

NORTHERN CONTINENTAL DIVIDE ECOSYSTEM

GRIZZLY BEAR POPULATION MONITORING

ANNUAL REPORT – 2016



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ABSTRACT

A program to monitor the population trend of grizzly bears in the Northern Continental Divide Ecosystem (NCDE) of Montana was initiated in 2004. The goal of this program is to estimate population trend by monitoring the survival and reproductive rates of radio-marked female grizzly bears. During 2016, we captured 22 grizzly bears (13F, 9M) for trend monitoring. An additional 41 bears (18F, 22M, 1U) were captured for management or other purposes. Seventy-three bears (49F, 24M) were radio-monitored. We documented the deaths of 7 bears (5F, 2M) among the radio-monitored sample. Reproductive status was documented for 43 radio-marked adult females. Survival of accompanying dependent offspring (<2 years old) was monitored for 17 of these adult females. We did not document any mortalities among 5 cub litters. We documented 7 known or presumed mortalities and the early independence of 2 individuals among 11 yearling litters. Within the NCDE, 22 known or probable mortalities of grizzly bears were documented (including unmarked bears). This included 9 independent (≥ 2 years old) females and 4 independent males that died within the Demographic Monitoring Area (DMA). Based on data from these mortalities, we estimated total reported and unreported mortalities for independent grizzly bears within the DMA to be 22 bears (17F, 5M). During 2016, we verified presence of reproductive females within 14 of 23 BMUs inside the Primary Conservation Area (61%) and within 6 of 7 supplementary BMUs in Zone 1 (86%). Using a 6-year tally for 2011–2016, all BMUs within the DMA were occupied by females with offspring.

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I. INTRODUCTION AND STATEMENT OF NEED

The grizzly bear (*Ursus arctos horribilis*) occupies over 8 million wilderness and non-wilderness acres in the Northern Continental Divide Ecosystem (NCDE) of western Montana. Notable regions within this ecosystem include Glacier National Park and the Bob Marshall wilderness complex. Grizzlies were listed as Threatened under the Endangered Species Act in 1975 for lack of information on its population status and habitat requirements. The NCDE has the largest population of grizzly bears in the lower 48 states; population size during 2004 was estimated to be 765 bears (Kendall et al. 2009).

Managers and the public agree that information on both population size and trend is needed. Having these estimates will greatly improve our collective knowledge of grizzly bear ecology, and provide more measurable and precise information with which to judge the status of the grizzly population in the NCDE. Therefore, in 2004 Montana Fish, Wildlife & Parks (MTFWP), in cooperation with other state, federal, and tribal agencies, established a team to monitor the population trend of grizzly bears in the NCDE. The purpose of this long-term program is to monitor grizzly bear survival rates, reproductive rates, and population trend primarily by radio-monitoring female grizzly bears and their young.

II. PROGRAM OBJECTIVES

The primary objective of this program is to monitor the population trend of grizzly bears in the NCDE using known-fate estimators of survival, and documentation of reproductive rates. This is accomplished by following the survival and reproductive rates of female grizzly bears throughout the ecosystem. Estimates of population vital rates will be required for recovery

programs in this area. The ultimate responsibility of the monitoring team is to collect life history data on grizzly bears in western Montana and summarize findings in a comprehensive annual report. Major population monitoring categories will initially include:

1. population trend,
2. grizzly bear survival rates,
3. grizzly bear reproductive rates,
4. grizzly bear movements and habitat selection,
5. grizzly bear distribution in western Montana,
6. mortality levels in the NCDE, and
7. levels of unreported mortality.

III. GEOGRAPHIC SCOPE OF THE MONITORING PROGRAM

Our trend monitoring program is focused within the Demographic Monitoring Area (DMA), which encompasses the 23,119 km² Primary Conservation Area (PCA: equivalent to the Federal Recovery Zone) and the 19,460 km² Zone 1, which roughly correlates to a 10-mile buffer surrounding the PCA (USFWS 2013; Fig. 1). The DMA includes Glacier National Park, parts of five National Forests (Flathead, Helena, Kootenai, Lewis and Clark, and Lolo); parts of the Blackfeet and Confederated Salish and Kootenai Reservations; Bureau of Land Management lands; state lands, and private lands. The NCDE grizzly bear population is also contiguous with those in the Canadian provinces of British Columbia and Alberta, therefore some captures and monitoring occurred north of the United States in Canada. Within the DMA, we designated 9

subunits for localized analyses, based on distinct land ownerships and grizzly bear population management authorities.

