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BIOLOGICAL ASSESSMENT FOR GRIZZLY BEARS ON THE WESTSIDE OF THE HELENA NATIONAL FOREST

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I. INTRODUCTION

The Helena National Forest (Forest) originally consulted with the U.S. Fish and Wildlife Service (USFWS) in 1986 on implementation of our Forest Plan regarding effects to grizzly bears inside the area considered occupied at that time (currently the Northern Continental Divide Ecosystem (NCDE) Recovery Zone) (USDA 1986a, Chapter VI). At the time of that consultation, incidental take was not an analysis parameter within the ESA. Since then, incidental take has become part of the ESA considerations. As a result, the Forest completed consultation on that portion of the Forest considered occupied by grizzly bears – the NCDE and what was referred to as the grizzly bear distribution zone at that time. We received a biological opinion on June 8, 2006 which concluded that at the end of a 5-year period, the environmental baseline would be reviewed and a determination rendered as to whether the incidental take statement needed to be modified or extended. Since 2006, grizzly bears have further extended their range south throughout the Continental Divide region of the Helena Ranger District (hereafter referred to as the Divide Landscape). As a result the Forest has prepared this biological assessment to address the effects of Forest Plan implementation in areas where grizzly bears are considered present (Figure 1).

This biological assessment addresses the potential for adverse effects of management activities to bears in those areas where they are known to occur both within the NCDE Recovery Zone and in the expanded Grizzly Bear Distribution Zone¹ as a result of management activities described within the Helena National Forest Plan. However, the access management portion of the Lincoln district (which includes the NCDE) will be addressed through consultation for the Blackfoot Non-winter Travel Plan Environmental Impact Statement.

The U.S. Fish and Wildlife Service has identified three land management elements that may result in adverse effects on grizzly bears which were listed as threatened under the ESA in 1975 (USDI 1993). These three elements are addressed in this biological assessment and include access management, sanitation, and livestock grazing for the Divide Landscape, and access sanitation, and livestock grazing for the Lincoln District portion of the Action Area. Other land management activities may influence grizzly bears but have not been identified as activities that result in adverse effects to grizzly bears. The USFWS identified these three elements as resulting in the majority of adverse impacts. However, individual projects require scrutiny for impacts to account for exceptions to the major action.

¹ Grizzly bear distribution outside of the recovery zone is frequently referred to as “occupied habitat.” However, the term “occupied habitat”, as used in the 1982 Recovery Plan was related to specific recovery goals. This term subsequently was dropped from the revised 1993 Recovery Plan (USDI 1993, Appendix E) because of “difficulty in determining what is occupied habitat.” The 1993 Recovery Plan uses “recovery zones” instead of “occupied habitat”. Note that the Helena National Forest Plan (USDA 1986b) based Grizzly Bear Standards on the 1982 Recovery Plan, when the term “occupied habitat” was applicable.

Because Recovery Plan implementation resulted in expansion of populations beyond recovery zone boundaries, bear distribution outside Recovery Zones was mapped (USDA 2002). This expanded grizzly bear distribution zone is based on (1) the 2002 mapping of grizzly bear distribution outside of the recovery zone referred to as the Grizzly Bear Distribution Zone (USDA 2002) and (2) the Northern Continental Divide Ecosystem Grizzly Bear Population Monitoring Annual Report 2012 (Mace and Roberts 2012b). The area represented by these data is hereafter referred to as the Expanded Grizzly Bear Distribution Zone for that portion of the Forest outside of the NCDE where grizzly bears are considered present. For the purposes of this analysis, however, the Expanded Grizzly Bear Distribution Zone will be divided into the (1) NCDE Recovery Zone and Areas Outside of the NCDE but within the Lincoln Ranger District and (2) the Divide Landscape.

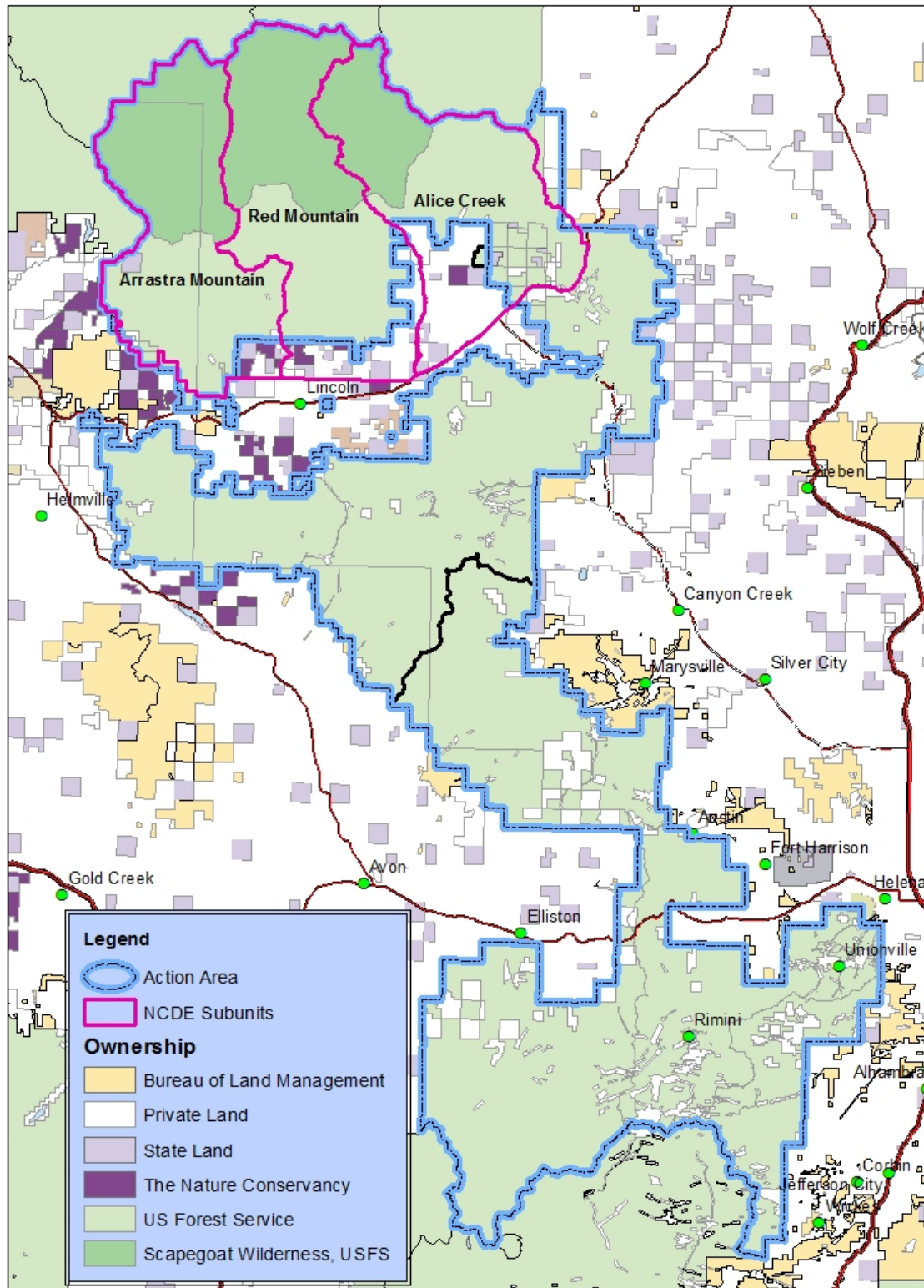


Figure 1 Action Area for the Biological Assessment for Grizzly Bears on the Westside of the Helena National Forest.

II. GRIZZLY BEAR DISTRIBUTION AND LIFE HISTORY

Distribution

The historic range of the grizzly bear (*Ursus arctos horribilis*) in the continental United States extended from the central Great Plains, west to California, and south to Texas and Mexico. Between 1800 and 1975, grizzly bear populations in the lower 48 states declined from over 50,000 to less than 1,000. As European settlement expanded westward, the grizzly was extirpated from most of its historical range.

Five areas in the lower 48 states currently support grizzly bear populations; these areas are located in Montana, Wyoming, Idaho, and Washington and include: the Yellowstone Ecosystem, Northern Continental Divide Ecosystem, Cabinet-Yaak Ecosystem, Selkirk Ecosystem, and Northern Cascades Ecosystem. These areas represent less than two percent of the grizzly's former range (USDI 1993).

Life History

Grizzly bears are in the bear family (Ursidae) and are generally larger than black bears and can be distinguished by having longer front foot claws (two to four inches); a distinctive shoulder hump (muscle mass for digging); rounded ears that are proportionately smaller than the head; and a dished-in profile between the eyes and end of the snout. A wide range of coloration from light brown to nearly black is common. Guard hairs are often paled at the tips; hence the name "grizzly." Spring shedding, new growth, nutrition, and climate all affect coloration. In the continental United States, the average weight of grizzlies is 400 to 600 pounds for males and 250 to 350 pounds for females. Grizzly bears are long-lived and many individuals live over 20 years. Adult bears are individualistic in behavior and normally are solitary wanderers. Females with cubs and bears defending food supplies are common causes of confrontation between humans and bears (USDI 1993).

Home ranges of adult bears may overlap. The home ranges of adult male grizzlies are generally two to four times larger than adult females. The home ranges of females are smaller while they have cubs, but increase when the cubs become yearlings. Home ranges vary in relation to food availability, weather conditions, and interactions with other bears. Home ranges are larger in the Yellowstone Ecosystem compared to the more productive habitats in the northern ecosystems (USDI 1993).

Age of first reproduction and litter size varies and may be related to nutritional state. Age at first reproduction averages five and one-half years of age (three and one-half to eight and one-half years of age). Reproductive intervals for females average three years and litter size average two cubs (one to four cubs per litter). The limited reproductive capacity of grizzly bears precludes rapid increases in population. Grizzly bears have one of the lowest reproductive rates among terrestrial mammals. During a female's lifetime, if she has litters of two cubs with a 50:50 sex ratio, and a 50 percent survivorship of young to age 5.5 years, at best she can replace herself with one breeding age female in the first decade of her life (USDI 1993).

Coniferous forest cover is very important to grizzly bears. Ninety percent of aerial radio relocations of 46 radio-collared grizzlies were in forest cover too dense to observe the bear. Dense forests are important for thermal cover, hiding cover, and day beds; most beds are located within six feet of a tree. The importance of open grassy parks with coniferous forest cover has also been documented (USDI 1993).

Grizzly bears excavate dens as early as September or prior to entry in November. Dens are usually dug on steep slopes where wind and topography cause an accumulation of deep snow and where snow is

unlikely to melt during warm periods. Dens are generally found at high elevations well away from human activity and development (USDI 1993).

Grizzly bears are opportunistic feeders and will prey or scavenge on almost any available food. Plants with high crude protein content and animal matter are important food items. The search for food has a prime influence on grizzly bear movements. Upon emergence from the den grizzlies move to lower elevations, drainage bottoms, avalanche chutes, and ungulate winter ranges where their food requirements can be met. Throughout spring and early summer grizzlies follow plant phenology back to higher elevations. In late summer and fall, there is a transition to fruit and nut sources, as well as herbaceous materials. This is a general pattern; however, bears will go where they can meet their food requirements (USDI 1993).

III. ENVIRONMENTAL BASELINE/POTENTIAL ADVERSE EFFECTS

The environmental baseline for grizzly bears is described in terms of those parameters that threaten grizzly bears either through human contact and conflict or through reductions in secure habitat. More specifically, parameters that address grizzly/human conflict (e.g. access management, sanitation, and livestock) form the basis against which threats to grizzly bears are measured.

The Helena Forest Plan (USDA 1986b) provides direction and guidelines for the management and conservation of grizzly bear habitat. This direction is described in the Forest-wide Goals (FP-II/1), Forest-wide Objectives (FP II/4), Forest-wide Standards (FP II/17, 19), individual management area direction (FP III/56, 59, 60), Forest Plan Monitoring Requirements (FP IV/8) Forest Plan Appendix A (resolution of Issues and Concerns), Appendix D (Guidelines for Management of Grizzly Bear Habitat), and Appendix E (direction for grizzly bear management outside the recovery zone).

Action Area

The action area is defined as all areas directly or indirectly affected by implementation of the Forest Plan and is described as that portion of the Helena National Forest on the Lincoln Ranger District and within the Divide Landscape² portion of the Helena Ranger District (Figure 2). There are 181,676 acres within the Recovery Zone on the Lincoln Ranger District, an additional 151,998 acres outside of the NCDE but within the Lincoln Ranger District for a total of 333,674 acres, and 202,608 acres in the Divide Landscape.

