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GRIZZLY BEAR - HUMAN CONFLICTS, CONFRONTATIONS, AND MANAGEMENT ACT. IN THE YELLOWSTONE ECOSYSTEM 1997

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INTERAGENCY GRIZZLY BEAR COMMITTEE YELLOWSTONE ECOSYSTEM SUBCOMMITTEE REPORT

Compiled by Yellowstone National Park - October 1998



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OBJECTIVES

For many years records of grizzly bear-human conflicts, confrontations, and subsequent management actions in the Yellowstone ecosystem were dispersed among many agencies and individuals. These records varied in level of detail, criteria, and definition of terms used. This situation hindered consistent review of documented bear-human conflicts in the ecosystem and potentially delayed prediction, evaluation, correction, and prevention of grizzly bear-human conflict situations.

In 1993, the Yellowstone Ecosystem Subcommittee of the Interagency Grizzly Bear Committee assigned Yellowstone National Park (YNP) the task of compiling an annual ecosystem wide summary of bear-human conflicts occurring in the Yellowstone ecosystem. The objective of this report is to promote reduction and/or prevention of bear-caused human injuries, property damages, livestock depredations, conflicts, and human-caused grizzly bear mortalities through dissemination of information to the public and preventative rather than reactive management actions involving bears. This report will assist both government agencies and non-government organizations in setting priorities for allocating resources to reduce bear-human conflicts. Prioritization will enable available personnel and funding to be focused on correcting the most prevalent types of bear-human conflicts occurring in the ecosystem, especially those that lead to the highest numbers of human-caused grizzly bear mortalities. In the past, high profile types of conflicts often received most of the publicity even if they did not lead to significant numbers of grizzly bear mortalities. Reduction of human-caused grizzly bear mortalities in conjunction with habitat protection are two of the most important factors that can lead to recovery and long term viability of grizzly bears in the Yellowstone ecosystem. This report is intended to be a summary. Interested parties should contact the appropriate agency with wildlife management jurisdiction for detailed information concerning any of the incidents listed in this document.

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METHODS

Each wildlife management agency within the Yellowstone ecosystem submitted records of grizzly bear-human conflicts, confrontations, management actions, and human-caused grizzly bear mortalities that occurred within areas under their jurisdiction. Agencies with bear management jurisdiction in the Yellowstone ecosystem include Grand Teton National Park, Idaho Department of Fish and Game, Montana Fish, Wildlife, and Parks, Wyoming Game and Fish Department, and Yellowstone National Park. Data collected from these agencies were then compiled into tables by type of conflict, confrontation, management action, or human-caused mortality and summarized according to wildlife management agency jurisdiction, land ownership, and Bear Management Unit (BMU) in which the incident occurred.

In an effort to keep nuisance grizzly bears out of further trouble, as well as to give wildlife agency personnel time to correct situations that lead to bear-human conflicts, nuisance grizzly bears are sometimes captured and translocated to other areas of the ecosystem. In some cases these bears are then involved in bear-human conflicts in areas they would not otherwise have frequented. For bears that had been previously translocated in management actions, tables of nuisance bear management captures and human-caused grizzly bear mortalities list both the area the conflict occurred as well as the area where the bear originally became a problem.

All grizzly bear human conflicts, confrontations, management actions, and human-caused grizzly bear mortalities were plotted on the GIS maps contained in this report. However, due to the small scale of the figures contained in this report, not all incident locations will be visible because of overlap between symbols.

Within the Yellowstone ecosystem, grizzly bears utilize several food sources that are limited in distribution and availability but are extremely important to segments of the population or to the population as a whole. These food sources include winter-killed ungulate carcasses, new-born elk calves, spawning cutthroat trout, roots, army cutworm moths, and whitebark pine seeds. Whitebark pine cone production is systematically monitored throughout the ecosystem (Knight and Blanchard 1997). In addition, the abundance of winter-killed ungulate carcasses and spawning cutthroat trout are monitored within the YNP portion of the ecosystem (Gunther et al 1997). The relative abundance of these food sources as reported in this document were derived from these monitoring programs. The relative abundance of elk calves, vegetal foods, roots, and army cutworm moths are not systematically monitored, but were estimated by experienced biologists using diagnostic field sign.

Bear pepper sprays containing capsicum appear to be potentially useful in deterring aggressive bears in a variety of field situations (Herrero and Higgins 1998). All reported incidents where bear pepper sprays were used during aggressive encounters with grizzly bears in the Yellowstone

ecosystem in 1997 are listed. These case studies are intended to promote knowledge of the effectiveness and/or limitations of bear spray. By becoming familiar with the effectiveness and limitations of bear spray, hunters, hikers, and those working in backcountry areas can make informed decisions regarding the use of bear pepper sprays during aggressive encounters with grizzly bears. We hope this information will promote a reduction in grizzly bear-inflicted human injuries as well as a reduction in human-caused grizzly bear mortalities.

Definitions Of Terms And Abbreviations

Definitions Of Terms:

Accidental Management Death: The unintentional death of any bear during management related trapping, handling, aversive conditioning, or management hazing.

Aggressive Encounter: Incidents where grizzly bears charged, popped their teeth, growled, whoofed, slapped the ground, hopped charged, or in any other way acted aggressively toward people.

Anthropogenic Foods: Incidents in which bears obtained human foods, beverages, garbage, grease, pet food, bird feed, livestock feed, or other edible anthropogenic attractants. Many incidents in which bears obtain human foods also involve property damage. However, in cases where both human foods were obtained and property was damaged, the incidents are listed under the unnatural foods category (because a food reward often leads to repeated conflicts).

Backcountry: All areas located outside of frontcountry areas.

Bear Approached: Incidents in which a bear was aware of a person's presence and knowingly approached or followed them.

Bear In Camp: Incidents in which bears entered occupied backcountry camps.

Bear In Development: Incidents where people perceived that human safety was compromised by the presence of grizzly bears adjacent to occupied homes, residences, cabins, lodges, yards, or other human developments. These incidents are listed as confrontations due to the **potential** threat to human safety even if the bears involved did not behave aggressively.

Bluff Charge: Incidents in which bears charged at, but did not injure people.

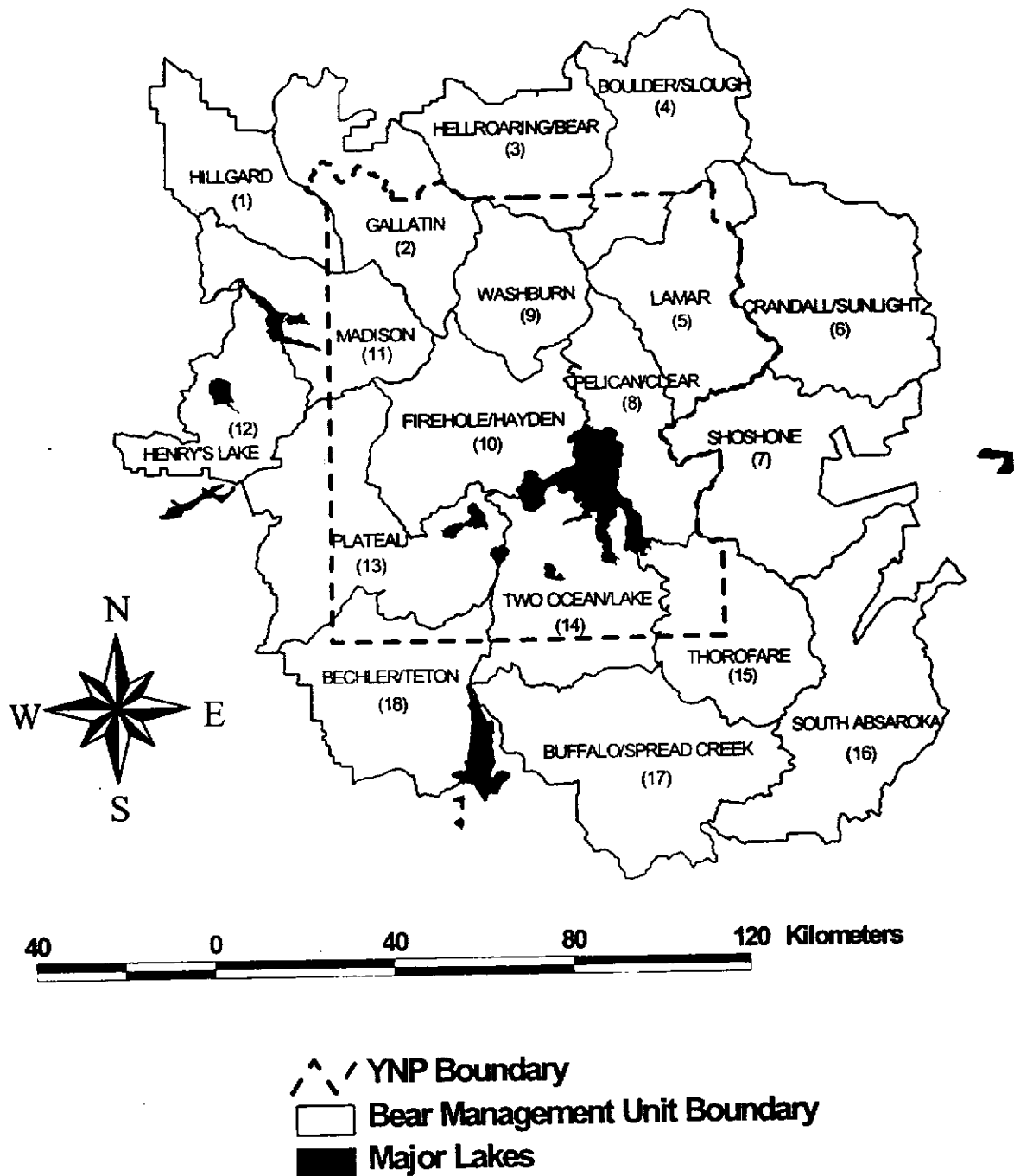


Figure 1. Map of Bear Management Units and subunits within the designated Yellowstone ecosystem grizzly bear recovery zone, 1997.

Bear-Human Conflict: Incidents in which bears injured people, damaged property, killed or injured livestock, damaged beehives, obtained anthropogenic foods, or damaged or obtained garden and orchard fruits and vegetables.

Bear-Human Confrontation: Incidents in which bears bluff charged, approached, or acted aggressively towards people, entered occupied backcountry camps, or frequented areas immediately adjacent to occupied homes, cabins, lodges or other human developments.

Bear Management Unit (BMU): To monitor grizzly bear population trends and to analyze the consequences of human activities and development on bears, grizzly bear habitat within the Yellowstone ecosystem has been divided into 28 habitat units. These units were delineated based on the principle that each unit should contain complete spring, summer, and fall habitat for grizzly bears. For most of the units, there is substantial evidence that the habitat contains adequate food sources to support grizzly bears in these three seasons. BMU's 1 through 18 are within the designated Yellowstone ecosystem Grizzly Bear Recovery Zone (Figure 1). BMU's 19 through 28 are within the Yellowstone ecosystem but outside of the designated Recovery Zone.

Developed Area: All areas within or immediately adjacent to campgrounds, hotels, lodges, cabins, homes, buildings, restaurants, stores, or other human developments.

Euthanize: Bears removed from the ecosystem for management reasons that were trapped, taken to a laboratory and humanely destroyed.

Food Conditioned: Bears that have learned to associate humans or human developments as a source of food due to prior food reward.

Frontcountry: All areas within or immediately adjacent to roadside corridors or developed areas.

Gardens/Orchards: Incidents in which bears damaged or obtained fruits or vegetables from gardens or orchards.

Habituated: Bears that have learned to tolerate people, vehicles, and human activity at close distances.

Hazing: The use of rubber bullets, Thumper Gun projectiles, shell crackers, helicopters, auditory deterrents, visual deterrents, or other non-lethal methods to chase bears out of developments or other human use areas where bear activity is not considered appropriate by managers.

Human Injury: Incidents in which people were injured or killed by bears.

Human Fatality: Incidents in which people were killed by bears, these incidents are listed under the Human Injury category in all tables in this document.

Illegal Kill: Incidents in which investigation determined that bears were killed unlawfully. This category does not include cases in which investigation indicated bears were killed lawfully in defense of life.

Livestock Depredations: Incidents in which grizzly bears killed domestic cattle, horses, sheep, turkeys, ducks, or other domestic animals. Incidents where bears injured but did not kill livestock are listed as property damages.

Management Action: Incidents in which bears involved in bear-human conflict or confrontation situations are captured and marked, translocated, aversively conditioned, or removed from the Yellowstone ecosystem grizzly bear population.

Management Removal: The planned removal of a bear from the wild by agency personnel due to conflicts with humans.

Mark: Incidents in which nuisance bears are captured and marked with a radio collar, radio backpack, radio implant, ear-tags, tattoo, dye, or paint.

Nuisance Bear: Any bear involved in a bear-human conflict situation.

Private: Land in private ownership.

Property Damage: Incidents in which bears damaged personal property including camping equipment, livestock or pets that were injured but not killed, vehicles, cabins, barns, sheds or other personal property. Many incidents in which bears obtain human foods also involve property damage. However, in cases where both human foods were obtained and property was damaged, the incidents are listed under the unnatural foods category (because a food reward often leads to repeated conflicts).

Release On Site: Incidents in which nuisance or non-target bears are captured during management actions, marked for monitoring, and released at the trap site.

Relocate: Incidents in which nuisance bears are trapped and relocated, usually by helicopter, truck, or boat, to remote areas away from human activity.

Road-kill: Incidents in which bears were hit and killed by vehicles.

Roadside: All areas within or immediately adjacent to the road corridor.

Sanitation: Incidents where bears obtained a food reward of some type of anthropogenic foods.

Self Defense: Incidents in which investigation indicates that bears were shot and killed in defense of life.

Sow: Adult female bear.

To Zoo: Bears that are removed from the ecosystem for management reasons and sent to zoos or research facilities.