Although our focus for trend monitoring is the DMA, we also document mortalities and other observations outside of the DMA. Notable areas include: Zone 2, an area of potential connectivity between the NCDE and the Greater Yellowstone Ecosystem (GYE), and Zone 3, an area sometimes occupied by grizzly bears but considered unsuitable habitat to support grizzly bear population growth (USFWS 2013).



Fig. 1. The Demographic Monitoring Area (DMA; red line), where our grizzly bear population monitoring is conducted, consists of the Primary Conservation Area (PCA; blue) and Zone 1 (green). The DMA is divided into subunits (gray lines) for localized population analyses. Zone 2 (pink) is the area of potential genetic connectivity between the NCDE and the Greater Yellowstone Ecosystem. Zone 3 (orange) consists of largely unsuitable habitat that may be irregularly occupied by grizzly bears.

V. METHODS & RESULTS

Grizzly Bear Captures

Methods

Each year, we capture grizzly bears using leg-hold snares and culvert traps, by helicopter darting, and in some instances, ground darting. We follow the handling and immobilization procedures found in the Montana Animal Care and Use Committee protocols for grizzly bears and black bears (Montana Fish, Wildlife and Parks 2004). We tag all bears subcutaneously with passive transponder tags and pull a pre-molar tooth for age determination (Stoneberg and Jonkel 1966). Most females and a sample of males are radio-marked using a variety of transmitters, including: standard very high frequency (VHF) neck-mounted collars (Telonics, Inc., Mesa, AZ); VHF ear-tag transmitters (Advanced Telemetry Systems, Inc., Isanti, MN); standard global positioning system (GPS) collars (TGW-4500; Telonics, Inc.); GPS-Argos collars (Models TGW-3580 and TGW-3583; Telonics, Inc.); spread-spectrum collars (TGW-3690; Telonics, Inc.), and GPS-Iridium collars (TGW-4570-3; Telonics, Inc.). We capture research bears throughout the study area. We attempt to distribute our sample of research females in proportion to relative grizzly bear density, based on the distribution of female bears detected at DNA hair traps in 2004 (Kendall et al. 2009). Grizzly bears are also captured and radio-marked for management purposes. Individual bears are classified as either research bears or management bears using the terminology of Mace et al. (2012).

Results

In 2016, we captured 63 individuals during 68 capture occasions (5 recaptures). Bears were immobilized and handled on 63 capture occasions (5 were released without handling).

The team captured 22 individuals for trend monitoring purposes (Table 1), including 13 females and 9 males. All 13 females and 6 of the males were fitted with radio-transmitters. In addition to research captures, bears were also captured in association with management actions, although some were non-target individuals. These captures included 18 females, 15 males, and 1 bear of unknown sex (dependent young released without handling). Eleven females and 14 males were fitted with radio-transmitters. Finally, other captures within the NCDE included 2 males captured in association with Cabinet-Yaak Ecosystem (CYE) augmentation efforts and 5 males were captured for an electric fence research project in the Blackfoot Valley. One of the augmentation bears and all 5 fence study bears were fitted with radio-transmitters. The augmentation bear was translocated to the CYE.

Table 1. Number of individual grizzly bears captured and fitted with radio-transmitters in the NCDE, 2016.

Type	Captured				Radio-marked		
	Female	Male	Unknown	Total	Female	Male	Total
Research	13	9	0	22	13	6	19
Management	18	15	1	34	11	14	25
Other	0	7	0	7	0	6	6
Total	31	31	1	63	24	26	50

Radio-monitoring, survival, and reproduction

Methods

We monitor survival and reproduction using aerial telemetry flights and internet downloads of telemetry data monthly. We attempt to investigate potential mortalities (i.e., mortality signals from VHF monitoring or stationary locations persisting for ≥ 24 hrs from downloaded data) within 2 weeks, to ascertain whether the bear died. For dead bears, we conduct preliminary necropsies in the field and collect relevant samples for laboratory analyses.

For adult female bears, we conduct observation flights in early spring when grizzly bears are emerging from their dens to ascertain which females have dependent offspring and the number of offspring per litter. We continue to conduct monthly telemetry flights throughout the active season to check on the monthly survival of the dependent offspring.

Results

During 2016, we radio-monitored 49 female grizzly bears during all or part of the year: 33 females monitored solely for trend and 16 females monitored for conflict management and trend. We radio-monitored 24 males during 2016: 7 for trend research, 12 for conflict management/trend research, and 5 for the electric fence research. We documented the death of 5 radio-marked females during 2016: 2 agency removals (1 anthropogenic site conflict and 1 livestock depredation), 1 vehicle kill, 1 poaching/malicious kill, and 1 natural mortality (exact cause unknown, but died in remote area in early spring). We documented the death of 2 radio-marked males during 2016: 1 agency removal and 1 defense of life/property kill in Canada. A summary of the fates of radio-marked bears during 2016 are presented in Appendix A.

