Grizzly Bear Recovery Plan

Supplement: North Cascades Ecosystem Recovery Plan Chapter

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Date

NORTH CASCADES ECOSYSTEM

GRIZZLY BEAR RECOVERY ZONE CHAPTER

TO BE APPENDED TO REVISED GRIZZLY BEAR RECOVERY PLAN

BACKGROUND ON THE NORTH CASCADES RECOVERY ZONE

The North Cascades Grizzly Bear Recovery Zone (NC) is one of the largest contiguous blocks of Federal land remaining in the lower 48 United States. The recovery zone encompasses approximately 9,565 square miles within north-central Washington State (Figure 1). The recovery zone includes all of the North Cascades National Park (NCNP), and most of the Mount Baker-Snoqualmie, Wenatchee and Okanogan national forests. The recovery zone is composed of about 85% federal lands, 5% state lands and 10% private lands. About 41% of the recovery zone is within wilderness or the NCNP and about 72% has no motorized access.

Historical records on grizzly bears compiled by Bjorkland (1980), Sullivan (1983) and Almack et al. (1993) indicate that grizzly bears once occurred throughout the recovery zone. For example, while surveying the US/Canada border in the 1850's, Custer documented observations of several grizzly bears above the North Fork of the Nooksack River (Majors 1984). Custer killed the first grizzly bear spotted and shipped the skin to the Smithsonian Institute. Grizzly bear observations occurred even more frequently along the crest and east slope of the North Cascades (Thompson 1970). Early Washington explorers mention observations and killings of several grizzly bears from the Okanogan and Columbia rivers (Thompson 1970, Sullivan 1983).

The decline of the grizzly bear population within the North Cascades was likely a result of intensive killing for the fur trade followed by rapid human encroachment into their habitat (Sullivan 1983, Almack et al. 1993). During the period from 1827 to 1859 Hudson's Bay Company records show that 3,788 grizzly bear hides were shipped from three forts in or near Washington's North Cascades; 3,477 from Fort Colville; 236 from Fort Nez Perce (Walla Walla); and 75 from Thompson's River (B.C.) (WDFW files). Obviously this had a dramatic effect on the local grizzly bear population. Sullivan's (1983) examination of the shipping records showed that peak years occurred after 1840. He reported peak years at each fort: 382 grizzly bear hides from Fort Colville in 1849; 32 hides from Fort Nez Perce in 1846; and 11 hides from Thompson's River in 1851. Four hides were processed through Fort Nisqually from 1841-1854.

Sullivan (1983) compiled 233 reports of grizzly bears in the North Cascades and adjacent British Columbia from the mid - 1800's through 1983 and Almack et al. (1993) collected an additional 33 reports of grizzly bears from 1859-1982; and 153 reports from 1983 to 1991. Twenty-one of these were classified as confirmed grizzly bears. Recent evidence included a skull, nine locations of grizzly bear tracks, one food cache, six visual observations of grizzly bears, and a grizzly bear that was killed in 1964. In addition, two grizzly bears were killed in British Columbia, adjacent to the recovery zone in 1982. This recent evidence indicates that the North Cascades still harbors a small number of resident grizzly bears (Almack et al. 1993). The last grizzly killed in the North Cascades was in Fisher Creek in 1967 (Sullivan 1983).

A grizzly bear habitat evaluation of the North Cascades Ecosystem was conducted from 1986-1991 (Almack et al. 1993, Gaines et al. 1994). The evaluation, and a Technical Committee Review Team (Servheen et al. 1991), concluded that the North Cascades Ecosystem contained sufficient quality habitat to maintain and recover a grizzly bear population.

RECOVERY OF GRIZZLY BEARS IN THE NORTH CASCADES

A range of alternatives should be considered for recovery of this population. These alternatives should range from no action to augmentation of the population in the North Cascades with bears from another area. The National Environmental Policy Act (NEPA) process is the appropriate way to consider these alternatives.

This chapter contains tasks that address the five factors in Section 4(a)(1) pertaining to the listing or delisting of any species under the Endangered Species Act. These tasks must be addressed in any rule published in the Federal Register to list or delist a species. The details of which tasks address which factors are presented in Table 1.

Subgoal: For the North Cascades Grizzly Bear Recovery Zone (NCE), the determination of the final recovery goals such as number of females with young, percentage of bear management units occupied, level of human-induced mortality is not possible at this time because of the lack of information for the ecosystem. The grizzly bear population in the NCE will be considered recovered when monitoring indicates: 1) that the population is large enough to offset some level of human-induced mortality and be self-sustaining despite foreseeable influences of demographic and environmental variation; and 2) reproducing bears are distributed throughout the recovery area. Such a population may be comprised of between 200-400 grizzly bears in the US portion of the ecosystem. As more definitive research is done on population dynamics, this number may change. An analysis of current habitat information for the NCE and estimated grizzly bear densities in similar habitats indicate that the ecosystem will likely support this number of bears (Servheen et al. 1991). The recovery of a sustainable

grizzly bear population is expected to be a slow, gradual process requiring decades. Given the present, very small population of grizzly bears in the NCE the initial target for human-induced mortality is zero.

This chapter outlines the recovery contribution that should be made within the US portion of the NCE in compliance with the Endangered Species Act, with some references made to cooperative efforts involving agencies and personnel from both the US and Canada. For the purposes of this chapter, the US portion of the NCE will be referred to as the Recovery Zone.

Priority recovery actions recommended for the first five years are:

- Develop a strategy for implementation of the North Cascades grizzly bear recovery chapter.

- Develop an intensive ongoing educational program to provide information about grizzly bears and grizzly bear recovery to the public.

- Initiate the NEPA process: 1) scoping; 2) information & education; and 3) documentation; to evaluate a range of alternatives to recover this population including the augmentation of the existing small population by placement of a small number of bears into the ecosystem and/or other recovery alternatives.

- Conduct an intensive research and monitoring effort to determine grizzly bear population size and distribution, habitat use, and home ranges in the NCE.

- Implement the Interagency Grizzly Bear Guidelines (IGBC 1986).

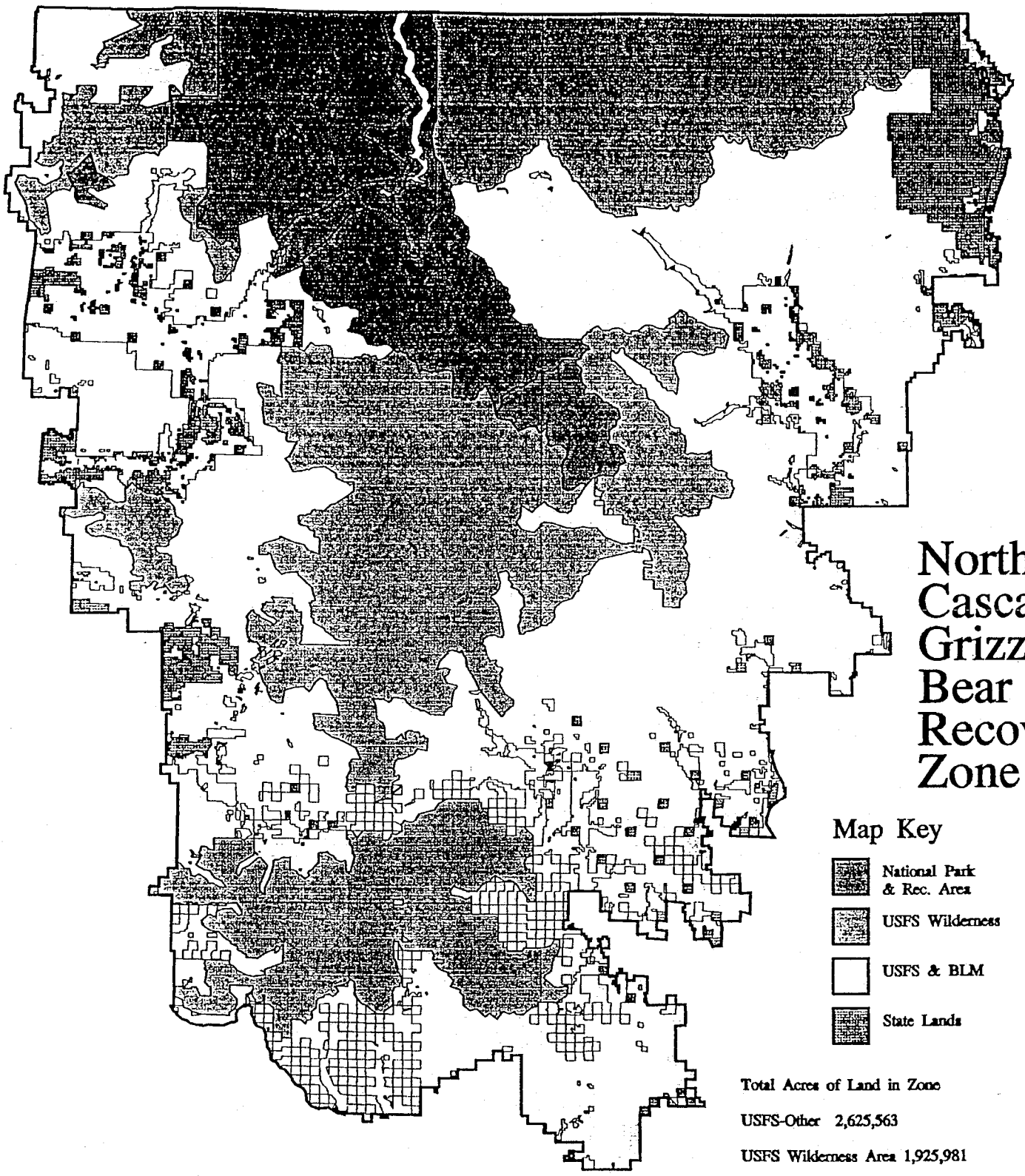
NC1. Establish the population objective for recovery and identify the limiting factors. The recovery zone encompasses approximately 9,565 square miles (Fig.1). This is an area of sufficient size and habitat quality to provide for a viable grizzly bear population. Data are not available at this time to establish a population objective for recovery.

Eventual delisting of the grizzly bear should be determined by the achievement of a viable, well distributed, reproducing population. Some parameters of a viable population are: a high probability of long-term persistence, sufficient individuals to allow for adequate monitoring of population parameters, and protection from genetic problems. Delisting requires demonstration of adequate regulatory mechanisms to assure continued population and habitat management following recovery.

