

2012 Wyoming Grizzly Bear Job Completion Report



Wyoming Game and Fish Department July 1, 2013

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TABLE OF CONTENTS

INTRODUCTION..... 3

POPULATION MONITORING TRAPPING SUMMARY..... 3

SUMMARY OF OBSERVATION FLIGHTS..... 5

MOTH SITE USE BY GRIZZLY BEARS..... 7

DISTRIBUTION ANALYSIS..... 14

SECTION 6 FUNDING REQUEST..... 15

GRIZZLY BEAR RELOCATIONS AND REMOVALS..... 18

CONFLICT REPORT..... 25

GRIZZLY BEAR MORTALITIES..... 28

BEAR WISE COMMUNITY REPORT..... 29

INFORMATION AND EDUCATION REPORT..... 36

INTRODUCTION

This completion report summarizes all 2012 grizzly bear work items that were completed by the Wyoming Game and Fish Department's (Department) Large Carnivore Section (LCS) and regional personnel. In the past, this information was included in multiple reports that were not readily available to agency personnel, the legislature, or the public. This report allows the Department to present information pertaining to grizzly bears in Wyoming in 1 document so that it is available to all interested parties.

POPULATION MONITORING TRAPPING SUMMARY

Annual trapping of grizzly bears has traditionally been labeled as "research" even though it should be considered part of the annual monitoring that must be completed to adequately manage grizzly bears. This activity is not dissimilar to the annual monitoring programs that the Department completes to manage other species, especially big game. In addition, data collected during annual monitoring activities have been used for various research projects.

Population demographics data obtained from captured animals and radio collar locations are a vital component of the overall monitoring program for grizzly bears. This information provides survival by sex and age to assure that we can accurately monitor the mortality thresholds that must be maintained per our commitment under the Final Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Area (2007). Survival estimates are a significant parameter to monitor each year as trends in survival drive the trajectory of the population.

One of the goals of this capture effort is to keep approximately 25 females radio-collared each year across the Greater Yellowstone Ecosystem (GYE). This assures that survival rates that are representative of the entire ecosystem are monitored. Wyoming's commitment in this effort is maintain approximately 10 radio-marked females on the air each year that spatially represents distribution of females in the state.

Grass Creek

The Department began grizzly bear trapping activities in the Grass Creek area on April 24, 2012. Due to low winter snowpack and early melt, we were able to gain access to the majority of traditional trap sites earlier than in previous trap efforts. We trapped in both the Grass Creek and Cottonwood drainages with a total of 10 trap sites set during the duration of trapping activities. A great deal of collaboration occurred between regional Department personnel, the U. S. Bureau of Land Management, the U. S. Forest Service, private landowners/ranches, and the Large Carnivore Section. We captured a total of 5 grizzly bears.

Table 1. Grizzly bears captured during population monitoring efforts in Grass Creek Wyoming, 2012.

Bear ID	Capture Date	Sex/Age	Location	Collar
700	5/3/12	Adult male	Carmichael Draw	VHF collar
703	5/11/12	Adult female w/ 3 yearlings	Little Grass Creekr	VHF collar
519	5/12/12	Adult male	Cottonwood Creek	VHF collar
538	5/13/12	Adult male	Carmichael Draw	No collar
705	5/19/12	Subadult male	Carmichael Draw	VHF collar

Blackrock

In late-June and early-July we conducted trapping operations to monitor population demographics and effects of whitebark pine loss on grizzly bears in the Blackrock area of the Bridger-Teton National Forest. One of the main questions raised in opposition to grizzly bear delisting was that we cannot be sure that the grizzly population will persist in the face of loss of whitebark pine due to mountain pine beetles. In order to address that issue, we conducted efforts to radio collar grizzly bears in an area where whitebark occurs, but has seen declines in the past 5+ years. The deployed GPS collars allow remote download of collar locations, which can then be used by a habitat crew to retrace the bear's locations and determine habitat use, including use of whitebark pine. Bears in this area were studied in the same manner prior to whitebark pine declines, allowing a comparison of whitebark pine use pre- and post-decline. We can also compare survival, reproduction, distribution, and movements of bears we collared in our 2012 efforts with those of the bears collared in previous efforts.

Trapping began in the Blackrock area on June 11, 2012. Eleven trap sites (5 culverts, 6 snares) were set in the area. Seven individual grizzly bears were captured and radio collars were placed on 6 of them:

Table 2. Grizzly bears captured during population monitoring efforts in Blackrock Wyoming, 2012.

Bear ID	Capture Date	Sex/Age	Location	Collar
702	6/16/12	Subadult female	Moosehorn Flats	GPS collar
G180	6/18/12	Subadult male	Four Mile	No collar
526	6/21/12	Subadult male	Kettle Creek	VHF collar
179	6/25/12	Adult female	Skull Creek	GPS collar
674	6/27/12	Adult male	N. Fork Spread Creek	GPS collar
702	6/29/12	Subadult female	Kettle Creek	Recapture
718	7/12/12	Adult female	Two Ocean	GPS collar
648	7/12/12	Adult male	Kettle Creek	VHF collar

Upper Gros Ventre

Trapping efforts were initiated in the Upper Gros Ventre River, primarily in the Soda Creek and Bridge Creek Drainages, on August 8, 2012. All trap sites were in wilderness areas and horses were implemented for setup and trap-checking. We used foothold snares at 4 trap sites ranging in elevation from 8,466 to 10,117 ft. This effort was the first time trapping activities have occurred for monitoring purposes in the Gros Ventre drainage and data will augment our distribution modeling and overall demographics information for grizzly bears in this area and

throughout the ecosystem. A great deal of collaboration occurred between regional Department personnel, U. S. Forest Service, private landowners/livestock producers, and the Large Carnivore Section. We captured 1 adult male grizzly bear.

Table 3. Grizzly bears captured during population monitoring efforts in upper Gros Ventre Wyoming, 2012.

Bear ID	Capture Date	Sex/Age	Location	Collar
729	8/23/12	Adult male	Lower Soda Creek	GPS collar

SUMMARY OF OBSERVATION FLIGHTS

In 2012, Grizzly Bear Observation Units (GBOUs) in southern portions of the GYE (Figure 1) were only flown once due to efforts to reduce flight time and low sightability of grizzly bears in these areas. This round was conducted in June to maximize potential for observations in these units. Northern GBOU's were flown twice, once each in July and August. Total observations during Round 1 increased to 219 grizzly bears compared to 141 grizzly bears in 2011 (Table 4). Low snowfall and early snowmelt in the winter of 2011-12 created favorable conditions for moths to colonize some traditional sites in talus slopes in 2012, particularly in eastern GBOUs. The number of females with cubs-of-year (F_{coy}) observed in Round 1 was double that of 2011, with 20 observed in 2012 compared to 10 in 2011.

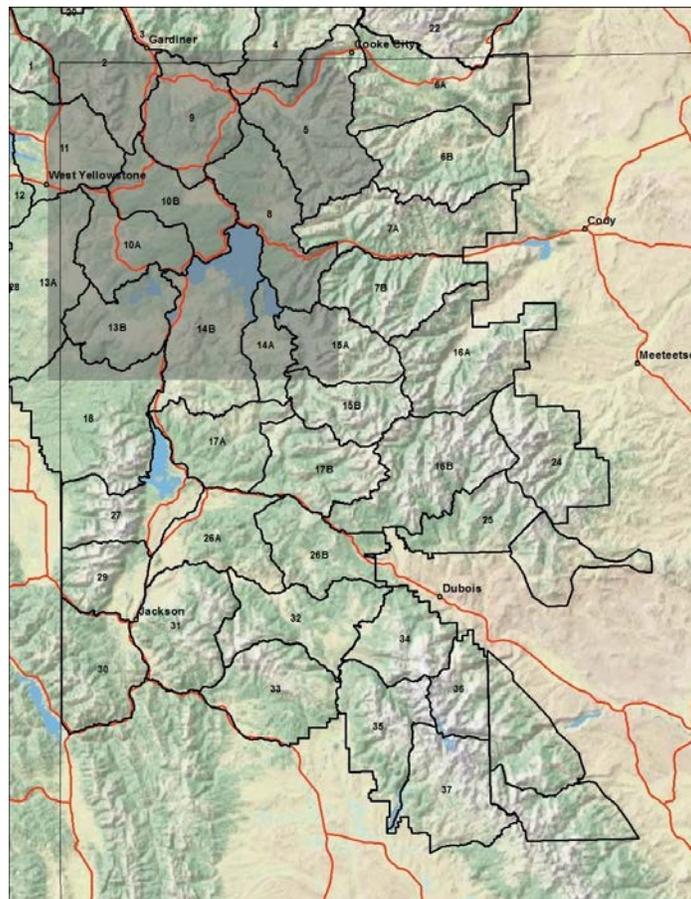


Figure 1. Grizzly Bear Observation Units (GBOU's).

For the second round of flights in August 2012, only northern GBOUs were flown. Comparing units between Round 1 and Round 2, the number of grizzly bears observed was significantly lower than in Round 1 (Table 5), likely a result of a reduction in the number of army cutworm moths due to dry conditions in the alpine tundra. However, a total of 145 grizzly bears were observed during Round 2 in 2012, compared to 134 in 2011. Twelve F_{coy} groups were observed during Round 2 in 2012 compared to 10 in 2011, 15 in 2010, 30 in 2008, and 19 in 2009.

It should be noted that these data, alone, should not be used to determine population status or trends in the number of F_{coy} groups. Not all F_{coy} groups observed will count toward the population estimate until they have been analyzed to determine whether they are unique (non-duplicate) sightings.

Table 4. Composition of grizzly bears observed in Round 1 during 2012 observation surveys in Wyoming.

