

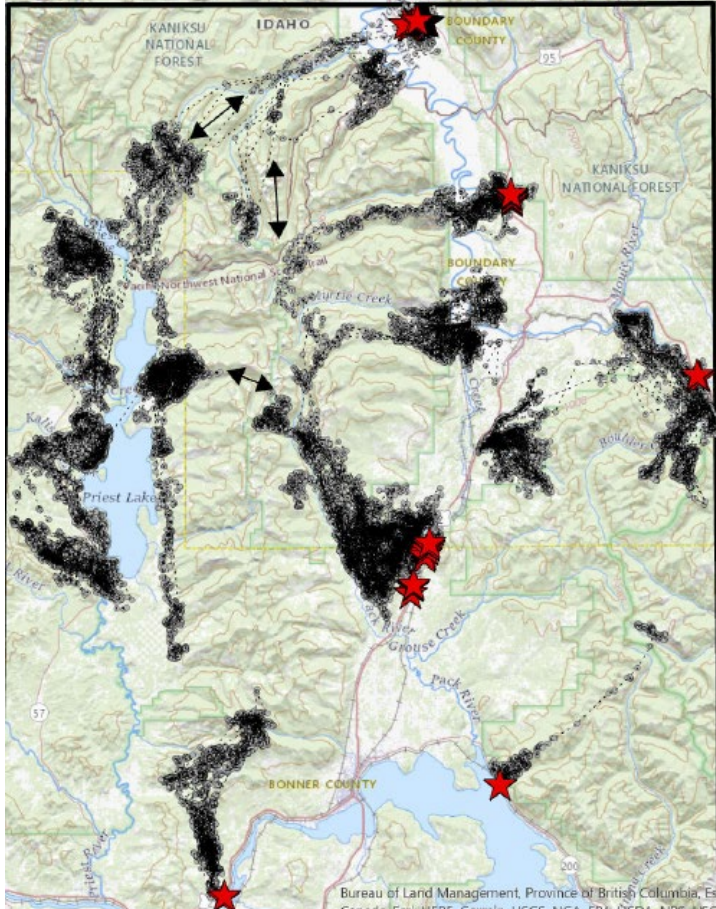
# KVRI Wildlife Auto Collision Subcommittee.

Norm Merz and Robert Akins

Idaho Department of Fish and Game

April 11, 2024

# Highways Help Us Get Around, BUT...



**Table 5: Total costs associated with large wild ungulate-vehicle collisions (in 2020 US\$).**

Cost category	Costs per collision							
	Deer	Elk	Moose	Gray wolf	Grizzly bear	Cattle	Horse	Burro
<i>Direct costs</i>								
Vehicle repair	\$4,418	\$7,666	\$9,435	\$4,418	\$4,418	\$9,435	\$9,435	\$7,666
Human injuries	\$6,116	\$14,579	\$26,811	\$6,116	\$6,116	\$26,811	\$26,811	\$14,579
Human fatalities	\$3,480	\$23,200	\$46,400	\$3,480	\$3,480	\$46,400	\$46,400	\$23,200
<b>Sub total</b>	<b>\$14,014</b>	<b>\$45,445</b>	<b>\$82,646</b>	<b>\$14,014</b>	<b>\$14,014</b>	<b>\$82,646</b>	<b>\$82,646</b>	<b>\$45,445</b>

Roads are barriers to wildlife movement

Huijser et al. 2022



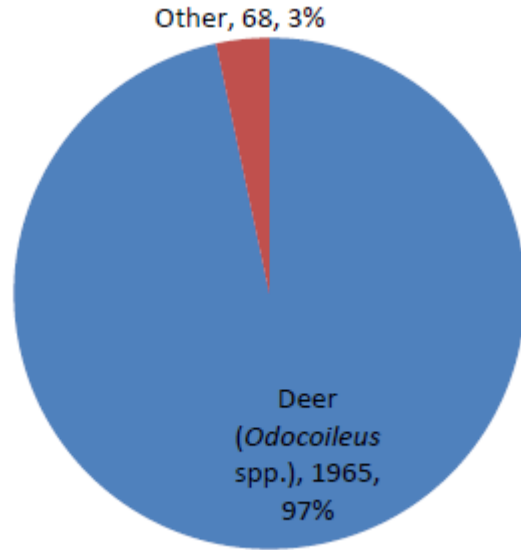
# KVRI

## Wildlife Auto Collision Subcommittee

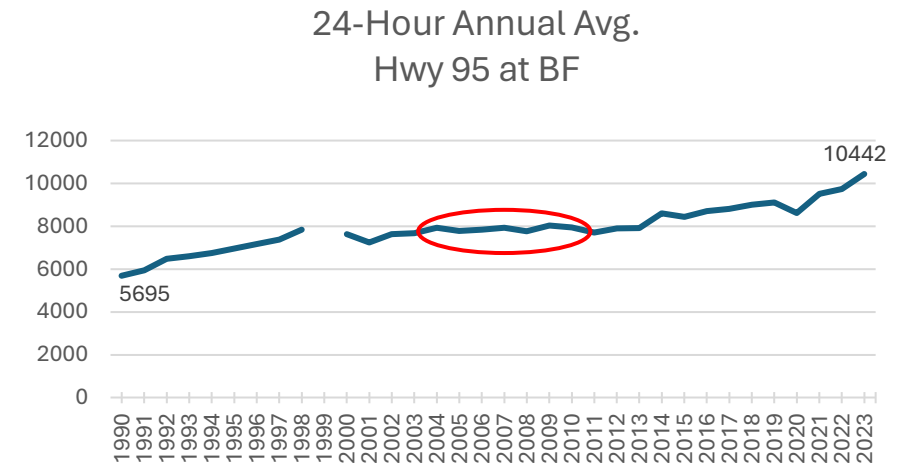
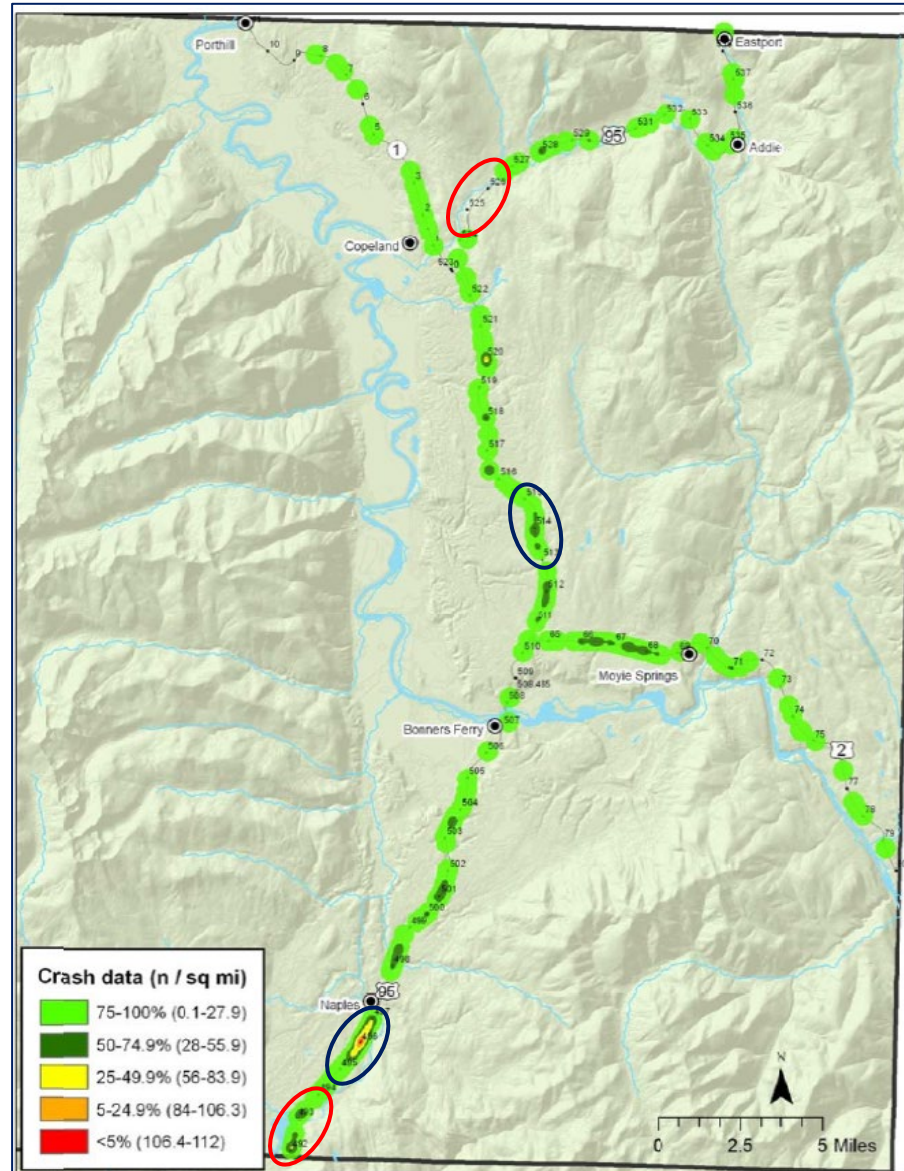
- Initiated in 2011 to reduce wildlife-auto collisions in Boundary County
- Yellowstone to Yukon Initiative funded a study to identify collision hotspots on the highways of Boundary County (Huijser and Begley 2012)
- TNC applied for a NFWF grant to develop and test a portable Wildlife Detection System (included 3 Dynamic Messaging Boards) (Huijser et al. 2017)
- Copeland Underpasses (2004)
- Supported Copeland fence extension and repair (2021-2023)
- McArthur Lake (2025?), which was the “first focus” of the WAC.



