Bear conflict at residence

Lion conflict at residence

Northwest Montana – FWP Region 1

Black Bear & Lion Conflict Management

2018

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Project 5152

This report summarizes the level of bear management and lion management actions taken during the 2018 field season

Black Bear and Lion Management in Region 1

Northwest Montana is prime bear and lion habitat with the highest population densities in the state. The black bear population in the Swan Valley averages 22.7 bears per 100 square kilometers compared to 12.8 bears per 100 square kilometers state wide (Mace and Chilton-Radant 2011). Lion densities are about 1 adult female per 50 square kilometers with an estimated population as high as 1500 (900-1500) in Region 1. Currently, some of the areas with the highest bear and lion densities are also areas with the highest human densities. The U.S. Census Bureau estimates the population for Flathead County is 100,000 with a growth rate of 2.36 percent during 2018. Therefore, addressing conflict situations with bears and lions have become increasingly important aspects of Fish Wildlife and Parks management programs.

This wildlife management program has been successful in northwest Montana. By providing information and education, such as presentations, brochures, and videos, and actively responding to conflicts we can maintain public tolerance for these valuable animals. This, in addition, helps target the root causes of most conflicts which are improperly stored foods, trash, and other attractants. Reducing the level of available attractants subsequently reduces the number of conflicts and, thus, reduces the need for management actions and removals, regardless of the predator involved.

There may still be animals that, through accident or intent, receive food rewards associated with people and, if applicable, a corrective strategy other than capturing and moving or destroying the offending animal(s) can be used. Non-lethal management alternatives such as electric fencing and predator resistant cages or containers can be used to correct current and future conflicts as well as prevent the lethal management of wildlife resources.

Programmatic Goals and Objectives

Goals:

Minimize bear/human and lion/human conflicts.

Objectives:

Prevent/minimize conflicts by identifying attractants.

Continue to promote proper food and other attractants storage on both public and private lands.

Continue Information & Education programs; educating people about bear and/or lion awareness, populations, behaviors and conflict reduction.

Continue to work with City, County, State and Federal and other public and private entities to reduce conflicts and enhance education.

Continue to respond to bear/human and lion/human conflicts

Wildlife Conflict Mitigation & Education Efforts

Information and education efforts are a primary concern in this program. Each phone call is an opportunity to convey information about bears and/or lions and living in bear/lion country without conflict. We put emphasis on attractant management and proper bear resistant storage methods including bear resistant trash cans and electric fencing.

Each year, in addition to the many phone calls we return, we also work toward increasing education efforts within the local school systems. When the opportunity arises, we give live presentations for small groups of students, during which students get the experience of handling bears. This gives students an opportunity to develop both an appreciation for black bears, and an understanding of how to manage attractants at home. During 2018, we conducted 4 hands-on black bear processings with the public.

