

Grizzly Bear Recovery Plan

Draft Supplement: Habitat-based Recovery Criteria for the Northern Continental Divide Ecosystem

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**Draft Habitat-based Recovery Criteria for the Grizzly Bear Population in the Northern
Continental Divide Ecosystem**

Background

Restoring an endangered or threatened animal or plant to the point where it is again a secure member of its ecosystem is a primary goal of our endangered species program. Recovery plans help guide recovery efforts by describing actions we consider necessary for the conservation of the species, establishing criteria for downlisting and delisting listed species, and estimating time and cost for implementing the measures needed for recovery measures. Under the provisions of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 et seq.), we approved the first Grizzly Bear Recovery Plan on January 29, 1982 (U.S. Fish and Wildlife Service 1982). In 1993, we approved a revision to the Grizzly Bear Recovery Plan (U.S. Fish and Wildlife Service 1993), which included additional tasks and new information that increased the focus and effectiveness of recovery efforts. Supplements to the Recovery Plan were approved in 1997 and 1998 (U.S. Fish and Wildlife Service 1997, 1998).

Due to a settlement agreement regarding the 1993 Recovery Plan, we are required to publish habitat-based recovery criteria for the Northern Continental Divide Ecosystem (NCDE). As part of the settlement agreement, we also agreed to hold a workshop for the public to provide input. We held a workshop in July 2016 (81 FR 29295, May 11, 2016) and received 36 comments (Appendix A) and we are holding an additional workshop to seek the best available information to inform our habitat-based recovery criteria. The U.S. Fish and Wildlife Service (Service) now seeks public comment on the following draft, habitat-based recovery criteria for the NCDE.

Considerations for Establishing Habitat-Based Recovery Criteria for the NCDE Recovery Zone

This recovery plan supplement delineates objective, measurable habitat-based criteria that we believe will help assist in determining when an endangered or threatened species has recovered to the point that the protections afforded by the ESA are no longer necessary and the grizzly bear may be delisted.

Grizzly bear density and the number of grizzly bears that can live in an ecosystem depends on overall habitat productivity, availability and quality of food sources, and the levels and types of human activities. There is no published method to deductively calculate minimum habitat values required for a healthy and recovered population. Grizzly bears are long-lived, opportunistic omnivores whose food and space requirements vary depending on a multitude of environmental and behavioral factors and on variation in the experience and knowledge of each individual bear. Grizzly bear home ranges overlap and change seasonally, annually, and with reproductive status. While these factors make the development of habitat criteria difficult, we can establish criteria by assessing what habitat factors in the past were compatible with a stable to increasing grizzly

bear population, and then use these habitat conditions as threshold values that if maintained, can help ensure a healthy population, as suggested by Nielsen *et al.* (2006, p. 227).

The NCDE population was increasing at a rate of 3 percent annually from 2004 to 2011 (Mace *et al.* 2012, p. 124), thus habitat conditions in 2011 likely represent conditions that supported and contributed to the population growth observed from 2004 to 2011. Motorized route density decreased from 2004 to 2011 (NCDE Subcommittee 2013, p. 19), so we selected 2011 levels to be a conservative level to maintain into the future. The draft habitat-based recovery criteria establish objective, measurable values for levels of motorized access, secure core habitat, developed recreation sites, and livestock allotments (i.e., “the baseline”) on Federal lands in the NCDE recovery zone (Figure 1). We defined the baseline for motorized access, secure core habitat, developed recreation sites, and livestock allotments based on conditions for these activities as of December 31, 2011, as modified by changes in numbers that we determined were acceptable levels during consultations on these activities with our Federal partners..

As outlined in the draft Conservation Strategy, our partners have committed to monitor and report on these recovery criteria every other year in order to help ensure the continued conservation of grizzly bears in the NCDE (NCDE Subcommittee 2013, pp. 58, 45–65). The draft Conservation Strategy also outlines the monitoring methods and additional strategies, standards, and guidelines that our partners have committed to use to manage habitat to help ensure success.

