

THE EFFECTS OF ROADS ON WILDLIFE: BIBLIOGRAPHY



Prepared For:

U.S. Forest Service
Bridger-Teton National Forest
340 North Cache Street
P.O. Box 1888
Jackson, Wyoming, 83001

Prepared By:

Clifford G. Nietvelt, M.Sc.
Montane Wildlife Consulting
P.O. Box 11935
Jackson, Wyoming, 83002
cliffordnietvelt@aol.com

October 30, 2002

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.

TABLE OF CONTENTS

WEB PAGES	2
General	2
Mitigation	3
Carnivores	3
Ungulates	4
Small Mammals	4
Birds	4
Herpetiles	4
ONLINE PDF DOCUMENTS	5
General	5
Carnivores	5
Ungulates	6
Birds	6
Herpitiles	6
PRINTED LITERATURE	7
General	7
Large Carnivores	27
Ungulates	37
Small to Medium Mammals	49
Birds	56
Herpitiles	63
Fish	69
Invertebrates	70
Vegetation	72
Environmental Contaminants, Water Quality, Noise and Erosion	73

LIST OF TABLES

Table 1: A summary of printed literature pertaining to roads and the environment. Approximately 670 scientific papers, reports, articles and documents have been written with respect to the effects of roads on wildlife and the ecosystem.	1
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.	1
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

Table 1: A summary of printed literature pertaining to roads and the environment. Approximately 670 scientific papers, reports, articles and documents have been written with respect to the effects of roads on wildlife and the ecosystem.

Category	Number of References
General	194
Large carnivores	95
Ungulates	131
Small Mammals	74
Birds	82
Herpitiles	61
Fish	2
Invertebrates	14
Vegetation	7
Contaminants	10
Total	670

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.

Category	Number of Webpages
General	31
Mitigation	7
Carnivores	9
Ungulates	1
Small Mammals	1
Birds	3
Herpitiles	2
Total	54

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.

Category	Number of Online Documents
General	10
Carnivores	7
Ungulates	1
Birds	1
Herpitile	1
Total	20

WEB PAGES***General***

1. <http://www.hsctch-twinning.ca/Environmental/tchwildlifeintro.htm>
2. <http://www.worldweb.com/ParksCanada-Banff/Roads/>
3. <http://defenders.org/habitat/highways/>
4. <http://www.sh82.com/environment.html>
5. <http://www.wildlands.org/corridor/high93.html>
6. <http://nc-es.fws.gov/highway/highway.html>
7. <http://www.hsus.org/ace/13409>
8. http://www.rr.ualberta.ca/wildlife_impacts/banff/bowcorr.htm
9. <http://www.cmiae.org/biblio.html>
10. <http://www.cmiae.org/rre5summaries.htm>
11. <http://www.cmiae.org/rre2.htm>
12. <http://www.inhs.uiuc.edu/chf/pub/surveyreports/jan-feb95/page1.html>
13. <http://civic.bev.net/cca73/articles-letters-opinions/ecoimpacts.htm>
14. http://www.people.virginia.edu/~jsm3f/tracpac/Environmental/WEBQUEST/downloaded_sites/noise_effects_on_wildlife.htm
15. http://www.people.virginia.edu/~jsm3f/tracpac/Environmental/WEBQUEST/downloaded_sites/causes_of_habitat_loss.htm
16. <http://www.its.berkeley.edu/techtransfer/resources/newsletter/01winter/roadkill.html>
17. <http://www.fhwa.dot.gov/environment/wildlifecrossings/>
18. <http://itre.ncsu.edu/cte/cte.html>
19. http://arcue.rbg.vic.gov.au/alt_pa_9a.htm
20. <http://www.spiritone.com/~brucem/icbexroa.htm>

21. <http://www.eco-action.org/dt/roads.html>
22. <http://www.state.ak.us/adfg/habitat/geninfo/forestry/INFEST/fsroads.htm>
23. <http://www.biosis.org/zrdocs/confs/confs98/roads.htm>
24. <http://www.fonz.org/zoogoer/zg1999/so99roads.htm>
25. <http://www.jhwildlife.org/roadkill4.html>
26. <http://www.in.gov/dnr/forestry/index.html?http://www.state.in.us/dnr/forestry/bmp/appenb.htm&2>
27. <http://www.wildrockies.org/WildCPR/reports/ECO-EFFECTS-ROADS.html>
28. <http://www.itre.ncsu.edu/cte/wildlife.htm>
29. <http://www.wildlandsleague.org/roadimpact.html>
30. <http://www.csmonitor.com/durable/2000/12/19/fp3s1-csm.shtml>
31. http://www.fs.fed.us/r1/wildlife/igbc/Linkage/linkage_notes.htm

Mitigation

1. http://www.ncdot.org/planning/development/Enhancement/enhance/26_Mitigation.htm
2. <http://www-grimso.slu.se/research/infrastructure/>
3. <http://www.mlui.org/projects/growthmanagement/general/roadkill.asp>
4. http://www.ncdot.org/planning/development/Enhancement/enhance/26_Mitigation.htm
5. <http://www.mountainnature.com/Articles/CrossingStructures.htm>
6. <http://ckwri.tamuk.edu/newsfolder/crossings99.html>
7. http://www.wildlandscpr.org/resourcelibrary/reports/roads_wetlands.htm

Carnivores

1. <http://www.mountainlion.org/BreakingNews/toll.htm>
2. <http://www.wa.gov/wdfw/wlm/diversty/soc/recovery/lynx/lynx.htm>
3. <http://www.defenders.org/habitat/highways/new/target/lynx.html>
4. <http://www.canuck.com/off-road/IMPACTS2.html>
5. <http://www.grizzlybear.org/Y2Y.htm>
6. http://www.grizzlybear.org/bozeman_pass_study.htm
7. http://www.greateryellowstone.org/dunraven_pass.html
8. http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/Grizzly/GrizzlyClear.htm
9. <http://www.wildlandscpr.org/databases/biblionotes/roads-kill.html>

Ungulates

1. http://www.wa.gov/wdfw/wlm/game/hunter/gametrails/impact_roads.htm

Small Mammals

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

Birds

1. <http://www.eta.co.uk/tr/pj/rural/birds.htm>
2. <http://www.nonoise.org/resource/wildlife/wildlife.htm>
3. <http://www.landscaperesearch.org.uk/graphics/extra26/mead.htm>

Herpetiles

1. http://www.fcsc.usgs.gov/Amphibians_and_Reptiles/Paynes_Prairie_Project/paynes_prairie_project.html
2. <http://www.werc.usgs.gov/sandiego/tort1.htm>

ONLINE PDF DOCUMENTS**General**

1. <http://www.hsctch-twinning.ca/Environmental/cleavenger/pr5.pdf>
2. http://www.hsctch-twinning.ca/Environmental/cleavenger/PR4_Txt.pdf
3. <http://www.hsctch-twinning.ca/Environmental/cleavenger/PR3.pdf>
4. <http://www.hsctch-twinning.ca/Environmental/cleavenger/PR2.pdf>
5. <http://www.hsctch-twinning.ca/Environmental/cleavenger/PR1.pdf>
6. <http://www.hsctch-twinning.ca/Environmental/cleavenger/MPlan.pdf>
7. <http://www.jhwildlife.org/pdfs/wildbrake.pdf>
8. <http://www.skillings.com/Web-Page/ResourWC.pdf>
9. <http://www.grandcanyontrust.org/pdfs/execsumm.pdf>
10. <http://www.worldbank.org/transport/publicat/reh/toc.htm>

Carnivores

1. <http://www.panther.state.fl.us/pdfs/FloridaPantherMortalityCausedbyVehicular.pdf>
2. <http://www11.myflorida.com/emo/sched/montfinal.pdf>
3. http://www.wsdot.wa.gov/PPSC/Research/CompleteReports/WARD531_1Lynx.pdf
4. http://mountain-prairie.fws.gov/endspp/lynx/lynx_faq.pdf
5. <http://cacr.forestry.ubc.ca/newsletters/newsletter3.pdf>
6. <http://www11.myflorida.com/emo/sched/icowet3.pdf>
7. http://www.predatorconservation.org/predator_info/Forest_Clearinghouse/Grizzly/grizzlysummary.pdf

Ungulates

1. <http://www.state.me.us/mdot/moosereport.pdf>

Birds

1. <http://www-grimso.slu.se/research/infrastructure/Documents/Helldin&Seiler-subm.pdf>

