# Grizzly Bear Management
# 2021 Annual Report
# NCDE Portion of Region 1
# Montana Fish, Wildlife & Parks

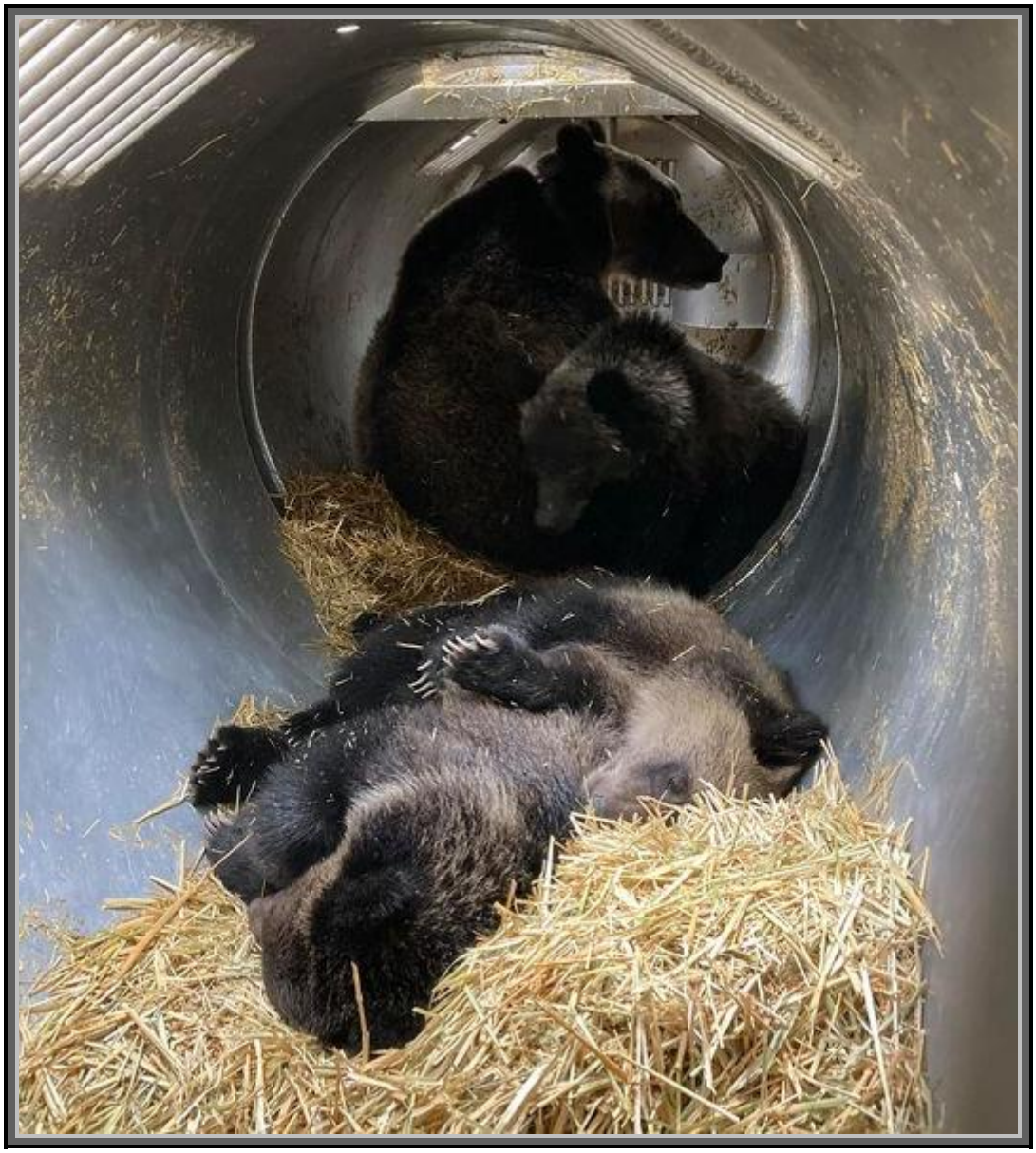

**Photo by Justine Vallieres.**


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**Grizzly bear cubs of the year. Adult female was in the other trap.**

## Acknowledgements

Many people were essential to having a successful grizzly bear management program. Funding was provided by Montana Fish, Wildlife & Parks (MFWP)and the Montana Outdoor Legacy Foundation (MTOLF). Donations by private individuals allowed for the purchase of additional field equipment. MFWP wildlife technician, Justine Vallieres, was hired again in May for a fourth season. The funding for her position was through the MTOLF. MFWP managers Neil Anderson, Jim Williams, and Ken McDonald supported management decisions. We coordinated and worked with bear managers and technicians Kim Annis, Danni Benedict, Kyle Garrett, Bruce Montgomery, and Erik Wenum (MFWP), Jeff Horn (Blackfeet Tribe (BIR)), Kari Eneas (Confederated Salish & Kootenai Tribe (CSKT)), John Waller (Glacier National Park (GNP)), James Jonkel and Eli Hampson (MFWP), Chad White (MFWP), Wesley Sarmento (MFWP), and Rory Trimbo (MFWP). MFWP game wardens Lee Anderson, Ben Chappelow, Chris Crane, Nate Muhn, Chris Neu, John Obst, Wes Oedekoven, Nathan Reiner, and Justin Slobuszewki, were extremely helpful in the reporting and investigation of bear conflicts, illegal feeding, bear mortalities, and handling bears. MFWP research biologists Cecily Costello, Lori Roberts, Milan Vink, and Kyle Yorke provided equipment, database management, logistical support, and bear handling. MFWP helicopter pilot Rob Cherot, and Two Bear Air Rescue pilot Jim Pierce, provided safe and excellent service when tracking bears by helicopter. Wildlife Services employees Ted North responded to grizzly bear depredations on livestock and Adam Bacca assisted with preventative measures. U.S. Forest Service (USFS) personnel Rob Davies, Scott Snelson, Cas Waters, and Amy Jacobs made timely decisions on the relocation sites for bears on the Flathead NF. Kootenai NF personnel Seth Carbonari and Lynn Johnson assisted with capture and release sites. USFS employees Rachel Manley, Mark Ruby, Kathy Koors, and Jessica Swanson assisted greatly with monitoring and reporting potential problems on Forest Service lands. Dave Ring with the Montana Department of Natural Resources (DNRC) assisted with decisions regarding the trapping and releasing of grizzly bears on DNRC lands. Hilary Cooley and Wayne Kasworm with the U.S. Fish and Wildlife Service (USFWS), supported management decisions and coordinated on relocation sites. USFWS Special Agent Mona Iannelli investigated cases involving dead bears. BNSF employees were available and helpful when dealing with situations along the railroad tracks. A couple of NGOs have provided funding and on-the-ground assistance with prevention projects. Defenders of Wildlife personnel, Erin Edge and Russ Talmo, have been very supportive with electric fencing projects. Luke Lamar and Swan Valley Bear Resources have been very valuable helping residents in the Swan Valley install and maintain electric fencing. Bryce Andrews with People and Carnivores coordinated on electric fencing. Several people have provided a large amount of time as volunteers. Rachel Manley, Rob McGilvray, Madelon Martin, Gary Moses, Jim Pierce, Tim Thier, Beth Vallieres, and members of the Ferndale Bear Group were extremely dedicated and helpful. All Creatures Veterinary Clinic and Flathead Pet Emergency were generous in assisting with X-rays and veterinary care.