		Females with COY			Females with Yrlngs			Females with 2 YO			All Other Grizzly Bears
		# of COY			# of Yrlngs			# of 2 Yr Olds			
Date	Unit	1	2	3	1	2	3	1	2	3	
7/17	6A	0	0	0	0	0	0	0	0	0	0
7/16	6B	0	0	0	0	0	0	1	0	0	9
7/17	7A	0	0	0	0	0	0	0	0	0	5
7/28	7B	0	0	0	0	0	0	1	0	0	9
7/14	15A	1	1	0	0	0	0	0	0	0	7
7/18	15B	0	2	0	0	0	0	0	0	0	15
7/23	16A	1	6	0	0	0	1	1	0	0	17
7/24	16B	2	3	0	0	0	1	0	0	0	24
7/30	17A	0	0	0	0	0	0	0	0	0	2
7/26	17B	0	3	0	0	0	0	1	0	0	4
7/19	24	0	1	0	0	1	1	0	0	0	33
7/25	25	0	0	0	0	0	0	0	0	0	3
6/16	26A	0	0	0	0	0	0	0	0	0	2
6/4	26B	0	0	0	0	0	0	0	0	0	0
6/12	29	0	0	0	0	0	0	0	0	0	0
6/7	30	0	0	0	0	0	0	0	0	0	0
6/8	31	0	0	0	0	0	0	0	0	0	0
6/15	32	0	0	0	0	0	0	0	0	0	0
6/15	33	0	0	0	0	0	0	0	0	0	0
6/13	34	0	0	0	0	0	0	0	0	0	1
6/12	35	0	0	0	0	0	0	0	0	0	1
6/11	36	0	0	0	0	0	0	0	0	0	0
6/14	37	0	0	0	0	0	0	0	0	0	0
All Areas		4	16	0	1	3	4	0	0	1	132

Total # of Bears Observed – 219

Table 5. Composition of grizzly bears observed in Round 2 during 2012 observation surveys in Wyoming.

Date	Unit	Females with COY			Females with Yrlg			Females with 2 YO			All Other Grizzly Bears
		# of COY			# of Yrlg			# of 2 Yr Olds			
		1	2	3	1	2	3	1	2	3	
7/17	6A	0	0	0	0	0	0	0	0	0	1
7/16	6B	0	1	0	0	0	0	0	0	0	8
7/17	7A	0	0	0	0	2	0	0	0	0	2
7/28	7B	0	1	0	0	0	1	0	0	0	14
7/14	15A	0	0	0	0	0	0	0	0	0	2
7/18	15B	1	1	0	0	0	0	0	0	0	9
7/23	16A	0	3	0	0	1	2	0	0	0	8
7/24	16B	1	0	0	0	0	1	1	0	0	3
7/30	17A	0	0	0	0	0	0	0	0	0	0
7/26	17B	0	0	0	0	0	0	0	0	0	3
7/19	24	2	2	0	0	0	1	0	0	0	33
7/25	25	0	0	0	0	0	0	0	0	0	1
All Areas		4	8	0	3	5	1	0	0	1	84

Total # of Bears Observed – 145

MOTH SITE USE BY GRIZZLY BEARS

Grizzly Bear Use of Insect Aggregation Sites Documented from Aerial Telemetry and Observations (Dan Bjornlie, Wyoming Game and Fish Department; and Mark Haroldson, Interagency Grizzly Bear Study Team)

Army cutworm moths (*Euxoa auxiliaris*) were first recognized as an important food source for grizzly bears in the GYE during the mid-1980s (Mattson et al. 1991b, French et al. 1994). Early observations indicated that moths, and subsequently bears, showed specific site fidelity. These sites are generally high alpine areas dominated by talus and scree adjacent to areas with abundant alpine flowers. Such areas are referred to as “insect aggregation sites.” Since their discovery, numerous bears have been counted on or near these aggregation sites due to excellent sightability from a lack of trees and simultaneous use by multiple bears.

Complete tabulation of grizzly presence at insect sites is extremely difficult. Only a few sites have been investigated by ground reconnaissance and the boundaries of sites are not clearly known. In addition, it is likely that the size and location of insect aggregation sites fluctuate from year to year with moth abundance and variation in environmental factors such as snow cover.

Since 1986, when insect aggregation sites were initially included in aerial observation surveys, our knowledge of these sites has increased annually. Our techniques for monitoring grizzly bear use of these sites have changed in response to this increase in knowledge. Prior to 1997, we delineated insect aggregation sites with convex polygons drawn around locations of bears seen

feeding on moths and buffered these polygons by 500 m. The problem with this technique was that small sites were overlooked due to the inability to create polygons around sites with fewer than 3 locations. From 1997-99, the method for defining insect aggregation sites was to inscribe a 1-km circle around the center of clusters of observations in which bears were seen feeding on insects in talus/scree habitats (Ternent and Haroldson 2000). This method allowed trend in bear use of sites to be annually monitored by recording the number of bears documented in each circle (i.e., site).

A new technique was developed in 2000 (D. Bjornlie, Wyoming Game and Fish Department, personal communication). Using this technique, sites were delineated by buffering only the locations of bears observed actively feeding at insect aggregation sites by 500 m to account for error in aerial telemetry locations. The borders of the overlapping buffers at individual insect sites were dissolved to produce a single polygon for each site. These sites are identified as “confirmed” sites. Because these polygons are only created around feeding locations, the resulting site conforms to the topography of the mountain or ridge top where bears feed and does not include large areas of non-talus habitat that are not suitable for cutworm moths. Locations from the grizzly bear location database from July 1 through September 30 of each year were then overlaid on these polygons and enumerated. The technique to delineate confirmed sites developed in 2000 substantially decreased the number of sites described compared to past years in which locations from both feeding and non-feeding bears were used. Therefore, annual analysis for this report is completed for all years using this technique. Areas suspected as insect aggregation sites but dropped from the confirmed sites list using this technique, as well as sites with only one observation of an actively feeding bear or multiple observations in a single year, are termed “possible” sites and will be monitored in subsequent years for additional observations of actively feeding bears. These sites may then be added to the confirmed sites list. When possible sites are changed to confirmed sites, analysis is done on all data back to 1986 to determine the historic use of that site. Therefore, the number of bears using insect aggregation sites in past years may change as new sites are added, and data from this annual report may not match that of past reports. In addition, as new actively feeding bear observations are added to existing sites, the polygons defining these sites increase in size and, thus, more overlaid locations fall within the site. This retrospective analysis brings us closer each year to the “true” number of bears using insect aggregation sites in past years.

In 2012, there was 1 observation of a grizzly bear actively feeding on a previously unknown insect aggregation site. This site was classified as a possible site and will be monitored for future use. Adding the new possible site to the 2011 sites produced 37 confirmed sites and 17 possible sites for 2012.

The percentage of confirmed sites with documented use by bears varies from year to year, suggesting that some years have higher moth activity than others (Figure 2). For example, 1993-95 were probably poor moth years because the percentage of confirmed sites used by bears (Figure 2) and the number of observations recorded at insect sites (Table 6) were low. In 2012, the percentage of insect aggregation sites used by grizzly bears increased by 5% (Figure 2). However, 2012 was a record year for the number of grizzly bear observations or telemetry relocations at sites; more than double the 2007-12 mean of 198.2 (Table 6). The number of insect aggregation sites used by bears in 2012 increased by 2 sites to 27 (Table 6) and was higher than the 5-year mean of 24.2 sites/year from 2007-11.

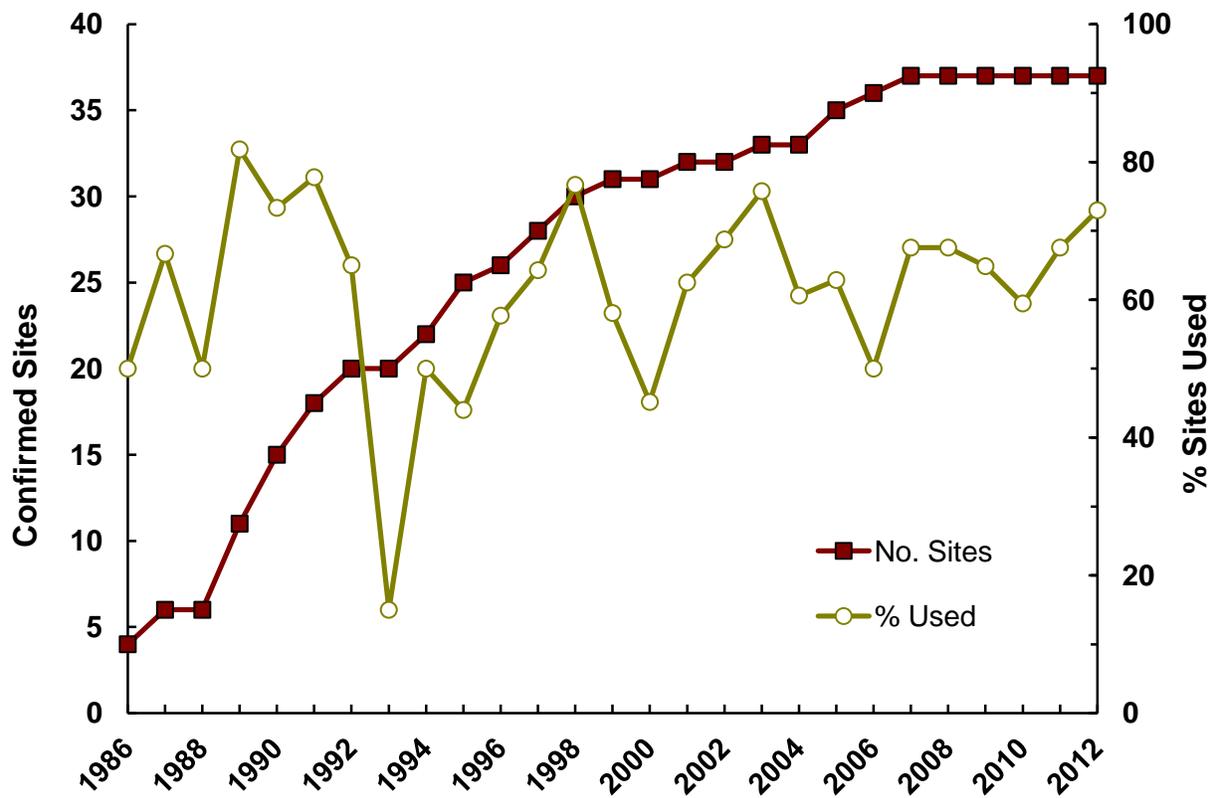


Figure 2. Annual number of confirmed insect aggregation sites and percent of those sites at which either telemetry relocations of marked bears or visual observations of unmarked bears were recorded, GYE, 1986-2012.

Table 6. The number of confirmed insect aggregation sites in the GYE annually, the number used by bears, and the total number of aerial telemetry relocations and ground or aerial observations of bears recorded at sites during 1986-2012.