Herpiles

1. <http://www.fcsc.usgs.gov/amphibians2.pdf>

PRINTED LITERATURE**General**

1. Aberg, L. 1981. The human factor in game-vehicle accidents: a study of driver's information acquisition. Uppsala, Sweden: Department of Psychology, Uppsala University. 130 pp. Ph.D. Thesis.
2. Adams, L. W., and A. D. Geis. 1978. Effects of highways on wildlife populations and habitats: selection and evaluation procedures. Washington, DC: U.S. Department of Transportation, Federal Highway Administration.; FHWA-RD-78-92. 179 p.
3. Adams, L. W., and A. D. Geis. 1981. Effects of roads on wildlife. Washington DC: U.S. Department of Transportation, Federal Highway Administration; FHWA / RD-81 / 067. 152 p.
4. Adams, L. W., and L. E. Dove. 1989. Wildlife reserves and corridors in the urban environment: a guide to ecological landscape planning and resource conservation. Columbia, MD: National Institute for Urban Wildlife. 91 pp.
5. Alexander, S. and N. Waters. 1999. Decision Support Methods for Assessing Placement and Efficacy of Road Crossing Structures for Wildlife. Pages 237-246 in The Third International Conference on Wildlife Ecology and Transportation Proceedings. Missoula, MT. ICOWET. September 1999.
6. Alexander, S. and N. Waters. 2000. GIS-T and the Effects of Highway Transportation Corridors on Wildlife. In: GIS and Environmental Modelling, Ed., Dr. J.C. Thill. 2000 Elsevier Science Ltd.
7. Alexander, S. and N. Waters. 2000. GIS-T and the Effects of Highway Transportation Corridors on Wildlife. Transportation Research, Part C. Pergamon. 8(2000):307-320.
8. Alexander, S. 2001. A Spatial Analysis of Road Fragmentation and Linkage Zones for Multi-Species in the Canadian Rocky Mountains: A Winter Ecology Study. Thesis completed in partial fulfillment of the requirements of Doctor of Philosophy. Department of Geography, University of Calgary, Alberta. 350pp.
9. Alexander, S., N. Waters and P.C. Paquet. 2002. An Uncertainty-Based Spatial Decision Support Model for Restoring Landscape Connectivity in Road Fragmented Environments. In Applied GIS and Spatial Modelling. Eds. Graham Clarke and John Stillwell, University of Leeds, United Kingdom. *In press.*

10. Anderson, R. C. The value of roadside verges to wildlife. *Tigerpaper*. 6(4): 15-16.
11. Andren, H. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: a review. *Oikos*. 71: 355-365.
12. Alvarez, B. I., and H. Freat. 1992. Vertebrates run over on two roads in Ourense. First report. In: Lopez, R. ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Session in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. *Ambiental*, Madrid: Coordinadora de Organizaciones de Defensa: 239-251.
13. Andrews, A. 1990. Fragmentation of habitat by roads and utility corridors: a review. *Australian Zoologist*. 26: 130-141.
14. Anon. 1982. Wildlife Mortality in transportation corridors in Canada's National Parks. *Natural Resource Bulletin* [pages & volume unknown].
15. Arnold, G. W., D. Algar, R. J. Hobbs, and L. Atkins. 1987. A survey of vegetation and its relationship to vertebrate fauna present in winter on road verges in the Kellerberrin District, W.A. {location of publication unknown}. Western Australia Department of Conservation. *Land Management Technical Report No. 18*. 37 p.
16. Ayres, J. M., D. de Magalhaes Lima, E. de Souza Martins, J. L. Barrios. 1991. On the track of the road: changes in subsistence hunting in a Brazilian Amazonian village. In: Robinson, J. T., and K. H. Redford. eds. *Neotropical wildlife use and conservation*. 82-92.
17. Babiloni, G. G. 1992. Provisional report of the mortality of vertebrates on the roads of Barcelona province, September 1991. In: Lopez, R. ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. *Ambiental*, Madrid: Coordinadora de Organizaciones de Defensa [Pages unknown].
18. Bahillo, M. M. 1992. Provisional report of the mortality of vertebrates on the roads of Barcelona province, September 1991. In: Lopez, R. ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. *Ambiental*, Madrid: Coordinadora de Organizaciones de Defensa [Pages unknown].

19. Baker, T. 1996. Habitat: a landscape architecture perspective. In: Evink, G., D. Ziegler, 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: 228-234.
20. Ballon, P. 1908. Statement on preparatory techniques undertaken in rance to reduce the impact of highway construction on game ungulates. Transactions of the Congress of the International Union of Game Biologists. 17: 679-689.
21. Barragan, F. 1992. Provisional report of the mortality of vertebrates on the roads of Barcelona province, September 1991. In: Lopez, R. ed. I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras, Madrid, 5 y 6 de Octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. Ambiental, Madrid: Coordinatdora de Organizaciones de Defensa. 101-109.
22. Bart, J., and M. Peterjohn. 1995. reliability if the breeding bird survey – effects of restricting surveys to roads. Auk: 758-761.
23. Beauchamp, D. E. 1970. Big gme investigations: big game mortlaity studies. California Department of Fish and Game, Sacramento, CA. W-051-R-15 / WK.PL.01 / JOB 03. 6 p.
24. Becker, D., A. Soukkala, and D. Lipscomb. 1993. Wildlife and wildlife habitat impact issues and mitigation options for reconstruction of U.S. Highway 93 on the Flathead Indian Reservation. Confederated Salish and Kootenai Tribal Wildlife Program. Pablo, MT. 12 p.
25. Becker, D. M., A. M. Soukkala, and D. J. Lipscomb. 1993. Evaro corridor wildlife use study and mitigation reccomendations. U.S. Highway 93 project. Confederated Salish and Kootenai Tribal Wildlife Program. Pablo, MT. 24 p.
26. Becker, D. M. 1996. Wildlife and Wildlife Habitat Impact Issues and Mitigation Options for Reconstruction of U. S. Highway 93 on the Flathead Indian Reservation, Montana. Transportation and Wildlife: Reducing Wildlife Mortality and Improving Wildlife Passageways Across Transportation Corridors. Orlando, FL, April 30-May 2, 1996. Florida Department of transportation: Tallahassee, FL. pp. 85-100.

27. Beier, P., and S. Loe. 1996. A checklist for evaluating impacts to wildlife movement corridors. *Wildlife Society Bulletin*. 20: 434-440.
28. Bekker, G. J. 1998. Habitat fragmentation and infrastructure in the Netherlands and Europe. In: Evink, G., P. Garrett, D. Zeigler, and J. Berry, eds. *Proceedings of the international conference on wildlife ecology and transportation*. February 10-12, 1998; Ft. Meyers, FL., Tallahassee FL. Florida Department of Transportation. 151-165
29. Bennett, A. F. 1990. *Habitat corridors: their roles in wildlife management and conservation*. Victoria, Australia: Department of Conservation and Environment. 37 pp.
30. Bennett, A.F. 1991. Roads, roadsides and wildlife conservation. Pp. 99-118 In: *Nature Conservation 2*. 2nd ed. (Eds: Saunders, DA; Hobbs, RJ) Surrey Beatty & Sons Ltd, Melbourne, Australia.
31. Berry, K. H. 1980. A review of the effects of off-road vehicles on birds and other vertebrates. U.S. Department of Agriculture, Forest Service, General Technical Report INT-86. Ogden, UT. 467 p.
32. Bertch, B. 1991. Monitoring program mitigation measures: Trans Canada Highway twinning: Summary Report. Parks Canada, Banff National Park Warden Service, Banff Alberta. 29 p.
33. Bonar, R.L. 1987. Coquihalla phase 11: Merritt-Kamloops highway extension wildlife impact study. 2nd year report. Unpublished Report. Alces Wildlife Research, Kamloops, British Columbia.
34. Bonds, B. 1996. Yellowstone to Cody reconstruction project. In: Evink, D. Ziegler, 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: 108-115.
35. Bowles, A.E. 1995. Responses of wildlife to noise. Pp. 109-156, In: *Wildlife and recreationists: coexistence through management and research*. (Eds: Knight, R.L; Gutzwiller, K.J.) Island Press, Covelo, California.
36. Boyle, S. A., and F. B. Samson. 1985. Effects of nonconsumptive recreation on wildlife: a review. *Wildlife Society Bulletin*. 13: 110-116.

