

Human/Bear Encounters: Some comments on what we know

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Fatal Attacks by American Black Bears on People: 1900–2009¹

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¹Herrero, S., A. Higgins, J. E. Cardoza, L. I. Hajduk, and T. S. Smith. 2011. Fatal attacks by American black bears on people: 1900-2009. *Journal of Wildlife Management* 73:596-603.

Key facts from the Herrero et al. (2011) paper:

- There have been increasing numbers of attacks by black bears in recent decades. 86% of all black bear attacks reported in this paper occurred since 1960. This is likely due to both increasing numbers of humans in black bear habitat and increasing black bear populations.
- The US human population increased by 129.4 million people between 1960 and 2010. The Canadian human population more than doubled between 1950 (14 million) and 2010 (34.1 million).
- That's about 145 million more people since 1960.
- To put this increase in perspective, the total US population in 1945 was 139 million.
- The North American black bear population increased 17.6 - 19.8% between 1988 and 2001.¹

¹Garshelis, D. L. and H. Hristienko. 2006. State and provincial estimates of American black bear numbers versus assessments of population trend. *Ursus* 17:1-7.

Key facts from the Herrero et al. (2011) paper:

- Most bears involved in fatal attacks were not known to have a history of association with people.
- Most fatal attacks involved people who were alone (37 of 63).
- In 38% of the fatal attacks human food or garbage was present. In these cases, the bear either fed on the garbage or human food or showed interest and exploratory behavior toward human garbage or food within 100 meters of the attack site.

Key facts from the Herrero et al. (2011) paper:

- Bear spray was not present or used in any of the fatal black bear attacks.
- All attacks were by a single bear and males were responsible for most attacks.
- Most attacks were predatory in nature with deliberate stalking and a silent approach involved. These bears appeared to be intent on predation.
- In 3 incidents, 2 or 3 people were killed.

What does a predatory bear act like?



Kids Under Car



Photos: Chad Adams

Human expansion in bear habitat

- *Now, let's look some specifics about human – bear conflicts using the US Northern Rockies as an example.*

Human-Grizzly Bear conflicts: some recent information

- Conflict levels in the spring can be related to late springs and high snowpack that concentrates bears at lower elevations longer. This increases conflicts when there are more bears and more people.
- Conflict levels in the fall are almost always related to the food year, no matter what the food is – huckleberries or whitebark pine or whatever.
- Males are usually involved in livestock kills and especially cattle depredations.
- Older males with poor teeth and in poor health are sometimes involved in site conflicts like cabin break-ins.

Human-Bear conflicts: some recent information

- Conflicts related to garbage have actually declined in some areas where outreach and education have been in operation for some time. In rural areas where subdivisions and continuous new residents are more common, conflicts related to garbage and human foods continue to increase. This difference is due to a more stable human population versus expanding human presence with continuous addition of new residents lacking experience in bear habitat.
- Bear conflicts related to poultry have expanded and are now a serious problem resulting in the phrase: “Chickens are the new garbage” – Jamie Jonkel, MT FWP. Do more people have chickens now? Probably, as it is the new “thing” for the new rural residents.¹

¹A web search for “raise your own chickens at home” got 6.56 million web sites!

Human-Bear conflicts: some recent information

- As grizzlies expand their range, there are increasing conflicts on the edge of range expansion with residents who have no experience or knowledge about living with bears.
- An increasing problem is bear habituation to humans with a lack of normal avoidance response in some areas. Some of these bears are now utilizing agricultural crops like alfalfa and grain in plain view of people.
- A new problem is that an increasing number of people are frustrated with bears moving into rural/agricultural areas. They thought that securing attractants would keep bears from occupying their areas but instead some bears are now living among them much of the season. This is not what they expected to happen when they secured their attractants.

The leading, bleeding edge of bear and human population expansion into each other's habitats.