Recovery targets for the recovery zone will be developed using the best biological information available, contingent on the following assumptions:

1. A recovered population is one that:
   a) has the capability to offset human-caused mortality;
   b) is large enough to survive the effects of demographic and environmental stochasticity; and
   c) is well distributed throughout the ecosystem (based on Bear Management Unit occupancy by females with young).

2. Sightability indices will be set for the recovery zone when the effects of vegetation on sightability in the North Cascades are better understood. The present population is too low for sightability indices to be applicable. The sightability index is the relationship between the number of animals seen



North Cascades Grizzly Bear Recovery Zone

Map Key

- National Park & Rec. Area
- USFS Wilderness
- USFS & BLM
- State Lands

Total Acres of Land in Zone

USFS-Other 2,625,563

USFS Wilderness Area 1,925,981

National Park 504,697

DNR including NRCA & NAP Lands 277,742

National Rec. Area 164,520

Dept. of Wildlife 24,125

BLM 10,992

All Other Lands 581,324

Total Acres in Zone 6,121,439

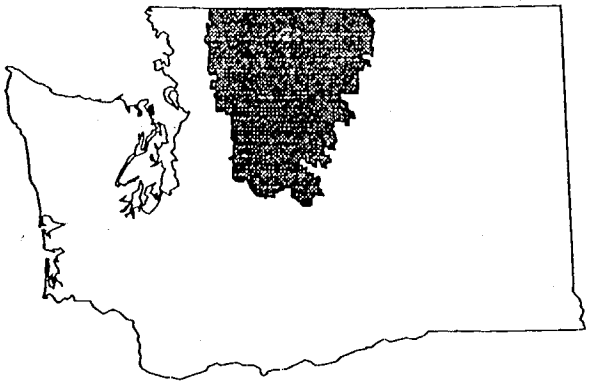


Figure 1

versus the actual number of animals in the population. Vegetation characteristics affect the ability to see grizzly bears which are present. The data necessary for setting these indices, including refinement of the present reporting system (see NC112), should be collected during the next five years.

3. Unknown human-caused mortality may occur each year.

4. Sufficient monitoring data are unavailable to report the number of females with cubs.

NC11. Determine population conditions at which the species is viable and self-sustaining. Re-evaluate and refine population criteria as new information becomes available. The grizzly bear population in the US portion of the NCE should be considered viable when monitoring efforts indicate recruitment and mortality are at levels supporting a stable or increasing population, and reproducing females are distributed throughout the recovery zone. Specific criteria for these parameters should be determined as information is collected regarding the number of females with cubs (FWC) present, the percentage of Bear Management Units (BMU) occupied, and allowable mortality.

NC111. Determine population monitoring methods and criteria. The maintenance of a secure and robust grizzly bear population requires continuous, careful monitoring. This monitoring should provide data to allow reasonable assurance that the population is viable. The greater the number of parameters monitored, the greater the confidence that the information is representative of the population.

With this in mind, a system should be developed to monitor a wide range of parameters, with three being of primary importance. These include: unduplicated number of FWC seen annually, the distribution of females with young/family groups throughout the recovery zone, and the annual number of known, human-caused mortalities. Other factors should also be monitored to increase confidence in the information, but these three parameters should be the key criteria used to judge the status of the population. The distribution target for females with cubs should consider sightability and be designed to determine the dispersion of the reproductive cohort within the recovery zone. Distribution of reproducing females should also provide evidence of adequate habitat management, assuming successful reproduction is an indicator of habitat sufficiency. Lastly, adequate distribution of family groups indicates future occupancy of these areas, as grizzly bear offspring, females in particular, tend to occupy habitat within or near the maternal home range after weaning.

During the next five years monitoring should include, but not be limited to:

- collecting and compiling all grizzly bear observations,
- studies of known females with young,
- monitoring the distribution of all individuals, especially females with young,
- reporting known mortality.

NC112. Establish reporting procedures and systems to gather and evaluate information on populations. Training, which includes a grizzly bear monitoring component, should be provided to agency personnel who

have a reasonable chance for encountering grizzly bears in the course of their work. All trained personnel should report grizzly bears on the standard form as stated in the Interagency Guidelines. All personnel should report grizzly bear observations to one of their agency's grizzly bear recovery representatives. Agency biologists evaluating observations should ensure proper protocols are followed.

All observations should be evaluated, tallied and mapped; confirmed reports should be considered for the purposes of the year-end summary. Agency personnel should be assigned to and responsible for one or more BMU(s) to assure consistency in collection and reporting of information. These personnel should report on their respective BMUs to the appropriate reporting point annually by December 1 for compilation.

An interagency group comprised of one individual each from the US Fish and Wildlife Service; National Park Service; Washington Department of Wildlife; BC Ministry of Environment, Lands and Parks; and the US Forest Service should review reports and eliminate duplicate reports. A running six-year average of unduplicated females with young should be calculated using the annual reporting data as they become available. All unduplicated FWC outside the recovery zone but within ten air miles of the boundary should be counted as part of the total number observed within the recovery zone during that year. Observations of females with young should be plotted annually to derive a running three-year cumulative total of occupied BMUs. Bear mortality should be tabulated annually and distributed to all cooperating agencies and the public.

NC12. Determine current population conditions. The present grizzly bear population in the NCE is unknown. The North Cascades Grizzly Bear Ecosystem Evaluation Final Report (Almack et al. 1993:29) states: "Based on our research experience in 5 of the 6 grizzly bear ecosystems south of Canada and the quality, quantity, and distribution of grizzly bear observations recorded for this ecosystem, we estimate that the North Cascades population consists of less than 50 grizzly bears and may be as low as 10 to 20 grizzly bears". A technical review team, appointed to review the evaluation report, reported to the Interagency Grizzly Bear Committee: "...only a few individuals remain. At present, verified records of grizzly bears do exist in this area and a small number of bears still live in the North Cascades." (Servheen et al. 1991:4). It is clear that the population is far below the level necessary for viability and has a high probability of extirpation.

NC121. Identify information needs and gather information specific to the North Cascades on behavior, physiological condition, population distribution, density, food habits, home range, reproduction, genetics, age structure, survivorship, and denning activities. Although there is some information on available habitat and the existence of grizzly bears, there is currently no information on the parameters listed above for grizzly bears in the NCE.

Research should be conducted to determine this information for grizzly bears in the NCE. The North Cascades Management Subcommittee should encourage and facilitate research by pooling interagency resources, facilitating communication, and providing a focal point for bear research in the NCE. The US Fish and Wildlife Service will continue to provide oversight, permits, and field assistance as necessary.

The parameters taking priority for research in the recovery zone during the next five years should be population size, distribution, home ranges and habitat use.

NC13. Identify the human-related population limiting factors. Mortality from direct and indirect sources within and surrounding the recovery zone must be addressed if populations are to be recovered.

NC131. Identify direct effects leading to mortality. Sources of direct mortality may include: poaching; indiscriminate killing; mistaken identity killings by hunters; control by livestock operators, apiarists, outfitters and resort operators for protection of property; road kills; handling error when bears are captured for management or research; control of nuisance bears under the Interagency Guidelines by agencies for livestock conflicts, other property damage, or life-threatening situations; private citizen control for self-defense or defense of others.

NC132. Identify indirect effects leading to mortality. Sources of indirect mortality are those actions that result in bear mortality, whether due to conflicts with people, conspecifics, or other species. These actions may include, but are not limited to: livestock grazing operations; timber harvest (including road construction); mining; water development; energy exploration/development; recreation operations; hound hunting; development of conflicting enterprises [subdivisions, dog kennels, fish farms, pig farms, boneyards, garbage dumps (including those used for bait hunting), etc.].

NC133. Determine effects of human activities on bears and bear habitat, and incorporate the results into management plans and decisions on human activities. Conduct research to document the effects of human activities (e.g. timber harvest, roads, road use, oil and gas exploration and recreation) on behavior, physiological condition, population distribution, density, food habits, home range, habitat, reproduction, survivorship and denning activities. Revise the Interagency Guidelines as necessary as this information is obtained.

NC134. Evaluate habitat linkages that could be managed to allow for natural movement of grizzly bears from one ecosystem to another. At present, grizzly bear movement into the NCE is unlikely due to low densities, or absence, of bears in adjacent areas. Impassable physical barriers do not exist. However, continuing human development in many areas surrounding the NCE may form effective barriers to grizzly bear movement. Areas between the NCE and the Selkirk Mountains and BC Coast Range should be evaluated for management as habitat linkages between grizzly bear populations. These analyses should be done with the linkage zone prediction model developed by the FWS.

NC2. Minimize factors limiting populations.

NC21. Reduce sources of direct mortality. To expedite species recovery, the initial target for human-induced grizzly bear mortality within and surrounding the NCE is zero. This mortality goal may not be achieved because some level of human-bear conflict within the ecosystem may occur.

Allowable sustained human-caused mortality should be re-evaluated and

adjusted, if appropriate, during five-year revisions, as the population increases and knowledge of population parameters is gained.

NC211. Reduce illegal killing.

NC2111. Initiate a coordinated effort between state, federal and Canadian law enforcement efforts. Provide a concentrated law enforcement effort by designating a specially-trained law enforcement team coordinated by the US Fish and Wildlife Service to eliminate the illegal kill of grizzly bears. One or more persons representing the US Fish and Wildlife Service; US Forest Service; National Park Service; State of Washington; and the BC Ministry of Environment, Lands and Parks should be appointed. Each member should receive specialized training to work on illegal mortality of grizzly bears. The Team and all other agency law enforcement personnel should be trained initially by biologists in such matters as grizzly bear distribution, home ranges of identifiable bears, movements by season, mating habits, current location of radio-marked bears and other biological information that may be helpful to the team, as these data become available.

All incidents of grizzly bear mortality, suspected illegal activities and rumors of mortality should be communicated between the Enforcement Team and their respective agencies. The Enforcement Team leader should keep all members of the Team informed and should organize

coordination meetings as needed. Special emphasis should be directed at covert operations which may be operating commercially.

The Enforcement Team should operate through an international, interagency agreement under the direction of the US Fish and Wildlife Service to investigate and prosecute the illegal killing of grizzly bears.

It is imperative that the Team leader establish a line of communications and rapport with all field personnel, field office staff and local law enforcement agencies in order that the Team leader may be notified immediately of a violation or threat of a violation.

Public assistance should be solicited in reporting suspected or known illegal grizzly bear mortalities. In the US, persons furnishing information leading to a finding of civil violation or a conviction of a criminal violation of 50 CFR, Part 17.40 regarding grizzly bears, may be rewarded up to one-half of the fine or civil penalty.