We recorded the reproductive status of 43 adult females during 2016, including 6 with cubs, 14 with yearlings, 2 with 2-year-old offspring, and 21 with no offspring. First observations for reproductive status ranged from April 7 to October 14, therefore not all were representative of status from the start of the active season. We documented 3 litters with 1 cub, 2 litters with 2 cubs, and 1 litter with 3 cubs. First observations for these litters ranged from April 11 (flight observation) to October 2 (new capture). We monitored survival of 6 cub litters and 10 yearling litters through repeated observations during the year. We did not document any cub mortalities. We documented 8 known or presumed mortalities of yearlings and the known

early independence of 2 yearlings. One of the yearlings known to have separated from its mother died later in the year. A summary of the reproductive observations of radio-marked females are presented in Appendix B.

Grizzly Bear Mortalities in the NCDE

Methods

An interagency grizzly bear mortality database for the NCDE was established in 1967 by FWP and is currently maintained cooperatively through state, federal, and tribal wildlife agencies. Here, we report all of the mortalities documented throughout the NCDE during 2016. In addition, we also estimated the total number of independent (≥ 2 years old) female and male grizzly bear mortalities that occurred inside the DMA, using the method of Cherry et al. (2002) and modified by Costello et al. (2016), which inflates the documented count to an estimate summing reported and unreported mortalities.

Results

Twenty-two known or probable grizzly bear mortalities were documented in the NCDE during 2016 (Table 2). Eighteen occurred within the DMA: 12 inside the PCA and 6 within Zone 1 (Fig. 2). Four mortalities occurred outside the DMA: 3 in Zone 3 and 1 in British Columbia, Canada. This latter mortality is reported here, because the individual was radio-marked in Montana. Causes of death for independent bears were agency removal (6), automobile collisions (2), illegal defense of property (2), poaching/malicious kill (2), defense of life kill (1), illegal hunting due to mistaken identification (1), natural (1), and undetermined (1). One of the agency removals was not actually killed, but translocated to the CYE for population augmentation; however the removal was counted as a mortality for the NCDE. Causes of death

for dependent-aged bears were agency removals (4), automobile collision (1), and accidental poisoning (1). A summary of all documented mortalities in the NCDE during 2016 is reported in Appendix C.

Within the DMA, there were 9 independent females and 4 independent males that died (the other deaths were of dependent young). Using the methods of Cherry et al. (2002) and Costello et al. (2016), we estimated a total of 22 reported and unreported mortalities of independent grizzly bears within the DMA (Table 3). The documented and estimated total numbers of mortalities during 2016 were well within average for recent years (Fig. 3).

Table 2. Number of documented known or probable mortalities of grizzly bears in the NCDE, 2016.

	Ageclass	Sex		Total
		Female	Male	
Inside DMA	Dependent	4	1	5
	Independent	9	4	13
	Total	13	5	18
Outside DMA	Dependent	0	1	1
	Independent	1	2	3
	Total	1	3	4