Human-Bear conflicts: some recent information

- Kevin Frey, the bear manager for MT FWP in the Yellowstone ecosystem has seen conflicts increase by 29% in the last 10 years, and 40% over the past 5 years – this is a significant increase.
- Key factors in this increase are more bears, expanding bear range, more human development and natural food fluctuations – no one factor is responsible.
- Fewer subadults in conflicts in the Yellowstone ecosystem and more adults.
- Human tolerance is waning particularly when bears show up in places they should not be (like a corral). People who used to see 1-2 bears per year now see them all the time. They ask “how many is enough?”.

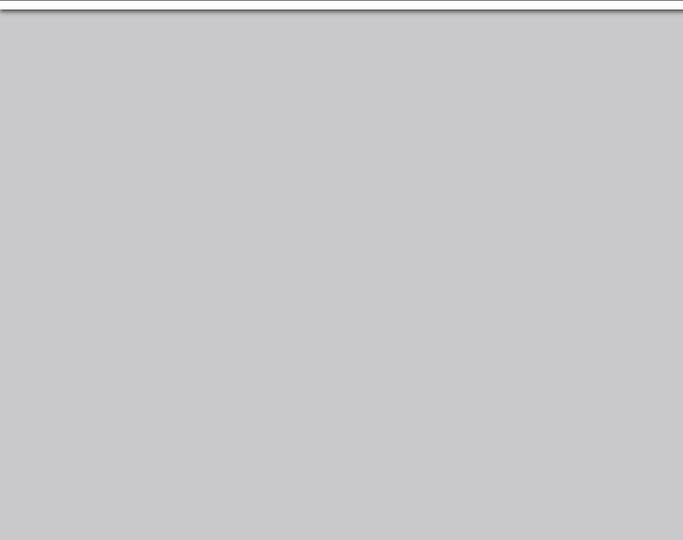
Human-Bear conflicts: some recent information

- Mike Madel, the bear manager for MT FWP on the Rocky Mountain Front has seen conflicts DECREASE 30% 1986-2005, then INCREASE since 2005 as the population expands in numbers and range.
- With management of sheep and bees with electric fencing these conflicts have declined even as the bear population expanded. Cattle depredations have remained low but site conflicts at homes and grain storage sites have increased.
- More subadults involved in incidents.
- People who have lived with bears for decades are more supportive of bears now than in the 1980s. But, as the population expands into places formerly devoid of bears, people are resistant to having them move in.

Summary – recent information:

- *In summary, grizzly and black bear populations are expanding in numbers and range in many areas of North America.*
- *Despite this increase in bears, management efforts have resulted in declines in conflicts in many areas – a mark of management success even under difficult circumstances.*

The combination of more people in bear habitat and more bears are a big part of the increase in human/bear conflicts