Status of Grizzly Bears within the Action Area

Grizzly bears occupy the western portion of the Helena National Forest including (1) the Lincoln Ranger District that includes the NCDE which is largely comprised of the Bob Marshall Wilderness Complex and (2) the Divide Landscape which is best characterized as 'multiple use' in terms of land management activities (See Figure 1).

² The Helena National Forest is composed of 4 landscapes that have been delineated along ecological and logical boundaries for purposes of analysis and management. The Recovery Zone occurs in the northern portion of the Blackfoot Landscape (Lincoln Ranger District) while the Expanded Grizzly Bear Distribution Zone occurs in the southern portion of the Blackfoot Landscape and all of the Divide Landscape.

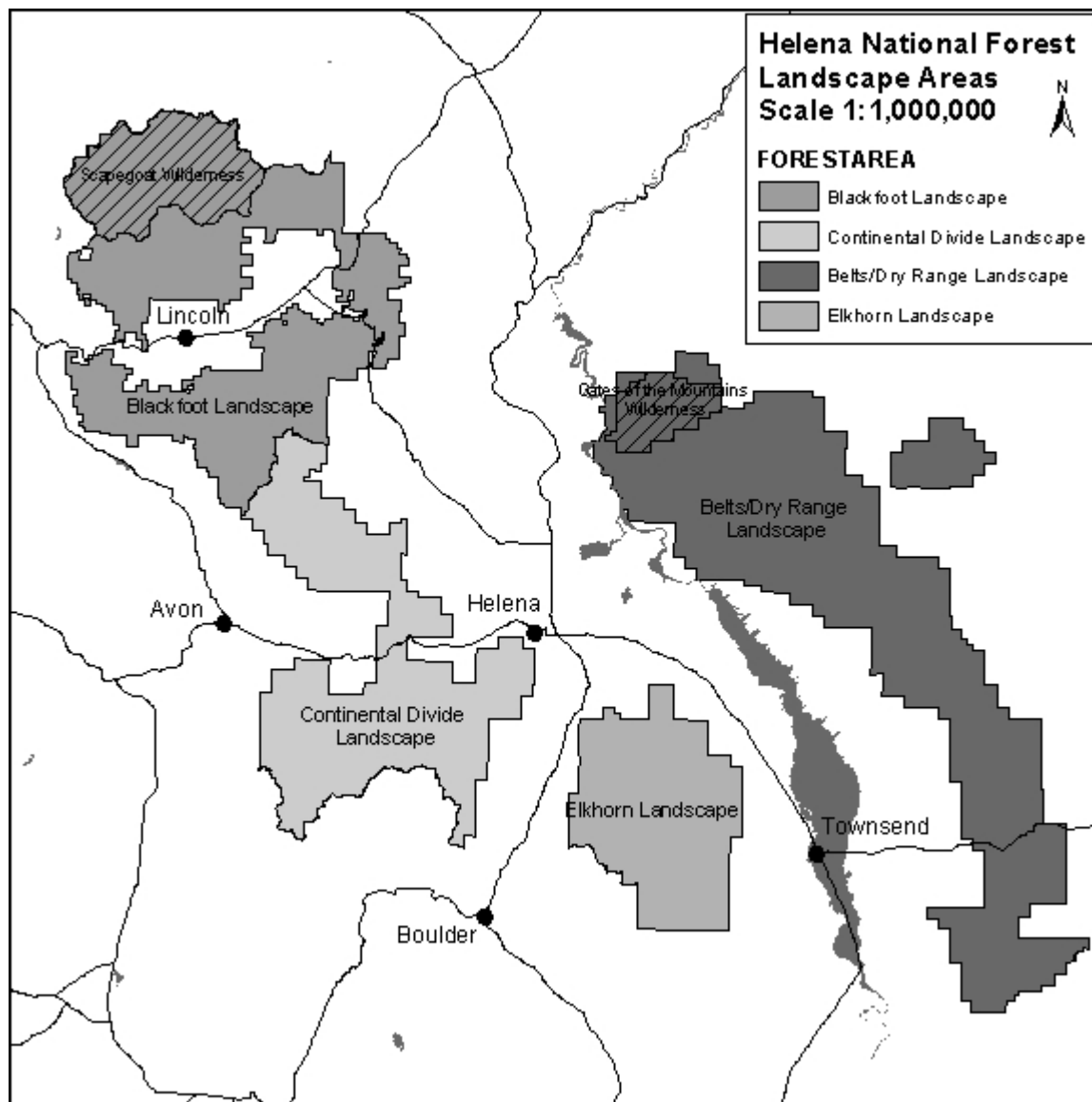


Figure 2 Helena National Forest Landscape Areas

NCDE and Lincoln Ranger District

Kendall et al. (2009) estimated a population size of 765 individual grizzly bears in the NCDE (confidence interval 715-831) based on hair samples collected in 2004. Concurrent with that 2004 study, an interagency team was established to estimate population trend in and adjacent to the NCDE (Mace 2005). The results of the trend monitoring indicate that the NCDE population has increased by approximately 3% during the time period 2004-2009 (Mace et al. 2012). Mace et al. (2012) also conclude that there are more than 1,000 bears in and adjacent to the NCDE. This is consistent with the conclusions described in Kendall et al. (2009) that the high genetic diversity exhibited in the data collected in 2004 along with an expanded distribution of bears generally indicates a positive trajectory in population trend.

The Divide Landscape

Distribution of grizzly bears outside of the NCDE is summarized in Mace and Roberts (2012b) and is based on telemetry data, mortality data, and the DNA detections in 2004 (Kendall et al. 2009). The

following figure is excerpted from Mace and Roberts (2012b) and shows the extent of grizzly bear occupancy throughout the Divide Landscape as far south as Butte.

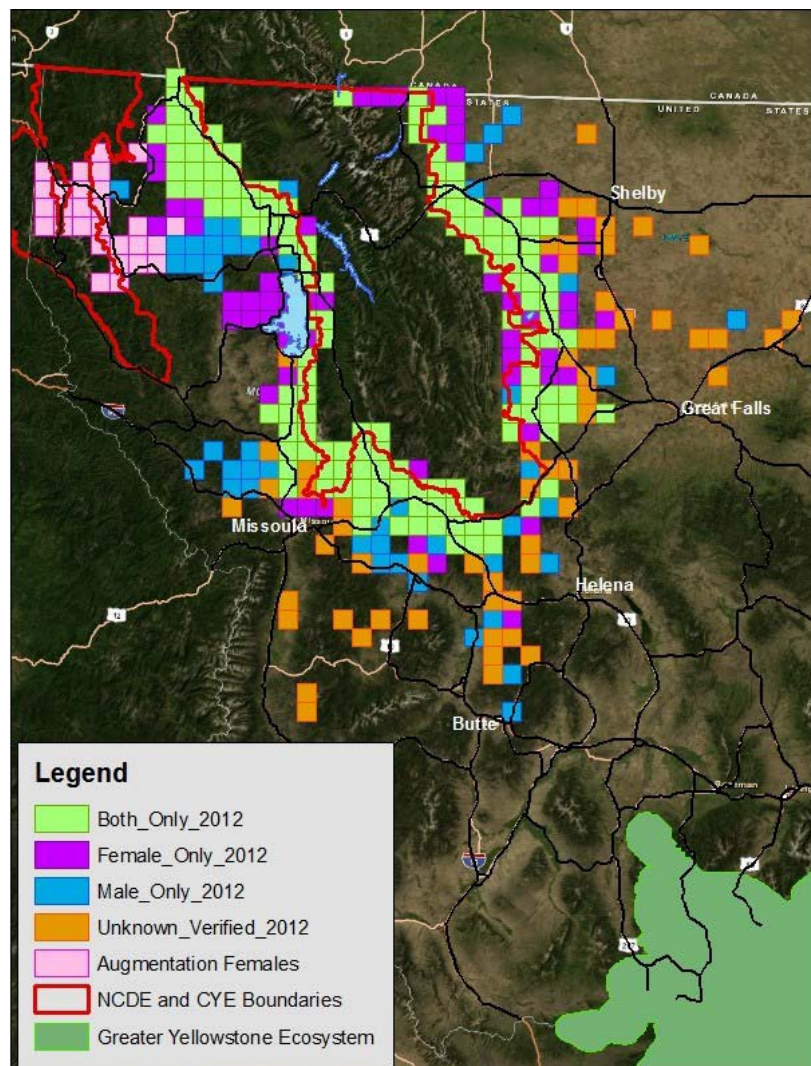


Figure 3 Distribution of grizzly bears adjacent to the NCDE from 1989-2012 (from Mace and Roberts 2012)

Most, though not all, observations south of Highway 12 have been in the upper reaches of the Little Blackfoot watershed and along the border between the Helena National Forest and the Beaverhead-Deerlodge National Forest (including the upper Cataract and Basin Creek drainages just to the south). The number of credible grizzly bear reports in these areas has been increasing in recent years as the population in the NCDE expands to the point that more bears are exploring new territory further to the south (J. Jonkel, personal communication, 2007). This is supported by Mace and Roberts (2012b).

Recent Forest-wide monitoring efforts designed to identify individual grizzlies through DNA analysis of hair samples collected from rub trees (2009-2010) has yet to turn up any sign of the bears south of Highway 12. This is indicative of the general scarcity of grizzly bears in this area.

The tally in Table 1 includes observations made by or reported to Forest and local MDFWP biologists from 1991 to 2009. Observations from 2010 are incomplete and not included in this summary. Most of the 1991-2009 reports are from the Forest, but 4 observations are from just south of the Forest boundary on the Beaverhead-Deerlodge National Forest. The actual number of grizzlies that have ranged into the Divide landscape since 1991 is considerably less than these totals suggest since some of the bears have been tallied multiple times over 18 years. These data has been gleaned from the Helena Ranger District/ Helena National Forest wildlife observation files (on file, Helena National Forest).

Table 1 Known credible observations of grizzly bears in the Divide landscape since 1991			
Area	Observations from Forest Records	Additional Observations from MFWP Records	Total Observations 1991-2009
North of U.S. Highway 12	22	22	44
South of U.S. Highway 12	7	19	26
Divide Landscape Total	29	41	70

North Divide

The northern half of the Divide landscape is an area still in transition with regard to its role in grizzly bear recovery. Although it lies adjacent to the Lincoln Ranger District where a resident grizzly population has been established for several decades, only its northernmost reaches—the Little Prickly Pear watershed—may accommodate resident bears (animals that either den in the upper drainages or spend much of their active spring-summer-fall season there). Bear activity in the rest of the landscape appears fluid, associated with long-distance dispersal or with wide-ranging seasonal forays beyond core home ranges to the north. The number of bears likely to be present in the northern Divide landscape at any given time is unknown. However, two decades of fortuitous observations and occasional targeted field checks suggest the following:

- There is currently no bona fide “resident” population in the area south of the Little Prickly Pear watershed (at the northern end of the Divide landscape).
- Bears observed in North Divide appear to be either transient animals moving southward through a linkage zone or those with ranges centered further north (the Lincoln Ranger District) that sometimes range southward.
- Neither denning nor reproduction has been documented in the Divide landscape between the Dog Creek/Little Prickly Pear divide in the north and the upper reaches of the Little Blackfoot watershed to the south.
- The north Divide landscape is therefore not currently part of a Biological Activity Center for grizzlies as defined in the Helena National Forest Plan, Appendix E (USDA 1986b, p. E/1).

South Divide

Grizzlies in the southern half of the Divide landscape on the Forest also range through the drainages flowing southward into Boulder River on the Beaverhead-Deerlodge National Forest. The area within which grizzly bears have been reported between U.S. Highway 12 in the north and the main stem of Boulder River in the south covers roughly 350 mi² (224,000 ac) within National Forest boundaries.

Although rural residences, open roads, motor trails, developed recreational facilities, livestock grazing, mining operations, and other human activities are spread through the South Divide, ample portions of it are unroaded or lightly roaded. While the area is not identified as a Recovery Zone, the fact that

grizzlies have persisted here for at least two decades (albeit in very low numbers) suggests that it has a role to play in grizzly bear conservation—potentially providing linkage between designated Recovery Zones.

As with the area north of Highway 12, the southern half of the Divide landscape is still very much in transition with regard to its role in grizzly bear conservation. At this time, the size of the local grizzly “population” is unknown and its status uncertain. All that can be said, based on field observations to this point, is that:

- Population density is very low (only 1 confirmed resident bear 2004-2008—although more are probably present).
- Reproduction is uncommon (4 reports of a sow with cubs since 1991).