# Yellowstone to Yukon Initiative funded a study to identify collision hotspots on the highways of Boundary County (Huijser and Begley 2012)



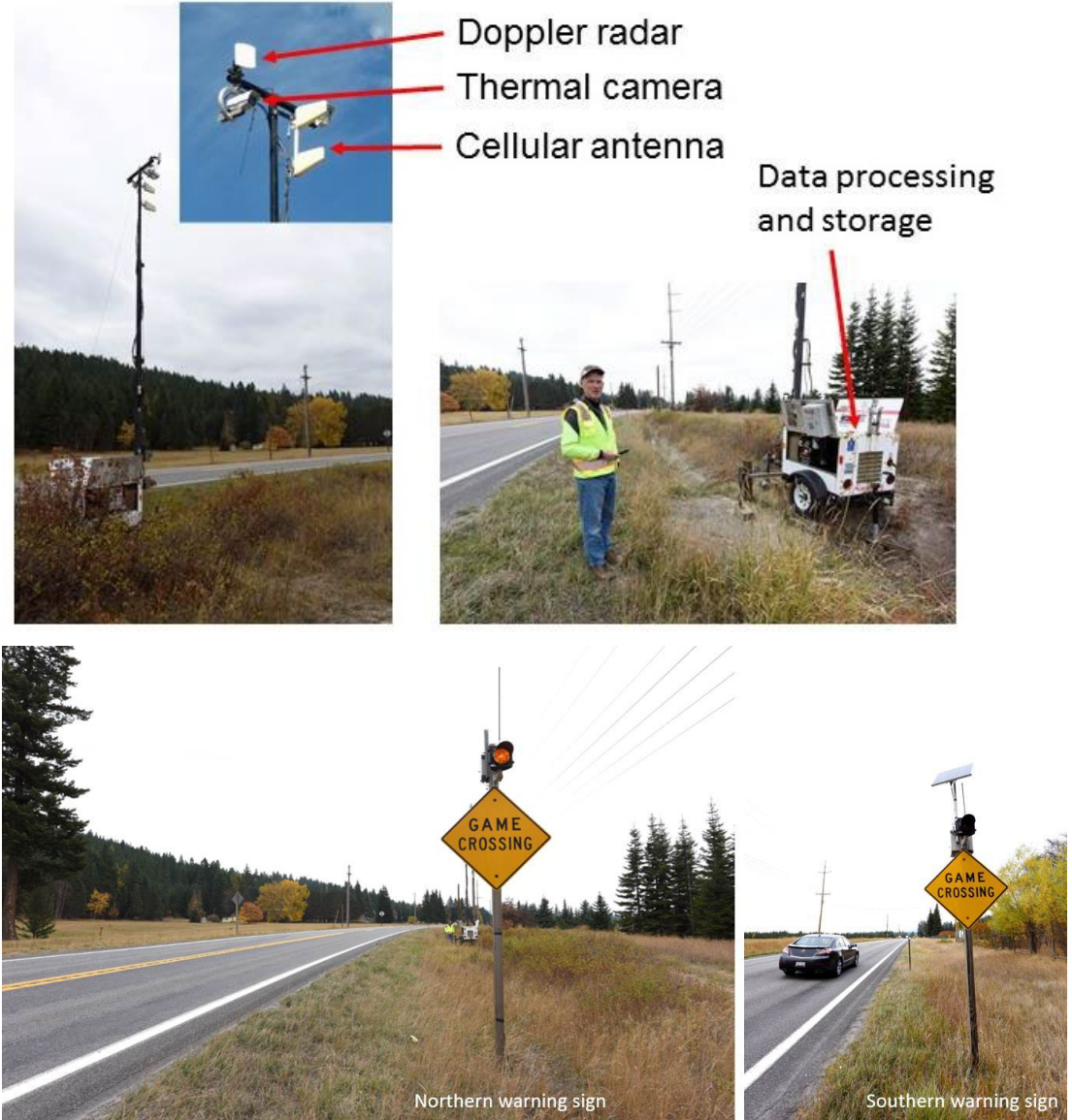
Elk ( <i>Cervus canadensis</i> )	1.67%
Moose ( <i>Alces alces</i> )	1.28%
Coyote ( <i>Canis latrans</i> )	0.20%
Bear ( <i>Ursus spp.</i> )	0.20%





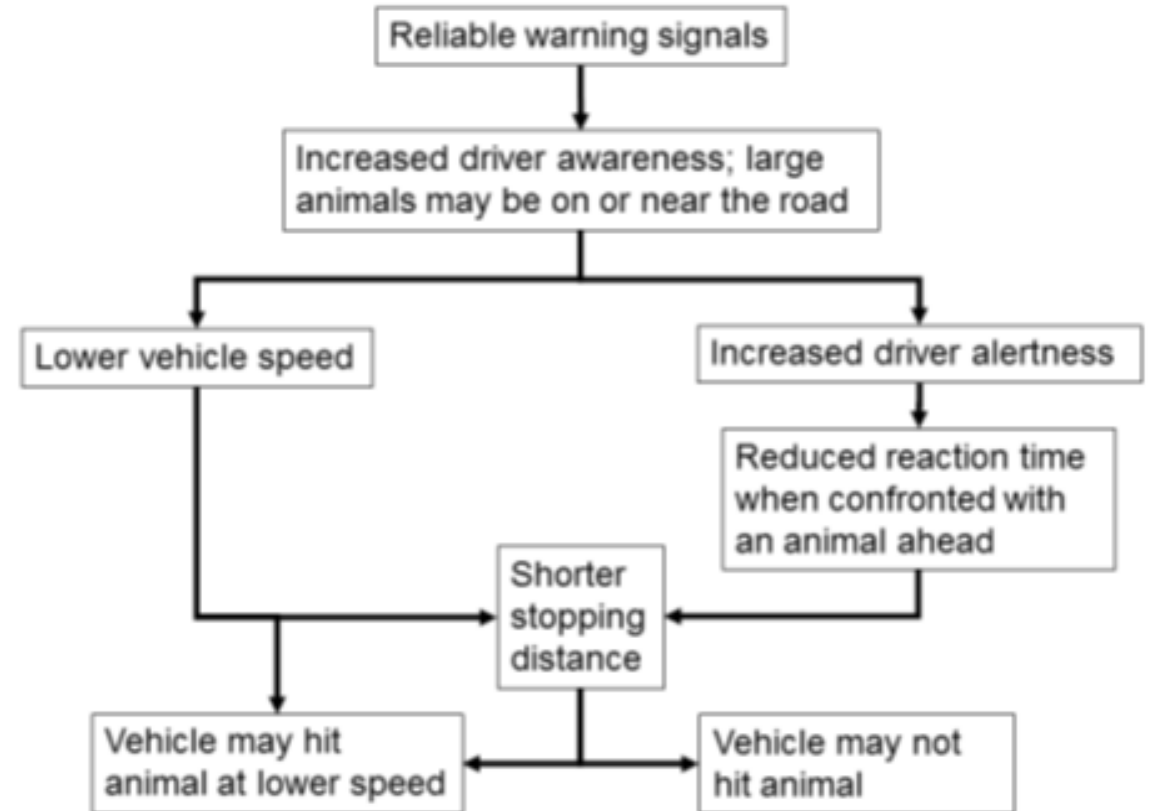
TNC received a NFWF grant to develop and test a portable Wildlife Detection System (included 3 Dynamic Messaging Boards)