When grizzly bears charge people

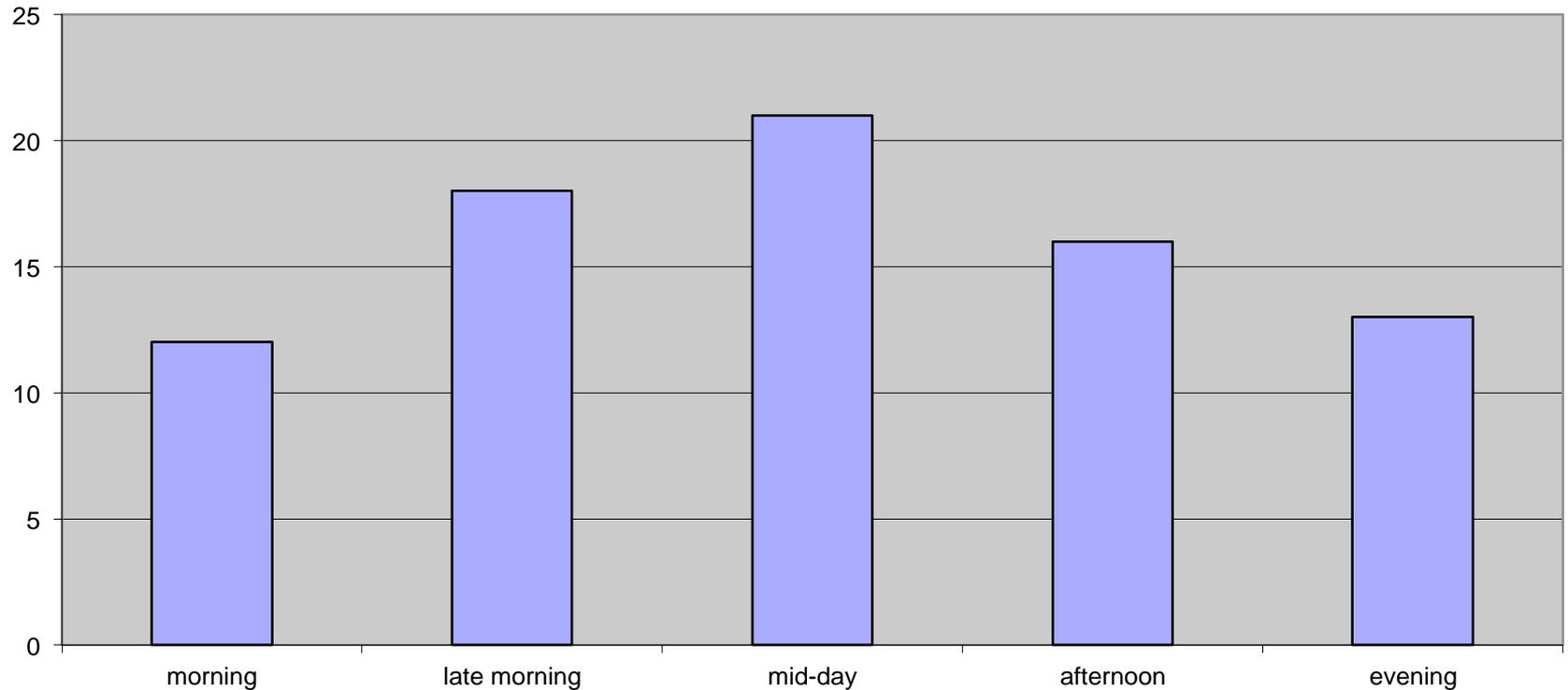
- *Now, let's look at some of the details on what happened in 83 different incidents when grizzlies charged people in the US Northern Rockies in 2011.*

What were the people doing?

Human activity	Total	%
Boating	2	2%
Camping	3	4%
Driving	4	5%
Fishing	2	2%
Hiking	29	35%
Horseback	3	4%
Hunting	31	37%
Kids playing	1	1%
Managing Bear-jam & hazing	1	1%
Photographing	4	5%
Working	3	4%
GrandTotal	83	

What time of the day were they charged?

encounter by time of day



Where were they when were they charged?



Where were they when charged?

Location	N	%
CAB/YAAK	1	1%
GNP	8	10%
GTNP	9	11%
YNP	13	16%
ID /YEL	1	1%
MT /YELL	13	16%
NCDE	9	11%
WY /YELL	26	33%
Grand Total	80	
All 3 National Parks	30	38%
GYA	62	66%
NCDE	17	21%
CYE	1	1%

Were grizzly bear family groups involved?

Family group?	N	%
Yes	45	56%
No	35	44%
Total	80	

Were they carrying bear spray?

