of the PCA. There were several requests for a general PVA to be done as well.

Response: We agree that if it was possible to link habitat conditions to demographic responses with confidence, this would be an invaluable management tool. However, the compound uncertainties associated with projections of possible future habitat changes, predicted responses of grizzly bears to multiple possible future conditions, and assumed changes to vital rates in response to any such possible future habitat changes make a PVA based on possible future habitat conditions all but meaningless. The range of possible outcomes of such a modeling exercise provides little management value and minimal confidence about future viability. Instead of such a compound uncertainty approach, the management system outlined in the Conservation Strategy depends on monitoring of multiple indices including production and availability of all major foods; and monitoring of grizzly bear vital rates including survival, age at first reproduction, reproductive rate, mortality cause and location, dispersal, and human-bear conflicts. These data will be used in an adaptive management system to monitor the real-time status of the population and its relationship with major foods and environmental variables in order to allow managers to implement adaptive management actions to respond to changes in ecological conditions and/or vital rates with directed management actions. The continued monitoring of these multiple indices will allow rapid feedback on the success of management actions to address the objective of maintaining a viable population.

The Interagency Grizzly Bear Study Team is currently developing habitat-based risk analysis models that will provide insight into relationships between habitat conditions and grizzly bear survival and reproduction. One of the management recommendations of the Monograph, (Schwartz et al. 2006c, p. 62) was to obtain funds to explore more spatially explicit models beyond the 3 political zones that were addressed. In fact, before the Monograph was printed, the Interagency Grizzly Bear Study Team submitted a proposal to address this recommendation and obtained funding for this project. It took more than 1.5 years to assemble or create the required spatial layers needed for the analyses. Once obtained or developed, models have been constructed looking at hazards on the landscape and how they affect grizzly bear survival. These models consider foods, habitat productivity, and human impacts to the landscape. As part of the adaptive management approach in the Conservation Strategy, the Interagency Grizzly Bear Study Team intends to link these hazard models with similar models of reproduction to develop models predicting population change on the landscape. Combined, these models will yield a projection of population viability. The scientific team addressing grizzly bear demographics fully recognized this need and pursued the necessary funds to address the issue. These efforts will continuously be updated and improved as new methods and information becomes available.

Issue 4: Several people wanted more specific information on exactly how many grizzly bears are in the PCA. These people and organizations questioned the validity of the current mortality limits given that we don't know the population size. Specifically, they wanted to know if and how the Service evaluates the accuracy of the population estimate and the percent of females in the population. Some argued that the constant proportion of females in the population has "...a weak scientific basis but it plays a very powerful role in determining the allowed mortality." The American Society of Mammalogists recommended that "...a second method of estimating bear numbers or additional information indicating the method's accuracy would be beneficial"

Response: It is simply not possible to know exactly how many grizzly bears, or any other species, are in the GYA. Any attempt at a complete census of population size inevitably results in an undercount, since some unknown number of animals is missed in the count, and some of the individuals already counted may die before the census is completed. Wildlife biologists rely instead on either population estimators or population indices. A population estimator produces a point estimate with a confidence interval around it, within which the true population size very probably lies. In the case of grizzly bears in the GYA, the Chao2 estimator is used to estimate the number of females with cubs-of-the-year, which is then used as the basis for the calculation of an index of total population size. All the assumptions used in the development of this index are conservative to err on the side of precaution and minimize the potential for overestimation.

The scientists involved in making the recommendations in the Reassessing Methods Document recognized that the proportion of breeding females with cubs of the year varied annually (Interagency Grizzly Bear Study Team 2005, pp. 13-17). They investigated the possibility of varying the denominator but concluded they lacked sufficient data to do so. The revised method described in the Supplement to the

Reassessing Methods Document uses regression analysis of all the data to address this variation and provides an estimate of confidence about the mean (Interagency Grizzly Bear Study Team 2007, pp. 2-10). This concern has been addressed as adequately as possible with current data but the Interagency Grizzly Bear Study Team will continue to pursue a more precise method.

We agree that a second method of estimating population size is desirable. The method most often suggested is a DNA-based mark-recapture method, similar to the method used in the NCDE. Unfortunately, the expense of the DNA-based method (approximately 3.5 to 5 million dollars) is prohibitively high and it would take approximately 3 years to receive a point estimate for the entire GYA. This uncertainty around our estimate of total population size is why the Interagency Grizzly Bear Study Team consistently recommends conservative methods for calculating population size and sustainable mortality limits.

Issue 5: A few commenters criticized the vagueness of Appendix I, particularly the cursory discussion of both the MLE (maximum likelihood estimator) and NBE (negative binomial estimator).

Response: In the Final Conservation Strategy, there is an expanded discussion of the MLE and the NBE (U.S. Fish and Wildlife Service 2007, pp. 88-129).

Issue 6: One of the major concerns raised about population trend estimates questioned whether our techniques could detect a decline in the grizzly bear population in time for management intervention to reverse this negative trend.

Response: The Interagency Grizzly Bear Study Team used power analyses to investigate the time lag between when a decline occurs and when it would be detected by the method recommended in the Supplement to the Reassessing Methods Document (Interagency Grizzly Bear Study Team 2007, pp. 3-5). The results of these power analyses demonstrated that the recommended method of estimating population growth rate annually using the Chao2 estimator of the number of females with cubs of the year would detect a population that was declining 5 percent annually within 5 years (Interagency Grizzly Bear Study Team 2007, p. 5). This is an acceptable level of detection power to maintain a recovered grizzly bear population in the GYA.

F. Habitat Protections.

Issue 1: Some commenters were critical of the use of 1998 as the baseline for adequate habitat conditions while others thought this was an appropriate management approach. Those opposed to the use of 1998 as a baseline believe it was chosen arbitrarily, without clear demonstration that these levels satisfy conditions needed for a viable grizzly bear population.

Response: The year 1998 was chosen because we know that levels of secure habitat and site developments had been roughly the same during the previous ten years (USDA Forest Service 2004, p. 27) and that during these years, the population was increasing

(Eberhardt and Knight 1996, p. 419; Harris et al. 2006, p. 48). Therefore, the selection of any other year between 1988 and 1998 would have resulted in approximately the same baseline values for roads and developed sites. We did not select baseline habitat values from years before 1988 because habitat improvements that occurred after the implementation of the Interagency Grizzly Bear Guidelines (USDA 1986, pp. 6-21) would not have been reflected in these earlier years.

Issue 2: Many people believed the habitat boundaries must be absolutely safe havens for grizzlies which means they must be free of motorized disturbances, free from any industrial or extractive development, and free of any compromises in habitat quality. These habitat protections must be binding and non-discretionary.

Response: The habitat protections described in the Conservation Strategy will regulate secure habitat, livestock allotments, and developed sites inside the PCA. Any project that reduces the amount of secure habitat permanently will have to provide replacement secure habitat of equivalent habitat quality (as measured by the Cumulative Effects Model or equivalent technology) and any change in developed sites will require mitigation equivalent to the type and extent of the impact. For projects that temporarily change the amount of secure habitat, only one project is allowed in any subunit at any time. Mitigation of any project will occur prior to the project initiation, be within the same subunit, and will be proportional to the type and extent of the project. Such restrictions on road construction and additional developed sites will prevent most extractive projects from occurring. The habitat protections described in the Final Conservation Strategy will be implemented by the National Park Service and the affected National Forests. This gives the Service reasonable assurance that regulatory mechanisms protecting habitat are adequate.

Issue 3: Numerous commenters were concerned the Conservation Strategy only proposes to 'study' linkage zones between the GYA and other grizzly bear recovery ecosystems but provides no guaranteed protection. Linkage zones need to be identified, designated, and implemented with binding legal protection. More specifically, areas such as the Tobacco Roots, the Gravelly Mountains, and the Centennial Mountains should be afforded the same habitat protections as inside the PCA because these are important linkage zones between the GYA and other ecosystems.

Response: There is an ongoing process to identify and implement management on linkage areas for wildlife in order to maintain and improve the potential for wildlife movement between all the large blocks of public land in the Northern Rocky Mountains (Servheen et al. 2003, p. 3) This is an interagency effort involving 13 State and Federal agencies working on linkage facilitation across private lands, public lands, and highways (see Interagency Grizzly Bear Committee 2001, p. 1, on support for concept of linkage zones). A written protocol and guidance document has been developed on how to implement linkage zone management on public lands (Public Land Linkage Taskforce 2004, pp. 3-5). There have been several documents produced on private land linkage management including Making Connections from the Perspective of Local People

(Parker and Parker 2002, p. 2), and the Swan Conservation Agreement, which is the prototype linkage zone management document. There have been several analyses of linkage zone management in relation to highways including identification of multiple linkage areas in southeast Idaho from Idaho Falls to Lost Trail Pass (Geodata Services 2005, p. 2) and the effects of highways on wildlife (Waller and Servheen 2005, p. 998).

The linkage zone effort is a multi-agency program that is an ongoing program and is identified as a task in the Grizzly Bear Recovery Plan (U.S. Fish and Wildlife Service 1993, pp. 24-26). This linkage work is not directly associated with the delisting of the Yellowstone grizzly population and will continue to address ways to improve cooperation and affect management on public lands, private lands, and highways in linkage areas across the northern Rockies. The objective of this work is to maintain and enhance movement opportunities for all wildlife species across the Northern Rockies. In light of these exhaustive efforts that will continue regardless of the listed status of the Yellowstone grizzly bear population and the genetic management plan to augment the population with grizzly bears from areas outside the DPS boundaries if necessary, we are confident that the full protection of potential linkage zones as a prerequisite to delisting is not necessary. For further discussion of the genetic augmentation plan, see our responses to “Issue 7”, “Issue 8”, “Issue 9”, “Issue 10”, “Issue 11”, and “Issue 12” under subsection R. Genetic Concerns, Isolation, and Connectivity with Other Grizzly Bear Populations in the “Summary to Public Comments” section of the Final Rule.

Issue 4: Some commenters thought the Service should institute a more restrictive motorized access standard of 0.6 miles per square mile. Others thought the Service’s access standards outside security core allowing 1 trip/day was a misuse of Mace et al. (1996, pp. 1402-1403) which concluded that roads with “less than one” trip per day did not appear damaging to grizzlies.

