THE EFFECTS OF ROADS ON WILDLIFE:
BIBLIOGRAPHY

U.S. Roads

Prepared For:

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EXECUTIVE SUMMARY

This bibliography was compiled on the effects of roads on wildlife and the ecosystem. Approximately 670 scientific papers, reports, articles and documents have been written with respect to the effects of roads on wildlife and the ecosystem. Most likely this is not a comprehensive list, and scientific papers pertaining to roads and the environment are constantly being published.

Also included in this bibliography are webpages on online Adobe® PDF documents. A total of 52 webpages and 20 online PDF documents have been found. However, like printed literature, webpages and online documents are constantly added or deleted and updated. This Internet information is readily available to anyone.
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Table 3: A summary of online PDF documents pertaining to roads and the environment. Currently there are 20 online PDF documents on the effects of roads on wildlife and the ecosystem................................................................. 1
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Table 2: A summary of webpages pertaining to roads and the environment. There are 54 webpages currently online with respect to the effects of roads on wildlife and the ecosystem.

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<thead>
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<td><strong>Total</strong></td>
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Table 3: A summary of online PDF documents pertaining to roads and the environment. Currently there are 20 online PDF documents on the effects of roads on wildlife and the ecosystem.

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<td>Ungulates</td>
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</tr>
<tr>
<td>Birds</td>
<td>1</td>
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<tr>
<td>Herpetile</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
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</table>
WEB PAGES

General


**Mitigation**


**Carnivores**

**Ungulates**


**Small Mammals**

1. http://www.abdn.ac.uk/mammal/vergesurvey.htm

**Birds**

1. http://www.eta.co.uk/tr/pj/rural/birds.htm

**Herpetiles**

ONLINE PDF DOCUMENTS

General


Carnivores

**Ungulates**

1. [http://www.state.me.us/mdot/moosereport.pdf](http://www.state.me.us/mdot/moosereport.pdf)

**Birds**


**Herpitles**

PRINTED LITERATURE

General


Large Carnivores


**Summary:**

Due to human factors (direct mortality, habitat loss, and human conflicts) grizzly bears have suffered habitat and population fragmentation. This fragmentation increases the risks to survival of the populations, and has occurred in part because of high speed highways that bisect the remaining ecosystems in which grizzly bears live. "Improvements" to high speed highways result in higher traffic volumes and speeds, increased fencing heights and effectiveness, clearing of vegetation, placement of concrete dividers and increased lane numbers. All of these factors decrease the ability of wildlife to cross highways and increases fragmentation.


Ungulates


72. Hicks, A. C. 1993. Using road-kills as an index to moose population change. 
   Alces. 29: 243-247.

73. Hurd, T.E. 1999. Factors limiting moose numbers and their interaction with elk 
   and wolves in the Central Canadian Rocky Mountains, Canada. M.Sc. 

   warning reflectors in reducing deer-vehicle collisions in Minnesota. 
   Minnesota Department of Natural Resources. St. Apul, MN. Report No. 3 
   6 p.


   effects of vegetation removal with a cost-benefit analysis. Alces. 27: 93- 
   99.

77. Jensen, D. R. 1977. The Fish Creek Highway deer passage project. Idaho 
   Transportation Department, District 5. Pocatello, ID. Unpublished Report.

78. Johnson, D. R., and M. C. Todd. 1977. Summer use of a highway crossing by 

   (173): 393-398.

   analysis of population level impacts and a new mitigative system. M.S. 
   Thesis, Utah State University, Logan UT.

   mortality in northeastern Utah: causes, patterns, and a new mitigative 
   technique. In: Evink, G., P. Garrett, J. Berry, J. eds. Transportation and 
   wildlife: reducing wildlife mortality and improving wildlife passageways 
   across transportation corridors: Proceedings of the Florida Department of 
   Transportation / Federal Highway Administration transportation-related 
   wildlife mortality seminar; 1996, April 30-May 2; Orlando, FL. FHWA- 
   PD-96-041. Washington, DC; U.S. Department of Transportation, Federal 
   Highway Administration: 308-322.

   25:809-818.


Small to Medium Mammals


Abstract: During two winters I investigated the influence of transportation corridors on wolverine (Gulo gulo) movements through snow-tracking. Analysis of movements within the study area showed avoidance of areas within 100 m of the Trans Canada Highway and preference for areas > 1100 m from the highway. Analysis of movements on the ski trail that formed the boundary of the study area showed a similar trend with avoidance of sections of the trail within 200 m of the highway and preference for sections > 1100 m away. Mean width of the right-of-way for highway crossings by wolverines (68 m) was significantly shorter than that of approaches without crossing (165 m). Wolverines approaching the highway made repeated approaches and retreats and only crossed three out of six times. Wolverines did not hesitate to cross the Canadian Pacific Railway in areas where it does not share a common right-of-way with the highway. Total wolverine activity, behaviour and the fact that I observed almost twice (1.93 times) as much movement on the east-west axis across the study area compared to the north-south axis, strongly indicate that Kicking Horse Pass is an important east-west movement-corridor for wolverines. The Trans Canada Highway currently appears to be having a significant impact on wolverine movements. I believe that roads with narrow rights-of-way (<50 m) have less impact on wolverine movements than roads with wide rights-of-way (>100 m). I expect the impact of the highway on wolverines is greater during the summer when traffic volume is higher.


**Birds**


Herpetiles


Fish


**Invertebrates**


Vegetation


Environmental Contaminants, Water Quality, Noise and Erosion


