As a participant of Road Watch over the last year you have made valuable contributions to helping us better understand wildlife movement in the region. We encourage you to continue entering your wildlife observations over the next year and build on this great start. A review of the wildlife mortality data indicates that there is a high level of variability between years, likely due to a combination of factors such as weather, predators and the presence of humans. We would like to continue to make Road Watch a success and we need your involvement to do that.

We would like to form advisory groups to provide future direction for Road Watch. If you are interested in any of the following areas please let Janet know.

Photos like this have been donated to Road Watch by participants like you. We are looking for more photos to help us promote Road Watch. If you have one to contribute please contact Janet.

Advisory committees we would like to form include:

Promoting Road Watch

Development of Mapping Tool

Data analysis and result presentation

There are plenty of opportunities for you to become more involved. If you have other ideas please contact us at: Local Project Coordinator: **564-4833 or jcquin@telus.net** or Miistakis Institute: **220-8968 or tracy@rockies.ca**

Thank you Road Watch participants and project funders.

Woodcock Foundation | TD Friends of the Environment Foundation | alberta ecotrust | Shell Environmental Fund

We have also received generous support from:

the Municipality of Crowsnest Pass
Crowsnest Pass Promoter
Crowsnest Pass Hearld
ASRD Fish and Wildlife
ASRD Public Lands and Forestry division
Faculty of Environmnetal Design, University of Calgary

Number 8: Anniversary Edition

Road Watch in the Pass

Update to Participants Number 8: Anniversary Edition

With Generous Financial Support from the ***Woodcock Foundation, Alberta Ecotrust Foundation, TD Friends of the Environment Foundation and Shell Environmental Fund.***

Monitoring Wildlife Update

There are currently **56** people participating in the Road Watch Project.

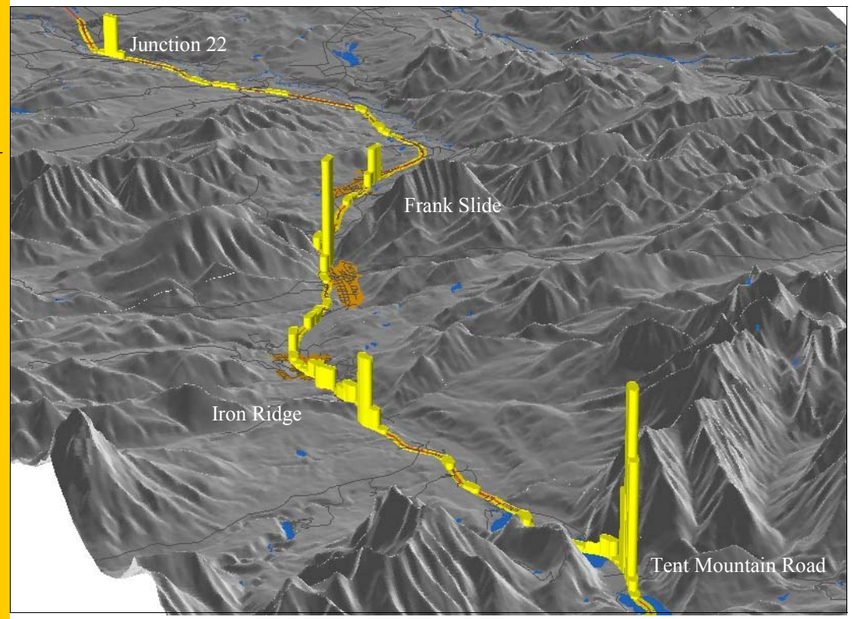
A total of 758 observations have been entered using the mapping tool. 16 duplicate records were removed for a total of **742** observations. Sightings include:

Mule deer	289
Big horn sheep	119
White-tailed deer	110
Deer	94
Elk	35
Moose	31
Other	23
Black Bear	12
Coyote	12
Cougar	7
Grizzly Bear	4
Wolf	3
Mountain Goat	3

Other Species included: Bald Eagle, Great horned owl, Skunk, Badger, Short-tailed weasel, Turkey, Little brown bat, Fox and Raven.

There were 16 duplicate observations removed from the database. Duplicate records was defined as the same species recorded on the same day/month/year at the same time of day within 250 meters of one another.