Response: The secure habitat levels and road densities in the PCA are in fact more secure than the required road density and secure habitat in either the NCDE or the Cabinet/Yaak and Selkirk ecosystems. The best measure of the direct effect of habitat on a population is the trajectory of the population. Under the 1998 levels of secure habitat, the population has been increasing at between 4 and 7 percent per year (Harris et al. 2006, p. 48). From 1986-2002 there was a net reduction of over 1,000 miles of roads on the 6 GYA National Forests (inside and outside the PCA). Inside the PCA on the National Forests there was an average reduction of 42.7 miles of road per year from 1986-2002 (USDA Forest Service 2006a, p. 200). Outside the PCA there was an average reduction of 40.5 miles of road decommissioned for the same time period (USDA Forest Service 2006a, p. 200). The 1998 road density levels are lower than previous road densities and are at a level that has allowed the population to increase. Consequently, a more restrictive road density standard is not necessary for the long-term viability of the Yellowstone grizzly bear population. There are no motorized trip-per-day standards in the Final Conservation Strategy. All routes having any level of motorized access are classified as motorized access routes and cannot be counted toward total levels of secure habitat, which cannot decrease below 1998 levels.

Issue 5: Several commenters did not understand the GIS moving window technique applied to calculate road densities and believe that it needs to be explained in layman's terms.

Response: The moving window technique used to calculate road densities is based on methods described in Mace et al. (1996, p. 1398). It involves choosing a window size and then placing this window over other spatial layers on the landscape in a Geographic Information Systems database. For the GYA, the window size was 1 square mile. By placing this window on top of a layer containing road data as linear features, the total mileage of roads in the square mile window can be calculated. The window is then moved to an adjacent area and the road density for that area is calculated, and so on and so forth until the entire landscape has been assessed.

Issue 6: Several commenters supported obliteration and reclamation of closed roads. They felt closed roads should be "closed to all use or counted as open roads". Other commenters questioned the adequacy of the impact zone associated with roads in terms of mortality risk and recommend that it be extended from 0.5 km to 2 km. Many asked that the grizzly be given truly protected habitat, not fragmented areas classified as secure.

Response: The Final Conservation Strategy states that a gated road or a road used for administrative purposes is considered an open road and cannot exist in secure habitat (U.S. Fish and Wildlife Service 2007, p. 41). According to the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, p.41) roads must be obliterated, decommissioned, or permanently restricted for it to be considered a closed road that contributes to the amount of secure habitat.

Regarding the influence zone around a road, we used a 500 m buffer as recommended by the Interagency Grizzly Bear Committee (1998, p. 4). This buffer zone around roads to quantify amounts of secure habitat has resulted in adequate habitat to support an increasing grizzly bear population during the last 2 decades in the GYA (Harris et al. 2006, p. 48). Due to the demonstrated adequacy of this distance, we have maintained its use in the Final Conservation Strategy.

The Service is providing meaningful habitat protections through the habitat criteria described in the Final Conservation Strategy. The Service has ensured that current levels of secure habitat, developed sites, and livestock allotments inside the PCA will be maintained at 1998 levels or improved upon. The large areas of secure habitat in each subunit include important habitat areas such as feeding and denning areas. The Service believes that all secure habitat is important and that secure pockets of habitat are very important for grizzly bears particularly in peripheral habitats. These 1998 levels of secure habitat have supported an increasing grizzly bear population. Because of the habitat criteria and other measures described in the Conservation Strategy to maintain habitat connectivity within the PCA (see U.S. Fish and Wildlife Service 2007, p. 56), fragmentation will not be a factor determining grizzly bear persistence in GYA in the foreseeable future.

Issue 7: Numerous commenters were concerned there are no access or security standards during the winter season. They noted that the effects of snowmobiles and other motorized access on grizzly bears during denning season had not been adequately studied or monitored. Conversely, several commenters supported winter activities such as snowmobiling, and ask that those activities be allowed to continue.

Response: The Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests includes a guideline stating that inside the PCA, localized area restrictions will be used to address conflicts with winter use activities, where conflicts occur during denning or after bear emergence in the spring (USDA Forest Service 2006a, p. 37). Bears tend to den in remote areas with characteristics that are not entirely conducive to snowmobiling (steep, forested habitats) and much of the area identified as suitable grizzly bear denning habitat is not used by snowmobiles due to its terrain and vegetation (USDA Forest Service 2006a, p. 92). Eighty-eight percent of the known dens in the GYA are located in areas where snowmobile use does not occur (USDA Forest Service 2006a, p. 92). Suitable denning habitat is well distributed on the forests. Five of the 6 GYA National Forests consulted with the Service in 2001 on the effects of snowmobiles on denning grizzly bears. Our best information suggests that current levels of snowmobile use are not appreciably reducing the survival or recovery of grizzly bears. Most information is largely anecdotal, although there is sufficient information to indicate that some individual bears have the potential to be disturbed. The Forest Service has been monitoring known grizzly bear dens in areas open to snowmobiles for the last three winters in cooperation with us and the Interagency Grizzly Bear Study Team. No disturbance has been documented (Gallatin National Forest 2006, p. D-68). Monitoring will continue to support adaptive management decisions to limit snowmobile use in areas where disturbance is documented or likely to occur.

Issue 8: Numerous commenters (including 7 of the 8 form letters) criticized the 1 percent rule for secure habitat within the PCA as a loophole and a concession to industries. More specifically, some suggested that the Service explicitly say how many acres and miles of road this rule translates into for each Bear Management Unit.

Response: There will be no net loss of secure habitat or net increase in developed sites in any subunit. Temporary changes in secure habitat are just that, and any projects that temporarily reduce secure habitat can be no larger than 1 percent of the largest subunit size within that Bear Management Unit and can last no longer than 3 years. Secure habitat compromised by any temporary project must be restored. There is no biological data that demonstrate that the temporary 1 percent level of secure habitat disturbance (99 percent secure habitat maintained) has had any detrimental impact on the grizzly bear population. The reason the 1 percent level was deemed acceptable was that there were limited ongoing timber harvest activities that temporarily affected secure habitat throughout the 1990s while the population continued to increase at a rate between 4 and 7 percent per year (Harris et al. 2006, p. 48). The allowance of a 1 percent temporary reduction in secure habitat maintains options for resource management activities at approximately the same level as existed through the 1990s while the bear

population was increasing and expanding. Both the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, p. 151) and the Final Environmental Impact Statement for the Forest Plan Amendment for Grizzly Bear Habitat Conservation for the Greater Yellowstone Area National Forests clearly displays the total number of acres in each Bear Management Unit that could be affected by the 1 percent rule (USDA Forest Service 2006a, p. 373). If all Bear Management Units had temporary projects occurring in them at the same time, which is unlikely, the total area of habitat that could be affected is roughly 93 sq km (36 sq mi). This amount represents roughly 0.4 percent (93 sq km / 23,853 sq km) of the total area contained in the PCA.

Issue 9: A common theme in form letters received was that the Service should restore degraded habitat. “The current plan identifies important grizzly bear areas where habitat is degraded below acceptable levels. However, it does not set any goals or timelines that agencies must meet to restore this degraded habitat – it only states these areas need ‘improvement’. The Service should require that these problem areas be brought up to standards which will sustain bears.”

Response: Since the Draft Conservation Strategy was released for public review, progress on habitat improvement on both the Targhee and Gallatin National Forests has been made. The high road density values and subsequently low levels of secure habitat in these subunits is primarily due to motorized access on private land (U.S. Fish and Wildlife Service 2007, pp. 145-153).

The Gallatin National Forest is working on several land exchange efforts with private parties in these subunits. These land exchanges allow management of the roads on these private parcels and increase the secure habitat in these subunits. The Gallatin Range Consolidation and Protection Act of 1993 (Pub. L 103-91) and the Gallatin Range Consolidation Act of 1998 (Pub. L 105-267) will result in trading timber for land in the Gallatin No. 3 and Hilgard No. 1 subunits. The private land involved will become public land under the jurisdiction of the Gallatin National Forest. Upon completion of this sale and land exchange, secure habitat and motorized access route density in these subunits will improve from the 1998 baseline (U.S. Fish and Wildlife Service 2007, pp. 133-144). The timing and amount of improvement was determined through the Gallatin National Forest travel management planning process. The Travel Plan amends the Gallatin Forest Plan and sets a 1998 baseline for access values in these subunits. This travel Plan for the Gallatin National Forest was revised and the Final Environmental Impact Statement and Record of Decision approved (Gallatin National Forest 2006, pp. 82-85) on December 6, 2006. Under the selected alternative, secure habitat will increase from 55% to 70% of the subunit in the Gallatin #3 subunit, from 67% to 72% in the Madison #2 subunit, and from 53% to 63% in the Henry’s Lake #2 subunit (Gallatin National Forest 2006, pp. 83-84). On all other grizzly bear subunits on the Gallatin National Forest, secure habitat percentages either remain the same or increase under the selected alternative (USDA Forest Service 2006a, p. 35, Gallatin National Forest 2006, p. 84).

The Conservation Strategy identified several subunits within the boundaries of the Targhee National Forest inside the PCA that need improvement in terms of motorized access (Plateau No. 1, Plateau No. 2, and Henry’s Lake No. 1). The

Conservation Strategy states that upon full implementation of the access management changes in the revised 1997 Targhee Forest Plan, those subunits will have acceptable levels of road densities and secure habitat due to the decommissioning of roughly 433 miles of roads within the PCA (U. S. Fish and Wildlife Service 2007, pp. 43-44). As of 2005, the Targhee National Forest completed this decommissioning work (USDA Forest Service 2006a, pp. 201-202). The 1998 baseline (U.S. Fish and Wildlife Service 2007, pp. 133-144) for these subunits was modified to reflect these road closures. Henry's Lake subunit No. 1 and No. 2 still have high levels of motorized access density and a low secure habitat level due to motorized access routes on private lands as well as county roads, State and Federal highways, and roads to special use sites (e.g., Federal Aviation Administration radar site on Sawtell Peak) that cannot be closed (U.S. Fish and Wildlife Service 2007, pp. 133-144).