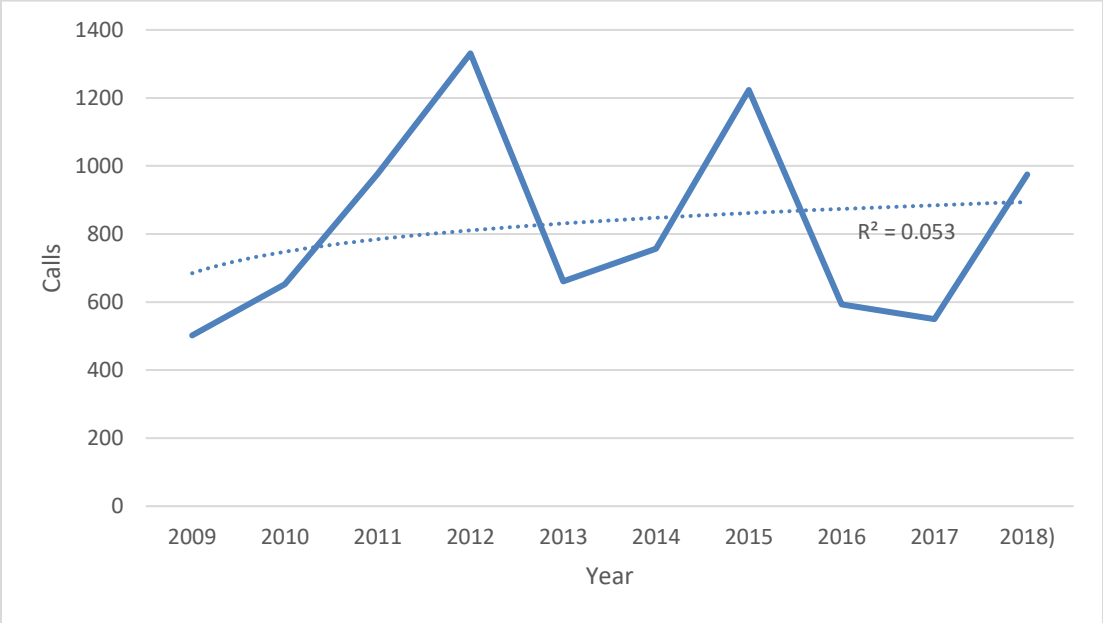
Beyond local school groups or classes, each spring we conduct an education program for the team leaders at Montana Conservation Core (MCC). We discuss camping, food storage and traveling in bear country in a preventative manner to assist in reducing conflicts for the coming season. Additionally, we conduct numerous bear and lion education and outreach programs for various groups and organizations in the valley, including local Homeowner Associations, Rotary, and the annual Family Forestry Expo. Our estimated audience in 2018 is approximately 970 people.

Black Bear Conflict Resolution

Calls vary greatly from year to year. (Figure 1), factors such as green up and mast production can be the primary factors in influencing this yearly variation.

Bears at residence

Figure 1. Variation in total number of calls about bear conflicts received 2009-2018.



While there is an annual variation based on food resource production, there is an increasing trend through time that is best explained by the increasing human population, and subsequent attractants available.

The year 2018 started with a warm and wet spring resulting in wide scale production of succulent green vegetation. As the season progressed, food production, particularly huckleberries, became sparse. This resulted in 2018 being a moderate conflict year, (Table1). The years 2009, 2016, and 2017 were all highly productive food years resulting in lower conflict levels. Comparatively, 2012 and 2015 started warm and dry resulting in poor food production which continued through the season, resulting in earlier and higher than normal level of conflicts. These extreme fluctuations balance out through time resulting in a 10-year average of approximately 800 calls per year. 2018 produced 20 percent higher call volume (975) than the 10-year average (813). Based on the growing population of people in the Flathead Valley, it is reasonable to expect that the trend of calls will increase to higher levels, especially during years of poor natural food production.

Table 1. Total calls, site visits, and captures by year (2008 - 2018).

Year	Number of Calls	# Of Site Visits	# Of Captures	# Of Other
2008	881	318	47	13
2009	502	180	20	4
2010	652	235	46	5
2011	977	196	43	3
2012	1331	274	58	16
2013	661	99	32	5
2014	757	140	30	6
2015	1223	152	44	8
2016	593	74	19	7
2017	550	52	15	6
2018	975	95	22	4
10 yr Average (2008-2017)	**813**	**172**	**35**	**7**

Looking at the following table (Table 2) it quickly becomes apparent that calls are not evenly distributed throughout the year as calls surge May through November.

In fact, over 96 percent (940) of calls occurred over 214 days yielding an average of 4.4 calls per day, every day. October alone generated 316 calls for an average of 10.2 calls per day, every day. This dramatic increase near the end of the bear season, indicates that many bears were struggling to find enough calories prior to denning. Calls continued through November and into December, when most bears have long since denned during normal food production years.

Table 2. Total conflict calls, site visits, and captures by month, 2018.