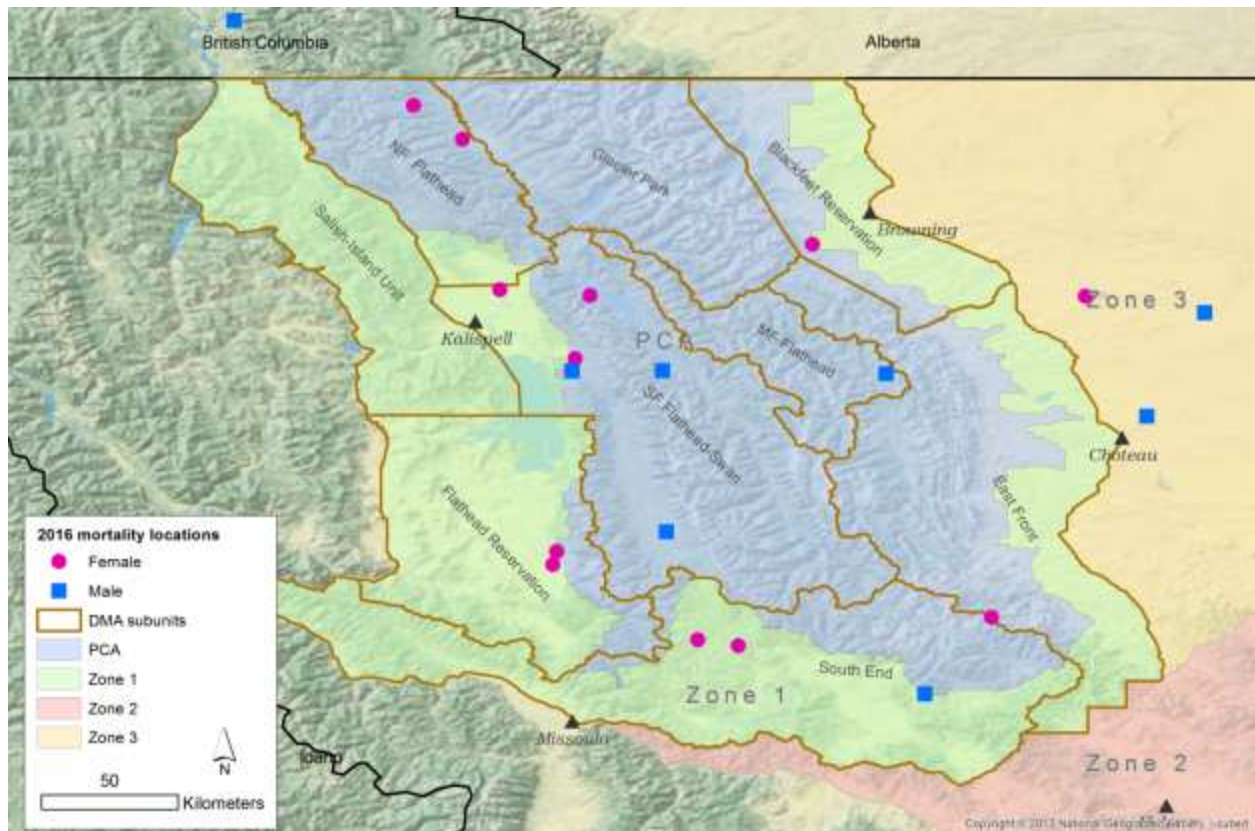


Fig. 2. Location of known and probable grizzly bear mortalities in the NCDE, 2016. Zones as described in the draft Conservation Strategy (USFWS 2013).

Table 3. Summary of independent grizzly bear mortalities within the DMA, NCDE, 2016.

Sex	Documented mortalities by method of discovery				Estimated reported and unreported ^e (C)	Estimated total mortality (A + B + C)
	Agency removal ^a (A)	Telemetry ^b (B)	Reported ^c (high)	Reported ^d (low)		
Female	3	3	1	2	11	17
Male	2	0	2	0	3	5
Total	5	3	3	2	14	22

^a Count of agency-sanctioned removals, including those involving radio-marked bears

^b Count of deaths for bears wearing functional radio-transmitters, except for agency removals

^c Count of non-radioed bear deaths reported by the public or discovered by agency personnel with high reporting rates (illegal defense-of-property, defense-of-life, train collision, automobile collisions, illegal hunting-misidentification)

^d Count of non-radioed bear deaths reported by the public or discovered by agency personnel with low reporting rates (poaching/malicious, natural, undetermined)

^e Bayesian estimate of the total number of reported and unreported deaths of non-radioed bears, predicted from the number of reported deaths of non-radioed bears in the high- and low-reporting rate categories (as per Cherry et al. 2002 and Costello et al. 2016).

