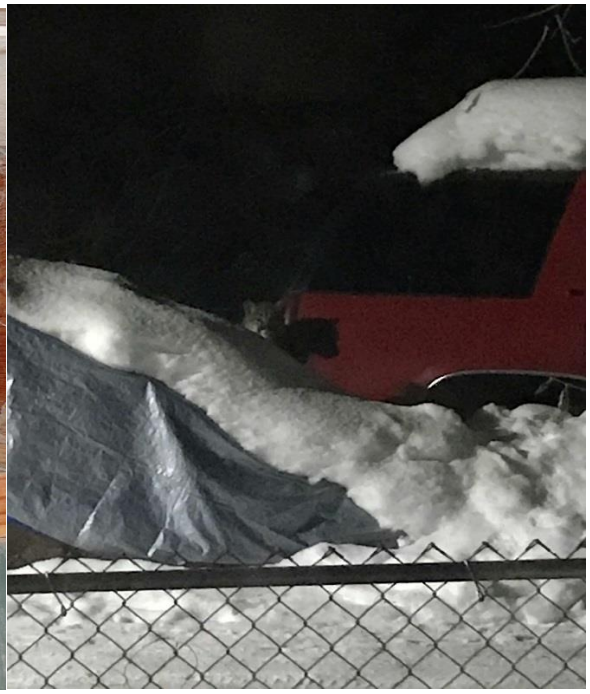

Northwest Montana – FWP Region 1

Black Bear & Lion Conflict Management

2017

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Project 5152

This report summarizes the level of bear management and lion management actions taken during the 2017 field season

Black Bear and Lion Management in Region 1

All of Northwest Montana is prime bear and lion habitat with the highest densities in the state; black bear densities in the Swan Valley are 22.7 bears/100km2 compared to 12.8 bears/100km2 state wide (Mace and Chilton-Radant 2011) and lion densities of about 1 adult female per 20 square miles with an estimated population of n=1500 in Region 1. Not only is there a strong population of large predators in Northwest Montana, there is also a growing population of people. During the period 2011-2015, Flathead County grew from an estimated 83,172 people to 96,165 people according to the US Census Bureau. Currently, some of the areas with the highest bear and lion densities are those areas with the highest and expanding human population. Therefore addressing human conflict situations with bears and lions have become an increasingly important aspect of Fish Wildlife and Parks management programs.

This cost effective wildlife management program has proven successful in northwest Montana. By actively responding to black bear and lion conflicts we are able to maintain tolerance for these highly prized game animals throughout the region. Current information and educational efforts such as presentations, brochures or videos target the root cause of most conflicts; improperly stored foods or 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 predator involved.

However, there will always be individuals that through accident or intent will receive food rewards associated with people, and in these cases an approach other than simply capturing and moving or destroying the offending animal(s) must be employed. The public at large no longer tolerates the destruction of our wildlife resources if other options are available.

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

(*An attempt, but not quite proper trash storage*)

Wildlife Conflict Mitigation & Education Efforts

Information and Education efforts are of 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. We put emphasis on electric fencing and proper bear resistant storage methods including bear resistant trash cans, and other attractant management.

(*Texas High School Biology class – Glacier Institute*)