Washington and British Columbia should publicize their toll-free numbers for reporting violations. These should be available to the public for reporting grizzly bear problems or mortalities. In Washington, the number is 1-800-47POACH (1-800-477-6224). The BC infraction line is 1-800-663-9453.

NC2112. Reduce conflicts due to hunting. Washington and British Columbia should provide information to all hunters to assist them in distinguishing between black bears and grizzly bears for identification purposes. Washington should issue specific information to all hunters within the recovery zone to reduce the possibility of misidentification. Current hunting regulations should be reviewed and modified as appropriate. Additional hunter education requirements may need to be implemented to further reduce the potential for mistaken-identity that could result in the killing of grizzly bears.

Black bear baiting, as historically practiced in Washington, is inconsistent with sanitation goals for a grizzly bear recovery zone. Consideration should be given to regulating the types of bait that can be used and locations and seasons that reduce the potential for grizzly bears to learn to associate humans with food. The Washington Fish and Wildlife Commission prohibited the use of bait in the recovery zone within the recommended Situation I Areas, which includes wilderness areas of the national forests and of the North Cascades National Park Complex where hunting is permitted. The type, timing, placement, and removal of bait is regulated statewide to reduce the potential for bears to associate humans with food. Once designated, all Situation Areas (I, II, III) should be reviewed for incorporation in the bait ban.

Special attention should be given to evaluating hound

hunting of black bear within the recovery zone to determine whether hound hunting during seasons of grizzly bear activity may result in biological impacts to the grizzly bear. It is recommended that a study to determine the effects of hound hunting on grizzly bears be initiated in conjunction with the current black bear research being conducted by the Washington Department of Fish and Wildlife. Regulations should be modified as appropriate to reduce or eliminate conflicts with grizzly bears that result from hound hunting.

NC2113. Reduce accidental grizzly bear mortality from causes other than hunting. Eliminate those activities resulting in attraction of bears to sites of conflict, and management that might result in grizzly bear mortality.

NC21131. Increase efforts to clean up carrion and other attractants in association with roads, human habitation and developed areas within the recovery zone. All agencies should continue efforts to improve sanitation practices within the recovery zone and avoid situations that could create attractants to bears.

NC21132. Reduce grizzly bear mortality due to mishandling of bears during research and management actions. A detailed manual for trapping, immobilizing, transporting and handling grizzly bears has been prepared for

use by all agencies as a training and reference tool. Only experienced personnel having the required permits will handle grizzly bears.

NC21133. Reduce grizzly bear mortality due to predator and rodent control. Agencies responsible for licensing, conducting, or in any way overseeing rodent damage control programs using toxic substances in the recovery zone should use the most selective (but effective) rodenticide available, and use it in the lowest effective dosage. Poison bait should be used only under the on-site supervision of a certified applicator. Disturbances on the treatment site should be created for a minimum of three nights following application of any rodenticide in order to discourage scavenging by grizzly bears.

Agency predator control on Federal lands will be in accordance with 50 CFR 17.40. For grizzly bears involved in livestock conflicts, animal damage control officers should follow the Interagency Guidelines and other interagency agreements.

NC21134. Reduce grizzly bear mortality due to control of nuisance bears. Assure that control of

nuisance bears is accomplished according to 50 CFR 17.40 and the Interagency Guidelines. The only legal citizen control of a grizzly bear is related to self defense or defense of others.

NC22. Reduce sources of indirect mortality. On-going human actions in grizzly bear habitat may contribute to bear-human conflicts resulting in bear mortality. The effects of livestock grazing, timber harvest, mining, road construction, recreation, oil and gas exploration and development should be compatible with grizzly bear habitat requirements. Management of these activities should consider the needs of bears to reduce indirect mortality.

An effort is needed to reduce road densities throughout the Recovery Zone. Guidelines and rationale for road management specific to grizzly bears are provided in Appendix B of the Grizzly Bear Recovery Plan.

The effects of federal actions on grizzly bears and grizzly bear habitat need to be evaluated; and consideration of grizzly bears and grizzly bear habitat needs that relate to non-federal actions is encouraged on state and private lands .

On federal lands, apply the Interagency Guidelines as designated to make actions compatible with grizzly bear spatial and seasonal habitat requirements. On state and private lands, agencies and field personnel of agencies involved in grizzly bear management should communicate the intent of the Interagency Guidelines as a cooperative extension effort. State, county and municipal laws and ordinances can also be used to promote the intent of the Interagency Guidelines. A coordinated effort is needed between land management agencies, state regulatory agencies, county commissioners and county zoning

boards when land-use decisions are made on private lands within the recovery zone. Consideration of grizzly bear and grizzly bear habitat needs should be encouraged when summer homes, houses, orchards, camps, and farm operations, etc. with attendant dog kennels, pig farms, garbage dumps and/or boneyards are planned within the recovery zone. For private and agency lands not subject to the above restrictions, wildlife managers should consider purchase, lease, easement or land-trades for acquiring grizzly bear habitat when conflicts cannot be resolved.

Any federal involvement in state or county actions allowing development within the recovery zone requires consideration of potential effects on grizzly bears. Agencies needing to evaluate potential effects include NPS, USFS, EPA (landfills), HUD, FERC, BPA, VA, Farmers' Home, COE, DOE, BLM, FHWA (in funding or constructing road building and/or repair), Federal Railroad Administration and/or Interstate Commerce (in construction/repair of railroads), SCS and ASCS (in farm operations and summer homes).

NC221. Monitor the cumulative effects of management actions in grizzly bear habitat. Determine the cumulative effects of all, or any combination, of the actions described above through application of the cumulative effects analysis (CEA) on an ongoing basis. Past effects on the bears and their habitat must be a major consideration in the evaluation of any new action. All actions must be evaluated within each BMU to determine the cumulative effects. Each new action has the potential of being the "last straw" from the standpoint of the bear, and every effort must be made to evaluate each new action with respect to past, current and future actions.

NC23. Coordinate, monitor and report on activities relating to redressing population limiting factors, and monitor compliance with the Recovery Plan. This should be accomplished through the activities of the Recovery Coordinator and the management subcommittees of the IGBC, which should operate in close coordination and communication with BC authorities. Actions should be taken by the management committees as necessary to address needs and to assure implementation of the recovery plan and the application of the Interagency Guidelines.

NC3. Establish the Recovery Zone for measurement of habitat-based recovery criteria to support a recovered grizzly bear population. Grizzly bears and grizzly bear habitat should be managed within a clearly defined recovery zone. Descriptions of the recovery zone perimeter should be available to agencies and the public. Managing for a viable population requires information on habitat quantity, habitat quality, bear biology, and population distribution. The recovery zone boundary and management situation areas should be evaluated to determine their effectiveness in achieving recovery and adjusted when necessary.

NC31. The grizzly bear should be managed within the defined recovery zone. The North Cascades Grizzly Bear Recovery Zone consists of 9,565 square miles in north central Washington (Fig. 1). It includes all of the North Cascades National Park Service Complex; the Mount Baker-Snoqualmie National Forest and Wenatchee National Forest north of Interstate Highway 90; and the Okanogan National Forest west of the Okanogan River. The eastern boundary coincides with national forest and state lands west of the Columbia and Okanogan Rivers. It is comprised of 85% federal land including a large wilderness core surrounded by major units of non-wilderness national forest land. There are an additional 5% state land and 10% private land on which

grizzly bear management will be encouraged on a cooperative basis.

The recovery zone boundary was defined on the basis of the best available information on bear and bear habitat distribution and needs for a viable, well-distributed population. For additional discussion of the boundary, see Appendix A. The boundaries may require re-evaluation as more information is acquired on the Washington Cascades metapopulation and as scientific understanding of population viability evolves.

It is recognized grizzly bears will occur outside the recovery zone, and that the existence of bears outside the boundary alone is not sufficient reason for revising the line. Any area to be added must contain significant biological values for bears. These values will be measured by the habitat-based recovery criteria developed for this ecosystem. These values must be demonstrated with grizzly bear occurrence data and habitat mapping before the boundary can be altered. Any changes to the recovery zone boundary should be recommended by the North Cascades Management Subcommittee and forwarded to the US Fish and Wildlife Service through the IGBC. Approved changes would be included upon revision of the recovery plan.

NC32. Identify Management Situation areas within the recovery zone. Management situations should be defined by land management agencies. It is recognized that currently there is an absence of information on grizzly bear population centers, distribution and habitat needs in the North Cascades Recovery Zone and that this information should be obtained. In the absence of this information it is likely that wilderness areas of the national forests and the North Cascades National Park Complex will be designated as Management Situation I. It is also currently possible to designate some areas as Management Situation III

because of known human developments. Until further information is available it is not possible to designate the remaining areas. Designation or revision of the management situation areas within the recovery zone would be made as additional information becomes available. In the meantime, actions which would irreversibly alter grizzly bear habitat should be avoided.

NC4. Monitor population and habitat. Continuous monitoring is necessary to determine the status of the population and to assess the success of conservation efforts associated with recovery. Habitat monitoring will be based upon the habitat-based recovery criteria developed for this ecosystem.

NC41. Monitor the population. Develop and implement techniques to monitor the population.

NC411. Implement the monitoring system (NC11 and NC111) and standardized procedures for reporting grizzly bear observations (NC112).

NC412. Develop a system for agencies to collate, analyze and report annual information on population data.

NC42. Establish habitat-based recovery criteria. Develop and implement techniques and criteria to monitor habitat. Monitoring techniques and criteria should be designed to determine any effects of management actions on habitat values such as space, isolation, safety, sanitation and vegetative diversity, and their availability within the recovery zone; and whether management actions change these habitat values.

NC421. Develop a model for Cumulative Effects Analysis, including identifying bear management units, to monitor effects of management actions throughout the recovery zone. The CEA may be applied to assist in judging the suitability of ongoing management actions. Development of a CEA requires five phases: 1) database compilation; 2) software development; 3) testing/validation; 4) development of a mortality submodel and 5) development of thresholds.