Proposed Action

The proposed action is to continue management with appropriate standards and guidelines, as directed in the Helena National Forest Plan, as amended. The area for which an Incidental Take Statement is requested is the Action Area identified in Figure 1. Implementation of the Helena National Forest Plan includes the following activities:

- Provide a range of recreational opportunities including motorized and non-motorized activities
- Maintain and improve fish and wildlife habitat
- Maintain high quality water
- Provide a sustained timber yield responsive to local and national needs
- Provide firewood as an energy resource for personal and commercial uses
- Provide for exploration, development, and production of mineral and energy resources on the Forest
- Provide fire protection
- Develop and implement a road program with road use and travel restrictions that are responsive to resource protection needs and public concerns
- Manage vegetation to provide optimum forage conditions for livestock
- Maintain and manage habitat for threatened, endangered, and sensitive species

This analysis is structured in terms of how Forest activities may affect grizzly bears; specifically, does implementation of these activities adversely affect grizzly bears in terms of sanitation, access, and livestock grazing. The analysis is structured as follows:

- Sanitation and livestock grazing within the NCDE and areas outside of the NCDE within the Lincoln Ranger District
- Access management, sanitation, and livestock grazing in the Divide Landscape

Existing Condition of Grizzly Bear Habitat within the NCDE Recovery Zone and Areas Outside of the NCDE within the Lincoln Ranger District

The Northern Continental Divide Ecosystem Recovery Zone (NCDE) includes the Scapegoat Wilderness and adjacent suitable habitat in the northern portion of the Lincoln Ranger District (*See Figure 1*).

The Monture-Landers Fork Bear Management Unit (BMU) at 181,676 acres is the only BMU on the Helena National Forest within the NCDE Recovery Zone. The Monture-Landers Fork BMU consists of the

Red Mountain, Arrastra Mountain, and Alice Creek sub-units. Yearlong use by some individual grizzly bears occurs within these subunits.

The status of grizzly bears that occur in that portion of the Lincoln Ranger District that is south of the Recovery Zone is summarized in Mace et al. (2012) and Mace and Roberts (2012b). These bears have been tallied in the ongoing monitoring and are part of the population that is estimated to be increasing. The *Grizzly Bear Recovery Plan* (USDI 1993 p. 18) notes that “bears can and are expected to exist outside recovery zone lines in many areas. However, only the area within the recovery zone will be managed primarily for grizzly habitat.” While grizzly bears both inside and outside the recovery zone are listed as threatened and would receive full protection under the Endangered Species Act (ESA), only lands inside the recovery zone are considered essential to, and therefore managed for, recovery and survival of the grizzly bear population.

Sanitation

Food storage has been required on the Helena National Forest within the NCDE Recovery Zone since 2000 via Food Storage Special Order LC00-18. This particular Food Storage Order applies to all National Forests within the NCDE Recovery Zone (including parts of the Flathead, Lewis and Clark, Lolo, and Helena National Forests). On April 27, 2005, Food Storage Special Order H-05-01 was signed into effect making proper food storage mandatory across the entire Lincoln Ranger District. The Food Storage Order is authorized by the Forest Supervisor.

The purpose of the Food Storage Order is to minimize grizzly bear/human conflicts and thereby provide for visitor safety and recovery of the grizzly bear. The Food Storage Orders contain requirements for storage and handling of bear attractants such as human foods and garbage, livestock feed, and wildlife and livestock carcasses. The Food Storage Special Orders apply to all applicable projects, permits, and uses within the NCDE Recovery Zone. The basic tenets of the Food Storage Order are:

- Human, pet, and livestock food (except baled or cubed hay without additives), and garbage shall be attended or stored in a bear-resistant manner.
- Wildlife carcasses that are within ½ mile of any camp or sleeping area shall be stored in a bear-resistant manner during nighttime hours.
- Burnable attractants (such as food leftovers or bacon grease) shall not be buried, discarded, or burned in an open campfire.
- The responsible party shall report the death and location of livestock to a Forest Service official within 24 hours of discovery.

The Food Storage Order and Special Order are submitted as separate attachments to this Biological Assessment.

Bear Mortality and Management Actions associated with Sanitation

Grizzly bear mortality in the NCDE has been summarized in the *Draft Conservation Strategy for the Northern Continental Divide Ecosystem* released in May, 2013. According to that document, a majority of management removals between 1998 and 2011 were the result of conflicts associated with unsecured attractants such as garbage, human foods, pet/livestock foods, and bird food, among others. There were 89 management removals in the NCDE during that time of which 51 (57%) were related to attractants (page 15 and Table 1 page 16). The *Draft Conservation Strategy for the Northern Continental Divide Ecosystem* does not provide a map of these grizzly bear removals. However, several additional reports do provide generalized maps of grizzly bear mortality locations. The *NCDE Mortality Report*

(2010, p. 22) indicates that there were 3 mortalities in Monture-Landers Fork BMU from 2000-2008, none of which were on the Forest. This report also indicates that there were an additional 5 mortalities outside of the BMU but adjacent to the Lincoln Ranger District. The *Northern Continental Divide Ecosystem Grizzly Bear Population Monitoring Annual Report – 2009 and 2010* (Mace and Roberts 2011, Figure 13, p. 49) reported two mortalities adjacent to the NCDE and the Lincoln Ranger District for 2009 and 2010. The 2011 Annual Report (Mace and Roberts 2012a, Figure 10 p. 34) did not show any grizzly bear mortality in or adjacent to the Forest. The figures in all of these reports do not distinguish amongst types of mortality.

Mace and Roberts (2012, Table 17 page 31) indicate that one bear was removed in the NCDE in 2012 due to food habituation; however, this did not occur on the Forest (See Figure 10, p. 32 in that report).

These data indicate that management actions associated with sanitation are uncommon on the Helena National Forest within the NCDE and in the remaining portion of the Lincoln Ranger District.

Livestock Grazing

Throughout the range of grizzly bears, interactions with livestock have led to the removal of grizzly bears. In several studies, livestock depredation was a leading cause for which a bear was removed and in several instances livestock depredation became a leading cause of non-hunting mortality (Thier and Sizemore 1981, Knight and Judd 1983, Knight et al. 1985, Aune and Stivers 1983). Most livestock depredations involved sheep (Knight and Judd 1983); however, grizzly bear removals/mortality due to cattle depredation have been reported in those studies.

Grizzlies may also feed on livestock carcasses (Servheen et al. 1981, Aune and Stivers 1983). Livestock carcasses may be scattered or deposited in boneyards. Improperly situated boneyards may function like garbage dumps, attracting bears to these areas, and increasing human/bear conflicts.

Forest Plan direction in Appendix C of this document and Appendix D in the Forest Plan (USDA 1986b) contain guidelines for management within Management Situation 1 (MS1) and Management Situation 2 (MS2) (See Figure C1). In MS1, “management decisions will favor the needs of the grizzly bear when grizzly habitat and other land-use values compete”. In MS2, “habitat maintenance and improvement, and grizzly and human conflict minimization may be, in some cases, important but not the most important management considerations”.

Livestock grazing is allowed within the NCDE and across the rest of the Lincoln Ranger District (Figure 4). Grazing within the NCDE is primarily guided by the management direction outlined in MS1 and MS2 in terms of potential livestock and grizzly interactions. The direction in MS1 provides the authority to resolve livestock and grizzly conflicts in the interest of grizzly bears. Direction in MS2 provides authority to resolve conflicts in the interest of grizzly bears; although, authority is also provided to resolve conflicts in the interest of other land management activities.

Elsewhere on the Lincoln Ranger District, there are no specific standards that govern potential livestock and grizzly bear conflicts.

Table 2 summarizes the status of livestock grazing within the NCDE Recovery Zone and with the remaining portion of the Lincoln Ranger District. On the Keep Cool/Liverpool allotment, the sheep are never bedded down at night on the Forest; they graze on the Forest during the day and return to adjacent private land at night.

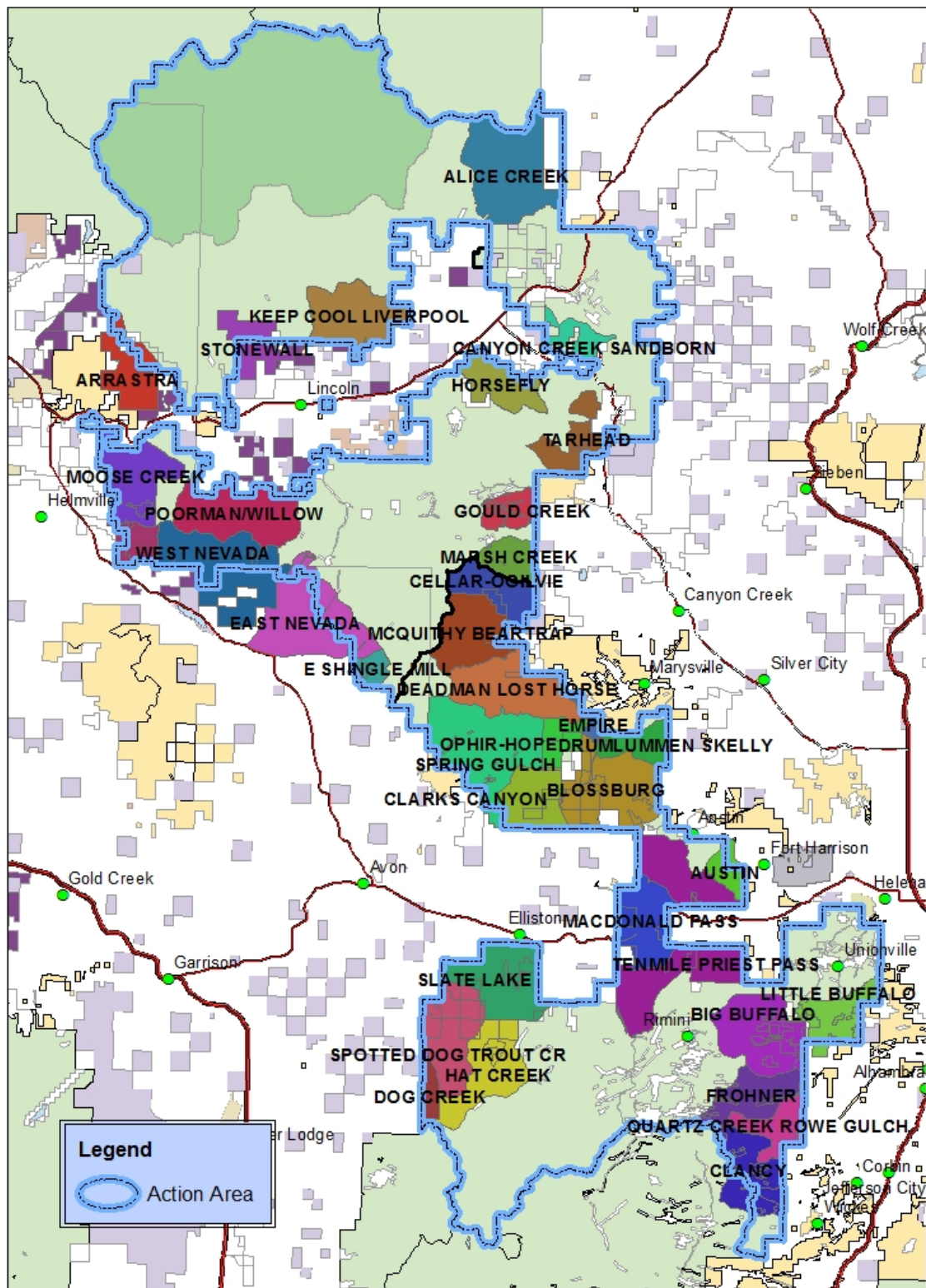


Figure 4 Allotments within the Action Area.

