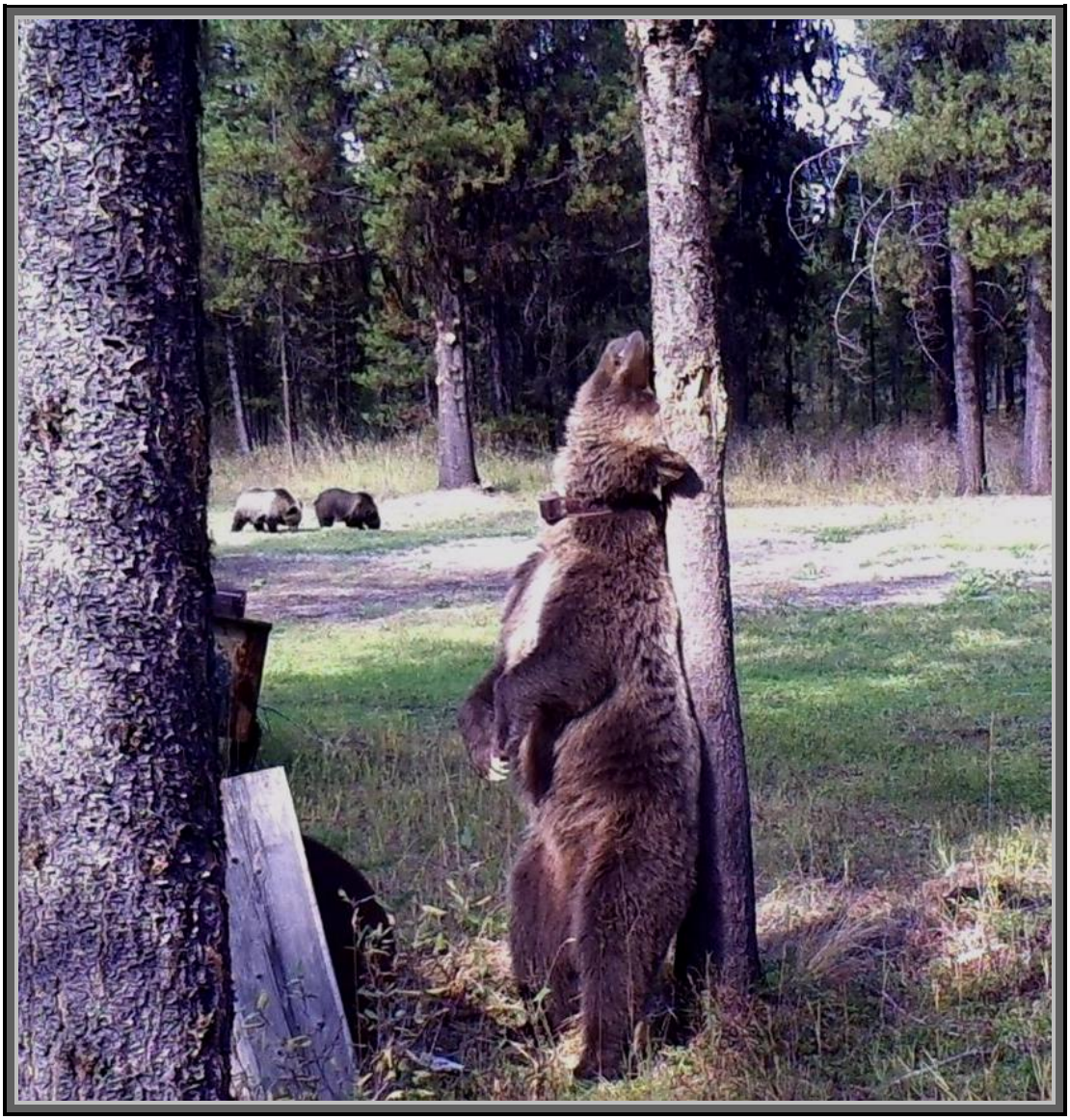
Grizzly Bear Management
2014 Annual Report
NCDE Portion of Region 1
Montana Fish, Wildlife & Parks



Female grizzly bear with 2 two cubs in the North Fork (Photo courtesy of Allen Chrisman).