2017	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
# Calls	1	0	2	15	88	153	74	78	181	316	50	17
# Site Visits	1	0	0	4	12	13	11	6	21	20	6	1
# Bear capture	1	0	0	1	4	4	3	1	5	2	0	1

Calls about bears are not limited to conflicts, but include requests for non-conflict related information such as bear hunting suggestions, program requests, and general information, i.e. “I was in the woods and I saw a bear.” Non-conflict calls are excluded from other graphs, tables, or narrative portion of this report but are summarized in Table 3. Not surprisingly, there is an increase in calls requesting information in the month prior to and during black bear hunting seasons.

There are also numerous calls concerning electric fencing for bears: cost share programs, design and construction specifications and construction assistance requests. During 2018, we erected 5 electric fence systems designed to protect 2 chicken coops, 2 goat pens and a large garden / orchard complex.

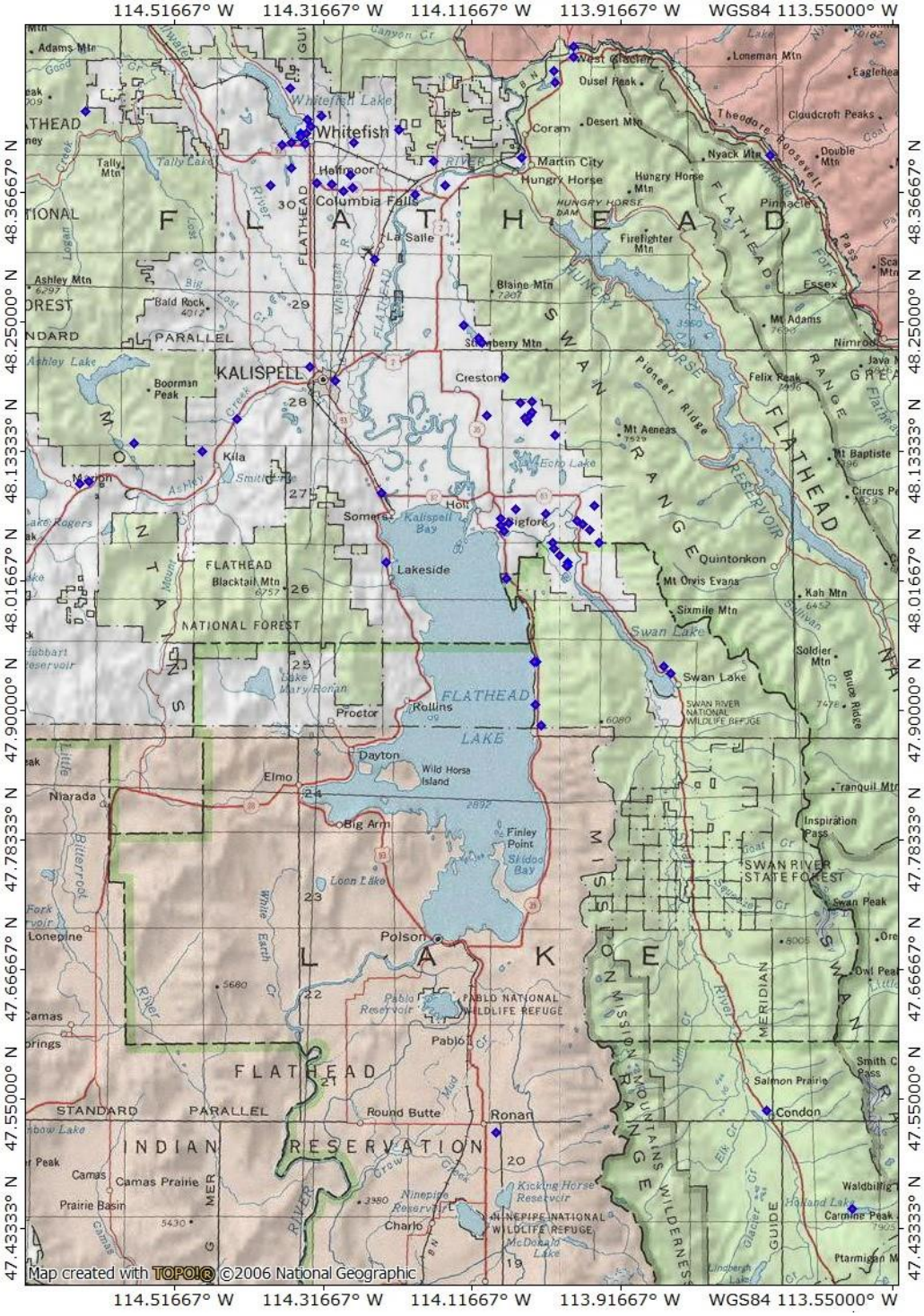
Table 3. Calls (non-conflict) and related management activities by month for 2018.