Table 2 Status of Allotments on the Lincoln Ranger District					
Allotment Name	Type of Allotment	Status (active or inactive)	Stocking Rate	Dates of Use	AMP Revision Date
<i>Status of Allotments within the NCDE Recovery Zone</i>					
Alice Creek	Cattle	Active	100 cattle	7/5 – 9/5 ³	To be determined
Keep Cool/Liverpool	Sheep	Active	900 sheep	Variable 7/1 to 8/31 not to exceed 15 band days	To be determined
Stonewall	Cattle	Active	35 cattle	6/1 to 9/30 ⁴	To be determined
Arrastra	Cattle	Active	30 cattle	6/1 to 9/30	To be determined
<i>Status of Allotments on the Lincoln Ranger District outside of the NCDE</i>					
Canyon Creek-Sandbar	Sheep	Active	900 sheep	Variable 7/1 to 8/31 not to exceed 15 band days	To be determined
Chimney Creek	Cattle	Active	52 cattle	7/1 to 9/1	To be determined
East Shingle Mill	Cattle	Active	36 cattle	7/11 to 9/1	To be determined
East Nevada	Cattle	Active	24 cattle	7/11 to 9/1	To be determined
Gould	Cattle	Active	12 cattle	7/1 to 9/10	To be determined
Horsefly	Sheep	Active	900 sheep	Variable 7/1 to 8/31 not to exceed 15 band days	To be determined
Marsh Creek	Cattle	Active	68 cattle	7/1 to 9/30	To be determined
Moose Creek	Cattle	Active	60 cattle	7/1 to 9/1	To be determined
Poorman-Willow	Cattle	Active	45 cattle	7/1 to 9/30	To be determined
Tarhead	Cattle	Active	68 cattle	7/1 to 9/30	To be determined
West Nevada	Cattle	Active	30 cattle	6/16 to 8/31	To be determined

³ Alice Creek Allotment is a three pasture system. The order of the pasture use changes from year to year

⁴ This allotment is active on/off with 35 cattle permitted on the Forest and 105 on private land from 6/01 to 9/30. Cattle typically do not enter the Forest until mid or late July.

Bear Mortality and Management Actions associated with Livestock Grazing

Grizzly bear mortality in the NCDE has been summarized in the *Draft Conservation Strategy for the Northern Continental Divide Ecosystem* released in May, 2013. According to that document, there were 89 management removals in the NCDE between 1998 and 2011 of which 21 (23%) were related to bears depredating on livestock (page 15 and Table 1 page 16). The *Draft Conservation Strategy for the Northern Continental Divide Ecosystem* does not provide a map of these grizzly bear removals. However, several additional reports do provide generalized maps of grizzly bear mortality locations. The *NCDE Mortality Report* (2010) indicates that there were 3 mortalities in Monture-Landers Fork BMU from 2000-2008, none of which were on the Forest (See page 22). This report also indicates that there were an additional 5 mortalities outside of the BMU but adjacent to the Lincoln Ranger District. The *Northern Continental Divide Ecosystem Grizzly Bear Population Monitoring Annual Report – 2009 and 2010* (Mace and Roberts 2011, Figure 13, p. 49) reported two mortalities adjacent to the NCDE and the Lincoln Ranger District for 2009 and 2010. The 2011 Annual Report (Mace and Roberts 2012a, Figure 10 p. 34) did not show any grizzly bear mortality in or adjacent to the Forest. The figures in all of these reports do not distinguish amongst types of mortality.

Mace and Roberts (2012b, Table 17 page 31) indicate that one bear was removed in the NCDE in 2012 due to livestock conflicts; however, this did not occur on the Forest (See Figure 10, p. 32 in that report).

These data indicate that management actions that are the result of grizzly bear and livestock conflicts are uncommon on the Helena National Forest within the NCDE and in the remaining portion of the Lincoln Ranger District.

Existing Condition of Grizzly Bear Habitat within the Divide Landscape

In 2002, biologists from several agencies identified and mapped grizzly bear distribution outside of the NCDE Recovery Zone (USDA 2002). This area extended as far south as Mullan Pass in the Divide Landscape and was referred to as the Grizzly Bear Distribution Zone. Since that effort, additional sightings of grizzly bears have been reported south of the 2002 Grizzly Bear Distribution Zone throughout the Divide Landscape (See Mace and Roberts 2012b).

An objective of the 1993 Recovery Plan has been to develop management tactics that will help remove limiting factors retarding population recovery. One such factor is the presence of unsuitable habitat and barriers to movement (roads and motor trails being a prime example) in linkage zones between recovery zones (USDI 1993). The Divide Landscape is not identified as a primary linkage zone in the Recovery Plan or in recent modeling efforts (Servheen et al. 2003; Walker and Craighead 1997), mostly because of “intense roading in the Helena National Forest” (Walker and Craighead 1998). However, increasing observations of bears throughout the landscape since the 1990s suggests that it may in fact be functioning in this way (J. Jonkel, personal communication 2007; Servheen 2005). Limited DNA sampling has found that grizzlies as far south as the Anaconda Range have come from the NCDE—possibly having moved through the Divide Landscape to get there (J. Jonkel, personal communication 2007).

Access Management

Grizzly bear habitat across the region is best described in terms of the availability of large tracts of relatively undisturbed land that provides some level of security from human depredation and competitive use of habitat by humans (including roading, logging, grazing, and recreation) (USDI 1993).

Research has indicated that grizzly bears underutilize habitat near roads or other human activities (Mace and Manley 1993, Mace and Waller 1996, McLellan and Shackleton 1989). Grizzly bears generally adjust to disturbance associated with roads by avoiding the area that in turn results in a reduction in the amount of habitat available to the bears. Roads also provide increased access into previously remote areas that in turn encourages human settlement, recreational use, and other land uses. These activities can increase the frequency of human-bear confrontations and ultimately reduce habitat availability and grizzly populations.

Seasonal habitat use by grizzly bears is also an important consideration in access management. When bears emerge from the den, they tend to search for food in lower elevations, drainage bottoms, avalanche chutes, and ungulate winter ranges (USDI 1993). Throughout the late spring and early summer they move towards higher elevations as food becomes available. Because spring habitat tends to be at lower elevations, increased potential exists for conflict between bears and humans due to greater access into those areas by humans. Roads located in riparian zones, for example, may result in indirect habitat losses through avoidance behavior by bears. Riparian zones are heavily used by grizzlies for feeding and travel corridors (Moss and LeFrance 1987).

Non-motorized trail use may also indirectly reduce the amount of habitat available to grizzly bears. Bears may avoid high use trails (Mace and Waller 1996); although the presence of visual cover may reduce bear response to hikers (McLellan and Shackleton 1989). Several studies have addressed non-motorized recreation activity impacts on grizzly bears (Schleyer et al. 1984, Haroldson and Mattson 1985, Gunther 1984, McLellan and Mace 1985). Overall, bears tended to avoid areas of recreational activity.

Thirteen Forest Plan management areas (USDA 1986b) are found within the Divide Landscape. These 13 management areas have no road density standards specific to grizzly bears. Rather, for the purposes of this analysis, the level of expected road use has been inferred based on the goals, objectives, and standards of the respective management area (Table 3) (*See Appendix B*).

The Divide Landscape covers 202,608 acres of National Forest System lands. A majority of the management areas have been characterized as moderate or high in terms of road density; 19% and 53% respectively for a total of 72%. One management area - R1 - is non-motorized and accounts for 2% of all management areas in the Divide Landscape. Four management areas are designated as having low road densities and account for 26% of the area. See map in Appendix A.

Table 3 Acres by Estimated Road Density by Management Area in the Divide Landscape				
Mgt. Area	Non-Motorized	Low Road Density	Moderate Road Density	High Road Density
H1			14,349	
H2			4,370	
L1			19,297	
L2			921	
M1		23,882		
P3		16,597		
R1	4,282			

Table 3 Acres by Estimated Road Density by Management Area in the Divide Landscape				
Mgt. Area	Non-Motorized	Low Road Density	Moderate Road Density	High Road Density
T1				88,156
T3				2,233
T4				3,128
T5				14,042
W1		11,064		
W2		252		
Total Acres by Road Category (% of All Acres – 202,608)	4,282 (2%)	51,795 (26%)	38,936 (19%)	107,559 (53%)

Table 4 summarizes existing road data by management area.

Table 4 Helena Ranger District Road Data by Management Area					
Management Area	Total Size (square miles)	Total Road Miles	Road Density (Miles)	Total Open Roads⁵	Open Road Density
H1	22.4	22.6	1.0	17.3	0.8
H2	6.8	11	1.6	9.1	1.3
L1	30.2	71.3	2.4	53.4	1.8
L2	1.4	0	0.0	0	0.0
M1	37.3	36.9	1.0	15	0.4
P3	25.9	5.2	0.2	3.8	0.1
R1	6.7	1.8	0.3	0	0.0
T1	137.7	324.3	2.4	176.4	1.3
T3	3.5	3.9	1.1	1.8	0.5
T4	4.9	11	2.3	9.3	1.9
T5	21.9	37.8	1.7	16.7	0.8
W1	17.3	10.5	0.6	4.3	0.2
W2	0.4	0.3	0.8	0.3	0.8
Total Helena	316.5	536.6	1.7	307.4	0.9

New Road Construction and Road Decommissioning

Table 5 summarizes miles of new road construction and miles of road decommissioning over the past 11 years in the Divide Landscape. The Forest has not constructed any new roads in the Divide Landscape in over ten years; we've decommissioned 23 miles of roads in the last four years.

⁵ This includes only roads on the National Forest – i.e. private lands are not included.

Table 5 New Roads Constructed and Roads Decommissioned in the Divide Landscape		
Year	New Road Construction (Miles)	Roads Decommissioned (Miles)
2003	0	0
2004	0	0
2005	0	0
2006	0	0
2007	0	0
2008	0	0
2009	0	0
2010	0	16.2
2011	0	3.0
2012	0	0
2013	0	3.4
Total	0	23

Sanitation

Currently, there is no mandatory Food Storage Order within the Divide Landscape. However, the Helena Ranger District will initiate an education program designed to inform visitors of the need and value of proper food storage. Furthermore, the Forest are is in the process of developing and are committed to implementing a food storage order on all lands in Zone 2 within which the Divide Landscape is located (See page 96 *Draft Conservation Strategy for the Northern Continental Divide Ecosystem* .

Bear Mortality and Management Actions associated with Sanitation

There have been no reported bear mortalities or management actions towards grizzly bears associated with improper food storage in the Divide Landscape.

Livestock Grazing

Livestock grazing in the Divide Landscape is summarized in Table 6. There are no specific standards relating to livestock grazing and grizzly bears in the Divide Landscape.

Table 6 Status of Allotments within the Divide Landscape					
Allotment Name	Type of Allotment	Status (active or vacant)	Stocking Rate	Dates of Use	AMP Revision Date
Austin	Cattle	Active	24 cattle	5/1 to 6/15	To be determined
Big Buffalo	Cattle	Active	75 cattle	7/1 to 9/30	To be determined
Blossburg	Cattle	Active	565 cattle	6/16 to 9/30	To be determined
Cellar-Ogilvie	Cattle	Active	70 cattle	7/1 to 8/13	To be determined
Clancy	Cattle	Active	150 cattle	6/16 to 9/30	To be determined

Table 6 Status of Allotments within the Divide Landscape					
Allotment Name	Type of Allotment	Status (active or vacant)	Stocking Rate	Dates of Use	AMP Revision Date
Clarks Canyon	Cattle	Active	290 cattle	6/25 to 9/25	To be determined
Deadman	Cattle	Active	40 cattle	7/1 to 9/30	To be determined
Dog Creek	Cattle	Active	80 cattle	7/1 to 9/30	To be determined
Drumlummon	Cattle	Active	230 cattle	7/21 to 8/26	To be determined
Empire	Cattle	Active	7 cattle	7/1 to 9/30	To be determined
Frohner	Cattle	Active	25 cattle	7/1 to 9/30	To be determined
Hat Creek	Cattle	Active	205 cattle	6/20 to 9/30	To be determined
Little Buffalo	Cattle	Active	25 cattle	7/1 to 9/30	To be determined
Macdonald Pass	Cattle	Active	104 cattle	6/15 to 10/10	To be determined
Mcquithy	Cattle	Active	38 cattle	6/16 to 9/30	To be determined
Ophir-Hope	Cattle	Active	177 cattle	6/21 to 9/30	To be determined
Quartz Creek Rowe Gulch	Cattle	Active	29 cattle	6/1 to 11/15	To be determined
Slate Lake	Cattle	Active	205 cattle	6/16 to 9/15	To be determined
Spotted Dog Trout Cr	Cattle	Active	245 cattle	7/1 to 10/10	To be determined
Spring Gulch	Cattle	Active	45 cattle	7/15 to 9/14	To be determined
Tenmile Priest Pass	Cattle	Active	200 cattle	7/1 to 10/15	To be determined

Bear Mortality and Management Actions associated with Livestock Grazing

There have been no reported bear mortalities or management actions towards grizzly bears associated with livestock in the Divide Landscape.

IV. CUMULATIVE EFFECTS

Cumulative effects in the context of the Endangered Species Act are “those effects of future State or private activities, not involving federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation”. The following activities describe the cumulative

effects associated with the Action Area (See Figure 1).