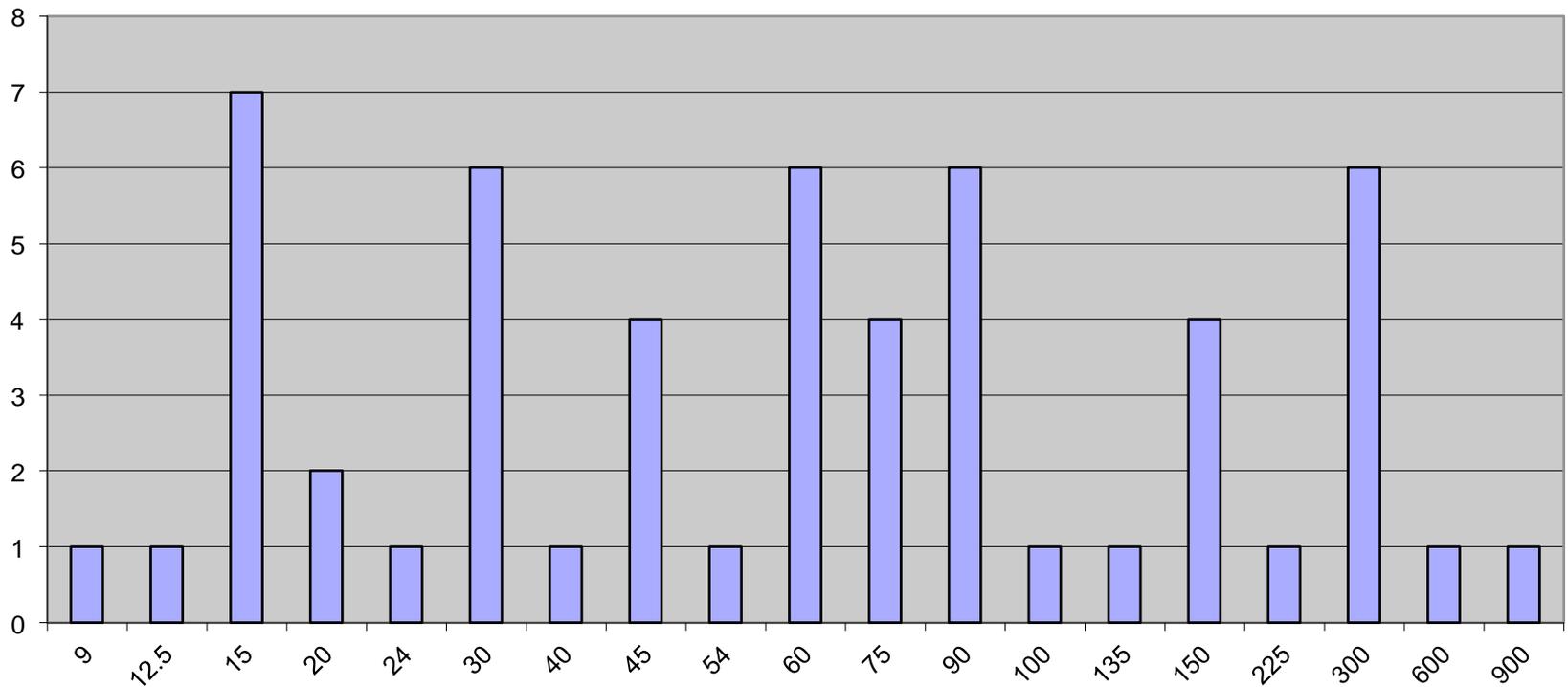
Spray carried?	N	%
No	45	56%
Yes	23	29%
Unknown	12	15%
Total	80	

Injuries after charges?

Injuries?	N	%
No	67	81%
Yes	14	17%
Yes - Fatality	2	2%
	83	

Distance when charged?

Distance when charged in feet



Spray carried by activity

Human activity	No	Unknown	Yes	Grand Total
Boating	1	1		2
Camping	2	1		3
Driving	2	1	1	4
Fishing		1	1	2
Hiking	14 (50%)	5	9	28
Horseback	2		1	3
Hunting	19 (65%)	2	8	29
Kids playing	1			1
Managing Bear-jam & hazing			1	1
Photographing	2	1	1	4
Working	2		1	3
Grand Total	45	12	23	80

Human injures when spray used

		Spray Used?			
Human injuries?		No	Unknown	Yes	Total
No	11	41	3	12	67
Yes	6	6		2	14
Yes, fatality		2			2
Total	17	49	3	14	83

In 2011 there were 2 human fatalities in Yellowstone National Park. Were there any similarities?