Unnatural Foods: Incidents in which bears obtained human foods, beverages, garbage, grease, pet food, bird feed, livestock feed, or other edible anthropogenic attractants. Many incidents in which bears obtain human foods also involve property damage. However, in cases where both human foods were obtained and property was damaged, the incidents are listed under the unnatural foods category (because a food reward often leads to repeated conflicts).

Definitions Of Abbreviations Used:

Ad.: Adult

BC: Backcountry

BLM: Bureau of Land Management

BNF: Beaverhead National Forest

BTNF: Bridger-Teton National Forest

CNF: Custer National Forest

COY: Cub-of-the-year

Cr: Creek

Dev.: Developed Area

FC: Frontcountry

GNF: Gallatin National Forest

GTNP: Grand Teton National Park

IFG: Idaho Department of Fish and Game

IGBST: Interagency Grizzly Bear Study Team

JDR: John D. Rockefeller Memorial Parkway (Managed by Grand Teton National Park)

MFWP: Montana Fish, Wildlife, and Parks

Pr: Private

R: River

SAd: Subadult

SNF: Shoshone National Forest

TNF: Targhee National Forest

Unk: Unknown

Unm: Unmarked

WGF: Wyoming Game and Fish Department

YRZ: Yellowstone Ecosystem Grizzly Bear Recovery Zone (5,930,400 acres)

YNP: Yellowstone National Park (2,221,722 million acres)

Yrl: Yearling

RESULTS

Availability of Bear Foods During 1997

Except for fall foods, the abundance of important high quality bear foods in the Yellowstone ecosystem was average to above average in 1997. The winter of 1996-97 was the most severe winter on record since the winter of 1988-89, and the 7th worst since 1948-49 (Farnes 1991, R. Swalley, IGBST, pers. commun.). During spring, there was an above average number of winter-killed elk (*Cervus elaphus*) carcasses available for bears to scavenge. Although bison (*Bison bison*) carcasses were abundant in thermally influenced ungulate wintering areas, they were noticeably scarce on the Northern Winter Range. Approximately 1,100 bison were captured and shipped to slaughter under the Interim Interagency Bison Management Plan and therefore there were very few bison carcasses available to bears on the Northern Winter Range. Overall, counts of winter-killed ungulate carcasses were the highest since the spring of 1989 in all survey areas of YNP. Winter-killed ungulate carcasses are an important high quality food source for bears in early spring before most vegetal foods become available (Mealey 1975, Mattson and Knight 1992). During spring, scavenging ungulate carcasses and digging for pocket gophers (*Thomomys talpoides*) and their root caches were the most commonly observed grizzly bear feeding activities. During spring and early summer, grizzly bears also consumed overwintered whitebark pine nuts (*Pinus albicaulis*) stored in red squirrel (*Tamiasciurus hudsonicus*) middens from the above average pine nut crop the previous fall (R. Swalley, IGBST, pers. commu.). Elk calves, an important late spring and early summer food source (Gunther and Renkin 1990), were preyed upon extensively by some individual bears (M. Biel Natl. Park Serv., pers., commun.). The numbers of spawning cutthroat trout (*Onchorynchus clarki*) in Yellowstone Lake tributaries were higher in 1997 than in 1996 (D. Reinhart, Natl. Park Serv., pers. commun.). Spawner numbers were similar to the long-term averages (1989-95) on most streams except for those in the West Thumb area which were below average (R. Swalley, IGBST, pers. commun.). Spawning cutthroat trout, available to bears during the late spring and early summer (Reinhart 1990), rank as one of the highest sources of net digestible energy available to bears in the Yellowstone ecosystem (Mealey 1975, Pritchard and Robbins 1990). During mid-summer, digging for biscuit root (*Lomatium cous*) was a commonly observed feeding activity (R. Swalley, IGBST, per. commun.). Throughout the summer, some individual bears scavenged livestock carcasses (cattle and sheep) and preyed on livestock on private land and public grazing allotments (M. Bruscino, WGF, pers. commun.). The Yellowstone ecosystem had above average precipitation during the summer, keeping grasses, sedges, forbs and other bear grazing food resources succulent late into the summer season. Army cutworm moths (*Euxoa auxiliaris*), an important late summer and fall bear food (Mattson et al. 1991a, 1991b, French et al. 1994), were present and attracted large numbers of bears to high elevation moth sites (D. Moody, WGF, pers. commun.). Digging for truffles (R. Swalley, IGBST, pers. commun.) and biscuitroot (K. Frey, MFWP, pers. commun.) were also commonly observed late summer and fall grizzly bear feeding activities. The production of whitebark pine nuts during the fall of 1997 was below average in most areas of the ecosystem (M. Haroldson, IGBST, pers.

commun.). Whitebark pine seeds are an important fall food because of their high fat content and their potential abundance as a prehibernation food source (Mattson and Jonkel 1990).

Grizzly Bear-Human Conflicts

There were 116 grizzly bear-human conflicts reported in the Yellowstone ecosystem in 1997 (Table 1, Figure 2, Appendix A). These incidents included bears killing livestock (62 %, n=72), obtaining anthropogenic foods (18 %, n=21), damaging property (8 %, n=9), injuring people (7 %, n=8) and obtaining fruits and vegetables from gardens and orchards (5 %, n=6). Sixty-eight percent (n=79) of the bear-human conflicts occurred on public land administered by the U.S. Forest Service (61 %, n=71), the National Park Service (6 %, n=7), and the state of Wyoming (1 %, n=1). Thirty-two percent (n=37) of the reported incidents of grizzly bear-human conflict occurred on private land in the states of Wyoming (17 %, n=20), and Montana (15 %, n=17) (Table 2); there were no grizzly bear-human conflicts reported in the Idaho portion of the Yellowstone ecosystem. Most (75 %, n=87) bear-human conflict situations occurred in just 5 of the 28 BMU's in the ecosystem; the Gros Ventre (31 %, n=36), Meeteetse (14 %, n=16), Buffalo/Spread Creek (11 %, n=13), Madison (10 %, n=12), and Bechler/Teton (9 %, n=10) BMU's (Table 3). The other 29 (25 %) grizzly bear-human conflicts occurred within 12 different BMU's throughout the ecosystem. Eleven BMU's (3,7,9,10,12,13,14,21,22,23,28) did not have any grizzly bear-human conflicts reported. Over half (53 %, n=61) of the grizzly bear-human conflicts occurred outside (BMU's 19-28) the designated Yellowstone ecosystem Grizzly Bear Recovery Zone.

Grizzly Bear-Human Confrontations

Forty-three grizzly bear-human confrontations were reported in the Yellowstone ecosystem in 1997 (Table 4, Figure 3, Appendix A). There were 23 (53 %) incidents where grizzly bears acted aggressively (but did not injure people) during encounters with people, 13 (30 %) incidents of bears entering occupied developed areas and being considered threats to human safety, 5 (12 %) incidents where grizzly bears entered occupied backcountry camps, and 2 (5 %) incidents where grizzly bears approached people. Most (81 %, n=35) reported confrontations occurred on public land. Only 19 % (n=8) of the reported confrontations occurred on private land (Table 5). Grizzly bear-human confrontations occurred most often in the Gallatin (21 %, n=9), Washburn (14 %, n=6), Bozeman (12 %, n=5), Firehole/Hayden (9 %, n=4), and Madison (9 %, n=4) BMU's (Table 6). Most (86 %, n=37) reported confrontations with grizzly bears occurred within the designated Yellowstone Ecosystem Grizzly Bear Recovery Zone (BMU's 1 - 18). Very few (14 %, n=6) grizzly bear-human confrontations occurred outside of the designated recovery zone.

Grizzly Bear Management Actions

There were 9 individual grizzly bears captured in 8 separate management actions in 1997 (Table 7, Figure 4, Appendix A). One dependent COY was captured in a management action with its mother. In 6 of the management actions nuisance bears were captured and translocated to

remote areas away from human activities (Table 8). One human food conditioned grizzly bear was captured and euthanized. One grizzly COY that was bitten by another bear was captured and euthanized due to its crippling injuries, this mortality is listed as a natural mortality since the cub had no chance of survival in the wild. Most (56%, n=5) bears captured in management actions were caught on public land administered by the U.S. Forest Service (33%, n=3) and National Park Service (22%, n=2). Forty-four percent (n=4) of the bears captured in management actions were caught on private land in the states of Montana (22%, n=2) and Wyoming (22%, n=2) (Table 9). The nuisance bears captured in management actions were caught in 7 of the 28 BMU's in the ecosystem; the Firehole/Hayden (22%, n=2), Gros Ventre (22%, n=2), Bechler/Teton (11%, n=1), Crandall/Sunlight (11%, n=1), Gallatin (11%, n=1), Madison (11%, n=1), and Meeteetse (11%, n=1) BMU's (Table 10). Thirty-three percent (n=3) of the bears captured in management actions were caught outside (BMU's 19 - 28) of the designated Yellowstone ecosystem Grizzly Bear Recovery Zone.

Human-Caused Grizzly Bear Mortalities

There were 9 known human-caused grizzly bear mortalities in the Yellowstone ecosystem in 1997 (Table 11, Figure 5, Appendix A). Seven (78%) grizzly bears were killed by hunters in self defense (one of these incidents is currently under investigation and could potentially be reclassified to an illegal kill). One (11%) grizzly bear was removed and euthanized as part of nuisance bear management action (Table 12). One grizzly bear (11%) was killed illegally. Human-caused grizzly bear mortalities occurred on public land (89%, n=8) administered by the U.S. Forest Service and on private land (11%, n=1) in the state of Montana (Table 13). The 9 human-caused grizzly bear mortalities occurred in 6 of the 28 BMU's in the ecosystem (Table 14). Twenty-two BMU's did not have any human-caused grizzly bear mortalities reported. Seven (78%) of the human-caused grizzly bear mortalities occurred within the designated Yellowstone Ecosystem Grizzly Bear Recovery Zone; 2 (22%) of the mortalities occurred outside of the recovery zone.

Incidents Involving the Use of Pepper Spray

The following incidents involving the use or potential use of bear pepper spray during aggressive encounters with grizzly bears were reported in 1997:

09/01/97 - On opening day of moose bow-hunting season, an adult male hunter was charged, pulled out of a tree, and mauled by a sow grizzly bear with 2 yearling cubs in the John D. Rockefeller, Jr. Memorial Parkway, which is administered by GTNP (see Agency Summaries, GTNP). This individual had pepper spray in his possession, but was carrying it in a fanny pack. Because the pepper spray was inaccessible in the fanny pack, he was unable to use it for self defense. This incident underscores the importance of carrying pepper spray where it can be used without hesitation.

09/12/97 - The trails maintenance supervisor of YNP was hiking alone off-trail between the Lamar and Little Lamar Rivers. At approximately 1430 hours he noticed a grizzly bear

approximately 50 feet away. The bear appeared to be agitated and aware of his presence but not sure of his exact location. He decided to get out his bear spray, the bear then spun towards him, apparently keying in on the sound of the velcro releasing on the bear spray holster. The bear moved back and forth a couple of times, whoofed, and made a short charge toward him before stopping and looking at him again. The bear then ran a short distance off, stopped, looked, and charged again, this time stopping short somewhat closer than after the first charge. The whole time the sow was occasionally whoofing, as the trail crew supervisor was standing still saying "hey bear", "whoa bear". The bear then ran off eastward into a ravine. A couple of seconds later she came back out of the ravine at a dead sprint almost down wind. The trails supervisor took 2 steps to line up directly upwind, and waited for her to stop or get close enough to spray. Just then he saw 2 more grizzlies approximately 20 feet behind her, also coming directly at him at a sprint. At this point he thought the lead bear was within range and began spraying. The sow came on, not slowing until she was 2 - 3 feet into the orange cloud of spray and maybe 20 feet away. She then spun and ran away as did the other bears. The trails supervisor then moved about 100 yards up slope and could see the 3 bears about 1/4 mile away still running away.

09/24/97 - A Jackson, WY resident was hunting when he encountered a grizzly bear at approximately 150 yards from where his friend just killed an elk. The bear charged and bit the man on the leg muscle. After being bitten he pulled out his pepper spray and sprayed the bear which then left immediately. The man had only minor puncture wounds to his leg.

10/07/97 - Two YNP park rangers were patrolling the backcountry along the park's eastern boundary near Frost Lake. The rangers heard what sounded like a "thundering heard of horses" behind them and turned to see 2 grizzly bears, an adult female and her two-year-old cub, running toward them at full speed. In a few seconds the bears were within 5 feet of the rangers, who both drew their bear sprays and sprayed. The sow made a sharp turn directly back to the two-year-old about 30 - 40 feet away, then immediately turned back and charged again, this time to within about 3 feet. Both rangers sprayed again and both bears turned and ran off in the same direction from which they had first come.

Table 1. Number of different incidents of grizzly bear-human conflicts reported within different wildlife management agency jurisdictions in the Yellowstone ecosystem, 1997.

Agency	Total Conflicts	Human Injuries	Property Damages	Anthropogenic Foods	Gardens/ Orchards	Bee Hives	Livestock Depredations
GTNP/JDR	4	1	0	0	0	0	3
ID F&G	0	0	0	0	0	0	0
MT FW&P	23	2 ^a	1	17	3	0	0
WY G&F	86	4	8 ^b	4	1	0	69
YNP	3	1	0	0	2	0	0
Total	116	8 ^a	9 ^b	21	6	0	72

^a Two people were injured during one of these incidents.

^b Includes one incident where a calf was injured but not killed by a grizzly bear.