37. Brattstrom, B. H., and M. C. Bondello. 1983. Effects of off-road vehicle noise on desert vertebrates. In: Webb, R. H., and H. H. Wilshire eds. Environmental effects of off-road vehicles: impact and management in arid regions. New York: Springer-Verlag: 167-206.
38. Brocke, R. H., J. P. O'Pezio, and K. A. Gustafson. 1990. A forest management scheme mitigating impact of road networks on sensitive wildlife species. Is forest fragmentation a management issue in the northeast? GTR-NE-140. U.S. Department of Agriculture, Forest Service, Northeastern Station, Radnor, PA. 13-17.
39. Brown, D., et al. 2000. Methods Used by Arizona Department of Transportation to Reduce Wildlife Mortality and Improve Highway Safety. Pp. 175-177 In: Proceedings of the Third International Conference on Wildlife Ecology and Transportation. Tallahassee, Florida. Florida Department of Transportation.
40. Browne, B. 1984. Work plan for wildlife study along the Bow valley from Sunshine turn-off to Castle Junction: Trans Canada Highway twinning Phase III. Parks Canada, Warden Service, Banff National Park, Banff, Alberta. 17 p.
41. Browne, B., and J. Wackerle. 1985. Monitoring program. Mitigative measures: Trans Canada Highway Twinning, Phase I: Kilometer 0 – 11.4. Second progress report. Parks Canada, Warden Service, Banff National Park, Banff, Alberta. 56 p.
42. Browne, B. 1986. Monitoring program. Mitigative measures: Trans Canada Highway twinning. Phase I: Kilometer 0-11.4. Third progress report. Parks Canada, Warden Service, Banff National Park, Banff, Alberta. 49 p.
43. Browne, B., B. Bertch. and K. Everts. 1988. The requirement for wildlife mitigation measures for the proposed improvements to the Trans Canada Highway: Sunshine Road to the Icefields Parkway (Km 26 to 75). Parks Canada, Warden Service, Banff National Park, Banff, Alberta. [pages unknown].
44. Bunyan, R. 1989. Monitoring program: mitigative measures. Trans Canada Highway twinning, Phase II: Km 11.4-27.0. First Progress Report. Parks Canada, Warden Service, Banff National Park, Banff, Alberta. 57 p.
45. Bunyan, R. 1990. Monitoring program: mitigative measures. Trans Canada Highway twinning, Phase II: Km 11.4-27.0. First Progress Report. Parks Canada, Warden Service, Banff National Park, Banff, Alberta. 52 p.

46. Burke, R. C., and J. A. Sherborne. 1982. Monitoring wildlife populations and activity along I-95 in northern Maine before and after construction. *Transportation Research record*. 859: 1-8.
47. Caletrio, G. J. 1992. Provisional report of the mortality of vertebrates on the roads of Barcelona province, Spetember 1991. In: Lopez, R. ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. *Ambiental*, Madrid: Coordinatdora de Organizaciones de Defensa [Pages unknown].
48. Caletrio, J., J. M. Fenedez, J. Lopez, and F. Roviralta. 1996. Spanish national inventory on road mortality of vertebrates. *Global Biodiversity*. 5: 15-18.
49. Canelas, L. D. 1989. First environmental impact assessment of a highway in Portugal: repercussions of European econmic community directive. *Environmental Impact Assessment Review*. 9: 391-397.
50. Canter, L. W., J. M. Robertson, and R. M. Westcott. 1991. Identification and evaluation of biological impact mitigation measures. *Journal of Environmental Management*. 33: 33-50.
51. Canters, K. 1997. *Habitat fragmentation and infrastructure-proceedings of the international conference on habitat fragmentation, infrastructure and the role of ecological engineering*. Ministry of Transport, Public Works and Water Management. Deft and the Hague, The Netherlands. 474 p.
52. Carr, M. H, P. D. Zwick, T. Hocter, W. Harrell, A. Goethals, and M. Benedict. 1998. using GIS for identifying the interface between ecological greenways and roadway systems at the tate and sub-state scales. In: Evink, G., P. Garrett, D. Zeigler, and J. Berry, eds. *Proceedings of the international conference on wildlife ecology and transportation*. February 10-12, 1998; Ft. Meyers, FL., Tallahassee FL. Florida Department of Transportation. 151-165.
53. Carver, G. 1989. *An evaluation of linar wildlife openings*. Alabama Game and Fish Division. AL W-035-33 / Job A and B / Study IV. Mobile, AL. [pages unknown].
54. Case, R. M., and J. A. Gleim. 1976. Road-killed animals on interstate-80 in Nebraska. *Proceedings of the Nebraska Academy of Science*. 86: 9-10.
55. Case, R.M. 1978. Interstate highway road-killed animals: a data source for biologists. *Wildlife Society Bulletin*. 6:8-13.

56. Channing, C. H. 1958. Highway casualties of birds and animals for one year period. *Murrett*. 39: 41-42.
57. Clapers, A. 1992. Mortalities and live crossings by animals on the roads of Moianes (December 1990 – August 1991). In: Lopez, R. ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. *Ambiental*, Madrid: Coordinatdora de Organizaciones de Defensa [Pages unknown].
58. Clayton Resources Ltd., and Glen Smith Wildlife Consultants. 1989. Wildlife fencing and control on the Okanagan connector highway - A benefit cost analysis. Report for B.C. Ministry of Transportation and Highways.
59. Clergeau, P. 1993. Use of landscape ecology concepts for the development of a new type of wildlife passage. *Gibier Faune Sauvage*. 10: 47-57.
60. Clevenger, A.P. 1996. A monitoring plan for wildlife crossing structure use along the Trans-Canada highway. Report prepared for Parks Canada, Banff, Alta. 15pp.
61. Clevenger, A.P. 1996. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 1 (December 1997). Report prepared for Parks Canada, Banff, Alta. 16pp.
62. Clevenger, A.P. 1997. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 3 (November 1997). Report prepared for Parks Canada, Banff, Alta. 45pp.
63. Clevenger, A.P. 1997. Wildlife underpass use by ungulates and large carnivores along twinned sections of the Trans-Canada Highway in Banff National Park, 1995-1997. Unpublished report to Alberta Environmental Protection, Natural Resources Service, Canmore, Alberta.
64. Clevenger, A.P. 1997. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 2 (June 1997). Report prepared for Parks Canada, Banff, Alta. 22pp.
65. Clevenger, A. P., and K. Wells. 1997. Proceedings of the second roads, rails and environment workshop. April 9-10, 1997, Revelstoke British Columbia. Parks Canada, Banff National Park, Alberta, and Columbia Mountains Institute of Applied Ecology, Revelstoke, British Columbia. 101 p.
66. Clevenger, A. P. 1998. Permeability of the Trans-Canada Highway to wildlife in Banff National Park: importance of crossing structures and factors

- influencing their effectiveness. In: Evink, G., P. Garrett, D. Zeigler, and J. Berry, eds. Proceedings of the international conference on wildlife ecology and transportation. February 10-12, 1998; Ft. Meyers, FL., Tallahassee FL. Florida Department of Transportation. 109-119.
67. Clevenger, A. P. 1998. Effects of highway and other linear developments on highway populations: a literature collection. Prepared in the Papyrus™ 7.0 bibliography system. March 1998. Banff National Park, Alberta. 101 p.
68. Clevenger, A.P. 1998. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 4 (November 1998). Report prepared for Parks Canada, Banff, Alta. 47pp.
69. Clevenger, A.P. 1999. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 5 (November 1999). Report prepared for Parks Canada, Banff, Alta. 41 pp.
70. Clevenger, A.P. & N. Waltho. 2000. Factors influencing the effectiveness of wildlife underpasses in Banff National Park, Alberta, Canada. *Conservation Biology* 14:47-56.
71. Clevenger, A.P. 2001. Highway effects on wildlife : a research, monitoring and adaptive mitigation study. Progress Rept. 6 (April 2001). Report prepared for Parks Canada, Banff, Alta. 41 pp.
72. Clevenger, A.P., B. Chruszcz, & K. Gunson. 2001. Highway mitigation fencing reduces wildlife-vehicle collisions. *Wildlife Society Bulletin* 29:646-653.
73. Clevenger, A.P., Chruszcz, B., Gunson, K., and Wierzchowski, J. 2002. Roads and wildlife in the Canadian Rocky Mountain Parks - Movements, mortality and mitigation. Final Report (April 2002). Report prepared for Parks Canada, Banff, Alta.
74. Colorado Division of Wildlife. 1980. Wildlife research report. Part one. Denver CO. State of Colorado, Division of Wildlife. 178 pp.
75. Cooper, M.A. 1991. Too many users: the tragedy of the commons in rural roadsides. Pp. 363-369, In: *Nature Conservation 2: The Role of Corridors*. 2nd ed. (Eds: Saunders, A; Hobbs, R.J.) Surrey Beatty & Sons Pty Limited, Australia, 363-369.
76. Conover, M. R., W. C. Pitt, K.K. Kessler, and others. 1995. Review of human injuries, illnesses, and economic losses caused by wildlife in the United States. *Wildlife Society Bulletin*. 23: 407-414.