- In both cases the victims were not carrying bear spray.
- Both attacks occurred in mid to late morning.
- In the first attack the victim and his wife ran from the bear and screamed as the bear chased them. There were no bites on the hands of the victim.
- In the second attack there was no evidence of running from the bear and there were bites on the hands of the victim. The victim was probably stopped by the trail when the attack occurred as his pack was unbuckled and off when he was found.
- In the second attack the body was not found for 24 hours after the fatality. By that time the body had been partially consumed and was cached by a bear.

In 2010 and 2011 there were 4 human fatalities from bear attacks in the Yellowstone Ecosystem. Summary thoughts:

- Before 2010 there had not been a human fatality due to a grizzly bear in the Yellowstone area for 24 years.
- Of the 4 fatalities in 2010 and 2011, one was a very unusual trap site fatality and had no relationship to any of the other 3 fatalities.
- The remaining 3 fatalities involved females with offspring.
- One was a predatory attack by a bear in a basically full campground involving attacks on 3 people in their tents over a 2-3 hour period and killing and consumption of the 3rd victim.
- The first 2011 attack was the result of a surprise encounter where hikers walked into a bear, while the second attack appeared to occur when the victim was stopped on the trail for some reason.

In 2010 and 2011 there were 4 human fatalities from bear attacks in the Yellowstone Ecosystem. Summary thoughts:

- In neither case had these females ever been captured or handled and neither one had any record of conflicts with humans or consumption of human foods.
- Both bears appeared to have normal body fat. Although the bear in the campground was thin she and her yearlings were within the range of weights for other wild bears in the Yellowstone ecosystem in July.
- Were these random events or evidence of something more? There is no evidence to indicate that these were related to any particular factor. The only thing we do know is that human-bear encounter frequency is high because there are so many bears in the ecosystem.
- Nothing we know explains 3 attacks and fatalities in 2 years after 24 years of no fatalities.

Human-Bear conflicts.

- *Some closing remarks.*

Some Summary Comments:

- Bear numbers are increasing with professional management of populations and habitats. Grizzly numbers in the Northern Rockies are 3X what they were in 1975 and American black bears continue to increase in numbers in many areas of their range.
- Human populations continue to increase throughout the world in general and North America in particular. This increase in numbers results in more people living, working and recreating on bear habitat.
- The end result is there is no question that human-bear encounter frequency is increasing with resulting increases in human-bear conflicts.

Some Summary Comments:

- Bear managers have made **impressive progress** in reducing human-bear conflicts in areas where their efforts have been:
 - Ongoing with careful and constant messaging for many years.
 - Where the increase in the number of humans and human site developments are relatively slow.
 - Where human-bear coexistence is long term and the people are experienced with how to live with bears.
- Bear managers have had **less** success in areas:
 - Where human and/or bear numbers and range are increasing.
 - Where subdivisions encroach on bear habitats.
 - Where new residents have little experience living with bears.
 - Where people resist the idea of living with bears and making accommodations in their lifestyle to coexist with bears.

Some Summary Comments:

- Human-bear encounters are increasing.
- We need to be more successful in marketing the information we have to hikers and hunters who venture into bear habitat about to reduce the probability of bear encounters and attacks.

How can we improve marketing of the information on how to be safe in bear country to the public? Here is an example:

**BEAR ATTACK:
Are you Prepared to Avoid One?**

BE ALERT

MAKE NOISE

CARRY BEAR SPRAY

AVOID HIKING ALONE

DO NOT RUN

- During a surprise encounter - slowly back away
- If the bear charges - stand your ground & use your bear spray
- If the bear attacks during a surprise encounter - play dead
- If the bear persistently stalks you then attacks - fight back
- If a bear attacks you in your tent – fight back

There is no guarantee of your safety in bear country

Thank you.

