

Yellowstone Road-Kill FOIA Summary

July 2013

In a September 3rd, 2004 letter to *The New York Times*, Gale Norton, then Secretary of the Interior, admitted that one large animal per day is killed on the road in Yellowstone National Park. This comment came not in the context of announcing new wildlife-vehicle collision (WVC) mitigation measures, but rather to illustrate the relative safety of snowmobiles. In light of these revelations, PEER thought someone ought to inquire into what was happening to wildlife on our federal lands. PEER submitted two Freedom of Information Act (FOIA) requests, one in 2004 and another in 2013, seeking documents relating to road kill record keeping and mitigation planning.

We obtained data from the park on the number of vehicle caused mortalities from 1989-2012 for animals with an adult weight greater than 30 lbs, the summary of which is attached. Interestingly enough, the total yearly road kill has been below the average of 94.5 animals killed per year (cumulative, 1989-2012) since 1997. On the face of things, Yellowstone's WVC problem has been improving.

However, a closer examination of the trends in number of WVCs for individual species reveals a more troubling picture. Some biological history of the park and a cursory overview of some findings made in the field of transportation ecology will be useful in interpreting these trends.

First, it has been shown that ungulate species tend to make up the bulk of WVCs. For example, in 1989 there were 97 recorded WVCs in the park. Ungulates (Elk, Mule Deer, Moose, Antelope, Whitetail Deer, Bighorn Sheep, Mountain Goat, and Bison) accounted for 95 of those collisions, with elk alone accounting for 50 of those incidents. Furthermore, one of the main variables controlling the number of WVCs for a given species in an ecosystem is population; that is, the more animals there are, the more animals tend to get killed.

Second, a little history of the Greater Yellowstone Ecosystem (GYE) will be helpful. In 1995, the Grey Wolf was re-introduced into the park after their extirpation in the first half of the 20th century. Wolves were introduced as an experimental/non-essential designation under the Endangered Species Act, which means they are managed as a threatened species on federal park lands. Wolves are the dominant predators in most ecosystems, and Yellowstone is no exception. Wolves in Yellowstone primarily prey on ungulates, with a preference for elk. Indeed, thinning the elk herd was one of the stated goals of the re-introduction.

After 1995, ungulate populations started to drop in the park. With this drop came a corresponding decrease in the number of WVCs involving ungulates, and thus a drop in the total number of WVCs in the park as a whole. Thus, the average number of elk killed in the park per year by vehicles from 1989-1999 was 42.5, from

2000-2012 the average was 23.6, a 44% decrease. Similar trends are apparent for other major prey species, such as whitetail deer, mule deer, and moose (25%, 25%, 69% decreases respectively over that time period).

If one excludes the prey ungulate species from the analysis, however, a more troubling park-wide trend emerges. Bison, due to their size and herd behavior, are difficult for wolves to hunt successfully, and were thus not as affected by wolf re-introduction as other ungulate species. The average number of WVCs involving bison increased from 10.5 per year from 1989-1999 to 15.5 per year from 2000-2012, almost a 50% increase. The situation is even more grim if large carnivores are considered. Black bear vehicle strike mortalities increased 41% over that time period, while grizzly bear fatalities rose 196%. Wolves themselves averaged 1.4 vehicle caused fatalities from re-introduction until 2002, and almost 1.6 vehicle fatalities per year from 2003-2011, a 13% increase, with 5 wolves killed in 2011 alone.

These trends suggest that carnivores tend to be proportionately more affected by road mortality than other species, due to generally lower population densities, larger home ranges, and longer reproductive cycles than herbivores.

Since road kill is affecting federally protected species such as the grizzly bear and grey wolf on federally protected lands, what are park managers doing to mitigate the effects of road kill on the wildlife they are tasked with protecting?

As the former secretary's remarks may suggest, not much. Documents obtained by PEER show that by and large, planners are hesitant to do much of anything to reduce the number of WVCs. Since the early 1990s, Yellowstone has been in the process of rebuilding most of the historic Grand Loop Road. As part of this process, the park is required under NEPA to assess the environmental impacts of these proposed projects, including the effects that improved roads will have on wildlife mortality, particularly for endangered species. Here the park has had an unprecedented opportunity to address the impacts of roads on the GYE.