Doppler based system



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Doppler based system

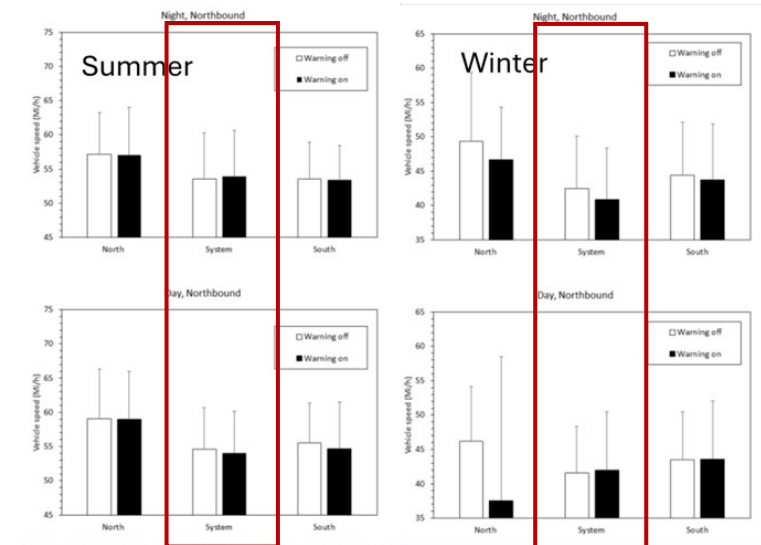
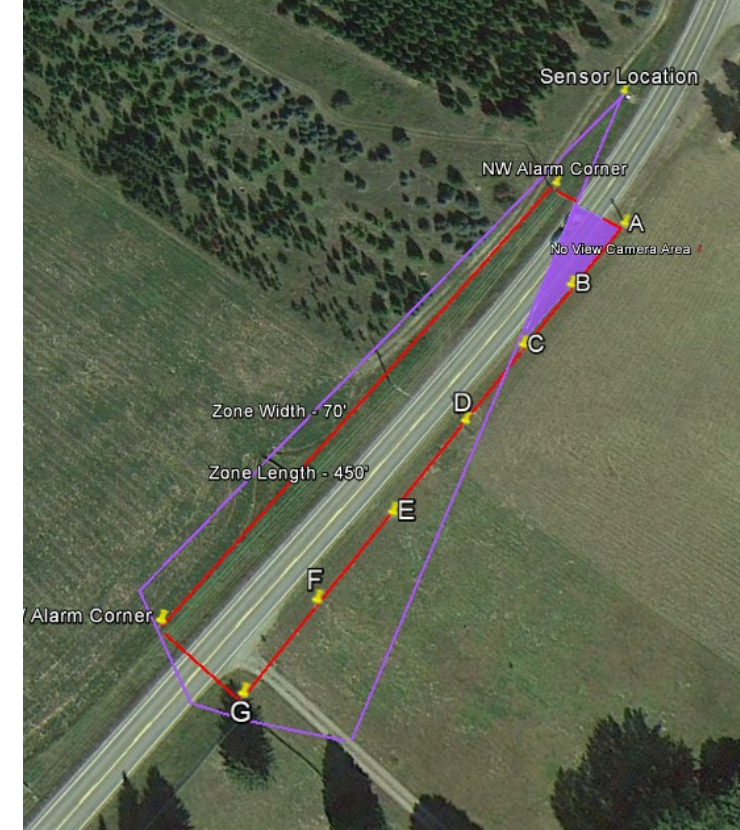




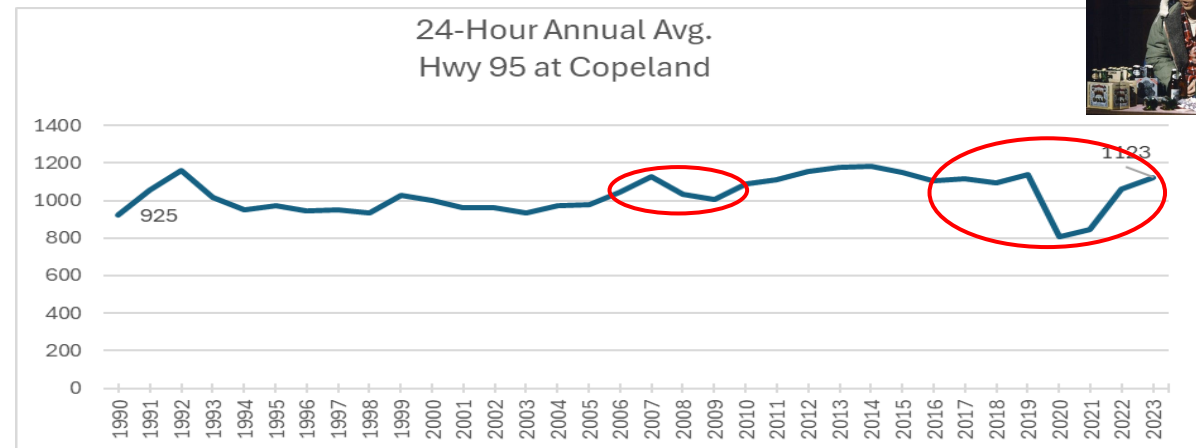
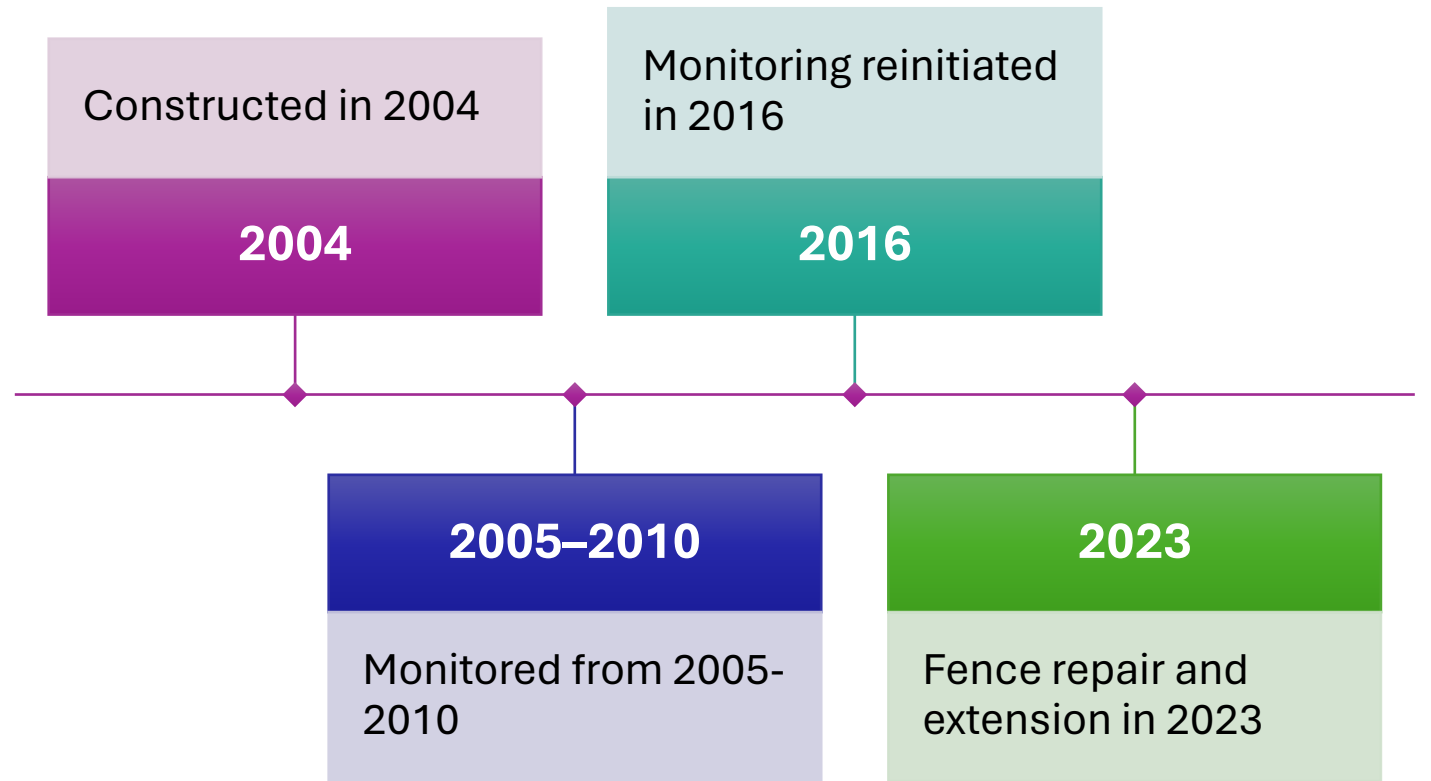
# Conclusions