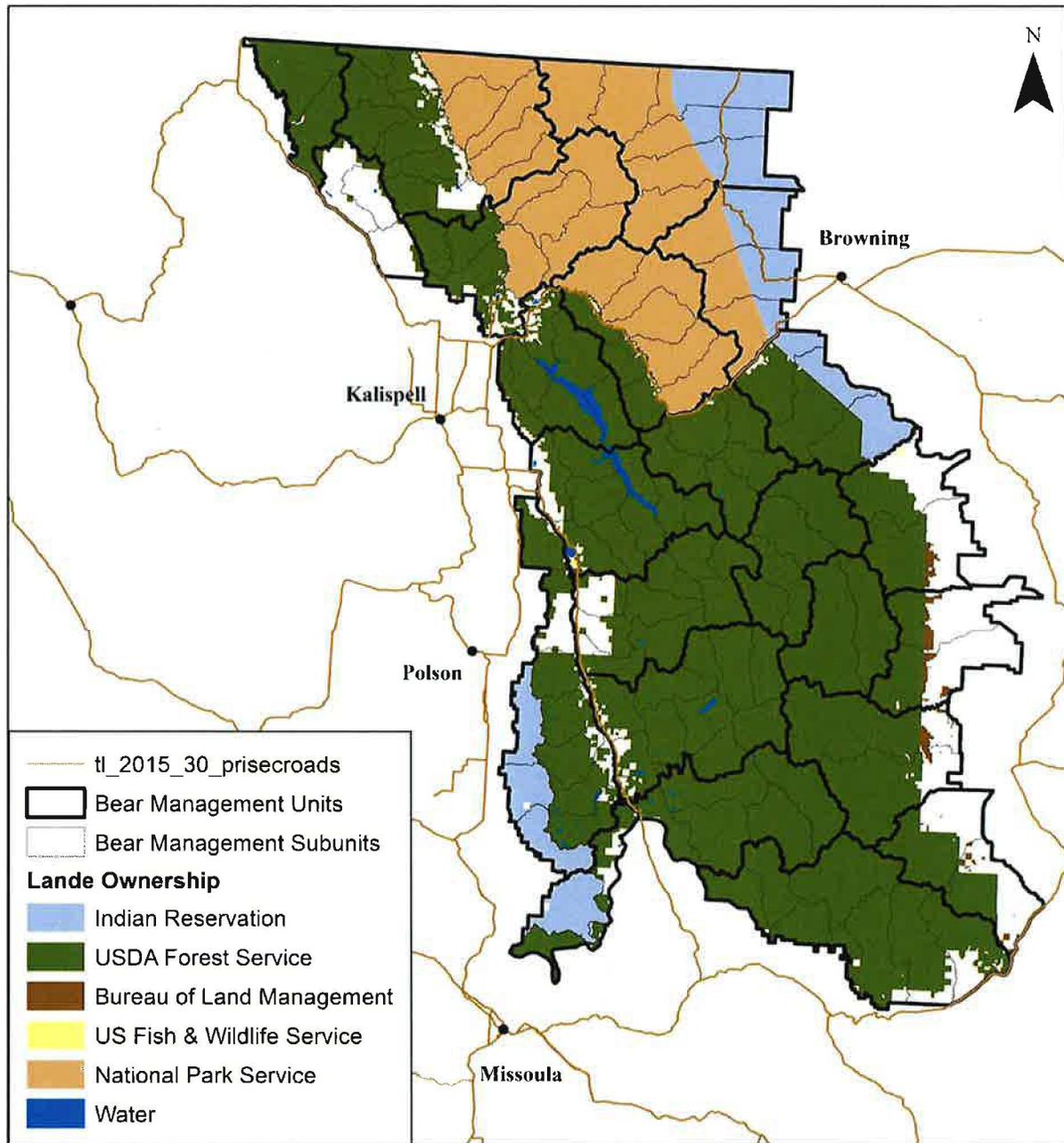


Figure 1. The NCDE recovery zone, bear management units, bear management subunits, and federal land ownership.

Habitat-based Recovery Criteria

On Federal lands inside the recovery zone, the overall habitat goal is to maintain habitat conditions at or improved upon 2011 baseline conditions, as measured within each bear

management subunit (Figure 1). Of the 23,119 square kilometers (km²) (8,926 square miles (mi²)) within the recovery zone, 61 percent is managed by four National Forests (the Flathead, Kootenai, Helena-Lewis and Clark, and Lolo) and 17 percent is managed by Glacier National Park. Of the remaining federal land ownership, collectively, the Bureau of Land Management, Bureau of Reclamation, and the Service manage only 0.4 percent of lands within the recovery zone. Thus we propose the following three habitat-based recovery criteria that apply to Federal lands.

As outlined in the draft Conservation Strategy and in order to help meet recovery goals, our conservation partners will monitor three specific habitat-based criteria in each bear management subunit. Each of these habitat-based criteria are associated with a stable to increasing grizzly bear population with specific values to be maintained, at or improved upon, baseline levels (see Glossary):

1. Secure Core Habitat and Motorized Access Management Criterion

The percent/amount of secure core habitat and open and total road densities on Federal lands within the recovery zone is maintained at or above baseline levels that existed in 2011 (a time period during which the bear population had been growing or stable (Appendix B, tables 1, 2)).

This criterion includes open motorized route densities (OMRD), total motorized route densities (TMRD), and motorized over-snow vehicle use during the den emergence period within modeled grizzly bear denning habitat. OMRD includes roads and trails that are open yearlong or seasonally to wheeled motorized use. TMRD includes roads and trails, whether they are open or closed to wheeled motorized access, unless they are impassable (see Glossary). The conservation partners will allow temporary and permanent changes under specific conditions, which we have summarized from the draft Conservation Strategy below.

Under the draft Conservation Strategy, temporary changes to baseline values for OMRD, TMRD, and secure core habitat would be allowed for projects if the 10-year running averages for these parameters in each subunit do not exceed the following limits:

- 5 percent temporary increase in OMRD in each BMU subunit (i.e., OMRD baseline plus 5 percent);
- 3 percent temporary increase in TMRD in each BMU subunit (i.e., TMRD baseline plus 3 percent);
- 2 percent temporary decrease in secure core habitat in each BMU subunit (i.e., secure core habitat baseline minus 2 percent).

If temporary changes to the baseline occur within these limits, this criterion will be met. Additionally, under the draft Conservation Strategy, the conservation partners will restore temporary changes to secure core habitat and road density values within one year after a project is completed (i.e., when the road is no longer being used for project implementation beyond

administrative levels) and would not exceed 5 years in a 10-year period to reduce the duration of grizzly bear disturbance or displacement due to project-related activities. This criterion does not apply to emergency situations as defined by 36 CFR 218.21 or to actions where valid existing rights preclude or restrict agency discretion (e.g., certain contracts, permits, leases, etc.).

According to the draft Conservation Strategy, permanent changes in OMRD, TMRD, and secure core habitat may occur due to unforeseen circumstances and natural events. If any of these potential changes occur, our conservation partners will analyze and document any potential detrimental and positive impacts by asking the action agency to evaluate and assess projects. The conservation partners will update the baseline to reflect permanent changes. If there is a permanent change to baseline, the criteria for allowable temporary changes will apply to the new baseline.

2. Developed Recreation Site Criterion

The number and capacity of overnight developed recreation sites on Federal lands within the recovery zone is maintained at or below the levels that existed in 2011 (a time period during which the bear population had been growing or stable (Appendix B, table 3)).