77. Convisser, M. 1979. Mitigation if transportation impacts. In: Swanson, G. A. Ed. The mitigation symposium: a national workshop on mitigation losses of fish and wildlife habitat. July 16-20, 1979, Fort Collins CO. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. General technical Report RM-65: 71-74.
78. Cook, K. E., and P. M. Daggett 1995. Highway roadkill, safety, and associated issues of safety and impact on highway ecotones. [Location of publication unknown]: Task Force on Natural Resources (A1F52), Transportation Research Board, National Research Council. 25 pp.
79. Cristoffer, C. 1991. Road mortalities of northern Florida vertebrates. *Florida Science*. 54: 65-68.
80. Damas, 1982. Wildlife mortality in transportation corridors in Canada's national parks: Impact and mitigation. Parks Canada, Ottawa, Ontario Canada. Volume 1, Main report. Unpublished, Damas & Smith [Pages unknown].
81. Darnell, R. M. et al. 1976. Impacts of construction activities in wetlands of the United States. U.S. Environmental Protection Agency, Ecological Research series EPA-600/3-76-045, 396 pp.
82. Darrall, N. M. 1987. Environmental concerns in right-of-way management in Europe. In: Byrnes, W. R., and H. A. Holt. Eds. Proceedings of the fourth symposium on environmental concerns in right-of-way management. 587-591.
83. Dau, J. R., and R. D. Cameron. 1986. Effects of a road system on caribou distribution during calving. *Rangifer* (special issue) (1): 95-101.
84. Davis, A. E. 1975. Death on the highway. *British Columbia Outdoors*. February: 29-31.
85. Davis. H. 1934. The automobile as a destroyer of life. *Science* (79): 504-505.
86. Davis, P. B., and C. R. Humphreys. 1977. Ecological effects of highway construction upon Michigan woodlots and wetlands. Summary of study findings phase 1 report. East Lansing, Michigan State University, Agricultural Experiment Station. FHWA / MI-77797417. 72 p.
87. Davison, A. W. 1971. The effects of de-icing salt on roadside verges. *Journal of Applied Ecology*. 8: 555-561.
88. Dawson, B. L. 1991. South African road reserves: valuable conservation areas? In: Saunders, D. A., and R. J. Hobbs, Eds. *Nature conservation 2: the role*

- of corridors. Chipping Norton, Australia: Surrey Beatty and Sons: 119-130.
89. de-la-Cruz-Alaman, M. A. 1992 Provisional report of the mortality of vertebrates on the roads of Barcelona province, September 1991. In: Lopez, R. Ed. *I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras*, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. Ambiental, Madrid: Coordinatdora de Organizaciones de Defensa [Pages unknown].
90. DeSanto, D. R., and D. G. Smith. 1993. An introduction to issues of habitat fragmentation relative to transportation corridors with special reference to high speed rail. *Environmental Management*. 17: 111-114.
91. DesJardins, C. R. 1979. Ecological mitigation: a viable option in the Federal-Aid Highway Program. U.S. Department of Agriculture, Forest Service, General Technical Report GTR-RM-65. Rocky Mountain and Experiment Station. Fort Collins, CO. 565 p.
92. Dickerson, L.M. 1939. The problem of wildlife destruction by automobile traffic. *Journal of Wildlife Management*. 3:104-116.
93. Dillon, Ltd. 1993. Literature review of wildlife/vehicle collisions and highway 24 deer/vehicle accident analysis. Ministry of Transportation. Ontario, Canada [pages unknown].
94. Disney, H. J. A note on road kills. *Corella*. 2(5): 89-90.
95. Doak, D. F., P. C. Mario, and P. M. Kreiva. 1992. Spatial scale mediates the influence of habitat fragmentation on dispersal success: implications for conservation. *Theoretical Population Biology*. 41: 315-336.
96. Dodds, P. J., and M. Maurer. 1996. Wildlife habitat evaluation / upland mitigation: the PennDOT perspective. In: Evink, D. Ziegler, 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: 235-259.
97. Dreyer, W.A. 1935. The question of wildlife destruction by the automobile. *Science* (82): 439-440.

98. Edwards, R.W., and F. M. Slater. 1981 Impact of road deaths on wildlife conservation. *Nat Wales*. 17: 153-156.
99. Environmental Resources, M. 1996. The significance of secondary effects from roads and road transport on nature conservation. *English Nature research Report*. No. 178.
100. Erickson, P. A., G. Camougis, and E. J. Robbins. 1978. Highways and ecology: impact assessment and mitigation. New England Research Inc., Federal Highway Administration, Office of the Environmental Policy, Washington DC. FHWA/RWE/OEP78/2. 199p.
101. Evenda, F. G. 1971. Animal road kills. *Atlantic Naturalist*. 26: 36-37.
102. Evink, G.L. 1996. Florida Department of Transportation initiatives related to wildlife mortality. Report from Environmental Management Office
103. Evink, G., D. Ziegler, P. Garrett, and J. Berry. 1996. 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. Orlando, Florida.
104. Evink, G. 1998. Ecological highways. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. Pp: 253-257.
105. Evink, G. 1998. 1998 international conference: wildlife ecology and transportation. Wrap-up session: recommendations for the future. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 258-259
106. Fearnside, P. M., and G. de Lima Ferreira. 1984. Roads in Rondonia: highway construction and the farce of unprotected reserves in Brazil's Amazonian forest. *Environmental Conservation*. 11(4): 358-360.
107. Fehlberg, U. 1994. Ecological barrier effects of motorways on mammalian wildlife: an animal protection problem. *Deutsche Tierärztliche Wochenschrift*. 101(3) 125-129.
108. Findlay, C. S. and J. Houlahan. 2000. Response time of wetland biodiversity to road construction on adjacent lands. *Conservation Biology*. 14: 86-94.

109. Flaa, J. 1989. Trans-Canada Highway: phase IIIB wildlife study. Warden Service, Banff National Park, Banff, Alberta. 45 p.
110. Florida Department of Transportation. 1992. Report on the animal crossing study. Florida Department of Transportation, Environmental Management Office. Tallahassee FL.
111. Flygare, H. 1977. Wildlife Mortality Study, Trans Canada Highway. Progress Report. Warden Service, Parks Canada. Banff National Park, Banff, Alberta.
112. Flygare, H. 1978. Section E: Trans-Canada Highway wildlife crossings. Progress Report. Warden Service, Parks Canada Banff National Park, Banff, Alberta.
113. Flygare, H. 1978. Section B: Trans-Canada Highway east gate to Banff / Yoho boundary, 1964-1977. Warden Service, Parks Canada Banff National Park, Banff, Alberta.
114. Flygare, H. 1978. Wildlife mortality statistics, Sections A and F. Warden Service, Parks Canada, Banff National Park, Banff, Alberta.
115. Flygare, H. 1978. Wildlife mortality statistics. Warden Service, Parks Canada, Banff National Park, Banff, Alberta.
116. Flygare, H. 1979. Section F: highway-wildlife relationships: an annotated bibliography. Warden Service, Parks Canada Banff National Park, Banff, Alberta.
117. Forbes, B.C. 1992. Tundra disturbance studies, I: long-term effects of vehicles on species richness and biomass. *Environmental Conservation*. 19(1): 48-58.
118. Forman, R. T. 1991. Landscape corridors: from theoretical foundations to public policy. In: Saunders, D. A., and R. J. Hobbs. Eds. *Nature conservation 2: the role of corridors*. Chipping Norton, Australia. Surrey Beatty and Sons. Pp: 71-84.
119. Forman, R.T.T. 1995. *Land mosaics: the ecology of landscapes and regions*. Cambridge, MA: Cambridge University Press. 632 pp.
120. Forman, R.T.T. 1998. Road ecology: a solution for the giant embracing us. *Landscape Ecology*. 13: iii-v.
121. Forman, R. T. T. 2000. Estimate of the Area Affected Ecologically by the Road System in the United States. *Conservation Biology* 14: 31-35.