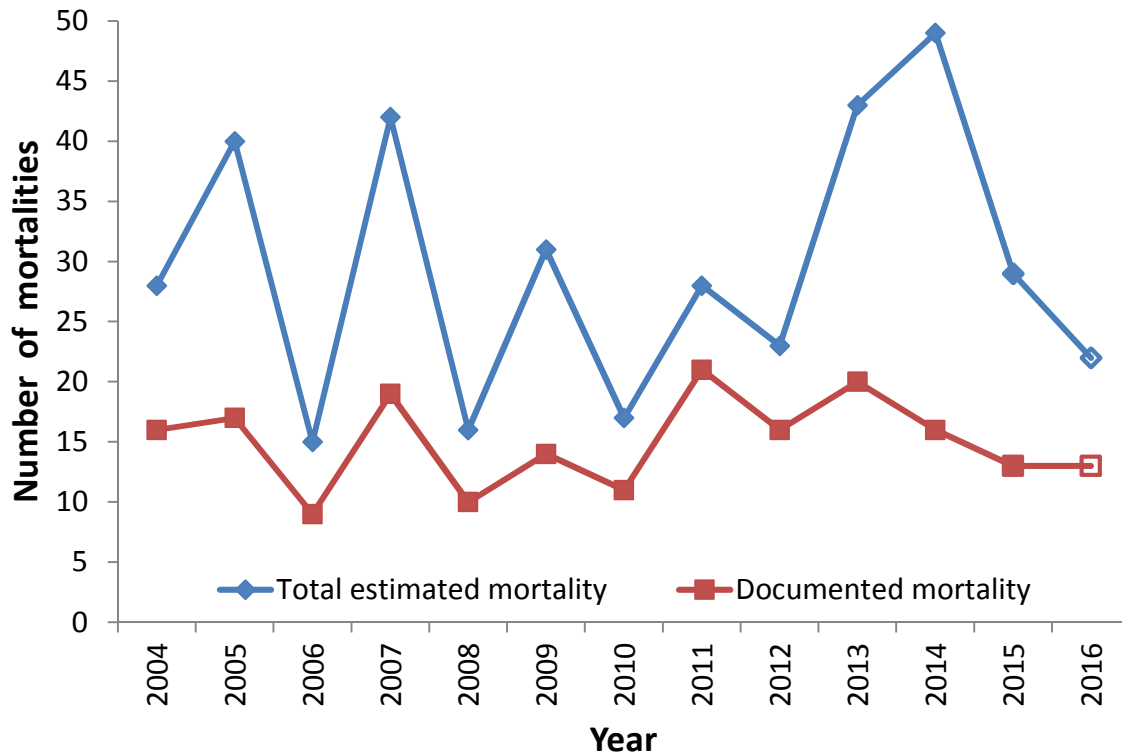


Fig. 3. Documented and estimated total mortalities (i.e., reported and unreported) of independent grizzly bears (sexes combined) within the DMA, 2004–2016.

Occupancy of Female Grizzly Bears with Offspring

Methods

We document presence of reproductive females within Bear Management Units (BMUs; USFWS 1993, USFWS 2013) each year, based on visual observations obtained from radio-marked females; verified remote camera photos; other verified visual observations; and from known or probable mortalities of family units (death of the mother, dependent young, or both). Telemetry or GPS locations of radio-marked females known to have offspring were also used to document presence. Because the BMUs are confined to the PCA, we also document presence of reproductive females in Zone 1 to encompass the entire DMA. We established

supplementary BMUs by dividing the area of Zone 1 based on the Demographic Connectivity Areas (USFWS 2013) and our DMA subunit boundaries outside of the PCA.

Results

During 2016, we verified presence of reproductive females within 14 of 23 BMUs (61%) and within 6 of 7 supplementary BMUs (86%; Fig. 4). For the 6-year period 2011-2016, all BMUs were occupied by females with offspring, thus exceeding the standard of 21 of 23 BMUs occupied (USFWS 1993, USFWS 2013). Similarly, all supplementary BMUs were occupied during the last 6 years. Using the 6-year tally, full occupancy of the PCA has been documented each year since 2009 and full occupancy of Zone 1 has been documented each year since 2013 (Appendix C).