Summary of Historic Events that have shaped the Current Environment

Prior to the arrival of eastern explorers and settlers, local Indian tribes modified grizzly bear habitat in the Action Area by setting fires, establishing seasonal encampments, grazing horses (beginning in the early 1700s), and through a variety of small-scale undertakings (cutting trees and shrubs, mining trees for pitch, harvesting herbaceous vegetation, diverting stream flow). Most of these habitat alterations produced impacts that, for grizzly bears, were localized or of low intensity. However, the fires that they set with some frequency—primarily in dry low-elevation forests and grasslands—were important in shaping the character of the landscape (Barret and Arno 1999, page 62; Knight 1989, pages 68-71, 90).

Broad-scale deviation from historic “natural” patterns began in the 1870s as mining activity and settlement radiated throughout the Action Area. The primary enterprises that have affected grizzly bear habitat in the Action Area include the following:

- Road construction (for mining, logging, and general access) and subsequent road maintenance—resulting in modification of grizzly bear habitat, and ready human access to otherwise effective habitat;
- Construction and periodic upgrading of major connecting highways, most notably, U.S. Highway 12 over MacDonald Pass;
- Local railroad line construction in the late 1800s for logging and mine hauling;
- Construction (in 1883) and maintenance of the mainline route of the Northern Pacific Railway (now, the Burlington Northern Santa Fe) over Mullan Pass;
- Irrigation and small impoundments, often over-simplifying once diverse riparian and aquatic habitats;
- Mining operations—beginning in the 1860s with some continuing into recent decades (major operations around Marysville, Helena, Unionville, Wickes, Rimini on the east side; Charter Oak, Ontario, Negros, Monarch, Carbonate King, Sure Thing, Orphan Boy, Julia, Golden Anchor, and Kimball mines, among others on the west side; numerous small, defunct diggings and placer workings widespread at all elevations);
- New mining operations—most of them small, ephemeral enterprises initiated by individuals under the 1872 Mining Act, but one notably large industrial mining complex at the Montana Tunnels open pit mine (1986) east of the action areas on Clancy Creek;
- Timber harvest on private land;
- Large fires in the late 19th century;
- Trapping, hunting, and general killing of grizzly bears—resulting in sharp reduction and/or local extirpation and radical shifts in population structure, behavior, and habitat use patterns;
- Widespread dispersed recreation, including hiking, camping, fishing, wildlife viewing, cross-country skiing, mountain biking, snowmobiling, OHV riding—resulting in varying degrees of disturbance to grizzly bears and, in some cases, undesirable modification of grizzly bear habitat;
- Dispersed settlement, initially associated with scattered homesteads and mining claims, now resurrected as rural homes and ranches on Forest inholdings and along the Forest boundary.

Table 7 summarizes the cumulative effects in the Action Area and implications for grizzly bears. All projects listed below do not include federal activities.

Table 7 Cumulative Effects in the Action Area – Implications for Grizzly Bears		
Activity	Description	Implications for Grizzly Bears
<i>Past Activities</i>		
Timber harvest on Private and/or State Land	Logging in the 19th & early 20th centuries (to provide fuel & building material for the railroads, mines, local businesses & homes) removed most large trees from tens of thousands of acres. Today, most of these sites are occupied by 90-130 year-old conifer stands. Most are moderately dense mature stands, although are very dense, stagnant sapling-pole stands. More recent timber harvest has occurred on private and/or state lands and includes the following: Cellar Gulch Timber Harvest Montana DNRC timber harvest of 55 acres on state land in the Little Prickly Pear Drainage Deadman Creek Timber Harvest Approximately 120 acres of private land timber harvest in Deadman Creek DNRC Golden Arches Timber Harvest Approximately 870 acres of harvest on state land in the Landers Fork drainage; associated 0.55 miles of road decommissioning	Stands of this age are the most extensive source of mature forest cover for grizzly bears. A majority, however, exhibit relatively “clean” understories, with little large woody debris, understory regeneration, or productive ground vegetation. Mountain pine beetles are now opening up many of these stands (any with a pine component) & generating abundant downfall—which, with more understory vegetation, will diversify these forest habitats. More recent timber harvest has resulted in stands that range from seedling/sapling to pole size trees. Many of these past treatment areas today provide screening cover for grizzly bears. Timber harvest activities and associated road construction most likely reduced the suitability of the area for grizzly bears. Conversely, road decommissioning would have benefited grizzly bears.
Past Road Construction and Improvements	Roads built for early settlement, mining, & access to resources have provided the foundation for an extensive road network today. Some are abandoned, but many remain—facilitating widespread motorized access to public & private lands. Past road improvements include the Marysville Road Improvement Project which consisted of improving access to the town of Marysville and the Great Divide Ski Area.	Establishment of the road network has been a primary factor limiting the effectiveness of otherwise suitable habitat for grizzly bears in the Action Area. Road improvements generally result in increased traffic and vehicle speeds which increase the potential for wildlife, including bears, to be hit in the road.

Table 7 Cumulative Effects in the Action Area – Implications for Grizzly Bears		
Activity	Description	Implications for Grizzly Bears
Historic Livestock Grazing	Until mid-20th century, most ranges were overstocked with cattle, sheep, & horses, creating severe competition for native grazers. Vegetative diversity & biomass in grass/forb communities declined. In recent decades lower stocking, rest/rotation grazing, & more effective oversight have reversed these trends on most sites.	Historically, protection of livestock was a primary incentive for removing grizzly bears from the ecosystem. Substantially lower stocking numbers and more modest distribution make cattle-bear conflicts much less likely today.
Extirpation and Recovery	In the late 1800's & early 1900's, populations of grizzly bears were decimated by hunting & trapping or by shooting to protect livestock.	Grizzly bears were essentially extirpated from the Action Area by the early 20th century. While population distribution appears to be on the rebound, it is certain that grizzly bear numbers remain below what they were in the 19th century & below what current habitats are capable of supporting.
Historic mining operations	Extensive past mining has altered local topography & stream-flow, generated erosion, & left toxic waste. Remains of small surface mines & exploration are scattered across the landscape today.	Historic mining operations were more likely to displace grizzlies from otherwise suitable habitat sites because of the size, abundance, & the degree to mining operations used up local resources—in particular, timber. Some abandoned operations continue to exert a certain degree of local impact because of toxic wastes filtering into riparian areas. Large impactful mining operations are uncommon in the landscape today.
Ongoing Activities		
Isolated Cabins	Currently, there are few isolated cabins widely dispersed throughout the Action Area with Forest inholdings. Many of these old residences have either been abandoned or are in the process of being vacated.	Impacts of these cabins on the landscape have been very localized and low-key. Their cumulative contribution to displacing grizzly bear from suitable habitat and interfering with movement has been minimal.
Regular Use, Maintenance, and Improvement of U.S. Highways 12 and 200	U.S. Highway 12 is a 4-lane thoroughfare that crosses the Forest at MacDonald Pass. The constant procession of high-speed traffic, along with regular highway maintenance and improvement, complicates grizzly bear movement	Highway 12 is the most significant artificial barrier to north-south grizzly bear movement in this portion of the Action Area. It tends to partition wildlife activity in general into 2 separate zones—north and south of the highway. Grizzly bears run a significant risk in attempting

Table 7 Cumulative Effects in the Action Area – Implications for Grizzly Bears		
Activity	Description	Implications for Grizzly Bears
	through this part of the Forest. U.S. Highway 200 is a 2-lane highway and receives less use than Highway 12 and therefore poses less of a risk for grizzly bear movement.	to cross Highway 12, and may be deterred by it. Grizzly bears have been observed just north of the road—though rarely—& those in the upper Little Blackfoot to the south would have needed to cross it at some point. Highway 200 does not appear to represent the same type of barrier as Highway 12 since grizzly bear expansion to the south of the NCDE has been ongoing.
Timber Harvest on Private, City, and/or State Lands	Timber harvest has taken place on private lands throughout the Action Area over the past 25 years. Most has been by clearcutting or aggressive thinning that has produced early-seral habitat with remnant overstory. Much of the activity has been north of Highway 12 within the Divide Landscape where large blocks of private land are intertwined with the Helena National Forest.	Timber harvest has transformed usually dense, mature forest habitat into early seral forest or grass/forb/shrub habitat. Grizzly bears, which are likely to venture down into ranchlands and other private holdings in the foothills and valleys, are likely to be affected to some extent—although virtually none of these private lands represent core grizzly habitat.
Rural Settlement on Private Lands	Most large subdivisions are in the Helena Valley, some edging into the eastern fringe of the Action Area. Smaller local population centers are at Rimini and Marysville. Less dense dispersed settlement is occurring on private inholdings and lands near the Forest boundaries.	Most of these areas are outside the normal range of grizzly bears but some occur on Forest inholdings within suitable habitat. The presence of increasing numbers of humans in formerly unoccupied areas increases the risk for negative encounters and complicates habitat.
Livestock Grazing on Private Lands	Livestock grazing on ranchland near the Forest and on inholdings within the Forest usually results in heavier impacts to these lands than is the norm for equivalent habitat on the Forest. Private grazing lands often encompass productive valley habitats, and their heavy use by cattle substantially lowers their suitability for wildlife.	Heavily grazed private ranges have some potential to bring livestock into areas where they may come into contact with grizzlies.
Fuel Reduction on Private, City, and/or State Lands	Increasingly, thinning and other fuel reduction projects, including salvage of dead trees generated by bark	Effects to grizzly bears are most likely associated with disturbance potential.

Table 7 Cumulative Effects in the Action Area – Implications for Grizzly Bears		
Activity	Description	Implications for Grizzly Bears
	beetle infestation, are going forward on private inholdings and on lands near external Forest boundaries. Recently the City of Helena removed trees adjacent to the Red Mountain Flume on city managed lands.	
<i>Reasonably Foreseeable Projects</i>		
None in the foreseeable future		

V. EFFORTS TO REDUCE ADVERSE EFFECTS

The Helena National Forest Plan (USDA 1986b) lists Goals, Objectives and Standards that act to minimize adverse effects on grizzly bears. The Forest Plan explicitly sets a goal to “Maintain or enhance sufficient grizzly bear habitat to meet the population recovery goals established in the Grizzly Bear Recovery Plan for the Helena Forest” (USDA 1986b; page II/1). Related to this goal is an objective that wildlife and fish management will emphasize meeting the recovery target for grizzly bears on the essential habitat, and maintaining or enhancing elk and coldwater fish habitat throughout the Forest (USDA 1986b; page II/4). Also, within the Recovery Zone, the Forest has a road density standard of no more than 0.55 mi/mi².

The Forest Plan (USDA 1986b) identifies forest-wide standards that directly or indirectly benefit grizzly bears and help to minimize effects of roads and other activities on grizzly bears across the Helena National Forest. Standards that are directed at maintaining or improving seasonal habitat or security areas for big game species (e.g., elk) would indirectly benefit grizzly bears by improving security and potentially improving the forage base for grizzly bears. Table 8 summarizes Forest Plan standards that may directly or indirectly benefit grizzly bears.