Overall, the improvements made to degraded habitat on these two National Forests have increased the amount of secure habitat available to grizzly bears to the levels recommended in the Final Conservation Strategy. These levels of secure habitat will continue to support a stable to increasing population of grizzly bears.

Issue 10: Regarding developed sites, several commenters favored limiting development on private lands within subunits if it had detrimental impacts on grizzly bears. Also, multiple comments support monitoring the cumulative effects of developed sites instead of just reviewing one development at a time.

Response: The Service has no direct authority over private lands. The Final Conservation Strategy directs that a cumulative effects approach be used through tracking all development across the landscape using the Cumulative Effects Model and associated GIS databases.

Issue 11: Some commenters requested more clarity on how, when, and where livestock allotments will be phased out. Will cattle and sheep allotments be phased out or only sheep allotments?

Response: The Service focuses on sheep allotments inside the PCA because of the high probability of conflict when grizzly bears encounter sheep. Since 1998, the number of sheep allotments inside the PCA has been reduced from 11 to 2, with a corresponding reduction in the number of sheep grazed. The remaining 2 sheep allotments inside the PCA on the Targhee National Forest will be retired as opportunities arise with willing permittees. Because it has been demonstrated that grizzly bears and cattle are more likely to coexist without conflict than grizzly bears and sheep, the phasing out of cattle allotments inside the PCA will only occur when there are recurring, irresolvable conflicts on these allotments or if willing permittees volunteer to waive their permits back to the government. On GYA National Forest lands outside the PCA that are in areas identified as suitable by State management plans, cattle and sheep allotments with recurring conflicts that cannot be resolved will be retired as opportunities with willing permittees arise (USDA Forest Service 2006a, p. 37; USDA Forest Service 2006b, p. 6). Since this is done on a voluntary basis and only after

recurring conflicts, it is impossible to predict when and where livestock allotments outside of the PCA will be phased out.

Issue 12: Several commenters discouraged oil and gas leasing activities in the Primary Conservation Area and felt the Conservation Strategy should address this issue directly.

Response: There are no active oil and gas wells in U.S. Fish and Wildlife Service-defined suitable grizzly bear habitat. Inside the PCA, the potential for increased oil and gas development in the future is severely limited due to the constraints on road construction and site development established by the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, pp. 38-45). Similarly, we do not anticipate a dramatic increase in oil and gas development outside of the PCA due to moderate to low potentials for both occurrence and development throughout most of the GYA National Forests, with the exception of the Bridger-Teton National Forest (USDA Forest Service 2006a, pp. 210-213). Even with the high potential for occurrence and development in the Bridger-Teton, there are currently only 14 active oil and gas wells inside that National Forest and none of them are inside FWS-defined suitable grizzly habitat or in occupied grizzly bear range.

G. Grizzly Bear/Human Conflicts and Mortality Control.

Issue 1: Multiple commenters felt that sheep grazing allotments do not pose a significant threat to grizzly bears nor do they contribute significantly to grizzly bear mortality. They noted that only 5 percent of grizzly bear deaths (12 of 232) between 1975 and 1998 were the result of grizzly bear conflicts with sheep. Although most commenters supported grizzly bear/livestock conflicts outside the PCA being recorded and mapped, some commenters recommended that conflicts occurring outside the PCA favor livestock operators, so long as mortality limits are not exceeded.

Response: Although the number of grizzly bears removed from the population as a result of sheep depredations is relatively low, the number of grizzly bear conflicts with sheep remains high. Between 1992 and 2000, 27 percent of grizzly bear/livestock conflicts and nearly 12 percent of all grizzly bear/human conflicts were related to sheep (Gunther et al. 2004, pp. 13-14). The reason grizzly bear mortality resulting from these conflicts is relatively low is that the guidelines for management of grizzly bear/livestock conflicts require that any bear involved in such a conflict be relocated at least once before removal is proposed. This will continue to be the case inside the PCA. Outside the PCA, State management plans will guide nuisance bear management. All grizzly bear mortalities incurred will be counted against the ecosystem-wide sustainable mortality limits and applied within all grizzly bear management areas (see Figure 3, U.S. Fish and Wildlife Service 2007, p. 19). The alternative selected by the U.S. Forest Service in their Final Environmental Impact Statement will phase out livestock allotments outside of the PCA only if recurring conflicts occur and permittees are willing to retire their allotments (USDA Forest Service 2006a, p. 37). State and Federal agency responses to individual conflicts will be decided on a case-by-case basis.

Issue 2: Some people and organizations wanted to see permits issued with an agreement that any livestock depredation from grizzlies must be considered as part of the cost of grazing on public land. One individual felt increased development on private land is a result of eliminating grazing permits which leads to the development of agricultural land.

Response: The multiple use mandates guiding National Forest management can result in conflicts between competing uses, including native predators and livestock grazing. The Service must make its decisions based on the best available science, focusing on whether or not grizzly bear mortalities resulting from conflicts with livestock affect overall population trajectory. The Service has established nuisance bear management guidelines that are strategic in nature and provide managers with a framework to assess conflicts on a case-by-case basis. Grizzly bears depredating on lawfully present livestock on public lands may or may not be removed from the population, depending on several factors such as the cause of the incident, severity of the incident, age and sex of the bear, location of the conflict, and conflict history of the bear (U.S. Fish and Wildlife Service 2007, p. 59). To further ensure that human-caused grizzly bear mortality does not negatively impact the population, the Interagency Grizzly Bear Study Team has established biologically sustainable mortality limits (Interagency Grizzly Bear Study Team 2005, pp. 31-43) to which Federal and State agencies in the GYA have agreed to adhere.

Issue 3: A few commenters asked how grizzly bear/human conflicts will be addressed inside and outside the PCA. A few commenters identified other "conflict sites" that should be included in the Conservation Strategy. A few also suggested that the Final Conservation Strategy include other "control actions" such as aversive conditioning of bears in areas where they are likely to come into conflict with humans. Some requested clarification about the statement "management of all nuisance bear situations will emphasize removal of the human cause of the conflict".

Response: The management of grizzly bear/human conflicts inside the PCA will be guided by the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, pp. 57-60) whereas conflicts outside the PCA will be guided by State grizzly bear management plans. The Final Conservation Strategy and the State management plans all emphasize prevention of conflicts through removal of the human cause of the conflict, when applicable. The State management plans all call for the use of non-lethal, aversive conditioning approaches to managing grizzly bear/human conflicts when possible and relevant (Idaho's Yellowstone Grizzly Bear Delisting Advisory Team 2002, p. 17; MTFWP 2002, pp. 25-26; WGFD 2005, p. 26).

Issue 4: Several people claimed hunters are being unfairly blamed for grizzly bear fatalities with no facts to justify the blame. There were several comments in favor of continuing the annual "Living in Bear Country" workshops in local communities. Several commenters requested mandatory training for user groups (hunters in particular) if grizzly mortality increases in relation to specific uses. They called for increased fines for hunters who mistake grizzly bears for black bear, and ask for a requirement that

outfitters and hunters carry pepper spray on their belt or in another easily accessible location.

Response: Between 1980 and 2002, 19 percent (50/257) of human-caused grizzly bear mortalities were related to hunting (Servheen et al. 2004, p. 21). The affected States of Wyoming, Montana, and Idaho have cooperated with the Service to address conflicts between grizzly bears and hunters through extensive information and education (I & E) programs. The Wyoming Game and Fish Department coordinates with its information specialists to help people avoid grizzly bear/human conflicts. The Wyoming Game and Fish Department has held over 150 workshops and programs throughout 18 communities in Wyoming, attended by over 6,000 people (Servheen et al. 2004, p. 3). Grizzly bear encounter management is a core subject in basic hunter education courses taught by the Wyoming Game and Fish Department and outfitters and guides teach a bear encounter class designed specifically for others in their field annually (Servheen et al. 2004, p. 3). All limited quota big game license holders hunting in occupied grizzly bear habitat are mailed bear encounter and conflict management informational materials. Montana Fish, Wildlife, and Parks tries in numerous ways to communicate with hunters, including airing public service announcements on local media stations, talking with hunters at hunter check stations, posting informational signs at trailheads, distributing numerous brochures about avoiding grizzly bear/human conflicts, and backcountry patrols of hunting camps (Servheen et al. 2004, p. 5-6, 8). Because Idaho has experienced less grizzly bear activity and subsequent conflicts than Montana or Wyoming, educational outreach in Idaho has focused on educating community members of the Island Park area. The Idaho Department of Fish and Game has conducted at least 20 "Living in Bear Country" workshops in the upper Snake River region (Servheen et al. 2004, p. 10). These I & E efforts will continue to be the primary way in which agencies attempt to reduce conflicts between grizzly bears and hunters.

The Federal and State agencies that will implement the Conservation Strategy prioritize outreach and education to minimize grizzly bear/human conflicts (U.S. Fish and Wildlife Service 2007 pp. 57-62). Although the States do not currently require hunters to carry pepper spray, it is strongly encouraged in hunter education courses and other educational materials. Elk hunters in Grand Teton National Park are required to carry bear spray. Fines for black bear hunters that mistakenly kill grizzly bears are determined by the judge presiding over each case and only the States have the authority to impose a mandatory minimum fine. In Montana, black bear hunters are required to pass a bear identification test before obtaining their license. Currently, Wyoming encourages black bear hunters to take an optional online bear identification test which may become mandatory in the future.

Issue 5: Several individuals commented on the mortality calculation methods as described in Appendix II. Some questioned the Harris models and supported other models. There was a suggestion to set thresholds at 3-5 grizzlies short of the Allowable Mortality Levels. When these levels are reached or exceeded, agencies can take aggressive actions such as access restrictions and trail closures. A few commenters requested clarification about how the Service accounts for variability in the calculation of

allowable mortality and why there are no confidence intervals associated with the allowable mortality and the population estimate. Some commenters questioned our use of a 2:1 known to unknown mortality ratio and noted that there is no basis for claiming 4 percent known human-caused mortality limit will translate onto 6 percent actual mortality limit. Some also claimed the 30 percent known mortality for females is too high, and that mortality of male bears should be given more consideration. One commenter recommended that the Service not increase mortality limits if delisting occurs, but instead maintain the current 4 percent mortality limit because this has been effective in recovering the population.