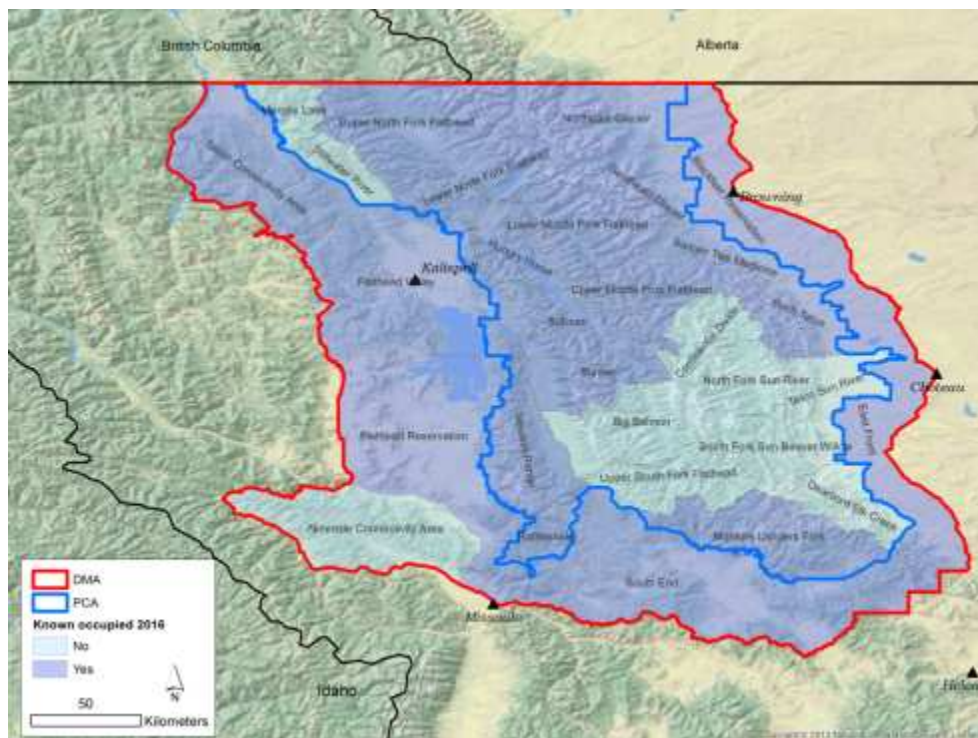


Fig. 4. Documented occupancy by female grizzly bears with offspring of the 23 BMUs within the PCA and the 7 supplementary BMUs within Zone 1 during 2016. All BMUs have been occupied during the last 6 years.

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Appendix A. Fate of radio-marked grizzly bears monitored in the NCDE, 2016.

Sex	Capture type	DMA subunit	Bear ID	Fate
Female	Research	Blackfeet Reservation	41851039	Alive
Female	Research	Blackfeet Reservation	79560108	Alive
Female	Research	Blackfeet Reservation	81289535	Alive
Female	Research	East Front	39036349	Alive
Female	Research	East Front	39088856	Alive
Female	Research	East Front	76553865	Censored
Female	Research	Flathead Reservation	18122343	Alive
Female	Research	Glacier National Park	10876305	Censored
Female	Research	Glacier National Park	10888790	Alive
Female	Research	Glacier National Park	41515561	Alive
Female	Research	Glacier National Park	55599346	Alive
Female	Research	Glacier National Park	79589512	Censored
Female	Research	Glacier National Park	79597603	Alive
Female	Research	Glacier National Park	107565854	Alive
Female	Research	Glacier National Park	107587034	Alive
Female	Research	Middle Fork Flathead River	11062853	Alive
Female	Research	Middle Fork Flathead River	28288097	Alive
Female	Research	Middle Fork Flathead River	41580379	Alive
Female	Research	North Fork Flathead River	11027854	Alive
Female	Research	North Fork Flathead River	11052544	Alive
Female	Research	North Fork Flathead River	79570382	Alive
Female	Research	North Fork Flathead River	97630806	Dead
Female	Research	Salish-Island Unit	107794628	Alive
Female	Research	South End	11036115	Dead
Female	Research	South End	55588533	Censored
Female	Research	South Fork Flathead-Swan Valley	11060268	Alive
Female	Research	South Fork Flathead-Swan Valley	11077801	Alive
Female	Research	South Fork Flathead-Swan Valley	11087071	Alive
Female	Research	South Fork Flathead-Swan Valley	36547078	Censored
Female	Research	South Fork Flathead-Swan Valley	38052875	Censored
Female	Research	South Fork Flathead-Swan Valley	41367061	Alive
Female	Research	South Fork Flathead-Swan Valley	41638009	Alive
Female	Research	South Fork Flathead-Swan Valley	79050043	Alive
Female	Management	Blackfeet Reservation	55579532	Alive
Female	Management	Blackfeet Reservation	79561849	Censored
Female	Management	Blackfeet Reservation	81279041	Alive
Female	Management	Blackfeet Reservation	81289598	Dead
Female	Management	Blackfeet Reservation	81289829	Alive
Female	Management	East Front	39050514	Dead
Female	Management	East Front	39068046	Alive

Sex	Capture type	DMA subunit	Bear ID	Fate
Female	Management	East Front	39081850	Alive
Female	Management	Flathead Reservation	18097536	Alive
Female	Management	Flathead Reservation	18122873	Alive
Female	Management	Flathead Reservation	41599633	Alive
Female	Management	North Fork Flathead River	41549027	Alive
Female	Management	Salish-Island Unit	11042536	Alive
Female	Management	South Fork Flathead-Swan Valley	10874562	Dead
Female	Management	South Fork Flathead-Swan Valley	41635876	Censored
Female	Management	South Fork Flathead-Swan Valley	93619344	Alive
Male	Research	East Front	41260019	Censored
Male	Research	Glacier National Park	11022885	Alive
Male	Research	Glacier National Park	107574339	Censored
Male	Research	Glacier National Park	107588047	Alive
Male	Research	Glacier National Park	839846626	Alive
Male	Research	South End	39859874	Alive
Male	Research	South Fork Flathead-Swan Valley	41576818	Alive
Male	Management	East Front	39036045	Alive
Male	Management	East Front	39089622	Censored
Male	Management	East Front	41559637	Alive
Male	Management	Middle Fork Flathead River	11011817	Censored
Male	Management	North Fork Flathead River	11030263	Censored
Male	Management	North Fork Flathead River	41302333	Alive
Male	Management	South End	11064335	Dead
Male	Management	South Fork Flathead-Swan Valley	41068627	Alive
Male	Management	South Fork Flathead-Swan Valley	41121283	Alive
Male	Management	South Fork Flathead-Swan Valley	41374288	Alive
Male	Management	South Fork Flathead-Swan Valley	41783121	Dead
Male	Management	South Fork Flathead-Swan Valley	84525524	Alive
Male	Other	South End	11003326	Alive
Male	Other	South End	41086114	Alive
Male	Other	South End	41089556	Alive
Male	Other	South End	41092633	Alive
Male	Other	South End	41335383	Censored