According to the draft Conservation Strategy, our conservation partners will measure capacity as the number of campground sites, beds, rooms, cabins, or bunkhouses, depending on the type of overnight site. The conservation partners have agreed that the number or capacity of developed recreation sites designated and managed for overnight recreation use could increase once (e.g., one campground may be added or expanded) in each BMU every 10 years. They established this as a threshold because similar levels of increases have occurred while the population of grizzly bears in the NCDE has continued to increase. If this threshold is reached, the conservation partners will evaluate projects and rely on assessments by the action agencies to analyze and document any proposed increases, expansions or changes in the use of developed recreation sites including potentially detrimental or positive impacts to the grizzly bear from the project. If the conservation partners anticipate permanent increases, they have agreed to evaluate mitigation measures in consultation with the Service. As part of this agreement, mitigation measures would be in place before projects are initiated or the measures would be included as an integral component of the project design.

As outlined in the draft Conservation Strategy, exceptions to this criterion include:

- Maintenance to existing developed recreation sites can proceed without review.
- The conservation partners will not count increases in the number and capacity of developed recreation sites that are only operational during the **denning season** against this criterion.
- Temporary work camps for major projects or wildland firefighting are exempt from human capacity mitigation if other viable alternatives are not available. Food storage

facilities or attractant management plans must be in place and other factors resulting in potential detrimental impacts to grizzly bears will be mitigated.

- Because they are not commonly associated with public use or grizzly bear attractants, public community infrastructure sites, such as electronic sites, radio towers, gravel pits, utility corridors, and treatment plants are exempt from this developed recreation site criterion. The Forest Service and its Permittees will increase capacity at existing electronic sites before constructing new electronic sites, unless new sites are necessary for emergency purposes.

3. Livestock Allotment Criterion

The number of livestock allotments, and the number and capacity of sheep allotments within each bear management subunit should not exceed that which existed in 2011 (a time period during which the bear population had been growing or stable (Appendix B, tables 4, 5)).

As outlined in the draft Conservation Strategy, our conservation partners will apply the following criteria for livestock allotments inside the recovery zone:

- The conservation partners will monitor, evaluate, and phase out any existing sheep allotments as the opportunity arises with willing permittees.
- The conservation partners have agreed that permits for existing livestock allotments will include requirements to report livestock carcasses within 24 hours of discovery. If a carcass is found, the permittee will work with the appropriate agencies to remove it, and establish bone yards in areas that will minimize the risk of habituating grizzly bears to human presence. The conservation partners have agreed that bone yards will not be established on National Forest lands.

Glossary

The following terms and definitions apply within the NCDE for grizzly bears:

Administrative site: a location or facility constructed for use primarily by government employees to facilitate the administration and management of public lands. Examples on National Forest Service lands include, but are not limited to, ranger stations, warehouses, and guard stations.

Baseline: the baseline for the NCDE is defined as conditions as of December 31, 2011, as modified by changes in numbers that were evaluated and found to be acceptable through the Endangered Species Act Section 7 consultation with USFWS while the grizzly bear was listed as Threatened. The baseline can be updated to reflect changes allowed under the application rules.

Bear management subunit: an area of a bear management unit, in the portion of the NCDE for grizzly bears mapped as the recovery zone, representing the approximate size of an average annual female grizzly bear home range (e.g., 31-68 mi²) (Mace and Roberts 2012).

Bear management unit (BMU): an area about 400 m², in the portion of the NCDE for grizzly bears mapped as the recovery zone that meets yearlong habitat needs of both male and female grizzly bears.

Bone yard: an established site that is used by a grazing permittee for disposing of entire animal carcasses.

Capacity (of developed recreation sites within the recovery zone): the number of sites available in a campground; or the number of rooms available for lodging (as a commercial rental); or the number of cabins, bunkhouses or recreation residences available for overnight use (managed under a special use permit).

Den emergence time period: the spring-time period when a grizzly bear emerges from its den and remains in the vicinity before moving to lower elevations. The den emergence time period occurs at the beginning of the non-denning season. Females with cubs usually emerge later and spend more time (a few days to a few weeks) near the den after emergence, than do male bears.

Denning season: the typical time period, within the NCDE, during which most grizzly bears are hibernating in dens. There are no restrictions on motorized use related to grizzly bears during the denning season, which occurs from 1 December through 31 March west of the Continental Divide and from 1 December through 15 April east of the Continental Divide.

Developed recreation site: includes but is not limited to sites on public land developed or improved for human use or resource development such as campgrounds, trailheads, lodges, administrative sites, service stations, summer homes, restaurants, and visitor centers.

Developed recreation sites that are designed and managed for overnight use: includes facilities on federal lands that provide overnight use by the public, such as campgrounds, lodging at ski areas, cabin rentals, huts, guest lodges, recreation residences. This does not include dispersed recreation sites or developed recreation sites managed for day-use only (e.g., outfitter camps, roadside trail crossings or interpretive pull-outs; trailheads, picnic areas, or boat launches that are closed at night; ski areas that do not have overnight lodging). Capacity at campgrounds will be measured as the number of sites available for public use. Capacity at overnight sites will be measured as the number of beds, rooms, cabins, or bunkhouses, depending on the type of overnight site.

Developed recreation site capacity: the number of visitors that a site or facility on federal lands is designed to accommodate, for example measured as:

- the number of camp sites available in a campground
- the number of rooms available for lodging at a ski area or guest lodge
- the maximum sleeping capacity of a cabin rental or bunkhouse that is available for overnight use by the public
- the maximum parking capacity at picnic areas, trailheads, or boat launches that are not closed to overnight use

Emergency situation: a circumstance on federal lands for which immediate implementation of all or part of a decision is necessary for relief from hazards threatening human health and safety or natural resources on those National Forest System or adjacent lands; or that would result in substantial loss of economic value to the Federal Government if implementation of the decision were delayed. (36 CFR 218.21)

Grazing allotment: a designated area of land that is available for livestock grazing and is represented on a map. A grazing allotment can include federal and non-federal lands. Permits are issued for the use of allotments or portions of allotments. Allotments may be:

- Active: Livestock grazing allotments that are in use, including pack and saddle stock allotments.
- Closed: Areas having suitable livestock range that have been closed to livestock grazing by administrative decision or action.
- Combined: An allotment that has been combined into another allotment and therefore, no longer exists as an independent allotment.
- Vacant: An allotment that does not have a current grazing permit issued.