Response: Since the Draft Conservation Strategy was released for public review in 2000, there has been considerable new science developed and published on these issues surrounding sustainable mortality limits. Between 2000 and 2006, the Interagency Grizzly Bear Study Team convened several workshops to update and revise the sustainable mortality limits with the best available science (Interagency Grizzly Bear Study Team 2005, pp. 12, 31-41, Interagency Grizzly Bear Study Team 2007, p. 1). Their recommended methods rely on new analyses conducted by Harris et al. (2006, p. 50) that show that sustainable mortality for females older than two years from all sources can be 9 percent of the total estimate of that segment of the population while maintaining a stable to increasing population. Please see the documents Reassessing Methods to Estimate Population Size and Sustainable Mortality Limits for the Yellowstone Grizzly Bear (Interagency Grizzly Bear Study Team 2005) and the Supplement to the Reassessing Methods Document (Interagency Grizzly Bear Study Team 2007) for a complete discussion of the new methods.

Issue 6: Several local commenters, including the Governors, believed the mortality figures outside the Primary Conservation Area should not be counted toward the mortality limit of 4 percent.

Response: The best approach to ensure a viable population in the foreseeable future is to establish ecosystem-wide grizzly bear mortality limits that are biologically sustainable. The Yellowstone grizzly bear population is one population, not separate populations inside or outside of lines on maps that can be managed separately. All grizzly bear mortalities from all sources (human-caused, undetermined, natural, and unreported) within the grizzly bear management areas identified in Figure 3 of the Final Conservation Strategy will be counted against the sustainable mortality limits (U.S. Fish and Wildlife Service 2007, p. 19). In this way, the Service is assured that the population trajectory will remain stable to increasing (Interagency Grizzly Bear Study Team 2005, pp. 31-41).

Issue 7: One individual requested that investigation reports on bear killings/mortality be made available to the public as the information will help prevent bear/human conflicts.

Response: The location, type, and frequency of conflicts and grizzly bear mortalities are made available to the public in the Interagency Grizzly Bear Study Team's Annual Reports. These are accessible online at <http://nrmsc.usgs.gov/research/igbst->

home.htm. Grizzly bear managers and the Interagency Grizzly Bear Study Team use this information to identify areas containing high densities of conflicts and prioritize I & E efforts with the goal of preventing future conflicts. When mortalities are under investigation, details about the investigation cannot be released to the public because this could compromise the investigation.

H. Nuisance Bear Guidelines.

Issue 1: Many commenters noted that the nuisance bear guidelines inside the PCA lack clarity and wanted to know exactly how nuisance bears will be managed inside the PCA, outside of the National Parks (but within the PCA), and outside of the PCA. These commenters noted that the Draft Conservation Strategy lacks clear protocol of how individual situations would be handled. Many commenters endorsed complete State control and discretion of nuisance bears outside of the National Parks while some felt this will lead to States declaring more “nuisance bears” to allow increased hunting of those bears.

Response: The management of nuisance bears outside of the Parks inside the PCA is described in the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, pp. 59-60). These guidelines are meant to provide a framework within which management decisions about nuisance bears can be made, while providing some flexibility to managers who have an understanding of the various circumstances surrounding specific situations. Outside of the National Parks inside the PCA, managers from the State wildlife agencies will implement removals and relocations while coordinating with the Forest Service and National Park Service to determine appropriate relocation sites. Outside of the PCA, States will manage nuisance bears according to the State management plans. In general, the State management plans emphasize prevention of conflicts through identifying the source of the problem while also committing to give human considerations greater weight outside of the PCA. Because biologically sustainable mortality limits have been established for the entire grizzly bear population that allow for a stable to increasing population (Interagency Grizzly Bear Study Team 2005, p. 6), grizzly bear mortalities resulting from nuisance bear management or hunting will not reverse the positive population growth trajectory.

I. Grizzly Bear Hunting.

Issue 1: Some commenters requested that the Conservation Strategy strike plans to allow for a “nuisance” grizzly bear hunt and some worried that allowing hunters to shoot nuisance bears would put pressure on State wildlife agencies to designate more nuisance bears. Some commenters also questioned how the hunter would know that he/she is shooting a nuisance bear as opposed to any other, non-problem bear?

Response: The State wildlife management agencies can specify where permit-holders may hunt grizzly bears. If the States desire to harvest conflict bears, they can require their permit-holders to hunt only in areas conflict bears are known to occupy. In this way, hunting may be used as a tool to reduce grizzly bear densities in areas of high

grizzly bear/human conflicts (see WGFD 2005, p. 20). Grizzly bears cannot be declared “nuisance” bears whimsically and State wildlife authorities will not be leading hunters to specific bears to kill. All grizzly bear mortalities in grizzly bear management areas (U.S. Fish and Wildlife Service 2007, p. 19) incurred through hunting will be counted against the ecosystem-wide sustainable mortality limits and will be allowed only if the mortality limits have not been exceeded.

Issue 2: Some commenters felt there should be a "sport hunting" season on grizzlies and that if the grizzlies were hunted they would be afraid of people and be involved in grizzly bear/human conflicts. Others were concerned that a "sport hunt" would harm the population of the newly delisted species, and there would be no control over which bears could be hunted.

Response: Hunting has been an effective conservation tool for many species. Any mortalities occurring due to hunting would be compensatory with the purpose of maintaining desired population objectives. There is no scientific literature to support the notion that a hunting season will restore the “fear of man” to grizzly bears or that hunting will modify nuisance bear behavior. Because the revised sustainable mortality limits include mortalities from all sources, including hunting, and are applied in all grizzly bear management areas (U.S. Fish and Wildlife Service 2007, p. 19), hunting will not threaten the Yellowstone grizzly bear population. Sustainable mortality limits will not be exceeded to satisfy hunters. Hunting is a discretionary mortality source and will occur only if the mortality limits from all causes have not been exceeded. Hunting of females with cubs will not be allowed and the timing of hunts will be set to reduce the likelihood of encountering females (i.e., early spring or late fall hunts).

Issue 3: Some felt that hunting should not be allowed inside the National Parks.

Response: Hunting of grizzly bears will not be permitted inside Yellowstone or Grand Teton National Parks.

J. Population Monitoring.

Issue 1: Most of the commenters who commented on monitoring and evaluation were generally supportive, but some were concerned with the time, effort, and costs associated with the various types of monitoring and felt that the Draft Conservation Strategy is not explicit enough with respect to these concerns.

Response: Perpetual monitoring of the Yellowstone grizzly bear population’s status, habitat conditions, and conflict data is an obligatory component of the Final Conservation Strategy and its adaptive management approach. The signatories to the Conservation Strategy are committed to monitoring grizzly bears and their habitat as described in that document. While the costs of monitoring are substantial, the agencies have obligated the funding in the past and expect to do so in the future. Appendix H of the Final Conservation Strategy provides a breakdown of what amounts the various

management agencies will use to monitor the parameters for which they are responsible (U.S. Fish and Wildlife Service 2007, p. 154).

Issue 2: Some commenters believed that the monitoring schedule is too ambitious and should be cut back to longer monitoring intervals. Several individuals believed monitoring should only occur within the PCA and should not include any monitoring of private lands.

Response: Annual monitoring of multiple indices is essential to careful management both inside and outside of the PCA. The Service is confident that the monitoring schedule is feasible because the cooperating agencies have achieved described objectives in previous years, and the framework required to successfully implement the monitoring schedule in the future is still in place. Monitoring crews will not enter private lands without the owner's permission. However, some data, such as radio-telemetry locations, may be non-intrusively recorded from private lands if bears move across such areas.

Issue 3: A few commenters requested more monitoring, and one organization asked, "How will management actions for wolves impact grizzly bear distribution and/or conflicts?" Another individual was concerned with the long time lags and low statistical power of the monitoring methods and noted that the "application of the proposed methods will doom agency managers to manage today's population with last decade's data and remain behind the curve during inevitable declines in population size and habitat quality."

Response: Several modeling exercises (Wilmers et al. 2003, pp. 914-915; Vucetich et al. 2005, pp. 266-268) and field studies (Barber et al. 2005, pp. 42-43) have examined the effects of wolves on food availability to grizzly bears in the GYA. The results of those investigations suggest that wolves have had little effect on ungulate availability to grizzly bears in the GYA.

We do not know that declines in grizzly bear population size and habitat quality are inevitable or even likely. Considerable effort has gone into the monitoring protocols to enhance the value of these monitoring efforts and to assure that the best possible methods are being used to monitor bear foods and bear vital rates on an annual basis. The Service is confident that these monitoring systems are the best available and they will be updated and modified as necessary with new information as it becomes available. We are committed to use the best available science, and as new monitoring techniques become available and affordable, we will incorporate them into the monitoring program. The monitoring program does not rely solely on monitoring grizzly bear survival to indirectly infer changes in habitat. Vital rates that are more sensitive to habitat changes such as litter size and cub survival will also be monitored. Direct habitat monitoring will produce annual results on key food production, threats to key foods, secure habitat levels, and site developments. We are confident that we will be able to detect the consequences of significantly reduced habitat productivity.

Issue 4: A few individuals commented on the bear management units. Some noted that if bears aren't in a BMU because the habitat in that BMU is degraded or fragmented, then it shouldn't be considered a BMU. In their alternative strategy, the Fremont County Commissioners specifically requested that the Plateau BMU be removed.

Response: The Plateau BMU has been occupied by females with cubs for each of the past 6 years, and every one of the 18 BMUs has been occupied by females with cubs for at least 5 of the past 6 years (Podruzny 2006, p. 17). In light of this, the Service will continue to include all currently identified BMUs in the PCA.

Issue 5: Several individuals disagreed with the methodology of monitoring unduplicated females with cubs-of-the-year (FCOY) to demonstrate adequate reproduction and to estimate population size. Many commenters disagreed with the health of the overall grizzly population being based on this methodology. A few commenters questioned if this truly reflected the distribution of females with cubs or if it was a byproduct of more intensive sampling (i.e. flight time) centered on core grizzly bear areas. Others questioned how a bear is identified as "unduplicated".