Appendix B. Observed reproductive status and fate of offspring for adult female grizzly bears monitored with radio-telemetry in the NCDE, 2016.

Capture type	DMA subunit	Bear ID	Status	Litter size	Offspring mortality
Research	Blackfeet Reservation	41851039	None		
Research	Blackfeet Reservation	79560108	Two-year-olds	2	
Research	Blackfeet Reservation	81289535	None		
Research	East Front	39036349	Yearlings		Unknown
Research	East Front	39088856	Yearlings	1	1
Research	East Front	76553865	Yearlings		Unknown
Research	Glacier National Park	10876305	None		
Research	Glacier National Park	10888790	None		
Research	Glacier National Park	41515561	Yearlings	1	0
Research	Glacier National Park	55599346	None		
Research	Glacier National Park	79589512	None		
Research	Glacier National Park	79597603	None		
Research	Glacier National Park	107565854	Yearlings	1	1
Research	Glacier National Park	107587034	Yearlings	2	
Research	Middle Fork Flathead River	11062853	Yearlings	1	1
Research	Middle Fork Flathead River	28288097	None		
Research	Middle Fork Flathead River	41580379	None		
Research	North Fork Flathead River	11027854	None		
Research	North Fork Flathead River	11052544	None		
Research	North Fork Flathead River	79570382	None		
Research	Salish-Island Unit	107794628	Cubs	2	0
Research	South End	55588533	None		
Research	South Fork Flathead-Swan Valley	11060268	None		
Research	South Fork Flathead-Swan Valley	11077801	Yearlings	1	1
Research	South Fork Flathead-Swan Valley	11087071	Two-year-olds	1	
Research	South Fork Flathead-Swan Valley	36547078	None		
Research	South Fork Flathead-Swan Valley	38052875	Cubs	3	0
Research	South Fork Flathead-Swan Valley	41367061	Cubs	2	0
Research	South Fork Flathead-Swan Valley	41638009	Yearlings	2	1
Research	South Fork Flathead-Swan Valley	79050043	Cubs	1	0
Management	Blackfeet Reservation	55579532	None		
Management	Blackfeet Reservation	79561849	None		
Management	Blackfeet Reservation	81279041	Yearlings	2	0
Management	Blackfeet Reservation	81289829	None		
Management	East Front	39050514	Yearlings	2	2 ^a
Management	East Front	39068046	None		
Management	East Front	39081850	None		
Management	Flathead Reservation	18097536	Yearlings	2	1

Capture type	DMA subunit	Bear ID	Status	Litter size	Offspring mortality
Management	Flathead Reservation	18122873	Cubs	1	0
Management	North Fork Flathead River	41549027	None		
Management	South Fork Flathead-Swan Valley	10874562	Yearlings	2	2
Management	South Fork Flathead-Swan Valley	41635876	Yearlings	1	Unknown
Management	South Fork Flathead-Swan Valley	93619344	Cubs	1	0

^a Early independence, one yearling known to have died after separation from mother

Appendix C. Summary of known and probable grizzly bear mortalities in the NCDE, 2016.