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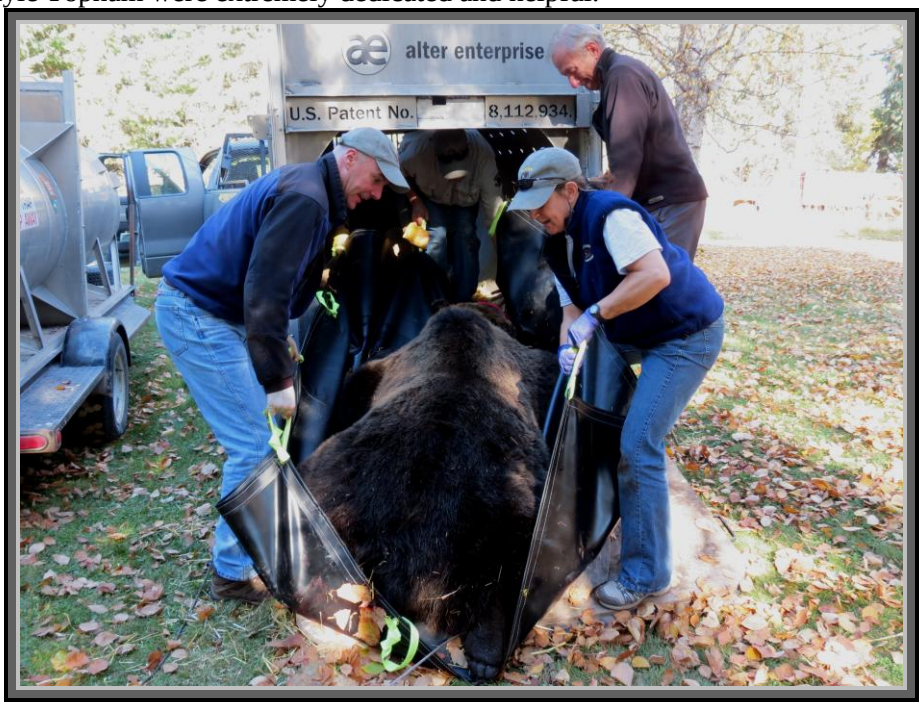


It can take lots of help to load a 600lb grizzly back into the trap.

Introduction

In 1993, Montana Fish, Wildlife & Parks (MFWP) hired a Grizzly Bear Management Specialist for Region 1, to work closely with private landowners and agency personnel to reduce conflicts between grizzly bears and humans. More emphasis was placed on a proactive approach of prevention. In 1995, we began pre-emptive capture and releasing bears closer to or within their home ranges. In 1996, working with Carrie Hunt of the Wind River Bear Institute, we began using onsite releases and aversive conditioning in an attempt to modify the behavior of the bear. At the same time, we worked closely with the landowners to identify and secure attractants.

There has been a lot of interest in the methods and philosophy of the program from the bear management community and the public. This has generated local and national media coverage which has highlighted the importance of preventing bear problems in the first place and secondly, how to handle those bears if problems do occur. The methods and techniques developed in the field continue to be refined and improved. An interaction between grizzly bears and humans tends to be very individualistic which makes the analysis of data and presentation of results very complex.

In 2005, Montana Fish, Wildlife & Parks began an augmentation program of capturing grizzly bears with no history of conflict from the NCDE and releasing them into the Cabinet Mountains. Heather and Derek Reich were hired under contract with funding support from the Montana Fish, Wildlife & Parks Foundation and the National Fish and Wildlife Foundation. Since 2011, MFWP has continued the augmentation work without contractors.

This report is an overview of the 2014 field season. It includes the reported grizzly bear conflicts, captures, releases, monitoring, prevention efforts, use of technology, and the Cabinet Mountains augmentation program.

Grizzly Bear Conflicts

During the 2014 field season, we received over 60 calls that were reported as grizzly bear conflicts. About 75% were confirmed as grizzly bears. The other 25% were either black bears or undetermined. Approximately 99% of the calls were from private landowners that lived in or adjacent to grizzly bear habitat. The majority of the calls involved bears that became food-conditioned and were seeking unnatural foods around homes and developments. This year we continued to see the increase in grizzly bears killing chickens and causing property damage to chicken coops. Livestock depredation by grizzly bears in this area is rare. Male grizzly bears did kill a calf near Eureka and a sheep north of Columbia Falls. None of the calls involved bears that were aggressive to humans or caused human injury.