This is my last annual report. After 37 years, I am retiring December 31, 2021. I have had a great career and have been lucky to work with wonderful people at MFWP and also with grizzly bears.


# Introduction

Year 2021 was similar and challenging like 2020 due to Covid-19. The Covid-19 pandemic did have some impact on our work. We were considered essential, so we continued to respond to grizzly bear conflict reports. We tried to address most of the issues over the phone, by text or email, but in many cases, it required a response in person.

We canceled most of our in-person presentations and conducted meetings by computer or conference calls. We continued to set traps, capture, handle, relocate or euthanize grizzly bears as necessary. We assisted landowners with electric fencing, set up remote cameras, loaned bear-resistant garbage containers, and deployed critter gitters.

We continued to assist with helping cover bear calls for the Eureka area, including Fortine, Trego and Stryker, all within Lincoln County and adjacent to the NCDE. Kim Annis also covers that area and hired two new technicians, so we helped with conflict calls and prevention efforts as needed.
The grizzly bear trend monitoring program began in 2004 and continues today. The program is headed up by MFWP but is an Interagency effort. We have assisted with the capture, collaring, and monitoring of those trend bears when possible. We provide data on female grizzly bears with young, confirmed reports of grizzly bears outside the recovery zone, confirmed grizzly bear conflicts, and grizzly bear mortalities. Cecily Costello and Lori Roberts produce an annual report that can be found on the MFWP website.

In 2005, MFWP began an augmentation program of capturing grizzly bears with no history of conflict from the NCDE and releasing them into the Cabinet Mountains. We did not capture or move any augmentation bears in 2021 due to the numerous responses to conflict reports and prevention efforts.

This report is an overview of the work conducted during 2021 and a summary of management related captures since 1993. It includes prevention efforts, reported grizzly bear conflicts, management captures, releases, monitoring, mortality, and the Cabinet Mountains augmentation program.

**Fitting a GPS radio collar and taking blood from a subadult grizzly bear.**

## Goal and Objectives

**Goal:** Minimize conflicts between people and grizzly bears.


## Objectives:

**Objective** - To minimize grizzly bear conflicts by working with landowners to identify, secure or remove attractants.

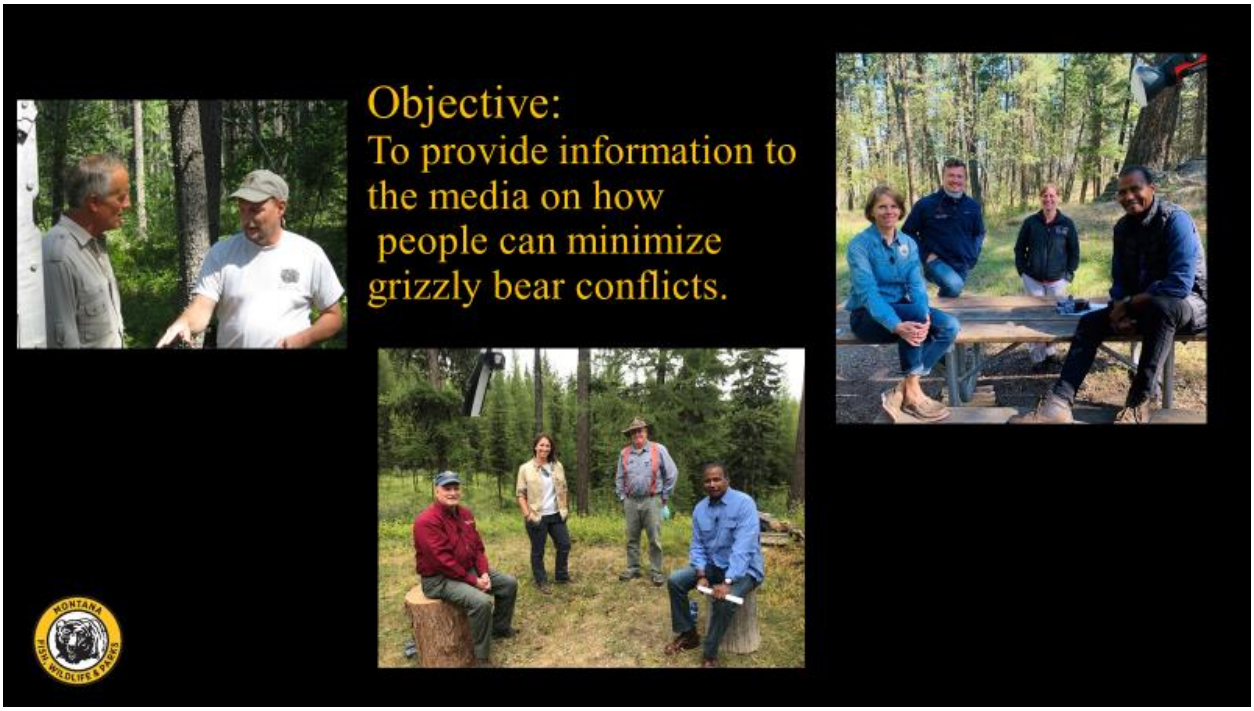
**Objective** - To work with agencies to promote food storage on public lands to minimize grizzly bear conflicts.