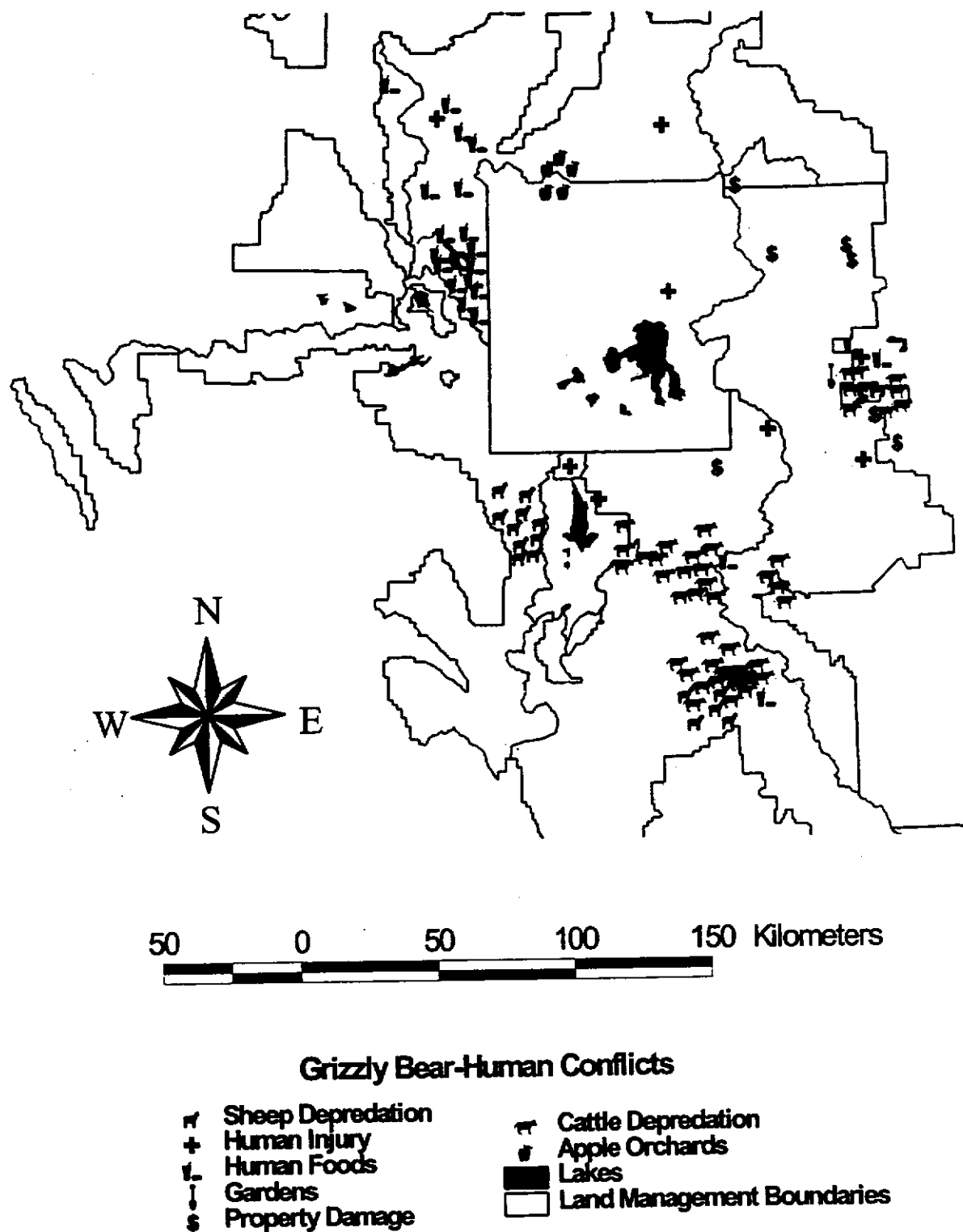


Figure 2. Locations of grizzly bear-human conflicts reported in the Yellowstone ecosystem, 1997.

Table 2. Number of grizzly bear-human conflicts reported within different land ownership areas in the Yellowstone ecosystem, 1997.

Land owner	Total Conflicts	Human Injuries	Property Damages	Anthropogenic Foods	Gardens/ Orchards	Bee Hives	Livestock Depredations
BNF	0	0	0	0	0	0	0
BTNF	47	2	2 ^b	1	0	0	42
CNF	0	0	0	0	0	0	0
GNF	6	1	0	5	0	0	0
GTNP/JDR	4	1	0	0	0	0	3
ID-private	0	0	0	0	0	0	0
ID-state	0	0	0	0	0	0	0
MT-private	17	1 ^a	1	12	3	0	0
MT-state	0	0	0	0	0	0	0
SNF	6	1	2	1	0	0	2
TNF	12	0	0	0	0	0	12
WY-private	20	1	3	2	1	0	13
WY-state	1	0	1	0	0	0	0
YNP	3	1	0	0	2	0	0
Total	116	8	9	21	6	0	72

^a Two people were injured during this incident.

^b Includes one incident where a calf was injured but not killed by a grizzly bear.

Table 3. Number of grizzly bear-human conflicts reported within different Bear Management Units in the Yellowstone ecosystem, 1997.

Bear Management Unit Name/Number	Total Conflicts	Human Injuries	Property Damages	Anthropogenic Foods	Gardens/ Orchards	Bee Hives	Livestock Depredations
Hilgard (1)	1	0	0	1	0	0	0
Gallatin (2)	7	0	0	2	5	0	0
Hellroaring/Bear (3)	0	0	0	0	0	0	0
Boulder/Slough (4)	1	1	0	0	0	0	0
Lamar (5)	2	0	1	1	0	0	0
Crandall/Sunlight (6)	3	0	3	0	0	0	0
Shoshone (7)	0	0	0	0	0	0	0
Pelican/Clear (8)	1	1	0	0	0	0	0
Washburn (9)	0	0	0	0	0	0	0
Firehole/Hayden (10)	0	0	0	0	0	0	0
Madison (11)	12	0	0	12	0	0	0
Henry's Lake (12)	0	0	0	0	0	0	0
Plateau (13)	0	0	0	0	0	0	0
Two Ocean Plateau (14)	0	0	0	0	0	0	0
Thorofare (15)	2	1	1	0	0	0	0
South Absaroka (16)	2	1	1	0	0	0	0
Buffalo/Spread Creek (17)	13	1	0	0	0	0	12
Bechler/Teton (18)	10	1	0	0	0	0	9
Beaverhead (19)	1	0	0	1	0	0	0
Bozeman (20)	1	1	0	0	0	0	0
Livingston (21)	0	0	0	0	0	0	0
Beartooth (22)	0	0	0	0	0	0	0
Clark's Fork (23)	0	0	0	0	0	0	0
Meeteetse (24)	16	1	2	2	1	0	10
Wind River (25)	5	0	0	0	0	0	5
Gros Ventre (26)	36	0	1	2	0	0	33
Bighole (27)	3	0	0	0	0	0	3
Island Park (28)	0	0	0	0	0	0	0
Total	116	8	9	21	6	0	72

Table 4. Number of grizzly bear-human confrontations reported within different wildlife management agency jurisdictions in the Yellowstone ecosystem, 1997.

Agency	Total Confrontations	Aggressive Encounter	Bear Approached	Bear In Camp	Bear In Development	Other
GTNP/JDR	0	0	0	0	0	0
ID F&G	0	0	0	0	0	0
MT FW&P	22	13	0	3	6	0
WY G&F	3	3	0	0	0	0
YNP	18	7	2	2	7	0
Total	43	23	2	5	13	0

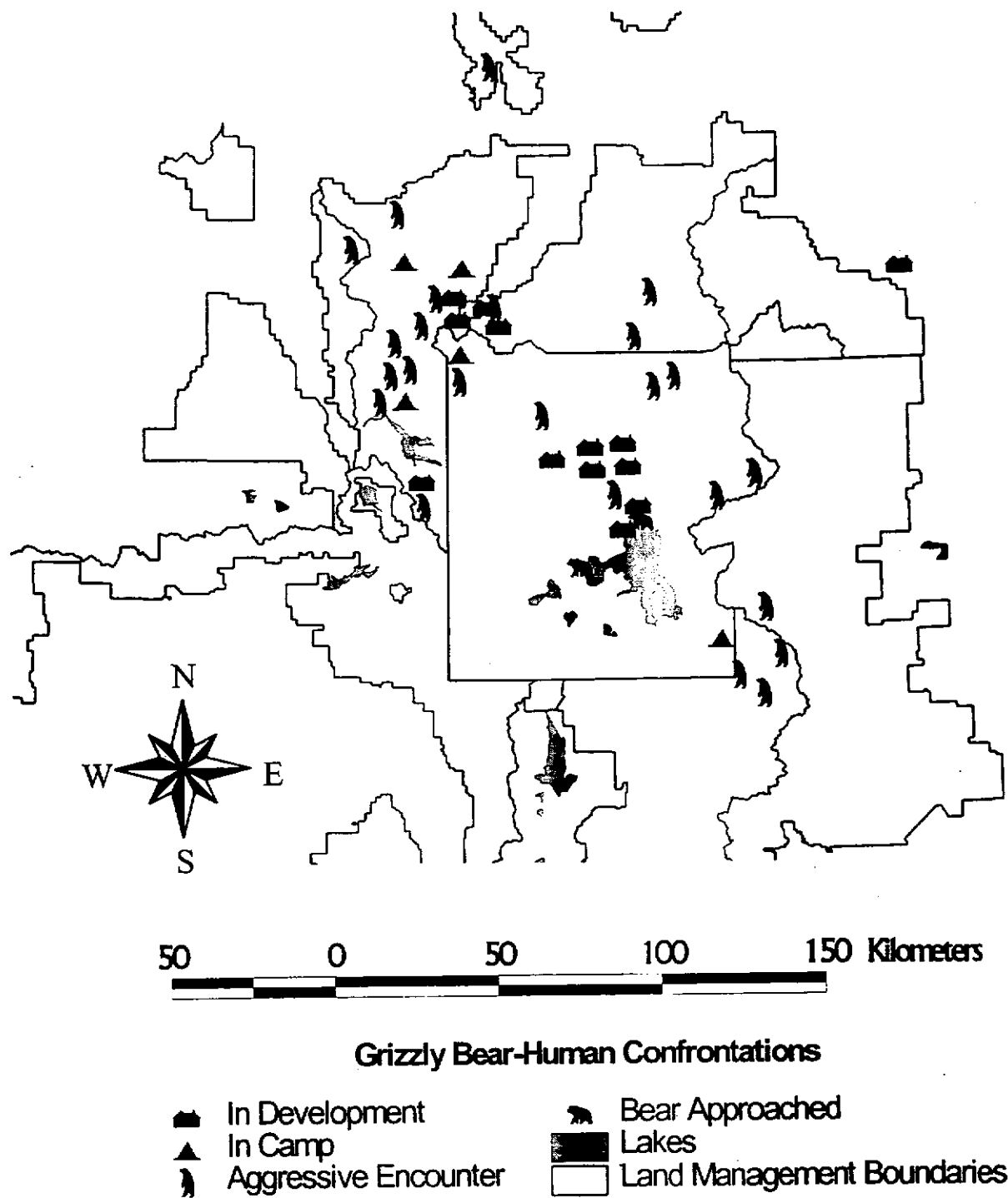


Figure 3. Locations of grizzly bear-human confrontations reported in the Yellowstone ecosystem, 1997.

Table 5. Number of grizzly bear-human confrontations reported within different land ownership areas in the Yellowstone ecosystem, 1997.

Land Owner	Total Confrontations	Bluff Charge	Bear Approached	Bear In Camp	Bear In Development	Other
BNF	0	0	0	0	0	0
BTNF	2	2	0	0	0	0
CNF	0	0	0	0	0	0
GNF	14	11	0	3	0	0
GTNP/JDR	0	0	0	0	0	0
ID-private	0	0	0	0	0	0
ID-state	0	0	0	0	0	0
MT-private	8	2	0	0	6	0
MT-state	0	0	0	0	0	0
SNF	1	1	0	0	0	0
TNF	0	0	0	0	0	0
WY-private	0	0	0	0	0	0
WY-state	0	0	0	0	0	0
YNP	18	7	2	2	7	0
Total	43	23	2	5	13	0

Table 6. Number of grizzly bear-human confrontations reported within different Bear Management Units in the Yellowstone ecosystem, 1997.

Bear Management Unit Name/Code	Total Confrontations	Aggressive Encounters	Bear Approached	Bear In Camp	Bear In Development	Other
Hilgard (1)	3	3	0	0	0	0
Gallatin (2)	9	4	0	1	4	0
Hellroaring/Bear (3)	2	2	0	0	0	0
Boulder/Slough (4)	2	2	0	0	0	0
Lamar (5)	2	2	0	0	0	0
Crandall/Sunlight (6)	0	0	0	0	0	0
Shoshone (7)	1	1	0	0	0	0
Pelican/Clear (8)	1	0	1	0	0	0
Washburn (9)	6	1	0	0	5	0
Firehole/Hayden (10)	4	1	1	0	2	0
Madison (11)	4	2	0	1	1	0
Henry's Lake (12)	0	0	0	0	0	0
Plateau (13)	0	0	0	0	0	0
Two Ocean Plateau (14)	0	0	0	0	0	0
Thorofare (15)	3	2	0	1	0	0
South Absaroka (16)	0	0	0	0	0	0
Buffalo/Spread Creek (17)	0	0	0	0	0	0
Bechler/Teton (18)	0	0	0	0	0	0
Beaverhead (19)	0	0	0	0	0	0
Bozeman (20)	5	3	0	2	0	0
Livingston (21)	0	0	0	0	0	0
Beartooth (22)	1	0	0	0	1	0
Clark's Fork (23)	0	0	0	0	0	0
Meeteetse (24)	0	0	0	0	0	0
Wind River (25)	0	0	0	0	0	0
Gros Ventre (26)	0	0	0	0	0	0
Big Hole (27)	0	0	0	0	0	0
Island Park (28)	0	0	0	0	0	0
Total	43	23	2	5	13	0

Table 7. Number of grizzly bears captured in management actions within different wildlife management agency jurisdictions in the Yellowstone ecosystem, 1997.