Grazing permit in non-use status: a term that applies to livestock numbers. Non-use of a term grazing permit, in whole or in part, must be approved by a Forest Supervisor and is allowed for permittee convenience, resource protection or development, or range research.

Grazing permit in inactive status: all permitted uses have expired, been cancelled, or been waived.

Human-grizzly bear conflict: incidents in which bears either do, or attempt to, injure people, damage property, kill or injure livestock, damage beehives, or obtain anthropogenic foods, attractants, or agricultural crops.

Motorized route: a road or trail that is designated for motorized use on a motor vehicle use map pursuant to 36 CFR 212.51.

Motorized use: the designation of roads, trails, and areas that are open to motor vehicle use as specified in Federal Register / Vol. 70, No. 216 / Wednesday, November 9, 2005 /36 CFR Parts 212, 251, 261, Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule.

Moving window analysis: a geographic information system procedure that quantifies the density of roads and trails by incrementally moving a template across a digital map.

Non-denning season: the time period when grizzly bears typically are not hibernating, which occurs from 1 April through 30 November west of the Continental Divide and from 16 April to 30 November east of the Continental Divide.

Open motorized route density (OMRD): a moving window analysis calculation that applies to the recovery zone and includes Federal, State, and Tribal roads and motorized trails that are open to wheeled motor vehicle use by the public for any part of the non-denning season. *Note:* Motorized routes closed only by sign or order are considered to be open for purposes of this calculation.

Project: A project on Federal lands in grizzly bear habitat in the NCDE, for purposes of the motorized access standards and guidelines in the primary conservation area of the NCDE, refers to any temporary activity requiring construction of new roads, temporary roads, reconstruction or opening of restricted roads during the non-denning season, if such use exceeds administrative use levels (see administrative use). Activities involving recurring helicopter use (see recurring helicopter use) are also considered to be a project.

Recurring helicopter use: a type of helicopter flight that involves multiple trips/passes each day consisting of low-altitude (< 500 m above-ground-level) flights that continues for a duration longer than 48 consecutive hours.

Road: a motor vehicle route more than 50 inches wide, unless identified and managed as a trail. (36 CFR 212.1, FSM 7705). A road may be:

- Decommissioned: The stabilization and restoration of an unneeded road to a more natural state (36 CFR 212.1). Decommissioned roads do not count towards Total Motorized Route Density as long as they meet the definition of impassable.
- Forest road or trail: A route wholly or partly within or adjacent to and serving the National Forest Service (NFS) that is necessary for the protection, administration, and utilization of the NFS and the use and development of its resources (36 CFR 212.1 – Definitions)
- Impassable: A road that has been treated in such a manner that the road is blocked and there is little resource risk if road maintenance is not performed on a regular basis (self-maintaining). These roads are not counted in the total motorized route density as long as the road (generally the first 50 to 300 feet) has been treated to make it inaccessible to wheeled motorized vehicles during the non-denning season. Roads may become impassable as a result of a variety of means, including but not limited to one or more of the following: natural vegetation growth, road entrance obliteration, scarified ground, fallen trees, boulders, culvert or bridge removal, etc. Impassable roads may remain on the inventoried road system if use of the road is anticipated at some point in the future. Some, but not all, roads placed in intermittent stored service may be impassable. [GBCS]
- Intermittent stored service/intermittent service road, closed to traffic: The road is in a condition that there is little resource risk if maintenance is not performed.
- Maintenance level: A term for the level of service provided by, and maintenance required for, a specific road, consistent with road management objectives and maintenance criteria (Forest Service Handbook 7709.59, 62.32)

Level 1: These are roads that have been placed in storage between intermittent uses. The period of storage must exceed 1 year. Basic custodial maintenance is performed to prevent damage to adjacent resources and to perpetuate the road for future resource management needs. Emphasis is normally given to maintaining drainage facilities and runoff patterns.

Level 2: Assigned to roads open for use by high clearance vehicles. Passenger car traffic, user comfort, and user convenience are not considerations.

Level 3: Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priorities

Level 4: Assigned to roads that provide a moderate degree of user comfort and convenience at moderate travel speeds

Level 5: Assigned to roads that provide a high degree of user comfort and convenience.

- National Forest System: A forest road other than a road which has been authorized by a legally documented right-of-way held by a State, county, or other local public road authority (36 CFR 212.1)
- temporary: A road necessary for emergency operations or authorized by contract, permit, lease, or other written authorization that is not a forest road and that is not included in a forest transportation atlas (36 CFR 212.1). In the NCDE recovery zone, temporary roads will meet the definition of impassable when no longer needed. [GBCS]

Running average: a method for computing the average of a stream of numbers for a specified period. A 10-year running average computes the mean for the values in the current year plus the previous 9 years. A running average is commonly used with time series data to smooth out short-term fluctuations and highlight longer-term trends or cycles.

Secure core habitat: an area inside the recovery zone that is more than 500 m (0.3 mi) from a route open to wheeled motorized use during the grizzly bear non-denning season, or a gated route, and that is greater than or equal to 10 km² (3.8 mi²). Roads restricted with physical barriers (not gates), decommissioned roads, impassable roads, temporary roads, over-the-snow motorized routes/areas, and non-motorized trails are allowed within secure core habitat, unless otherwise restricted (e.g., by other national forest plan direction).