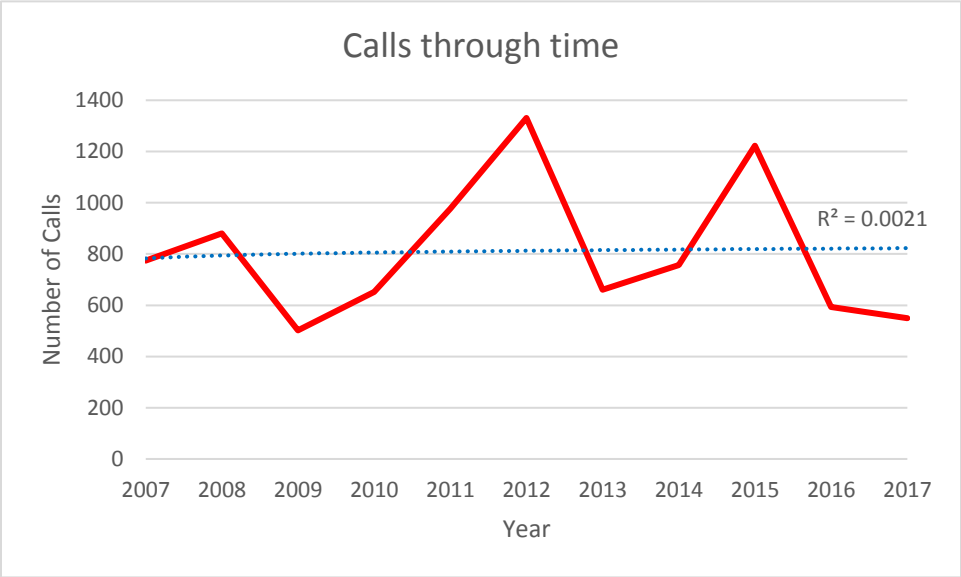
Each year, in addition to the many phone calls we return, we also work toward increasing education efforts within the local school systems. When the opportunity arises we do live presentations for small groups of students, during which students experience bears hands on.

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 and traveling in bear country. MCC has in the past had frequent run-ins with bears during outings; therefore we work with this organization in a preventative manner to assist in reducing conflicts for the coming season. Additionally we conduct numerous outreach bear and lion education programs to various organizations throughout the valley, including local Homeowner Associations, Rotary, and the annual Family Forestry Expo. Estimated audience in 2017 n~1000.

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.

Figure 1. Variation in total number of calls about bear conflicts received 2007-2017



2017 started with a warm wet spring resulting in wide scale production of succulent green vegetation. As the season progressed so did food production, with abundant summer and fall foods, particularly huckleberries. This resulted in 2017 being a low conflict year, overall (Table1). Additionally, 2016, 2013, 2010, and 2009 were all highly productive food years resulting in lower conflict levels. Comparatively, 2015 and 2013 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 currently balance out through time as indicated by the trend-line fit around an average of approximately 800 calls per year (R^2=0.0021). Based on the growing population of people in the Flathead Valley, it is reasonable to expect the trend of calls will likely increase to higher levels during years of poor food production.

Table 1. Total calls, site visits, and captures by year (2007 - **2017**).

Year	Number of Calls	# Of Site Visits	# Of Captures	# Of Other
2007	774	289	25	18
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
Total	8901	1957	379	91
10 yr Average (2007-2016)	**835**	**209**	**36**	**9**

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 94% (515) of calls occurred over those 214 days yielding an average of 2.4 calls per day, every day. June and September generated an average of 5.3 and 4.1 calls per day, every day, respectively.

Table 2. Total conflict calls, site visits, and captures by month, 2017.

2017	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
# Calls		1	6	27	51	160	50	46	124	69	15	1
# Site Visits				8	2	17	4	3	5	10	2	1
# Bears				1	1	3	2		5	2	1	