Non-conflict calls	Total	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Calls about bears	117	0	2	2	4	18	5	12	24	27	12	11	0
Electric Fence Consultation or Construction	10	0	0	1	2	1	1	1	1	2	1	0	0

Electric fencing project

The following map (Figure 2) depicts locations visited for black bear conflicts during the 2018 season.

Figure 2. Black bear response locations 2018.

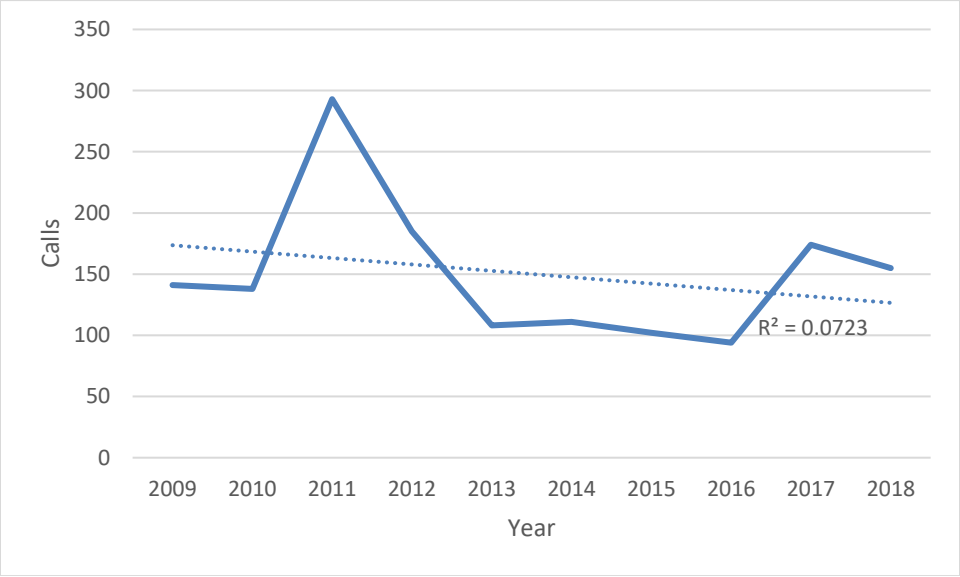


Lion Conflict and Safety Management

Lion livestock depredation

In northwest Montana, many areas with the highest densities of lions are also areas with expanding human population. This is related to the concentration of deer and elk in their winter and summer ranges at the edges of the valleys where a growing human population causes continued expansion of the urban interface. This subsequently causes subdivision of both agricultural lands and prime natural white-tailed deer winter range which puts people in proximity with deer and elk at times of the year when lions concentrate near the valley floors. With the influx of human inhabitants into ungulate and lion habitat, we can expect to see conflicts (see Appendix 1) between lions and humans to continue. (Figure 3).

Figure 3. Yearly variation in total number of calls received about lions 2008- 2018.



With the notable exception of 2011, calls regarding lion conflicts have remained relatively stable, with a slight decrease through time. The decreasing trend is attributed to information and education programs, aggressively responding to public safety issues involving lions, and having fairly liberal lion harvest structures in place for the Flathead Valley area (HD 170).

This year, winter harshness was the likely cause of a major decline in white-tailed deer numbers, though lion numbers are likely to remain high with conflict numbers stable (Table 3).