NC422. Refine the accuracy of the habitat mapping of the recovery zone and digitize these data so they are available for use by the CEA. Mapping of vegetation types present within the recovery zone has been completed (Almack et al. 1993). The following steps are necessary to finalize these data and make them available for use in the CEA:

1. Complete the accuracy assessment of the Level Two vegetation map.
2. Coordinate and implement grizzly bear habitat component mapping throughout the NCE.
3. Distribute the completed vegetation data to the GIS coordinators for all agencies involved in the recovery effort.
4. Schedule updates of the vegetation maps.
5. Digitize Bear Management Units, Management Situation Areas, and ungulate winter ranges for the MBSNF, NCNP and westside DNR lands.
6. Maintain a centralized, ecosystem-wide database with annual updates of layers subject to short-term change including human activity layers (roads, trails, campsites, etc.) and management activity layers (vegetation changes due to timber sales, grazing

allotments, etc.).

NC423. Establish habitat objectives in each BMU to describe the habitat required to support a viable population. The habitat objectives are benchmarks used in conjunction with the CEA to evaluate the effects of ongoing actions relative to the desired quality, quantity and distribution of grizzly bear habitat.

The objectives are not minimal values to be maintained, but describe the desired quantity, quality and distribution of habitat within each BMU. Management direction should attempt to manage habitat toward the desired objectives to allow greater environmental flexibility and to benefit grizzly bear recovery.

An ecosystem management approach to recovery should foster biological diversity and enhance grizzly bear survival.

NC424. Apply a CEA throughout the recovery zone every two years to assure that habitat is of sufficient quantity, quality and distribution to provide for a viable population. This analysis would be used to monitor progress toward achieving the desired habitat conditions for BMUs and the recovery zone.

NC425. Report management activities successfully used to manage habitat. This report should be completed by the management agencies and reviewed by the North Cascades Management Subcommittee and the Recovery Coordinator.

NC426. As part of a conservation strategy (NC51), include a monitoring scheme that ensures continuous application of ecosystem management principles and provides for a continuously viable population of grizzly bears.

NC5. Manage the population and habitat prior to and following recovery. Apply the Interagency Guidelines to assure population recovery.

NC51. Prior to recovery, manage populations and habitats on federal lands.

NC511. Apply Interagency Grizzly Bear Management Guidelines prior to recovery. Implement Interagency Guidelines to assure management actions are consistent with grizzly bear recovery objectives.

NC512. Refine procedures specific to the recovery zone for managing nuisance grizzly bears. Develop nuisance grizzly bear guidelines for the North Cascades Recovery Zone following established protocols (IGBC 1986, IDFG 1989). Review and update interagency agreements.

NC513. Evaluate methods to enhance recruitment in the recovery zone. Several alternatives for recovery should be evaluated during the NEPA process. Among them are natural recovery, cross-fostering grizzly bear cubs with black bears, artificial insemination and augmentation of the population with animals from another population. The recovery actions described for the North Cascades are designed to decrease the risk of mortality and increase the opportunities for natural grizzly bear population increase and recovery. The trend of the current North

Cascades grizzly bear population (increasing, decreasing, stable) is unknown. It is likely, and assumed, that there is a small number of widely-scattered individuals present in the ecosystem. The number of breeding-age females and the rate of natural reproduction in the area are unknown. Natural reproduction within this group of animals would be expected to be very low and recovery opportunities slow because of the low population numbers, wide distribution, and slow reproductive rate of grizzly bears. Small, isolated populations such as this are vulnerable to extirpation.

The addition of breeding-age female grizzly bears to the existing population would increase the opportunities for reproduction and population increase. This would increase the probability of recovery, expedite the process, and decrease the risk of extirpation. Augmentation (adding bears from another population) is likely to be similar to that undertaken in the Cabinet-Yaak Ecosystem (USFWS 1987, Maguire and Servheen 1992, Kasworm et al. 1992, 1993), which proposed adding four bears, with no history of conflict with humans, during the first five years. During the first four years, three subadult female bears were taken from similar ecosystems in Canada and placed in the Cabinet-Yaak Ecosystem. The three bears have been closely monitored, with movements and activities reported to the public on a regular basis. Strict interagency guidelines and agreements would be developed to allow for the aversive conditioning, relocation or removal of any bear that came into conflict with people. The program would come under review following the initial five-year period. Responsibility for this effort lies with the Recovery Coordinator, in cooperation with state and federal agencies.

The scoping, information and education, and documentation phases of the NEPA process to evaluate methods for enhancing recruitment in the recovery zone should be initiated immediately following chapter adoption.

NC52. Develop and implement a conservation strategy. A conservation strategy is to be finalized and signed by all land-use/resource agencies within the recovery zone prior to any consideration of delisting the species. The conservation strategy should ensure that proper habitat and population management will remain in place after delisting and that the species will remain recovered without protection under the Act. Full implementation of the strategy would demonstrate the existence of adequate regulatory mechanisms as required by Sec. 4(b) of the Act.

NC53. Manage the population and habitat on state and private lands. Recommend land use activities compatible with grizzly bear requirements for space and habitat, and minimize potential for human/bear conflicts. Establish cooperative agreements with state land management agencies and private landowners similar to existing guidelines to assure that management actions are sensitive to grizzly bear habitat needs. The importance of grizzly bear management should be communicated to private landowners. Private landowners should be provided with information on land management principles which enhance achievement of recovery goals, mirroring those used on federal lands.

NC6. Develop and initiate appropriate information and education programs. It is crucial to grizzly bear recovery that people understand recovery goals, and the scope and purpose of management actions for achieving the goals. Providing for public safety and reducing human-caused mortalities are major factors in accomplishing grizzly bear

recovery. The IGBC has appointed an Information and Education (I&E) subcommittee to work on the development of information and education programs.

NC61. Develop and update an Information and Education Strategy for the grizzly bear recovery program in the NCE. An I&E action plan should be developed to implement that strategy using the IGBC I&E Action Plan as a guide.

NC62. Develop and annually update informational materials. Materials such as fact sheets, pamphlets and audio-visual programs should be developed to inform and educate the public, news media, and agency personnel about the recovery program. Also important is the understanding of reasons for recovery, grizzly bear biology, safety in bear country, sanitation procedures, and procedures for reporting bear sightings.

NC621. Continue to provide a weather-proof poster concerning safe camping in bear country. Include sanitation standards for storage of food, garbage, cooking gear and cosmetics. Instructions should include campsite organization and how and where to hang the items listed. Provide a paper version of the poster for distribution at visitor centers and agency offices.

NC622. Continue to provide a bear identification card to be issued to the general public and agency personnel. The card provides written and graphic information about how to differentiate between black bears and grizzly bears, as well as how to report a grizzly bear observation. The card should be issued to anyone recreating within the recovery zone. This should aid in reducing misidentification mortality of grizzly bears.

NC623. Continue to produce and maintain bear identification information in the Washington State hunting regulations literature. This information should aid in reducing misidentification mortality of grizzly bears.

NC624. Produce and maintain educational programs for schools, public libraries and interested organizations.

NC63. Sample, quantify and evaluate public attitudes toward grizzly bears, grizzly bear habitat protection and maintenance, land-use restrictions, mitigating measures, relocation of bears, grizzly bear hunting, nuisance bear control actions, and habitat acquisition, land-trades or easement. Public attitudes are a major part of the success or failure of grizzly bear recovery efforts. Understanding of these attitudes and the basis for public sentiment is important. Carefully designed research surveys by qualified scientists experienced in such sampling should be initiated. The scope of the basic questions and attitudes of interest should be identified by the management subcommittee members. The data would be essential in designing public outreach programs to support recovery programs and approaches.

NC7. Implement the recovery plan through the appointed Grizzly Bear Recovery Coordinator. The Fish and Wildlife Service has appointed a Grizzly Bear Recovery Coordinator to coordinate and stimulate compliance and action on implementation of the Recovery Plan, and to collate all relevant information on grizzly bears. The Coordinator should submit progress reports and conduct workshops and meetings as necessary. This is a particularly important position, providing a focal point for the accumulation, exchange, and dissemination of information. The position should also provide a central point for multi-agency coordination that should greatly aid in the judicious use of resources and materially enhance the recovery effort.

NC8. Revise appropriate federal and state regulations to reflect current situations and initiate international cooperation. Regulations should be consistent and up-to-date. International cooperation and communication should be maintained with all other countries where brown bears occur.

NC81. Revise federal and state regulations as necessary. Regulations applying to national forests and national parks, State regulations including the State Environmental Policy Act, forest practices rules, and regulations on the taking of bears and hunting management. should be reviewed and revised as necessary to assure regulatory adequacy.

NC82. Coordinate and exchange information and expertise concerning bear research and management with Canada and other countries. Grizzly bear recovery in the NCE should be a cooperative effort between the US and Canada. The NCE is effectively isolated from other grizzly bear populations. Each country is reliant on the other for recovery in the NCE, and should contribute to recovery within the contiguous ecosystem. The US may rely on assistance from BC as a source of grizzly bears if an augmentation program were undertaken. The health of the U.S. population is dependent upon the health of the Canadian population.

International communication on bears and bear management is necessary to the success of the recovery effort. Many of the management problems facing the threatened grizzly bears in the United States (for example insular populations, small population size, conflicts with timber harvest and livestock grazing, genetic concerns relating to small population size, movement of bears from one area to another, management of sport hunting and public attitudes) are also facing many of the other species of bears in Europe and Asia.

Sharing of information on management approaches and techniques should facilitate recovery in the US as well as assist managers and researchers in other countries. Many of the problems facing bears must be addressed soon, and the sharing of information should support rapid transfer of technology and techniques among all those managing bears.

NC83. Assure that the North Cascades chapter recovery tasks address the five factors in Section 4(a)(1) of the Endangered Species Act. The five factors in Section 4 (a)(1) of the Endangered Species Act are: (1) the present or threatened destruction, modification, or curtailment of habitat or range, (2) over utilization for commercial, recreational, scientific, or educational purposes, (3) disease or predation, (4) inadequacy of existing regulatory mechanisms, and (5) other natural or manmade factors affecting the continued existence of grizzly bears in the North Cascades Ecosystem. There is overlap between the five factors and the tasks in this chapter. Many tasks address several of the factors. To simplify the relationships, Table 1 presents a matrix of the relationships between the tasks and the factors. All tasks are in this North Cascades grizzly bear recovery chapter.

The tasks in this chapter address these five factors as follows:

Table 1. The relationship between the five factors in Sec. 4(a)(1) and the tasks in this chapter.