Total motorized route density (TMRD): a moving window analysis calculation that applies to the recovery zone and includes Federal, State, and Tribal roads and motorized trails that do not meet the definition of an impassable road.

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APPENDIX A

Table 1. Major habitat-related issues identified in comments received after the 2016 habitat-based recovery criteria workshop and how these issues were considered in the development of these habitat-based recovery criteria.

Major habitat-related issues identified in the comments	How issues were addressed in the habitat criteria
General concerns regarding direct and indirect (i.e., roads, developments) effects of mining, oil, and gas developments, logging	The baseline limits increases in roads and developments, which indirectly limits the amount of logging and mining, oil, and gas developments that can occur.
Concerns regarding the adequacy of the 2011 baseline and using these to replacem of the Amendment 19 amendment to the Flathead National Forest plan	Although the 2011 baseline is less restrictive than Amendment 19, it is adequate to ensure a recovered population because the levels of secure habitat, OMRD, TMRD, developed sites, and livestock allotments that occurred from 2004 to 2011 were compatible with a 3 percent annual increase in the grizzly bear population.
Ensure that we use science and data to the best extent possible	The best available science was used to develop these criteria.
Criteria should maintain habitat security	A major objective of the habitat criteria is to maintain secure core habitat at the 2011 baseline because those levels were compatible with a 3 percent annual increase in the grizzly bear population.
Potential impacts of habitat fragmentation and linkage zones	Habitat fragmentation is not an issue in the NCDE. Linkage zones are addressed in the draft Conservation Strategy.
Insufficient size of recovery areas	The size of the recovery zone was considered in development of these criteria and determined to be sufficient in size and habitat quality to support a recovered grizzly bear population.
The role of private lands and impacts of private land development	Private lands constitute only 9% of the recovery zone. We feel it is adequate that the HBRC apply to the federal lands, only, constituting 91% of the recovery zone.
Road densities and access management	Access management using road densities is a major part of these criteria and will be limited to those levels that existed in the 2011 baseline, which were compatible with a 3

	percent annual increase in the grizzly bear population.
Minimizing human development activities and livestock allotments, and human recreational activities that result in human-bear conflicts	Limitation of developed recreational sites and livestock allotments is a major part of these criteria and will be limited to those levels that existed in the 2011 baseline, which were compatible with a 3 percent annual increase in the grizzly bear population.
Minimizing human recreational activities that result in human-bear conflicts	Although not a HBRC, levels and causes of mortality and conflict are tracked annually by Montana Fish, Wildlife and Parks and relevant management guidelines and mitigation measures are included in the draft Conservation Strategy.
Minimize displacement and other indirect impacts resulting from developments and human recreational activities	The number and capacity of developed sites is a major part of these criteria and will be limited to those levels that existed in the 2011 baseline, which were compatible with a 3 percent annual increase in the grizzly bear population. Additional management guidelines and mitigation measures related to development and recreational activities are included in the draft Conservation Strategy.
Implement food storage to minimize human-bear conflicts	Although food storage orders are not a HBRC, orders are in place on federal lands within the Demographic Monitoring Area and discussed in the draft Conservation Strategy.
Identifying important seasonal foods and assuring their monitoring and availability	Body condition and stable isotopes will be used as surrogate to measure habitat quality, including seasonal food availability, as discussed in the draft Conservation Strategy. This is an adaptive approach to changing use and availability of foods.
Consider the potential impacts resulting from climate change	As discussed in the draft Conservation Strategy, body condition and stable isotopes will be used as surrogate to measure and detect changes in habitat quality, which may be impacted by climate change.

APPENDIX B

Table 1. Existing baseline status (as of 2014) of motorized access for each BMU subunits in the NCDE. OMRD = percentage of subunit that is ≥ 1.0 miles/square mile. TMRD = percentage of subunit that is ≥ 2.0 miles/square mile. CORE = percentage of subunit that is secure core habitat.

BMU	Subunit Name	Principal Agency	OMRD	TMRD	CORE
BATM	Badger	LCNF-Rocky Mtn Front RD	0	0	94
BATM	Heart Butte	LCNF-Rocky Mtn Front RD	1	0	81
BATM	Two Medicine	LCNF-Rocky Mtn Front RD	3	1	87
BGSM	Albino Pendant	FNF-Spotted Bear RD	0	0	100
BGSM	Big Salmon Holbrook	FNF-Spotted Bear RD	0	0	100
BGSM	Black Bear Mud	FNF-Spotted Bear RD	0	0	100
BGSM	Brushy Park	FNF-Spotted Bear RD	0	0	100
BGSM	Buck Holland	FNF-Swan Lake RD	24	41	49
BGSM	Burnt Bartlett	FNF-Spotted Bear RD	0	0	100
BGSM	Hungry Creek	FNF-Spotted Bear RD	0	0	100
BGSM	Little Salmon Creek	FNF-Spotted Bear RD	0	0	100
BGSM	Meadow Smith	FNF-Swan Lake RD	20	54	41
BGSM	White River	FNF, Spotted Bear RD	0	0	100
BITE	Birch	LCNF-Rocky Mtn Front RD	0	0	93
BITE	Teton	LCNF-Rocky Mtn Front RD	15	4	72
BNKR	Big Bill Shelf	FNF-Spotted Bear RD	11	7	87
BNKR	Bunker Creek	FNF-Spotted Bear RD	5	3	92
BNKR	Goat Creek	FNF-SLRD & MT DNRC	23	59	39
BNKR	Gorge Creek	FNF-Spotted Bear RD	0	0	100
BNKR	Harrison Mid	FNF, - Spotted Bear RD	1	0	99
BNKR	Jungle Addition	FNF-Spotted Bear RD	19	17	68
BNKR	Lion Creek	FNF-SLRD & MT DNRC	19	47	51
BNKR	South Fork Lost Soup	FNF-SLRD & MT DNRC	25	49	40
BNKR	Spotted Bear Mtn	FNF-Spotted Bear RD	20	18	68
CODV	Pentagon	FNF-Spotted Bear RD	0	0	100
CODV	Silvertip Wall	FNF-Spotted Bear RD	0	0	100
CODV	Strawberry Creek	FNF-Spotted Bear RD	0	0	100
CODV	Trilobite Peak	FNF-Spotted Bear RD	0	0	100
DELK	Falls Creek	LCNF-Rocky Mtn Front RD	0	0	85
DELK	Scapegoat	LCNF-Rocky Mtn Front RD	5	1	78
HGHS	Coram Lake Five	FNF-Hungry Horse RD	30	46	14
HGHS	Doris Lost Johnny	FNF-Hungry Horse RD	57	19	36
HGHS	Emery Firefighter	FNF-Hungry Horse RD	19	20	53
HGHS	Peters Ridge	FNF-HHRD & SLRD	52	25	34
HGHS	Riverside Paint	FNF-Hungry Horse RD	19	16	72
HGHS	Wounded Buck Clayton	FNF-Hungry Horse RD	28	30	65
LMFF	Dickey Java	FNF-Hungry Horse RD	9	0	85
LMFF	Lincoln Harrison	Glacier NP	0	0	98
LMFF	Moccasin Crystal	FNF-Hungry Horse RD	8	1	81
LMFF	Muir Park	Glacier NP	0	0	98
LMFF	Nyack Creek	Glacier NP	0	0	100