122. Forman, R.T.T. and L.E. Alexander. 1998. Roads and their major ecological effects. *Annual Review Ecological Systems* 29: 207-231.
123. Forman, R. T., and S. K. Collinge. 1996. The spatial solution to conserving in landscapes and regions. In: DeGraff, R. M., and R. I. Miller, eds. *Conservation of faunal diversity in forested landscapes*. Chapman and Hall, London. Pp. 537-568
124. Forman, R.T.T., and A.M. Hersperger. 1996. Road ecology and road density in different landscapes, with international planning and mitigation solutions. 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: 287-296.
125. Forman, R. T. T. and R. D. Deblinger. 1998. The ecological road-effect zone for transportation planning and Massachusetts highway example. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. *Proceedings of the International Conference on Wildlife Ecology and Transportation*. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 97-103.
126. Forman, R. T. T. and R. D. Deblinger. 2000. The Ecological Road-Effect Zone of a Massachusetts (U.S.A.) Suburban Highway. *Conservation Biology*. 14: 36-46.
127. Forman, R.T.T., Bissonette, J., Clevenger, A., Cutshall, C., Dale, V., Fahrig, L., Goldman, C., Heanue, K., Jones, J., Sperling, D., Swanson, F., Turrentine, T. & Winter, T. 2002. *Road ecology: Science and Solutions*. Island Press.
128. Foster, M.L., and S.R. Humphrey. 1992. Effectiveness of wildlife crossings in reducing animal/auto collisions on interstate 75, Big Cypress Swamp, Florida. *Environmental Research bulletin FL-ER-50-92*. Florida Game and Freshwater Fish Commission. Tallahassee, Florida. 124 pp.
129. Fraser, D. 1979. Sightings of moose, deer, and bears on roads in northern Ontario. *Wildlife Society Bulletin*. 7: 181-184.
130. Frederick, G. P. 1991. Effects of forest roads on grizzly bears, elk and gray wolves: a literature review. U.S. Department of Agriculture, Forest Service, Kootenai National Forest, Libby, MT. 54 p.

131. Gilbert, M. 1998. the Australian partnership approach to protecting roadside habitats. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 189-194.
132. Gilbert, T. 1998. Technical assistance and agency coordination on wildlife habitat conservation issues associated with highway projects in Florida. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 209-213.
133. Gill, J. A., W. J. Sutherland, and A. R. Watkinson. 1996. A method to quantify the effects of human disturbance on animal populations. *Journal of Applied Ecology*. 33(4): 786-792.
134. Gleim, J.A., and R.M. Case. 1976. Effect of vegetation on road killed wildlife on interstate-80 Nebraska, USA. *Proc. Nebr. Acad. Sci. Affil. Soc.* 86: 16-17.
135. Goosem, M. 1993. Critters, cars, carnage, connectivity and culverts. Repercussions of rainforest roads. *North Queensland Naturalist*. 95: 24-28.
136. Goransson, G., and J. Karlsson. 1979. Changes in population densities as monitored by animals killed on roads. *Naturvardsverket Rapport*. 120-125.
137. Green, J.E., M. Raine, J. Jorgenson, A. Clevenger, and T. Hurd. 1997. The mid-point interchange project: assessment of the proposed modifications to the Stewart Creek Primary Wildlife Movement Corridor and recommendations for mitigation. Unpubl. rept. Prepared for the Mid-Point Interchange committee.
138. Gunther, K., M. J. Beil, and H. L. Robinson. 1998. Factors influencing the frequency of road-killed wildlife in Yellowstone National Park. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 189-194.
139. Hamer, M. 1994. Carcass count reveals rising death toll on the roads. *New Scientist*. 141: 8-13.
140. Hamer, M. 1994. Cameras keep the death off the roads. *New Scientist*. 142: 9-14.

141. Harrison, G., R. Hooper, and P. Jacobsen. 1980. Trans-Canada Highway wildlife mitigation measures, Banff National Park (east gate to Banff traffic circle). Parks Canada, Western region, Banff, Alberta.
142. Haugen, A.O. 1944. Highway mortality of wildlife in southern Michigan. *Journal of Mammalogy*. 25: 177-184.
143. Herbstritt, R.L., and A.D. Marble. 1996. Current state of biodiversity impact analysis in state transportation agencies. *Transport. Res. Rec.* 1559:51-63.
144. Hobbs, R. J., B. M. Hussey, and D. A. Saunders. 1990. Nature conservation: the role of corridors. *Bulletin of the Ecological Society of America*. 1(1): 48-49.
145. Hodson, N. L. 1966. A survey of road mortality in mammals (and including data for the grass snake and common frog). *Journal of Zoology*. 148: 576-579.
146. Horbeck, G. E. 1990. Wildlife mitigation on Highway 40 for the XV (1988) Olympic winter games. Alberta Fish and Wildlife, Edmonton, Alberta. Unpublished report.
147. Hubbs, A. H. and R. Boonstra. 1995. Study design to assess the effects of highway median barriers on wildlife. Downsview, Ontario: Research and Development Branch, Ministry of Transportation; MAT-94-03. 49 pp.
148. Huey, L. M. 1941. Mammalian invasion along the highway. *Journal of Mammalogy*. 22: 383-385.
149. Hunt, A., H. J. Dickens, and R. J. Whelan. 1987. Movement of mammals through tunnels under railway lines. *Australian Zoologist*. 24(2): 89-93.
150. Jackson, J. A. 1979. Highways and wildlife: some challenges and opportunities for management. In: Swanson, G. A. ed. *The mitigation symposium: a national workshop on mitigation lossess of fish and wildlife habitat*. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. General Technical Report RM-65. July 16-20, 1979, Fort Collins, CO. Pp 566-571.
151. Jackson, S. D., and C. R. Griffin. 1998. Toward a pratical strategy for mitigating highway impacts on wildlife. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. *Proceedings of the International Conference on Wildlife Ecology and Transportation*. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 97-103

152. Jalkotzky, M. G., I. P. Ross, and M. D. Nasserden. 1997. The effects of linear developments on wildlife: a review of selected scientific literature. Calgary, Alberta. Canadian Association of Petroleum Producers. 115 pp.
153. Johnson, C. J. 1995. Method for estimating the dollar value of lost wildlife diversity and abundance resulting from wildlife-road vehicle collisions. Ministry of Transportation and Highways, Planning Services Branch. Victoria, British Columbia.
154. Joselyn, G. B. 1969. Wildlife: essential consideration determining future highway roadside maintenance policy. Highway Research Record. 28: 1-14.
155. Keller, V. and Pfister, H.P. 1997. Wildlife passages as a means of mitigating effects of habitat fragmentation by roads and railway lines. Pp. 70-80, in: Canters, K. (Ed.), Proceedings of the international conference on habitat fragmentation, infrastructure and the role of ecological engineering. Ministry of Transportation, Public Works and Water Management, Delft, The Netherlands.
156. Klenavic, J. S. 1979. Banff highway project: east gate to Km 13. Federal Environmental Assessment Review Office.
157. Kline, N. C., and D. E. Swann. 1998. Quantifying wildlife road mortality in Saguaro National Park. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 97-103.
158. Knoblach, W. 1939. Death on the highway. Journal of Mammalogy. 20: 508-509.
159. Koehne, J. L. 1991. Wildlife-related traffic accidents: a comparison of existing and proposed mitigation measures. Seattle, WA: University of Washington. 39 pp.
160. Kuennen, T. 1989. New Jersey's I-78 preserves mountain habitat. Roads and Bridges. February: 69-73.
161. Little, S. J., R. G., Harcourt, & A. P. Clevenger. 2002. Do wildlife passages act as prey-traps? Biological Conservation. 107:135-145.
162. Leedy, D. L. 1975. Highway-wildlife relationships, Vol. 1. A state of art report. Washington, DC: U.S. Department of Transportation, Federal Highway Administration; FHWA-RD-76-4. 183 pp.