Of the 742 observations, there were 128 crossing observations and 614 adjacent observations. Of the 614 adjacent, there were 54 recorded as dead and the rest were alive or injured.



Total Road Watch Observations per 250 m segment along Highway 3.

- Congratulations and thank you to all *Road Watch* participants, together you have contributed 742 observations to the database. The yellow bars on the map above depict the number of observations per 250 m segment along Highway 3. Notice the areas with high observations; Tent Mountain Road, Iron Ridge, Blairmore East Access and the Junction of 22 and Highway 3.
- Road Watch data is not collected systematically (there are multiple users driving Highway 3 at random times) creating an issue where certain sections of Highway 3 are not as well represented. It would appear that this is occurring for the Eastern portion of our study area-from the Municipal border to Lundbreck. If you know anyone that travels this section of road regularly please let them know about *Road Watch*.

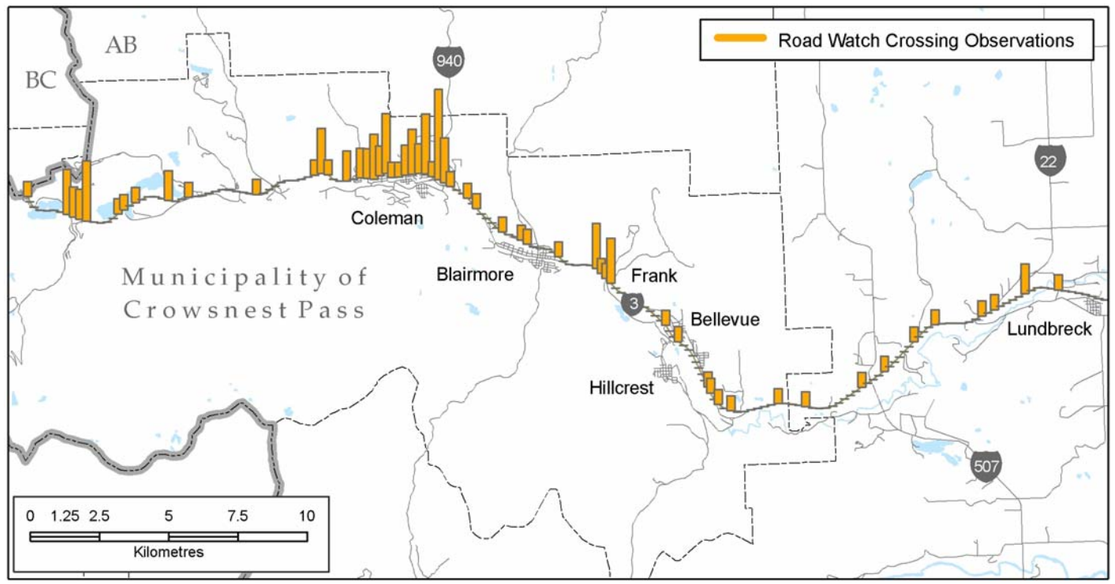
What's New at Road Watch

- Janet organized a wildlife stories contest in the Pass, the contest has ended and winners will be awarded prizes at the one year anniversary party. Their stories will be placed on the *Road Watch* website in the near future.
- *Road Watch* just received a grant from the Shell Environmental Fund, thank you Shell Canada.

For more Information please contact Janet Quinn at 564-4833 || jcquin@telus.net
www.rockies.ca/roadwatch

Preliminary Comparison of Road Watch and Wildlife Mortality Data

This section of the participant update provides an example that highlights the importance of *Road Watch* data. Here we compare *Road Watch* **crossing** observations with wildlife mortality data collected along Highway 3 by Volker Stevin (November 2004 to September 2005). The *Road Watch* crossing observations were extracted from the *Road Watch* database. The orange bars on map below represent the number of crossing observations per 250 m. The higher the orange bar the more animals observed crossing within that segment.