Table 3. Total lion calls, site visits, and removals by year (2008-2018).

Year	Number of Calls	# of Site Visits	Depredation Removals	Public Safety Removals	Total # Removed
2008	152	36	4	9	13
2009	141	20	1	6	7
2010	138	24		5	5
2011	293	34	8	3	11
2012	185	23	3	5	8
2013	108	9	2	3	5
2014	111	7	3	3	6
2015	102	7			
2016	94	5		2	2
2017	174	11	2	2	4
2018	155	9		2	2
10 yr Average (2008-2017)	150	18	2	4	6

Although lion conflicts occur year-round, there is a period (typically July - September) that has a higher level of reported conflicts (Table 4). This is due in part to the reproduction cycle typical of lions in northwest Montana. Juvenile dispersal occurs in 2 pulses, with the first being in February and March when the prey base (primarily white-tailed deer) are winter-stressed and congregated on winter range. This congregation increases the chance of hunting success for young lions with limited skills. The second pulse occurs in late July and into September when prey is robust and widely distributed which makes hunting for young lions more difficult.

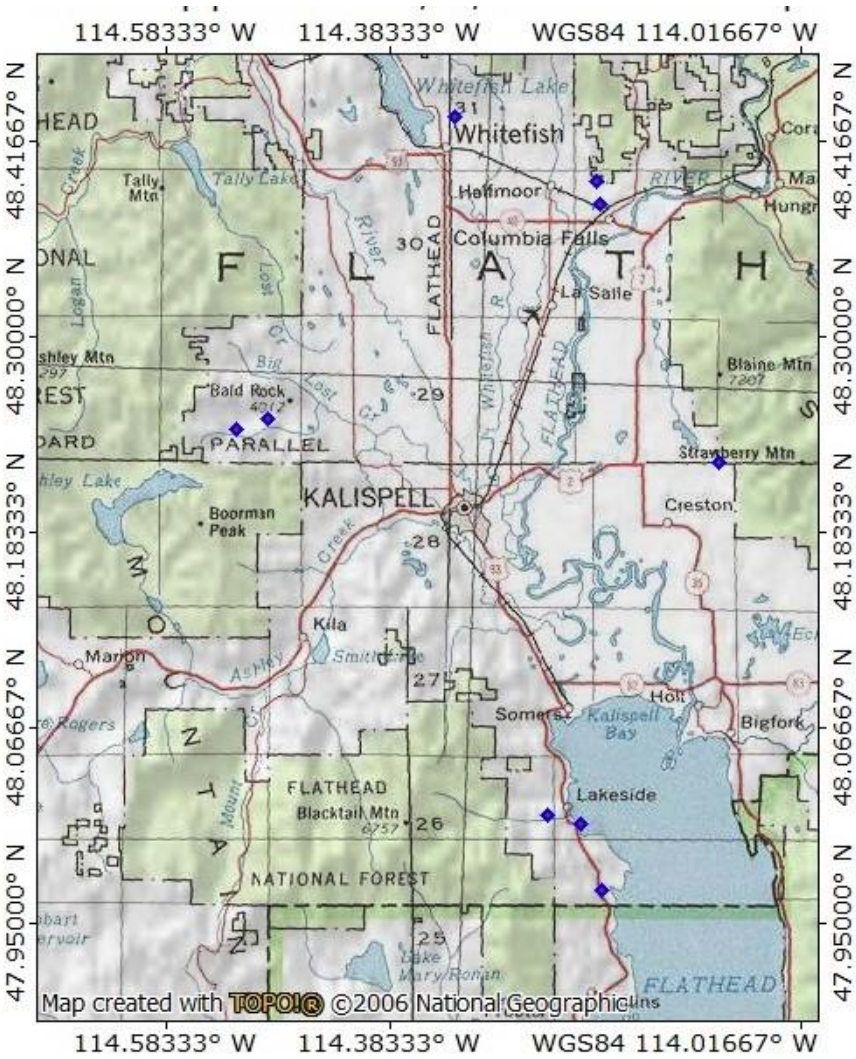
This is further exacerbated by juveniles forced to lower elevation in effort to avoid strife with adult male lions. These factors can result in juvenile lions seeking out easier domestic prey putting them in conflict with humans. Nearly 70% of conflicts involve lions less than 2 years of age.