Year	Number of confirmed moth sites ^a	Number of sites used ^b	Number of aerial telemetry relocations	Number of ground or aerial observations
1986	4	2	5	5
1987	6	4	7	8
1988	6	3	12	29
1989	11	9	11	42
1990	15	11	8	76
1991	18	14	12	166
1992	20	13	6	100
1993	20	3	1	2
1994	22	11	1	28
1995	25	11	7	37
1996	26	15	21	66
1997	28	18	18	79
1998	30	23	11	176
1999	31	18	25	156
2000	31	14	42	89
2001	32	20	25	122
2002	32	22	36	240
2003	33	25	10	161
2004	33	20	2	131
2005	35	22	15	183
2006	36	18	18	179
2007	37	25	15	174
2008	37	25	23	221
2009	37	24	9	177
2010	37	22	4	162
2011	37	25	9	197
2012	37	27	22	385
Total			375	3391

^a The year of discovery was considered the first year a telemetry location or aerial observation was documented at a site. Sites were considered confirmed after additional locations or observations in a subsequent year and every year thereafter regardless of whether or not additional locations were documented.

^b A site was considered used if ≥ 1 location or observation was documented within the site that year.

The Interagency Grizzly Bear Study Team (IGBST) maintains an annual list of unduplicated F_{coy} (Table 7). Since 1986, 907 initial sightings of unduplicated F_{coy} have been recorded, of which 242 (26.7%) have occurred at (within 500 m, $n = 226$) or near (within 1,500 m, $n = 16$) insect aggregation sites (Table 7). In 2012, 13 of the 49 (26.5%) initial sightings of unduplicated F_{coy} were observed at insect aggregation sites, higher than the 17.9% from 2011 (Table 7) and the 5-year mean of 21.8% from 2007-2011.

Survey flights at insect aggregation sites contribute to the count of unduplicated F_{coy} ; however, it is typically low, with a mean of 11.9 initial sightings/year since 2003 (Table 7). If these sightings are excluded, a similar trend in the annual number of unduplicated sightings of F_{coy} is still evident (Figure 3), suggesting that other factors besides observation effort at insect aggregation sites are responsible for the increase in sightings of F_{coy} .

Table 7. Number of initial sightings of unduplicated F_{COY} that occurred on or near insect aggregation sites, number of sites where such sightings were documented, and the mean number of sightings per site in the GYE, 1986-2012.

Year	Unduplicated females with COY ^a	Number of moth sites with an initial sighting ^b	Initial sightings			
			Within 500 m ^b		Within 1,500 m ^c	
			N	%	N	%
1986	25	0	0	0.0	0	0.0
1987	13	0	0	0.0	0	0.0
1988	19	1	2	10.5	2	10.5
1989	16	1	1	6.3	1	6.3
1990	25	3	3	12.0	4	16.0
1991	24	8	12	50.0	14	58.3
1992	25	5	7	28.0	9	36.0
1993	20	1	1	5.0	1	5.0
1994	20	3	5	25.0	5	25.0
1995	17	2	2	11.8	2	11.8
1996	33	7	7	21.2	7	21.2
1997	31	8	11	35.5	11	35.5
1998	35	10	13	37.1	13	37.1
1999	33	3	6	18.2	7	21.2
2000	37	6	8	21.6	10	27.0
2001	42	6	12	28.6	13	31.0
2002	52	11	17	32.7	17	32.7
2003	38	11	19	50.0	20	52.6
2004	49	11	16	32.7	16	32.7
2005	31	5	7	22.6	9	29.0
2006	47	11	14	29.8	15	31.9
2007	50	10	17	34.0	17	34.0
2008	44	7	11	25.0	14	31.8
2009	42	4	6	14.3	6	14.3
2010	51	7	9	17.6	9	17.6
2011	39	7	7	17.9	7	17.9
2012	49	7	13	26.5	13	26.5
Total	907		226		242	
Mean	33.6	5.7	8.4	22.6	9.0	24.6

^a Initial sightings of unduplicated females with COY; see Table 4.

^b Insect aggregation site is defined as a 500-m buffer drawn around a cluster of observations of bears actively feeding.

^c This distance is 3 times what is defined as an insect aggregation site for this analysis, since some observations could be made of bears traveling to and from insect aggregation sites.

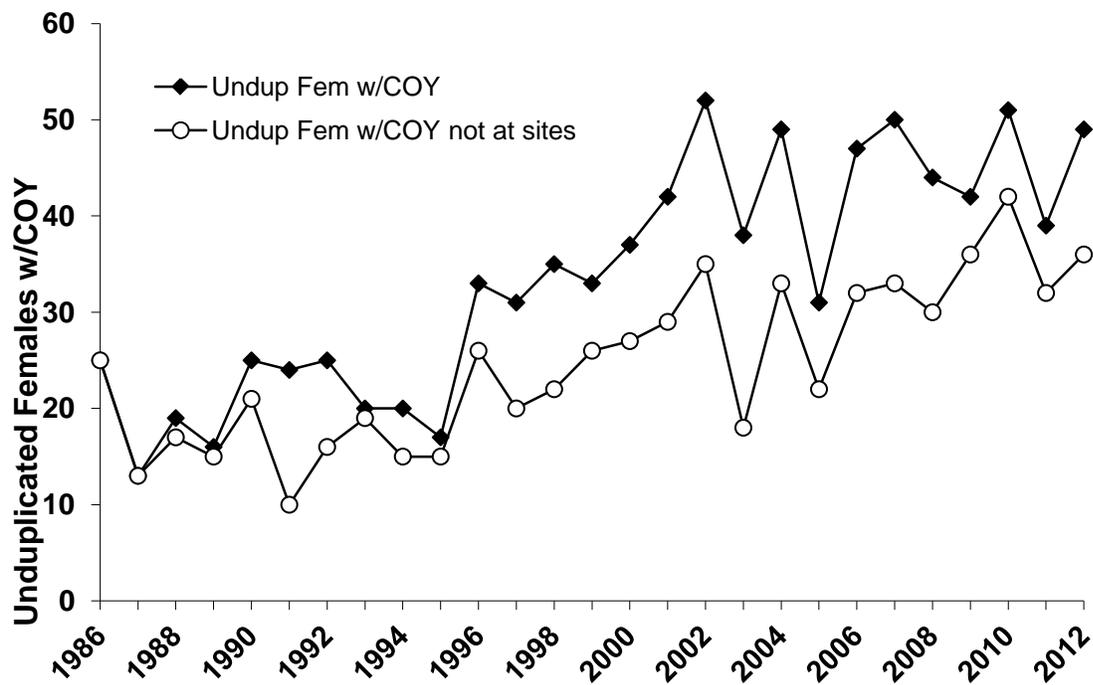


Figure 3. The total number of unduplicated females with COY observed annually in the Greater Yellowstone Ecosystem and the number of unduplicated females with COY *not* found within 1500m of known insect aggregation sites, 1986-2012.

DISTRIBUTION ANALYSIS

Methods to Estimate Distribution and Range Extent of Grizzly Bears in the Greater Yellowstone Ecosystem

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ABSTRACT: As debate over grizzly bear (*Ursus arctos*) delisting under Federal ESA persists, the distribution of the GYE grizzly bear population has expanded into areas unoccupied since the early 20th century. Up-to-date information on the area and extent of this distribution is crucial for federal, state, and tribal wildlife and land managers to make informed decisions regarding grizzly bear management. The most recent estimate of grizzly bear distribution (2004) utilized fixed kernel density estimators to describe distribution. This method was logistically cumbersome and excluded observations of unmarked bears. Our objective was to develop a technique to generate an estimate of grizzly bear distribution that would allow for the use of all verified grizzly bear location data, as well as provide the simplicity to be updated more frequently. We placed grizzly bear locations from 1990-2004 and 1990-2010 onto a 3km x 3km grid and used nearest neighbor analysis and ordinary kriging to develop a predicted surface of grizzly bear distribution. We compared the area and extent of the 2004 kriging surface to the previous 2004 effort and evaluated changes in grizzly bear distribution from 2004-10. The 2004 kriging surface was 2.4% smaller than the previous fixed kernel estimate, but represented the data closely. Grizzly bear distribution increased 38.3% from 2004-10, with most expansion in the northern and southern regions of the range. This technique can be used to provide a current estimate of grizzly bear distribution for management and conservation applications.

SECTION 6 FUNDING REQUEST

	<p>ENDANGERED SPECIES SECTION 6 FUNDING</p> <p>PROGRAM NARRATIVE STATEMENT</p> <p>WYOMING E-1-91</p>
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Title:	Grizzly Bear
Total Cost:	\$100,000 (\$75,000 USFWS and \$25,000 WGFD match) - This includes temporary personnel, salaries, supplies, travel, and surveys.
Time Period:	July 1, 2013 – June 30, 2014
Project Leader:	<p>Mark Bruscano, Large Carnivore Section Supervisor 2820 State Hwy. 120, Cody, WY 82414</p> <p>Tara Teaschner, Information & Education Coordinator 2820 State Hwy, 120, Cody, WY 82414</p>
Location:	The program area encompasses all areas within the state of Wyoming in the Yellowstone Ecosystem outside of Yellowstone and Grand Teton National Parks. Additional activities may be completed within Yellowstone and Grand Teton National Parks in conjunction with the National Parks. Coordination also occurs between the WGFD and appropriate National Forests, Bureau of Land Management, U.S. Fish and Wildlife Service, and state lands as required.
Need:	<p>The Department's grizzly bear program involves research/management projects designed to determine various population characteristics and habitat use of grizzly bears in the southern third of the Yellowstone Ecosystem and to manage grizzly bear/livestock and human interactions.</p> <p>Management programs are directed towards monitoring the grizzly bear population trend through observation flights that define the distribution of grizzly bears within bear management units (BMUs), document females with cubs of the year and detailed monitoring of radio-collared individuals to assess important movement, seasonal habitat use, food selection, and survival estimates.</p> <p>Due to the long-lived, wide-ranging characteristics of grizzly bears, adequate information is needed for sound management decisions. Additional data will be needed to show trends in grizzly bear activities associated with road construction, timber management, mineral development, and cattle grazing in the southern BMU, especially in areas outside the recovery area, which are presently occupied by grizzly bears.</p> <p>The state currently funds one seasonal trap personnel; however, additional funds are requested for 1 additional person to assist in trapping grizzly bears and conducting remote camera surveys to document distribution and expansion of the population into the Wyoming Range and the southern portions of the Wind River Range. The state will fund the necessary training, supplies, travel, vehicles, and other associated equipment for these positions.</p> <p>Priority conflict efforts include responding to all nuisance bear complaints. All known mortalities are investigated in cooperation with the U.S. Fish and Wildlife Service. Bears involved in nuisance conflicts will be trapped as required. Grizzly bear/human conflict management will continue to be a high priority during recovery and management of the Yellowstone area grizzly bear population. Conflict management is essential to reducing human caused bear mortalities and maintaining public support of recovery efforts. Section 6 funds are needed to assist with local working groups to increase public awareness of bear safety issues. Section 6 funding has previously been used to offset some of the costs for radio</p>