Response: The Interagency Grizzly Bear Study Team reviewed the feasibility of several different population estimation methods (Interagency Grizzly Bear Study Team 2005, pp. 12-13, 17-31). Because of the high cost of DNA-based population surveys (3.5-5 million dollars) and the lag between sampling and a resulting population estimate (3 years), annual use of DNA-based population surveys is not feasible or appropriate for our objectives of establishing annual population estimates and sustainable mortality limits. The Interagency Grizzly Bear Study Team rejected the idea of using capture-mark-recapture techniques with the radio-collared sample of grizzly bears due to unreasonably large confidence intervals (Interagency Grizzly Bear Study Team 2005, p. 12). Because of the strict rule set used to collect FCOY data (Knight et al. 1995, p. 246), it is inherently conservative and tends to underestimate the number of FCOY. The Interagency Grizzly Bear Study Team chose to use the Chao2 estimator to correct many of the biases associated with FCOY data concerning sighting heterogeneity (Keating et al. 2002, p. 170, Interagency Grizzly Bear Study Team 2005, p. 20). The Chao2 estimator and the model averaging approach described in the Supplement to the Reassessing Methods Document (Interagency Grizzly Bear Study Team 2007, pp. 2-10) reflect the best available scientific method for calculating an annual population index and establishing biologically sustainable annual mortality limits for the Yellowstone grizzly bear population.

Simulation results suggest that the Chao2 estimator is probably biased low and that the bias is a decreasing function of effort. In other words as effort increases the bias decreases. A commenter has noted that an increase in effort over time with an accompanying decrease in bias could suggest an increasing population even if the true population is stable or decreasing. However, simulation results suggest that bias does not change enough to account for much of the indicated increase in bear numbers. On an annual basis this would amount to a half a percent or less, having little impact on our

estimates of growth rates. Evidence is overwhelming that the population has increased by much more than this.

The Interagency Grizzly Bear Study Team uses a strict protocol for distinguishing unduplicated FCOY as described in Knight et al. (1995, pp. 246-247). These methods involve distances between sightings, dates of sightings, major landscape barriers to movement, and the number of cubs with the female as criteria for determining whether a sighting of a FCOY is a repeat sighting or a unique, unduplicated sighting. The Interagency Grizzly Bear Study Team is currently developing a computer program to remove the human element entirely from the evaluation of unduplicated FCOY sightings and it will be incorporated into the monitoring protocols when it is complete as the incorporation of new science will happen continuously as new information and techniques becomes available.

K. Genetic Diversity

Issue 1: Several commenters noted that the Yellowstone population has not been isolated long enough (approximately 80 years) to show the ramifications of decreased genetic variability, especially considering fragmented habitat, decreased food sources, and other stresses. They claim the Draft Conservation Strategy provides no evidence that inbreeding effects could be detected prior to catastrophic changes in viability. Some claim there has been a decline since 1994 in mean litter size that may be a result of decreased genetic diversity.

Response: We agree that slight declines in genetic diversity are difficult to detect (Miller and Waits 2003, p. 4338). To address this possibility before it is manifest, 1 or 2 bears per generation from other populations will be translocated to augment the Yellowstone population, if natural immigration does not occur by the year 2020. Miller and Waits (2003, p. 4338) conclude that this method is adequate to maintain current levels of genetic diversity in the Yellowstone grizzly bear population.

Mean litter size has not declined since 1994 (Schwartz et al. 2006a, p. 19). Using data from radio-collared bears, Schwartz et al. (2006a, p. 19) calculated ecosystem-wide litter size to be 2.04 between 1983 and 2002. This was not significantly different than the average litter size of 2.10 reported by Craighead et al. (1995, pp. 173-175; Schwartz et al. 2006a, p. 22).

Issue 2: One commenter noted that the Draft Conservation Strategy failed to address genetic management should diversity decline below current levels.

Response: The Final Conservation Strategy clearly states that genetic management will take the form of augmentation with 1 or 2 bears per generation from other grizzly bear populations if natural immigration does not occur by the year 2020 (U.S. Fish and Wildlife Service 2007, p. 37).

Issue 3: A few people favored the idea of translocating male bears to address genetic concerns over the creation of linkage zones between grizzly bear recovery ecosystems. These commenters suggested that the Service analyze the comparative costs and

practicalities of developing linkage corridors versus transplanting bears, together with an analysis of genetic diversity values for both approaches.

Response: The genetic value of translocating 1 or 2 bears will be the same as the results of the natural immigration of 1 or 2 bears, if the source is the NCDE in both cases. It is unlikely that natural connectivity will occur without active management aimed at creating permanent linkage zones. This would be a concerted effort among public land managers, transportation planners, and private landowners. Natural connectivity is preferred and would benefit multiple other wide-ranging or migration-dependent wildlife species. A cooperative, interagency approach involving local citizens and landowners is currently underway in the Northern Rockies. This active attempt to maintain movement opportunities for all wildlife across public lands, private lands, and highways is independent of the Yellowstone grizzly bear population and will continue in the future. The relocation and monitoring of 1 or 2 bears into the GYA would cost approximately \$10,000 once every 10 years. This cost would be shared by Montana Fish, Wildlife, and Parks and the Interagency Grizzly Bear Study Team. This would be more easily implemented than waiting for random movements of bears through linkage zones in the short-term but it is not the preferred long-term solution to wildlife population fragmentation.

Issue 4: One commenter warned against accepting the Conservation Strategy's conclusion that "Data on population fitness indicates that current levels of genetic diversity in the Yellowstone population are not resulting in deleterious effects..." The Service should not equate a lack of statistical significance with a lack of biological significance.

Response: Indicators of fitness in the Yellowstone population demonstrate that the current levels of genetic heterozygosity are adequate as evidenced by measures such as litter size, almost no evidence of disease, high survivorship, an equal sex ratio, normal body size and physical characteristics, and an increasing population. These indicators of fitness will be monitored annually in perpetuity. The level of heterozygosity is slightly lower now, about 0.56 in 2000, than it was in the 1910 to 1920 period, when heterozygosity was 0.58 (Miller and Waits 2003, p. 4337). That rate of loss of heterozygosity means that viability of the GYA population is not likely to be substantially reduced by genetic factors in the next several generations (20+ years), and the introduction of 1 or 2 effective migrants per generation will ensure long-term genetic viability (Miller and Waits 2003, p.4338).

L. Habitat Monitoring.

Issue 1: Some commenters were concerned about funding adequate habitat monitoring and the application of rigorous science in this monitoring. Some commenters noted that because food monitoring will cost a lot of time and money, objectives of such monitoring should be made clear.

Response: It is not possible to predict with certainty future governmental appropriations. The Conservation Strategy provides adequate assurance that the participating agencies will implement the agreement, which is sufficient to meet the reasonableness required for regulatory mechanisms. In addition, the Service is authorized to provide financial assistance to States to assist in monitoring the status of recovered species under section 6(d) of the Endangered Species Act. Existing and future Federal assistance in the form of section 6 funding to States for conservation work will not be affected by the delisting, as long as States continue to identify monitoring grizzly bears as a high priority. The stated objective of the monitoring program for the four major foods is to "...report on each food annually" which will provide "managers with some ability to predict annual seasonal bear habitat use, and estimate, prepare for, and avoid grizzly bear/human conflicts due to a shortage of one or more foods." (U.S. Fish and Wildlife Service 2007, p. 46).

Issue 2: One individual requested that habitat monitoring include the long-term effects of large wildfires.

Response: The Park Service and its numerous cooperators are still monitoring the effects of the 1988 wildfires, without bear recovery and management funds. Any landscape scale disturbance such as a large wildfire would be of interest to the Interagency Grizzly Bear Study Team. As was done in the Interagency Grizzly Bear Study Team's Annual Report for 1989 (Knight et al. 1990, pp. 14-27), a thorough analysis of the impacts of any landscape-scale wildfire would be included in future Annual Reports.

Issue 3: One commenter recommended that the Service monitor and analyze increases in human use and development, its impact on habitat quality, and options for mitigation.

Response: The signatories to the Final Conservation Strategy are committed to monitoring human development on public land and mitigating for its impacts as necessary. Current levels of recreation and private land development are not hindering the growth of the Yellowstone grizzly bear population. Most of the potential negative impact of private land development to grizzly bears comes from increasing grizzly bear/human conflicts. These issues can be proactively addressed through adequate Information and Education efforts, as described in the Final Conservation Strategy and State management plans.

Private land development restrictions are outside the authority of the Service. Recent reports (Gosnell et al. 2006 pp. 749-750) demonstrate that the majority of land sales over 400 acres in size in the GYA from 1990-2001 were to amenity buyers (39 percent) (those who purchase for ambiance or recreation and who have little interest in the economic viability of the property), or to traditional ranchers (26 percent). Less than 6 percent of 1.497 million acres sold from 1990-2001 were to land developers and 12 percent were to investors whose ultimate intention was unknown. This report suggests that ongoing changes in land ownership may result in reduced conflicts between livestock and predators and a lowered level of land development sales than previously projected. While there may be conservation benefits in this overall land ownership

change, there are also uncertainties relating to the eventual land uses on these properties and the stability of these new amenity owners.

The Service has no authority to limit or manage future human population growth. Current levels of human use of public lands are quantified (see USDA Forest Service 2006a, pp. 180-185) and managed to limit resource impacts in the management plans of the National Forests and the National Parks in the GYA. As human population and recreational activity increase in the GYA National Forests, additional regulations have been implemented to limit bear/human conflicts such as the food storage orders in all suitable habitat on National Forest lands and comprehensive State and Federal information and education programs detailing how to coexist with bears.

Issue 4: The American Society of Mammalogists suggested that “greater efforts to monitor and predict major food type abundance and methods for their management” be implemented. Some commenters felt that habitat monitoring should extend into areas outside of the PCA to avoid trends not being detected “until it is too late.” Many commenters were concerned with reduction in natural food sources and request more mapping and identification of diverse food sources outside the PCA.