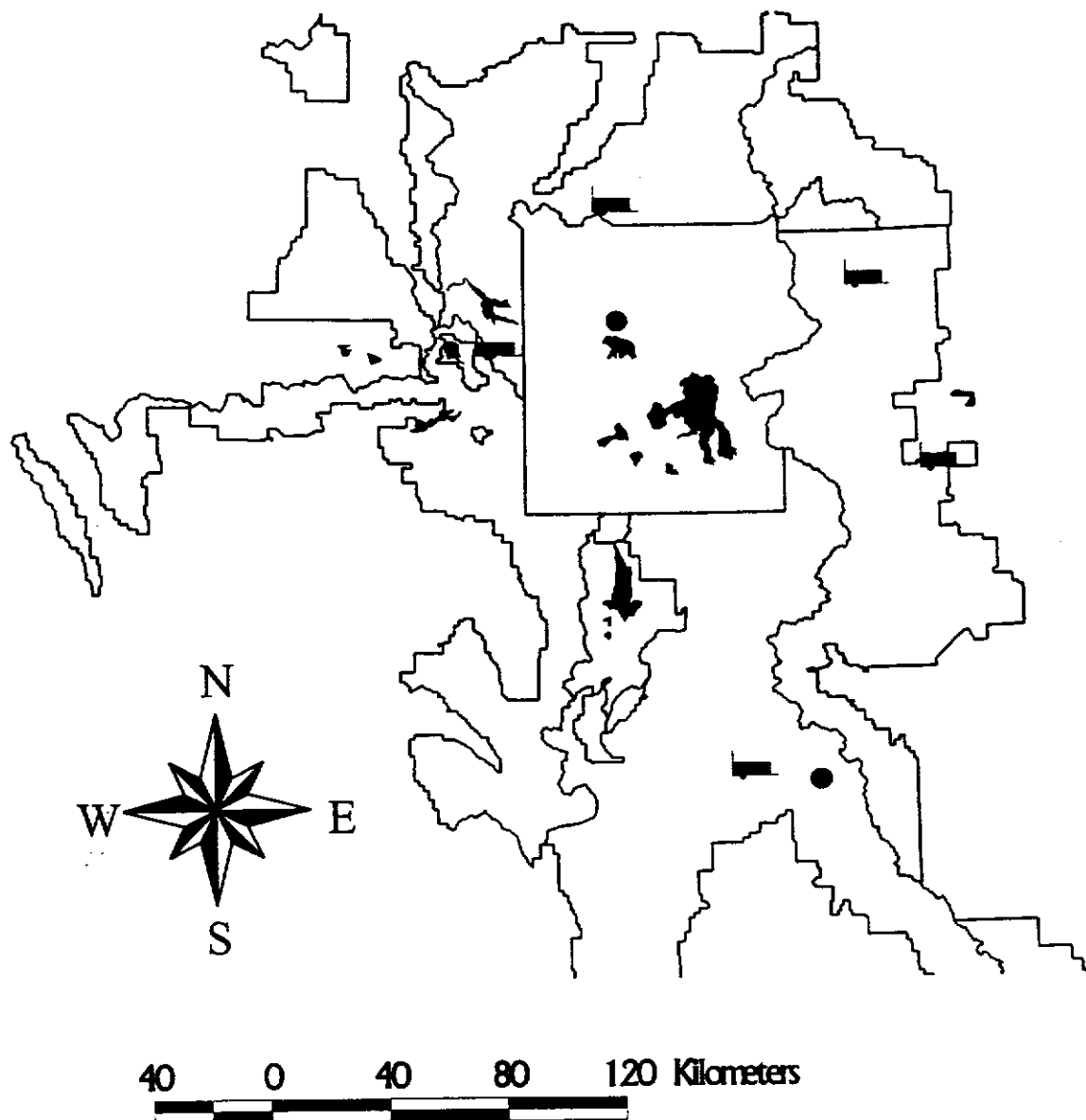
Agency	Total Bears Captured	Translocated	Released On Site	Sent To Zoo	Euthanized	Accidental Management Death
GTNP/JDR ^a	0	0	0	0	0	0
ID F&G	0	0	0	0	0	0
MT FW&P	2	2	0	0	0	0
WY G&F	5	4	0	0	1	0
YNP	2 ^{bc}	0	1	0	1 ^d	0
Total	9	6	1	0	2	0

^a Joint wildlife management jurisdiction with Wyoming Game and Fish Department.

^b Includes 1 dependent COY of bear #264, both bears captured in same management action.

^c Sow (#264) and crippled cub captured due to concern for human safety along road corridor.

^d Cub of bear #264 euthanized due to crippling injuries sustained from bite from larger bear. Classified as a natural mortality.



Grizzly Bear Management Actions

- | | | | |
|---|--------------------------|---|----------------------------|
| ▬ | Trap and Translocate | ■ | Lakes |
| ▤ | Trap and Release on Site | □ | Land Management Boundaries |
| ● | Trap and Euthanize | | |

Figure 4. Locations of management actions where nuisance grizzly bears were captured in the Yellowstone ecosystem, 1997.

Table 8. Grizzly bears captured during management actions in the Yellowstone ecosystem, 1997. Areas in parenthesis indicate area where bear was first involved in bear-human conflicts and translocated from.

Date	Bear	Sex	Age	Location	Reason Captured	Release Site
06/18	264 ^a	F	7	Norris Geyser Basin, YNP	Human Safety Concerns	On Site
06/18	G62 ^b	M	COY	Norris Geyser Basin, YNP	Paralyzed Cub, Check Extent of Injuries	Euthanized due to injuries inflicted by a larger bear ^b
07/23	291	M	Ad	Hunter Peak Ranch, Clark's Fork, WY, private	Anthropogenic Foods/Property Damage at Rural Residence	Ramshorn Basin, SNF
07/31	292	M	Ad	Teepee Creek, BTNF	Killing Cattle and Sheep	Otter Creek, YNP
08/12	212	M	6	TE Ranch, South Fork Shoshone R., WY-private	Killing Cattle	Blacktail Plateau, YNP
08/14	294	F	Ad	S. Badger Creek, TNF	Nontarget Bear Near Sheep Depredation Site, Preemptive Move	Indian Lake, TNF
08/26	293	M	SAd	Green River, BTNF	Anthropogenic Foods In Camps	Euthanized
09/08	300	F	SAd	West Yellowstone, MT, private	Anthropogenic Foods In Campground	Trident, BTNF
10/28	301	M	SAd	North of Gardiner, MT, private	In Gardens and Orchards	Gibbon Hill, YNP

^a Adult female #264 plus 1 healthy and 1 injured cub traveling along road corridor. Injured cub paralyzed in back legs. Trapped due to human safety concerns of grizzly with injured cub walking down heavily used tourist road.

^b Classified as a natural mortality, cub bitten by larger bear, had no chance of survival in the wild.

Table 9. Number of grizzly bears captured in management actions within different land ownership areas in the Yellowstone ecosystem, 1997.

Agency	Total Bears Captured	Translocated	Released On Site	Sent To Zoo	Euthanized	Accidental Management Death
BNF	0	0	0	0	0	0
BTNF	2	1	0	0	1	0
CNF	0	0	0	0	0	0
GNF	0	0	0	0	0	0
GTNP/JDR ^a	0	0	0	0	0	0
ID-private	0	0	0	0	0	0
MT-private	2	2	0	0	0	0
SNF	0	0	0	0	0	0
TNF	1	1	0	0	0	0
WY-private	2	2	0	0	0	0
YNP	2 ^b	0	1	0	1 ^c	0
Total	9	6	1	0	2	0

^a Joint wildlife management jurisdiction with Wyoming Game and Fish Department.

^b Sow and COY, both bears captured in same management action.

^c Classified as natural mortality, cub bitten by larger bear, no chance of survival in the wild.

Table 10. Number of grizzly bears captured in management actions within different Bear Management Units in the Yellowstone ecosystem, 1997.

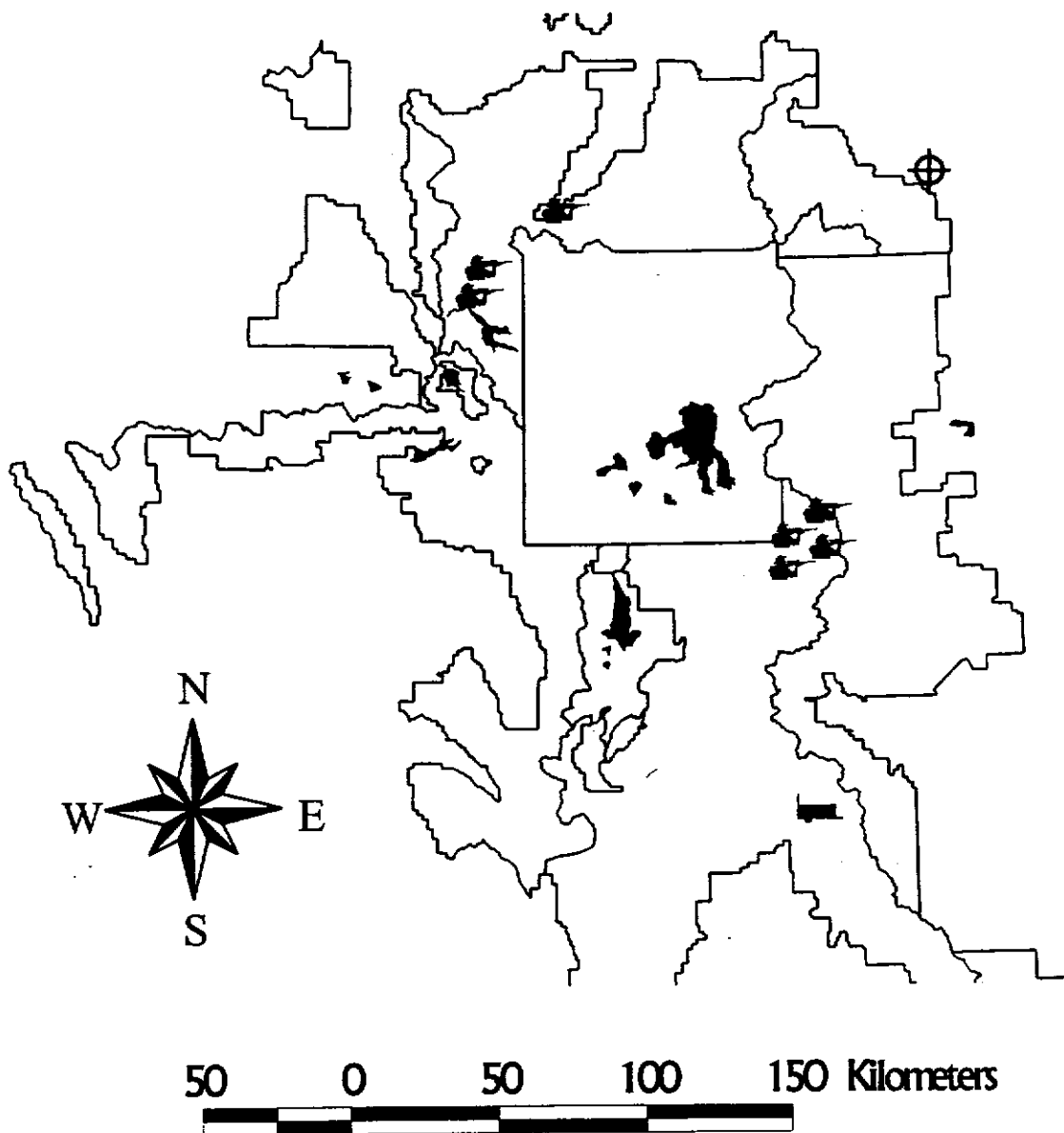
Bear Management Unit Name/Code	Total Bears Captured	Translocated	Released On Site	Sent To Zoo	Euthanized	Accidental Management Death
Hilgard (1)	0	0	0	0	0	0
Gallatin (2)	1	1	0	0	0	0
Hellroaring/Bear (3)	0	0	0	0	0	0
Boulder (4)	0	0	0	0	0	0
Lamar/Slough (5)	0	0	0	0	0	0
Crandall/Sunlight (6)	1	1	0	0	0	0
Shoshone (7)	0	0	0	0	0	0
Pelican/Clear (8)	0	0	0	0	0	0
Washburn (9)	0	0	0	0	0	0
Firehole/Hayden (10)	2	0	1	0	1	0
Madison (11)	1	1	0	0	0	0
Henry's Lake (12)	0	0	0	0	0	0
Plateau (13)	0	0	0	0	0	0
Two Ocean Plateau (14)	0	0	0	0	0	0
Thorofare (15)	0	0	0	0	0	0
South Absaroka (16)	0	0	0	0	0	0
Buffalo/Spread Creek (17)	0	0	0	0	0	0
Bechler/Teton (18)	1	1	0	0	0	0
Beaverhead (19)	0	0	0	0	0	0
Bozeman (20)	0	0	0	0	0	0
Livingston (21)	0	0	0	0	0	0
Beartooth (22)	0	0	0	0	0	0
Clark's Fork (23)	0	0	0	0	0	0
Meeteetse (24)	1	1	0	0	0	0
Wind River (25)	0	0	0	0	0	0
Gros Ventre (26)	2	1	0	0	1	0
Bighole (27)	0	0	0	0	0	0
Island Park (28)	0	0	0	0	0	0
Total	9	6	1	0	2	0

Table 11. Number of human-caused grizzly bear mortalities within different wildlife management agency jurisdictions in the Yellowstone ecosystem, 1997.

Agency	Total	Management Removals			Other Human-Caused Grizzly Bear Mortality				
		To Zoo	Euthanized	Accidental	Research Accident	Illegal	Self Defense	Road-killed	Other
GTNP/JDR ^a	0	0	0	0	0	0	0	0	0
ID F&G	0	0	0	0	0	0	0	0	0
MT FW&P's	4	0	0	0	0	1	3 ^b	0	0
WY G&F	5	0	1	0	0	0	4	0	0
YNP	0	0	0	0	0	0	0	0	0
Total	9	0	1	0	0	1	7	0	0

^a Joint wildlife management jurisdiction with Wyoming Game and Fish Department.