(Huijser et al. 2017)

- 76-100% detections = lg mammals Few (if any) true false positives
- Very few false negatives - 2 out of 81 (2.4%) deer not detected
- 58-85% animals detected sufficiently early
- Speeds still too high to avoid collisions even with advanced warning
- System was very complex to move and set up



# Copeland Underpasses





# Copeland Monitoring (2005-2010)

- Used a 35mm camera with film checked every 2 wks
- Eventually switched to digital cameras
- Averaged about 160 animals per year

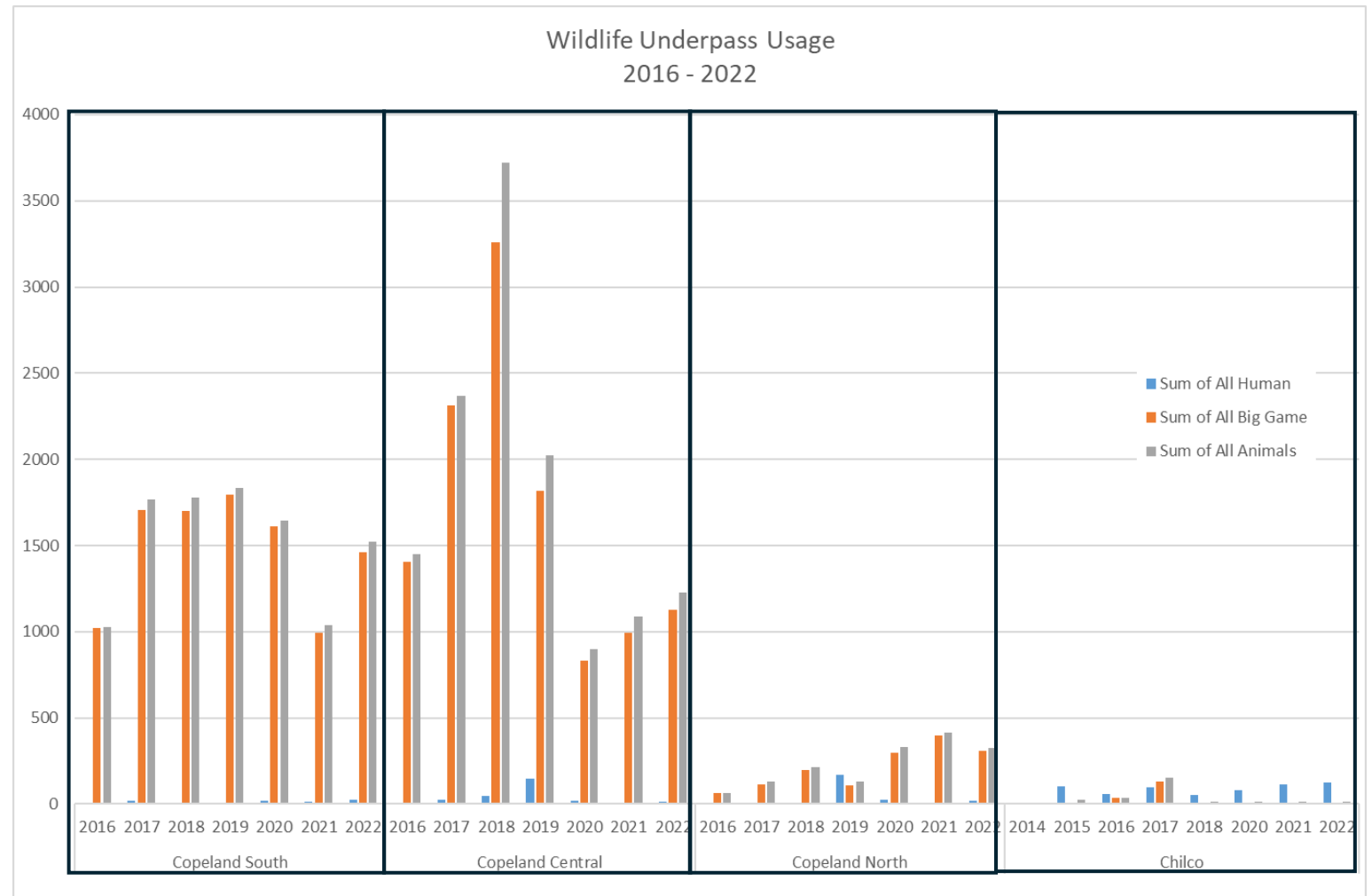
Species	<u>Underpass</u>			TOTAL
	BF1	BF2	BF3	
Black bear	11	3	0	14
Bobcat	1	2	0	3
Cat (domestic)	5	5	9	19
Coyote	8	14	7	29
Dog (domestic)	1	0	2	3
Elk	12	3	0	15
Snowshoe Hare	45	9	8	62
Moose	1	0	1	2
Packrat	1	2	0	3
Raccoon	3	5	7	15
Skunk	2	0	1	3
Squirrel	3	2	0	5
Swallow	2	5	2	9
White-tailed Deer	450	117	30	597
<b>TOTAL</b>	<b>545</b>	<b>167</b>	<b>67</b>	<b>779</b>