**Working with Wildlife Services on electric fencing and trapping. Assist Flathead National Forest Wildlife Technician with putting up electric fence around food at Hay Cr. fire camp.**

**Objective** - To work with city, county, state, and federal governments to minimize grizzly bear conflicts.


**Garbage transfer stations and activity in four counties. Sites made bear-resistant (green), sites that need repair (yellow), sites that are not bear-resistant (red).**

**Objective -** To provide information to the media on how people can prevent grizzly bear conflicts.




**Media coverage by Jack Hanna and 60 Minutes.**

**Objective -** To educate the public how to live and recreate safely in grizzly bear country.


**Grizzly bears at a seasonal residence, informational signs for hikers and mountain bikers, and providing guidance on the use of bear pepper spray.**

**Objective** - To respond to grizzly bear conflicts on private and public lands.


**Objective** - To develop relationships with the landowners, public, NGOs, and agency personnel to improve trust, coexistence, and tolerance.


We decided to add the last objective after attending some of the 2019 Governor's Grizzly Bear Council meetings. There was a lot of discussion about public trust, landowner tolerance of grizzly bears, and trying to coexist with grizzly bears when possible. Over the years, in many

areas we have worked, we think the tolerance for grizzly bears has improved. Residents that live in grizzly bear country expect bears to be around and have learned or are learning how to coexist. The difficult areas are in those places where people do not expect to have grizzly bears around. It is important that we respond to grizzly bear reports and conflicts in a timely manner when possible. If a site visit isn't possible, we need to follow up with a phone call. Failing to contact the reporting party in a timely manner will only reduce trust in our management and will result in a decrease in the tolerance of grizzly bears, with possibly less reporting as a side effect of both.

## Grizzly Bear Technician

The Montana Outdoor Legacy Foundation (MTOLF) again provided monies to fund a 6-month technician to work with the MFWP Grizzly Bear Management Specialist. This year, Justine Vallieres was hired for a fourth season and began work in May.

Over the last four field seasons, Justine has learned a lot and has become very confident and proficient in preventing and responding to grizzly bear conflicts. This involved working closely with landowners and agency personnel. Justine has become very competent with trapping, drugging, handling, and monitoring grizzly bears. All the captures and handling events were conducted in a safe and professional manner. Justine is also experienced with installing and maintaining electric fences, deploying critter gitters, remote cameras, and assisting landowners in identifying and securing attractants.

The grizzly bear technician position is an extremely important part of the grizzly bear management program. It provides additional personnel to respond to conflicts and to work with landowners on preventing conflicts.

Funding for the technician position has always been a challenge because it is funded with "soft" dollars. That means funds must be raised every year primarily through grants and donations. In 2022, the bear technician position will be base funded through MFWP.

Justine's last day of work was Nov 28, 2021. I was still getting grizzly bear reports into December.

## Prevention

The best way to minimize conflicts between people and grizzly bears is to prevent conflicts from occurring in the first place.

Prevention can include a wide range of options including education (brochures, press releases, presentations, bear fairs, social media, etc.), increasing human tolerance, installing and maintaining an effective electric fence, and using approved bear-resistant garbage containers. Perhaps the most effective, but also the most time-consuming option, is one-on-one communication with people that live and recreate in grizzly bear country. The one-on-one communication needs to be done before a conflict occurs. Unfortunately, most one-on-one communication tends to occur in response to a conflict that has already occurred. The Covid-19 pandemic certainly reduced the amount of contact we had with landowners which impacted our prevention efforts.

**County Garbage Transfer Stations**
We work with Flathead, Lake, Lincoln, and Missoula counties and the management of their garbage transfer stations or "green box sites" on how to make them bear-resistant. Flathead and Lincoln counties have put a lot of effort and money into making their garbage transfer stations bear-resistant.

Flathead County was the first to relocate and install electric fencing around their Coram transfer site. Since then, Flathead County put electric fencing around their other sites at Olney, Ashley Lake, Essex, and Bigfork. The Flathead National Forest and the Great Northern Environmental Stewardship Area (GNESA) were involved with logistics and funding for some of the sites.

Lincoln County has followed the Flathead County bear-resistant garbage transfer station design and efforts. Within and adjacent to the NCDE, they have protected their sites at Glen Lake, Pinkham, Trego, and in 2020, the Fortine site. Previously the county moved the dumpsters from Stryker to the fenced Trego site. Kim Annis, the Kootenai National Forest, and GNESA were very instrumental in working with Lincoln County in securing those sites.

Lake County operates two transfer stations in our area. One at Porcupine Creek, south of Swan Lake, and the Ferndale site, adjacent to Ferndale. Both sites have 40 cubic yard roll-off containers with hydraulic arms and screen tops. Both sites were modified so that the lids could be opened and closed by flipping a switch. Currently, only the Porcupine site is operating correctly. Lake County has limited public access to the site by only having it open during certain days of the week.

Many years ago, the Ferndale site developed a leak in the buried hydraulic line and the county has yet to fix the problem. We have contacted Lake County numerous times about the situation at the Ferndale site and have asked landowners, who use the site to also contact the county about fixing the leak, so the lids can be opened and closed by users of the site. So far, no action has been taken by the county. The county did put up a chain link fence and a new gate around the site, but bears can easily climb the fence since there isn't any electric component to it. We will continue to work with Lake County Sanitation to resolve the issues. At the end of 2021, no changes had been to the site.