The spring season was busier than normal due to several grizzly bears that ended up in the Flathead Valley. A male grizzly north of Columbia Falls killed chickens at several different locations. In the Ferndale area, a female with 3 two-year olds (Figure 1) was often observed in yards feeding on grass and clover. The family group began killing chickens and a lot of time was spent putting up electric fencing and moving traps to different locations in an attempt to capture them.

During the summer months, the huckleberry production was excellent. Grizzly bears spent time in the berry shrub fields, and conflicts were minimal. After the huckleberries dropped in mid-September, grizzly bear conflicts began to occur. Conflicts in the fall involved bears killing chickens and breaking tree branches to get to fruit.

Figure 1. Female grizzly bear with 3 two-year olds in the Ferndale area (Photo courtesy of Mantas).

In previous years, the number of calls reporting grizzly bear conflicts ranged from 10 in 1993 to over 250 in 1998. Since 1993, the number of calls has averaged about 100 each year. The number of calls is not necessarily an accurate measure of the level of grizzly bear conflicts for a given year (e.g. one grizzly bear in a subdivision may elicit a large number of phone calls as the bear moves from house to house).

Bear conflict specialists finalized a grizzly bear conflict database that will standardize the way reported conflicts are recorded. This will allow comparison of management reports and actions throughout the Northern Continental Divide Ecosystem (NCDE) and with other ecosystem reports.

Once a grizzly bear conflict call is received, an effort is made to contact the reporting party and determine if a site investigation is warranted. Once a site has been investigated, a determination is made whether to attempt to capture the grizzly bear or bears involved. The decision to capture the bear is not automatic and it is based on human safety, bear safety, the type of conflict, location, and behavior of the individual bear.

Emphasis is placed on trying to find solutions that will prevent problems from occurring at the same site again. With the landowner, we walk the property identifying why the bear was attracted to the site and how that attractant can be secured so that this bear or other bears will not visit the site and repeat the problem. Many times the solutions are simple and the landowners are willing to assist us by securing the attractants. Bird feeders, pet food, fruit, garbage, and poultry are the primary attractants we deal with and all are usually easily secured.

Grizzly Bear Captures

Culvert traps used to capture grizzly bears.

In 2014, there were 10 captures of 9 individual grizzly bears (Table 1). The majority, 5 (50%) of the captures occurred in the fall, followed by 3 (30%) in the summer, 1 (10%) during early spring and 1 (10%) in the spring. Nine of the management captures were in culvert traps and one was in a foot snare.

All of the 10 grizzly bear management captures occurred on private property. The captures occurred in the main Flathead, Swan, Tobacco, and Whitefish drainages (Figure 2). Nine of the ten captures occurred outside the boundary of the Grizzly Bear Recovery Area. The nine individual grizzly bears that were captured included 3 adult males, an adult female with two male cubs of the year, and 3 subadult females.

All captured grizzly bears were anesthetized with Telazol or Telazol/Medetomidine administered by syringe pole or Pneu-dart capture rifle. All grizzly bears were examined for injury, age, sex, breeding condition, lactation, and overall physical condition. Temperature and respiration were monitored and recorded. A pulse oximeter was used to monitor heart rate and oxygen level. Supplemental oxygen was provided. Basic physical measurements were taken and recorded. When possible weights were recorded with a digital scale and a Bioimpedance Analyzer was used to measure resistance to calculate % body fat to quantify body condition. Bears over 2 years of age were either radio-collared or equipped with ear tag transmitters. All grizzly bears were micro-chipped for permanent identification. Hair samples were collected for both DNA and stable isotope analysis. Blood was spun using a centrifuge and the serum and whole blood was collected, frozen and sent to Washington State University for stable isotope analysis.

Grizzly bears that we anesthetized were held overnight in culvert traps on a bed of straw until they recovered from the effects of the drugs. They were kept in an isolated area, monitored with minimal human contact and given water once they recovered from anesthesia.

Table 1. Grizzly bears captured for management in Flathead Portion Region 1, 2014.