Response: The Service agrees that habitat monitoring outside of the PCA would provide additional insight into possible negative effects of habitat alteration on the grizzly bear population. In response to this concern, the GYA National Forests will calculate secure habitat values outside of the PCA every two years and submit these data for inclusion in the Interagency Grizzly Bear Study Team’s annual report (USDA Forest Service 2006b, p. 6). The GYA National Forests will also monitor and evaluate livestock allotments for recurring conflicts with grizzly bears in suitable habitat outside the PCA as defined in the State plans (USDA Forest Service 2006b, p. 6). Lastly, the GYA National Forests will be responsible for monitoring whitebark pine occurrence, productivity, and health in suitable habitat outside the PCA (USDA Forest Service 2006b, p. 7).

The three State grizzly bear management plans detail what habitat each State will monitor. In Idaho, outside of the PCA, the Idaho Department of Fish and Game will establish data analysis units within which habitat criteria will be monitored but will not be established strictly for grizzly bears. Instead, habitat standards will be incorporated into current management plans for other game species. However, the Idaho Department of Fish and Game will monitor important food sources for grizzly bears including elk, deer, moose, kokanee salmon, and cutthroat trout. The Idaho Department of Fish and Game also will encourage and work with other land management agencies on public lands to monitor wetland and riparian habitats, whitebark pine production, important berry-producing plants, and changes in motorized access route density. On private lands, the Idaho Department of Fish and Game will work with citizens, counties, and other agencies to monitor development activities and identify important spring habitat for grizzly bears, then work with landowners to minimize impacts to bears.

Montana Fish, Wildlife, and Parks will collect and analyze habitat data and monitor habitat changes pertaining to key grizzly bear foods, road densities, road construction and improvements, and coal bed methane activities. In addition, Montana Fish, Wildlife, and Parks will continue to use statewide habitat programs to conserve

key wildlife habitats in southwestern Montana, working closely with private landowners to conserve private lands via lease, conservation easements, or fee title acquisition.

In Wyoming, the Wyoming Game and Fish Department will monitor habitat standards in a manner consistent with those already in place for other wildlife and will not focus specifically on the habitat needs of grizzly bears. The Wyoming Game and Fish Department will evaluate the effects of existing and proposed human activities in important wildlife habitat and work with land management and transportation agencies to ensure that projects do not adversely affect the grizzly bear population. Specifically, the Wyoming Game and Fish Department will 1) identify and evaluate the site-specific and cumulative effects of proposed projects; 2) monitor and recommend changes, if justified, in human activities on seasonally important wildlife habitats; 3) minimize road and site construction impacts on wildlife habitat; 4) encourage the use of native vegetation in rehabilitation projects; 5) encourage land management agencies to manage for open road densities of no more than 1.6 km/2.6 sq km (1 mi/sq mi) which benefit a suite of wildlife species; 6) recommend seasonal road closures when warranted; 7) encourage the US Forest Service and Bureau of Land Management to enforce off road/trail motorized use restrictions; and 8) focus on improving habitat quality in areas of habitually high human caused grizzly bear mortality (WGFD 2005, pp. 21-31). In addition, the Wyoming Game and Fish Department will work with the US Forest Service to monitor bear use of army cutworm moths and the overall status and health of whitebark pine (WGFD 2005, pp. 21-31).

Due to the natural annual variation in abundance and distribution of the 4 major foods, there is no known way to predict their abundance, even 1 year in advance. Instead, managers will use an adaptive management approach that addresses poor food years with responsive management actions such as limiting grizzly bear mortality. The affected GYA National Forests, the Interagency Grizzly Bear Study Team, and the State wildlife agencies all make efforts to monitor habitat conditions outside the PCA. Specifically, systematic aerial monitoring of mountain pine beetle infestations inside and outside of the PCA is conducted by the Forest Service (Gibson 2006, p. 2). The Greater Yellowstone Whitebark Pine Monitoring Working Group established whitebark pine transects throughout the GYA to estimate whitebark pine survival rates in light of increasing pressure from white pine blister rust and mountain pine beetles (Greater Yellowstone Whitebark Pine Monitoring Working Group 2006, p. 74). State wildlife management agencies and university researchers monitor ungulate populations outside the parks. The Wyoming Game and Fish Department works with the Interagency Grizzly Bear Study Team to identify and monitor new army cutworm moth aggregation sites used by grizzly bears outside of the PCA. Only the effects of lake trout on cutthroat trout are not being systematically monitored outside the PCA.

Issue 5: Some commenters noted that the key to maintaining the 4 major food sources is to take action when a downward trend is indicated before the food sources are lost and the grizzly population is threatened. The Conservation Strategy should be clear as to what actions may be taken to mitigate declines in any of the major foods (e.g. harvesting, revegetation, fire, and thinning).

Response: Aside from the well-documented association between whitebark pine cone crop size and subsequent management actions on grizzly bears (Mattson et al. 1992, p. 432), we have not been able to detect any statistically significant relationships between abundances of the other three major foods and grizzly bear vital rates. Those foods have either fluctuated (e.g, ungulates, army cutworm moths) or declined (e.g., cutthroat trout) during the period in which the Yellowstone grizzly bear population was increasing at a rate between 4 percent and 7 percent annually. Thus, the remainder of this response will address what actions will be taken in response to declines in whitebark pine.

The Yellowstone Ecosystem Subcommittee issues press releases annually about the abundance of fall foods, particularly whitebark pine. This approach will continue under the Conservation Strategy and the guidance of the Yellowstone Grizzly Bear Coordinating Committee. In poor whitebark pine years, these press releases warn people that bears might be found in lower elevation areas and that encounters with bears will likely be more common. In Yellowstone National Park, similar warnings are issued to people when obtaining their backcountry permits and, in some years, warning signs are posted at trailheads. Declines in grizzly bear survival or reproduction due to declines in whitebark pine will be detected through monitoring and mitigated in the short term by reduced mortality limits and efforts to reduce nuisance bear removals, and in the long-term by continued whitebark pine restoration and habitat management enhancing secure habitat availability in specific areas outside the PCA where healthy whitebark pine may be available.

In response to concerns about threats to whitebark pine in the GYA, the Whitebark Pine Subcommittee was formed in 1998 to monitor the health of whitebark pine and the overall ecological importance of whitebark pine in the GYA. This group of U.S. Forest Service, National Park Service, and United States Geological Survey managers and researchers gathers information on the status of whitebark pine and implements various restoration techniques and management responses. Current work on whitebark pine includes planting in several areas, cone collection from healthy trees, silvicultural treatments to improve growth and establishment, prescribed burning to encourage natural whitebark pine seedling establishment, and surveys for healthy trees that may possess blister rust resistant genes. Through its Forest Health Protection program, the Forest Service is also investigating the use of the pheromone verbenone to locally control mountain pine beetles (Kegley et al. 2003, pp. 1, 5; Kegley and Gibson 2004, pp. 1, 3). Both inside and outside of Yellowstone and Grand Teton National Parks, managers are attempting to restore natural fire regimes to the GYA, which is expected to reduce the effects of mountain pine beetles, white pine blister rust, and dwarf mistletoe. These efforts are independent of the Conservation Strategy and will continue in the foreseeable future. With the interagency cooperation and support for whitebark pine conservation in the GYA, we are confident that any substantial declines in whitebark pine will be mitigated to the extent possible.

Issue 6: Some commenters questioned why the ungulate transects are limited to winter kills only. They ask if monitoring can be expanded to include an "index" of availability of ungulate carcasses from a variety of sources. One commenter also requested that we analyze how wolves may affect the availability of carrion to grizzly bears.

Response: The carcass transects are run in late winter and early spring because winter-killed carcasses are most abundant then and because those carcasses are most important to bears emerging from hibernation. The abundances of live elk and bison are also monitored, although not solely for purposes of grizzly bear management. Several modeling exercises (Wilmers et al. 2003, pp. 914-915; Vucetich et al. 2005, pp. 266-268) and field studies (Barber et al. 2005, pp. 42-43) have examined the effects of wolves on food availability to grizzly bears in the GYA. The results of those investigations suggest that wolves have had little effect on ungulate availability to grizzly bears in the GYA.

Issue 7: A few commenters recommended that elk calves be included and monitored as the fifth major food for grizzly bears in the GYA.

Response: There are annual elk cow/calf counts in Yellowstone and surrounding areas. These data are collected and reported by the Northern Yellowstone Cooperative Wildlife Working Group. The Working Group is comprised of resource managers and biologists from the Montana Department of Fish, Wildlife, and Parks, National Park Service (Yellowstone National Park), U.S. Forest Service (Gallatin National Forest), and U.S. Geological Survey (Northern Rocky Mountain Science Center). These calf count data are available for the Interagency Grizzly Bear Study Team and the Yellowstone Grizzly Bear Coordinating Committee for consideration of the impacts of changes in these numbers on grizzly bears.

Issue 8: Some commenters stated that the Service is misrepresenting the threat to the grizzlies that may occur as a result of a reduction in cutthroat trout. They claim the grizzly is more adaptable than that and would be able to substitute one major food group for another.

Response: The combination of lake trout, whirling disease, and drought conditions has resulted in declines in the Yellowstone cutthroat trout population with subsequent decreases in grizzly bear fishing activity (Koel et al. 2005, p. 14). In fact, bear activity (includes black bear and grizzly bear use) at spawning streams decreased 87 percent between 1989 and 2004 (Koel et al. 2005, p. 14). This decrease corresponds temporally with cutthroat trout declines but may not have a significant effect on the grizzly bear population because adult grizzlies that fish in spawning streams only consume, on average, between 8 and 55 trout per year (Felicetti et al. 2004, p. 496). The results of Felicetti et al. (2004, p. 496) indicate a lower dependence on this food source than previously believed (see Reinhart and Mattson 1990, p. 349; Mattson and Reinhart 1995, pp. 2076-2079). Of particular importance is the finding that male grizzly bear consumption of spawning cutthroat trout was five times more than average female consumption of this food (Felicetti et al. 2004, p. 496) and there was minimal use of cutthroat trout by female grizzly bears. Haroldson et al. (2005 p. 175) found that a small proportion of the Yellowstone grizzly bear population was using cutthroat trout. The number of bears using trout varied from 15 to 33 per year between 1997 and 2000. This low reliance on cutthroat trout by female bears and low reliance on trout by the

population has implications for population dynamics and means that declines in this food resource are not likely to affect grizzly bear viability in the GYA. We do not know to what extent grizzly bears might be able to compensate for the loss of cutthroat trout. However, spawning cutthroat trout have declined to about 1 percent of their former abundance (Gunther et al. 2006, pp. 36-38), and it is unlikely that any further decline will greatly affect grizzly bears.