LMFF	Ole Bear	Glacier NP	0	0	94
LMFF	Pinchot Coal	Glacier NP	0	0	99
LMFF	Stanton Paola	FNF-Hungry Horse RD	8	3	83
BMU	Subunit Name	Principal Agency	OMRD	TMRD	CORE
LNFF	Anaconda Creek	Glacier NP	5	0	94
LNFF	Apgar Mountains	Glacier NP	15	4	81
LNFF	Canyon McGinnis	FNF-GVRD & FNF-TLRD	18	31	52
LNFF	Cedar Teakettle	FNF-Glacier View RD	35	36	24
LNFF	Dutch Camas	Glacier NP	6	0	93
LNFF	Lake McDonald	Glacier NP	13	5	85
LNFF	Lower Big Creek	FNF-Glacier View RD	18	20	66
LNFF	Upper McDonald Creek	Glacier NP	9	2	90
LNFF	Werner Creek	FNF-Glacier View RD	19	21	42
MSRG	Beaver Creek	FNF-Swan Lake RD	6	26	66
MSRG	Cold Jim	FNF-Swan Lake RD	18	57	43
MSRG	Crane Mtn	FNF-Swan Lake RD	28	56	26
MSRG	Crow	Flathead IR	6	3	92
MSRG	Glacier Loon	FNF-Swan Lake RD	22	43	45
MSRG	Hemlock Elk	FNF-Swan Lake RD	6	30	64
MSRG	Piper Creek	FNF-SLRD & MT DNRC	19	44	52
MSRG	Porcupine Woodward	FNF-SLRD & MT DNRC	28	73	15
MSRG	Post Creek	Flathead IR	10	5	87
MSRG	Saint Marys	Flathead IR	4	2	94
MLFK	Alice Creek	HNF-Lincoln RD	10	17	71
MLFK	Arrastra Mountain	HNF-Lincoln RD	17	19	74
MLFK	Monture	LNF-Seeley Lake RD	1	0	99
MLFK	Mor-Dun	LNF-Seeley Lake RD	17	17	78
MLFK	N-Scapegt	LNF-Seeley Lake RD	0	0	100
MLFK	Red Mountain	HNF-Lincoln RD	24	21	61
MLFK	S-Scapegt	LNF-Seeley Lake RD	13	14	76
MULK	Krinklehorn	KNF-Fortine RD	22	14	75
MULK	Therriault	KNF-Fortine RD	26	12	71
NFSR	Lick Rock	LCNF-Rocky Mtn Front RD	0	0	100
NFSR	Roule Biggs	LCNF-Rocky Mtn Front RD	0	0	100
NEGL	Belly River	Glacier NP	0	0	99
NEGL	Boulder Creek	Glacier NP & Blackfeet IR	18	13	76
NEGL	Chief Mtn	Glacier NP & Blackfeet IR	28	10	53
NEGL	Poia Duck	Glacier NP & Blackfeet IR	23	8	68
NEGL	Upper Saint Mary	Glacier NP	11	1	89
NEGL	Waterton	Glacier NP	0	0	100
RTSN	Mission	LNF-Seeley Lk RD & MFWP	23	57	32
RTSN	Rattlesnake	LNF-Missoula RD	3	9	83
RTSN	South Fork Jocko	Flathead IR	38	14	59
SUBW	South Fork Willow	LCNF-Rocky Mtn Front RD	14	3	81
SUBW	West Fork Beaver	LCNF-Rocky Mtn Front RD	17	5	79
SEGL	Divide Mtn	Glacier NP & Blackfeet IR	32	25	67
SEGL	Midvale	Glacier NP & Blackfeet IR	7	4	87
SEGL	Spot Mtn	Glacier NP & Blackfeet IR	10	3	79
STRV	Lazy Creek	MT DNRC	68	62	10