163. Leedy, D. L. Highway-wildlife relationships, Vol. 2. An annotated bibliography. Washington, DC: U.S. Department of Transportation, Federal Highway Administration; FHWA-RD-76-5. 417 pp.
164. Leeson, B. 1996. Highway conflicts and resolutions in Banff National Park, Alberta. 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-6-041. Washington, DC; U.S. Department of Transportation, Federal Highway Administration: 80-84.
165. Lindenmayer, D. B., R. B. Cunningham, C. F. Donnelly, and others. 1994. Factors influencing the occurrence of mammals in retained linear strips (wildlife corridors) and contiguous stands of montane ash forest in the central highlands of Victoria, southeastern Australia. *Forest Ecology and Management*. 67(1-3): 113-133.
166. Jenkins, K. 1996. Texas Department of Transportation wildlife activities. In: Evink, D. Ziegler, 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: 174-204.
167. Little, C. E. 1990. *Greenways for America*. Baltimore, MD. John Hopkins University Pres. 228 pp.
168. Mader, H. J. 1984. Animal habitat isolation by roads and agricultural fields. *Biological Conservation* 29:81-96.
169. Maine Cooperative Wildlife Research Unit. 1983. Wildlife populations utilizing right-of-way habitats along Interstate 95 in northern Maine – final report. Bangor, ME: Maine Department of Transportation, Materials and Research Division, Maine Cooperative Wildlife research Unit; FHWA-ME-TP-83 / 5. 34 pp.
170. Marzluff, J. M. 1997. Effects of urbanization and recreation on songbirds. In: Block, W. M., and D. M. Finch. Eds. Songbird ecology in southwestern ponderosa pine forests: a literature review. Gen. Tech. Rep. RM-GTR-292. Fort Collins, CO. US Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station: 89-102.

171. McGuire, T.M., and J.F. Morrall. 2000. Strategic highway improvements to minimize environmental impacts within the Canadian Rocky Mountain National Parks. *Canadian Journal of Civil Engineering*. 27: 523-532.
172. Nelson, G. C., and D. Hellerstein. 1997. Do roads cause deforestation: using satellite images in economic analysis of land use. *American Journal of Agricultural Economics*. 79(1): 80-88.
173. Pederson, R.C. 1982. Post-construction Study of the Shakwak Highway Environmental Assessment Review. Ph.D. Thesis, Faculty of Environmental Design, University of Calgary, Calgary.
174. Perry, C. and R. Overly. 1976. Impact of roads on big game distribution in portions of the Blue Mountains of Washington. Pages 62-72, in S. R. Hieb, ed. Elk-logging-roads symposium proceedings. Forest, Wildl. And Range Exp. Stn. Univ. of Idaho. Puchlerz, T., and C. Servheen. 1994. Grizzly bear/motorized access management. Interagency Grizzly Bear Committee Taskforce Report, July 1994. 7pp.
175. Pfister, H., and V. Keller. 1995. Roads and wildlife: are greener bridges a solution? *Bauen*. 1: 26-30.
176. Reed, R.A., J. Johnson-Barnard, and W.L. Baker. 1996. Contribution of roads to forest fragmentation in the Rocky Mountains. *Conservation Biology*. 10: 1098-1106.
177. Rodriguez, A., G. Crema, and M. Delibes. 1996. Use of non-wildlife passages across a high speed railway by terrestrial vertebrates. *Journal of Applied Ecology*. 33(6): 1527-1540.
178. Roof, J., and J. Wooding. 1996. Evaluation of the S. R. 46 wildlife crossing in Lake County, Florida. In: Evink, D. Ziegler, 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: 287-296.
179. Sanderson, K. 1983. Wildlife roadkills and potential Mitigation in Alberta. ECA 83-ST/I. Edmonton: Environment Council of Alberta. 10 pp.

180. Saunders, D. A., R. J. Hobbs, and C. R. Margules. 1991. Biological consequences of ecosystem fragmentation: a review. *Conservation Biology*. 5: 18-32.
181. Scalon, P. F., and M. M. Susan. 1980. Approaches by states to educating drivers about wildlife hazards on roads. *Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies*. 33: 765-766.
182. Seibert, H. C., and J. H. Conover. 1991. Mortality of vertebrates and invertebrates on an Athens County, Ohio, highway. *Ohio Journal of Science*. 91: 163-166.
183. Shury, T. 1996. A summary of wildlife mortality in Banff National Park, 1981-1995. Final report submitted to the Warden Service, Banff National Park, Alberta. 29 pp.
184. Singleton, P. S. and J. F. Lehmkuhl. (in press). A Bibliography of Wildlife-Road Interactions. Gen. Tech. Rep. PNW-GTR-xxx. Pacific Northwest Research Station, Portland, Oregon. xxxp. [refereed]
185. Stevenson, J. A. 1996. Florida's ecosystem management and wildlife. In: Evink, G., D. Ziegler, 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: 273-277.*
186. Stone, G. 1992. Roadside management within vic roads: an overview. *Victorian Naturalist*. 109(4): 111-115.
187. Thomas, J. W. ed. 1979. *Wildlife habitats in managed forests: the Blue Mountains of Oregon and Washington. Agricultural Handbook. 533. Washington, DC. U.S. Department of Agriculture, Forest Service. 512 pp.*
188. Trombulak, S. C. and C. A. Frissell. 2000. Review of the Ecological Effects of Roads on Terrestrial and Aquatic Communities. *Conservation Biology* 14: 18-30.
189. Verboom, J., J. A. Metz, and E. Meelis. 1993. Metapopulation models for impact assessment of fragmentation. In: Vos, C. C., and P. Opdam. Eds. *Landscape ecology of a stressed environment. London: Chapman and Hall. 172-189.*

190. Way, J. M. 1970. Roads and the conservation of wildlife. *Journal of the Institute of Highway Engineers*. July. 5-11.
191. Way, J. M. 1977. Roadside verges and conservation in Britain: a review. *Biological Conservation*. 12: 65-74.
192. Woods, J., and R. H. Munro. 1996. Roads, rails and the environment: wildlife at the intersection in Canada's western mountains. In: Evink, G., D. Ziegler, 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: 39-45.
193. Yanes, M., J.M. Velasco, and F. Suarez. 1995. Permeability of roads and railways to vertebrates: the importance of culverts. *Biological Conservation* 71:217-222.
194. Yanes, M. and F. Suarz. 1995. Vertebrate crossing through culverts and under roads and railways. *Quercus*. 12: 31-33.

Large Carnivores

1. Apps, C. 1997. Identification of grizzly bear linkage zones along the Highway 3 corridor of southeast British Columbia and southwest Alberta. Report for BC Ministry of Environment, Lands and Parks and WWF-Canada. Aspen Wildlife Research. 45 p.
2. Archibald, W.R., R. Ellis, and A.N. Hamilton. 1987. Responses of grizzly bears to logging truck traffic in the Kimsquit River Valley, British Columbia. International Conference on Bear Research and Management. 7: 251-257.
3. Beier, P. 1993. Determining minimum habitat areas and habitat corridors for cougars. Conservation Biology. 7:95-108.
4. Beier, P. 1995 Dispersal of juvenile cougars in fragmented habitat. Journal of Wildlife Management. 59: 228-237.
5. Benn, B. 1998. Grizzly bear mortality in the Central Rockies Ecosystem. M.Sc. Thesis, Faculty of Environmental Design, University of Calgary, Calgary, Alberta.
6. Beringer, J. J. 1986. Habitat use in response by black bears in Harmon den, Pisgah National Forest, North Carolina. M.S. Thesis, University of Tennessee. Knoxville, TN. 103 p.
7. Beringer, J. J., G. Seibert, and M. R. Pelton. 1988. Incidence of road crossing by black bears on Pisgah National Forest, North Carolina. International Conference on Bear Research and Management. 8: 85-92.
8. Blanchard, B. M. 1978. Grizzly bear distribution in relation to habitat areas and recreational use: Cabin Creek-Hilgard Mountains. M.S. Thesis. Montana State University, Bozeman, Montana.
9. Boone, R.B., and M.L. Hunter. 1996. Using diffusion models to simulate the effects of land use on grizzly bear dispersal in the Rocky Mountains. Landscape Ecology. 11:51-64.
10. Brandenburg, D.M. 1996. Effects of roads on behavior and survival of black bears in coastal North Carolina. M.Sc. Thesis, University of Tennessee, Knoxville.95 p.
11. Brody, A.J., and M.R. Pelton. 1989. Effects of roads on black bear movements in western North Carolina. *Wildlife Society Bulletin*. 17:5-10.