FACTOR	RECOVERY PLAN NORTH CASCADES CHAPTER TASK NUMBER
1. Present or threatened destruction, modification or curtailment of habitat.	NC1, NC111, NC12, NC121, NC13, NC131, NC132, NC133, NC134, NC21141, NC21143, NC22, NC23, NC3, NC31, NC32, NC4, NC42, NC421, NC422, NC423, NC424, NC425, NC426, NC5, NC511, NC52, NC53
2. Over utilization[1].	NC1, NC11, NC111, NC112, NC12, NC121, NC13, NC131, NC132, NC133, NC2, NC21, NC211, NC2111, NC2112, NC2113, NC21131, NC21132, NC21133, NC21134, NC22, NC221, NC23, NC4, NC41, NC411, NC412, NC5, NC51, NC512, NC513, NC52, NC53, NC6, NC61, NC62, NC621, NC622, NC623, NC624
3. Disease or predation[2].	NC111, NC121, NC132, NC211, NC2111, NC2112, NC2113

[1]*Over utilization is related to grizzly bear mortality and the factors causing mortality.*

[2]*Disease or predation are treated here as factors that cause the death of bears by predation by humans, as in illegal killing, as well as factors that may cause physiological stress from either habitat-related food stress, or human-caused physiological stress related to disturbance.*

Table 1. The relationship between the five factors in Sec. 4(a)(1) and the tasks in this chapter.	
4. Inadequacy of regulatory mechanisms[3].	NC1, NC111, NC112, NC131, NC132, NC133, NC2, NC21, NC211, NC2111, NC2112, NC2113, NC21131, NC21132, NC21133, NC21134, NC22, NC221, NC23, NC3, NC31, NC32, NC4, NC41, NC411, NC412, NC413, NC4, NC42, NC421, NC422, NC423, NC424, NC425, NC426, NC5, NC511, NC52, NC53, NC6, NC61, NC62, NC7, NC8, NC81
5. Other factors.	NC21144, NC51, NC52, NC7

[3]*Regulatory mechanisms are those factors related to assuring systems and responsibilities to monitor habitat or numbers of bears and requiring actions to make human activities compatible with grizzly bear recovery.*

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Abbreviations

ASCS	Agricultural Stabilization and Conservation Service
BMU	Bear Management Unit
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
CEA	Cumulative Effects Analysis
COE	Army Corps of Engineers
DNR	Department of Natural Resources (Washington)
DOE	Department of Energy
EPA	Environmental Protection Agency
FERC	Federal Energy Regulatory Commission
FHA	Federal Highways Administration
FWC	Females with Cubs
HUD	Housing and Urban Development
IGBC	Interagency Grizzly Bear Committee
MBSNF	Mt. Baker-Snoqualmie National Forest
NCE	North Cascades Ecosystem
NCNP	North Cascades National Park
NEPA	National Environmental Policy Act
ONF	Okanogan National Forest
SCS	Soil Conservation Service
VA	Veterans Administration
WDFW	Washington Department of Fish and Wildlife
WNF	Wenatchee National Forest

Appendix A

Summary of Public Comments

Response to Issues/Concerns

Summary of the Public Input Content Analysis for the Draft North Cascades Ecosystem Grizzly Bear Recovery Plan Chapter

The North Cascades Ecosystem (NCE) was designated a grizzly bear recovery zone by the Interagency Grizzly Bear Committee in 1991. The North Cascades Grizzly Bear Steering Committee was formed in December of that year to prepare the recovery plan for the NCE.

In 1992, public informational meetings were held in Seattle, Mount Vernon, Wenatchee, and Winthrop to identify concerns of the general public and familiarize the public with grizzly bear ecology and the recovery process.

The Draft North Cascades Grizzly Bear Ecosystem Recovery Chapter was released for public comment on November 15, 1993 and comments were accepted through February 15, 1994. During this 90-day period another series of public informational meetings were held in Seattle, Mount Vernon, Wenatchee, and Okanogan.

This report summarizes the content of public comments on the Draft Chapter. A total of 1353 letters with several thousand comments were received. Each letter was numbered and individual comments were coded to identify topics of concern. Because many letters contained more than one comment, the number of comments tallied exceeds the number of letters received.

The total number of times a particular comment appeared in the letters is tallied. Comments from different letters were grouped according to the concerns they addressed. Most letters contained comments specific to the Draft Recovery Chapter. These were coded as NC (North Cascades) and assigned numbers according to the Draft Recovery Chapter outline. Other letters had more general comments regarding grizzly bears and the NCE. These were coded as GC (general comments) and, when possible, numbered to match the content summary presented in the national Grizzly Bear Recovery Plan (Appendix G). All letters are on file at the U.S. Fish and Wildlife Service Ecological Services Washington State Office in Olympia.

Summary of Contents

Comment Received	Comment Description	#
NC 112B	"Females with cubs seen" is not a reliable indicator since the researchers have never seen a grizzly bear in Washington	1
		NC 12
Current Population Conditions	**24**	
Total Comments		
NC 12A	More data is needed on current population conditions; need to prove if grizzly bears are, or ever were, here	17
NC 12B	Current population conditions demand immediate action, not more research	3
NC 12C	There are more grizzly bears here than have been estimated and the population may be increasing	1
NC 12D	Habitat and population conservation measures should be conducted during or instead of continued monitoring/study of current conditions	2
NC 12E	If grizzly bears have not been found during the past studies, how will they be found with future studies?	1
NC 121	**Research Needs** **Total Comments**	**7**
NC 121A	Blood and/or tissue samples should be collected to provide information on genetics of any grizzly bears handled in Washington	7
NC 132	**Sources of Indirect Mortality** **Total Comments**	**2**
NC 132A	Private companies that successfully operate within areas of viable grizzly bear populations should be consulted	1
NC 132B	Relate roads and road densities to indirect effects leading to grizzly bear mortalities	1
NC 133	Effects of Human Activities Total Comments	**1**
NC 133A	Oil and gas exploration do not represent a significant potential conflict because of low resource potential in this region	1
NC 134	**Habitat Linkages** **Total Comments**	**424**

Comment Received	Comment Description	#
NC 134A	Support managing for/providing/protecting linkage zones with other ecosystems	214
NC 134B	Support identifying linkage zones with other ecosystems, including Cascades South of I-90 (130); Selkirks and Kettles (203); Rockies/other recovery zones (211); Canada (11); ecosystems to East/San Juans (3)	204
NC 134C	Oppose establishment/identification of linkage zones	5
NC 134D	Clarify roles of private lands in linkage zones	1
NC 2	**Population Limiting Factors** **Total Comments**	**216**
NC 2A	The recovery zone "must ensure good, safe habitat with a goal of no human-caused deaths" through such avenues as restrictions/bans on extractive industries and/or road building and/or bear hunting	203
NC 2B	Indicated support for, or, that survival is linked to minimizing factors limiting populations	9
NC 2C	Restrictions on, or provisions for, boneyard regulations,livestock food storage, rodent control and educational measures in order to meet safety concerns are unreasonable/would interfere with normal farming or ranching operations and would be an infringement on property rights/or are otherwise opposed	4
NC 21	**Direct Mortality** **Total Comments**	**199**
NC 21A	Support holding land managers to zero human-induced grizzly bear mortalities	149
NC 21B	Support a goal of zero human-induced grizzly bear mortalities	47
NC 21C	Oppose mortality goal/mandate	2
NC 21D	Support holding landowners to zero human-induced grizzly bear mortalities	1
NC 211	**Illegal Killing** **Total Comments**	**13**
NC 211A	Support the need to halt/reduce illegal killings	7
NC 211B	Support strong enforcement effort/stiff penalties to reduce illegal killings of grizzly bears	5
NC 211C	Concerned that identifying areas of grizzly bear activity will aid poachers	workin

Comment Received	Comment Description	#
g in those areas	1	
NC 2111	**Coordinated Law Enforcement Comments** **Total**	**1**
NC 2111A	Oppose "encouraging Americans to spy on each other" or creating "federal S.W.A.T. teams to strike fear into people around the North Cascades"	1
NC 2112	**Hunting Conflicts** **Total Comments**	**395**
NC 2112A	Support ban on hunting with hounds and bear hunting with bait within and/or adjacent to the recovery zone	235
NC 2112B	Support ban on hunting with hounds and bear hunting with bait	113
NC 2112C	Support stricter regulations on bear hunting	18
NC 2112D	Support a ban on: grizzly bear and/or black bear hunting and/or bear hunting or trapping and/or hunting and trapping in general	18
NC 2112E	Opposed to a ban on hunting with hounds and bear hunting with bait	6
NC 2112F	Support hunting introduced or recovered populations of grizzly bears	3
NC 2112G	Need to balance restrictions on black bear hunting with bait and black bear supplemental feeding programs used in forest protection programs	2
NC 2113	**Accidental Mortality** **Total Comments**	3
NC 2113A	Supports restrictions in activities that lead to accidental deaths of grizzly bears	1
NC 2113B	No justification for reducing activities that lead to accidental deaths of grizzlies	1
NC 2113C	Who defines "activities" and "conflicts"?	1
NC 21131	**Sanitation** **Total Comments**	**3**
NC 21131A	Proper handling of garbage will be costly to landowners and small towns	2
NC 21131B	People should practice safe camping/careful sanitation in grizzly bear country	1

Comment Received	Comment Description		#
NC 21133	**Predator/Rodent Control**	**Total Comments**	**8**
NC 21133A	Phase out grazing or require "proper" livestock management within the recovery zone to reduce potential predator control conflicts		4
NC 21133B	Ban or restrict use of poison/toxic substances in the recovery zone		3
NC 21133C	Opposes poison bait applications and guidelines		1
NC 21134	**Nuisance Bear Control**	**Total Comments**	**3**
NC 21134A	Support use of non-lethal control methods to deal with "problem bears"		2
NC 21134B	When is killing a grizzly bear in self-defense justified?		1
NC 22	**Indirect Mortality**	**Total Comments**	**598**
NC 22A	Support a moratorium on road building in the proposed recovery zone until a comprehensive assessment of all existing roads is complete; support seasonal or permanent closures to protect critical habitat		201
NC 22B	Support general restrictions on roads/road building in/around the recovery zone, including bans on new roads and closures of existing roads		149
NC 22C	Opposed to/concerned about plan not addressing potential restrictions on outdoor recreation or "rights to come and go in the wilderness"		76
NC 22D	Opposed to restrictions/limits on multiple use of public lands with particular reference to: extractive industries, any practice that places human welfare below that of grizzly bears; includes concern about restricting private landowner's rights		76
NC 22E	Support modifications/restrictions or bans on extractive industries, including timber harvest, grazing and mineral and water development		67
NC 22F	Support restrictions on recreational/trail closures		16
NC 22G	Support general habitat protection/ management for grizzly bears		7
NC 22H	Oppose road closures or calls for flexibility regarding road closures		6
NC 221	**Cumulative Effects Comments**	**Total**	**1**