# Copeland Monitoring Reinitiated (2016)





# Copeland Monitoring Reinitiated



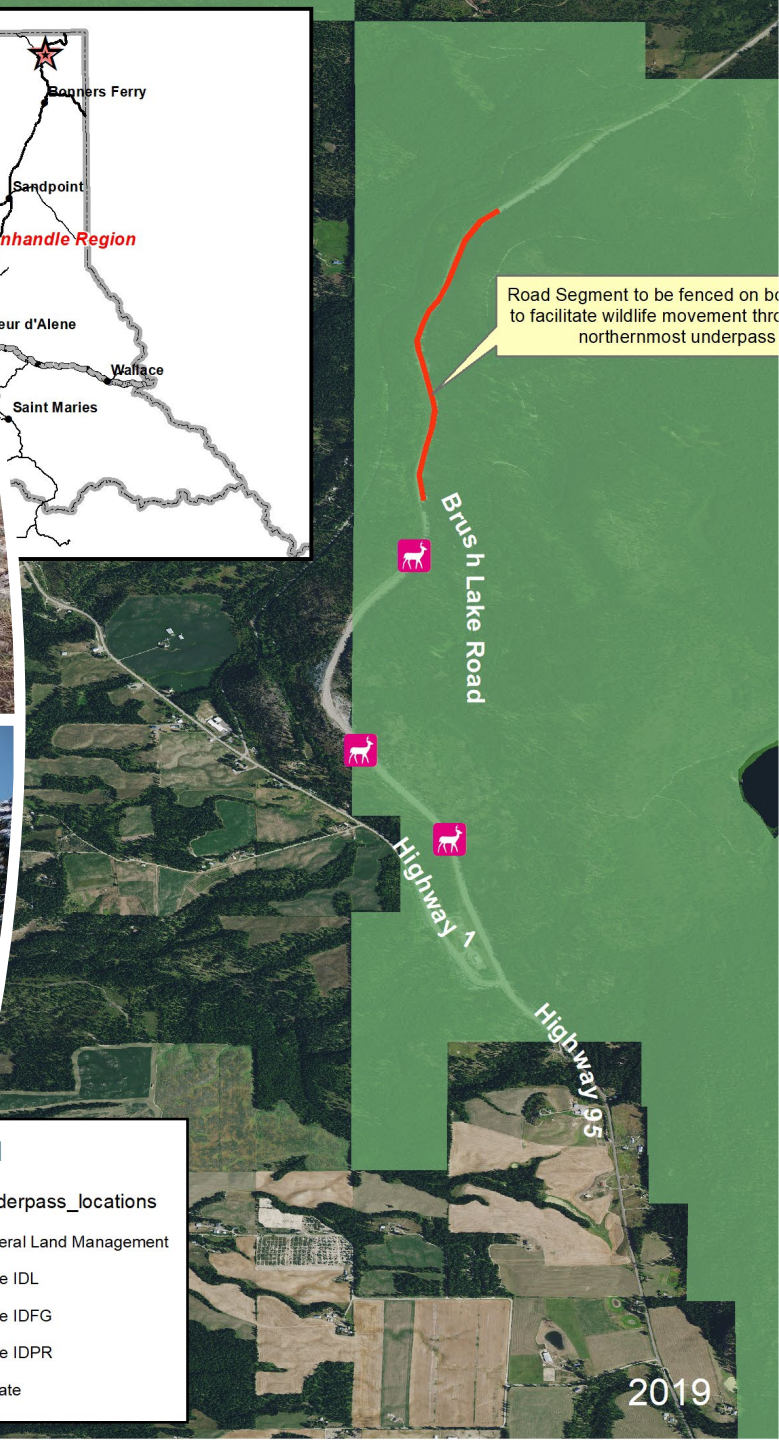


# Copeland Fence Extension

(MP 524 – 525)



- nd
- Underpass\_locations
- Federal Land Management
- State IDL
- State IDFG
- State IDPR
- Private







# Copeland Fence Repair

(MP 522 – 524)

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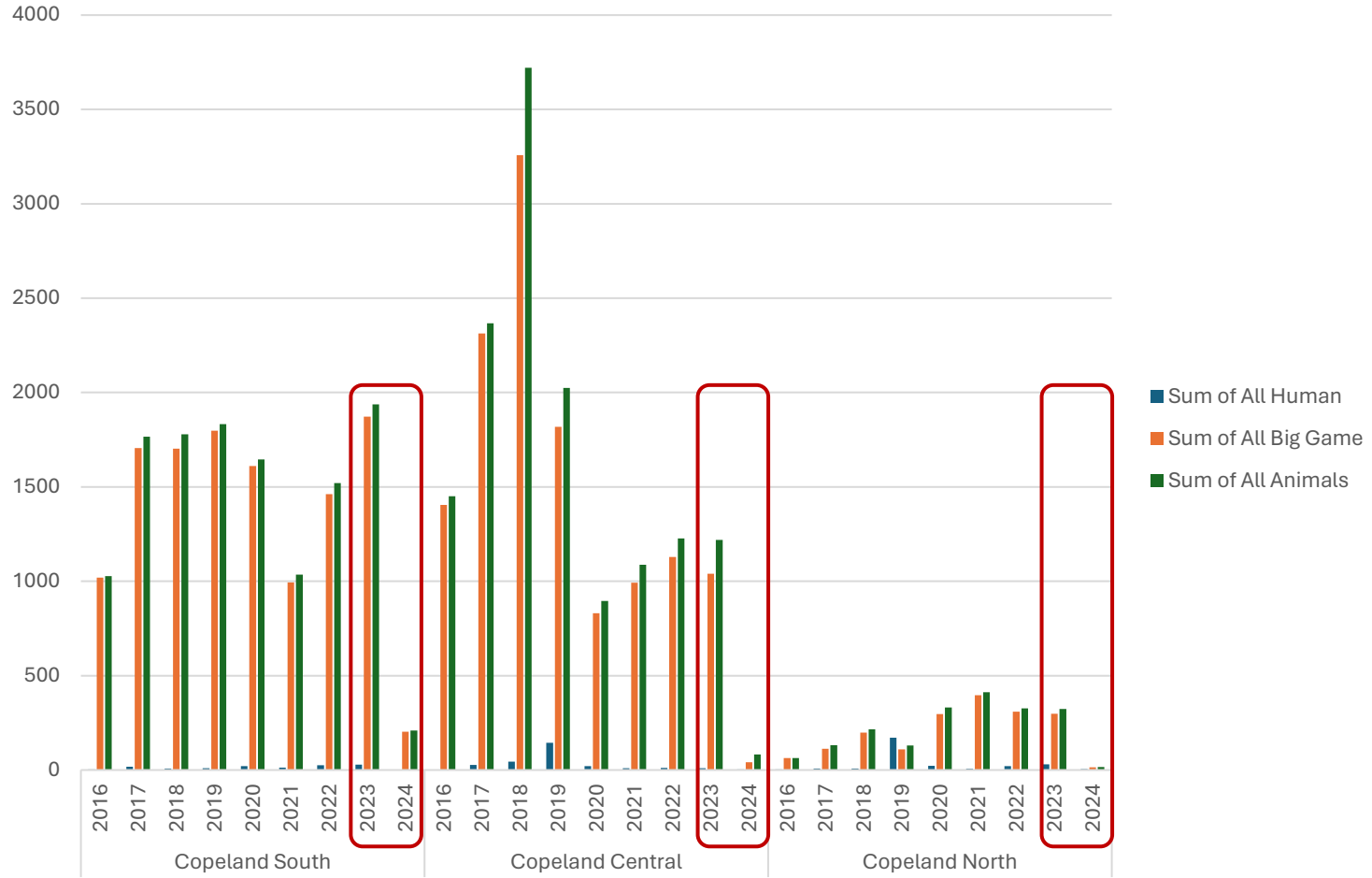




Jump outs  
and one-way  
gates



Copeland Wildlife Underpass Usage  
2016 - 2023



Copeland  
Area  
Underpass  
Use After  
Repair





# Copeland Area Documented Roadkill

Count of OBJECTID	Column Labels												Grand Total
Row Labels	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Grand Total
Elk (Cervus canadensis)				1							3		4
White-tailed Deer (Odocoileus virginianus)	5	10	4	8	9	5	11	4	5	5	10	2	78
Wild Turkey (Meleagris gallopavo)						1	1						2
<b>Grand Total</b>	<b>5</b>	<b>10</b>	<b>4</b>	<b>9</b>	<b>9</b>	<b>6</b>	<b>12</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>13</b>	<b>2</b>	<b>84</b>



An aerial photograph showing a road, a lake, and a forest. The road is a two-lane highway with a concrete barrier, running horizontally across the middle of the image. To the left of the road is a large body of water, McArthur Lake. The background is a dense forest of evergreen trees. In the distance, there are rolling hills under a blue sky with some clouds. A utility pole is visible on the left side of the image.