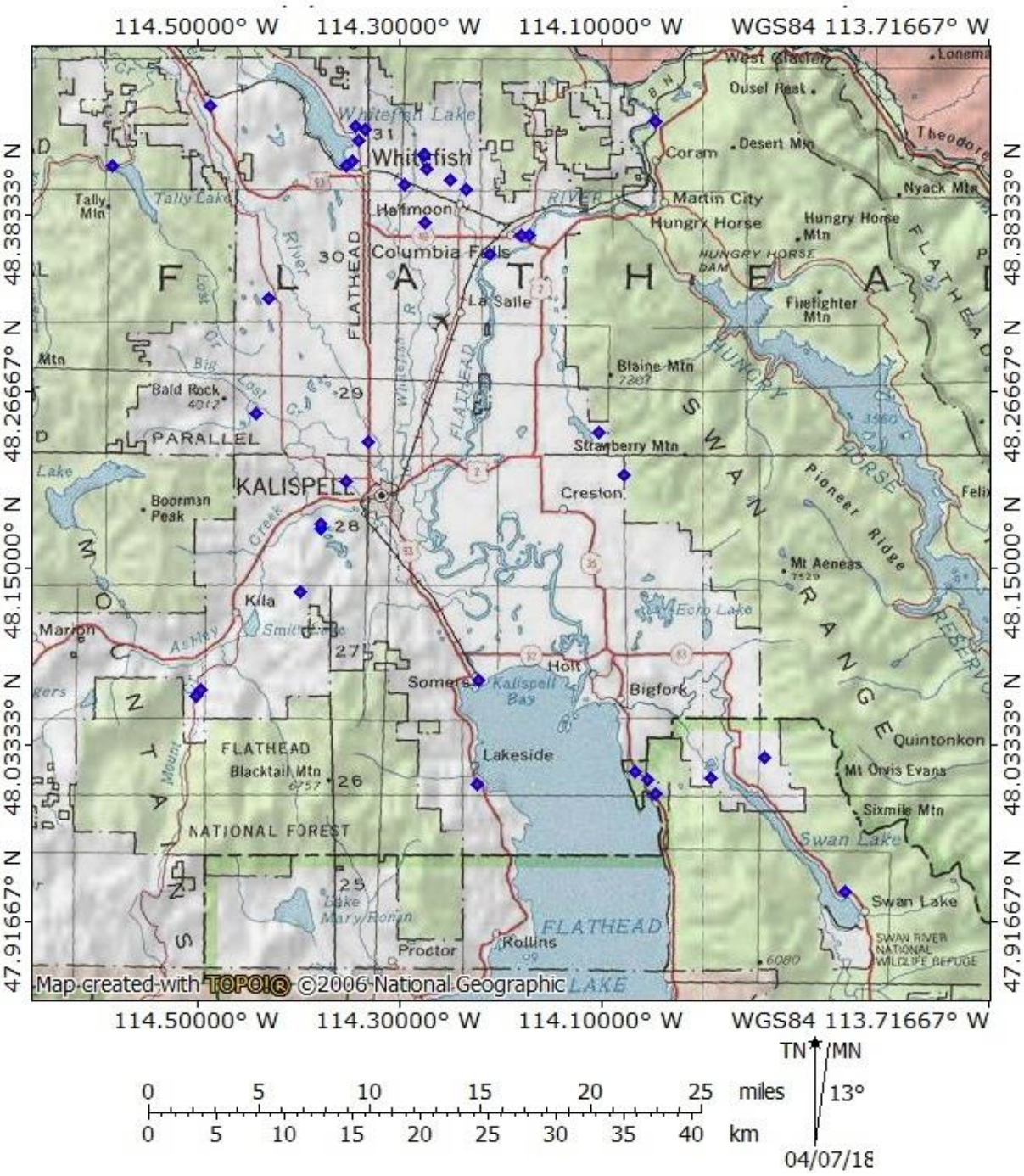
Calls about bears are not limited to conflicts; but include request for non-conflict related information, bear hunting suggestions, program requests, and general information i.e. “I was in the woods and I saw a bear”. As non-conflict calls these are excluded from any graphs, tables or narrative portion of this report, and represent additional calls received. Not surprising, there is an increase in information request calls during the month prior and during black bear hunting seasons. (Table 3).

Table 3. Calls (non-conflict) and related management activities by month for 2017.

Non conflict calls	Total	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Calls about bears	133		4	3	2	19	8	15	26	29	14	13	
Electric Fence Consultation or Construction	6				1		1	1	1	2			

The following map (Figure 2) depicts locations visited for black bear conflicts during the 2017 season.