	<p>collars and aerial surveys, including telemetry flights to determine grizzly bear locations. Without section 6 funding, manpower, population and habitat data collection, and response rates to manage nuisance grizzly bears would be decreased. Previous allocations of Section 6 funds have not adequately covered the costs of the above items, which may hinder data collection to assure that monitoring is completed as described in the Conservation Strategy (CS). Additional funds are required to assure that aerial relocation schedules can be maintained.</p>
<p>Objectives:</p>	<ol style="list-style-type: none"> 1) Assist IGBST in determining food habits, habitat use, distribution, population trend, allowable mortality thresholds, and other important parameters for grizzly bears within the southern BMUs, 2) Provide comparative data to that already gathered by the Interagency Grizzly Bear Study Team (IGBST), Idaho, and Montana, 3) And manage bear/human interaction, bear/livestock interaction and mortality data specific for each BMU to aid state and federal managers in minimizing human caused mortalities. 4) Continue to provide important information and educational efforts to assist with bear awareness issues, distribute information to hunters and other publics on bear safety, and continue to conduct numerous workshops on how to live safely in areas occupied by bears.
<p>Approach:</p>	<ol style="list-style-type: none"> 1) <u>Trapping and Handling</u> Bears will be captured using Aldrich foot snares and trailer mounted culvert traps. Each animal will be ear tagged, lip tattooed for later identification, and fitted with a radio-collar. All collars are modified to fall off within 2 years using cotton spacers. Research-trapping efforts for grizzly bears are to be conducted on the Shoshone (SNF) and Bridger Teton (BTNF) National Forests, as well as BLM and private lands, as required. Trapping schedules are developed jointly with the IGBST to assure adequate coverage outside the National Parks so that home range analysis corresponds to known grizzly bear distribution. 2) <u>Telemetry and Home Range Analysis</u> Bear locations will be determined using fixed wing aircraft, along with intensive sampling from the ground. The home ranges of collared animals will be calculated using the Harmonic Mean method. 3) <u>Grizzly Bear/Livestock Interactions</u> Grizzly Bear/livestock interactions will be managed as per the “Interagency Grizzly Bear Guidelines” and appropriate state and Federal laws and regulations. 4) <u>Annual Data Collection</u> Locations of radio-collared grizzly bears will be monitored with aerial flights. Cattle carcasses in the study area will also be investigated to determine cause of death. Detailed biological and physiological data will be gathered on each bear captured. 5) <u>Grizzly Bear/Human Interactions</u> The Department will continue to evaluate all bear/human interactions and take appropriate management actions in accordance with "Interagency Grizzly Bear Guidelines”. 6) <u>Multi-Agency Effort</u> The Conservation Strategy (CS) has set some objectives related to data collection to assure that population status and other indices can be assessed annually for this population. This requires that several agencies work cooperatively to meet these goals. As a result, the states of Idaho, Montana, and Wyoming along with several federal agencies, share in the data

	collection and analysis of that data. All of the affected agencies, both state and federal, have signed the CS to assure that this collaboration continues into the future.
Expected Results:	<p>The goal of this program is to capture and radio-collar grizzly bears to provide an even distribution of radio-collared grizzly bears and to enhance annual life history data of grizzly bears occupying new regions of the Yellowstone Ecosystem outside the Recovery Area. Without this data, survival rates by age and sex will be compromised as data will only be available from a portion of the ecosystem.</p> <p>Observation flights are a key component of the annual data collection scheme. Section 6 funding would assure that adequate coverage of all occupied habitat is surveyed. New techniques may be investigated as warranted to test timing and frequency of these flights. Results would assist in providing a more accurate estimate of females with COY that is used to establish the population estimate. These funds will assure that data collection is consistent across the entire ecosystem, which is required to accurately assess population status.</p> <p>These funds will also assure that conflicts between grizzly bears and humans will be managed in a timely and consistent process. The number of conflicts continues to increase in Wyoming's portion of the ecosystem.</p> <p>With additional funding, the Department's Information and Education efforts can be increased to assure that larger segments of the public are contacted to increase their awareness of how to recreate and live in occupied grizzly bear habitat.</p>

Financial Request

	TOTAL	FEDERAL	STATE
Contracts: Aerial Telemetry & Observation Flights	\$20,000	\$15,000	\$5,000
Field Supplies: Radio Collars, Supplies, Travel, Repairs			
Conflict Management Branch	\$ 48,500	\$28,500	\$20,000
Personnel: (AWEC/Temp personnel)			
Management/Research Branch	\$24,000	\$24,000	
Information/Education: Supplies	\$7,500	\$7,500	
TOTAL:	\$100,000	\$75,000	\$25,000

For fiscal year 2012 (July 1, 2011 – June 30, 2012) the Department was awarded \$75,000 in Section 6 funds of the \$428,947 requested.

GRIZZLY BEAR RELOCATIONS AND REMOVALS

Introduction

Human-bear interactions and conflicts in Wyoming are typically a result of bears seeking unnatural foods in association with people and property, close encounters with humans, or when bears kill livestock. The number and location of human-bear conflicts is influenced by unsecured unnatural attractants (e.g., human foods and garbage), natural food distribution and abundance, bear numbers and distribution, and human and livestock use patterns on the landscape.

The management technique of capturing bears in areas where they may come into conflict with people and relocating them to remote locations is a common practice throughout the world. Relocating bears achieves several social and conservation functions: (a) reduces the chance of property damage, livestock damage, or human interactions in areas where the potential for conflict is high; (b) reduces the potential for bears to become food conditioned and/or human habituated which often results in destructive and/or dangerous behaviors; (c) allows bears the opportunity to forage on natural foods and remain wary of people; and (d) could prevent removing bears from the population which may be beneficial in meeting population management objectives.

The Department relocates and removes black and grizzly bears as part of routine management operations. The decision to relocate or remove a bear is made after considering a number of variables including age and sex of the animal, behavioral traits, health status, physical injuries or abnormalities, type of conflict, severity of conflict, known history of the animal, human safety concerns, and population management objectives. Grizzly bears are relocated in accordance with state and federal law, regulation, and policy.

In 2005 the Wyoming Legislature enacted House Bill 203, which created Wyoming Statute §23-1-1001. This statute requires the Wyoming Game and Fish Department to:

- (a) Upon relocating a grizzly bear or upon receiving notification that a grizzly bear is being relocated, the department shall provide notification to the county sheriff of the county to which the grizzly bear is relocated within five (5) days of each grizzly bear relocation and shall issue a press release to the media and sheriff in the county where each grizzly bear is relocated;
- (b) The notice and press release shall provide the following information:
 - (i) The date of the grizzly bear relocation;
 - (ii) The number of grizzly bears relocated; and
 - (iii) The location of the grizzly bear relocation, as provided by commission rule and regulation;
- (c) No later than January 15 of each year the department shall submit an annual report to the Joint Travel, Recreation, Wildlife, and Cultural Resources Interim committee. The annual report shall include the total number and relocation area of each grizzly bear relocated during the previous calendar year. The department shall also make available the annual report to the public.

Subsequently, the Wyoming Game and Fish Commission promulgated regulations in Chapter 58 of the Wyoming Game and Fish Commission Regulations to further direct the implementation of Wyoming Statute §23-1-1001.

Grizzly Bear Management Captures, Relocations, and Removals

During 2012, the Wyoming Game and Fish Department captured 45 grizzly bears in 48 capture events in an attempt to prevent or resolve conflicts (Figure 4). Most individuals were lone grizzly bears, but 4 family groups (1 female with 3 cubs-of-the-year, 1 female with 2 yearlings, 1 female with 1 yearling, and 1 female with 2 two-year olds) were also captured. Of the 48 capture events, 20 (41%) occurred in Park County, 10 (21%) in Sublette County, 10 (21%) in Teton County, and 8 (17%) in Fremont County (Table 8).

Of the 48 capture events, 28 involved grizzly bears that were relocated from areas preemptively to avoid conflicts or where they were causing property damage, obtained garbage or some non-natural food such as pet food or livestock grain, or a combination of these factors. Nineteen captures were as result of grizzly bears killing livestock, primarily cattle. One grizzly cub was caught at a residence in the town of Dubois. Despite efforts to save the cub, it died of pre-capture malnutrition before it could be placed in a zoo or other facility.

Twelve of the 48 capture events resulted in the removal of grizzly bears from the population by agency personnel due to a history of previous conflicts, a known history of close association with humans, or they were deemed unsuitable for release into the wild (e.g., orphaned cubs, poor physical condition, or human safety concern). All relocated grizzly bears were released on U.S. Forest Service (n=33) or Wyoming Game and Fish Department (n=2) lands in or adjacent to the Grizzly Bear Recovery Zone (RZ) (Figure 5). Of the 35 relocation events, 23 (66%) bears were released in Park County, 10 (28%) were released in Teton County, and 2 (6%) were released in Fremont County (Table 8).

All independent grizzly bears greater than 2 years old, which were relocated, were fitted with a radio-tracking collar (n=23) to track their movements after release. Aerial attempts to obtain location data were made approximately every 10-14 days. Relocated grizzly bears wearing radio collars moved a mean straight-line distance of 49.57 miles (range = 6.4-126.4 mi; SD=33.4) from the release site to their last known location in 2012.

Notification to the County Sheriff and the Media

Within 5-days of releasing a grizzly bear, the County Sheriff was notified by e-mail and a press release was distributed to all local media contacts in the county where the grizzly bear was released. The media release contained information on the location of the grizzly bear release, the number of grizzly bears relocated, the date of the relocation and the reason the grizzly bear was relocated (Table 8).