Issue 9: Some commenters felt monitoring of cutthroat trout needs to encompass the whole recovery area and not just the Primary Conservation Area.

Response: The State wildlife management agencies monitor cutthroat trout outside of the Parks, but it is only within the drainage of Yellowstone Lake that spawning cutthroat trout are thought to be both a major food for grizzly bears and subject to predation by non-native lake trout. In light of recent evidence (Felicetti et al. 2004, p. 496) that concludes that grizzly bears, particularly reproductive females, are less dependent on this food source than previously thought (Reinhart and Mattson 1990, p. 349; Mattson and Reinhart 1995, pp. 2076-2079), the Service feels that adequate monitoring mechanisms are in place. Yellowstone National Park has active programs of lake trout eradication and monitoring in place that will continue in the foreseeable future, and the Idaho Department of Fish and Game has committed to monitoring cutthroat trout outside of the PCA (Idaho's Grizzly Bear Delisting Advisory Team 2002, p. 10).

Issue 10: A few commenters viewed the monitoring protocol for moth sites as inadequate, since the agencies monitor bear use of the moths rather than the moths themselves. They recommended additional research into techniques to directly monitor the moths. Some noted that the Draft Conservation Strategy establishes no threshold numbers which will trigger definite habitat based actions to address or mitigate decreases in moths.

Response: There is no accurate method available to monitor moth numbers across thousands of square kilometers of alpine habitat. The method currently used quantifies bear use of moth sites as an index of moth presence and distribution. Although it is known that moth abundance fluctuates in the spring on agricultural lands on the plains (Burton et al. 1980, pp. 4-5) and that moth flights vary in magnitude along their migration routes (Hendricks 1998, p. 165), we are not able to predict where army cutworm moths will occur on the landscape each year except by observing where bears use this food source. The Interagency Grizzly Bear Study Team is currently sponsoring the development of spatial models to predict where potential army cutworm moth habitat is (Robison et al. 2006a, p. 88). The Interagency Grizzly Bear Study Team has not documented an association between grizzly bear use of moth aggregation sites and variation in vital rates and the direct monitoring of army cutworm moth abundance and status is not necessary at this time. Because bear use of moth aggregation sites varies annually, most likely due to differences in annual snowpack and the timing of snowmelt, and no definitive relationships have been detected between bear use of army cutworm moths and grizzly bear survival and/or reproduction, there is no science to support a threshold value that would trigger specific management responses. The Interagency

Grizzly Bear Study Team will continue efforts to identify new sites and monitor grizzly bear use of both current and newly discovered sites. Additionally, the Interagency Grizzly Bear Study Team will continue to conduct and support research about grizzly bear use of army cutworm moths and army cutworm moth ecology. The Interagency Grizzly Bear Study Team is currently sponsoring research on the geospatial prediction of army cutworm moth use of high elevation resting sites, the genetic makeup of army cutworm moth populations in the GYA, the assessment of whether pesticide residues in moths could negatively affect grizzly bears, and documentation of what plant species army cutworm moths feed on at high elevations in the GYA (Robison 2006a, pp. 86-87; Robison 2006b, p. 90; Robison et al. 2006a, pp. 87-88; Robison et al. 2006b, pp. 1706-1710)

Issue 11: Some commenters were concerned that army cutworm moths are classified as “agricultural pests.” One commenter suggested that the Service cooperate with the States of Montana, Wyoming, Colorado, and Nebraska to lower losses to crops without threatening a food source critical to grizzlies and their recovery.

Response: We have seen no information to suggest that agricultural activities, including pesticide use, are threatening army cutworm moths. There are no detectable pesticide residues in moths in the grizzly bear feeding areas in the GYA (Robison et al. 2006b, pp. 1706-1710). Army cutworm outbreak years are geographically and temporally sporadic, and in most years they are scarce in a given locality (Burton et al. 1980, pp. 4-5). The State of Montana has an army cutworm monitoring and forecasting program in place and the Interagency Grizzly Bear Study Team is currently evaluating ways to incorporate the State forecasts into its own monitoring program (U.S. Fish and Wildlife Service 2007, pp. 131-132).

Issue 12: Some people suggested that actions be taken to mitigate the threat of white pine blister rust, including: 1) modeling various amounts and rates of decline in whitebark stands and the effects of different habitat management responses and 2) restoring historic fire regimes and ecological processes that support natural regeneration of whitebark pine.

Response: The future extent of the blister rust infection and the future effects it will have on whitebark pine and the Yellowstone grizzly bear populations are unknown. Given the uncertainty surrounding the prediction of the impacts of white pine blister rust in the future, the best management approach is to monitor blister rust infection, cone production, mortality, and grizzly bear conflicts, mortality, and reproduction. Under the Final Conservation Strategy, all of these features will be monitored annually. In response to concerns about threats to whitebark pine in the GYA, the Whitebark Pine Subcommittee was formed in 1998 to gather information on the status of this tree and to implement various restoration techniques and management responses. Current work on whitebark pine includes planting in several areas, cone collection from healthy trees, silvicultural treatments to improve growth and establishment, prescribed burning to encourage natural whitebark pine seedling establishment, and surveys for healthy trees that may possess blister rust resistant genes. Under the Conservation Strategy, the

Interagency Grizzly Bear Study Team will continue monitoring whitebark pine cone production, the prevalence of white pine blister rust, and whitebark pine mortality.

Issue 13: One commenter asked for clarification about the expenses involved and who will conduct the whitebark pine transects. Some also questioned if the current transects accurately reflect production for the entire GYA.

Response: The Interagency Grizzly Bear Study Team is the lead agency for the whitebark pine cone production monitoring effort and maintains the database, but fieldwork is also conducted by Park Service and Forest Service personnel. Funding has been obligated to conduct the monitoring effort for many years, and we expect it to continue to be obligated for that purpose. The estimated annual cost of monitoring whitebark pine cone production is \$55,703 (U.S. Fish and Wildlife Service 2007, p. 154).

In 2004, the Greater Yellowstone Whitebark Pine Monitoring Working Group was formed. This is an interagency team of resource managers, statisticians, and researchers formed to assess the status of whitebark pine, its threats, and restoration options in the GYA. The Whitebark Pine Monitoring Working Group monitors transects throughout the GYA annually for whitepine blister rust infection, mountain pine beetle infestation, and whitebark pine survival. They have established over 70 whitebark pine transects outside the PCA, working closely with statisticians to ensure a representative sample and a high power of inference (Greater Yellowstone Whitebark Pine Monitoring Working Group 2005, pp. 97-104; Greater Yellowstone Whitebark Pine Monitoring Working Group 2006, p. 76).

Issue 14: Numerous commenters were supportive of the monitoring protocol for private land development while others felt it limited their private property rights. Several commenters noted the importance of some lowland habitats on private lands and encouraged the Conservation Strategy to be more definitive about restricting development on private lands by emphasizing innovative solutions such as working with non-governmental organizations to protect private lands via conservation easements, working with counties to create zoning ordinances that favor coexistence with grizzly bears, designating open spaces in areas used by grizzlies, and developing covenants within neighborhoods that promote coexistence with grizzlies. A few commenters also encouraged the Conservation Strategy to provide increased information and education to local communities regarding these potential compromises and incentives to local landowners.

Response: The Service has no authority to limit or manage future human population growth or private land development. Due to the disproportionate number of grizzly bear/human conflicts that occur at site developments on private lands (see Servheen et al. 2004, p. 15), the Service recognizes the need to develop innovative, collaborative solutions for managing grizzly bears and reducing conflicts on private lands. The Service recommends that private land owners become involved in reducing these conflicts. The Conservation Strategy encourages continuing cooperation between private landowners and non-governmental organizations on managing garbage storage, securing conservation easements, and educating residents. The inclusion of county

government representatives from the States of Wyoming, Montana, and Idaho on the Yellowstone Grizzly Bear Coordinating Committee is meant to facilitate awareness and appropriate mitigation responses at the county level. State wildlife agencies also provide educational materials and workshops to private residences to prevent grizzly bear/human conflicts from occurring on private lands.

Issue 15: A few commenters requested that the Conservation Strategy establish a time frame within which management and status reviews must be completed to insure that potential threats are addressed quickly.

Response: The Final Conservation Strategy states that a Biology and Monitoring Review conducted by the Interagency Grizzly Bear Study Team in response to deviations from the desired conditions will be completed within 6 months of its initiation and made available to the public (U.S. Fish and Wildlife Service 2007, p.66). Status reviews initiated through the petition process should be completed, to the extent practicable, within 12 months of a petition found to contain substantial information that the petitioned action may be warranted. The Service determine also has the authority to emergency relist the Yellowstone grizzly bear population. Such an emergency relisting must be followed by a final rule within 240 days, or the protection will lapse.

M. Implementation, Evaluation, and the Yellowstone Grizzly Management Committee.

Issue 1: There was some disagreement over what group should be responsible for implementation. Some did not want another bureaucratic layer such as the Yellowstone Grizzly Management Committee. On the other hand, some commenters, including the Governors of Idaho, Montana, and Wyoming, wanted to expand the committee to include citizen members.

Response: In the Final Conservation Strategy, the title of the Yellowstone Grizzly Management Committee has been changed to the Yellowstone Grizzly Bear Coordinating Committee. Because the Yellowstone Grizzly Bear Coordinating Committee is composed of top-level managers from the affected States, National Forests, National Parks, Tribes, Interagency Grizzly Bear Study Team, and county representatives, the Service maintains that this Committee is appropriate and necessary to implementation of the Conservation Strategy. This will provide continuity between the current and post-delisting management regimes, since the members of the Yellowstone Grizzly Bear Coordinating Committee will be the same as current members of the Yellowstone Ecosystem Subcommittee, less the Service. We do not believe that any changes to the current structure would be beneficial to grizzly bear management.