12. Carr, P. C., and M. R. Pelton. 1984. Proximity of adult female black bears to limited access roads. *Proceedings of Annual Conference of the Southeastern Association of Fish and Wildlife Agencies*. 8: 70-77.
13. Carroll, C., R.F. Noss, and P.C. Paquet. 2001. Carnivores as focal species for conservation planning in the Rocky Mountain region. *Ecological Applications*. 11: 961-980.
14. Clark, J. D., J. E. Dunn, and K. G. Smith. 1993. A multivariate model of female black bear habitat use for a geographical information system. *Journal of Wildlife Management*. 57: 519-526.
15. Clevenger, A. P., F. J. Purroy, and M. A. Campos. 1997. Habitat assessment of a relict brown bear (*Ursus arctos*) population in northern Spain. *Biological Conservation*. 80: 17-22.
16. Clevenger, A.P., J. Wierzchowski, B. Chruszcz, & K. Gunson. 2002. GIS-generated expert based models for identifying wildlife habitat linkages and mitigation passage planning. *Conservation Biology*. 16:503-514.
17. Devos, A. 1949. Timber wolves killed by cars on Ontario highways. *Journal of Mammalogy* 30:.
18. Doak, D.F. 1995. Source-sink models and the problem of habitat degradation: general models and applications to the Yellowstone Grizzly. *Conservation Biology*. 9:1370-1379.
19. Foster, M.L. and S.R. Humphrey. 1995. Use of highway underpasses by Florida panthers and other wildlife. *Wildlife Society Bulletin*. 23:95-100.
20. Frkovic, A., R.L. Ruff, L. Cicnjak, and D. Huber. 1987. Brown bear mortality in Gorski kotar, Yugoslavia. *International Conference on Bear Research and Management*. 7:87-92.
21. Fuller, T.K. 1989. Population dynamics of wolves in north-central Minnesota. *Wildlife Monographs*. 105:1-41.
22. Gibeau, M.L., S. Herrero, J.L. Kansas, and B. Benn. 1996. Grizzly bear population and habitat status in Banff National Park. In: Green, J., C. Pacas, L. Cornwall, and S. Bayley, eds. *Ecological outlooks project. A cumulative effects assessment and futures outlook of the Bow Valley*. Prepared for the Banff Bow Valley Study. Ottawa, Ontario: Department of Canadian Heritage: 6-1. Chapter 6.
23. Gibeau, M. and K. Heuer. 1996. Effects of transportation corridors on large carnivores in the Bow River Valley, Alberta. 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: 67-79.
24. Gibeau, M. L., and S. Herrero. 1998. Roads, rails and grizzly bears in the Bow Valley, Alberta. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 104-108.
25. Gibeau, M. L., A. P. Clevenger, S. Herrero, & J. Wierzchowski. 2002. Grizzly bear response to human development and activities in the Bow River watershed, Alberta. *Biological Conservation*. 103:227-236.
26. Gilbert, T., and J. Wooding. 1996. An overview of black bear roadkills in Florida, 1976-1995. 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.
27. Gloyne, C.C. & A.P. Clevenger. 2001. Cougar use of wildlife crossing structures on the Trans-Canada highway in Banff National Park, Alberta. *Wildlife Biology*: 7:117-124.
28. Groebner, D. J., and L. R. William. 1988. Use of roads and circadian movements rates of a pair of wolves. *Journal of the Minnesota Academy of Science*. 53(3): 18-19.
29. Hellgren, E.C., M.R. Vaughan, and D.F. Stauffer. 1991. Macrohabitat use by black bears in a southeastern wetland. *Journal of Wildlife Management*. 55(3): 442-448.
30. Huber, D., J. Kusak, and A. Frkovik. 1998. Traffic kills of brown bears in Gorski kotar, Croatia. *International Conference on Bear Research and Management*. 10:000-000.
31. Interagency Grizzly Bear Committee (IGBC). 1994. Grizzly bear motorized access management task force report. U.S.D.A. Forest Service, Missoula, Montana.

32. Jensen, W. F., T. K. Fuller, and W. L. Robinson. 1986. Wolf (*Canis lupus*) distribution on the Ontario-Michigan border near Sault Ste. Marie. *Canadian Field-Naturalist*. 100: 363-366.
33. Kaczensky, P. 1995. Bears and highways in Slovenia. *International Bear News*. 4: 17-22
34. Kasworm, W. F. 1985. Cabinet Mountains grizzly bear study. 1984 Annual Progress Report. U.S. Fish and Wildlife Service, Helena, Montana.
35. Kasworm, W., and T. Manley. 1991. Road and Trail Influences on Grizzly Bears and Black Bears in Northwest Montana. *International Conference on Bear Research and Management*. 8:79-84.
36. Knight, R. 1980. Biological considerations in the delineation of critical habitat. *International Conference on Bear Research and Management*. 4:1-3.
37. Land, D., and M. Lotz. 1996. Wildlife crossing designs and use by Florida panthers and other wildlife in southwestern Florida. 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.*
38. Mace, R. D., and J. S. Waller. 1996. Grizzly bear distribution and human conflicts in Jewel Basin hiking area, Swan Mountains, Montana. *Wildlife Society Bulletin*. 24: 61-467.
39. Mace, R.D., J.S. Waller, T.L. Manley, L.J. Lyon, and H. Zuuring. 1996. Relationships among grizzly bears, roads, and habitats in the Swan Mountains, Montana. *Journal of Applied Ecology*. 33:1395-1404.
40. Mace, R.D., and J.S. Waller. 1998. Demography and population trend of grizzly bears in the Swan Mountains, Montana. *Conservation Biology*. 12:1005-1016.
41. Mace, R.D., J.S. Waller, T.L. Manley, K. Ake, and W.T. Wittinger. 1999. Landscape evaluation of grizzly bear habitat in northwestern Montana. *Conservation Biology*. 13:367-377.
42. Mattson, D. 1990. Human impacts on bear habitat use. *International Conference on Bear Research and Management*. 8:33-56.

43. Mattson, D.J. 1993. Use of road density standards for management of grizzly bear habitat. Interagency Grizzly Bear Team, Forest Sciences Lab, Montana State University, Bozeman.
44. Mattson, D.J., R. Knight, and B.M. Blanchard. 1987. The effects of development and primary roads on grizzly bears in Yellowstone. *International Conference on Bear Research and Management*. 7: 259-273.
45. Mattson, D. J., B. M. Blanchard, and R. R. Knight. 1992. Yellowstone grizzly bear mortality, human-habituation, and white-bark pine seed crops. *Journal of Wildlife Management*. 56: 432-442.
46. Mattson, D.J., S. Herrero, R.G. Wright, and C.M. Pease. 1996. Science and management of Rocky Mountain grizzly bears. *Conservation Biology*. 10:1013-1025.
47. McLellan, B. N. 1998. Maintaining viability of brown bears along the southern fringe of their distribution. *Ursus*. 10: 607-611.
48. McLellan, B.N., and R.D. Mace. 1985. Behavior of grizzly bears in response to roads, seismic activity, and people. Preliminary Report. Canadian Border Grizzly Project, Cranbrook, B.C.
49. McLellan, B.N., and D.M. Shackleton. 1988. Grizzly Bears and Resource Extraction Industries: Effects of Roads on Behaviour, Habitat Use and Demography. *Journal of Applied Ecology*. 25:451-460.
50. McLellan, B., and D.M. Shackleton. 1989. Immediate reactions of grizzly bears to human activities. *Wildlife Society Bulletin*. 17:269-274.
51. McLellan, B.N. and D.M. Shackleton. 1989. Grizzly bears and resource extraction industries: habitat displacement in response to seismic exploration, timber harvesting and road maintenance. *Journal of Applied Ecology*. 26:371-380.
52. McLellan, B.N., F. W. Hovey, R. D. Mace, J. G. Woods, D. W. Carney, M. L. Gibeau, W. L. Wakkinen, and W. F. Kasworm. 1999. Rates and causes of grizzly bear mortality in the interior mountains of British Columbia, Alberta, Montana, Washington, and Idaho. *Journal of Wildlife Management*. 63: 911-920.
53. Mech, L.D. 1977. Productivity, mortality, and population trends of wolves in northeastern Minnesota. *Journal of Mammalogy*. 58: 559-574.
54. Mech, L.D. 1989. Wolf population survival in an area of high road density. *American Midland Naturalist*. 121: 387-389.