Table 4. Total lion calls, site visits, and removals by month, 2018.

2018	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
# Calls	2	12	13	10	15	11	24	21	19	12	10	6
# Site Visits					1		2	4	1	1		
# Removed					1			1				

Figure 4 displays site visits conducted during the 2018 field season.

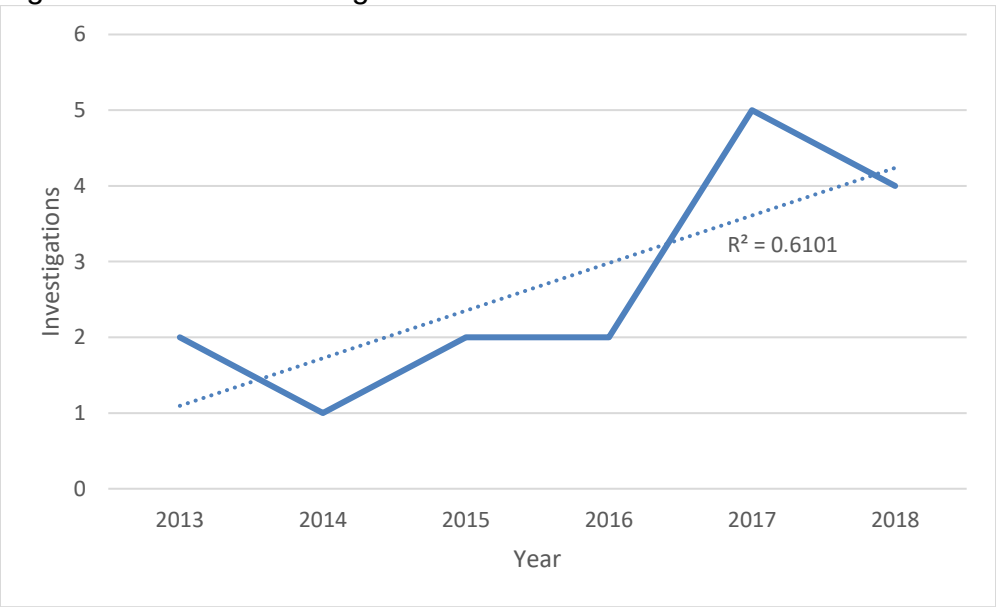
Figure 4. Lion conflict response locations 2018.



WHART (Wildlife Human Attack Response Team)

As the biologist on the Region 1 WHART, Erik responds to, and investigates, all incidents of contact made between humans and wildlife (primarily bears). There were 4 incidents (3 bear, 1 coyote) in 2018 requiring a WHART investigation. This is double the response needs for the period 2013-2016 (Figure 5). This increasing trend is likely to continue given the numbers of predators on the landscape, the elevated recreation in bear habitat, and the influx of people living in the urban interface.

Figure 5. WHART investigations since 2013.



Additionally, Erik conducted two 4-day WHART training seminar for FWP biologist and game wardens, other law enforcement officers (BIA, USFS, NPS), Cascade and Teton county sheriff's office personnel, and first responders (75 attendees). Erik remotely assisted Great Smoky Mountains National Park personnel with a bear attack investigation and report review.

Other Species

In addition to calls about bears and lions, we received and responded to 16 calls concerning other wildlife conflicts. These involved a wide range of species including, but not limited to, moose, deer, elk, bobcat, lynx and other wayward animals or animals presenting a potential threat to public safety.

Each year we will respond to calls regarding animals, particularly ungulates, with foreign objects attached to them in various fashions. These include such things as deer with rat traps stuck on their faces, ropes or five-gallon buckets wrapped around their necks, elk with wire wrapped in their antlers, and deer or turkeys impaled by arrows.