Record	Bear ID	Capture Date	Sex	Age Class	CapNo	Capture Drainage	Release Drainage	Current Status
357	NWM200	7-Apr-14	Male	Adult	1	Tobacco	NFK Flathead	Dead
358	NWM201	1-Jun-14	Female	Subadult	1	Swan	SFK Flathead	Alive
359	NWM176	22-Aug-14	Female	Adult	3	Flathead	Jocko	Alive
360	NWM202	22-Aug-14	Male	Cub	2	Flathead	Jocko	Alive
361	NWM203	22-Aug-14	Male	Cub	2	Flathead	Jocko	Alive
362	NWM195	26-Sep-14	Female	Subadult	2	Whitefish	NFK Flathead	Alive
363	NWM204	9-Oct-14	Male	Adult	2	Whitefish	NFK Flathead	Alive
364	NWM205	12-Oct-14	Male	Adult	1	Whitefish	NFK Flathead	Alive
365	NWM206	16-Oct-14	Female	Subadult	1	Tobacco	Tobacco	Alive
366	NWM195	24-Oct-14	Female	Subadult	3	Whitefish	NFK Flathead	Alive

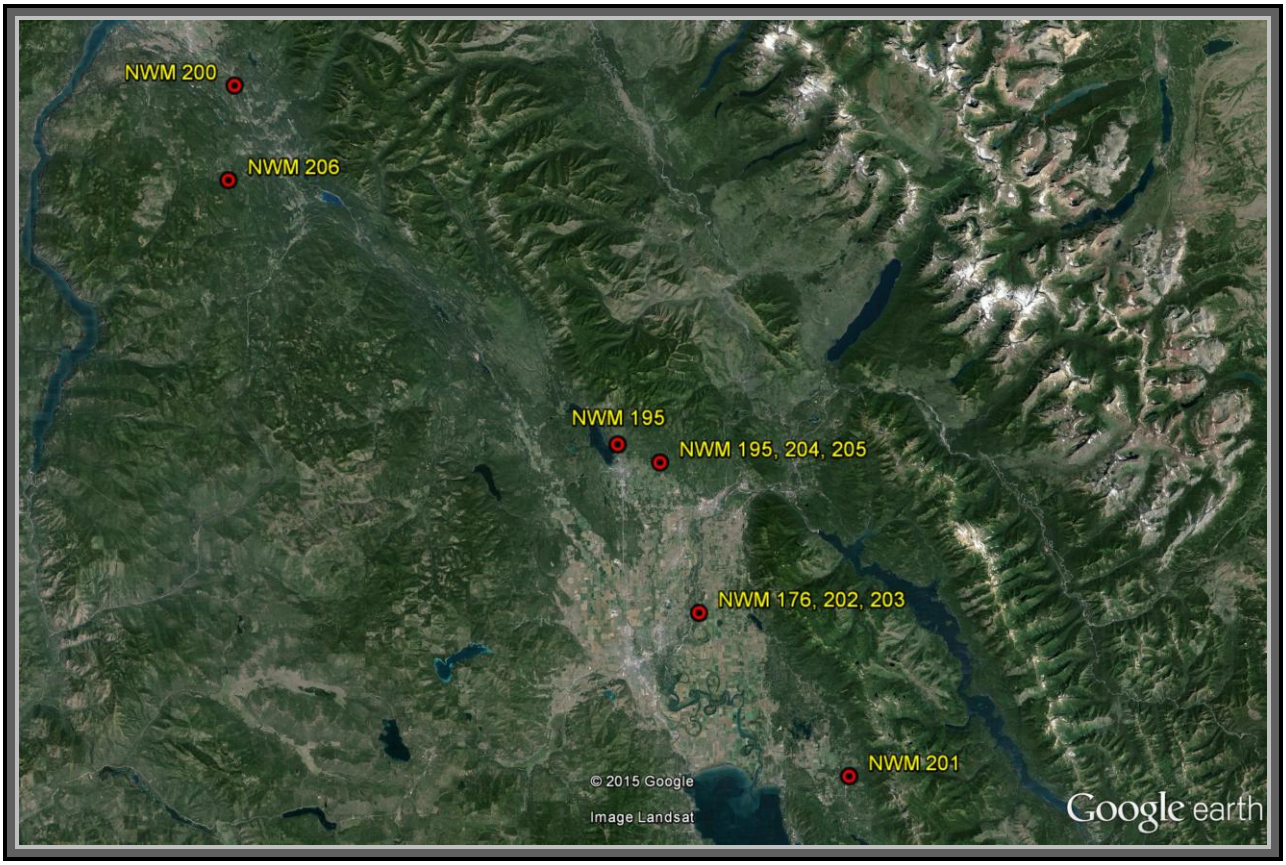


Figure 2. Locations of grizzly bear management captures in 2014. Numbers relate to Bear ID in Table 1.