Missoula County covers the Swan Valley near Condon. Presently, all garbage collection is done by a private company, Republic Services. There have been discussions about creating a bear-resistant transfer station near Condon, but nothing has occurred yet. Republic Services has replaced some bear-resistant dumpsters that have malfunctioned or rusted out. Swan Valley Bear Resources continues to monitor bear-resistant containers in the Swan and has been very helpful working with Republic Services.

**City of Whitefish:** For many years, Erik Wenum, has been working closely with the city of Whitefish regarding primarily black bear related conflicts. He was instrumental in getting the city to enact an ordinance that basically states that the residents and businesses within the city limits can not roll out their garbage until the morning of pickup unless it is in a bear-resistant container. MFWP and Whitefish City officials met in October 2019 to discuss the bear situation in Whitefish and lack of bear-resistant containers. There was an agreement made to remove fruit trees on city property and to work with the local hauler, Republic Services, to provide bear-resistant garbage containers (Kodiak cans) within the city limits. On December 6, 2021, Whitefish City Council voted and approved moving forward with having Republic replace all of the residential garbage carts within the city of Whitefish with 96 gallon bear resistant roll-out containers. They are also considering curbside recycling and those containers would also be bear resistant. If the contract is approved, the containers could be in place prior to the 2022 field season.

We are hoping that Whitefish will be the example of a responsible "Bear Smart Community" for all communities in the region. The Interagency Grizzly Bear Committee and the Grizzly Bear Education and

Outreach Committees are exploring the idea of working with interested communities and NGOs on establishing "Bear Smart Communities" throughout Montana.

**Electric Fencing:** Properly constructed and maintained electric fences are very effective at keeping bears from gaining access to attractants. Bear conflict specialist, Kim Annis, based in Libby, has developed an electric fencing guide that provides information on how to properly install and maintain an electric fence. We distribute that guide to landowners and provide them with a link to the Interagency Grizzly Bear Committee website for additional information. http://igbconline.org/wp-content/uploads/2016/03/MFWP Electric-Fencing-Guide_March-2017.pdf

A large part of our prevention work involved assisting landowners with protecting chickens, pigs, and fruit trees with electric fencing. We helped with the installation of 22 temporary and permanent electric fencing projects located near Columbia Falls, Whitefish, Creston, Bigfork, Ferndale, Swan Lake, and Eureka. We also have an electric fence loaner program. During 2021, 15 electric fence energizers and net fences were loaned to landowners.

**Electric Screens and Mats:** For the past 14 years we have been utilizing pulsating electric fence energizers to electrify screens on rubber mats on the ground in front of doors, on screens stapled over windows and doors of chicken coops and sheds, metal grain barrels, and even metal doors on garages and shops. We use these techniques if we are unable to secure the attractants with conventional electric fencing. We have found these techniques are usually quick, easy to install, easy for landowners to use, and are effective in deterring grizzly bears.

In 2021, we continued to utilize some of these techniques to protect chicken coops, garage doors, and for the first time; on wooden pallets on the porches to a cabin to protect freezers full of food. Although we didn't get video footage of a grizzly touching the electrified screen on the pallets, we did get video of the grizzly visiting approaching the porches but not able to get to the freezers.


**Critter Gitters:** Since 1994 we have been using motion-activated noise makers called Critter Gitters to temporarily keep bears away from attractants. The Critter Gitters are made by Amtek and are powered by a 9-volt transistor battery. We currently loan them out to landowners to put up on chicken coops, garages, fruit trees, porches, and any attractants that can't be quickly secured.

**Bear-resistant Containers:** Since 2004, we have had a program established to loan bear-resistant roll out garbage containers to residents. We started with Unbearable bins and have now acquired Kodiak cans thanks to funding provided by the Montana Outdoor Legacy Foundation (MTOLF) and the National Fish and Wildlife Foundation (NFWF).


This loaner program has been very popular and currently16 of these containers are on loan. Two of those were borrowed from Swan Valley Bear Resources. We have had to retire some of the containers due to age and damage by hauling companies when they empty them.

**Fruit Gleaning and Bear Aware Programs:** In the fall of 2019, Justine created a Facebook page called Flathead Fruit Gleaning. It was set up so that landowners who wanted fruit picked could connect with people who were willing to come pick fruit, give it to the landowner, keep it for themselves, and/or provide it to the food bank. The page was new, but there was certainly interest and use by both landowners and the public and over 750 people were following the page by the end of 2021. The local food banks have expressed an interest in helping with the program and receiving excess fruit. Fruit donations could also be dropped off at the Kalispell FWP office to be given to the Grizzly and Wolf Discovery Center in West Yellowstone. This provided the bears at the center with an additional amount of food and was a positive motivator for people to pick and donate their fruit.

On May 26, 2020 Justine created the Flathead Bear Aware Facebook page. The page was created to provide information to the public on preventing bear conflicts, information on electric fencing and provides updates on MFWP bear management activities in the Flathead area. By the end of this season, over 3808 people were following the page.

**Bear Fairs and Wake-up Social:** Several years ago, a group in the Swan Valley started a Bear Fair that was open to the public. Within a few years, it grew from 50 people to over 300 people attending. Due to the success of reaching out to residents, additional bear fairs were planned and hosted at the communities of Polebridge, Essex, Coram, and Ferndale.

In 2021, due to the Covid-19 pandemic, the Bear Fairs and Wake-up Social were canceled.

## Presentations, Meetings, and Training

A large part of grizzly bear management involves interactions between the public and agency personnel. This includes formal presentations, meetings, workshops and training. Again, due to the Covid-19 pandemic, most in person presentations, meetings, and training sessions were either canceled or held remotely via computer or conference calls.

**January:**
Bear Managers Meeting. Zoom. January 27-28. Agency.

**February:**
Montana Department of Transportation Meeting. Zoom. February 2. Agency.
MFWP R-1 Wildlife Meeting. Zoom. February 22. Agency.