STRV	Stryker	MT DNRC	37	33	50
STRV	Upper Whitefish	MT DNRC	34	57	54
SLVN	Ball Branch	FNF-Spotted Bear RD	8	7	84
SLVN	Jewel Basin Graves	FNF-Hungry Horse RD	19	19	72
SLVN	Kah Soldier	FNF-Spotted Bear RD	19	19	68
SLVN	Logan Dry Park	FNF-HHRD & FNF-SBRD	30	33	52
BMU	Subunit Name	Principal Agency	OMRD	TMRD	CORE
SLVN	Lower Twin	FNF-Spotted Bear RD	9	2	91
SLVN	Noisy Red Owl	FNF-Swan Lake RD	22	14	59
SLVN	Swan Lake	FNF-Swan Lake RD	40	24	46
SLVN	Twin Creek	FNF-Spotted Bear RD	0	0	100
SLVN	Wheeler Quintonkon	FNF-HHRD & FNF-SBRD	25	18	66
TESR	Deep Creek	LCNF-Rocky Mtn Front RD	9	3	69
TESR	Pine Butte	LCNF-Rocky Mtn Front RD	7	2	70
UMFF	Flotilla Capitol	FNF-HHRD & FNF-SBRD	0	0	100
UMFF	Long Dirtyface	FNF-Hungry Horse RD	0	0	100
UMFF	Plume Mtn Lodgepole	FNF-HHRD & SBRD	0	0	100
UMFF	Skyland Challenge	FNF-Hungry Horse RD	20	17	63
UMFF	Tranquil Geifer	FNF-Hungry Horse RD	0	2	90
UNFF	Bowman Creek	Glacier NP	6	0	93
UNFF	Coal & South Coal	FNF-Glacier View RD	15	21	72
UNFF	Ford Akokala	Glacier NP	7	1	93
UNFF	Frozen Lake	FNF-Glacier View RD	10	4	86
UNFF	Hay Creek	FNF-Glacier View RD	24	16	55
UNFF	Ketchikan	FNF-Glacier View RD	16	3	72
UNFF	Kintla Creek	Glacier NP	3	0	96
UNFF	Logging Creek	Glacier NP	4	0	94
UNFF	Lower Whale	FNF-Glacier View RD	36	17	50
UNFF	Quartz Creek	Glacier NP	4	0	93
UNFF	Red Meadow Moose	FNF-Glacier View RD	25	17	55
UNFF	State Coal Cyclone	FNF-GVRD & MT DNRC	31	27	59
UNFF	Upper Trail	FNF-Glacier View RD	14	4	88
UNFF	Upper Whale Shorty	FNF-Glacier View RD	12	11	86
USFF	Basin Trident	FNF-Spotted Bear RD	0	0	100
USFF	Gordon Creek	FNF-Spotted Bear RD	0	0	100
USFF	Jumbo Foolhen	FNF-Spotted Bear RD	0	0	100
USFF	Swan	LNF-Seeley Lake RD	32	16	55
USFF	Youngs Creek	FNF-Spotted Bear RD	0	0	100

	Indicates subunit is ≥50% federal or tribal wilderness of all lands within subunit.
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Table 2. Definitions for secure core habitat and motorized access management on Federal lands within the recovery zone.

Criteria	Definition
Motorized access routes in database	All routes, regardless of ownership or jurisdiction, having motorized use or the potential for motorized use to exceed administrative levels (restricted roads) including: motorized trail; highways; county/city, Federal, State, Tribal, and private roads
Lands in database	All lands are included in database. However, large lakes ($\geq 1.3 \text{ km}^2$ (0.5 mi^2)) and private lands are not included in calculations of secure core habitat, OMRD, or TMRD.
Secure core habitat	Area more than 500 m (0.3 mi) from an open or gated motorized access route (road or motorized trail), or recurring helicopter flight line (i.e., multiple trips per day for more than 2 consecutive days) during the non-denning season. Must be greater than or equal to 10 km^2 (3.8 mi^2) in size. Note: helicopter use is allowed for emergency situations (see Glossary). Reported as a percentage of the BMU that meets this definition.
Open motorized route density (OMRD)	Open motorized route density includes roads and trails open yearlong or seasonally to wheeled motorized use. All roads are included in the database. Non-motorized trails, highway, county, private, decommissioned, or revegetated roads are not included in the calculations. Reported as percentage of BMU containing $> 1 \text{ mi}/\text{mi}^2$ of open routes.
Total motorized route density (TMRD)	Total motorized route density includes roads and trails, whether open or closed to wheeled motorized access, unless they are impassable (see Glossary). All roads are included in the database. However, non-motorized trails, highway, county, private, decommissioned, or revegetated roads are not included in the calculations. Reported as percentage of BMU containing $> 2 \text{ mi}/\text{mi}^2$ of total routes.
Denning season definitions	Denning season on the west side of the Continental Divide is from 1 December through 31 March. Denning season on the east side of the Continental Divide is from 1 December through 15 April. Wheeled motorized access criteria do not apply during the denning season.

Den emergence time period	The spring-time period at the beginning of the non-denning season when a grizzly bear emerges from its den and remains in the vicinity before moving to lower elevations. Females with cubs usually emerge later and spend more time (a few days to a few weeks) near the den after emergence.
Administrative use	Motorized use of roads closed to the public is permitted by Federal agency personnel or personnel authorized to perform duties by appropriate agency officials, as long as it does not exceed either 6 trips (3 round trips) per week OR one 30-day unlimited use period during the non-denning season. If a project can occur completely within administrative use levels, the project will not count toward temporary allowable increases.
Inclusions in secure core habitat	Roads restricted with permanent physical barriers (not gates), impassable roads, decommissioned or obliterated roads, and/or non-motorized trails are allowed in secure core habitat.
Changes in secure core habitat	A project may mitigate its impact on secure core habitat by providing replacement secure core habitat of equal size and similar quality (if possible) and function in the same BMU subunit. The replacement habitat must either be in place before project initiation or be provided concurrently with project development as an integral part of the project plan. Alternatively, a project may mitigate its impacts by adhering to the allowed levels of temporary changes as detailed in this table.
Project	Any temporary activity requiring construction of new roads, temporary roads, reconstruction or opening of restricted roads during the non-denning season if such use exceeds administrator use levels. Activities involving recurring helicopter use are also considered to be a project. Projects should not exceed 5 years in a 10-year period. Extensions will be reviewed by the NCDE Subcommittee and the Service, as needed.
Temporary public use	A restricted road may be temporarily opened for public motorized use to allow authorized uses (such as firewood gathering), provided the period of use does not exceed 30 consecutive days during the non-denning season and occurs outside of spring and fall bear hunting seasons. However, temporary public use

	of restricted roads shall not be authorized in secure core habitat.
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Table 3. 2011 baseline levels of developed recreation sites in each BMU in the NCDE.