Grizzly Bear Releases

The release of an adult male grizzly bear (NWM204) in the Whitefish Range.

All of the grizzly bears that were captured for management reasons were released back into the wild. The adult male (NWM200) that killed a calf was released in Glacier National Park in the Camas drainage.

A subadult female (NWM201) that was considered an incidental capture was released in the Sullivan drainage west of Hungry Horse Reservoir. We used a hard release on this female which included yelling, firing a bean bag round and a rubber bullet at the bear, followed with cracker shells and chased by a Karelian Bear Dog off leash.

The female grizzly (NWM176) with her two male cubs (NWM202 and NWM203) that were captured along the Flathead River off Columbia Falls Stage Road were returned to the Confederated Salish and Kootenai Tribes and released in the upper Jocko River drainage.

The three grizzly bears (NWM195, NWM204, NWM205) captured near Whitefish were released in the Whitefish Range at pre-approved release sites on the Flathead National Forest at Whale Creek and near Frozen Lake.

Finally, the yearling female (NWM206) that was captured west of Fortine in the Salish Range was released onsite after efforts to capture the adult female and another sibling were unsuccessful.

Monitoring

Radio-collared grizzly bears were monitored from both the ground and from helicopters. An attempt was made to fly monthly if bears could not be located from the ground. A total of 13 flights were conducted with Jim Pierce of Red Eagle Aviation during 2014. These flights resulted in a total of 96 grizzly bear locations of which 60% were visuals. This compares to an average of 22% visuals with fixed-wing aircraft in previous years. A typical flight from Kalispell would head north to the Canadian Border then east to Glacier National Park then south to Spotted Bear, then northwest back to Kalispell.

Visual of a radio-collared grizzly bear and two cubs from the helicopter.

Prevention

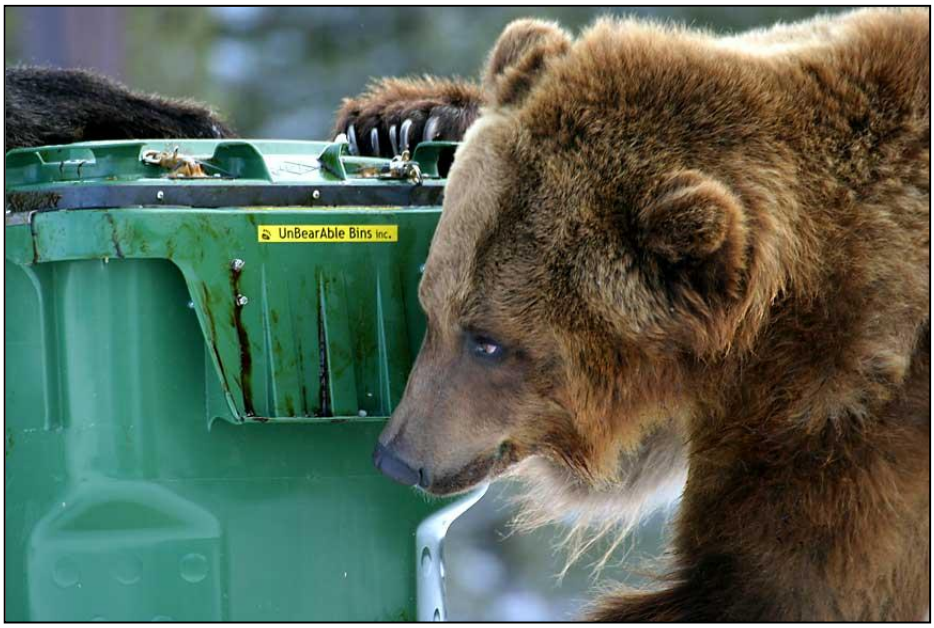
Electric Fencing: Prevention was again a major focus of the 2014 field effort. A majority of our effort involved protecting chickens and fruit trees with electric fencing. We assisted with the installation of 16 temporary and permanent electric fencing projects throughout the area.

The largest electric fencing project occurred in the Pinkham Creek area west of Eureka. The landowner raises pigs and chickens. Barrels of grain and sour milk sat outside the pig pen and at least one family group of grizzly bears got into the feed over the course of several years. Defenders of Wildlife assisted in the purchase and installation of the electric fence. Once the fence was erected, there were not any issues with bears getting into the pigs or chickens at the property. The family group was known to still use part of that area, but there was no evidence that they got through the electric fence.

