

Yosemite Road-Kill Summary July 2013

In May 2013, PEER submitted a Freedom of Information Act (FOIA) request to Yosemite National Park asking for records pertaining to wildlife-vehicle collisions (WVCs) and mitigation strategies the park had implemented or planned to reduce the number of these incidents. We received documents that listed the number of reported WVCs from 2009-2012, and reports of WVCs involving black bears dating back to 1995. We also received documents that outlined Yosemite's only apparent mitigation effort, the "Red Bear, Dead Bear" campaign. These documents are summarized below.

First, the records of WVCs in the park were not assembled into a scientific report, but were instead delivered to us as a written summary of road kills and management actions taken after the carcasses or expiring animals were reached by law enforcement personnel. We received no analysis of this data, and it is unclear as to whether this data has been examined by the relevant biological and ecological authorities in the park. Inconsistencies in the data make this seem unlikely.

To begin with, the number of road-killed species in the park has changed from year to year. In 2009, only "deer" (specific species not listed), bobcat, fisher, grey fox and black bears were reported, whereas in 2011, grey fox, mule deer, coyote, squirrel, golden eagle, screech owl and black bear were reported. This fluctuation in the species listed suggests that Yosemite does not have a systematic method of collecting road kill data, but rather relies solely on visitor or incidental ranger reports to track road kill.

From 2009-2012, the following species were involved in WVCs:

- Deer (no specific species given)
- Bobcat (*Lynx rufus*)
- Fisher (*Martes pennanti*)
- Grey Fox (*Urocyon cinereoargenteus*)
- Fox (no specific species given, probably *Vulpes vulpes*)
- Mule Deer (*Odocoileus hemionus*)
- Coyote (*Canis Latrans*)
- Squirrel (no specific species given)
- Golden Eagle (*Aquila chrysaetos*)
- Screech Owl (no specific species given, probably *Megascops kennicottii*)
- Spotted Owl (*Strix occidentalis occidentalis*)
- Grey Owl (*Strix nebulosa*)
- Mountain Lion (*Puma Concolor*)
- Pine Marten (*Martes martes*)
- Raccoon (*Procyon lotor*)
- Black bear (*Ursus americanus*)

The report received from Yosemite, including the tally of the species represented, is displayed below. A few things make this data suspect. First, absent any exceptional circumstances, the number of road kills for a particular species tend to fluctuate within fairly small limits from year to year. While reporting can be an issue, large species, such as deer, tend to be less prone to reporting errors. Yosemite reported the following data for deer, mule deer, and grey fox:

| Species | 2009 | 2010 | 2011 | 2012 |
|-----------|------|------|------|------|
| Deer | 2 | 9 | 0 | 4 |
| Mule Deer | 0 | 1 | 14 | 0 |
| Gray Fox | 11 | 0 | 1 | 1 |

These wide variations in the number of reported wildlife deaths could simply be statistical flukes. However, it seems more likely that these numbers are rather artifacts of poor record keeping and data collection on the part of the park.

The park has kept more detailed records on black bear road mortality. There were 300 WVCs involving black bears in Yosemite from 1995-2012, but not all of those resulted in confirmed fatalities. Only counting bears whose carcass was found or were euthanized, there were 88 bear fatalities involving vehicles in the park over that period. It is important to note that this is the minimum number of bears killed; most animals that wander off the roadway after a collision later expire from their injuries and are never found.

In response to these incidents, the park launched a visitor education campaign entitled “Red Bear, Dead Bear” in 2005. This campaign involves placing red bear signs along roadways where bears have recently been hit in an in the park to alert visitors to reduce their speed and be aware of wildlife. Unfortunately, this campaign and the “driver’s response to the signs was not effectively evaluated in the past two years, although the park did receive positive feedback from many employees and visitors.”¹ The bears are likely to give somewhat less positive feedback. See below the a graph depicting confirmed bear deaths from 1995-2012:

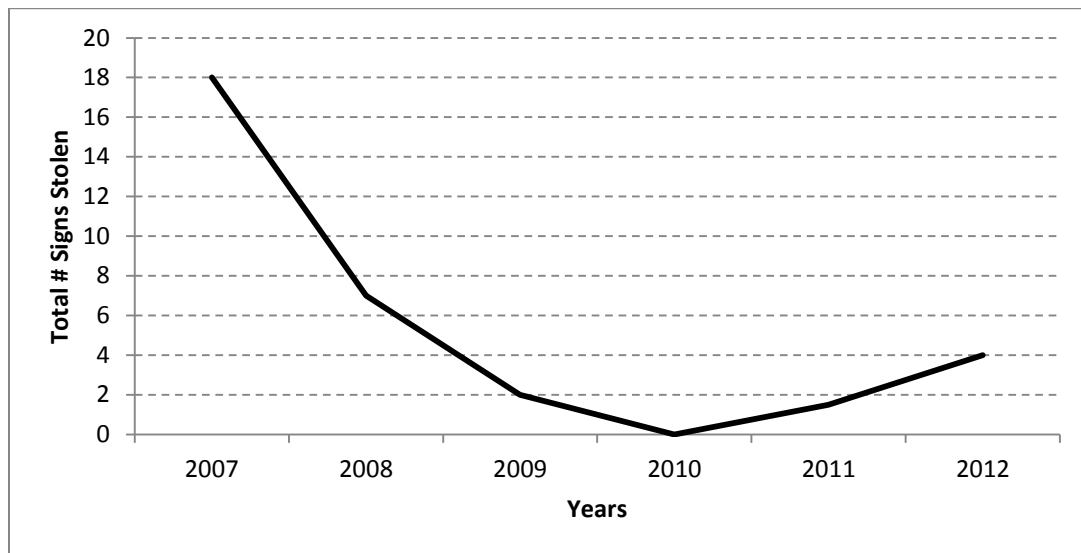
Confirmed Dead Bears Hit by Vehicles 1995-2012¹

¹ From the 2012 subsection of the unpublished report, “Bear vs [sic] Vehicle 2008-2012”



Studies have shown that non-dynamic signs such as the ones that Yosemite has installed are largely ineffective at preventing road kill because drivers tend not to notice them. While specific studies are lacking for their effectiveness in the Yosemite Valley, the ever-increasing number of ursine WVCs since 2005 suggests that more vigorous mitigation efforts are needed. Interestingly, while the signs seem to be ineffective at stopping vehicles from taking our wildlife, the park is struggling with keeping visitors from taking the signs:

Number of RBDB Signs Stolen by Year²



² From the 2012 subsection of the unpublished report, “Bear vs [sic] Vehicle 2008-2012”

The situation in the park seems to be one of scientific uncertainty. Records of WVCs are not organized in a fashion that is particularly useful for researchers and people making management decisions, and the scant mitigation measures that are in place lack a scientific basis. Meanwhile, Yosemite's wildlife continues to suffer.

Total Reported Road-Killed Animals, 2009-2012

| Year | 2009 | 2010 | 2011 | 2012 |
|-----------------|------|------|------|------|
| Total Road Kill | 20 | 21 | 33 | 24 |