Mortality date	Date accuracy	DMA	Sex	Ageclass	Bear ID	Collared	Cause
4/29/2016	Day	Inside	Female	Subadult	11088109	No	Illegal defense of property
4/29/2016	Day	Outside	Male	Adult		No	Defense of life
5/21/2016	Day	Inside	Female	Subadult	11036115	Yes	Poached/Malicious
5/30/2016	Week	Inside	Female	Adult		No	Poached/Malicious
5/31/2016	Day	Outside	Female	Adult	39050514	Yes	Agency removal (livestock)
6/11/2016	Day	Inside	Female	Subadult	81289598	Yes	Automobile
6/20/2016	Months	Inside	Female	Adult		No	Undetermined
7/15/2016	Day	Inside	Female	Adult	10874562	Yes	Agency removal (site conflict)
7/15/2016	Day	Inside	Female	Yearling	41088832	No	Agency removal (site conflict)
7/15/2016	Day	Inside	Male	Yearling	42378567	No	Agency removal (site conflict)
7/23/2016	Day	Inside	Male	Subadult	41075597	No	Augmentation
8/1/2016	Day	Inside	Female	Adult	41566805	No	Agency removal (site conflict)
4/14/2016	Month	Inside	Female	Adult	97630806	Yes	Natural
9/1/2016	Day	Inside	Male	Subadult	11064335	Yes	Agency removal (site conflict)
9/6/2016	Day	Inside	Male	Adult	36555639	No	Automobile
9/6/2016	Day	Inside	Female	Cub	41123826	No	Agency removal (orphaned)
9/6/2016	Day	Inside	Female	Cub	41561585	No	Agency removal (orphaned)
9/20/2016	Day	Inside	Female	Adult	76584107	No	Agency removal (humane)
9/21/2016	Day	Outside	Male	Subadult	41783121	Yes	Illegal defense of property
9/29/2016	Week	Inside	Male	Subadult		No	Hunting (mistaken ID)
9/26/2016	Week	Outside	Male	Yearling	39070613	No	Accidental (poisoning)
11/23/2016	Day	Inside	Female	Cub		No	Automobile

Appendix D. Occupancy by female grizzly bears with offspring, within 23 Bear Management Units (BMUs) within the PCA and 7 supplementary BMUs within Zone 1. Shading signifies years when occupation was verified within a 6-year period ending with the current year.

Bear Occupancy Unit	Year												
	2004	05	06	07	08	09	10	11	12	13	14	15	2016
Monture Landers Fork	0	1	0	0	0	0	1	1	1	1	1	1	1
Rattlesnake	0	0	1	1	0	1	1	0	1	1	1	0	1
Upper South Fork Flathead	0	0	1	1	0	1	1	0	1	1	0	0	0
Mission Range	1	1	1	1	1	1	1	1	1	1	1	1	1
Big Salmon	0	0	1	1	0	1	1	0	1	1	1	0	0
Dearborn Elk Creek	0	0	0	0	0	1	1	0	1	0	0	0	0
South Fork Sun Beaver Willow	0	0	0	0	0	0	1	0	0	0	0	1	0
Teton Sun River	1	1	1	1	0	1	1	1	1	1	1	1	0
Bunker	1	1	1	1	0	1	1	1	1	1	1	1	1
North Fork Sun River	0	1	0	0	0	0	0	1	1	0	0	0	1
Continental Divide	1	0	0	1	0	1	0	1	1	0	0	0	1
Sullivan	1	1	1	1	1	1	1	1	1	1	1	1	1
Birch Teton	0	0	1	1	1	1	1	1	1	1	0	1	1
Upper Middle Fork Flathead	1	1	0	1	0	1	0	1	1	1	1	1	1
Badger Two Medicine	1	0	1	1	1	1	1	1	1	1	1	1	1
Hungry Horse	1	1	1	1	1	1	1	1	1	1	1	1	1
Lower Middle Fork Flathead	1	1	1	1	1	1	1	1	1	1	1	1	1
Southeast Glacier	0	0	1	1	1	1	1	1	0	1	1	1	1
Lower North Fork Flathead	1	1	1	1	1	1	1	1	1	1	1	1	1
Stillwater River	0	1	1	1	1	1	1	0	1	1	1	0	0
Northeast Glacier	0	1	1	1	1	1	1	1	1	1	1	1	1
Upper North Fork Flathead	1	1	1	1	1	1	1	1	1	1	1	1	1
Murphy Lake	1	1	1	1	1	0	1	1	1	0	1	0	0
Occupied during year	12	14	17	19	12	19	20	17	21	18	17	15	14
Occupied during last 6 years	12	16	21	21	21	22	23	23	23	23	23	23	23
Salish Connectivity Area	1	1	1	1	0	1	1	1	1	1	1	0	1
S Fork Flathead-Swan Valley	1	0	1	1	1	1	1	1	1	1	1	1	1
Flathead Reservation	0	0	1	1	1	1	1	1	1	1	1	1	1
Ninemile Connectivity Area	0	0	0	0	0	0	0	0	0	1	0	0	0
South End	0	1	0	1	0	0	1	1	1	1	1	1	1
East Front	1	1	1	1	1	1	1	1	1	0	0	1	1
Blackfoot Reservation	1	1	1	1	1	1	1	0	0	1	1	1	1
Occupied during year	4	4	5	6	4	5	6	5	5	6	5	5	6
Occupied during last 6 years	4	5	6	6	6	6	6	6	6	7	7	7	7