Bear Fairs: Several years ago, a group in the Swan Valley started a Bear Fair that was open to the general public. Over a few years, it grew from 50 people to over 300 people attending. Due to the success of reaching out to local residents, additional bear fairs were planned and hosted at the communities of Polebridge, Essex, and Coram. In 2014 we had the second bear fair at Polebridge. Lindsey Stutzman and Jane Ratzlaff of the Montana Outdoor Legacy Foundation planned and sponsored the event. It was hosted by the Northern Lights Saloon and Polebridge Mercantile.

Agency personnel from Montana Fish, Wildlife & Parks, the US Forest Service, and Glacier National Park set up booths and gave presentations. Private NGO's and company vendors also put up displays and gave presentations on electric fencing, bear resistant containers, and the use of bear spray. Over 150 residents and tourists attended the event.

Bear Resistant Containers: A new program that we initiated in 2004 was the purchase of bear-resistant roll out garbage containers from Unbearable Bins. The purpose was to be able to loan bins out to residents that needed them on a short-term basis because a bear was attempting to access their garbage or other attractant. The containers passed the bear testing protocol that was jointly developed by Patti Sowka and the Living With Wildlife Foundation (LWWF.org). The testing protocol was presented and approved by the Interagency Grizzly Bear Committee in December 2003. The loaner program was successful early on and because of that success, Defenders of Wildlife purchased another 10 Unbearable Bins to add to our loaner program. We have found that once residents see the effectiveness and value of the bins, that they would purchase bear-resistant containers for themselves. It is hard to believe it has been 10 years since we started the loaner program.



County Waste Transfer Sites: We continued coordinating and working with several counties on bear-proofing some of their transfer sites. The green box site at Coram, operated by Flathead County, completed the fencing around their new site. It consists of a chain link fence and an electric fence on the outside. It was completed the spring of 2003 and since completion; we have not had any bears access the site.

Over the past 10 years, Flathead County has continued to consolidate and bear proof their waste transfer sites. In Flathead County, the sites at Ashley Lake, Olney, and the new Pinnacle/Essex site in the Middle Fork of the

Flathead are now fenced with chain link and electric fencing. The new transfer site in Bigfork will be fenced in 2015. Due to the success of bear-proofing these waste transfer sites in Flathead County, other counties have started to follow suit.

Lincoln County recently bear-proofed the Glen Lake and Trego transfer sites. Both of those locations had a big problem with black bears and grizzly bears getting into the unsecured garbage dumpsters. Since those sites have been fenced, there have not been any issues with bear accessing the garbage.

Lake County maintains two waste transfer stations in this area. The Porcupine site is south of the community of Swan Lake. We helped design, build, and install an automated lid system for the 40 cubic yard dumpsters that Lake County uses. The Porcupine site modification has been in place for at least 15 years and seems to be working quite well. The transfer site at Ferndale also had the site modified to automate the hydraulic lids on the 40 cubic yard dumpsters. Unfortunately, a leak developed in the underground hydraulic line, and Lake County has not made any effort to repair the leak. The site is not bear resistant at this time.

The community of Condon in the Swan Valley has made a big effort to provide bear resistant garbage containers to both landowners and business owners. The Swan Ecosystem Center along with Northwest Connections have put a lot of time and effort into educating landowners about the importance of keeping your garbage secure. It is always an ongoing educational effort that involves both new and long time residents of the Swan Valley, but they have been making a big difference.

The North Fork newsletter, written and distributed by local residents of the North Fork of the Flathead was first distributed in 2004. This newsletter summarizes bear activity in the North Fork and provides residents with information on preventing conflicts, identifying and securing attractants. This NFK Bear Newsletter is being modified for use in the Swan Valley and possibly the Middle Fork of the Flathead. The newsletter is mailed to every landowner in the North Fork Valley. The North Fork Newsletter and North Fork Landowners Association continue to provide information on grizzly bear activity in the North Fork.

Additional prevention efforts planned for 2015 include identifying and working with various organizations to provide bear-resistant dumpsters at commercial and residential sites where bear problems have been a major concern.

The preferred prevention method is education and working one on one with landowners. Helping landowners to understand why bears are attracted to their property and what they can do to secure attractants will be the most beneficial. We are already seeing results of this effort in the North Fork, Middle Fork, and Swan areas.