Issue 2: Some commenters questioned whether it is appropriate for just one member of the Yellowstone Grizzly Management Committee to be able to trigger the time, expense and resources required to do a management review. One commenter also noted that although the Interagency Grizzly Bear Study Team can recommend a Management Review, there is nothing in the Draft Conservation Strategy requiring the Yellowstone Grizzly Management Committee to act on the recommendation.

Response: A Biology and Monitoring Review by the Interagency Grizzly Bear Study Team may be triggered by any of the following: (1) a total population estimate of less than 500, as indicated by a Chao₂ estimate (Keating et al. 2002, p. 162) of less than 48 females with cubs-of-the-year, for 2 consecutive years; (2) exceeding the 9 percent total mortality limit for independent females for 2 consecutive years; (3) exceeding the total mortality limits for independent males or dependent young for 3 consecutive years; (4) failure to meet any of the habitat standards described in the Conservation Strategy pertaining to levels of secure habitat, developed sites, or the number of livestock allotments; or (5) failure to receive adequate funding to fully implement the monitoring and management requirements of the Conservation Strategy in any given year. A Biology and Monitoring Review could be initiated by the Yellowstone Grizzly Bear Coordinating Committee; however it may not be triggered upon the request of only one member. The Service does not have the authority to dictate what the responses of member agencies of the Yellowstone Grizzly Bear Coordinating Committee to a Biology and Monitoring Review will be. The member agencies are committed to maintaining a viable Yellowstone grizzly bear population and we are confident that this will be done. If the conclusion of a Biology and Monitoring Review was to petition the Service to relist, a consensus among the majority of members of the Yellowstone Grizzly Bear Coordinating Committee would be required to proceed with submitting a petition to the Service.

Issue 3: Some commenters requested the formation of an oversight committee consisting of independent scientists (mammalogists, ecologists, and population biologists not affiliated with any government agency) to annually review the monitoring data, conclusions and management recommendations. This oversight committee would have the same authority as the Yellowstone Grizzly Management Committee to trigger a management and/or status review. One commenter called for a science workshop for scientists to debate annual grizzly bear data in an open forum with public participation.

Response: Because the Yellowstone Grizzly Bear Coordinating Committee is composed of the scientists and managers that are directly responsible for the management of the Yellowstone grizzly bear population and these member agencies are committed to using the best available science to maintain a viable Yellowstone grizzly bear population, an additional oversight committee is not necessary. Yellowstone Grizzly Bear Coordinating Committee meetings will always be open to the public and the opportunity for public participation and dialogue will be built into the format of the meetings. The public or independent organizations or groups can petition the Service for a status review at any time independent of the Yellowstone Grizzly Bear Coordinating Committee.

Issue 4: A few commenters questioned if and how the Conservation Strategy will be incorporated into Forest Plans. Most of those comments pertained to concerns with off highway vehicle use, and the potential for energy development within the PCA.

Response: The affected GYA National Forests have incorporated the habitat standards of the Conservation Strategy into their respective Forest Plans through the National Environmental Policy Act (NEPA) process. A Draft Environmental Impact Statement (EIS) for creating Forest Plan Amendments for Grizzly Bear Conservation for the Greater Yellowstone Area National Forests was released in July 2004. After a public comment period for that Draft EIS, a Final EIS and Record of Decision were released in April 2006. The Record of Decision stated that the habitat standards described in the Conservation Strategy would be amended to current Forest Plans. These Forest Plans will limit motorized access to the 1998 baseline levels. Inside the PCA, the potential for increased oil and gas development in the future is severely limited due to the constraints on road construction and site development established by the Conservation Strategy. Similarly, we do not anticipate a dramatic increase in oil and gas development outside of the PCA due to moderate to low potentials for both occurrence and development throughout most of the GYA National Forests, with the exception of the Bridger-Teton National Forest (USDA Forest Service 2006a, pp. 210-213). Even with the high potential for occurrence and development in the Bridger-Teton, there are currently only 14 active oil and gas wells inside that National Forest, and none of them are inside FWS-defined suitable grizzly habitat or in occupied grizzly bear range.

Issue 5: Many comments were directed at whether management of the grizzly bear, particularly outside the PCA, should be the responsibility of the States or the Federal government. Those supporting State management felt that if delisting happens, then management authority should be given to the States and the State management plans. On the other hand, several commenters did not trust the States to manage the bear with the same protection it has under the ESA.

Response: After delisting, grizzly bears outside of the Parks will be managed by the States in accordance with the State management plans appended to the Conservation Strategy. Although the management of the population outside of the National Parks will be the responsibility of the States, the majority of habitat management will be done by the National Park Service and the affected GYA National Forests because the majority of grizzly bear habitat is public land that is managed by these agencies. Grizzly bear population standards such as the number of females with cubs-of-the-year, their distribution, and all mortalities will be managed according to the Final Conservation Strategy and will be applied in a uniform, coordinated effort throughout the Grizzly Bear Management Areas shown in Figure 3 of the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, p. 19).

Issue 6: A few commenters suggested that the States and Federal government continue to work together as outlined in the Conservation Strategy. The Governor of Wyoming requested that the Conservation Strategy provide a cut-off date when it would be replaced by the State management plans. One commenter questioned how the Bureau of Land Management fits into the management picture, noting that it was not identified as a signatory of the Memorandum of Understanding.

Response: The Final Conservation Strategy will guide the management and monitoring of the Yellowstone grizzly bear population in perpetuity. It is a dynamic document that can be modified if the best available science indicates there is a need for change but there is no date at which the Conservation Strategy will no longer be in effect. Because the Bureau of Land Management manages less than 2 percent of lands inside the PCA, they will not be modifying their land management plans to incorporate specific direction. However, BLM commitment to maintaining and enhancing the recovered status of the Yellowstone grizzly bear population is documented by their signature on the Final Conservation Strategy's Memorandum of Understanding (U.S. Fish and Wildlife Service 2007, pp. 12-13).

Issue 7: Several suggestions regarding the development of State management plans were received. The governors of Idaho, Wyoming, and Montana felt that "State plans should be developed through a public process and should seek to insure long-term viability of grizzly bears and preclude re-listing." The governors also recommended that the State management plans be incorporated into Federal land and resource management decisions.

Response: The Service agrees with these comments. This open public process was pursued by the respective States and the State management plans developed through this process were approved by the Service and incorporated into the Final Conservation Strategy as Appendices.

Issue 8: Other comments regarding management direction included recommendations that annual meetings focusing on private land issues be established.

Response: The discussion of private lands and relationships between private land development and management and grizzly bears will be a normal part of the function and meetings of the Yellowstone Grizzly Bear Coordinating Committee. The Service sees no need for special meetings specifically devoted to private lands.

Issue 9: One commenter requested clarification about the Nuisance Bear Guidelines, as applied to adult females in the PCA and all bears outside the PCA. In general, the commenter questioned why the Draft Conservation Strategy adopts the same Nuisance Bear Guidelines that are in place currently, for a threatened population. Specifically, he/she criticized the maintenance of guidelines which provide more protection for female nuisance bears inside the PCA and questioned why females inside the PCA cannot be removed unless deemed dangerous to humans. The commenter also wanted clarification on who will make management decisions regarding nuisance bears outside the PCA.

Response: The purpose of the Conservation Strategy is to maintain and enhance the recovered status of the Yellowstone grizzly bear population. The nuisance bear guidelines that are currently in place were retained because the grizzly bear population in the GYA grew at a rate between 4 and 7 percent per year under those guidelines. The additional consideration given to females inside the PCA is justified because their

survival is the most important factor contributing to overall population trajectory. As such, management decisions concerning females must be precautionary and conservative. Outside of the National Parks, the State wildlife management agencies will make decisions regarding the management of nuisance bears. However, all mortalities incurred within the Grizzly Bear Management Areas shown in Figure 3 of the Final Conservation Strategy (U.S. Fish and Wildlife Service 2007, p. 19) will be counted toward the ecosystem-wide sustainable mortality limits. In this way, the States will not have the discretion or the ability to negatively affect the overall population trajectory of the Yellowstone grizzly bear population.

N. Funding for the Conservation Strategy.

Issue 1: Many commenters thought the Conservation Strategy should address where adequate funding will come from explicitly. The Governors said this cannot be an unfunded mandate, but instead should be a shared responsibility. Some commenters saw a need for economic mitigation in the strategy to relieve effects to local people and businesses. They felt the national public should help pay and that allocation of Section 6 funds to the States is inadequate.

Response: Appendix H of the Conservation Strategy presents the annual cost estimates for each task to be conducted by each agency (U.S. Fish and Wildlife Service 2007, p. 154). It is not possible to predict with certainty future governmental appropriations, but by signing the Conservation Strategy, stakeholders demonstrate that they are committed to implementation of the features that are within their discretion and authority. The Conservation Strategy provides adequate assurance that the participating agencies will implement the agreement, which is sufficient to meet the reasonableness required for regulatory mechanisms. In addition, the Service is authorized to provide financial assistance to States to assist in monitoring the status of recovered species under section 6(d) of the Endangered Species Act. Existing and future Federal assistance in the form of section 6 funding to States for conservation work will not be affected by the delisting, as long as States continue to identify monitoring grizzly bears as a high priority.

Issue 2: The Governors of Idaho, Montana, and Wyoming saw an unfair burden placed on the States regarding monitoring. They feel that habitat, population, and food monitoring on Federal lands should not be the financial responsibility of the States.

Response: As presented in Appendix H of the Conservation Strategy, the annual monetary costs to the States of the monitoring program are relatively minor (Wyoming = \$135,400; Montana = \$143,000; Idaho = \$18,550), and those costs are expended on Federal and non-Federal lands. Some of those amounts would be provided by Federal funding. The majority of monitoring costs expended on Federal lands are born by Federal agencies, since the Geological Survey (\$486,426), Forest Service (\$158,000), and Park Service (\$77,000) pay for the bulk of the monitoring.

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