Comment Received	Comment Description	#
NC 221A	Data is poor and resulting mitigating costs could have economic ramifications that need to be addressed	1
NC 23	**Interagency Coordination/IGBC**	**2**
NC 23A	IGBC is biased toward needs of other grizzly bear populations (e.g. Montana, Canada, Alaska)	1
NC 23B	Supports interagency communication	1
NC 3	**Habitat/Recovery Goal** **Total Comments**	**48**
NC 3A	Question whether there is adequate habitat to support a recovered/ recovering grizzly bear population	33
NC 3B	Habitat is the critical element to the success of grizzly bear recovery	8
NC 3C	There is adequate and abundant habitat to support 200 - 400 grizzly bears	2
NC 3D	Want "habitat area" defined	2
NC 3E	Determine how much habitat a grizzly bear requires and how many grizzly bears can be supported by the available habitat in the North Cascades Ecosystem	2
NC 3F	What has been done to date regarding habitat mapping and habitat protection proposals?	1
NC 31	**Recovery Zone Boundary** **Total Comments**	**581**
NC 31A	Expand the recovery zone to include: original habitat evaluation area (147); Loup Loup area (189); Colockum area (191); south of I-90 (405); Okanogan Highlands (205); Loomis State Forest (4); state lands (7)	477
NC 31B	Oppose the establishment/ designation of a recovery zone; recovery zone is too large (9); should include only wilderness and National Park (5); oppose current 9,565 sq. mi. size (14)	52
NC 31C	Oppose the concept of a recovery zone because the issue of keeping bears within the zone has not been addressed	30
NC 31D	Support the establishment/designation of a recovery zone	12

Comment Received	Comment Description	#
NC 31E	Do not exclude certain areas within the recovery zone, including: private land (3); lands with no documented grizzly bear presence (4)	6
NC 31F	Do not include certain areas within the recovery zone, including: area south of I-90 (2); upper Skagit/Lower Methow valleys (2); public land (1)	5
NC 32	**Management Situation Areas** **Total Comments**	**276**
NC 32A	Support managing all parks, roadless areas and wilderness areas as Management Situation I/critical habitat and other lands should remain unclassified until further habitat data is obtained	128
NC 32B	Support classifying all parks, roadless areas and wilderness areas as Management Situation I/critical habitat	108
NC 32C	Need to address areas that are not currently classified as management situation areas (I, II or III)	12
NC 32D	Support greater application of Management Situation I designation: all public lands/affected lands/entire recovery area	11
NC 32E	Need to identify the criteria and evaluation process of Management Situation designations	6
NC 32F	Opposed to Management Situation I designation or opposed to "settingaside" any land for grizzly bears	4
NC 32G	Designation of Management Situations for private lands needs to be addressed	3
NC 32H	Address whether designation of Management Situation I is afforded only to areas currently occupied by grizzly bears or whether it applies to potential grizzly bear habitat	3
NC 32I	Is designating Management Situation I as the primary objective in wilderness areas legal?	1
NC 4	**Monitor Population/Habitat** **Total Comments**	**3**
NC 4A	Support monitoring grizzly bears and their habitat to evaluate recovery efforts	2
NC 4B	Current population is too small to make monitoring practical: present efforts should be directed at other aspects of recovery	1

Comment Received	Comment Description		#
NC 421	**Cumulative Effects Model**	**Total Comments**	**5**
NC 421A	Support development of a cumulative effects model to monitor effects of management actions throughout the recovery zone/identify who will develop the model and when it will be developed		4
NC 421B	The effects of management actions on humans should be studied		1
NC 423	**Ecosystem Management**	**Total Comments**	**3**
NC 423A	Is "ecosystem" meant for bears only or does it include other species too?		1
NC 423B	Support managing for biodiversity and ecosystems as opposed to single species management		2
NC 424	**CEA Every 2 Years**	**Total Comments**	**2**
NC 424A	Expecting agency resources to be available to apply to a cumulative effect analysis every two years is unrealistic		1
NC 424B	Support requiring cumulative effects analysis on state and federal lands		1
NC 5	**Manage population/habitat**	**Total Comments**	**2**
NC 5A	Manage the recovery zone on a landscape level,encouraging state and private landowners to manage habitat in a manner consistent with grizzly bear recovery and to avoid a "take"		2
NC 51	**Federal Lands**	**Total Comments**	**1**
NC 51A	Manage all federal lands to comply with the recovery plan and with the best currently available scientific information regarding grizzly bears		1
NC 511	**Interagency Management Guidelines**	**Total Comments**	**2**
NC 511A	Support application of IGBC guidelines prior to recovery		2
NC 512	**Nuisance Bear Guidelines**	**Total Comments**	**2**
NC 512A	Support nuisance bear procedures but feels that guidelines for other areas in the lower 48 favor human interests over bear protection		1
NC 512B	Use "control collars" on grizzly bears, especially with the "200 - 400 bears to be let loose"		1
NC 513	**Enhance Recruitment/Augmentation**	**Total Comments**	**1024**

Comment Received	Comment Description	#
NC 513A	Support augmentation in general	347
NC 513B	Support augmentation as a means to increase recruitment and mention the need to preserve genetic diversity and/or prevent inbreeding and/or for research purposes	179
NC 513C	Opposed to augmentation/ re-introduction/ "planting" of grizzly bears	319
NC 513D	Comments requesting public involvement or initiating the NEPA Process regarding augmentation	103
NC 513E	Identified a need or support for preserving genetic diversity with no direct mention of augmentation	37
NC 513F	Oppose cross-fostering and/or artificial insemination and/or "artificial hybridization" with black bears as means of increasing recruitment	14
NC 513G	Voiced strong concern or reservations regarding augmentation/ re-introduction	11
NC 513H	Introduction/ augmentation will lead to poaching by packers, stockmen, disgruntled persons, etc.	5
NC 513I	Indicated conditional support or conditional opposition to augmentation	4
NC 513J	Support other means of increasing recruitment (i.e. cross-fostering, artificial insemination, etc.)	3
NC 513K	Opposed to money being spent on "recruitment" or "artificial recovery techniques" (i.s. cross-fostering, artificial insemination)	2
NC 53	**State/Private Lands Comments** **Total**	**8**
NC 53A	Concerned about regulations regarding private lands and the potential that the government would exercise "Eminent Domain"	4
NC 53B	Opposed to managing or language that mandates managing the population and habitat on state and/or private lands and/or restrictions on development	4
NC 6	**Information/Education Programs** **Total Comments**	**282**
NC 6A	Support educational programs and/or general information on grizzly bears to assist in avoiding conflicts	256
NC 6B	Opposition to/reservations about educational programs: such programs lack credibility or effectiveness	25

Comment Received	Comment Description	#
NC 6C	Stressed the need to address the success or failure of educational programs in preserving human safety in other areas with significant grizzly bear populations	1
NC 63	**Public Attitudes** **Total Comments**	**2**
NC 63A	What happens if public surveys show the public clearly does not want additional grizzlies?	1
NC 63B	Subcommittee members are too biased to adequately formulate basic survey questions and attitude of interest	1
NC 7	**Recovery Coordinator** **Total Comments**	**1**
NC 7A	Support implementing the recovery plan through the appointment of a Grizzly Bear Recovery Coordinator	1
NC 81	**Revise Fed/State Regulations** **Total Comments**	**4**
NC 81A	Support changing any state regulations that are currently counter-productive to the recovery process	2
NC 81B	Oppose any blanket change in regulations	2
NC 82	**International Cooperation** **Total Comments**	**5**
NC 82A	Support the coordination and exchange of information and expertise concerning bear research and management in Canada and other countries	2
NC 82B	"Are we going to adopt communist measure of population persecution to protect grizzlies?"	1
NC 82C	What is the Canadian plan and are they addressing the issue?	1
NC 82D	Wants this statement added to p. 23:"grizzly bear-human incident information obtained in the NCE will be provided to Canada and similar data will be solicited in order to study ways to minimize human-grizzly bear conflicts."	1

General Comments

GC A	The recovery plan is inadequate or too weak; needs to be strengthened/ more restrictive move faster	322
GC B	Support active recovery efforts for the grizzly bear	159

Comment Received	Comment Description	#
GC C	Support a "hands off" approach: natural repopulation, "leave them alone", Let nature take its course", "If they're there, fine..."	109
GC D	Support the recovery plan	57
GC E	Saving the grizzly bear helps save the ecosystem: bears may be an indicator species (biodiversity)	54
GC F	No need to recover grizzly bears: they are not threatened/endangered in North America	44
GC G	Single species (grizzly bear) management is detrimental to ecosystem: there are no indications that grizzly bears are an indicator species	34
GC H	Support/encourage/demand more public involvement/ input: want agencies to communicate better, more openly with the public; want more meetings; opposition needs to be taken into consideration also	24
GC I	Address issue of legal mandate of ESA to recover grizzly bears (in NCE): recovery is/isn't required by law	12
GC J	Address grizzly bear-salmon predator-prey relationship: predation will/ won't be a problem	6
GC K	Support recovery of grizzly bears despite populations in AK, MT and Canada	5
GC L	Support reclassification of grizzly bears as endangered	3
GC M	Potential impacts of grizzly bear recovery on resident black bears should be monitored	2
GC N	Recover grizzly bears when federal budget is balanced	1
GC 35	Opposed to efforts to recover the grizzly bear	188
GC 38	**Local Economies** **Total Comments**	**30**
GC 38A	Grizzly bear recovery would have a negative effect on local economies	24
GC 38B	Grizzly bear recovery would have a positive effect on local economies	6
GC 39	**Cost of Recovery Program** **Total Comments**	**164**
GC 39A	Do not spend taxpayer's money on grizzly bears: it is a waste of money/ spend the money on other wildlife programs	148
GC 39B	Cost estimates for recovery programs should be provided to the public	8

Comment Received	Comment Description	#
GC 39C	Willing to pay extra taxes/fees to support recovery efforts	6
GC 40	The final plan should consider the socio-economic effects of grizzly recovery on humans within the recovery zone	11
GC 42	**Human Safety** **Total Comments**	**428**
GC 42A	Grizzly bears/recovery chapter poses a serious threat for human-grizzly bear safety conflicts	196
GC 42B	Recovery plan should consider human safety	139
GC 42C	Proper training, with emphasis on the importance of precautions and education, minimizes the threat from grizzly bears	36
GC 42D	Safety concerns warrant carrying firearms and/or concerned about the problems of having more people carrying firearms for that reason	25
GC 42E	Low grizzly bear densities decrease the likelihood of grizzly bear/human encounters resulting in attacks/fatalities	23
GC 42F	Support zero human fatalities/injuries as a goal: no human mortality is acceptable: human safety should take precedence over grizzly bear safety: plan should address how many people may be killed	8
GC 42G	Potential of grizzly bear-caused human mortality or injury should be addressed in text or added to NC1 on p.3, NC2111 on p.9, NC22 on p.12 and NC6 on p.21	1
GC 64	**Compensation for Loss, Injury Comments** **Total**	**134**
GC 64A	Grizzly bear recovery poses a threat to livestock and personal property	55
GC 64B	Landowners need the right to protect their ranch/ farm/ property	39
GC 64C	Believe the government has or will have a program to reimburse for livestock losses	24
GC 64D	The government is/ should be liable for the health and safety of people and their property with reference to grizzly bear recovery	10
GC 64F	Livestock issues are not a problem	6
GC 68	**Consideration of Bears/Humans Comments** **Total**	**107**
GC 68A	Equal consideration should be given to people and grizzly bears	34

Comment Received	Comment Description	#
GC 68B	People are more important than grizzly bears: mankind is an endangered species too	32
GC 68C	The rights/ needs of grizzly bears and other life forms need to be considered	21
GC 68D	The rights/ needs of human beings need to be considered	21

Petitions

Seven petitions with 175 signatures were received. Petition comments were coded the same as those in individual letters. The number of petitions and signatures for each comment are summarized.