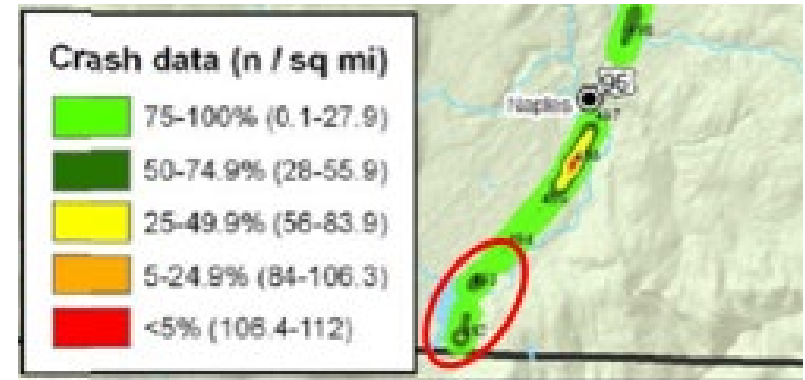
# McArthur Lake Project

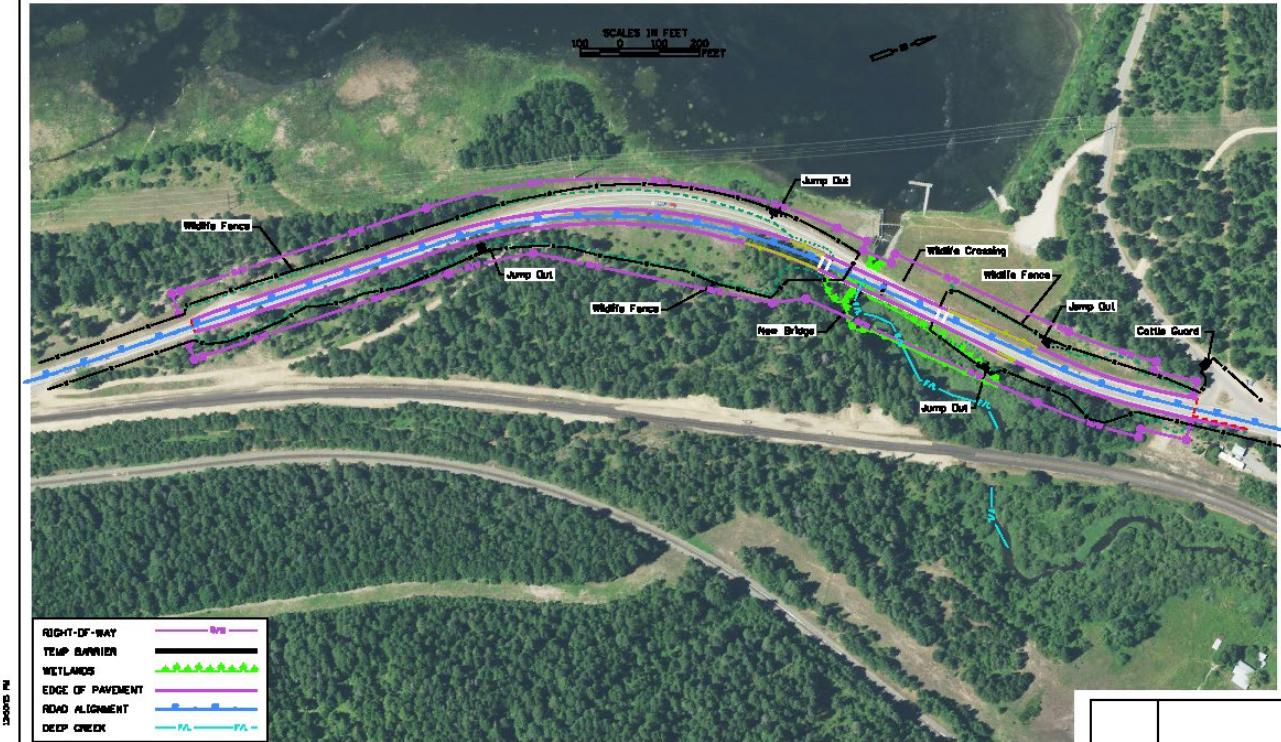
(MP 491-494)



# McArthur Lake Project

(MP 491-494)

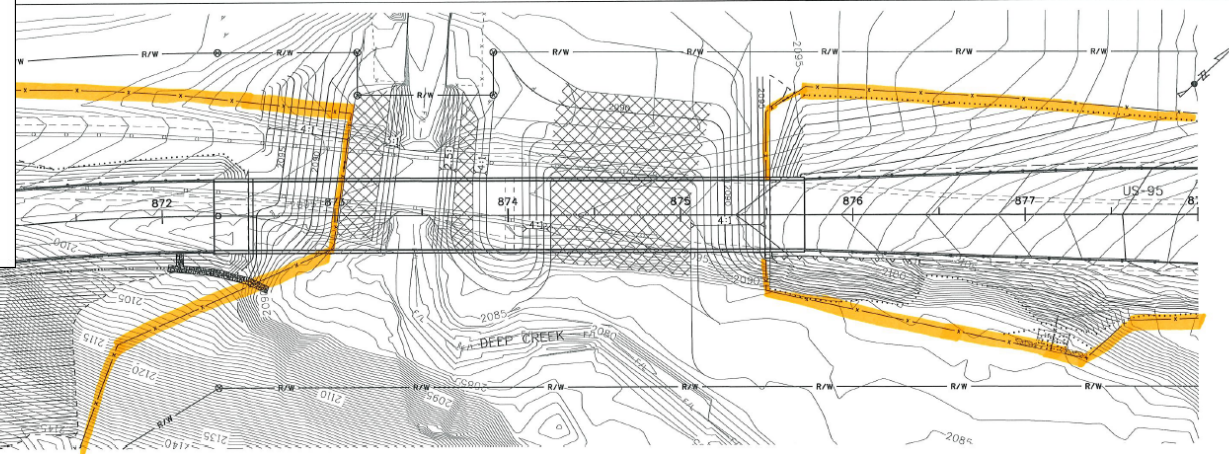




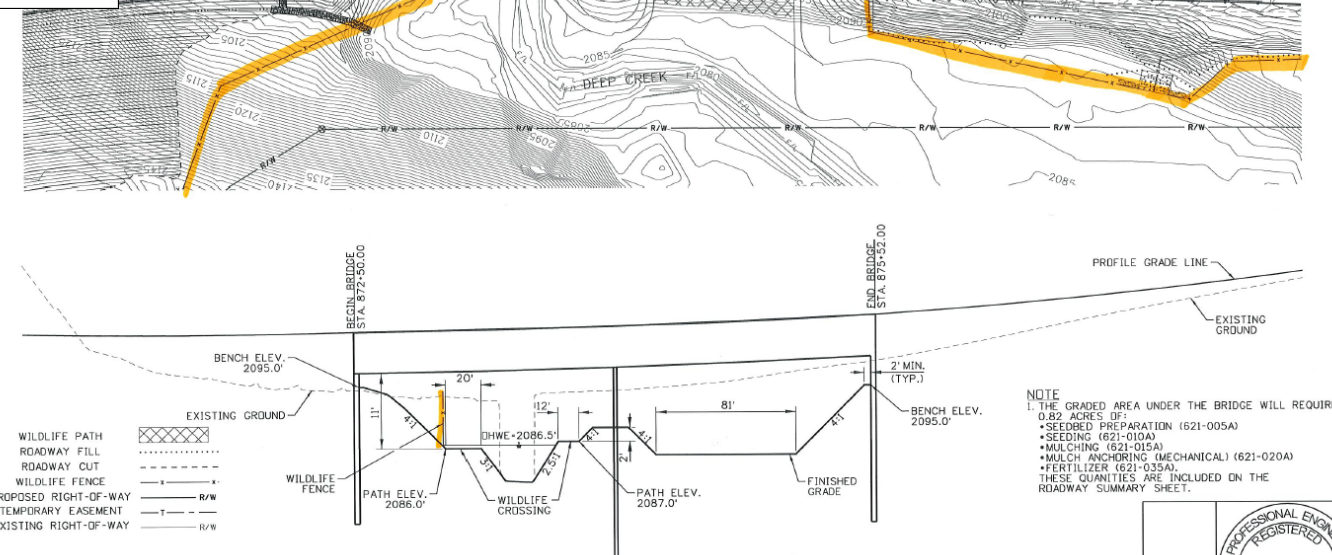
NO.	DATE	BY	REVISIONS	DESIGNED	SCALE	SCALES SHOWN	PROJECT NO.	PLAN SHEET	English
1			DESIGNED	LOCHNER	AS SHOWN	AS SHOWN	AG20(1662)	US-95, MCARTHUR LAKE	English
2			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
3			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
4			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
5			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
6			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
7			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
8			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
9			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English
10			REVISED	LOCHNER	AS SHOWN	AS SHOWN			English