Table 8 Forest Plan Standards that directly or indirectly benefit grizzly bears
<i>Threatened and Endangered (T&E) Species Standards</i>
A biological evaluation will be written for all projects that have potential to impact any T&E species or its habitat. All evaluations will address each projects potential to adversely modify a listed species habitat or behavior. If an adverse impact is determined, mitigation measures will be developed to avoid any adverse modification of a listed species habitat or behavior. If all possible mitigation measures do not result in a no affect determination, then informal and/or formal consultation with the U.S. Fish and Wildlife Service will be initiated.
<i>Grizzly Bear Standards</i>
Grizzly bear – Apply the guidelines in Appendix D (of the Forest Plan) to the Management Situation 1 and 2 (referred to essential and occupied prior to 1984) grizzly bear habitat on the Forest (see map in Forest Plan, Appendix D).
Initiate field studies in undesignated areas known to be used by grizzlies, to determine if the areas should be designated as grizzly habitat. Until sufficient evidence is available to determine the status of these areas, manage them according to Appendix E (of the Forest Plan), Grizzly Management

Table 8 Forest Plan Standards that directly or indirectly benefit grizzly bears	
Guidelines Outside of Recovery Areas.	
In Grizzly Bear Distribution Zone grizzly habitat, to minimize man-caused mortality the open road density will not exceed the 1980 density of 0.55 miles per square mile, which was determined to have little effect on habitat capability. At the time the Forest Plan was written (i.e., 1986), the 1982 Grizzly Bear Recovery Plan was in effect. The recovery plan was revised in 1993. Major differences between the 1982 and 1993 Grizzly Bear Recovery Plan are described in Appendix E of the 1993 recovery plan (USFWS 1993). The 1993 Plan dropped the use of the term “occupied habitat” and subsequently adopted the concept of recovery zones (see footnote “a” at the bottom of page Error! Bookmark not defined.).	
<i>Wildlife and Fisheries Standards</i>	
Populations of wildlife “indicator species” will be monitored to measure the effect of management activities on representative wildlife habitats with the objective of ensuring that viable populations of existing native and desirable non-native plant and animal species are maintained.	
On important summer (see Glossary in Forest Plan) and winter range, adequate thermal and hiding cover will be maintained to support the habitat potential.	
An environmental analysis for project work will include a cover analysis. The cover analysis should be done on drainage or elk herd unit basis. (See Montana Cooperative Elk-Logging Study in Appendix C of the Forest Plan for recommendations and research findings on how to maintain adequate cover during project work.)	
Subject to hydrologic and other resource constraints, elk summer range will be maintained at 35 percent or greater hiding cover and areas of winter range will be maintained at 25 percent or greater thermal cover in drainages or elk herd units.	
Implement an aggressive road management program to maintain or improve big game security. To decide which roads, trails, and areas should be restricted and opened, the Forest will use the following guidelines developed with the Montana Department of Fish, Wildlife, and Parks (MDFWP). The Forest visitor map will document the road management program. a. Road management will be implemented to at least maintain big game habitat capability and hunting opportunity. • To provide for a first week bull elk harvest that does not exceed 40 percent of the total bull harvest, roads will be managed during the general big game hunting season to maintain open road densities with the following limits. The existing hiding cover to open road density ratio should be determined over a large geographic area, such as a timber sale analysis area, a third order drainage, or an elk herd unit. • Elk calving grounds and nursery areas will be closed to motorized vehicles during peak use by elk. Calving is usually in late May through mid-June and nursery areas are used in late June through July. • All winter range areas will be closed to vehicles between December 1 and May 15. Exceptions (i.e., access through the winter range to facilitate land management or public use activities on other lands) may be granted.	
On elk summer range the minimum size area for hiding cover will be 40 acres and the minimum size area on winter range for thermal cover will be 15 acres	
Montana Cooperative Elk-Logging Study Recommendations, in Appendix C of the Forest Plan, will be followed during timber sale and road construction projects.	
Occupied bighorn sheep and mountain goat range will be protected during resource activities. Project plans for livestock, timber, or other resource development will include stipulations to avoid or mitigate impacts on their range. Conflicts between livestock and these wildlife species will be	

Table 8 Forest Plan Standards that directly or indirectly benefit grizzly bears	
resolved in favor of the big game.	
Five percent of each third order drainage should be managed for old growth. The priority for old growth acres within each drainage is: first, land below 6000 feet in elevation; second, riparian zones and mesic drainage heads; and third, management areas emphasizing wildlife habitat. These areas will normally be managed on a 240 year rotation and will range from 10 acres to several hundred acres.	
Road Management Standards	
Unacceptable damage to soils, watershed, fish, wildlife, or historical/archaeological sites will be mitigated by road restrictions or other road management actions as necessary. Restrictions for wildlife reasons will be coordinated with the MDFWP.	
Riparian Management Standards	
Discourage concentrated use, such as campsites and roads, in riparian areas. Close wet meadows and wet areas to non-snow ORVs.	
Identify, prioritize, and develop riparian area rehabilitation projects by watershed.	
Roads should not be constructed in the riparian area except to cross them. Use the appropriate soil and water conservation practices to minimize sedimentation during instream construction activities and include them in road construction contracts.	
Assure that road construction in riparian areas is substantially completed or winterized during winter shut down to minimize peak flow sediment yield during spring thaw.	
Generally, avoid lateral fills within normal high water marks.	
Generally, avoid stream course encroachment and channelization.	
Use of chemicals within the riparian area will be minimized to the extent feasible, will be coordinated with wildlife, watershed, and fisheries personnel and a certified pesticide applicator.	
Riparian areas will be managed to be compatible with dependent wildlife species.	
The timing and type of machinery used in riparian areas should be planned to minimize site damage.	
Provide vegetative cover adjacent to streams to serve as a filter strip for sediment and maintain optimum water temperatures, as well as provide large debris for long-term in-stream fish cover and pooling. Where vegetative manipulation is possible, the activities will strive to achieve a balance of age classes and desired species composition.	
Provide for stream crossing structure design that allows free water flow and fish passage.	
Emphasize off-stream watering in range allotments to prevent damage to the riparian area.	
Livestock grazing in riparian areas will be controlled to meet utilization standards listed in the Forest Plan (pgs II/34 through II/36).	
Range Management Standards	
Riparian condition within livestock allotments will be mapped and become part of the Allotment Management Plan	
Where analysis shows range resource damage, the cause will be identified and corrective action will be initiated through an allotment management plan.	
Chemical spraying should not be used on sagebrush control projects if other control methods are feasible	
Best management practices will be used to minimize livestock damage to lakeside soils, streamsides, and other fragile areas.	
Allotment management plans will specify the utilization standards of key plant species needed to protect the soil and water quality.	
Allotment Management Plans will be developed using the interdisciplinary process.	

The Action Area also includes 17 management areas. Goals and Standards for these management areas that may minimize impacts of Forest activities on grizzly bears are described in Table 9.

Table 9 Management Area Standards that directly or indirectly benefit grizzly bears	
Management Area	Standards
A1	Habitat improvement activities will emphasize nongame species. Roads may be constructed to provide access to and within the sites as necessary for administrative purposes and if compatible with adjacent management areas.
H1	Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, will be used to maintain and/or enhance the diversity of wildlife habitat. Maintain adequate thermal and hiding cover adjacent to forage areas as determined by a wildlife biologist. Roads will be constructed as needed to meet the management objectives of the area. Minimizing road length, grade and amount of disturbed area will be primary project design criteria. All new roads will be closed and stabilized when projects are terminated.
H2	Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, will be used to maintain and/or enhance the diversity of wildlife habitat. Maintain adequate thermal and hiding cover adjacent to forage areas as determined by a wildlife biologist. Roads will be constructed as needed to meet the management objectives of the area. Minimizing road length, grade and amount of disturbed area will be primary project design criteria. All new roads will be closed and stabilized when projects are terminated. Where existing trails or non-system roads are intersected by new road construction, the trail or non-system road will be evaluated to determine if it should be retained on the system or abandoned..
L1	Specific wildlife and fisheries needs will be identified and considered when developing allotment management plans, provided the needs are compatible with area goals. Habitat improvement projects will be scheduled when they would help achieve the area goals. Roads normally will not be constructed for range management activities, but may be constructed for other activities, such as mining, or to provide access to adjacent management areas. When an existing barrier is intersected, the necessary structures to prevent cattle drift (fences, gates, cattle guards, etc.) will be installed during road construction. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
L2	Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, may be used to maintain and/or enhance the quality of big game winter range. Maintain adequate thermal and hiding cover adjacent to

Table 9 Management Area Standards that directly or indirectly benefit grizzly bears	
Management Area	Standards
	forage areas. Roads normally will not be constructed for range or wildlife management activities, but may be constructed for other activities, such as mining, or to provide access to adjacent management areas. The necessary structures to prevent cattle drift (fences, gates, cattle guards, etc.) will be installed during road construction.
M1	Roads will be allowed for special uses, mineral development, or to provide access to other management areas, consistent with protection of soil and water values. Roads may be opened or closed, depending on the objectives of the adjacent management areas. Existing roads and trails will be maintained as needed.
N1	Road construction is not permitted.
P1 (NCDE/Scapegoat Wilderness)	The conservation of threatened and endangered species and their habitats will receive high priority in management of the wilderness resource.
P3 (Electric Peak Roadless Area)	Recommended by the Helena National Forest for Congressional designation as wilderness.
R1	Roads will not be constructed for surface management purposes unless absolutely necessary for mineral activity or to access private land.
T1	Roads will be constructed as needed to meet the management objectives of the area. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
T2	Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, may be used to maintain and/or enhance the quality of big game winter habitat. Maintain adequate thermal and hiding cover adjacent to forage areas. Roads may be constructed as needed to meet the management area goals. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
T3	Maintain a minimum of 35 percent hiding cover for big game. Maintain thermal cover adjacent to forage areas. Wildlife habitat improvement practices, including road management, prescribed fire, and timber harvest, may be used to maintain and/or enhance the quality of big game summer habitat. Openings created by timber harvest will be reforested to the extent necessary to meet the hiding cover requirements of big game before harvesting adjacent areas. Roads will be constructed as needed to meet the management area goals. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
T4	Where elk habitat exists, project design will incorporate management practices to

Table 9 Management Area Standards that directly or indirectly benefit grizzly bears	
Management Area	Standards
	maintain or enhance summer and winter habitat to the extent that the VQOs [visual quality objective] for the area are met. Roads will be constructed as needed to meet the management objectives of the area. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
T5	Maintain adequate thermal and hiding cover adjacent to forage areas, provided timber harvest volumes are not significantly reduced over the rotation period. Roads will be constructed as needed to meet the management area goals. Where existing trails are intersected by new road construction, the trail will be evaluated to determine if it should be retained on the system or abandoned.
W1	Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, will be used to maintain and/or enhance the quality of big game and nongame habitat. Maintain adequate thermal and hiding cover adjacent to forage areas. Roads will generally not be constructed for surface management activities within this area. Exceptions may occur if needed for wildlife improvement projects. Roads through this area, which provide access to adjacent areas, are permitted only if project planning indicates it is the most feasible access. Road construction should avoid important big game areas, such as wet, boggy areas.
W2	Most new roads and about 50% of existing roads will be closed, at least seasonally. Wildlife habitat improvement practices, including road management, prescribed fire, and other techniques, will be used to maintain and/or enhance big game calving and summer habitat. Maintain adequate thermal and hiding cover adjacent to forage areas. Road construction should not be necessary for surface management; however, roads can be built through the area to access other management areas or for minerals development. Road construction should avoid important big game areas, such as wet boggy areas. Road management will be used to minimize disturbance to big game during critical periods.

In addition to the above standards from the Helena National Forest Plan that may directly or indirectly benefit grizzly bears, the Forest has also implemented projects and activities that may have benefited grizzly bears. Table 10 summarizes those projects and activities.

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
Motorized Access			
Sound Wood Timber Sale: Several miles of open road and trail is closed to vehicles; off-route vehicle restriction is imposed over 14,500 acres. Purpose of the restrictions is to improve habitat effectiveness and security for elk. Road closures will diminish potential for human conflict with grizzlies and other wildland species.	Established Sept. 1999		Within Divide Landscape
Mullan Pass timber sale: Reduction in open road density designed to improve habitat effectiveness and security for elk—but also serves to benefit grizzlies.	Completed 1995		Within Divide Landscape
Special Order ⁶ : Motorized wheeled travel is restricted to existing motorized routes across the entire Forest.	Issued June 2001	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
Special Order: Road #1852 in Hope Creek is closed to wheeled vehicles yearlong.	Issued Aug. 1996		Within Divide Landscape
Special Order: Ophir Creek / Cave Gulch road system (#4045, #1849) is closed to all vehicles yearlong—for wildlife security.	Issued Feb. 1994		Within Divide Landscape
Special Order: Road #4039-A1 in Cellar Gulch and Road #708-C3 in Carpenter Creek are closed to wheeled vehicles yearlong.	Issued Jan. 1994		Within Divide Landscape
Special Order: Reservoir Lake Area closure to all wheeled vehicles yearlong to protect wetlands, wildlife populations, and habitat.	Issued June, 2005	Entirely within the NCDE Recovery Zone – Arrastra Sub Unit	

⁶ Special orders are issued by the Forest Supervisor or District Ranger and are enforced by USFS Law Enforcement Personnel.