Comment Sigs.	Interest Area	#Petitions	#
NC 134B	No specific areas identified	1	9
NC 21A		1	9
NC 211B		1	16
NC 2112B		1	9
NC 2112C		1	16
NC 22A		1	9
NC 22C		1	11
NC 22D		1	49
NC 22E		2	75
NC 31A	Include Loup, Colockum; consider areas S of I-90	1	9
NC 31B		1	49
NC 32B		1	9
NC 513B		2	20

NC 513C		2	16
NC 513E		2	64
NC 6A		2	25
GC B		2	27

Comment Sigs.	Interest Area	#Petitions	#
GC 35		1	49
GC 38A		1	49
GC 40		1	11
GC 42B		2	64
GC 64A		1	16
GC 64C		2	64
GC 64D		2	64

Responses to Issues/Concerns Raised During Public Review of the Draft North Cascades Ecosystem Grizzly Bear Recovery Chapter

The purpose of this section is to provide additional information on issues and concerns which received numerous comments during the public review of the Draft North Cascades Grizzly Bear Recovery Plan Chapter.

ISSUE: NC 134, Linkage Zones (424 Responses). *Linkage zones must be evaluated and/or established to provide genetic and demographic viability for all recovery zones.*

Response: The chapter identifies the importance of evaluating habitat linkages between the NCE and the Selkirk Mountains and the British Columbia Coast range. While the recovery plan cannot mandate the evaluation of linkage zones, it does emphasize the importance of this task. Fragmentation of habitat and the eventual isolation of fragmented parcels is a major factor contributing to the demise of many wildlife species. The revised 1993 Grizzly Bear Recovery Plan includes a discussion of the importance of linkages between grizzly bear ecosystems and identifies problems associated with fragmentation of habitat within ecosystems. The US Fish and Wildlife Service has initiated a five-year pilot study to assess fragmentation within ecosystems and the potential for bears to move between existing ecosystems. Information gained will be used to develop long term habitat conservation strategies to conserve, or restore where possible, the connectivity within and between ecosystems (Appendix E, Grizzly Bear Recovery Plan). It is important to recognize that there is nothing managers can do to compel grizzly bears to use such zones and move between ecosystems.

ISSUE: NC 2, Factors Limiting Populations (216 Responses). *The recovery zone must ensure good, safe habitat with a goal of no human-caused deaths through such avenues as restriction/bans on extractive industries and/or road building and/or bear hunting.*

Response: The North Cascades recovery chapter is not intended to provide precise details on habitat management for the grizzly bear. It is not a decision document under NEPA that allocates resources on public lands or makes decisions about activities such as restrictions or bans. Its purpose is to outline steps that will facilitate the recovery of the grizzly bear in the North Cascades. It provides recommendations for making human activities within grizzly bear habitat compatible with grizzly bear recovery. Federal and state agencies incorporate appropriate portions of the recovery plan into agency decision documents. It is these documents which make management decisions regarding the various activities. The North Cascades chapter outlines a number of steps to reduce or prevent human-caused grizzly bear mortalities.

ISSUE: NC 2112, Hound Hunting and Bear Baiting (395 Responses). *Hunting black bear with bait or with hounds could lead to direct or indirect mortality of grizzly bears and should be banned within the Recovery Zone. Hunting black bears with the*

use of bait could result in the accidental killing of a grizzly bear through mistaken identity. Baiting for black bears could also lead to food-conditioning and/or habituation, which could, in turn, result in a threat to both bear and human safety. There is a risk that if hounds were to accidentally pursue a grizzly bear it could result in indirect or direct mortality. These activities present a risk of human-induced mortality, which, if it occurred, would exceed the goal of zero for the North Cascades ecosystem.

Response: Recovery plans do not make decisions regarding allocation of resources on public lands. Regulation of hunting is the responsibility of the Washington Fish and Wildlife Commission (WFWC). There have been documented cases in which grizzly bear mortality has resulted from mistaken identity killing over bait. The Commission has taken action regarding baiting in the North Cascades and the Selkirk Grizzly Bear recovery zones. In 1994, the Commission passed regulations prohibiting the use of bait within the Draft North Cascades Grizzly Bear Recovery Zone recommended Situation I Areas (all wilderness areas of the national forests and of the North Cascades National Park Complex where hunting is permitted). The new laws also regulate the type, timing, placement, and removal of bait statewide to reduce the potential for bears to associate humans with food. Beginning in 1995, hunters wishing to use bait within undesignated situation areas of the Recovery Zone will be required to complete special training: either the Washington Department of Fish and Wildlife (WDFW) Advanced Hunter Education Program, or a special bait hunter education program. The final draft North Cascades chapter added language recommending that *"once established, all situation areas should be reviewed for incorporation in the bait ban."*

Information is not available to determine the effects of hound hunting on grizzly bears. Although the probability of a grizzly bear being pursued by hounds within the North Cascades Grizzly Bear Recovery Zone is low, there is a concern that it could occur incidental to the hound hunting of other species and that such incidental pursuit may increase a grizzly bear's vulnerability to direct or indirect mortality. The final draft Chapter added language that recommends that a study begin immediately to determine the effects of hound hunting on grizzly bears and that "*regulations should be modified as appropriate to reduce or eliminate conflicts with grizzly bears that result from hound hunting.*"

ISSUE: NC 22, Indirect Mortality (598 Responses). *Road densities are too high and the potential for higher densities should be precluded. The present road densities should be reduced. There should be a moratorium on road building in the recovery zone until a comprehensive assessment of all existing roads is complete and seasonal or permanent closures to protect critical habitat. Some commentors were opposed to restrictions or limits on multiple use of public lands, including extractive industries and recreation.*

Response: The Grizzly Bear Recovery Plan, Appendix B discusses the important role of road management in grizzly bear habitat. It states: "The management of roads is the most powerful tool available to balance the needs of bears and all other wildlife with

the activities of humans." Additional language addressing the importance of road management was added to the final draft North Cascades Chapter in NC 22: "An effort is needed to reduce road densities throughout the Recovery Zone. Guidelines and rationale for road management specific to grizzly bears are provided in Appendix B of the Grizzly Bear Recovery Plan." The President's Forest Plan Record of Decision (1994, a federal policy implemented by federal agencies within the range of the northern spotted owl) provides for current road densities to remain, with no net increase in roads in key watersheds. This includes a portion of the North Cascades Grizzly Bear Recovery Zone.

Many comments addressed concerns about potential restrictions on multiple use of public lands as a result of grizzly bear recovery. The recovery plan outlines steps that will facilitate the recovery of the grizzly bear in the North Cascades. It is not a decision document under NEPA and does not allocate resources on public lands. Implementation of the recovery plan is accomplished through incorporation of portions of the plan into agency decision documents such as Forest Plans, National Park Management Plans, State Species Management Plans and other documents. These documents incorporate more detailed management actions and, in the case of federal actions, are implemented through the NEPA process, which involves public participation.

ISSUE: NC31, Recovery Zone Boundary (581 responses). *There were concerns expressed that the recovery zone was insufficient in size and that it needed to be enlarged. Recommendations for expanding the recovery zone included: to add in all the lands that were in the North Cascades Ecosystem Habitat Evaluation study area including, specifically, two parcels of state land on the eastern periphery of the recovery zone and the Colockum Wildlife Area; to extend the boundary south of Interstate 90 to the Columbia River; and to extend the boundary east to include the Okanogan Highlands. A number of commentors expressed concern that the boundary proposed in the Draft Chapter may not provide sufficient space for a viable population; that evidence exists for individuals well south of Interstate 90; that these individuals could be important to grizzly bear recovery in the North Cascades, that enlarging the recovery zone would provide for a less dense population distributed over a much larger area, and that extending to the east would help provide a linkage to the Selkirk Ecosystem. A number of respondents also expressed opposition to the establishment of the recovery zone and believed that it shouldn't be established at all or was too large.*

Response: There exists no system to evaluate the amount of habitat necessary to maintain a viable grizzly bear population. The question of how much space is needed for grizzly bear recovery is essentially a question of risk. Population viability will be enhanced through a management system that establishes and maintains a high level of population and habitat security within an area sufficient in size to assure a sustainable population and reasonable density of bears. That is the objective of the recovery zone boundary in the Draft North Cascades Chapter.

Some of the responses requested that specific state lands adjoining the proposed recovery zone be added to the recovery zone. Some comments stated that the Loomis State Forest should be added to the recovery zone. The proposed recovery zone already includes the Loomis State Forest. Some commentors requested that the recovery zone boundary be the same as the boundary of the North Cascades Grizzly Bear Ecosystem Evaluation Area. The Evaluation Area boundary was chosen to include federal lands north of Interstate 90 and some adjacent state and private lands deemed suitable for habitat analysis. When a technical review team evaluated data compiled for the area to determine capability to support a viable grizzly bear population, they recommended excluding private land on the periphery and adding the Colockum Wildlife Area because it was elk winter range. As a result, the boundary of the Evaluation Area was established along administrative lines, including all federal land and then state land that extended beyond federal ownership. Neighboring private land of similar character was not included unless it was surrounded by federal or state land. Because it was added at the end of the study, habitat on the Colockum was not evaluated.