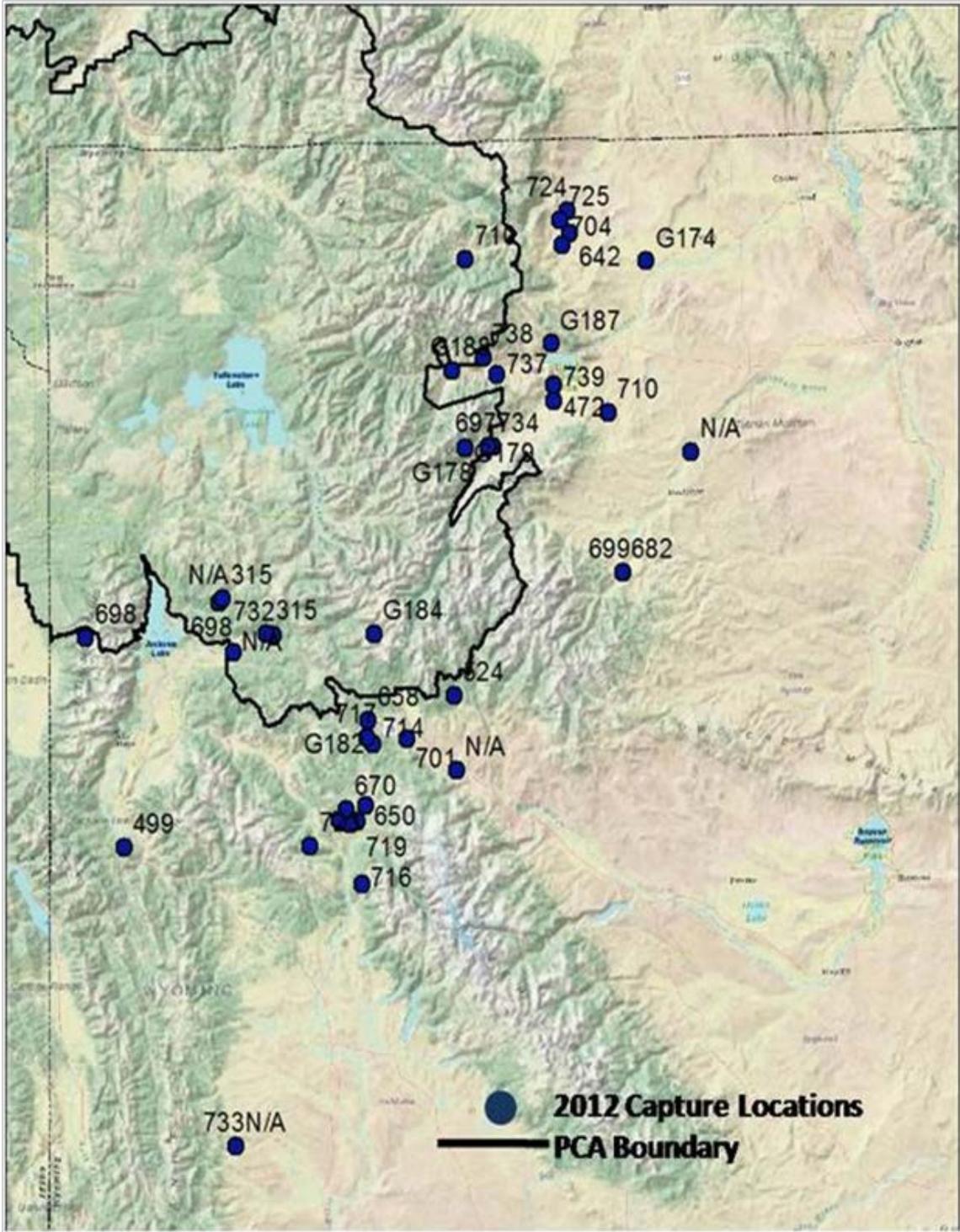


Figure 4. Capture locations (n=48) for grizzly bears captured, relocated, released, or removed in 2012. Grizzly bears with “G” in front of their number were marked but not wearing radio collars upon release typically because they were too young to be collared. Grizzly bears identified with “NA” were grizzly bears removed from the population without being given an identification number.

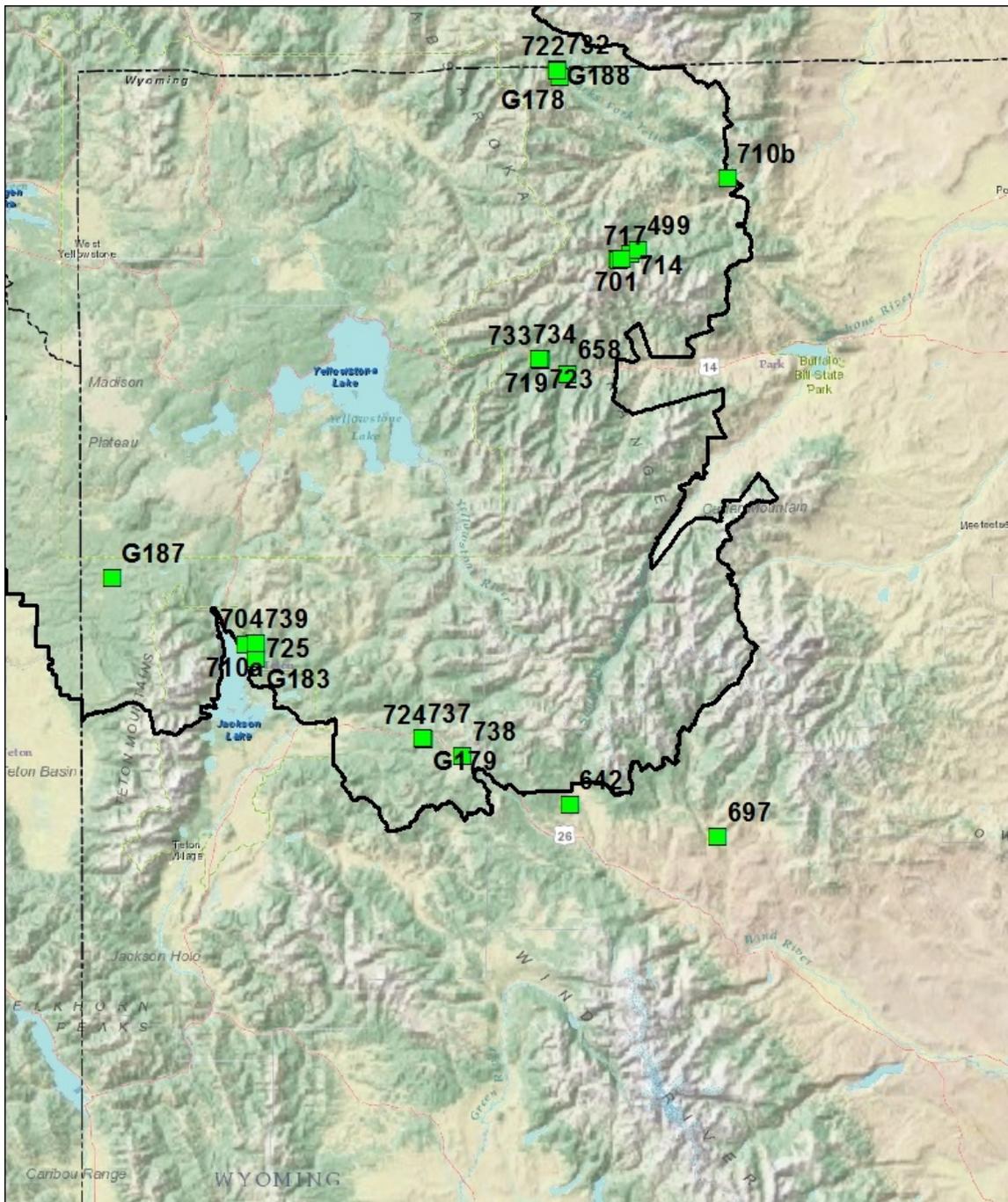


Figure 5. Release locations (n=35) for grizzly bears captured, relocated, or released on site in conflict management efforts 2012. Grizzly bears with “G” in front of their number were marked but not wearing radio collars upon release typically because they were too young to be collared.

Table 8. Capture date, grizzly bear identification number (ID), capture county, relocation site, release county, and reason for capture for all 2012 grizzly bear conflict management captures (N = 48) in Wyoming.

Date	ID	Capture County	Relocation Site	Release County	Reason for Capture
3/21/2012	697	Park	Wiggins Fork	Fremont	Cattle depredation
4/8/2012	698	Teton	N. Fk. Shoshone	Park	Captured for obtaining cat food from out-building
4/15/2012	699	Park	N. Fk. Shoshone	Park	Captured for possible sheep depredation and close proximity to a residence
4/17/2012	682	Park	N/A	N/A	Removed for repeated sheep depredations
4/18/2012	642	Park	Long Creek	Fremont	Preemptive capture for being around domestic calves
5/4/2012	701	Fremont	Sunlight Creek	Park	Captured for obtaining birdseed and garbage
5/7/2012	N/A	Fremont	N/A	N/A	In residence yard in town. Died of starvation
5/17/2012	704	Park	Bailey Creek	Teton	Cattle depredation
6/16/2012	710	Park	Clark's Fork	Park	Near ranch headquarters for several weeks
6/28/2012	714	Fremont	Sunlight Creek	Park	Cattle depredation
6/28/2012	G181	Fremont	Sunlight Creek	Park	Cattle depredation
6/28/2012	G182	Fremont	Sunlight Creek	Park	Cattle depredation
7/8/2012	716	Sublette	N.Fk. Shoshone	Park	Cattle depredation
7/10/2012	717	Fremont	Sunlight Creek	Park	Cattle depredation
7/17/2012	719	Sublette	N.Fk. Shoshone	Park	Cattle depredations
7/21/2012	710	Park	Bailey Creek	Teton	Frequenting guest ranch for several weeks