First, park planners recognize that road kill is happening in the park. The 2012 wildlife road kill report we obtained in 2013 broke down the frequency of WVCs in the park by segment of the roadway they occurred on. The most affected segment of road, US 191, is actually not part of the main road system in the park, but rather a heavily travelled highway connecting West Yellowstone and Bozeman, MT. On this segment of road, there were 22 road kills in 2012, representing 27.8% of the road kill in the park that year, with an average of 1.1 WVCs/mile. Travellers on this section of road are not required to pay entrance fees, nor are they required to stop at a ranger station. But for a small number of signs along the way, a motorist could conceivably never know they were in the park.

Within the main system of park roads, the stretch of road from Mammoth Hot Springs to Norris Geyser basin accounted for 14% of the WVCs in the park, with

11 incidents over 21 miles, or an average of .6 WVCs per mile. The least dangerous roads were the short, unpaved Bechler road in the remote SW corner of the park, the Norris-Canyon road, and the Tower-Canyon road, all of which experienced no road kills in 2012.

PEER's 2004 FOIA request obtained planning documents from the East Entrance and Tower-Canyon road reconstruction. The 1992 draft Environmental Assessment (EA) prepared for the East Entrance road improvement project acknowledges that better road conditions would lead to increased vehicle speeds, which could result in an increase in the amount of road kill on that stretch of road. Their response to this problem was to raise speed limits from 35 to 40mph, and clear brush from the side of the road despite acknowledging that "road slope clearing and some curve realignments would improve sight distances and the visibility of wildlife; however, the tendency for bears to cross roads in areas of thick cover could negate this benefit."¹ The situation does not change much a decade later when the park issued an EA and subsequent Finding of No Significant Impact (FONSI) for its reconstruction of the Tower Junction-Canyon Junction. While this stretch of road, which covers relatively rugged territory near the base of Mt. Washburn, has historically not been a hotbed of WVCs, there is known wolf and grizzly bear activity in the area, which compelled the park service to conduct a biological assessment (BA) as part of the NEPA process.

In the EA and BA, the park once again acknowledges that improving this section of road would increase vehicle speeds which could result in an increased number of WVCs. The mitigation strategy adopted by the park is as follows: "the potential for vehicle-caused grizzly bear [the suggestion is similar for wolves] mortality will be reduced by maintaining the existing speed limit on the road despite the wider road surface, and keeping speeds down by retaining the general curvature of the road instead of straightening it."² A less proactive stance can scarcely be imagined.

The September 2001 EA, however, glorifies this alternative even further, claiming that this course of action would "minimize"^{3,4} the number of WVCs occurring on the road, a truly bold claim to make when faced with a variety of novel mitigation measures beyond simply maintaining the status quo, and when they admit in the same breath that the improvements to the road will likely increase traffic speeds, a key variable in determining the frequency with which WVCs occur.

¹ Draft June 1992 Environmental Assessment Reconstruct East Entrance Road, page 32

² December 2001 Biological Assessment: Canyon Junction to Tower Junction Road Improvement, Pages 14-5

³ Merriam-Webster defines 'minimize' as "to reduce or keep to a minimum", and 'minimum' as "the least quantity assignable, admissible, or possible".

⁴ September 2001 Environmental Assessment: Canyon Junction to Tower Junction Road Improvement, Page 25

The Yellowstone officials justify this policy by invoking the incidental take exception of the Endangered Species Act. The park is authorized to allow a small number of threatened species to be accidentally killed within the park each year within certain guidelines. These guidelines change as the population of the species in question changes, but a rough characterization would be that six grizzly bears, two of which may be breeding females, may be killed on roadways every year without cause for alarm. If and only if those limits are met will planners begin to take other measures to prevent more WVCs for the species in question.

Animals not on the endangered species list were not considered in the planning process.

Yellowstone has been the site of several studies on the relationship between roads and wildlife. The Bozeman, MT based Western Transportation Institute and the Bear Management Office have each spent time studying road kill distribution within the park, and thus there is a reasonable knowledge base to inform mitigation planning within the park, though there is no evidence that any park-wide policy for all species has been articulated. The park seems content to allow continued conflicts between vehicles and wildlife as long as the situation does not get dramatically worse.