The Colockum Wildlife Area extends from the southeastern boundary of the recovery zone in the shape of a narrow strip. It is surrounded on most sides by heavy human use areas, including orchards and cities. Although the Colockum is managed for wildlife and may provide seasonal habitat for a recovering grizzly bear population, the potential for human/bear conflicts in adjacent areas make it a poor candidate to serve as part of the foundation for grizzly bear recovery. Increasing grizzly populations or recovery zone sizes in areas where human actions will result in bear-human conflict and increasing deaths of bears will not increase population viability. The Colockum Wildlife Area is managed for wildlife and will continue to be in the future. It will provide habitat for grizzly bears whether or not it is in the Recovery Zone. As discussed in section NC 31 of the chapter, this does not preclude future evaluation of the area.

Some commentors expressed concern that the state lands on the periphery of the recovery zone provide low elevation spring habitat and that all of the state lands, including the Colockum, provide winter range for ungulates. Winter-killed ungulates can in turn provide a food source for grizzly bears in the spring. Spring range is an important seasonal component of grizzly bear habitat, but it has not been demonstrated that the three areas of DNR managed land specifically identified are essential to grizzly bear recovery. There is no evidence that grizzly bears use the areas in question. Even though the areas are not included in the recovery zone, the boundary does not impose an obstacle to grizzly bear movement into or through them; nor does it change their ability to provide a food source for grizzly bears in the spring.

The recovery plan (section NC53) describes the relationship between the federal government and state agencies. Under the Endangered Species Act, provisions for recovery of threatened and endangered species apply solely to federal land. The federal government recommends land use activities that are compatible with grizzly bear requirements for space and habitat, and measures that minimize the potential for human/bear conflicts. State agencies are not required to participate in grizzly bear

recovery efforts carried out by federal agencies. However, it is the policy of the Washington Department of Natural Resources (DNR) to "voluntarily participate in efforts to recover and restore endangered and threatened species to the extent that such participation is consistent with trust obligations: (Policy No. 23, Forest Resource Plan, July 1992). This policy applies regardless of recovery zone boundaries. The Forest Resource Plan was adopted by the Board of Natural Resources, the DNR "board of directors," to govern forest management.

With regard to enlarging the recovery zone to the areas south of Interstate-90 or east to include the Okanogan Highlands, it is recognized that for grizzly bear recovery, the bigger the area, the better it is for recovery. However, based on our current knowledge of viable populations and space and habitat needs of grizzly bears in other ecosystems, it is believed that the proposed area does provide ample space and habitat for a recovered population. It is recognized, however, that it is important to maintain an adaptive management course in order to respond to new information and new situations. A process is included in the recovery chapter to adjust recovery zone boundaries in response to new information. All lines are subject to revision and review as new information becomes available. The recovery plan is revised every five years to enable it to respond to new information and new situations.

The North Cascades Recovery Zone (9,565 sq. mi.) proposed in the Draft Chapter is equal in size to the two largest grizzly bear recovery zones: the Northern Continental Divide Ecosystem (NCDE) (9,600 sq. mi.) and the Yellowstone Ecosystem (YE) (9,500 sq. mi.). The current minimum grizzly bear population estimate in the YE is 236 bears; and in the NCDE is more than 300 bears, with population estimates ranging from 549-813 bears. The state lands on the periphery of the recovery zone and the Colockum Wildlife Area comprise approximately 5% of the evaluation area (549 sq. mi. out of 10,114 square miles). The recovery zone presented in the Draft Chapter is believed to be large enough to provide for a viable population of grizzly bears.

Grizzly bears are capable of extensive movements and can and will occur outside the recovery zone lines. The existence of bears outside the boundary alone is not sufficient reason for revising the line. Any area to be added must contain significant biological values for bears. There are criterion in the plan (NC31) to adjust the recovery zone boundaries if new information becomes available. If there is evidence in the future that makes a change of boundary clearly necessary, the boundary can be adjusted at that time.

Some commentors were concerned that the criterion presented in the draft plan (NC31) for revising the boundary in the future was too restrictive. The draft stated: "*Any area to be added must contain significant biological values for bears with home ranges at least partially within the recovery zone*". This was changed in the final draft chapter to read: "*Any area to be added must contain significant biological values for bears.*"

ISSUE: NC 32, Management Situation Areas (275 Responses). *Support managing all parks, roadless areas and wilderness areas as Management Situation I (critical for grizzly bear recovery) and not designating other lands until further habitat data is obtained.*

Response: While recovery plans do not make decisions, they do outline steps that will facilitate the recovery of the species. The Draft North Cascades Recovery Chapter recommends that all wilderness areas of national forests and the North Cascades National Park Complex be designated as Situation I for management purposes. Actual designation will be done by the land managing agencies following chapter approval and adoption. The North Cascades Chapter also recommends that some Situation III Areas could probably be designated; and that until more information is available, the remaining areas should be undesignated.

ISSUE: NC 513, GC C, Enhancing Recruitment/Augmentation (1024 Responses). *Support for/opposed to augmentation of grizzly bears in the North Cascades.*

Response: This issue generated more responses than any other in the draft recovery chapter. Recovery plans are discretionary documents, guides for achieving recovery. As a guide, they provide information as to what the species requires to reach recovery. Although federal agencies are required to carry out programs for the conservation and recovery of species, there are no regulations mandating strict adherence to suggestions made in recovery plans.

The public's concerns about methods for population recruitment (augmentation) will be addressed within the context of the National Environmental Policy Act (NEPA). Any action that significantly effects the human environment and is federally authorized, funded or permitted is subject to the provisions of NEPA. This usually entails completion of either an Environmental Impact Statement (EIS) or an Environmental Assessment (EA), both of which require full disclosure and extensive public involvement. NEPA is specifically designed to promote disclosure and public involvement by describing and laying before the public options for achieving certain goals.

ISSUE: NC 6, Educational Programs (282 Responses). *Educational programs and general information on grizzly bears are critical for avoiding bear/human conflicts.*

Response: An aggressive, adequately staffed and funded public education program will be a key factor in reducing human/bear conflicts in the North Cascades. Educational efforts in other ecosystems with significant grizzly bear populations have been instrumental in decreasing the number of bear/human conflicts resulting in fatalities or injuries to both grizzly bears and humans.

ISSUE: GC A, General, The Recovery Plan (322 Responses). *The recovery plan is inadequate or too weak. It needs to be strengthened, more restrictive, and move faster.*

Response: The North Cascades Grizzly Bear Recovery Chapter is not a decision document under NEPA. Thus, it does not direct specific habitat management actions on public lands, and thereby allocate resources, nor is it intended to do so under law. The intent of the plan is to outline steps, which, if implemented, will facilitate the recovery of the species. The steps outlined for the North Cascades are similar to those for the other existing grizzly bear recovery areas, where grizzly bear recovery is being achieved. Recovery in the North Cascades will be a slow, gradual process, requiring many decades.

ISSUE: GC 42, Human Safety (428 Responses). *Grizzly bear recovery in the North Cascades poses a serious threat for human safety. The Recovery plan needs to consider human safety.*

Response: The low density of grizzly bears in the North Cascades makes significant conflicts unlikely in the near future. Recovery-level populations, however, will increase the likelihood of conflicts if the public's knowledge level regarding bears and proper behavior in bear country is not increased. Regardless of the presence of grizzly bears, the North Cascades are already bear country, occupied by hundreds of black bears. As black bears cause more human injuries annually than grizzly bears, this presence should promote the same standards of behavior and proper sanitation that are prompted by the presence of grizzly bears.

It is recognized that addressing human safety concerns will be an important component to achieve grizzly bear recovery. Specific Information and Education actions to be taken will be discussed in the development of an I&E plan and concerns for human safety will be included in full-disclosure documents under NEPA.

ISSUE: GC 64, Livestock Safety (134 Responses). *Grizzly bear recovery poses a threat to livestock and personal property. Landowners need the right to protect their property.*

Response: The present status of grizzly bears is largely the result of social beliefs systems that were intolerant of grizzly bears and other large carnivores. Justification of these beliefs fostered a sensationalization of grizzly bear/livestock conflicts and grizzly bear/human conflicts. Much of the current public attitude toward grizzly bears is thus based on limited or inaccurate knowledge about grizzly bears and their behavior.

It has long been widely recognized that recovery would depend in large part on the ability to influence public perceptions about grizzly bears. As a result, the Grizzly Bear Recovery Plan addresses the issues of self-defense and defense of property in 50 CFR 17.40 and the Grizzly Bear Management Guidelines. The majority of concerns expressed in this section are covered in those documents.

Livestock growers will be encouraged to follow practices which will not attract grizzly

bears. If a report of a suspected grizzly bear predation is received, a federal agent will investigate to document and verify the kill and determine, if possible, the cause. In the event of grizzly bear predation where the bear is judged to be a nuisance (food conditioned or habitually preying on livestock), it will be removed or destroyed in accordance with a nuisance bear plan which will be updated for the North Cascades. In other ecosystems, private organizations have set up funds to compensate ranchers and farmers for losses from grizzly bears.

*ISSUE: **GC 68, Equal consideration for humans/bears (107 Responses).** Equal consideration should be given to people and grizzly bears. People are more important than grizzly bears; the rights/needs of grizzly bears need to be considered.*

Response: The recovery chapter outlines steps which, if implemented, will facilitate recovery of grizzly bears in the North Cascades. But whether or not grizzly bears are recovered will depend on public willingness to allow them to recover. Living with bears is a matter of sharing the land. Humans have the ability to weigh the effects of their actions on other species an the land; bears simply make choices about basic things like food selection, cub protection, mating or travel. There will occasionally be conflicts between humans and grizzly bears. The challenge is to use our knowledge of bears to minimize these conflicts.

As information on grizzly bear distribution and habitat use becomes available, habitat on federal lands within the recovery area will be divided into management situations following the Interagency Grizzly Bear Committee guidelines for grizzly bear management. These allow several management scenarios, from managing primarily for grizzly bears (Situation I) to managing primarily for humans (Situation III). It is likely that only Situation I and III will be identified initially. Wilderness areas will be important areas for grizzly bear recovery in the North Cascades and these would likely be Situation I areas. Areas with human developments and structures would be identified as Situation III areas. The remaining areas will be designated as more information is obtained.