Date	ID	Capture County	Relocation Site	Release County	Reason for Capture
7/21/2012	722	Sublette	Clark's Fork	Park	Cattle depredation
7/28/2012	650	Sublette	N/A	N/A	Removed for repeated cattle depredations
7/29/2012	499	Sublette	Sunlight Creek	Park	Cattle depredation
8/3/2012	304	Sublette	N/A	N/A	Removed for repeated livestock depredations
8/4/2012	723	Sublette	N. Fk. Shoshone	Park	Cattle depredation
8/14/2012	724	Park	Blackrock Creek	Teton	Damaging apple and chokecherry trees
8/15/2012	725	Park	Bailey Creek	Teton	Damaging apple trees
8/15/2012	G183	Park	Bailey Creek	Teton	Damaging apple trees
8/17/2012	670	Sublette	N/A	N/A	Removed for cattle depredation
8/28/2012	698	Teton	N/A	N/A	Removed for repeated property damage and food rewards
9/7/2012	G174	Park	N/A	N/A	Removed for obtaining food rewards of garbage and fruit close to the town of Ralston, WY
9/10/2012	732	Teton	Clark's Fork	Park	Property damage and obtaining food reward
9/12/2012	N/A	Teton	N/A	N/A	Removed for repeated property damage
9/13/2012	524	Fremont	N/A	N/A	Removed for previous cattle depredation and subsequent capture for property damage
9/14/2012	315	Teton	Sunlight Creek	Park	Frequenting outfitter camp and obtaining livestock food from horse trailer
9/14/2012	G184	Teton	Sunlight Creek	Park	Frequenting outfitter camp and obtaining livestock food from horse trailer
9/14/2012	G185	Teton	Sunlight Creek	Park	Frequenting outfitter camp and obtaining livestock food from horse trailer

Date	ID	Capture County	Relocation Site	Release County	Reason for Capture
9/14/2012	G186	Teton	Sunlight Creek	Park	Frequenting outfitter camp and obtaining livestock food from horse trailer
9/17/2012	733	Sublette	N. Fk. Shoshone	Park	Preemptive move; suspect in nearby cattle depredations
9/17/2012	N/A	Sublette	N/A	N/A	Removed for repeated cattle depredations
9/18/2012	N/A	Park	N/A	N/A	Removed for multiple food rewards of trash
9/21/2012	734	Park	N. Fk. Shoshone	Park	Non-target capture ranch hay field
9/21/2012	G178	Park	Clark's Fork	Park	Frequenting ranch and getting into oat hay bales
9/21/2012	G179	Park	Blackrock Creek	Teton	Frequenting ranch and getting into oat hay bales
9/21/2012	G187	Park	Squirrel Creek	Teton	Frequenting a ranch near Cody, WY
9/22/2012	472	Park	N/A	N/A	Removed for getting into grain shed, trash, and corn field
10/1/2012	G188	Park	Clark's Fork	Park	Frequenting campground
10/10/2012	737	Park	Blackrock Creek	Teton	Frequenting developed area and eating crab apples near homes
10/19/2012	738	Park	Blackrock Creek	Teton	Receiving a food reward of garbage
10/20/2012	315	Teton	N/A	N/A	Removed for repeated property damage and food rewards at trailhead camps
10/26/2012	658	Fremont	N. Fk. Shoshone	Park	Breaking into grain shed
10/28/2012	739	Park	Bailey Creek	Teton	Cattle depredation

CONFLICT REPORT

Department personnel investigated and recorded 213 human-grizzly bear conflicts in 2012 (Table 9). This pattern was consistent with the increasing trend in conflicts in recent years (Figure 6). This year was marked by significant drought conditions and very little summer moisture. As a result, overall annual vegetal food availability throughout the State was probably less than optimal. However, whitebark pine production was above average (<http://www.nrm-sc.usgs.gov/files/norock/products/IGBST/2012WBPRReport.pdf>) and army cutworm moth aggregation site use by bears was very high in 2012.

During 2012, the Department captured 45 grizzly bears on 48 occasions (3 bears were captured twice) in an attempt to prevent or resolve conflicts. Of the 48 capture events, 40 (83%) involved grizzly bears that were relocated from areas where they were causing conflicts with livestock or property, or moved preemptively to avoid conflicts. Thirteen capture events involved grizzly bears that were removed from the population by agency personnel due to a history of previous conflicts, a known history of close association with humans, or they were deemed unsuitable for release into the wild (i.e., orphaned cubs, poor physical condition, or a human safety concern). All relocated grizzly bears were released on U. S. Forest Service (n=34) or Department (n=1) lands within the RZ. The Department's annual report of grizzly bear relocations can be found at: <http://wgfd.wyo.gov/web2011/wildlife-1000674.aspx>.

Table 9. Type and number of human-grizzly bear conflicts in Wyoming, 2012.

Conflict Type	Number	Approximate Percent
Aggression toward Human	5	2
Human Caused Grizzly Death	7	3
Human Caused Grizzly Injury	1	1
Beehive	5	2
Cattle	127	60
Garbage	24	11
Horse	0	
Human Death	0	
Human Injury	3	1
Other (Pet/Livestock/Bird Feeder)	7	3
Pet/Guard Animal	0	
Poultry	0	
Properly Stored Game Meat	2	1
Property Damage	29	14
Sheep	3	1
Swine	0	
Total	213	

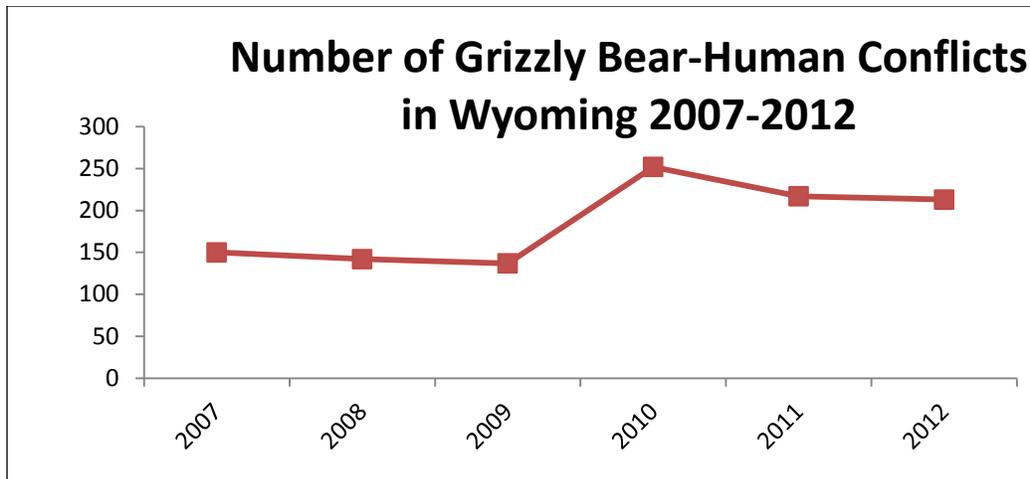


Figure 6. Number of human-grizzly bear conflicts in Wyoming, 2007- 2012.

Conflicts outside of the RZ comprised the majority (87%) of conflicts in Wyoming (Figure 7). Conflicts occurred at nearly similar rates on private lands (49%) versus lands administered by the State or Federal government (51% - Figure 8).

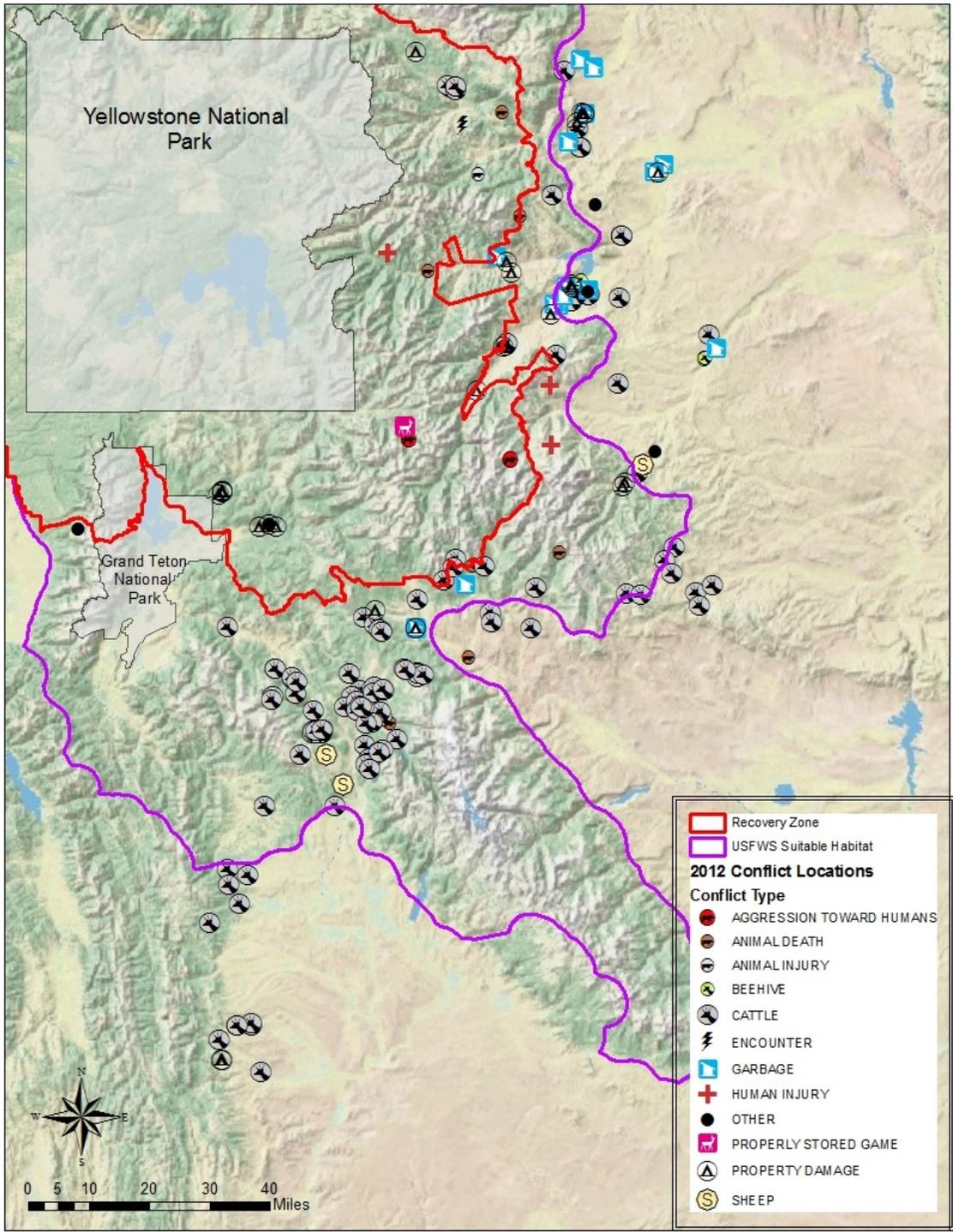


Figure 7. Type and number of human-grizzly bear conflicts in relation to the RZ boundary, Wyoming, 2012.