Use of Technology in Grizzly Bear Management

Development of new technology such as GPS radio collars, the Automated Bear Trap, DNA analysis, and digital remote cameras has improved our ability to monitor and manage grizzly bears that are involved in conflicts with humans.

During 2014, on occasion, we were able to use the services of Two Bear Air and their Bell 429 Helicopter with its Electro-optic/Infrared Imaging System. Basically, the imaging system was three gyro-stabilized digital cameras that had tremendous zoom capabilities and both daylight and infrared mode. This camera system allowed us to accurately locate grizzly bears, their dens, and to get counts of cubs. The infrared capability allowed us to see bears in dense brush and under the forest canopy. In one instance we could even see a grizzly bear and her cub inside their den (Figure 3).

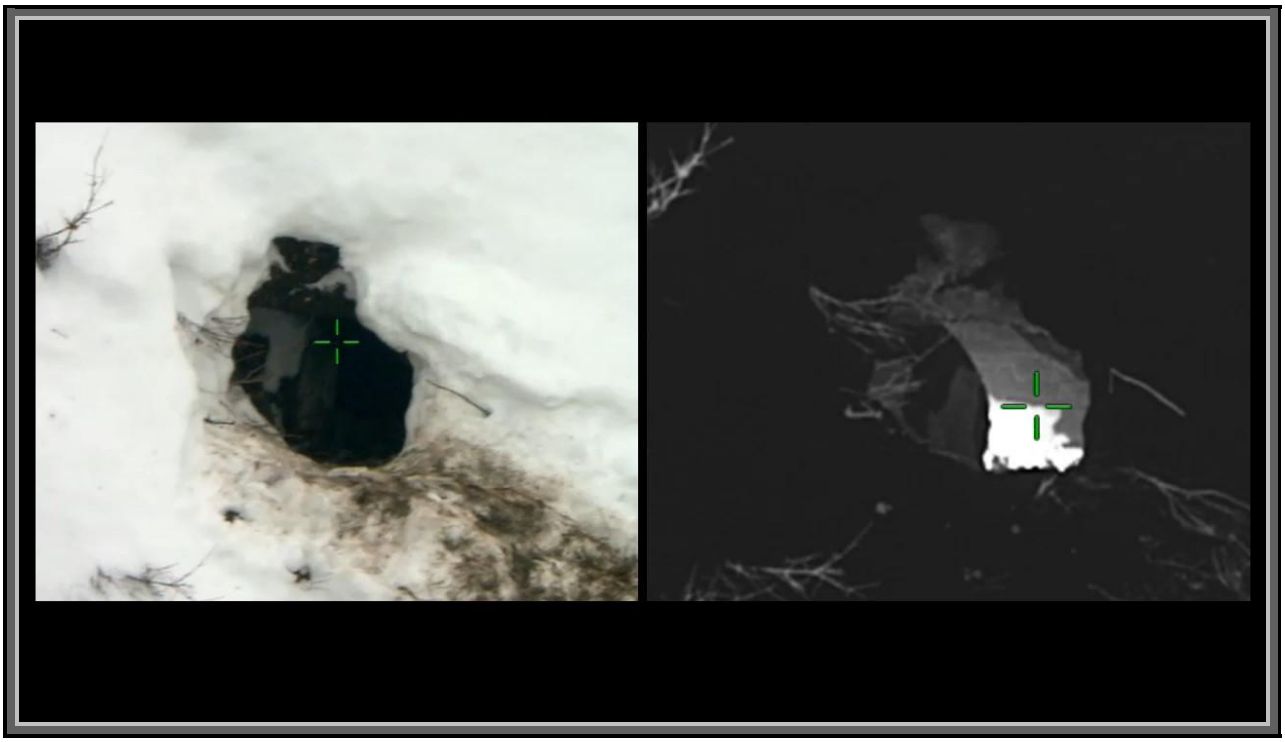


Figure 3. A Grizzly bear den in the Whitefish Range. On the left is the daylight image and on the right, the infrared image. You can see the head of the bear in the infrared image. Photo from Two Bear Air.

Two Bear Air proved to be very helpful in the autumn of 2014 when we had reports of grizzly bears shot at by deer and elk hunters in the lower Thompson River and Marias Pass areas. With the assistance of Two Bear Air and the infrared imaging system, we were able to locate both bears and confirm that they were dead. Without the help from Two Bear Air, we would probably not have been able to locate the female grizzly bear with the two cubs that was shot east of Marias Pass. Having the ability to search the area from the air with both a helicopter and infrared camera system was invaluable.