^b One of these incidents is currently under investigation and could potentially be reclassified as an illegal kill.



Human-Caused Grizzly Bear Mortalities

- | | |
|--------------------|----------------------------|
| Self Defense | Lakes |
| Illegal Kill | Land Management Boundaries |
| Management Removal | |

Figure 5. Locations of known human-caused grizzly bear mortalities in the Yellowstone ecosystem, 1997.

Table 12. Known human-caused grizzly bear mortalities in the Yellowstone ecosystem, 1997.

Date	Bear	Sex	Age	Location	Cause
05/08	Unm	M	SAd	West of Red Lodge, MT	Illegal
08/26	293	M	SAd	Upper Green River, BTNF	Management Removal-Obtaining Human Foods In Camps
09/15	Unm	F	Ad	Silvertip Creek, BTNF	Hunter Self Defense
09/15	Unm	F	Yr1	Silvertip Creek, BTNF	Hunter Self Defense
09/15	Unm	M	Yr1	Silvertip Creek, BTNF	Hunter Self Defense
09/15	Unm	M	Yr1	Silvertip Creek, BTNF	Hunter Self Defense
09/16	254	F	Ad	Cabin Creek, GNF	Hunter Self Defense
10/04	297	M	Ad	Little Wapiti Creek, GNF	Hunter Self Defense ^a
10/26	Unm	M	Ad	Tom Miner Basin, GNF	Hunter Self Defense

^a This incident is currently under investigation and could potentially be reclassified as an illegal kill.

Table 13. Number of human-caused grizzly bear mortalities within different land ownership areas in the Yellowstone ecosystem, 1997.

Land Owner	Total	Management Removals			Other Human-Caused Grizzly Bear Mortality				
		To Zoo	Euthanized	Accidental	Research Accident	Illegal	Self Defense	Road-killed	Accidental
BNF	0	0	0	0	0	0	0	0	0
BTNF	5	0	1	0	0	0	4	0	0
CNF	0	0	0	0	0	0	0	0	0
GNF	3	0	0	0	0	0	3 ^b	0	0
GTNP/JDR ^a	0	0	0	0	0	0	0	0	0
ID-private	0	0	0	0	0	0	0	0	0
MT-private	1	0	0	0	0	1	0	0	0
SNF	0	0	0	0	0	0	0	0	0
TNF	0	0	0	0	0	0	0	0	0
WY-private	0	0	0	0	0	0	0	0	0
YNP	0	0	0	0	0	0	0	0	0
Total	9	0	1	0	0	1	7	0	0

^a Joint wildlife management jurisdiction with Wyoming Game and Fish Department.

^b One of these incidents is currently under investigation and could potentially be reclassified as an illegal kill.

Table 14. Number of human-caused grizzly bear mortalities within different Bear Management Units in the Yellowstone ecosystem, 1996.

Bear Management Unit Name/Code	Total	Management Removals			Other Human-caused Grizzly Bear Mortality			
		To Zoo	Euthanized	Accidental	Research Accident	Illegal	Self Defense	Road-killed Accidental
Hilgard (1)	1	0	0	0	0	0	1	0
Gallatin (2)	1	0	0	0	0	0	1	0
Hellroaring/Bear (3)	0	0	0	0	0	0	0	0
Boulder (4)	0	0	0	0	0	0	0	0
Lamar/Slough (5)	0	0	0	0	0	0	0	0
Crandall/Sunlight (6)	0	0	0	0	0	0	0	0
Shoshone (7)	0	0	0	0	0	0	0	0
Pelican/Clear (8)	0	0	0	0	0	0	0	0
Washburn (9)	0	0	0	0	0	0	0	0
Firehole/Hayden (10)	0	0	0	0	0	0	0	0
Madison (11)	1	0	0	0	0	0	1	0
Henry's Lake (12)	0	0	0	0	0	0	0	0
Plateau (13)	0	0	0	0	0	0	0	0
Two Ocean Plateau (14)	0	0	0	0	0	0	0	0
Thorofare (15)	4	0	0	0	0	0	4	0
South Absaroka (16)	0	0	0	0	0	0	0	0
Buffalo/Spread Creek (17)	0	0	0	0	0	0	0	0
Bechler/Teton (18)	0	0	0	0	0	0	0	0
Beaverhead (19)	0	0	0	0	0	0	0	0
Bozeman (20)	0	0	0	0	0	0	0	0
Livingston (21)	0	0	0	0	0	0	0	0
Beartooth (22)	1	0	0	0	0	1	0	0
Clark's Fork (23)	0	0	0	0	0	0	0	0
Meeteetse (24)	0	0	0	0	0	0	0	0
Wind River (25)	0	0	0	0	0	0	0	0
Gros Ventre (26)	1	0	1	0	0	0	0	0
Bighole (27)	0	0	0	0	0	0	0	0
Island Park (28)	0	0	0	0	0	0	0	0
Total	9	0	1	0	0	1	7	0

1997 AGENCY SUMMARIES

Grand Teton National Park

GTNP had 4 grizzly bear-human conflicts in 1997 but took no action against grizzly bears involved. Three of the 4 incidents were cattle depredations that occurred outside of the recovery area on Management Situation 2 lands. In each case, which took place on the Elk Ranch grazing allotment over a 5 day period in August, a single calf was killed by an unknown grizzly bear. There was no activity of marked bears in the area at the time, and no other depredations were documented prior or subsequent to these. The Elk Ranch grazing allotment is the same area where cattle depredations by grizzly bears occurred in the past.

The fourth bear-human conflict of the year involved a solitary bow-hunter in the John D. Rockefeller, Jr. Memorial Parkway. The individual was charged during an afternoon hunt by a sow with 2 yearling cubs from a distance of about 150 meters. After attempting to climb a tree, the sow grabbed his foot and pulled him from the tree. He remained motionless after hitting the ground. The bear left briefly, but then returned and bit the victim on the hand. She left the area and returned a second time before departing for good. The hunter, who received minor injuries, waited several minutes then got up, gathered his gear, and returned to camp. An investigation of the scene revealed a freshly-killed elk calf in the vicinity. The sow's behavior was consistent with protecting both cubs and a food source, thus no action was taken.

Idaho

Seven grizzly bears, adult female #237 accompanied by her 3 yearlings and adult males #227, #275, and #292 were known to frequent Idaho in 1997. There were no grizzly bear-human conflicts, confrontations, management actions, or human-caused grizzly bear mortalities reported in the Idaho portion of the Yellowstone ecosystem in 1997.

Montana

Conflicts--Reported and investigated grizzly bear/human conflicts reached a minimum number of 46 in Montana within the Yellowstone ecosystem during 1997. This was an increase of 84% from the 1996 conflict numbers (25), which had decreased by 66% from the 1995 conflict numbers (75). For the preceding 6 years (1991-1996), the average number of bear/human conflicts in Montana was 31. Approximately 44% of the bear/human conflicts occurred on public land and 56% occurred on private land. During 1996 the percentage of conflicts on public and private land was 60 and 40, respectively.

Unnatural food attractants (unsecured and secured) accounted for 50% of all bear/human conflicts in Montana during 1997. This was an increase from 1996, where unnatural food related conflicts accounted for 32% of all bear/human conflicts. Most of these conflicts

could be avoided if people would make a continued serious effort to secure all unnatural food attractants. However, in years of limited fall food availability, unnatural food related conflicts increase dramatically. All (29) management captures of (23) grizzly bears in Montana during the past 7 years have been a result of unnatural food attractants. Euthanized or live removal of bears during this period has resulted in 12 bears being eliminated from the ecosystem in Montana due to unnatural food attractants. This type of conflict is more easily addressed than confrontational conflicts and should be possible to minimize. The managing agencies have made extensive efforts to solve this food attractant problem and will continue to do so.

Confrontational bear/human conflicts are continuing to increase in Montana. Confrontational conflicts comprised 40% of the total bear/human conflicts. Fifteen of the 18 confrontations occurred on public land and 16 of the confrontations occurred in the back country. In Montana, big game hunting seasons places hunters into areas that are normally utilized (high elevation white-bark pine areas) by grizzly bears. During the fall season (bear's hyperphagia period), bears have been learning to seek out and utilize game hunter activity in areas of relatively good hunting success and the associated natural food created in the form of viscera piles or lost animals (mostly elk). Bears have been rewarded in the past by finding viscera piles and carcasses left in the field overnight. Bears that live outside or near the borders of Yellowstone National Park proper, now know that hunting season in the states around YNP can provide a good source of fall food. In some hunting areas (BMU's 1,2,3,4,11), bears are beginning to exhibit bold behavior by following gun-shot noise and moving in on successful hunters who are handling game animal carcasses. This behavior activity by bears, which has increased in the last decade, has been documented through sightings, investigated conflicts, radio-telemetry, and ground truthing through this management project. As human use of the back-country increases and learned behavior by an expanding bear population bring people and bears together, confrontational conflicts will increase with occasionally serious results. During the fall big game hunting season of 1997, 3 (possibly 4) bears were killed in hunting related conflicts and 1 person was injured by a grizzly bear. In 1996, 2 people were injured and a female bear was killed during the hunting season. During the past 7 years in Montana, 9 grizzly bears have been killed through hunting related activities. Confrontational conflicts along with associated human injuries and bear mortalities will be a very difficult problem to minimize and still maintain a degree of human acceptance and tolerance of bears. The public and managing agencies need to realize that certain activities of bears and humans (ie. summer camping, development, fall hunting season, unsecured food storage) will continue to bring bears and humans into confrontational conflict. The need continues for education and information about proper actions to help reduce these confrontational conflicts as well as all types of bear/human conflicts while recreating or living in bear country.

Management Captures--During 1997, 2 grizzly bears were captured and translocated due to management actions in Montana. From 1991 through 1996, 23 grizzly bears have been captured 29 times due to conflict-caused management actions.

On September 7, a 2 year old sub-adult female grizzly bear (now #300) was captured at the edge of the city limits in West Yellowstone, MT. Bear #300 was translocated by helicopter to Wyoming, along the southeast border of YNP. Bear #300 had received food rewards in a campground on the morning of September 7. On September 3, bear #300 and a sibling had begun frequenting a private residence in Cream Creek. The sibling bears had first been attracted to the residence by birdseed. Aversive conditioning and clean-up efforts were implemented at the residence. The siblings abandoned each other and bear #300 wandered into West Yellowstone. Capture efforts of bear #300's sibling were halted 2 days later when it was apparent the sibling bear had left the area.

On October 28, a sub-adult male grizzly bear (now #301) was captured at a private residence along the Yellowstone River north of Gardiner, MT. Bear #301 was translocated by vehicle to the interior of YNP. Beginning approximately October 20, 7 known grizzly bears moved into the area north of the YNP border at Gardiner. A female with 2 cubs, 2 sibling sub-adults, 1 adult, and 1 lone sub-adult bear were frequenting various residences. Attractants of gardens, lawns, and apples lured these bears near private residences. Efforts to clean-up apples, secure garbage, lure bears out of area with natural foods, and build tolerance for the bears presence were conducted to help resolve this significant problem. An adult female bear (#214) was captured nearby in YNP through research efforts. Bear #214 left the area and moved to higher elevations in YNP. Management capture efforts were due to safety concerns of old age people that were in poor health and required to leave their homes at night for medical attention. The female bear with 2 cubs left the area after apples were cleaned up. The 2 sub-adult sibling bears were observed in YNP and moved out of the developed area. Trapping efforts were curtailed after it became apparent the bears were moving out of the area as the denning period approached.

Bear Mortalities--In Montana during 1997, 4 grizzly bears were killed in conflict situations with humans and 1 cub was found dead from apparent natural causes.

On May 8, an unmarked sub-adult male grizzly bear was illegally killed near Red Lodge. Before this, there had been no documentation of a grizzly bear being killed or involved in a management situation during this century in the Red Lodge area. The male grizzly bear was shot while it was in a property owner's horse corral. The woman who killed the bear, claimed she believed that it was a black bear. The bear was killed with a single shot from a .22 caliber rifle, which struck the bear in the left rear leg cutting its femoral artery, causing mass-hemorrhaging. The bear had been witnessed in the owner's yard during the previous night. The mortality site was approximately 35 miles beyond the recovery line of BMU 4.

On September 16, an adult female grizzly bear (#254) was killed by an archery hunter in the Forest/Cabin Creek area of BMU 11. Bear #254 had 2 yearling (1 ½ + yrs) cubs at the time of the confrontation/mortality. During late daylight hours, the hunter was crossing a creek bottom when he noticed the family group of bears. The hunter tried to move out of the area, but was smelled by the female bear. Bear #254 bluff charged and then returned to her cubs. The hunter yelled and waved his arms (believing it was an appropriate action) at the bears.

Bear #254 charged again and was shot in the head at point blank range with a pistol. The hunter rode horseback out of the drainage the next morning to report the incident. Investigation by state and federal enforcement officers revealed that the killing of the bear was justifiable and deemed self-defense.

On October 4, an adult male grizzly bear (#297) was killed by an archery hunter in Wapiti Creek/Taylor's Fork drainage of BMU 1. The hunters (2) claimed that bear #297 charged from the timber in near darkness conditions and was killed with numerous shots from a pistol. Due to questionable statements, necropsy findings, and scenario possibilities, this mortality is still under investigation by federal agents.

On October 5, a cub of the year grizzly bear was found dead and scavenged in Wapiti Creek/Taylor's Fork drainage of BMU 1. A horseback rider gathering cattle off of a grazing allotment found the cub bear. A female bear with 2 cubs of the year had been observed numerous times in this area during the summer and fall months. This same female was observed in late October with only 1 cub at her side.