BMU Name	Residences ¹	Overnight Sites ²		Campgrounds ³	Day - Use ⁴	Trailheads ⁵	Admin ⁶
		# sites	type of capacity				
Badger Two Medicine	-	-	-	1 (17)	1	12	2
Big Salmon	32	3	8 cabins; 9 rooms	5 (66)	6	7	11
Birch Teton	7	1	6 cabins; 1 room	3 (23)	-	11	1
Bunker	-	3	17 cabins; 2 rooms; 4 bunkhouses	8 (57)	5	27	4
Continental Divide	-	-	-	-	-	-	4
Dearborn Elk	1	-	-	-	1	3	2
Hungry Horse	-	1	1 cabin	19 (169)	22	39	4
Lower Middle Fork Flathead	10	-	-	12 (32)	8	16	12
Lower North Fork Flathead	82	10	54 cabins; 2 bunkhouses; 186 rooms; 362 emp. beds	17 (545)	34	64	23
Mission Range	1	1	1 cabin	1 (25)	5	17	
Monture Landers Fork	-	1	1 cabin	5 (47)	13	31	8
Murphy Lake	-	5	5 cabins	17 (109)	20	40	1
Northeast Glacier	-	6	27 cabins; 350 rooms; 316 emp. beds	27 (428)	16	28	15
North Fork Sun River	-	-	-	-	-	-	5
Rattlesnake	-	1	1 cabin	1 (3)	-	5	1
Southeast Glacier	-	2	5 emp. beds	11 (143)	9	14	8
Sullivan	20	2	9 cabins; 1 room; 1 bunkhouse	15 (114)	12	32	10
Stillwater River	-	-	-	2 (3)	-	1	1

South Fork Sun Beaver Willow	74	5	20 cabins; 2 rooms; 3 bunkhouses; 10 RV	7 (72)	3	16	9
Teton Sun River	17	1	2 bunkhouses	3 (36)	2	11	6
Upper Middle Fork Flathead	-	2	2 cabins	2 (21)	1	14	5
Upper North Fork Flathead	7	6	6 cabins	24 (184)	8	39	21
Upper South Fork Flathead	-	1	1 cabin	-	2	5	6

¹ Residences: Full-time or seasonal recreational residences.

² Overnight sites: Cabin rentals, guest lodges with or without rooms and/or cabins, camps, etc. Capacity is the number of cabins, rooms, bunkhouses, employee beds (GNP), and RV sites.

³ Campgrounds: Number of campgrounds with number of sites in parentheses (i.e., "2(32)" is two campground sites with a total number of 32 sites). Campground development ranges from fully developed with all amenities to very minimal development and not much above a dispersed site. There are group sites included, however, the number accommodated at one group sites is variable.

⁴ Day-use: Includes businesses, restaurants, river/lake access, picnic areas, points of interest, etc.

⁵ Trailheads: Trailheads range from fully developed to a turn-out at a road closures.

⁶ Admin.: Administrative sites include ranger stations, work centers, guard stations, active fire lookouts, etc. While these sites are not subject to the Developed Recreation Site criterion, increases in the number of administrative sites on Federal lands will be minimized so they are reported here to provide transparency and accountability.

Table 4. Active cattle and/or sheep grazing allotments in the NCDE recovery zone, December 2011.

Land Manager	No. of active Allotments	Type	AUMs*	Additional Info.
Flathead NF	3	Cattle	320	
Lewis and Clark NF	21	Cattle	9241	2 additional allotments are currently inactive – AUMs not included
Helena NF	3	Cattle	616	
	1	Sheep	133	
Lolo NF	1	Cattle	30	
Kootenai NF	1	Cattle	373	2 additional allotments are currently inactive – AUMs not included
Glacier NP	0	NA	NA	GNP does not permit commercial grazing allotments within Park boundaries

*AUMs (Animal Month Units) are calculated by multiplying the permitted number of sheep or cow/calf pairs times the months of permitted use. Actual use by sheep or other livestock in many cases may have been less than the permitted numbers identified for 2011.

Table 5. Definitions for commercial livestock grazing criteria on Federal lands.

Criteria	Definition
Sheep allotments and AUMs	Allowable AUMs shall not be increased for inactive allotments. <i>Note:</i> Existing sheep allotments may be combined or divided as long as it does not result in grazing allotments in currently un-allotted lands.
Sheep allotments in non-use status	A sheep grazing permit in non-use status shall not be allowed to increase allowable AUMs when returning to use.
Sheep allotment numbers	The number of open or active sheep grazing allotments should be reduced if an opportunity exists with willing permittee, to reduce the risk of conflict with grizzly bears.
Cattle allotments	Existing cattle allotments may be combined or divided as long as that does not result in grazing allotments in currently un-allotted lands.
Cattle allotments in vacant status	Any use of vacant cattle allotments resulting in an increase in permitted cattle numbers will be allowed only after an analysis by the action agency to evaluate impacts on grizzly bears.
Allotments on acquired lands	Increases in allotment numbers on Federal lands that result from land acquisitions or exchanges will be added into the baseline rather than being counted as deviations from the baseline.