Bioimpedance analyzer used to calculate percent body fat.

Grizzly Bear Management Captures (1993-2014)

Since 1993, 206 individual grizzly bears have been captured 366 times in management actions within Region 1. The number of new grizzly bears captured ranged from 1 in 1994 to 23 in 2004. The years 1998, 1999, 2004, 2011, and 2012 had a large number of grizzly bear captures because of the poor huckleberry crop the falls of 1998, 2004, and 2011 (Table 2).

Table 2. Grizzly bears captured in management actions within the NCDE portion of Region 1. 1993-2014.

Year	# Captures	# Ind. Bears	# New Bears
1993	2	2	2
1994	1	1	1
1995	16	12	11
1996	12	10	8
1997	15	13	9
1998	24	19	12
1999	26	13	8
2000	13	13	9
2001	15	12	7
2002	8	7	6
2003	14	13	13
2004	42	31	23
2005	8	8	6
2006	11	8	7
2007	21	15	10
2008	13	10	6
2009	13	10	7
2010	25	23	16
2011	45	31	19
2012	19	18	13
2013	12	10	6
2014	10	9	7
R-1 Management Total	**366 (mean = 16.6)**		**206 (mean = 9.3)**

Management Grizzly Bear Mortality (1993-2014)

Of the 206 individual management grizzly bears captured in Region 1 since 1993, 101 (49%) are known to have died or have been sent to zoos (Table 3). The majority of the removals (56%) have been through management actions. There were no management removals in 1994, 2001 or 2014. Human-caused mortality of female grizzly bears has a large influence on the recovery of the grizzly bear. Reducing the number of management removals of all grizzly bears, especially females are a priority with this program. In the first three years (1993-1995), a total of 4 female grizzly bears were removed through management actions. In the following 7 years, 3 additional females were removed, 2 in 2000 and 1 in 2002. The year 2004 saw an all time high removal of female grizzly bears with 6 females removed through management actions. Three of the female management removals were 2-orphaned cubs and an orphaned yearling.

Table 3. Cause-specific and class-specific mortality records for 101 grizzly bears. Numbers represent known mortality of marked grizzly bears captured in management actions in Region 1. 1993-2014.

Class	Cause of Mortality								Total (%)
	Natural	Mistaken id	Self Defense	Management removal	Malicious	Handling	Vehicle/ Train	Unknown	
Adult									
M	0	0	1	12	1	0	1	3	18 (18)
F	0	2	3	7	1	0	1	0	14 (14)
Subadult									
M	0	0	0	14	9	0	4	3	30 (30)
F	1	1	1	6	3	0	2	0	14 (14)
Cub	4	0	0	16	0	1	2	0	23 (23)
Yearling	0	0	0	2	0	0	0	0	2 (2)
Total (%)	5 (5)	3 (3)	5 (5)	57 (56)	14 (14)	1 (1)	10 (10)	6 (6)	101

Cabinet Mountains Grizzly Augmentation Program

Since 2005, MFWP has been involved with the capture and translocation of both female and male grizzly bears into the Cabinet Mountains, south of Libby and Troy, Montana.

A total of 13 grizzly bears have been captured within the Northern Continental Divide Ecosystem (NCDE) and translocated to release sites that were approved for the Kootenai National Forest in both the West Cabinet and main Cabinet Mountains. To date, 8 of the 13 augmentation bears were known to have remained in the Cabinet Mountains until their radio collars fell off. Two female grizzly bears were killed after being released in 2008. Two females and a male released in 2009 and 2010 returned to the NCDE.

In order to be part of the augmentation program, only grizzly bears with no known management or conflict history can be translocated. During the first four years of the program, only five female grizzly bears were translocated. In 2010 and 2011, both a female and male grizzly bear were moved each year. One male was moved during 2012 and another male in 2013.

During 2014, we captured 2 two-year-old female sibling grizzly bears in the Whitefish Range and released both of them at the West Cabinet release site. Within a week, the bears had split up. One of the bears stayed in the West Cabinets and the other bear moved into the main Cabinets. Both bears are currently denned in the Cabinet Mountains.

Plans for 2015 are to continue the trapping, capture, and translocation of 1-2 grizzly bears to the Cabinet Mountains for the augmentation program.