On October 26, an unmarked adult male grizzly bear was killed by a rifle hunter in Wigwam Creek/Tom Miner Basin of BMU 2. The hunter, who was on a guided hunt, had waited on an old logging road while the guide and a second hunter climbed over a timbered hill to look for elk. The hunter had stopped to examine some mountain lion tracks on the road. He heard noises and saw snow falling from the branches of small trees down slope from the road. The hunter raised his rifle, thinking that elk were moving by. The male grizzly bear charged from the regrowth timber and the hunter fired his rifle, striking the bear in the head. The bear dropped approximately 20 feet from the hunter. The guide and hunters immediately left the area and reported the incident to a MFWP warden, who investigated the site. Investigation revealed that unbeknownst to the hunter, 2 mountain lions had killed a mule deer over the edge of the road approximately 25 feet from where the hunter was standing. The bear had not been feeding on the deer carcass at the time, but had been circling the area and was moving in on the carcass when the hunter stopped to look at the lion tracks. The mortality was deemed self-defense by state and federal officers.

Human Injuries--During 1997, 3 people were injured by grizzly bears in 2 separate incidents. In the past six years (1991-1996), 11 people have been injured by grizzly bears in Montana.

On October 5, a lone man from California was archery hunting in Copper Creek (BMU 4) of the Boulder River Drainage. This hunter claims he had walked approximately for 4 hours up Copper Creek. While hunting in a timbered area he walked between a female grizzly and her 2 cubs. The female bear charged, knocking a pistol from his hand that he had grabbed. The bear knocked him to the ground and began to bite his thigh. The hunter retrieved his pistol while lying on his side and pointed the pistol over his leg and fired. The bear released the man's leg and moved toward her cubs. The man claims he then fired numerous (5?) rounds at the bear. The hunter then walked out to the trail-head and was assisted by

personnel from the USFS and taken to Big Timber and then onto Billings, where he was treated and later released. ***NOTE***: This person told a minimum of 4 stories to investigating wardens and the preceding information was his last story. He later stated that he was going to make money from his mauling and subsequent story. He is an unreliable source.

On October 15, at approximately 11:30 pm, a young man and woman were returning to their tent camp in the Ouzel Falls area of the West Fork of the Gallatin River drainage. Weather conditions were clear, calm wind, 20 degrees, and a full moon was visible. The confrontation site was in heavy spruce-lodgepole timber approximately 100 yards from the tent camp. Topographical conditions of the area limited access to and from the campsite. Investigation of the conflict site revealed that a female and cub bear had moved down a steep slope and used a game trail to enter the unoccupied (for 3 to 4 days) camp. The bears fed upon package foods that had been left on the ground, inside and outside of the tents. It was believed that the bears had heard the people approaching the camp and were trying to leave the area when the conflict took place. The bears were leaving the camp by the same route used by the people going into the camp. The couple encountered the female grizzly bear and cub at a distance of 15-20 feet. The female bear was running towards the couple when first noticed. The man raised his arms, yelled, and began moving backwards. The female bear knocked him to the ground, bit his arm, and began biting his shoulder. The man immediately covered his head and lay still. The female bear then knocked the woman to the ground, who had been yelling and moving away. The woman was bitten on the back and forehead. The woman continued to yell and struggle, at which time the man stood up and yelled at the bear. The bear stopped its attack of the woman and again knocked the man down and biting him on the shoulder. The female bear stopped her attack and moved off with the cub. Moving past the bears, the man and woman walked about 400 yards back to their vehicle. The couple was treated and later released from the Bozeman hospital. The tent camp was cleaned up and removed upon investigation of the site. ***NOTE***: This tent camp, which had been set-up illegally on private land for most of the summer and fall season involved 4 individual parties (tents). This female grizzly bear showed a great amount of restraint during the confrontation and was trying to get the cub and herself out of the situation. The victims were also fortunate that they were wearing numerous layers of clothes, which lessened the severity of the bite wounds.

Wyoming

Grizzly bear-human conflicts in 1997 (n=90) increased by 31% from 1996 (n=62) and were up 8% from the previous 5 years (1992-1996) average 83/year. Most incidents in 1997 involved livestock depredations (n=71) on public land grazing allotments or on private lands, with the majority of them occurring in the Moran/Togwotee Pass, upper Green River, and Targhee areas. Relatively minor livestock losses occurred in the Meeteetse, Dubois, and Cody areas. All livestock incidents involved the death or injury to cattle and sheep.

Property damage incidents increased by 13% (n=8) from 1996 (n=7), and were down 58% from the previous 5 years average of 19 property damage incidents/year. Unlike previous

years, none of the property damage incidents in 1997 became chronic. At all locations, attractants were secured and the bear either did not return to the site, or left the area for the remainder of the season. With the high number of property damage incidents that occurred in recent years, the public has become more aware of the need to secure attractants around residential areas, which has helped to reduce the number of property damage incidents in those areas. No incidents of apiary damage occurred in 1997 largely due to the construction of electric fence exclosures in 1995 and 1996 at apiaries that had experienced chronic damage in past years. Plans for 1998 include fencing additional sites as needed.

There were 4 bear-caused human injuries in 1997. In early April, a antler hunter received minor injuries to his right shoulder when he surprised a bear at close range. The bear had been feeding on an elk carcass near where the incident occurred. In the second incident, a man received minor injuries from a grizzly while hiking. He surprised a bear at close range that was feeding on a mule deer carcass, and the bear pulled him from a tree he was attempting to climb causing injuries to his ankle. In the third incident an elk hunting guide in the Teton Wilderness received minor injuries to his buttocks after encountering a female grizzly with 3 yearling cubs at close range. The guide killed the adult female and the 3 yearlings. The incident is currently under investigation by state and federal authorities. In the fourth incident, an elk hunter received minor injuries to his leg and foot when he encountered a female grizzly bear with unknown age cubs. The bear approached him from about 150 yards, then pulled him from a tree he was attempting to climb. The man dispensed bear spray in the bears' face during the attack and she immediately left the area.

In 4 incidents during 1997, bears were able to obtain anthropogenic foods. In all incidents bears obtained human food and garbage, 2 occurring at rural residences and 2 occurring at front-country camps. This is down 76% from the 5 year average of 17 incidents of food rewards/year, and down 33% from 1995 (n=6). There were no known incidents of bears obtaining significant food rewards in the form of livestock or pet foods in 1997. During only 1 of these incidents did a bear cause property damage while seeking these foods. Two of the 1997 incidents occurred on private lands, and 2 occurred on public lands.

There were 5 known and 1 probable human caused bear mortalities in Wyoming in 1997. One adult female bear was believed to be killed by a hunting guide in a close encounter, even though the carcass was never located, one adult female and her 3 yearling cubs were killed by a hunting guide in an incident where the guide was slightly injured, and 1 subadult male was removed in a management action (bear #293) after frequenting campsites in the upper Green River drainage.

Five grizzly bears were captured in management actions in 1997. Of the 5 bears captured, 3 were adult males, one an adult female, and 1 a subadult male. Two adult males and 1 adult female were captured and relocated due to livestock depredations, one was captured and relocated after causing property damage and obtaining a food reward at a rural residence,

and one subadult male (bear #293) was euthanized after exhibiting human habituated behavior and frequenting occupied campsites. Area specific conflict type, conflict summary, and recommended management actions are presented in Table 15.

Table 15. Major conflict areas and recommended management actions in the Wyoming portion of the GYE in 1997.

LOCATION	CONFLICT TYPE	SUMMARY	RECOMMENDED ACTION
Targhee National Forest (Badger & Leigh Creeks)	Livestock damage	Bears kill and injure sheep on public land livestock allotments administered by USFS.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary. Attempt to find alternative grazing allotments. Experiment with deterrent devices.
Bridger-Teton National Forest (Lime Creek Area)	Livestock damage	Bears kill and injure sheep on public land livestock allotments administered by USFS.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary. Attempt to find alternative grazing allotments. Experiment with deterrent devices.
Bridger-Teton National Forest (Union Pass Area)	Livestock damage	Bears kill and injure cattle on public land livestock allotments administered by USFS.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary.
Dubois Area (Public and Private)	Livestock damage	Bears kill and injure cattle on private land and public land livestock allotments.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary.
Bridger-Teton National Forest (Moran/Togwotee Pass)	Livestock damage	Bears kill and injure cattle on public land livestock allotments administered by USFS.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary.
Cody Area (Public and private)	Livestock damage	Bears kill and injure cattle on private lands and public land livestock allotments.	Continue to investigate livestock damage. Reimburse owners for confirmed losses. Relocate bears when necessary.

Yellowstone National Park

There were no incidents of grizzly bear-caused property damages, no incidents of grizzly bears obtaining anthropogenic foods and only 1 grizzly bear inflicted human injury within YNP in 1997. This was lower than the 10 year averages of 1.3 (\pm 1.2 SD) grizzly bear-caused property damages, and 2.0 (\pm 1.4 SD) incidents of grizzly bears obtaining anthropogenic foods, and approximately equal to the average of 0.6 (\pm 1.3 SD) grizzly bear inflicted human injuries recorded per year from 1987 through 1996. Two grizzly bears were captured in management actions in 1997. On June 18, adult female grizzly bear #264 and one of her 2 unmarked COY were captured in the Norris Geyser Basin. For the previous two days, one of bear #264's COY (a 20 lb. male) had been observed dragging its back legs as it walked. Bear #264 and her 2 COY (1 healthy cub and 1 injured) had been using the road as a travel corridor, travel for the injured cub appeared easier along the road. Park visitors had been approaching too close to the bears, creating concern for human safety. The injured cub was captured and taken to the Mammoth Clinic and examined by a physician. X-rays revealed multiple broken ribs, broken vertebra, liver damage, and blood in one lung. Both hind legs of the cub were paralyzed. Due to the extent of the injuries with no possible chance for survival in the wild, the cub was euthanized. Autopsy revealed the cub had been bitten along the spine and lower abdomen by a larger bear.

Despite poor whitebark pine cone production in 1997, there were very few grizzly bear-human conflicts, grizzly bear management actions, or human-caused grizzly bear mortalities within YNP. Strict enforcement of sanitation regulations in combination with the availability of biscuit root, truffles, and army cutworm moths during the fall apparently kept bears out of conflict with people. Due to the low number of bear-human conflicts in the park in 1997, there were no grizzly bears removed in management actions and no grizzly bears died due to human causes in the park. This was lower than the 10 year average of 1.0 (\pm 1.0 SD) human-caused grizzly bear mortality recorded per year from 1987 - 1996.

Strong public education and sanitation programs have kept the number of bear-human conflicts in YNP very low in recent years. Continuation of these programs is essential to reducing and preventing bear-human conflicts within the park. Management of habituated grizzly bears feeding on natural foods within developments and along roadside corridors, often with hundreds of people watching within distances of 20 to 30 yards, continues to be the most challenging bear management issue in the park. New innovative strategies for managing habituated grizzly bears that forage on the edge of developments and along roadsides need to be developed to reduce the number of bear-human conflicts and subsequent grizzly bear management actions occurring within the park.

DISCUSSION

During years with low availability of natural bear foods, especially fall foods, grizzly bears often seek alternate foods in association with human activities and both the number of bear-human conflicts and human-caused grizzly bear mortalities increase during the fall season (Knight and Blanchard 1994). Production of whitebark pine seeds, an important fall food in the Yellowstone ecosystem, was below average in 1997. Despite the poor production of whitebark pine cones, there were a below average number of all types of grizzly bear-human conflicts except for livestock depredations. Livestock depredations were above average in 1997. However, data from past years suggests that livestock depredations generally occur independent of the abundance of fall foods.

The presence of biscuit root, truffles, and army cutworm moths provided bears with good foraging opportunities during the late summer/fall period of hyperphagia. Hyperphagia is the period of intensive search for high energy foods as bears prepare for hibernation (Nelson et al. 1983). Apparently biscuit root, truffles and army cutworm moths were abundant enough to compensate for the poor whitebark pine seed crop, keeping bears from seeking anthropogenic foods in association with human activities. This resulted in a below average number of property damages, incidents of bears obtaining anthropogenic foods, and management related human-caused grizzly bear mortalities.

Most of the grizzly bear-human conflicts that did occur in 1997, occurred in 7 distinct geographic areas of the ecosystem. Many of the conflicts in these 7 areas involved just a few individual grizzly bears. The 7 areas where bear-human conflicts were most prevalent were the West Yellowstone/Hebgan Lake area where bears obtained anthropogenic foods, the area around Gardiner where bears obtained fruits and vegetables from gardens and orchards, the Blackrock/Togwotee Pass and Dunoir/Six Mile areas where bears killed cattle, the Badger Creek area where bears killed sheep, the Green River area where bears killed both cattle and sheep, and both the North and South Fork areas of the Shoshone River where bears were involved in a variety of conflicts including property damages, incidents of obtaining anthropogenic foods, and killing cattle. Future management and public education efforts should be directed at reducing conflicts in these 7 geographic areas.

Self defense kills of grizzly bears by hunters continue to be one of the highest sources of human-caused grizzly bear mortality in the Yellowstone ecosystem. Over the last 6 years (1992-97) more than one-third (38%) of the human-caused grizzly bear mortalities occurring in the Yellowstone ecosystem have been due to hunters killing bears in self defense. Increased hunter education efforts and promotion of the use of bear pepper spray during confrontations with bears are currently being emphasized to address this problem. Bear pepper sprays appear to be potentially useful in deterring aggressive bears in a variety of field situations (Herrero and Higgins 1998). In 1997, there were 3 reported incidents where

bear pepper sprays were used during aggressive encounters with grizzly bears. In all 3 incidents the pepper spray appeared to successfully stop the aggressive behavior. In none of the 3 incidents did the bears become more aggressive after being sprayed. We do not know what the outcome of these 3 incidents would have been without the use of the spray. Further research into the causes of hunter related grizzly bear mortalities and the effectiveness of bear pepper sprays in stopping aggressive encounters is needed to develop a management strategy designed to reduce both the number of grizzly bear-inflicted injuries to hunters as well as reduce the number hunter-caused grizzly bear mortalities occurring within the Yellowstone ecosystem.

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Appendix A. Known grizzly bear-human conflicts, confrontations, management actions, and human-caused grizzly bear mortalities in the Yellowstone ecosystem, 1997.