IDAHO TRANSPORTATION DEPARTMENT  
**LOCHNER**  
 PROJECT NO. AG20(1662)  
 PLAN SHEET US-95, MCARTHUR LAKE  
 Figure 3  
 English COUNTY IDAHO  
 KEY NUMBER 2086  
 SHEET 106 OF 106

# McArthur Lake Project



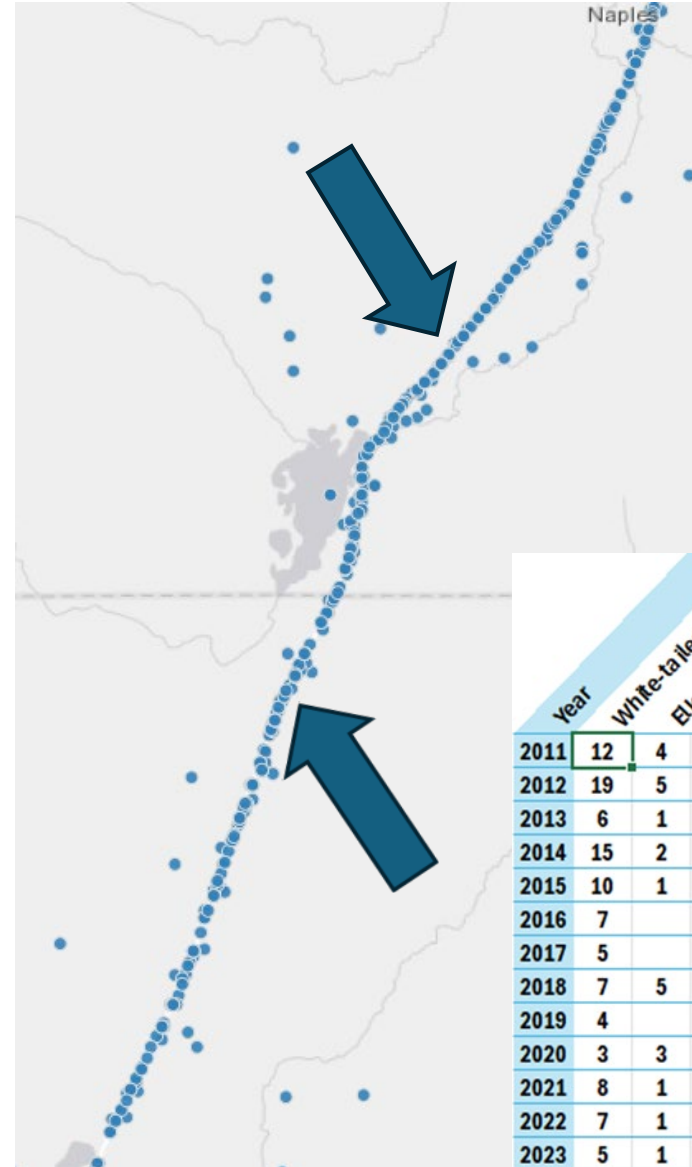
# McArthur Lake Project





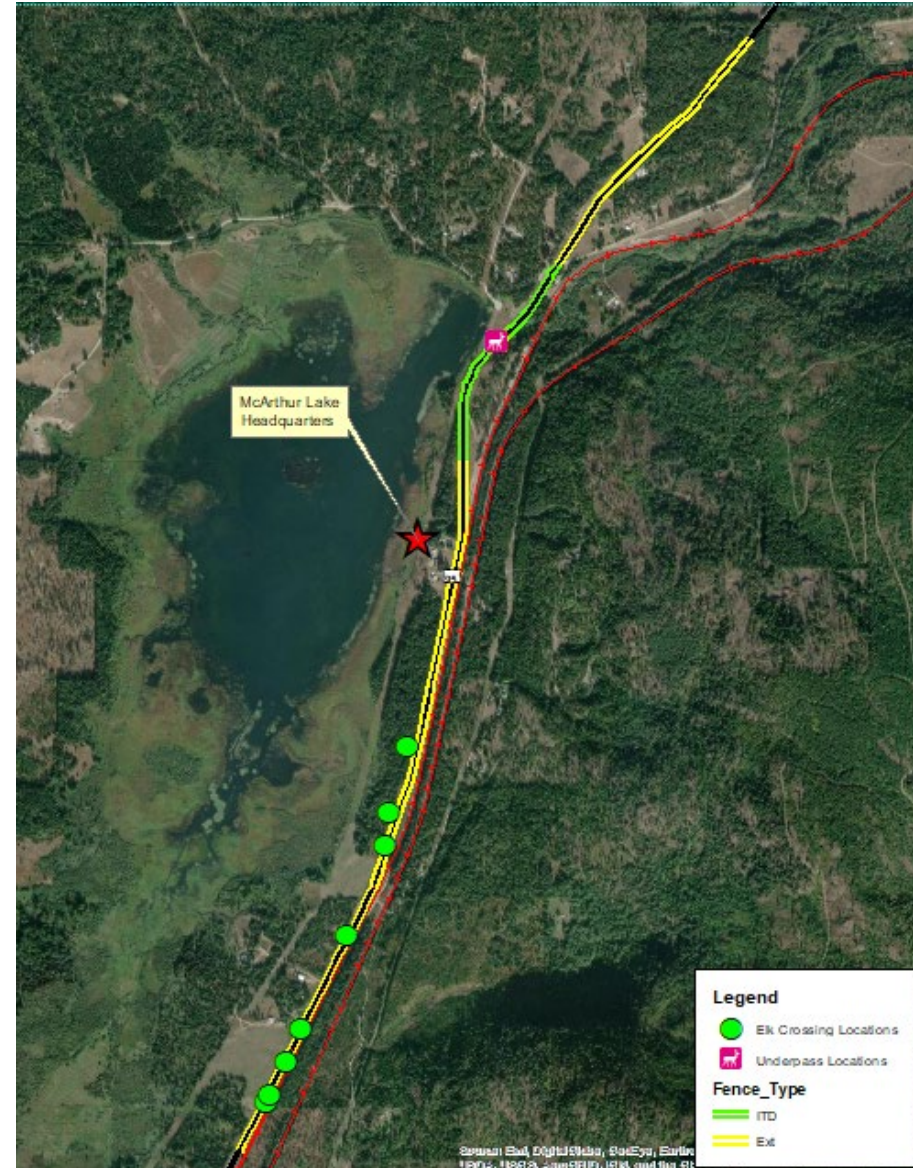
# McArthur Lake Project

(MP 491-494)