**March:**
North Fork Interlocal Meeting. Zoom. March 4. Public and Agency.

**April:**
USFWS Workshop. Zoom. April 5-6. Agency.
Whitefish Legacy Partners Presentation. Zoom. April 13. Public & NGO.

**May:**
NCDE Subcommittee Virtual Meeting. May. Agencies & Public.

**June:**
Ferndale Community Group Meeting. June 8. Public & Agency.

**July:**
Bigfork Sundowner Meeting. July 8. Public.
Ferndale Community Group Meeting. July 22. Public & Agency.

**November:**
Whitefish City Council Meeting. November 16. Agency.
Science Team Meeting. Zoom. November 30. Agency.

**December:**
NCDE Meeting and Presentation. Zoom. December 1. Agencies & Public.
Whitefish City Council Meeting. December 6. Agencies & Public.

## Reported Grizzly Bear Conflicts

Documenting and summarizing grizzly bear conflicts has always been a challenge. There are several factors that need to be considered. Once a report is received, we contact the reporting party and try to determine if the species is known and if the report should be classified as a confirmed grizzly bear conflict. This often involves a site visit to look for tracks, hair, or if there are any photos. Often, there is more than one type of conflict that has occurred.

We classify the confirmed conflicts into seven major categories; Around Homes, Carcass, Damage, Depredation, Encounter, Feed, Unnatural Foods (Table 1). Within these major categories are subcategories that provide more specific information.

For example, if it is determined that a grizzly bear did kill chickens, broke the door on the chicken coop, and ate chicken feed, the conflict can be put into three major categories and more specific subcategories. In this case, the primary conflict was the chickens being killed (Depredation – Chicken), secondary conflict was damage to the chicken coop (Damage – Coop), and third conflict is the bear also ate chicken feed (Feed – Poultry).

Around Homes: This includes bears in yards feeding on grass and other natural foods, bears on porches but not getting any unnatural food rewards.

Carcass: Bears getting harvested game carcasses or livestock carcasses next to residences.

Damage: Bears that have caused property damage ranging from fences, barbeques, freezers, sheds, chicken coops, garages, cabins, or houses.

Depredation: Bears that have killed domestic animals including chickens, rabbits, goats, llamas, or cattle.

Encounter: These are negative encounters with people including bears charging, injuring, or killing someone.

Feed: Bears feeding on pet food, bird feed, or livestock feed.

Unnatural Foods: Garbage or other human foods.

**Table 1. Number of confirmed grizzly bear conflicts in each major conflict category.**

| Conflict | Conflict #1 | Conflict #2 | Conflict #3 | Total |
|---|---|---|---|---|
| Around Homes | 6 | 3 | 2 | **11** |
| Carcass | 0 | 1 | 0 | **1** |
| Damage | 22 | 28 | 2 | **52** |
| Depredation | 30 | 1 | 2 | **33** |
| Encounter | 1 | 0 | 0 | **1** |
| Feed | 8 | 3 | 3 | **14** |
| Unnatural Foods | 30 | 6 | 2 | **38** |
| | | | | |
| **Total** | **97** | **42** | **11** | **150** |
| | | | | |

In previous years, the number of calls and reported grizzly bear conflicts ranged from 10 in 1993 to over 250 in 1998. Since 1993, the number of reports 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 many phone calls as the bear moves from house to house).

Once a grizzly bear conflict report 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 as to what actions can be taken to prevent further conflicts. In most cases, identifying and properly securing the attractants takes care of the situation. In some cases, the decision is made 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.

Trapping was not always an option especially not when we dealt with and female and cub(s). Attempting to capture family groups can be the most difficult. In many cases, we decided not to attempt trapping because the risk of capturing a grizzly bear cub and not the adult female could make the situation more dangerous. This a big concern in situations where the traps cannot be located a safe distance from residences or away from human activity.

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 here in Region 1, and all are usually easily secured.

When multiple bears, including family groups, were involved in conflict situations, multiple traps were set. The family trap we share with Glacier National Park was used on several occasions to capture cubs when the adult female was captured.

## Grizzly Bear Management Captures

The decisions to capture grizzly bears for management reasons are not made without careful consideration. Human and bear safety are primary considerations. In many cases, the decision to capture and translocate a bear is made to give us time to properly remove or secure an attractant. In some cases, the decision has been made to remove a bear from the population due to repeat conflicts, level of property damage, or concerns about human safety.


**Family group of grizzly bears at culvert trap southeast of Columbia Falls.**

Management trapping resulted in 33 captures of 32 individual grizzly bears. All 33 captures occurred on private land.

The 32 individual grizzly bears that were captured included seven adult males, eight adult females including one with three cubs (captured but not drugged), one with two cubs (not captured), one with a male yearling, one with three female yearlings, and one with two 2-year olds (one male and one female), five independent subadult females, and three independent subadult males. (Table 2).

All but three grizzly bears were captured in culvert traps. An adult female in the North Fork and two adult males in the Flathead valley would not go into a culvert trap. All three were captured with foot snares. Captured grizzly bears were anesthetized with Telazol or Telazol/Medetomidine administered by syringe pole. 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. Weights were recorded with a digital scale. A Bioimpedance Analyzer was used to measure resistance to calculate % body fat to quantify body condition. Most bears over 2 years of age were radio-collared. Due to a lack of GPS radio collars, some bears were not collared. Three adult bears were so fat, their necks were bigger than their heads and two pulled their collars off in the traps before being released and one we didn't even attempt to radio collar because it would just get pulled off.

Hair samples were collected for both DNA and stable isotope analysis. We first collected hair for DNA in 1994 and the first DNA analysis was in 1998 in coordination with the USGS. Blood was spun using a centrifuge and the serum and whole blood were collected, frozen and sent to Washington State University for stable isotope analysis beginning in 2010. The isotope analysis was used to determine the primary diet (meat or vegetation) of the grizzly bear within certain time periods, within a week, month or year.

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.

There were several situations where confirmed grizzly bear conflicts occurred, traps were set, but no bears were captured. There were three different areas where this occurred.