DATE	BMU	OWNERSHIP	LOCATION DESCRIPTION	UTM LOCATION	BEAR I.D.	TYPE OF CONFLICT	RESOLUTION	SOURCE
08/08/97	26	GNP	Elk Ranch	540.60 E, 4851.10 N	Unk	Livestock Depredation-Killed Calf	Report/Investigated	GNP
08/10/97	26	GNP	Elk Ranch	540.60 E, 4850.30 N	Unk	Livestock Depredation-Killed Calf	Report/Investigated	GNP
08/12/97	26	GNP	Elk Ranch	540.70 E, 4852.30 N	Unk	Livestock Depredation-Killed Calf	Report/Investigated	GNP
09/01/97	18	GNP	Glade Creek	521.23 E, 4881.55 N	Umm/Sow/2-yr	Human Injury-Bow Hunter	Report/Investigated	GNP
03/09/97	11	MT-private	South Fork Madison/Bar N Ranch	483.80 E, 4984.80 N	Unk	Anthropogenic Foods-Dog Food	Report/Investigated	MT
05/08/97	22	MT-private	Red Lodge/Upper Rosebud River	630.70 E, 5013.20 N	Umm/SAD-male	Confrontation-In Horse Corral	Shot/Killed by Landowner	MT
06/20/97	20	GNF	South Fork Brackett Cr	507.40 E, 5075.80 N	Ad/Sex Unk	Confrontation-Aggressive Behavior	Report/Investigated	MT
07/27/97	3	GNF	Hellroaring/Sheep Pass	554.20 E, 5005.20 N	Ad/Sex Unk	Confrontation-Bluff Charge	Blew up carcass attractant	MT
07/29/97	11	GNF	Lonesomehurst, Hebgen Lake	481.20 E, 4954.30 N	Ad/Sex Unk	Anthropogenic Foods-Human Foods	Report Taken	MT
07/31/97	2	MT-private	Tom Miner Basin/B-Bar Ranch	499.00 E, 4998.70 N	7 diff. griz	Confrontation-In Ranch Yard	Report/Investigated	MT
08/04/97	20	GNF	Indian Ridge/Spanish Peaks	477.40 E, 5032.70 N	Ad/Sex Unk	Confrontation-Bluff Charge	Report/Investigation	MT
08/08/97	11	MT-private	Horse Butte/Rainbow Point	484.20 E, 4958.40 N	Ad/Sex Unk	Anthropogenic Foods-Garbage	Report/Investigation/Clean-Up	MT
08/08/97	11	GNF	Rainbow Point/Campground	485.60 E, 4958.50 N	Ad/Sex Unk	Anthropogenic Foods-Garbage	Investigation/Legal Warning	MT
08/13/97	11	MT-private	Rainbow Point/Horse Butte	485.00 E, 4958.00 N	Ad/#101?	Anthropogenic Foods-Dog Food/Garbage	Radio Announcement/Aversive Cond.	MT
08/14/97	2	MT-private	Tom Miner Basin-B Bar Ranch	499.00 E, 4998.70 N	2 Adults?	Confrontation-In Ranch Complex	Aversive Cond./Area Cleanup	MT
08/16/97	2	MT-private	Tom Miner Basin-B Bar Ranch	499.00 E, 4998.70 N	1 Adult	Confrontation-In Ranch Complex	Aversive Cond./Traps Set	MT
08/18/97	2	MT-private	Tom Miner Basin-B Bar Ranch	499.00 E, 4998.70 N	1 Adult	Confrontation-In Ranch Yard	Area Clean	MT
09/01/97	11	GNF	Denney Creek	478.50 E, 4949.00 N	Unk	Anthr. Foods-Camp Food/Tore Tent	Campsites Temp. Closed	MT
09/01/97	19	MT-private	Jack Creek-diamond J Ranch	457.40 E, 5022.20 N	Unk	Anthropogenic Foods-Garbage	New Bear-proof Dumpster/Set Trap	MT
09/04/97	11	MT-private	Cream Creek	484.00 E, 4946.00 N	2 Subadults	Anthr. Foods-Bird Seed/Dog Food	Clean-Up/Set Trap	MT
09/04/97	5	MT-private	Silvergate, MT	579.40 E, 4984.00 N	Ad/Sex Unk	Property Damage-Broke into Car	Report Taken	MT
09/04/97	5	MT-private	Cooke City, MT	584.40 E, 4985.50 N	Ad/Sex Unk	Anthropogenic Foods-Human Foods	Report/Investigation	MT
09/07/97	11	MT-private	West Yellowstone, MT	490.70 E, 4944.90 N	SAD-F, #300	Anthropogenic Foods-Camp Foods	Trap-Translocate	MT
09/10/97	11	MT-private	Horse Butte-Rainbow Point	484.20 E, 4958.40 N	1-Ad, 1-SAD	Anthr. Foods-Garbage/Dog Food	Requested Clean-Up	MT
09/10/97	11	MT-private	Duck/Grayling Creek	487.70 E, 4958.50 N	Subadult	Anthropogenic Foods-Dog Food	Secured Food Source	MT
09/11/97	11	MT-private	Fir Ridge	491.00 E, 4960.40 N	Adult	Anthropogenic Foods-Dog Food	Report/Investigation	MT
09/16/97	11	GNF	Forest/Cabin Creek	477.40 E, 4971.50 N	Ad-F, #254	Confrontation-Charge Hunter	Hunter Killed Bear-Self Defense	MT
09/18/97	3	GNF	Buffalo Fork/Hellroaring Creeks	549.70 E, 4986.80 N	Adult Male	Confrontation-Aggressive Encounter	Report/Investigation	MT
09/22/97	2	GNF	North Fork Buffalo Horn	489.00 E, 5001.00 N	Umm F-cub	Anthropogenic Foods-Horse Feed	Report	MT
09/26/97	1	GNF	Eldridge/Lightning Creek	471.50 E, 4984.00 N	Ad/Sex Unk	Anthropogenic Foods-Camp Foods	Investigation-Hunter killed bear	MT
10/04/97	1	GNF	Hapiti Creek	478.40 E, 4979.60 N	Ad-M, #297	Confrontation-Aggressive Encounter	Investigation-Hunter shot at bear	MT
10/05/97	4	GNF	Copper Creek	556.00 E, 5007.00 N	Ad-F+2 cubs	Human Injury-Hunter	Investigation-Hunter shot at bear	MT
10/09/97	11	MT-private	Cream Creek	484.00 E, 4946.00 N	SAD	Anthropogenic Foods	Aversive Conditioning	MT
10/15/97	20	MT-private	Ousel Falls/West Fork	474.20 E, 5009.60 N	Ad-F+1 cub	Human Injury-2 hikers injured	Clean Area/Move Camps Out	MT
10/16/97	11	MT-private	South Fork Madison	484.20 E, 4947.10 N	Subadult	Confrontation-In Yard	Report/Investigation	MT
10/16/97	20	MT-private	Jack Creek/Moonlight Basin	465.00 E, 5019.00 N	Ad-F+2 cubs	Confrontation-Charged Truck Twice	Report/Investigation	MT
10/21/97	2	MT-private	Yellowstone River/Devils Slide	517.20 E, 4992.20 N	Ad-F+2 cubs	Apple Orchard	Cleaned up Apples	MT
10/21/97	2	MT-private	Yellowstone River/N of Gardiner	517.80 E, 4991.80 N	Ad/Sex Unk	Apple Orchard	Report/Investigation	MT
10/21/97	11	GNF	Cream Creek	484.00 E, 4942.40 N	Ad/Sex Unk	Confrontation-Bluff Charge	Report/Investigation	MT
10/26/97	2	MT-private	Wigwam Creek	506.80 E, 5000.40 N	Adult Male	Confrontation-Charge	Hunter Killed Bear-Self Defense	MT
10/26/97	2	GNF	Buffalo Horn/Cow Flats	484.40 E, 4995.00 N	Ad-F+1 cub	Confrontation-Aggressive Encounter	Report/Investigation	MT
10/26/97	1	GNF	Uapiti Creek	476.20 E, 4993.20 N	Ad-F+1 cub	Confrontation-Aggressive Encounter	Report/Investigation	MT
10/26/97	2	GNF	Porcupine Creek/Twin Cabin	484.00 E, 5004.90 N	Ad-F+1 cub	Anthropogenic Foods-Camp Foods	Report	MT
10/28/97	2	MT-private	Yellowstone River/N of Gardiner	518.50 E, 4989.40 N	SAD-M, #301	Apple Orchard	Trap-Translocate	MT
10/28/97	20	GNF	Big Creek/Mist Creek "N"	497.00 E, 5012.80 N	Ad/Sex Unk	Confrontation-Bear entered camp	Investigation-Moved Camp	MT
11/01/97	20	GNF	Dudley Creek	479.40 E, 5015.00 N	Ad/Sex Unk	Unnatural Foods-Cheese puffs	Report Taken	MT
11/02/97	11	GNF	Cabin Creek/Juncus Lake	477.10 E, 4973.70 N	Large Adult	In Backcountry Camp	Report Taken	MT

DATE	BNU	OWNERSHIP	LOCATION DESCRIPTION	UTM LOCATION	BEAR I.D.	TYPE OF CONFLICT	RESOLUTION	SOURCE
11/06/97	1	GNF	Wapiti Creek	476.20 E, 4987.40 N	Ad/Sex Unk	Confrontation-Aggressive Encounter	Report Taken	MT
11/24/97	2	GNF	Porcupine Creek	488.80 E, 5003.40 N	Ad-F+1 COY	Confrontation-Bluff Charge	Report/Investigation	MT
05/16/97	10	YNP	Elk Antler Creek	543.10 E, 4943.00 N	Ad/Sex Unk	Confrontation-Bluff Charged Vehicle	Report Taken	YNP
05/24/97	10	YNP	Lake Ranger Station	548.60 E, 4934.30 N	SAD/Sex Unk	Confrontation-In Development	Hazed Out of Area	YNP
05/25/97	10	YNP	Lake Lodge	548.10 E, 4933.20 N	SAD/Sex Unk	Confrontation-In Developed Area	Hazed Out of Area	YNP
06/10/97	9	YNP	4 mi N Mt Holmes Trailhead	521.00 E, 4967.00 N	Urm/Sow+2COY	Confrontation-Bluff Charge	Report Taken-Press Release	YNP
06/15/97	10	YNP	Little Thumb Creek/No Name Pond	533.50 E, 4920.50 N	Ad/Sex Unk	Man approached/touched cub	Report Taken	YNP
06/18/97	10	YNP	Norris Geyser Basin	523.72 E, 4952.22 N	#264+ 2 COY	Confrontation-Bear Approached Management Capture-Preemptive Safety Concerns/Sow Defending Injured/Paralyzed Cub	Euthanized Injured Cub- Sow Then Left Area	YNP
06/20/97	4	YNP	Slough Creek Trail-first meadow	557.50 E, 4978.00 N	Unk	Confrontation-Bluff Charge	Bear Warnings Posted	YNP
07/14/97	9	YNP	Norris Campground-Loop A	524.20 E, 4953.80 N	Ad/Sex Unk	Confrontation-Bear In Development	Warnings Posted/Increased Patrol	YNP
07/24/97	4	YNP	Slough Creek Trail-first meadow	556.00 E, 4877.10 N	Urm/Sow+2 COY	Confrontation-Aggressive Encounter	Warnings Already Posted on Trail	YNP
07/24/97	8	YNP	Pelican Creek Nature Trail	550.50 E, 4933.80 N	Ad/Sex Unk	Confrontation-Bear Approached	Bear Warnings Posted	YNP
07/27/97	2	YNP	Backcountry Campsite NE1	496.30 E, 4986.00 N	Unk	Confrontation-Bear In Camp	Bear Warnings Posted	YNP
08/21/97	8	YNP	South of Tern Lake	557.90 E, 4945.20 N	Urm/Sow+1 yrl	Human Injury-hiker	Area Temporarily Closed	YNP
08/31/97	2	YNP	Stephens Creek	518.50 E, 4987.20 N	Urm/yearling	Orchards-In Apple Tree	As many apples as possible had been picked, shaken out of trees, and picked up.	YNP
09/12/97	5	YNP	Between Little Lamar & Lamar R	588.35 E, 4946.70 N	Sow+2 2yr olds	Confrontation-Bluff Charge	Hiker Used Bear Spray	YNP
09/17/97	2	YNP	Stephens Creek	518.50 E, 4987.20 N	Urm/yearling	Orchards-In Apple Tree	As many apples as possible had been picked, shaken out of trees, and picked up.	YNP
09/25/97	15	YNP	Backcountry Campsite 605	575.40 E, 4899.20 N	Unk	Confrontation-Bear In Camp	Report Taken	YNP
09/27/97	9	YNP	Canyon Housing Area	539.85 E, 4954.00 N	SAD/Sex Unk	Confrontation-Bear In Development	Hazed Out Of Area	YNP
09/28/97	9	YNP	Canyon Housing Area	539.80 E, 4954.10 N	SAD/Sex Unk	Confrontation-Bear In Development	Hazed Out Of Area	YNP
09/29/97	9	YNP	Canyon Housing Area	539.75 E, 4953.80 N	SAD/Sex Unk	Confrontation-Bear In Development	Hazed Out Of Area	YNP
09/30/97	9	YNP	Canyon Housing Area	539.74 E, 4953.80 N	SAD/Sex Unk	Confrontation-Bear In Development	Hazed Out Of Area	YNP
10/03/97	2	YNP	Fawn Pass Trail	496.00 E, 4977.60 N	Ad/Sex Unk	Confrontation-Bluff Charge	Bear Warnings Posted On Trail	YNP
10/07/97	5	YNP	Frost Lake Area	576.60 E, 4940.00 N	Sow+1 2yr old	Confrontation-Bluff Charge	Hikers Used Bear Spray	YNP
04/01/97	16	SNF	Greybull River	628.30 E, 4882.90 N	Unk	Human Injury	Investigation	WY
04/22/97	6	SNF	Dead Indian Creek	625.10 E, 4956.30 N	Unk	Property Damage-Tent	Report Taken	WY
04/25/97	24	WY-private	South Fork Shoshone-Bear Creek	635.10 E, 4919.80 N	Unk	Anthropogenic Foods-Garbage	Report/Investigation	WY
04/25/97	6	WY-private	Russel Creek	623.00 E, 4962.20 N	Unk	Property Damage-Snowmobile Seat	Report	WY
04/27/97	16	WY-private	Webster's Cabin-Rock Creek	630.10 E, 4902.70 N	Unk	Property Damage-Barn Door	Report/Fix Door	WY
05/22/97	24	WY-state	Pickett Creek	640.70 E, 4889.00 N	Unk	Property Damage-Camp Trailer	Report/Investigation	WY
05/26/97	25	WY-private	Six Mile Creek	597.20 E, 4846.60 N	Unk	Cattle Dep.-Killed Angus Bull Calf	Report/Investigation	WY
05/28/97	24	WY-private	North Fork Shoshone	624.80 E, 4924.80 N	Urm/Female	Anthr. Foods-Garbage/Bird Seed	Report/Investigation	WY
05/28/97	24	WY-private	Rock Creek	630.10 E, 4902.70 N	Unk	Property Damage-Barn	Report/Investigation	WY
05/30/97	24	WY-private	Dunoir R-Six Mile Creek	597.20 E, 4836.80 N	Unk	Cattle Depredation-Adult Cow	Attempt Trap	WY
05/30/97	24	WY-private	Slack Creek	627.80 E, 4920.20 N	Unk	Bear Inflicted Human Injury	Attempt Trap	WY
05/31/97	25	WY-private	Dunoir River	597.00 E, 4836.80 N	Unk	Cattle Depred.-Red Angus Bull Calf	Attempt Trap	WY
06/10/97	24	WY-private	North Fork Shoshone	624.80 E, 4924.60 N	Unk	Gardens-Dug Potato Plants	Report/Investigation	WY
07/02/97	26	BTNF	Green River	583.50 E, 4803.50 N	Unk	Cattle Depredation-Calf	Report/Investigation	WY
07/03/97	26	BTNF	Green River	583.20 E, 4803.70 N	Unk	Cattle Depredation-Calf	Report/Investigation	WY
07/09/97	26	BTNF	Crow Creek	583.40 E, 4803.70 N	Unk	Cattle Depredation-Calf	Report/Investigation	WY
07/09/97	26	BTNF	Green River	582.20 E, 4802.40 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY
07/09/97	17	BTNF	Spread Creek	549.00 E, 4848.40 N	#203	Cattle Depredation-Male Calf	Attempt Trap	WY
07/11/97	26	BTNF	Green River	583.40 E, 4802.50 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY