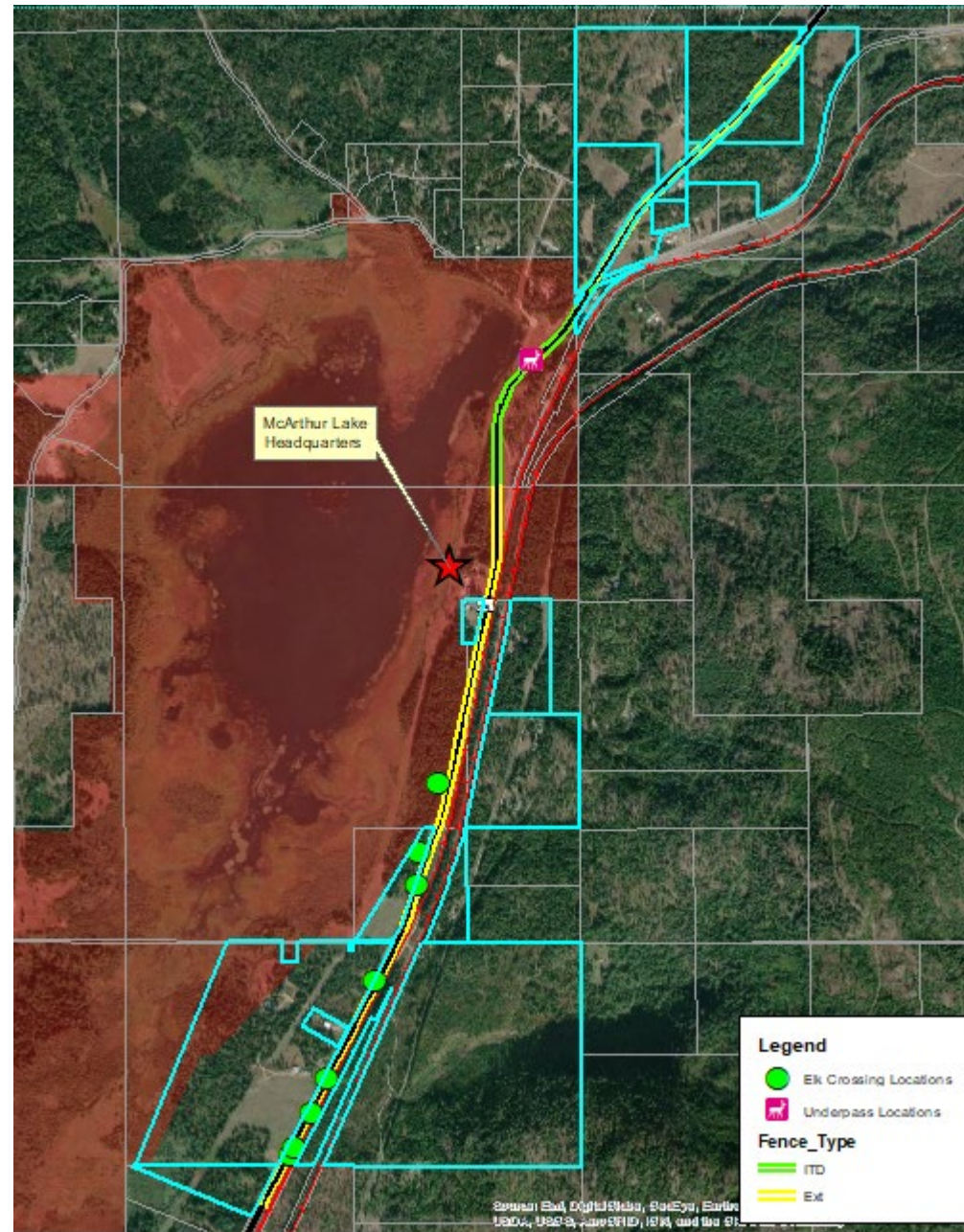
Year	White-tailed Deer	Elk	Mule Deer	Moose	American Black Bear	Other	Grand Total
2011	12	4			1		17
2012	19	5		1	3		28
2013	6	1	1	2			10
2014	15	2		1		1	19
2015	10	1	3	2	1		17
2016	7					2	9
2017	5		2	1			8
2018	7	5	1				13
2019	4						4
2020	3	3	3				9
2021	8	1		2	3	1	15
2022	7	1					8
2023	5	1					6
2024	1						1
Total	109	24	10	8	5	8	164

# McArthur Lake Project (MP 491-494)





# McArthur Lake Project



15 Landowners



# What We Need Help With:



IF YOU KNOW ANY OF THESE  
LANDOWNERS, WHAT IS THE BEST  
WAY TO REACH THEM?

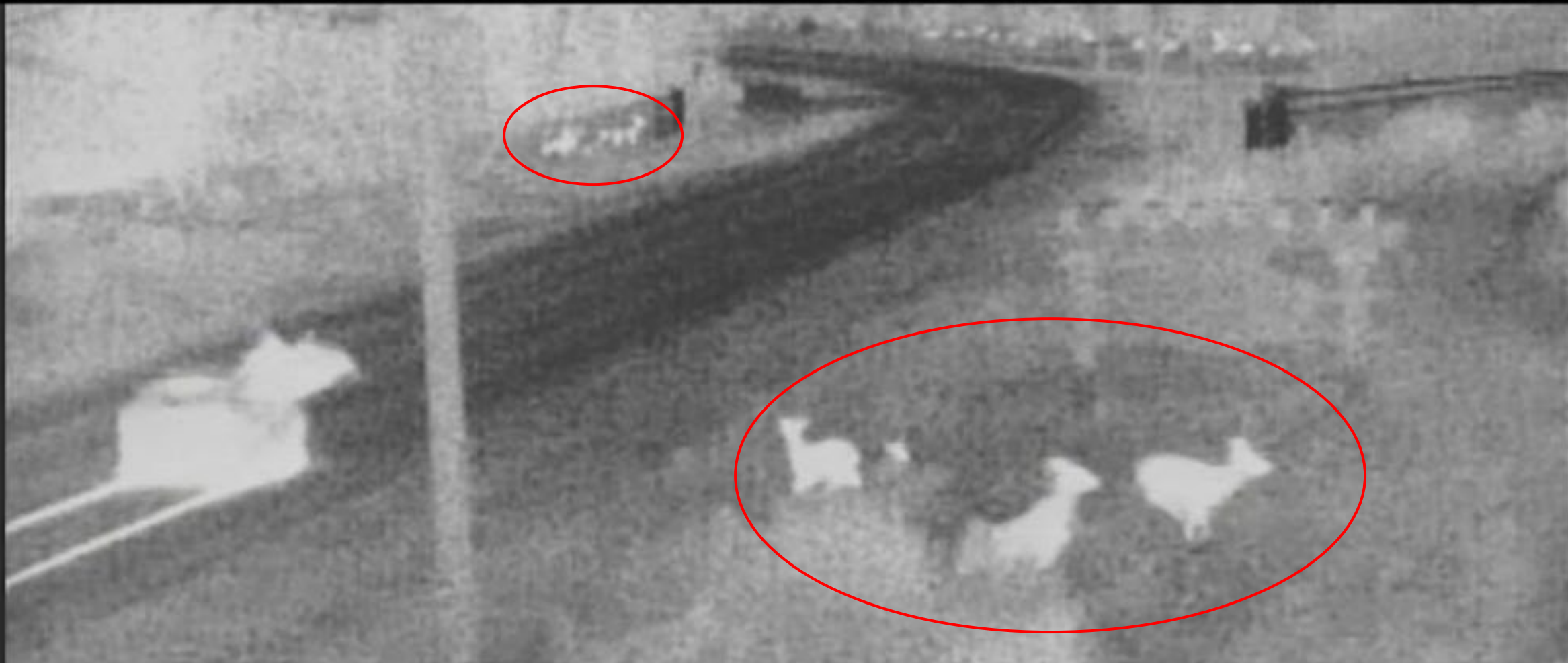


SUPPORT FOR THE PROJECT



PROVIDE A LETTER OF SUPPORT  
DURING GRANT APPLICATIONS

2013-11-28 02:15:36



Questions/Discussion?