One area was in the Pinkham Creek area west of Eureka. A female with two yearlings killed chickens at several different locations, caused extensive property damage to chicken coops, and may have broken into an unoccupied cabin. Traps were set at several different locations over the course of several weeks and the bears either didn't go in the culvert traps or they didn't return to where traps were set.

A commercial composting site located near Columbia Falls had at least nine different grizzly bears at that site. We captured and relocated four of those grizzly bears. The other five grizzly bears were photographed with trail cameras but weren't captured. The electric fence was improved and the bears did not get back into the compost site. This area needs to be closely monitored in 2022.

The third location involved a subadult grizzly (based on track measurements) that broke into several unoccupied cabins and sheds in the Star Meadow and Good Creek areas northwest of Whitefish. Traps were set at several locations and the bear did not return to those sites.

**Table 2. Grizzly bears captured for management in Flathead Portion Region 1, 2021.**

| RecNo | BearID | CapDate | Sex | Age Class | CapNo | CapDrain | RelDrain |
|---|---|---|---|---|---|---|---|
| 480 | NWM283 | 28-Apr-21 | Male | Subadult | 1 | Tobacco | NFK Flathead |
| 481 | NWM284 | 11-May-21 | Male | Subadult | 1 | Swan | SFK Flathead |
| 482 | NWM284 | 26-May-21 | Male | Subadult | 2 | Swan | MFK Flathead |
| 483 | NWM195 | 30-May-21 | Female | Adult | 5 | Whitefish | Euthanized |
| 484 | NWM285 | 31-May-21 | Male | Yearling | 1 | Whitefish | Euthanized |
| 485 | NWM286 | 2-Jun-21 | Female | Adult | 1 | Stillwater | Whitefish |
| 486 | NWM287 | 11-Jun-21 | Male | Adult | 1 | Stillwater | SFK Flathead |
| 487 | NWM288 | 28-Jun-21 | Female | Subadult | 1 | Stillwater | SFK Flathead |
| 488 | NWM289 | 28-Jul-21 | Male | Adult | 1 | Swan | MFK Flathead |
| 489 | NWM290 | 24-Aug-21 | Male | Adult | 1 | Flathead | Euthanized |
| 490 | NWM291 | 24-Aug-21 | Male | Adult | 1 | Swan | Euthanized |
| 491 | NWM292 | 29-Aug-21 | Female | Subadult | 1 | Whitefish | MFK Flathead |
| 492 | NWM293 | 31-Aug-21 | Female | Yearling | 1 | NFK Flathead | Euthanized |
| 493 | NWM294 | 2-Sep-21 | Female | Yearling | 1 | NFK Flathead | Euthanized |
| 494 | NWM295 | 3-Sep-21 | Female | Yearling | 1 | NFK Flathead | Euthanized |
| 495 | NWM296 | 3-Sep-21 | Female | Adult | 1 | NFK Flathead | NFK Flathead |
| 496 | NWM297 | 4-Sep-21 | Female | Adult | 1 | NFK Flathead | Euthanized |
| 497 | NWM298 | 8-Sep-21 | Male | Adult | 1 | Tobacco | NFK Flathead |
| 498 | NWM299 | 10-Sep-21 | Female | Adult | 1 | Tobacco | Whitefish |
| 499 | NWM300 | 11-Sep-21 | Unknown | Cub | 1 | Tobacco | Whitefish |
| 500 | NWM301 | 11-Sep-21 | Unknown | Cub | 1 | Tobacco | Whitefish |
| 501 | NWM302 | 11-Sep-21 | Unknown | Cub | 1 | Tobacco | Whitefish |
| 502 | NWM303 | 8-Oct-21 | Female | Adult | 1 | Flathead | Swiftcurrent |
| 503 | NWM304 | 9-Oct-21 | Female | Subadult | 1 | Flathead | Swiftcurrent |
| 504 | NWM305 | 9-Oct-21 | Male | Subadult | 1 | Flathead | Swiftcurrent |
| 505 | NWM306 | 9-Oct-21 | Male | Subadult | 1 | Flathead | MFK Flathead |
| 506 | NWM307 | 12-Oct-21 | Male | Adult | 1 | Flathead | NFK Flathead |
| 507 | NWM308 | 12-Oct-21 | Female | Adult | 1 | Flathead | NFK Flathead |
| 508 | NWM309 | 14-Oct-21 | Female | Subadult | 1 | Flathead | Whitefish |
| 509 | NWM310 | 15-Oct-21 | Female | Adult | 1 | Flathead | Whitefish |
| 510 | NWM311 | 15-Oct-21 | Male | Adult | 1 | Middle Fork | NFK Flathead |
| 511 | NWM312 | 29-Oct-21 | Female | Subadult | 1 | Swan | SFK Flathead |
| 512 | NWM313 | 21-Nov-21 | Female | Subadult | 1 | Middle Fork | MFK Flathead |
| | | | | | | | |

## Grizzly Bear Releases

Twenty-four of the 32 grizzly bears that were captured for management reasons were initially released back into the wild. One of the 32 was recaptured and euthanized, and seven bears were euthanized without being relocated. All the grizzly bear releases are entered into the MFWP relocation database.

The grizzly bears that were released were either relocated to an approved site or released on-site with the permission of the landowners. One grizzly bear was released on private land, Eight on DNRC land, twelve releases occurred on the Flathead National Forest, and four in Glacier National Park.

Prior to releasing any bears, we coordinated with the MFWP, USFWS, and the land management agency or landowner. We made sure that there were not any people working, hiking, camping, or parked at or near the release sites. If there was an unattended vehicle at the gate or near the site, we would move to an alternate location.

All the bears that were released were held overnight so that the anesthetizing drugs were metabolized. All the releases were "soft" releases where we just opened the door and the bear left.