Figure 2. Black bear response locations 2017.

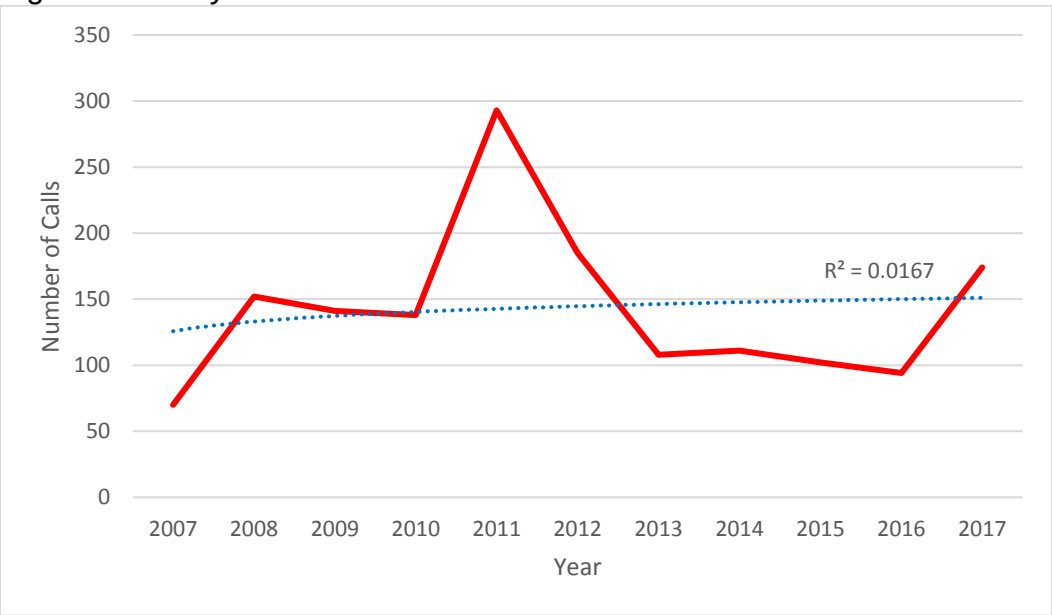


Lion Conflict and Safety Management

(*Management lion capture – box trap*)

Currently, some of the areas with the highest lion densities are those areas with expanding human population. This is related to the location of deer and elk winter ranges at the edges of the valleys. As the Flathead Valley human population continues to grow (5.7% annual increase from 2012 to 2015), subdividing prime white-tailed deer winter range and agricultural lands, expanding the urban interface, lion/human conflicts (see Appendix 1) will continue (Figure 3).

Figure 3. Yearly variation in total number of calls received about lions 2007- 2017



With the notable exception of 2011 calls regarding lion conflicts have remained relatively stable, with a slight increase through time, see trend-line (Figure 3). This may indicate that predator:prey ratios have stabilized. Barring a major decline (likely winter related) in white-tailed deer numbers, lion numbers are likely to remain high with conflict numbers stable (Table 3).

Table 3. Total lion calls, site visits, and removals by year (2007-2017).

Year	Number of Calls	# of Site Visits	Depredation Removals	Public Safety Removals	Total # Removed
2007	70	13		1	1
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
Total	1568	189	23	39	62
10 yr Average (2007-2016)	139	18	2	4	6

Although lion conflicts occur year round there is a period (typically August & September) that has a higher level of reported conflicts. This is due in part to the reproduction cycle typical of lions in northwest Montana. Juvenile dispersal occurs in 2 pulses, 1 in February / March when the prey base (primarily white-tailed deer) are winter stressed and congregated on winter range, increasing hunting success rates even for young lions with limited skills. The second pulse occurs in late August / September when prey is robust and widely distributed making hunting more difficult. This results in juvenile lions seeking out easier prey, often putting them in conflict with humans. This is further exacerbated by juveniles forced to lower elevation in effort to avoid strife with adult male lions. Nearly 70% of conflicts involve lions less than 2 years of age.