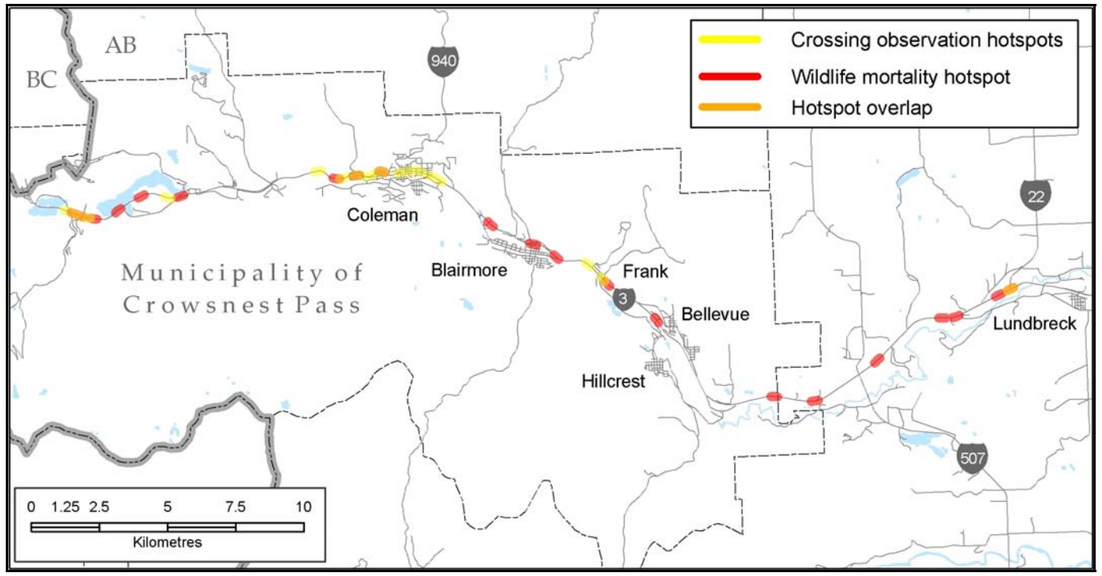


Methods

We can see which segments have the highest observation of crossing zones but we may also want to know which segments are considered hotspots. Crossing hotspots were identified using a Poisson Distribution which assigns probabilities to the number of observations expected in a road segment given a random distribution. The Poisson Distribution assigns probabilities by assessing the mean number of observations per segment. A 95% Poisson Distribution cut-off was used to identify the number of observations per segment that constitute a hotspot. The average number of crossing observations per segment was 0.564. The Poisson Distribution tells us that 95% of the segments would be expected to have from 0-1 crossing observation. Therefore any segment with 2 or greater observations was considered a crossing hotspot.

Results

There were 21 Road Watch (RW) crossing hotspots identified ranging in length from 250 m to 1250 m (where crossing hotspots were occurred) and equating to 5.3 km of the 44 km stretch of road. The mean number of **wildlife mortality** (WM) observations per 250 m segment was 0.575. This equated to the same cut off value and number of high WM hotspots as the *RW* crossing observations but with ranges of hotspots from 250 to 500 m in length. The map below displays the RW crossing hotspots and WM hotspots.



Importance of this Analysis

The preliminary results demonstrate that integrating data collection methods, including the use of Road Watch data, has the potential to increase the amount of information and provide unique insights about wildlife movement across Highway 3. This analysis showed us that there was spatial variation between RW hotspots and WM hotspots. This is exemplified on the above map where RW crossing hotspots and WM hotspots are displayed to visually highlight this spatial variation. A comparison of the datasets on this map indicates that out of the 5.25 km of crossing hotspots and mortality hotspots, 1.5 km (29 %) of the hotspots occurred in the same location. This has important ecological implications as it is often assumed that mortality hotspots translate to wildlife crossing hotspots. However, mortality hotspots may be related to specific road characteristics such as curvature or topography and wildlife may cross in other areas that offer more desirable characteristics such as improved line of sight or preferred habitat. This type of information is important when considering highway mitigation and design options. By recognizing the spatial disparity between WM hotspots and RW crossing hotspots one can begin to examine the attributes associated with each in an attempt to improve wildlife crossing opportunities. By limiting access to singular information sources the identification of crossing locations is compromised. This issue is of considerable importance in the Crowsnest Pass where pending highway expansion has the potential to further restrict wildlife movements.