## Monitoring

Radio-collared grizzly bears were monitored primarily with the GPS Iridium collars. Ground and aerial telemetry were also used to monitor movements and to get visuals on females with cubs. In previous years we attempted to fly at least once a month. With the new GPS Iridium collars, we can monitor the bears without the need for monthly flights. Monitoring flights were conducted with MFWP helicopter pilot Rob Cherot and Two Bear Air Rescue pilot Jim Pierce.

Sixteen grizzly bears were fitted with Iridium GPS collars with geofence capability and released back into the wild. All of the grizzly bears that were captured and released were microchipped for identification if recaptured. The geofence technology allows us to delineate polygons around places where we want to obtain additional GPS locations to document the bears movements. When a bear is in a remote area and away from residences, the collar acquires a GPS location every six hours. When the bear moves into the geofence polygon, the collar acquires a GPS location every 30 minutes.

The collars store the GPS locations on the collar, but we can also download all or some of the data through a satellite connection once every other day. This allows us to limit the amount of flying and ground tracking time to obtain locations. Although the downloads do not provide real time data, we are still able to monitor the grizzly bear movements and activity much better than with the previous generation of VHF and GPS radio collars.

To save battery power, the GPS collars turn off on December 1$^{st}$ or 15$^{th}$ and turn on March 1$^{st}$ or 15$^{th}$. We are finding some bears are not denning until after the 1$^{st}$ of December and some bears are emerging from their dens prior to March 15$^{th}$.

The GPS collars are built with a mortality switch that produces a mortality pulse rate if the collar does not move for six hours. On the spreadsheet of the collar downloads we can see if the collar went to mortality. A collar not moving for six hours can be the result of the bear being dead or the collar falling off. Once a collar is on mortality, we attempt to retrieve the collar to determine if the bear is dead or if the collar just dropped.

Funding for some of the collars and refurbishment of dropped collars was received from funds provided by private individuals.

Six Iridium GPS collars are needed to be refurbished for the 2021 field season. New Iridium GPS collars cost about $2,400 each. To refurbish a collar, the cost is about $1,600. While the cost of the collars is much higher than the traditional $350 VHF collars, we can get up to 48 accurate GPS locations a day, depending on if the bear is within the geofence or not, compared to maybe less than 10 somewhat

accurate VHF locations a month. Also, with the GPS and download technology, flight costs drop dramatically.

## Grizzly Bear Management Captures (1993-2021)

Since 1993, 309 individual grizzly bears have been captured 508 times as part of the grizzly bear management program. The number of new grizzly bears captured ranged from 1 in 1994 to 30 in 2021. The years 2011, 2004, and 2021 had the highest number of grizzly bears captured for management (Table 3).

**Table 3. Grizzly bears captured in management actions within the NCDE portion of Region 1. 1993-2021.**

| 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 | 39 | 28 | 20 |
| 2005 | 7 | 7 | 5 |
| 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 |
| 2015 | 15 | 13 | 11 |
| 2016 | 16 | 16 | 10 |
| 2017 | 21 | 15 | 10 |
| 2018 | 23 | 20 | 17 |
| 2019 | 19 | 16 | 13 |
| 2020 | 19 | 19 | 16 |
| 2021 | 33 | 32 | 30 |
| **R-1 Management Total** | **508 (mean = 18.1)** | | **309 (mean = 9.0)** |

## Reasons For Capturing Grizzly Bears For Management (1993-2021)

Of the 508 management captures and handling of grizzly bears (1993-2021), the highest categories were the captures of dependent young that were caught while trapping for the adult females that were involved with some type of management action, followed by grizzly bears captured for being around homes, depredations on domestic animals, and accessing feed for domestic animals and wild birds. Next were bears getting into domestic fruit trees and incidental

captures of grizzly bears while trapping for black bears or bears causing the actual conflict. Property damage, accessing garbage, and grizzly bears digging up domestic carcasses or taking harvested game on private property comprised the rest of the categories. All categories and sub-categories for management captures and handling of grizzly bears are listed in Table 4.

**Table 4. Reasons For Capturing and Handling Management Grizzly Bears. 1993-2021.**

| Category | Sub-category | Number of Captures |
|---|---|---|
| **Dependent Young** | | **109** |
| **Around Homes** | | **82** |
| **Depredation** | Poultry | 47 |
| | Goat | 4 |
| | Pig | 3 |
| | Llama | 3 |
| | Sheep | 2 |
| | Calf | 1 |
| | Dog | 1 |
| **Depredation Total** | | **66** |
| **Feed** | Pet | 25 |
| | Wild Bird | 11 |
| | Horse | 9 |
| | Pig | 5 |
| | Poultry | 3 |
| **Feed Total** | | **53** |
| **Incidental** | | **39** |
| **Fruit** | | **38** |
| **Garbage** | | **31** |
| **Property Damage** | Shed | 11 |
| | Garage | 4 |
| | Cabin | 3 |
| | Freezers | 3 |
| | Vehicle | 3 |
| | Kennel | 1 |
| | Trailer | 1 |
| **Property Damage Total** | | **26** |
| **Carcass** | Deer | 4 |
| | Horse | 4 |
| | Butcher Scraps | 1 |
| | Cow | 1 |
| | Dog | 1 |
| **Carcass Total** | | **11** |
| **Orphaned** | | **11** |
| **Habituated** | | **9** |
| **Preventative** | | **6** |
| **Campground** | | **5** |
| **Food** | | **5** |
| **Compost Site** | | **4** |
| **Grease** | | **4** |
| **Leghold Trap** | | **4** |
| **Grain** | | **4** |
| **Grain Spill** | | **3** |
| **Wounded** | | **1** |

## Status of Grizzly Bears Sent to Zoos or Facilities

Since 1993, we have sent 29 grizzly bears to zoos or research facilities. Most of these were cubs and yearlings, but a few occasions included subadult or adult grizzly bears that we felt would adapt to captivity. These were bears that would have been killed if they hadn't been placed elsewhere. We prefer to have bears alive and in the wild. Removing a grizzly bear from the population is a final option. No grizzly bears were sent to zoos or facilities in 2020.