DATE	BMU	OWNERSHIP	LOCATION DESCRIPTION	UTM LOCATION	BEAR I.D.	TYPE OF CONFLICT	RESOLUTION	SOURCE
07/11/97	17	BTNF	Spread Creek	552.60 E, 4847.60 N	#203	Cattle Depredation-Male Calf	Attempt Trap	WY
07/11/97	26	BTNF	Green River	586.50 E, 4802.50 N	Unk	Cattle Depredation-Calf	Investigation	WY
07/13/97	17	BTNF	Spread Creek	557.60 E, 4848.30 N	#203	Cattle Depredation-Female Cow	Attempt Trap	WY
07/14/97	24	WY-private	South Fork Shoshone River	630.00 E, 4905.80 N	#212	Cattle Depredation-Yearling	Attempt Trap	WY
07/16/97	26	BTNF	Klondike Creek	576.50 E, 4794.40 N	Unm-Ad	Sheep Depredation-3 Ewes/5 Lambs	Investigation	WY
07/17/97	26	BTNF	Lime Creek	574.60 E, 4793.90 N	Unm-Ad	Sheep Depredation-1 Ewe/2 Lambs	Attempt Trap	WY
07/18/97	24	WY-private	South Fork Shoshone River	631.70 E, 4904.60 N	#212	Cattle Depredation-Yearling	Investigation	WY
07/18/97	26	BTNF	Green River	579.50 E, 4795.40 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY
07/19/97	26	BTNF	Teepee Creek	569.20 E, 4800.50 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY
07/23/97	26	BTNF	Green River	582.10 E, 4803.40 N	Unk	Property Damage-Bear Injured Calf	Investigation	WY
07/23/97	26	BTNF	Green River	582.10 E, 4803.40 N	Unk	Cattle Depredation-Calf	Investigation	WY
07/23/97	6	WY-private	Clarks Fork	608.80 E, 4968.85 N	#291	Anthropogenic Foods/Property Damage	Trap/Translocation	WY
07/24/97	17	BTNF	Spread Creek	563.30 E, 4842.90 N	Unk	Cattle Depredation-Calf	Investigation	WY
07/29/97	26	BTNF	Teepee Creek	569.10 E, 4800.70 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY
07/30/97	26	BTNF	Teepee Creek	569.30 E, 4801.10 N	#292	Cattle Depredation-Calf	Attempt Trap	WY
07/30/97	24	WY-private	South Fork Shoshone River	630.80 E, 4904.25 N	#212	Cattle Depredation-Yearling Female	Attempt Trap	WY
07/31/97	26	BTNF	Teepee Creek	569.30 E, 4843.80 N	Unk	Cattle Depredation-Calf	Investigation	WY
07/31/97	17	BTNF	Split Rock Creek	567.50 E, 4797.80 N	Unk	Sheep Depredation-9 Ewes/18 Lambs	Investigation/Moved Sheep	WY
08/02/97	26	BTNF	Gros Ventre Wilderness	569.30 E, 4943.80 N	Unk	Cattle Depredation-Red Steer	Attempt Trap	WY
08/03/97	24	SNF	Buttonhole Creek	634.20 E, 4905.70 N	Unk	Cattle Depredation-Red Steer	Attempt Trap	WY
08/07/97	25	WY-private	Dunoir River	593.30 E, 4840.90 N	Unk	Cattle Depredation-Female Calf	Attempt Trap	WY
08/08/97	24	WY-private	South Fork Shoshone River	634.20 E, 4905.70 N	Unk	Cattle Depredation-Red Steer	Attempt Trap	WY
08/08/97	24	WY-private	South Fork Shoshone River	634.20 E, 4906.30 N	Unk	Cattle Depredation-Black Steer	Attempt Trap	WY
08/08/97	17	BTNF	Squaw Basin	570.60 E, 4845.60 N	Unk	Cattle Depredation-Female Calf	Investigation	WY
08/08/97	18	TNF	Badger Creek	503.30 E, 4857.40 N	Unk	Sheep Depredation-2 Sheep Killed	Attempt Trap	WY
08/11/97	24	WY-private	South Fork Shoshone River	633.40 E, 4905.95 N	#212	Cattle Depredation-Yearling Female	Trap/Translocation On 8/12	WY
08/11/97	18	TNF	Badger Creek	503.30 E, 4857.40 N	Unk	Sheep Depredation-Killed 1 Sheep	Attempt Trap	WY
08/12/97	26	BTNF	Mosquito Lake	575.50 E, 4804.50 N	Unk	Cattle Depredation-Yearling	Investigation	WY
08/12/97	26	BTNF	Wagon Creek	577.30 E, 4806.20 N	Unk	Cattle Depredation-Calf	Investigation	WY
08/13/97	18	TNF	Badger Creek	503.30 E, 4857.40 N	Unk	Sheep Depredation-3 Sheep	Trap/Translocate #294, preemptive move, non-target bear on 8/14	WY
08/14/97	17	BTNF	Squaw Basin	570.80 E, 4845.00 N	Ad/Sex Unk	Cattle Depredation-Female Calf	Investigation	WY
08/14/97	17	BTNF	Split Rock Creek	571.50 E, 4844.30 N	Unk	Cattle Depredation-Calf	Investigation	WY
08/14/97	17	BTNF	Squaw Basin	570.10 E, 4844.60 N	Ad/Sex Unk	Cattle Depredation-Calf	Investigation	WY
08/18/97	18	TNF	Badger Creek	508.80 E, 4857.90 N	Unk	Sheep Depredation-Killed 1 Sheep	Investigation	WY
08/23/97	26	BTNF	Green River	592.10 E, 4796.40 N	SAD/Male	Anthrop. Foods-Camp Food/Bog Food	Trap/Remove-Euthanize	WY
08/24/97	18	TNF	Badger Creek	509.40 E, 4856.60 N	Unk	Sheep Depredation-Killed 1 Sheep	Investigation	WY
08/25/97	17	BTNF	Spread Creek	558.40 E, 4847.50 N	Unk	Cattle Depredation-Adult Female Cow	Investigation	WY
08/26/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-3 Ewes/2 Lambs	Report Taken	WY
08/26/97	26	SNF	Jade Lake	578.60 E, 4846.90 N	Unk	Anthropogenic Foods-Camp Foods	Investigation	WY
08/26/97	18	TNF	Badger Creek	506.80 E, 4859.10 N	Unk	Sheep Depredation-Yearling Female	Investigation	WY
08/27/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-2 Ewes/2 Lambs	Report Taken	WY
08/27/97	18	TNF	Badger Creek	506.20 E, 4859.20 N	Ad/Sex Unk	Sheep Depredation-2 Yearlings	Investigation	WY
08/27/97	27	TNF	Leigh Creek	506.90 E, 4855.50 N	Ad F+2 Yrl	Sheep Depredation-1 sheep	Investigation	WY
08/28/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-2 Lambs	Report Taken	WY
08/29/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-1 Ewe/1 Lamb	Report Taken	WY
08/30/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-1 Lamb	Report Taken	WY
08/31/97	27	TNF	Leigh Creek	506.90 E, 4855.50 N	Adult Female	Sheep Depredation-1 Sheep	Investigation	WY
08/31/97	18	TNF	Adger Creek	500.20 E, 4860.70 N	Ad/Sex Unk	Sheep Depredation-1 Yearling	Report Taken	WY
08/31/97	26	BTNF	Lime Creek	572.10 E, 4793.80 N	Unk	Sheep Depredation-1 Ewe	Report Taken	WY
09/02/97	27	TNF	Leigh Creek	506.90 E, 4855.50 N	Ad/Female	Sheep Depredation-1 Sheep	Investigation	WY
09/02/97	15	BTNF	Coyote Creek	581.10 E, 4887.90 N	Ad/female	Aggressive Encounter	Hunter Shot at Bear/Carcass Not Found	WY

Appendix A. Concluded.

DATE	BMJ	OWNERSHIP	LOCATION DESCRIPTION	UTM LOCATION	BEAR I.D.	TYPE OF CONFLICT	RESOLUTION	SOURCE
09/03/97	18	TNF	Adger Creek	500.60 E, 4860.70 N	Ad/Sex Unk	Sheep Depredation-Yearling Female	Attempt Trap	WY
09/11/97	17	BTNF	Maverick Creek	568.90 E, 4841.60 N	Unk	Cattle Depredation-Calf	Report Taken	WY
09/13/97	17	BTNF	Maverick Creek	568.50 E, 4841.10 N	Unk	Cattle Depredation-Calf	Report Taken	WY
09/15/97	24	WY-private	South Fork Shoshone River	633.50 E, 4904.95 N	#212	Cattle Depredation-Cow	Trap/Translocation	WY
09/15/97	15	BTNF	Silvertip Creek	593.55 E, 4894.35 N	Ad Female	Human Injury-Elk Hunter	Hunters Shot/Killed Sow + 3 Yearlings	WY
09/18/97	26	BTNF	Mosquito Lake	575.10 E, 4807.20 N	Unk	Cattle Depredation-Calf	Investigation	WY
09/18/97	26	BTNF	Mosquito Lake	575.50 E, 4807.30 N	Unk	Cattle Depredation-Calf	Investigation	WY
09/20/97	26	BTNF	Crow Creek	583.20 E, 4806.50 N	Unk	Cattle Depredation-Calf	Investigation	WY
09/22/97	26	BTNF	Green River	582.20 E, 4803.10 N	Unk	Cattle Depredation-Calf	Investigation	WY
09/22/97	26	BTNF	Mosquito Lake	574.60 E, 4806.00 N	Unk	Cattle Depredation-Calf	Investigation	WY
09/24/97	17	BTNF	Baily Creek	531.50 E, 4869.70 N	Unk	Human Injury-Elk Hunter	Report Taken	WY
09/27/97	6	SNF	Hoodoo Creek	596.10 E, 4959.00 N	Ad/Sex Unk	Property Damage-Wall Tent	Report Taken	WY
09/29/97	26	BTNF	Wagon Creek	577.30 E, 4804.90 N	Unk	Cattle Depredation-Calf	Attempt Trap	WY
10/08/97	24	WY-private	South Fork Shoshone	623.70 E, 4914.40 N	Unk	Cattle Depredation-Calf	Report Taken	WY
10/10/97	15	BTNF	Open Creek	586.00 E, 4886.00 N	Unk	Aggres. Encoun.-Charged Hunter	Hunter Shot Bear with Birdshot	WY
10/13/97	15	BTNF	Thorfare Creek	574.80 E, 4886.70 N	Unk	Property Damage-Backcountry Cabin	Report Taken	WY
10/17/97	7	SNF	Avalanche Creek	589.00 E, 4908.80 N	Sow + 1 COY	Aggressive Encounter-Charge	Hunters Climbed Tree	USFWS
10/20/97	24	SNF	East Fork Twin Creek	626.60 E, 4914.70 N	Unk	Cattle Depredation-Calf	Investigation	WY
10/21/97	26	BTNF	Wagon Creek	575.30 E, 4806.90 N	Unk	Cattle Depredation-Calf	Report Taken	WY
10/22/97	25	WY-private	Dunoir River	599.60 E, 4931.50 N	Unk	Cattle Depredation-Calf	Investigation	WY