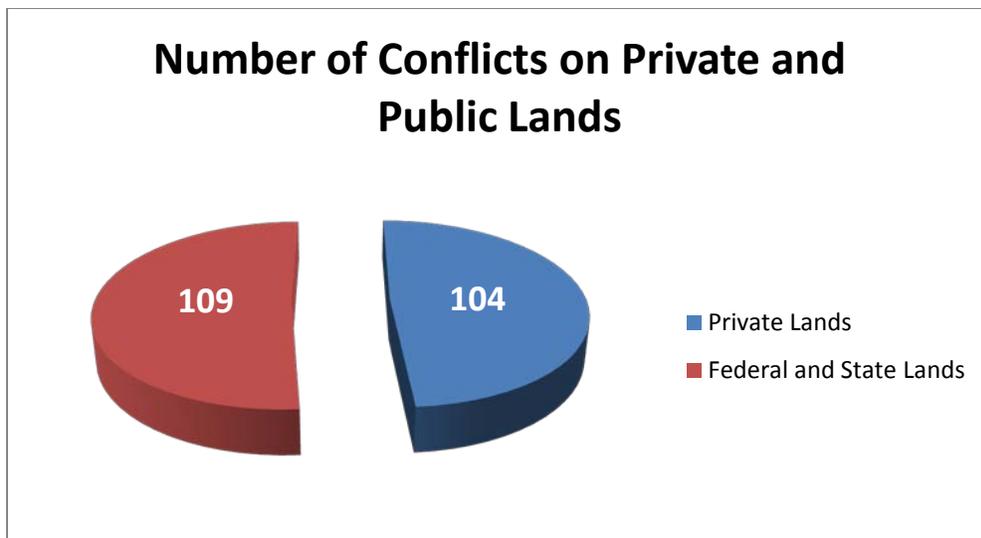


Figure 8. Number of human-grizzly bear conflicts on private and public lands in Wyoming, 2012.

GRIZZLY BEAR MORTALITIES

Within Wyoming, outside of the National Parks, there were 28 known or probable human-caused mortalities in 2012. Twenty-one of the mortalities occurred on public lands administered by the U. S. Forest Service.

Types of Mortalities

Management removals accounted for 12 mortalities in 2012. Of the 12 grizzly bears removed in management actions, 5 were removed due to livestock depredations, 6 due to property damage and human food rewards, and 1 that was extremely habituated to humans. Five of these management removals occurred outside of the Suitable Habitat Boundary. In addition to the 12 management removals, 1 grizzly bear was struck and killed by a vehicle, 2 were killed in hunter encounters, 2 were cubs-of-the-year presumed to have died after their mother was killed in a self-defense hunter encounter, 2 were found dead of apparent natural causes, 1 was found dead of natural causes and appeared to have died in 2011, and 8 mortalities are under investigation by law enforcement.

Mortality Trends

With the grizzly bear population expanding in both number and distribution into areas of high human activity, Wyoming has documented an increasing trend in conflicts and associated human-caused mortality. Short-term annual variation of mortality rates is a function of annual natural food abundance.

Discussion of Mortalities

Most grizzly bear-human conflicts in Wyoming were a result of domestic livestock depredations and food rewards from humans in the form of garbage or pet and livestock feed. Conflicts, and

the resulting capture, relocation, and removal of grizzly bears are increasing (Figure 6). This trend is a result of grizzly bears increasing in numbers and distribution into areas used by humans, including livestock production, both on public and private lands. As this population and distribution growth continues, bears will search out food sources such as livestock and livestock feed, garbage, and pet food resulting in increased property damage and threats to human safety. Conflict prevention measures such as attractant storage, deterrence, and education are the highest priority for the Department. In general, there is less social and biological suitability for bear occupancy in areas further from the RZ due to development, land use patterns, and various forms of recreation. Although prevention is the preferred option to reduce conflicts, each situation is managed on a case-by-case basis with education, securing of attractants, relocation or removal of individual bears, or a combination of methods, as specific situations warrant.

BEAR WISE COMMUNITY REPORT

Introduction

The Bear Wise Community Program is a proactive initiative that seeks to minimize human-bear (black and grizzly) conflicts, minimize management-related bear mortalities associated with preventable conflicts, and safeguard human communities in northwest Wyoming. The overall objective of Bear Wise is to promote individual and community ownership of the ever-increasing human-bear conflict issue and eventually, create a social conscience regarding responsible attractant management and behavior in bear habitat. This project seeks to raise awareness and proactively influence local waste management infrastructures with the specific intent of preventing conflicts from recurring. Strategies used to meet the campaign's objectives are: 1) minimize accessibility of unnatural attractants to bears in developed areas; 2) employ a public outreach and education campaign to reduce knowledge gaps about bears and the causes of conflicts; and 3) employ a bear resistant waste management system and promote bear-resistant waste management infrastructure.

This report provides a summary of program accomplishments in 2012. Past accomplishments are reported in the 2006-11 annual reports of the IGBST.

Background

In 2004, a subcommittee of the IGBST conducted an analysis of causes and spatial distribution of grizzly bear mortalities and conflicts in the GYE for the period of 1994–2003. The analysis identified that the majority of known, human-caused grizzly bear mortalities occurred due to agency management actions in response to conflicts (34%), self defense killings, primarily by big game hunters (20%), and vandal killings (11%). The report made 33 recommendations to reduce human-grizzly bear conflicts and mortalities with focus on 3 actions that could be positively influenced by agency resources and personnel: 1) reduce conflicts at developed sites; 2) reduce self-defense killings; and 3) reduce vandal killings (Servheen et al. 2004).

To address action Number 1, the committee recommended that a demonstration area be established to focus proactive, innovative, and enhanced management strategies where developed site conflicts and agency management actions resulting in relocation or removal of grizzly bears

had historically been high. Spatial examination of conflicts identified the Wapiti area in northwest Wyoming as having one of the highest concentrations of black bear and grizzly bear conflicts in the GYE. The North Fork of the Shoshone River west of Cody was then chosen as the first area composed primarily of private land to have a multi-agency/public approach to reducing conflicts at developed sites.

In 2005, the Department began implementation of the Bear Wise Community Program. Although the program's efforts were focused primarily in the Wapiti area, the Department initiated a smaller scale project in Teton County to address the increasing number of black and grizzly bear conflicts in the Jackson area. For the last 7 years, the Bear Wise Community Programs in both Cody and Jackson have deployed a multi-faceted education and outreach campaign in an effort to minimize human-bear conflicts and promote proper attractant management. Although a wide array of challenges remain and vary between communities, many accomplishments have been made and progress is expected to continue as Bear Wise efforts gain momentum.

Wapiti Project Update

The Wapiti Bear Wise Community Program continues to utilize radio, television and print media, mass mailings, and the use of signing on private and public land to convey the educational messages surrounding human-bear conflict prevention. Conflict prevention information is also disseminated through public workshops and presentations and by contact with local community groups, governments, the public school system, and various youth organizations. To compliment educational initiatives, the program uses an extensive outreach campaign that assists the community in obtaining and utilizing bear-resistant products and implementing other practical methods of attractant management. Ongoing efforts and new accomplishments for 2012 are as follows:

1. The Carcass Management Program continues to provide a domestic livestock carcass removal service for livestock producers located in occupied grizzly bear habitat within Park County, Wyoming. The program has been traditionally funded by the Park County Predator Management District and Wyoming Animal Damage Management Board. In addition to those donors this year the program received contributions from The Nature Conservancy and a private individual. The program provides livestock producers and owners with an alternative to the use of on-site carcass dumps, which are a significant bear attractant and indirectly contribute to numerous human-bear conflicts. Since June 2008, 336 domestic livestock carcasses have been removed from private lands.
2. Recommendations concerning the proper storage of garbage and other attractants are provided to the Park County Planning and Zoning Commission for new developments within the greater Cody area. The Coordinator reviews proposed developments on a case-by-case basis, attends monthly meeting and contacts applicants directly to discuss conflict prevention measures. To date, these comments have been adopted as either formal recommendations or as a condition of approval for 16 new developments within Park County.

3. A “Bear Aware” educational display was developed and produced for use in public libraries across northwest Wyoming. The display focuses on the prevention of human-bear conflicts and features graphics, an interactive touch screen monitor, short video segments, a grizzly bear hide and skull, and educational materials that are available for check out. The display was featured at the Park County Library in Cody for 12 months, the Pinedale Public Library for 3 months, and Big Piney Public Library for 3 months.



4. The Department’s partnership with the North Fork Bear Wise Group continues to grow. The group is comprised of 6 local Wapiti citizens that meet monthly in order to articulate community needs and assist in the development of educational and outreach initiatives.
5. The North Fork Bear Wise Group refurbished an informative bear kiosk and indicated several North Fork communities, which they felt were high priority, to send seasonal mailing containing human-bear conflict prevention information.
6. A “Bear Aware” billboard, “Bear Use Area” highway signs, and educational kiosks remain posted throughout Wapiti and the Crandall/Sunlight area north of Cody. Kiosk message boards are updated 3 times during the non-denning season with seasonally appropriate conflict prevention information.
7. The Coordinator worked with the Grass Creek 4-H camp to remove vegetation around buildings and structures that were bear attractants. The Department coordinated with Two Tough Guy Sanitation to donate a bear-resistant trailer to the 4-H camp for garbage removal.

8. “Bear Aware” information was given to Cody Lodging Company to be distributed to temporary summer rental properties. These properties are scattered throughout grizzly bear habitat and often house transient travelers for a week at a time.
9. Educational black bear/grizzly bear identification materials were distributed to individuals and to local sporting goods stores in the Cody, Pinedale, and Lander areas and mailed to black bear hunters who registered bait sites with the Department in areas surrounding the GYE.
10. Numerous informational presentations were given that focused on human-bear conflict prevention to audiences including the Park County public school system, homeowners associations, Boy Scouts, 4-H members, Backcountry Horsemen Association, guest ranches, and college students. Frequent 1-on-1 contacts were made during the 2012 conflict season in areas where the occurrence of human-bear conflicts has historically been high.
11. A “Working Safely in Bear Country” workshop was conducted for the Park County Weed and Pest District.
12. A booth containing information on bear identification, attractant storage, hunting and recreating safely in bear country, and the proper use of bear spray was staffed at the Powell Valley Health Fair, Cody Arbor Day, Dano Outdoor Expo, Sportsmen for Fish and Wildlife Banquet, and Powell Parkside Elementary Staying Safe Seminar.
13. Volunteers from the Yellowstone Country Bear Hunters Association along with several other Cody residence spent 1 ½ days building an electric fence around the Clark Landfill to prevent grizzly bears from gaining access to the carcass pit and human garbage.
14. A public service announcement (PSA) was recorded by the Yellowstone Country Bear Hunters Association (YCBHA) on “Black Bear/Grizzly Bear ID” and broadcast over the radio in the spring and fall of 2012. The Department and YCBHA equally split the cost of the PSA’s.
15. A seasonal mailing containing human-bear conflict prevention information and the availability of conflict prevention resources was delivered to residents in targeted areas north of Cody.