The first grizzly was removed in 1993 and was sent to the San Antonio Zoo in Texas. She was a seven-year-old female from Spotted Bear. I am not sure of her status.

Two female grizzly bears were sent to the Bronx Zoo; a subadult in 1995 and a cub in 2003. Status unknown.

Two female cubs were sent to the Wildlife Way Station, a wildlife rescue facility in California, in 1995. As far as we know they are still there, but the facility was being closed in 2019. Status unknown.

The Grizzly and Wolf Discovery Center (GWDC) in West Yellowstone now houses four grizzly bears we have sent to them. All the bears are still alive and doing well. The first one was an adult female in 2002 from the Whitefish area. She had been captured and relocated five times before being removed. In 2011, the second bear was a subadult male from the Coram area after being captured and relocated twice before. The third and fourth bears are female cubs that were captured in 2019 near Condon after the adult female was killed for repeated conflicts.

In 2002, a male grizzly bear cub located near Whitefish was sent to the Denver Zoo. DNA revealed that its mother was the adult female grizzly sent to the (GWDC) later in 2002. The cub was housed with a young female grizzly bear from Alaska. The male was euthanized in 2019 after having severe arthritis and other health issues.

Six grizzly bears were sent to the Washington State University Research Facility at Pullman, Washington. The first four bears were sent in 2000. They included a subadult female, originally from Seeley Lake, and an adult female and two of her male cubs from the Polebridge area. A subadult female was sent there in 2008 from the Flathead Valley. The last bear was a subadult male sent there in 2010. Originally, he was from the Ferndale area but was recaptured at Seeley Lake. All the bears sent to WSU were utilized for research and have been euthanized.

In 2004, a female and male cub that were orphaned after their mother was hit and killed by a train near Essex, were sent to the zoo in North Dakota. Their status is unknown.

In 2005, Washington Park Zoo in Michigan City, Indiana, received two female grizzly bear cubs after we killed the adult female for repeated conflicts in the Coram area. Their status is unknown.

The Cheyenne Mountain Zoo in Colorado Springs, Colorado became the home for two unrelated subadult male grizzly bears in 2008. One bear was from the Eureka area and the second bear was from Swan Lake. Both were on their own but had caused repeated conflicts before being removed. They have both bonded and are doing well in captivity.

Four grizzly bear cubs, three females and one male, were sent to the North Dakota Zoo in 2011, after both of their mothers were killed for repeated conflicts and killing pigs. Two are still at the North Dakota Zoo in Bismarck. Two of the female cubs have been transferred to the Henry Vilas Zoo in Madison, Wisconsin.

Two yearlings, one male and one female, were sent to the St. Louis Zoo in Missouri in 2017, after their mother was killed for repeated conflicts in the Ferndale area. They are currently in a new 11.1-million dollars exhibit and have adapted to captivity.

Some of these zoos have put a lot of money into large outside enclosures and are providing information on grizzly bear conservation. A suggestion is to contact these zoos and inquire about having them assist with fundraising to help with on-the-ground efforts to minimize human/grizzly bear conflicts.

## Management Grizzly Bear Mortality and Removals (1993-2021)

Of the 313 individual management grizzly bears captured in Region 1 since 1993, 175 (56%) are known to have died or have been sent to zoos (Table 5). Most of the mortalities (37%) have been through management removals. 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, is a priority with this program. In the first three years (1993-1995), a total of four female grizzly bears were removed through management actions. In the following seven years, three additional females were removed, two in 2000 and one in 2002. The year 2004 saw an all-time high removal of female grizzly bears with six females removed through management actions.

In 2021, we killed 8 grizzly bears in management actions and one subadult male was recaptured and killed on the Blackfeet Reservation in a management action. One adult female and her male yearling were captured near Whitefish for repeated depredations on chickens, goats, and llamas. Two adult males on the east side of the Flathead Valley were captured and killed for killing multiple pigs and different locations. In the North Fork of the Flathead, an adult female and her three female yearlings were captured and killed for accessing garbage and damaging multiple vehicles and an unoccupied camp trailer.

**Table 5. Cause-specific and class-specific mortality and removals for 175 grizzly bears. Numbers represent known mortality and removals of marked grizzly bears captured in management actions in Region 1. 1993-2021.**

| Age Class | Cause of Mortality | | | | | | | | | Total (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| | Natural | Mistaken id | Self Defense | Management deaths | Sent to Zoo or WSU | Malicious | Handling | Vehicle/ Train | Unknown | |
| **Adult** | | | | | | | | | | |
| **M** | 0 | 0 | 1 | 14 | 0 | 3 | 0 | 1 | 5 | **24 (15)** |
| **F** | 0 | 2 | 2 | 13 | 3 | 6 | 0 | 2 | 2 | **30 (17)** |
| **Subadult** | | | | | | | | | | |
| **M** | 0 | 0 | 6 | 23 | 5 | 14 | 0 | 5 | 4 | **57 (32)** |
| **F** | 0 | | 1 | 5 | 4 | 3 | 0 | 2 | 0 | **15 (8)** |
| **Cub** | 1 | 0 | 0 | 2 | 14 | 0 | 1 | 3 | 8 | **29 (17)** |
| **Yearling** | 1 | 1 | 1 | 9 | 3 | 3 | 0 | 1 | 1 | **20 (11)** |
| **Total (%)** | **2 (1)** | **3 (2)** | **11 (6)** | **66 (37)** | **29 (17)** | **29 (17)** | **1 (1)** | **14 (8)** | **20 (11)** | **175** |

## 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 18 grizzly bears have been captured within the Northern Continental Divide Ecosystem (NCDE) and translocated to release sites that were approved by the Kootenai National Forest in both the West Cabinet and main Cabinet Mountains. Until their collars fell off it was known that 12 of the 18 augmented bears had remained in the Cabinet Mountains.

Due to a busy year with conflict calls, there were no bears captured for the augmentation program in 2021.

Kim Annis and Wayne Kasworm provide annual reports that give additional information regarding the Cabinet Mountains Grizzly Augmentation Program.