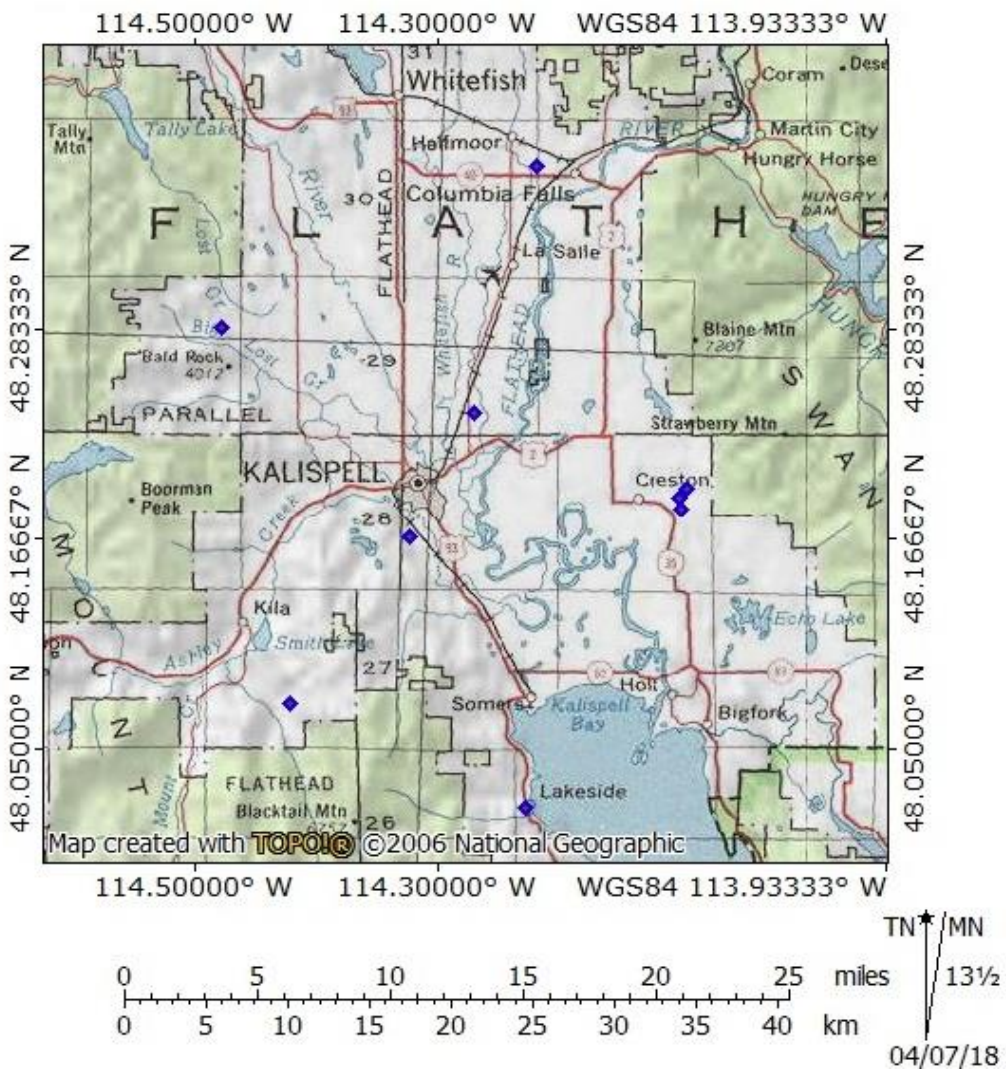
However, during 2017, the higher levels of conflicts began in late June and continued through September and remained higher than normal through December (Table 4), perhaps due to earlier than normal dispersal.

Table 4. Total lion calls, site visits, and removals by month, 2017.