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
Special Order: Keep Cool Lake Area seasonal closure for Lower Keep Cool Lake (T15N, R8W) and road/trail network south of FS Road 1800 in SW corner of section 34, T15N, R8W, and section 4, T14N, R8W to all wheeled vehicles to provide resource protection, specifically wildlife, wetlands, and soil.	Issued June 2005	Entirely within the NCDE Recovery Zone – Red Mountain Sub Unit	
Special Order: Prohibits use of Alice Creek Trailhead to group size of no more than 25 people, without special authorization.	Issued July 2004	Entirely within the NCDE Recovery Zone – Alice Creek Sub Unit	
Special Order: Prohibits removal of live or dead trees from lands located between Copper Creek and Copper Creek FS Road #330 and from within 100 feet of all other streams within the Copper Creek Drainage.	Issued August 2004	Entirely within the NCDE Recovery Zone - Red Mountain Sub-Unit	
Special Order: Prohibits operation of wheeled vehicles on FS Road #296-A1 in Nevada Creek.	Issued August 2004	Within Lincoln Ranger District outside NCDE	
Special Order: Temporarily prohibits operation of wheeled motor vehicles on Cotter Mine FS Road #330-B1 until the order is rescinded.	Issued October 2003	Entirely within the NCDE Recovery Zone - Red Mountain Sub-Unit	
Special Order: Prohibits motorized vehicle use of segments of rehabilitated ATV trail in the area between Specimen and Tarhead Creeks.	Issued October 2002	Within Lincoln Ranger District outside NCDE	
Blackfoot Non-winter Travel Plan - Numerous open roads and motorized trails will be closed to vehicle use.	Expected to be finalized by 2014	Within the NCDE and remaining portion of Lincoln Ranger District	

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
Divide Travel Plan: Numerous open roads and motorized trails will be closed to vehicle use.	Expected to be finalized by 2015		Within Divide Landscape
Sanitation and Safety			
Special Order: Implementation of mandatory Food Storage Special Order LC00-18 for National Forest System of the Flathead, Lewis and Clark, Lolo and the Helena National Forests within the NCDE Recovery Zone.	Issued December 2000	Entirely within the NCDE Recovery Zone	
Special Order: Implementation of mandatory Food Storage Special Order H-05-01.	Issued April 2005	Within Lincoln Ranger District outside NCDE	
There are no developed recreation sites on the Forest in the Grizzly Bear Distribution Zone. But, District recreation personnel regularly patrol the area in summer and fall, and clean up trash and garbage from dispersed camping and picnic sites—reducing bear attractants.	Ongoing since the 1980s	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
Groups and individuals using the backcountry in the Divide landscape are not required to comply with bear country food storage guidelines. But, backcountry users that contact the District are made aware of the potential presence of grizzlies and are encouraged by Recreation personnel to follow the food storage guidelines.	Ongoing since 1996		Within Divide Landscape
Livestock			

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
In general, livestock numbers have diminished, grazing in riparian and wetland areas has been reduced and monitoring of range condition and cattle distribution has increased. Some allotments have been closed or reduced in size. These changes improve key bear habitat sites and reduce potential for conflict with humans.	In Progress since 1992	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
Information and Education			
Numerous pamphlets and books (for sale) dealing with grizzly and black bears have been added to display areas at the Helena and Lincoln Ranger Districts and the Supervisor's office.	In Progress since 1994	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
Posters, pamphlets, and information sheets dealing with bears are posted on trailhead bulletin boards throughout the Divide Landscape and Lincoln Ranger District.	In Progress since 1992	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
Free information brochure on Food Storage Special Order LC00-18 available to publics at Lincoln Ranger District and on the Helena National Forest website	Developed April 2004	Within the NCDE and remaining portion of Lincoln Ranger District	
Monitoring			
District Wildlife Biologist follows up on reported grizzly bear sightings with immediate field checks, if possible, and habitat surveys at a later date. Observation file is maintained at the District and in the Forest Fauna data base. Information is used to delineate occupied habitat.	In Progress since 1992	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
Potential key habitat components for grizzlies, motorized vehicle problems, and signs of bear occupancy are identified and mapped each year during ongoing general wildlife surveys. This effort provides data to develop a baseline for further analyses.	In progress since 1992	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape
The U.S. Geological Survey began a grizzly bear research project in 2009 in the Northern Continental Divide Ecosystem (NCDE) of northwestern Montana which includes portions of the Helena National Forest. This work used hair collection and DNA analysis methods similar to those used in the 2004 Northern Divide Grizzly Bear Project. The Helena National Forest participated in the data collection in the NCDE and worked with partners south of the NCDE to establish rub trees to determine grizzly bear distribution. Grizzly bear rub trees and/or posts have also been established south of Highway 12.	In progress since 2009		Within Divide Landscape
Research and Modeling			
An interagency team was established to estimate population trend in and adjacent to the NCDE in 2005 and is currently ongoing.	In progress since 2005	Within the NCDE and remaining portion of Lincoln Ranger District	
Habitat Improvement			
Sauerkraut Stream Restoration Project – this includes restoration of a 1,068 foot section of Sauerkraut Creek, impacted by past mining activity.	Currently under analysis	Within Lincoln Ranger District outside NCDE	
Stonewall Restoration Project – this includes reclaiming approximately 4,200 feet of Stonewall Creek impacted by past mining activity	Currently under analysis	Entirely within the NCDE Recovery Zone	

Table 10 Helena National Forest Projects and Activities that Benefit Grizzly Bears in the Action Area			
Description of Project/Activity that Benefited Grizzly Populations or Habitat	Date or Time Period	Inside NCDE Recovery Zone OR Remaining Portion of Lincoln Ranger District	Inside Divide Landscape
General			
Draft Conservation Strategy for the Northern Continental Divide Ecosystem	In progress	Within the NCDE and remaining portion of Lincoln Ranger District	Within Divide Landscape

VI. CONCLUSION

The above analysis describes updated baseline conditions within the Action Area (NCDE Recovery Zone, remaining portion of the Lincoln Ranger District, and the Divide Landscape). Our analysis concludes that implementation of the Forest Plan ***“may affect and is likely to adversely affect grizzly bears”*** in the Action Area. This determination is based on the following:

- Activities consistent with the Forest Plan direction could cause short-term displacement;
- The portion of the Action Area outside of the NCDE has moderate to high road densities and a lack of core habitat;
- Human-caused grizzly bear mortality has occurred in the area and the risk of mortality would remain moderate;
- As anticipated in the recovery plan (USDI- 1993), bears seem to be expanding their range outside the recovery zones (Kendall et al. 2009, Mace et al. 2012);
- A mandatory and enforced food storage order is in place throughout the NCDE and the Lincoln Ranger District;
- The Forest is expected to continue to work toward a food storage/sanitation strategy for the area outside the NCDE;
- The Lincoln Ranger District is actively involved with public information programs that include grizzly bear conservation and management strategies;

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APPENDIX A Management Areas and Associated Road Direction⁷

Table A1 Management Area Description		
Management Area	General Description	Road Direction
H1	This management area makes up about 75% of the Tenmile municipal watershed. Goals include proving a quantity and quality of water which will result in a safe domestic water supply.	Roads will be constructed as needed to meet the management objectives of this management area. All new roads will be closed and stabilized when projects are terminated.
H2	This management area makes up about 25% of the Tenmile municipal watershed.	Roads will be constructed as needed to meet the management objectives of this management area. All new roads will be closed and stabilized when projects are terminated.
L1	These lands are within grazing allotments. Goals include maintaining or improving vegetative conditions and livestock forage productivity.	Roads normally will not be constructed for range management activities but may be constructed to provide access for other activities such as mining or access to adjacent management areas.
L2	These areas are within big game winter range and existing allotments. The goal is to maintain or improve vegetative conditions for elk and livestock.	Roads normally will not be constructed for range or wildlife management activities but may be constructed to provide access for other activities such as mining or access to adjacent management areas.
M1	These areas are nonforest or forested lands where timber management and range or wildlife habitat improvements are currently uneconomical or infeasible. The goal is to maintain the present condition.	Roads will be allowed for special uses, mineral development, or to provide access to other management areas, consistent with protection of soil and water values.
N1	This consists of proposed research natural areas to provide for research, observation, and the study of undisturbed ecosystems.	Road construction is not permitted.
P3	This management area consists of the Electric Peak Roadless Area recommended by the Helena National Forest for Congressional designation as wilderness.	Roads will not be constructed in this management Area.
R1	These areas consist of undeveloped land suited for dispersed recreation.	Roads will not be constructed for surface management purposes unless absolutely

⁷ Note that all management areas that occur in the Action Area are listed here although access management is only analyzed for the Divide Landscape.

Table A1 Management Area Description		
Management Area	General Description	Road Direction
	The goals include providing for a variety of semi-primitive and primitive non-motorized recreation and to maintain or enhance fisheries, big game and non game habitat, grazing allotments, visual quality and water quality.	necessary for mineral activity or to access private land.
T1	This area consists of lands available and suitable for timber management. The goal is to optimize timber growing potential.	Roads will be constructed as needed to meet the management objectives of the area.
T2	This area occurs where big game winter range and timber values are present. Goals include timber harvest consistent with big game winter range values.	Roads may be constructed as needed to meet the management area goals.
T3	This area consists of lands that have primary forage and other habitat values for big game and other non-game wildlife. These areas also contain productive timber sites that are available for timber management. Goals include maintaining or enhancing wildlife habitat and to provide for a timber harvest program compatible with wildlife habitat goals for this area.	Roads may be constructed as needed to meet the management area goals.
T4	This area is productive timberland with sensitive viewing areas. Goals include maintaining visual quality and provide for timber production.	Roads will be constructed as needed to meet the management objectives of the area.
T5	This area consists of suitable timber lands interspersed with livestock allotments. Goals include increase production and quality of forage and providing timber products.	Roads will be constructed as needed to meet the management objectives of the area.
W1	This area contains a variety of wildlife habitat and is designed to optimize wildlife habitat potential.	Roads will generally not be constructed for surface management activities within this area. Exceptions may occur if needed for wildlife improvement projects.
W2	This area consists of riparian and other lands that have habitat for big game species as well as livestock. Goals include maintaining big game	Road construction should not be necessary for surface management, however, roads can be built through the area to access other management areas or for minerals

Table A1 Management Area Description		
Management Area	General Description	Road Direction
	habitat during spring, summer, and fall as well as providing forage for both big game and livestock.	development.

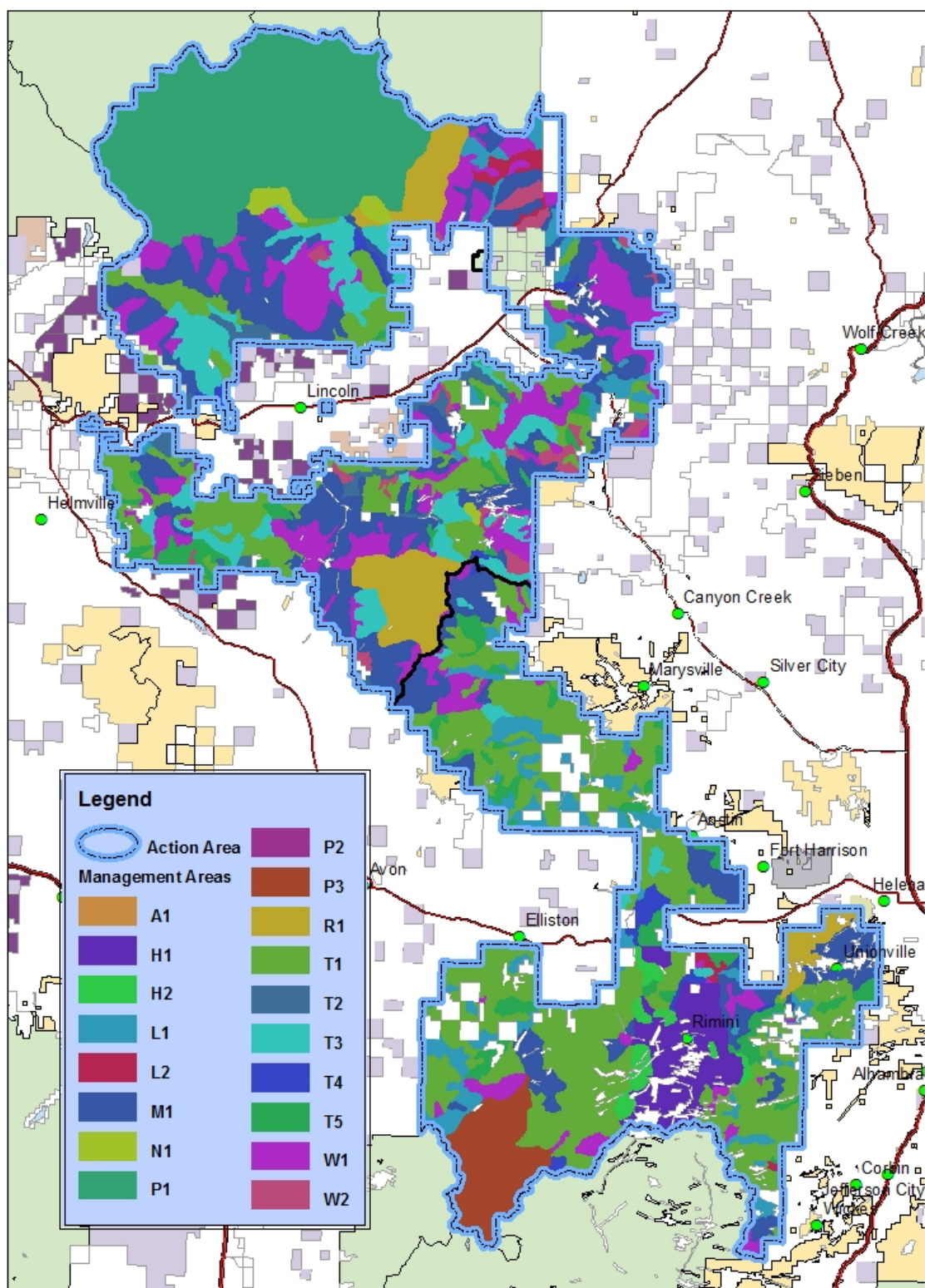


Figure A1 Management area designation in the Action Area

APPENDIX B Methodology for Management Area Road Density Classification in the Divide Landscape

Road densities in the Divide Landscape were estimated based on the goals and objectives for those management areas that occur in that landscape. Four general categories were developed: non-motorized, low, moderate and high road densities. The groupings were used to provide a rough estimate of the level of road densities in the Divide Landscape under the current Forest Plan.