Future Needs

Budget

Operational costs continue to rise. There was a 14.3% increase in vehicle cost over the last year, a 33% increase since 2013, and chemical immobilant costs have increased 18.7% in the last 5 years (Telazol).

The budget for project #5152 has not increased in at least the last 9 years, making it increasingly difficult to address conflict situations in an adequate fashion.

Technician

With black bear populations remaining stable and at high densities (22.7 bears/100km2), and the grizzly bear population increasing, coupled with the human population in the Flathead Valley growing each year, the potential for bear / human conflicts also increases. This is particularly true during poor bear food production years.

To adequately address this increase with both a preemptive and on-going conflict resolution strategy, there is a substantial need for a funded, permanent 9-month technician position.

Conclusion

Every year, Northwest Montana sees a growing human population and expanding residential development in the urban interface. With this expansion there will continue to be bears, lions, and other wildlife living in proximity to homes and public activity centers. This creates an increased need for wildlife managers to share information and education about living with wildlife and to have the resources available to respond to conflict situations. Through continued education efforts, the best available information can be disseminated to preemptively reduce human / wildlife conflicts.

The continued use of a trap-and-relocate or trap-and-adversely-condition program will address those bears that have already made a positive association with people or their dwellings. The continued response to lion conflicts will reduce (though not eliminate) the potential public safety issues that exist anywhere there are lion populations. Our positive and close relationship with the USDA Wildlife Services trapper will be continued, resulting in effective responses to both urban and rural livestock depredation incidents.

We will strive to maintain the public tolerance for these highly valued wildlife species in western Montana by maintaining this effective wildlife conflict safety and education program.

APPENDIX 1

Lion Conflict Terms and Definitions

(From the new Western Association of Fish and Wildlife Agencies publication - MANAGING LIONS IN NORTH AMERICA, 2009)

Following are definitions of terms used by most WAFWA western state agencies:

Human-Lion Interaction Classes:
• Sighting – Reported observation of lion presence (usually visual)
• Encounter – An unexpected and direct neutral meeting between a human and a lion without incident.
• Incident – An interaction between a person and a lion in which a person must take action to cause the lion to flee, back down, or otherwise allow the person to leave without further conflict. An incident does not result in injury to a person.
• Attack – A human is injured or killed by a lion; or alternatively, a person is intentionally, aggressively approached and contacted by a lion, resulting in injury or death of the person.

Lion Conflict Behavior Classes:
• Nuisance – A lion involved in an encounter, multiple encounters, and/or involved in multiple sightings in residential areas or other areas of concentrated human activity, and/or a lion that has killed and cached prey, either domestic or wild, in proximity to humans.
• Depredating – A lion that injures or kills livestock.
• Aggressive or Dangerous – A lion exhibiting aggressive behavior towards humans; includes one that follows, stalks, or attacks a person without provocation. Or a lion that meets any of the following:
-Lion that attacks a person.
-Lion that exhibits aggressive behavior such as stalking a person, exhibits unnatural interest in a person, poses a probable threat of injury or death to humans.
-A lion may be classified as dangerous by trained wildlife professionals based on its behavior and/or location (e.g., schools, bus stops, child care centers, playgrounds, residential areas, etc.).
-A lion that frequently associates with humans, or human-related food sources, and especially if a pattern of behavior in which it appears to be focusing on humans or pets, or appears to be preying on pets with frequency in a well-defined geographic area (e.g. residential areas, resorts, campgrounds, or other areas of concentrated human activity).

References

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http://www.usclimatedata.com/climate/kalispell/montana/united-states/usmt0188/2015/6

Mace, R. and T. Chilton-Radandt. 2011. Black Bear Harvest Research and Management in Montana 2011 Final Report. Montana Fish Wildlife and Parks publication.

2018 U.S. Census Bureau data.
http://www.census.gov/quickfacts/table/PST045215/30029