Pinedale Project Update

In 2011, a Bear Wise Community Program was initiated targeting residential areas north of Pinedale where the occurrence of human-bear conflict has increased in recent years. Accomplishments for the Pinedale area in 2012 are as follows:

1. In 2010, 2011, and 2012 a “Bear Aware” booth was set up and staffed at “Rendezvous Days”, a large scale community event in Pinedale that attracts an estimated 10,000 people over a 4-day period.

2. A seasonal mailing containing human-bear conflict prevention information and the availability of conflict prevention resources was delivered to 2 separate residential areas north of Pinedale.
3. An educational presentation was given to a Pinedale area homeowner's association that focused on human-bear conflict prevention measures.
4. A "Bear Aware" booth was set up and staffed at an annual community event in the Kendall Valley located north of Pinedale in 2011 and 2012.
5. Several bear resistant containers were delivered to residences in the Kendall Valley area after bears obtained anthropogenic food rewards.
6. Bear safety and bear education presentations were given to organizations such as the Sublette Chamber of Commerce, U. S. Forest Service, U. S. Bureau of Land Management, Sublette County Search and Rescue, British Petroleum (Jonah Office), Red Cliff Bible Camp, New Fork Lake Boy Scouts of America summer camp, Mountain Man Backcountry Horsemen, Department hunter education classes, and Department "Living in Lion, Bear, and Wolf Country" presentations.

Objectives for 2013 include continued expansion of the program into the other areas of the state where human-bear conflicts continue to be a chronic issue and the continuation of current educational and outreach efforts in the Cody area with specific focus on areas that have not adopted proper attractant management methods.

The Wapiti and Pinedale area Bear Wise Community Programs face the ongoing challenges of: 1) the absence of ordinances, regulations, or laws prohibiting the feeding of bears; 2) limited educational opportunities and contact with portions of the community due to a large number of summer-only residents and the lack of organized community groups and; 3) decreased public tolerance for grizzly bears due to record numbers of human-bear conflicts and continued federal legal protection. The future success of the Bear Wise program lies in continued community interest and individual participation in proper attractant management.

Jackson Hole Project Update

The Bear Wise Community Program continues educational and outreach initiatives in an effort to minimize human-bear conflicts within the community of Jackson and surrounding areas. In 2012, the program's public outreach and educational efforts included the use of signage, public workshops and presentations, distribution of informational pamphlets, promoting awareness about bear spray, and acquiring a bear education trailer. The program's primary focus in 2012, however, was to provide support to Teton County and local waste management companies with the recently adopted Teton County "Bear Conflict Mitigation and Prevention" Land Development Regulation (LDR).

In 2007, Department staff developed a series of recommendations that would require private property owners within Teton County to store garbage and other attractants unavailable to bears. In April 2008, the Teton County Commissioners adopted these recommendations in the form of a

LDR. The LDR requires that all residents and businesses within identified high conflict priority areas must store garbage and birdseed unavailable to bears. This regulation was fully implemented in July 2010.

Project accomplishments include:

1. A considerable amount of time was spent on public outreach and education projects pertaining to the implementation of the bear conflict mitigation and prevention LDR including: 1) informational mailings; 2) feature articles in newspapers; 3) PSAs; 4) radio interviews; 5) a full page color newspaper advertisement; and 6) routine monitoring for compliance.
2. A bear education trailer was purchased in August 2010 with funding contributions from the Department, Grand Teton National Park, Bridger-Teton National Forest, and Jackson Hole Wildlife Foundation. Two bear mounts (1 grizzly bear and 1 black bear) have been placed in the trailer along with other educational materials. The bear mounts were donated to the Department through a partnership with the United States Taxidermist Association and the Center for Wildlife Information. The trailer was displayed and staffed at various events and locations including Teton National Park, Old Bills Fun Run, Jackson Farmers Market, Old West Days Parade, Jackson Elk Fest, and National Elk Refuge Visitor Center.
3. Public service announcements were broadcast on 4 local radio stations in Jackson for a total of 8 weeks throughout the spring, summer, and fall of 2011. The announcements focused on storing attractants so they are unavailable to bears, hunting safely in bear country, and bear species identification.
4. Numerous educational talks were presented to various groups including homeowner's associations, guest ranches, youth camps, Jackson residents, tourists, and school groups.
5. Spanish language bear informational pamphlets were distributed to Spanish speaking residents in Teton County with the help of the Teton County Latino Resource Center, Teton Literacy Center, and the Jackson Visitor Center.
6. Bear educational posters were placed for a 4th year inside of Jackson's public buses.
7. Restroom posters with information about attractant storage were placed in 16 different restaurants in Teton County for a 6-month period.
8. Refrigerator magnets featuring tips about proper attractant management were distributed to Teton Village homeowners and Jackson Hole Mountain Resort lodging.
9. Numerous personal contacts were made with private residents in Teton County. This has proven to be a useful way to establish working relationships with residents and maintain an exchange of information about bear activity in the area.

10. A booth containing information on bear identification, attractant storage, hunting and recreating safely in bear country, and the proper use of bear spray was staffed at the Jackson Hole Antler Auction.
11. Assisted 3 hunting outfitters and Jackson Hole Mountain Resort with the installation and maintenance of electric fence systems around their field camps located in the Bridger-Teton National Forest.
12. Signage detailing information on hunting safely in bear country, bear identification, recent bear activity, and proper attractant storage were placed at U. S. Forest Service trailheads and in private residential areas throughout Teton County.
13. Consultations were conducted at multiple businesses and residences where recommendations were made regarding sanitation infrastructure and compliance with the Bear Conflict Mitigation and Prevention LDR.
14. “Bear Aware” educational materials were distributed to campground hosts in the Caribou-Targhee National Forest, hunters, and numerous residents in Teton County.
15. Several radio and newspaper interviews were conducted regarding grizzly bear range expansion and conflict prevention in the Jackson area.
16. Educational black bear/grizzly bear identification materials were distributed to black bear hunters who registered bait sites with the Department in the Jackson region.

Objectives for the Bear Wise Jackson Hole Program in 2013 will again be focused on supporting Teton County and local waste management companies with projects that will help disseminate information and achieve compliance with the recently adopted Teton County Bear Conflict Mitigation and Prevention LDR. In addition, more work will be done to identify areas within the city limits of Jackson and Star Valley communities where better attractant management and sanitation infrastructure is needed.

The recent implementation of the Teton County Bear Conflict Mitigation and Prevention LDR has greatly reduced the amount of available attractants on the landscape and is a tremendous step forward for the Bear Wise Jackson Hole Program. The new challenges faced by the Department will be achieving full compliance with this regulation, even in years with low conflict when it may appear that the conflict issue is resolved. The Bear Wise Jackson Hole Program will convey the importance of compliance and strive to maintain public support for the LDR through public outreach and education projects. In order for the Jackson program to be successful, the program must continually identify information and education needs within the community while being adaptive to changing situations across different geographic areas. This will require the Department to coordinate with other government agencies and local non-government organizations working across multiple jurisdictions to develop a uniform and consistent message. If this level of coordination is achieved, the Department will be more effective in gaining support and building enthusiasm for Bear Wise Jackson Hole, directing resources to priority areas, and reaching all demographics.

INFORMATION AND EDUCATION REPORT

Electronic and Print Media

- a) As per Wyoming Statute, grizzly bear relocation from one county to another must be announced through local media and to the local sheriff of the county into which the bear was relocated. Each announcement is posted in a timely fashion to the web page. In 2012, 25 notifications were distributed and posted on the website.
- b) Personnel issued multiple educational news releases throughout the season informing readers and listeners of bear safety, behavior, conflict avoidance, food storage and natural food shortages.
- c) Multiple public service announcements (some paid) addressing bear activity, bear identification; food storage and hunting safely were aired in communities surrounding the GYE. Virtually every news release sent out on bears is also issued in a weekly radio spot through our headquarters information branch.

Grizzly Bear Management Web Page

- a) The grizzly bear management web page continues to be maintained and updated on a regular basis in order to provide timely information to the public regarding grizzly bear management activities conducted by the department. The web page contents include various interagency annual reports and updates and links to other grizzly bear recovery web sites.
- b) Beginning in March 2012, weekly updates of ongoing management activities related to depredations, research, trapping and monitoring, and information and education were posted to the department's website. A total of 34 weekly updates were posted for the weeks of March 17, 2012 through November 16, 2011.

Conservation Education

- a) In 2012, eight "Staying Safe in Bear, Lion and Wolf Country" seminars were conducted in an effort to increase understanding and knowledge of bears, bear behavior and conflict avoidance. Statewide, 259 attendees participated in the seminars. In addition, 1775 individuals participated in the Bear Trail Exhibit at the annual Hunting and Fishing Heritage Exposition.

Hunter Education

- a) Every hunter education class in Wyoming is required to discuss how to hunt safely in bear country. To assist instructors, most have been provided inert bear spray canisters for demonstration purposes and DVD's entitled Staying Safe in Bear Country, A Behavioral Based Approach to Reducing Risk. A section on bear safety is included in the student manual.

- b) On an annual basis, newly certified hunter education instructors are trained by department personal in techniques used to prevent encounters while hunting in bear country and the proper use of bear spray. Inert bear spray canisters are used to demonstrate the proper use of bear spray at our New Instructor Hunter Education Academy in Dubois and are distributed directly to our volunteer instructors at annual Hunter Education Instructor Workshops held around the state.

Publications

- a) The primary link to other publications, annual reports, and peer reviewed literature for the GYE population of grizzly bears is summarized on the United States Geological Service web site at <http://www.nrmssc.usgs.gov/products/IGBST>.