Each management area (MA) within the Divide Landscape was categorized as non-motorized, low, moderate, or high road density considering the expected land management activities and associated road management standards. No specific road densities were assigned to any of the management areas for this analysis.

- **Non-motorized Use:** Areas that have essentially no roads open to motorized use
- **Low Road Density:** Areas that would be expected to have the lowest road densities on the Forest due to the low-impact type of management (e.g. MA-1 which is nonforest and forested land where timber management and range or wildlife habitat improvements are currently uneconomical or infeasible).
- **Moderate Road Density:** Areas that are expected to have more active land management and higher road densities than the Low Road Density category. A wide variety of Management Areas are included in this category (e.g. L1 – land within grazing allotments with a goal of optimizing livestock production).
- **High Road Density:** Areas that are expected to have the most active land management and the highest road densities on the Forest (e.g. T1 – timber production emphasis areas).

Table B1 categorizes the management areas in the Divide Landscape by expected motorized use. See Appendix A for more information on management areas.

Table B1 Management Areas by Expected Motorized Use			
MAs with only Non-Motorized Use	MAs with Low Road Density	MAs with Moderate Road Density	MAs with High Road Density
R1	M1, P3, W1, W2	H1, H2, L1, L2,	T1, T3, T4, T5

APPENDIX C⁸ Forest Plan Guidelines for Management of Grizzly Bear Habitat

The Grizzly Bear Recovery Plan (January 29, 1982) identified six grizzly bear ecosystems in the contiguous 48 states, and the Helena contributes to the Northern Continental Divide Grizzly Bear Ecosystem. The grizzly habitat has been mapped according to the below management situations, which are adapted from the guidelines developed for the Yellowstone Ecosystem. On the Forest 120,600 acres are in Management Situation 1 and 70,100 acres are in Management Situation 2 (Figure C1). The habitat will be managed to maintain the Forest's grizzly recovery goal of 18 bears.

Management Situation 1

Population and Habitat Conditions -- The area contains grizzly population centers (areas key to the survival of grizzlies where seasonal or yearlong grizzly activity under natural, free-ranging conditions is common) and habitat components needed for the survival and recovery of the species or a segment of its population. The probability is very great that major Federal activities or programs may affect (have direct or indirect relationships to the conservations and recovery of) the grizzly.

Management Direction -- Grizzly habitat maintenance and improvement (improvement applies to Forest Service only) and grizzly and human conflict minimization will receive the highest management priority (FSM 2603). Management decisions will favor the needs of the grizzly bear when grizzly habitat and other land-use values compete. All types of permits will include a clause providing for canceling or temporary cessation of activities if such are needed to resolve a conflict situation. Permittees' full cooperation in meeting grizzly management goals and objectives will be a condition to their receiving and holding permits. Grizzly and human conflicts will be resolved in favor of grizzlies unless the bear involved is determined to be a nuisance. Nuisance bears may be controlled through either relocation or removal, but only if such control would result in a more natural free-ranging grizzly population and all reasonable measures have been taken to protect the bear and/or its habitat (including area closures and/or activity curtailments).

Management Situation 2

Population and Habitat Conditions -- The area lacks distinct grizzly population centers; highly suitable habitat does not generally occur, although some grizzly habitat components exist and grizzlies may be present occasionally. By definition, Management Situation 2 areas are those considered unnecessary for species survival and recovery, although the status of such areas is subject to review and change according to demonstrated grizzly population and habitat needs. The effects of major Federal activities or programs on the conservation and recovery of the species are not generally predictable.

Management Direction -- The grizzly bear is an important but not the primary, user of the area. Habitat maintenance and improvement, and grizzly and human conflict minimization may be, in some cases, important but not the most important management considerations. Demonstrated grizzly populations and/or grizzly habitat use will be accommodated in other land-use activities, if feasible, but not to the extent of exclusion of other use needs. A feasible accommodation is one that is compatible with (does not make unobtainable) the major goals and/or objectives of other uses. When grizzly population and/or grizzly habitat use and other land-use needs are mutually exclusive, the other land-use needs will prevail in management considerations. If grizzly population and/or habitat use represent demonstrated

⁸ This is the actual language as is in Appendix D, Helena National Forest Plan.

needs that are so great (necessary to the normal needs or survival of the species or a segment of its population) that they should prevail in management considerations, then the area should be reclassified under Management Situation 1. Nuisance grizzlies will be controlled.

In addition to the above Management Situation descriptions, the Helena National Forest will use the following in managing grizzly habitat.

- Coordination dates for grizzly habitat use are:
 - o Spring habitat (concentrated use areas) -- April 1 to June 30.
 - o Breeding areas -- May 1 to July 15.
 - o Alpine feeding sites -- July 1 to September 15.
 - o Subalpine fir/Whitebark pine habitats -- August 1 to November 30.
 - o Denning habitat -- October 15 to April 15.
- Maintain the existing seasonal grizzly habitat use in constituent elements and habitat components.
- Coordinate man's activities using the measures listed or discussed in "Rocky Mountain Front Grizzly Bear Monitoring and Investigation" as appropriate to the habitats and grizzly use on the Helena National Forest.

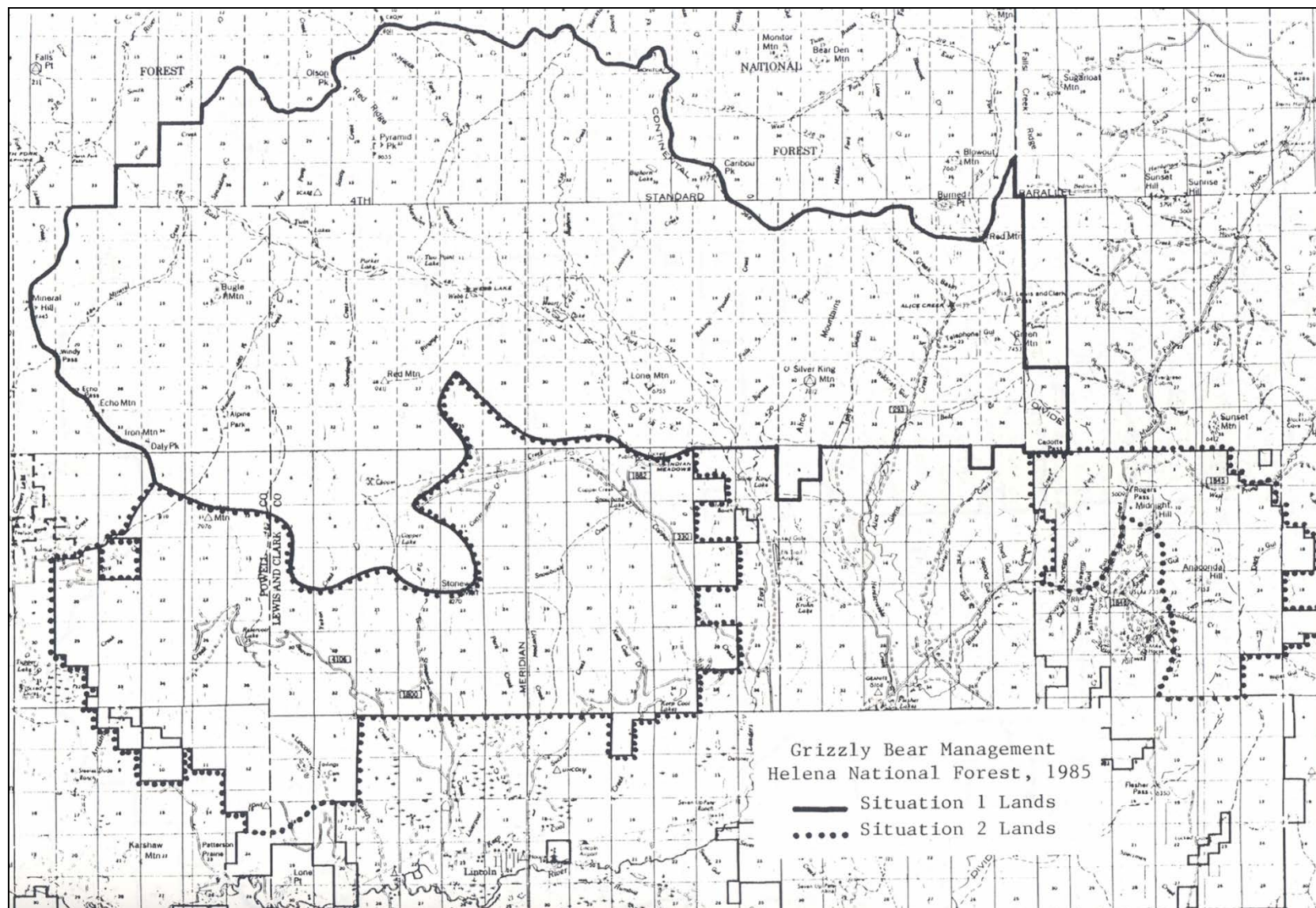


Figure C1. Grizzly Bear Management Situation 1 and 2 Lands, Helena National Forest, Lincoln Ranger District

APPENDIX D⁹ Forest Plan Grizzly Bear Management Outside of Recovery Areas

Following are the steps to be taken when identifying grizzly bear habitat that is not currently inventoried.

I. Documentation of Habitat Components and Bear Use

- A. Maintain records of grizzly bear observations made by FS and other personnel. Such information should be solicited from sister agencies.
- B. When collecting wildlife field data in areas known, or suspected, to be occupied by grizzly bears, collect grizzly bear habitat information.
- C. Document identified grizzly bear use areas (dens, digs, etc.) or sign (scats, tracks, scratch trees, etc.).
- D. Document Biological Activity Centers (BAC). BACs are verified grizzly bear observations over the last 10 years (6 year out of 10). Observations must include females with cubs or yearlings at least 5 of the 10 years.

II. Protect Currently (within the last three years) Used Habitat Components

- A. Maintain the physical nature of the habitat component to allow continued use by the bear.
- B. To the extent that other resource outputs identified in the Proposed Forest Plan are not significantly impacted, control increased human access to avoid disturbance levels that would preclude bear use of the habitat components during the season of expected grizzly bear use.

III. Determine If Management Direction for Area Should Emphasize Bears

- A. If the area is not a BAC, grizzly bear management will not be emphasized.
 - 1. Implement those management actions and protective measures that will allow continued grizzly bear use without decreasing outputs of other resources identified in the Proposed Forest Plan.
- B. If the area is a BAC, informally consult with the U.S. Fish and Wildlife Service to determine potential significance to grizzly bear recovery.
- C. If the area is determined to be significant to the recovery of the grizzly bear:
 - 1. Stratify the area using the guidelines in Appendix D of the Forest Plan.
 - 2. Evaluate potential effects on resource outputs identified in the Plan.
 - a) If applying the Forest-Wide Standards for grizzly bears will not affect Proposed Forest Plan outputs, implement the Standards.
 - b) If applying the Standards will affect Proposed Forest Plan outputs, see implementation chapter.

⁹ This is the actual language as is in Appendix E, Helena National Forest Plan.