2017	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
# Calls	6	10	15	4	7	16	23	32	22	13	14	12
# Site Visits		1	4					3	2	1		
# Removed			1					1	1	1		

Figure 4 displays site visits conducted during the 2017 field season.

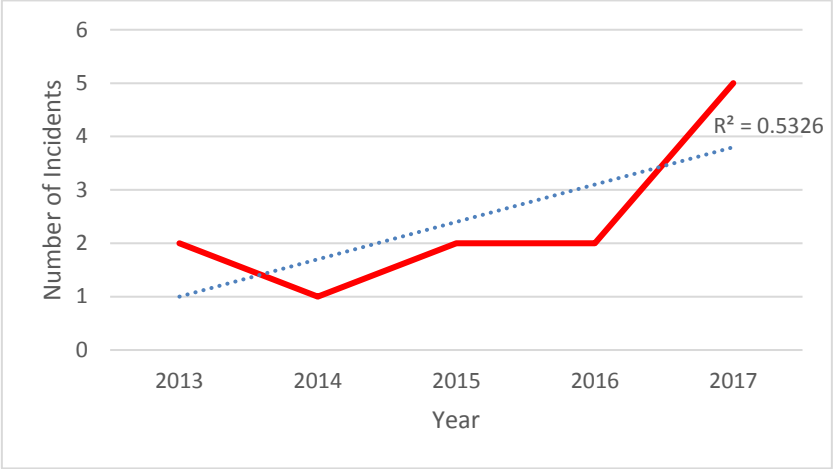
Figure 4. Lion conflict response locations 2017.



WHART (Wildlife Human Attack Response Team)

As the biologist on the Region 1 WHART, I respond to all incidents of contact made between humans and wildlife (primarily bears). The were 5 incidents in 2017 requiring a WHART investigation, involving black bears (2) and grizzly bears (3). This is over double the response needs of the period 2013-2016 (Figure 5). Additionally, I conducted 2 WHART training seminars for Montana game wardens, biologist and first responders (127 attendees).

Figure 5. WHART investigations since 2013.



Other Species

In addition to bears and lions we received and responded to 19 calls concerning other wildlife conflicts involving a wide range of species including but not limited to moose, elk, deer, bobcat, lynx and other wayward animals or animals representing 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 fashion. These include such things as deer with a rat trap stuck on its face, ropes wrapped around their necks, or five gallon buckets stuck around their necks and elk with wire wrapped in its antlers.

(*2017 White-tailed buck with an arrow through its neck in Whitefish, MT*)

Other Duties as Assigned

Tasked with Bighorn sheep trapping and free darting for radio collaring and disease surveillance efforts. In the Woods Ranch area north of Eureka and along the east side of Koocanusa reservoir.

(*Darted and collared BHS ewe – Koocanusa Res.*)

Additionally was tasked with capture efforts for mule deer in the Stillwater Forest area south of Eureka and on Demers Ridge in the lower North Fork of the Flathead.

Future Needs

Budget

Operational costs continue to rise, there was a 14.3% increase in vehicle cost over the last year, and 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 changed in at least the last 8 years, making it increasingly difficult to address conflict situations in an adequate fashion.

Technician

With black bear populations remaining stable and at high densities (~1bear per square mile) and the grizzly bear population increasing, coupled with the human population in the Flathead Valley growing at 5% 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 pre-emptive and on-going conflict resolution strategy, there is a substantial need for a funded, permanent 6-9 month technician position.

Conclusion

Given our expanding human population and residential development in the urban interface, there will continue to be bears, lions and other wildlife living in close proximity to homes and public activity centers.

Through continued education efforts it will be possible to disseminate the best available information to pre-emptively reduce human / wildlife conflicts. The continued use of a trap and relocate or trap and aversively 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.

Hopefully we will be able to maintain the public tolerance for these highly prized big game animals 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).

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