55. Mech, L.D., S.H. Fritts, G.L. Radde, and W.D. Paul. 1988. Wolf distribution and road density in Minnesota. *Wildlife Society Bulletin*. 16:85-87.
56. Merrill, T., D. J. Mattson, G. Wright, H. Quigley. 1999. Defining landscapes suitable for restoration of grizzly bears, *Ursus arctos*. *Biological Conservation*. 87: 231-248.
57. Mueller, C. M. 2001. Distribution of subadult grizzly bears in relation to human development and human activity in the Bow River Watershed, Alberta. M.Sc. Thesis. Resources and the Environment Program, University of Calgary, Calgary, Alberta. 113 p.
58. Mietz, S. N. 1994. Linkage zone identification and evaluation of management options for grizzly bears in the Evaro Hill area. M.S. Thesis. University of Montana, Missoula. 91 pp.
59. Mladenoff, D.T., T.A. Sickley, R.G. Haight, and A.P. Wydeven. 1995. A regional landscape analysis and prediction of favorable gray wolf habitat in the Northern great lakes region. *Conservation Biology*. 9:279-294.
60. Noss, R. F., H. B. Quigley, M. G. Hornocker, T. Merrill, and P. C. Paquet. 1996. Conservation biology and carnivore conservation in the Rocky Mountains. *Conservation Biology*. 10: 949-963.
61. Paquet, P. C. 1993. Summary reference document: ecological studies of recolonizing wolves in the Central Canadian Rocky mountains: Final report, April to June 1993. John/Paul and Associates. 219 pp.
62. Paquet, P. C. and A. Hackman. 1995. Large carnivore conservation in the Rocky Mountains: a long-term strategy for maintaining free-ranging and self-sustaining populations of carnivores. Toronto, Ontario: World Wildlife Fund, Canada. 53 pp.
63. Paquet, P. C., and C. Callaghan. 1996. Effects of linear developments on winter movements of gray wolves in the Bow River Valley of Banff National Park, Alberta. In: Evink, G., D. Ziegler, 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: 46-66.*
64. Paquet, P. C., J. Wierchowski, and C. Callaghan. 1996. Effects of human activity on gray wolves in the Bow River Valley, Banff National Park, Alberta.

- Chapter 7 in: Green, J. C., C. Pacas, S. Bayley and L. Cornell (ed.). A Cumulative Effects Assessment and Future Outlook for the Banff-Bow Valley. Prepared for the Banff Bow Valley Study, Department of Canadian Heritage, Ottawa, ON.
65. Pease, C. M., and D. J. Mattson. Demography of the Yellowstone grizzly bear. *Ecology*. 80: 957-975.
66. Peek, J., M. Pelton, H. Picton, J. Schoen, and P. Zager. 1987. Grizzly bear conservation and management: a review. *Wildlife Society Bulletin*. 15: 160-169.
67. Picton, H. D. 1986. A possible link between Yellowstone and Glacier grizzly bear populations. *International Conference on Bear Research and Management* 6: 7-10.
68. Purves, H.D., C.A. White, and P.C. Paquet. 1992. Wolf and grizzly bear habitat use and displacement by human use in Banff, Yoho and Kootenay National Parks: a preliminary analysis. Canadian Parks Service report. Banff, Alberta. 54 pp.
69. Reudiger, B. 1996. The relationship between rare carnivores and highways. 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: 24-38.*
70. Rogers, L. and A. Allen. 1987. Habitat suitability index models: black bear, upper Great Lakes Region. US Fish & Wildlife Service Biological Report 82.
71. Sandstrom, P. L. 1996. Identification of potential linkage zones for grizzly bears in the Swan-Clearwater valley using GIS. M.S. Thesis. University of Montana. 72 pp.
72. Schallenberger, A. 1980. Review of oil and gas exploration impacts on grizzly bears. *International Conference on Bear Research and Management* 4: 271-276.
73. Schoen, J. 1990. Bear habitat management: a review and future perspective. *International Conference on Bear Research and Management*. 8:143-154.

74. Schoen, J. R. Flynn, K. Titus, and L. Beier. 1994. Habitat-capability model for brown bear in Southeast Alaska. *International Conference on Bear Research and Management*. 9:327-337.
75. Servheen, C. Grizzly bear ecology and management in the Mission Mountains, Montana. *The Journal of Wildlife Management*. 47:1026-1035.
76. Servheen, C. Grizzly bear food habits movements, and habitat selection in the Mission Mountains, Montana. *The Journal of Wildlife Management*. 47:1026-1035.
77. Servheen, C., and P. Sandstrom. 1993. Human activities and linkage zones for grizzly bears in the Swan-Clearwater Valleys, Montana. U.S. Fish and Wildlife Service. Missoula, MT. 28pp.
78. Servheen, C., and P. Sandstrom. 1993. Ecosystem management and linkage zones for grizzly bears and other large carnivores in the northern Rocky Mountains in Montana and Idaho. *Endangered Species Bulletin*. 18: 1-23.
79. Servheen, C., J. Waller, and W. Kasworm. 1997. Determining effects of high-speed highways on grizzly bear movement, mortality, habitat-use, and habitat fragmentation – draft proposal. Missoula, MT. U.S. Fish and Wildlife Service. [Pages unknown].
80. Servheen, C., J. Waller, and W. Kasworm. 1998. Fragmentation effects of high-speed highways on grizzly bear populations shared between the United States and Canada. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. *Proceedings of the International Conference on Wildlife Ecology and Transportation*. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. Pp. 97-103.
81. Servheen, C. 1999. Status and management of the grizzly bear in the lower 48 United States. Pp. 50-54 in C. Servheen, S. Herrero, and B. Peyton, eds. *Bears: Status Survey and Conservation Action Plan*. IUCN/SSC Bear and Polar Bear Specialist Groups, IUCN, Gland, Switzerland and Cambridge, U.K. 30 pp.
82. Servheen, C., J. S. Waller, and P. Sandstrom. 2001. Identification and management of linkage zones for grizzly bears between the large blocks of public land in the Northern Rocky Mountains. U.S. Fish and Wildlife Service, University of Montana, Bozeman, Montana. September 4, 2002. 87 p.
83. Stenhouse, G., and R. Munro. 1999. Foothills model forest grizzly research program: 1999 annual report. 107 p.

84. Stenhouse, G., and R. Munro. 2001. Foothills model forest grizzly research program: 2000 annual report. 87 p.
85. Thiel, R.P. 1985. Relationship between road densities and wolf habitat suitability in Wisconsin. *American Midland Naturalist*. 113:404-407.
86. Thurber, J. M., R. O. Peterson, J. D. Woolington, and J. A. Vuctich. 1992. Coyote coexistence with wolves on the Kenai Peninsula, Alaska. *Canadian Journal of Zoology*. 70: 2492-2498.
87. Thurber, J. M., R. O. Peterson, T. D. Drummer, and S.A. Thomasma. 1994. Gray wolf response to refuge boundaries and roads in Alaska. *Wildlife Society Bulletin*. 22: 61-68.
88. Titus, K. and L. Beier. 1991. Population and habitat ecology of brown bears on Admiralty and Chichagof Islands. Alaska Fish and Game Federal Aid in Wildlife Restoration Research Project Report 4.22. 32 pp.

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.

89. Van Dyke, F.G., R. H. Brocke, and H.G. Shaw. 1986. Use of road track counts as indices of mountain lion presence. *Journal of Wildlife Management*. 50: 102-109.
90. Van Dyke, F.G., R. H. Brocke, H.G. Shaw, B. B. Ackerman, T. P. Hemker, and F. G. Lindzey. 1986. Reactions of mountain lions to logging and human activity. *Journal of Wildlife Management*. 50: 95-102.
91. Van Manen, F.T., and M.R. Pelton. 1997. A GIS model to predict black bear habitat use. *Journal of Forestry* 95:6-12.
92. Warburton, G.S., R.C. Maddrey, D.W. Rowe. 1993. Characteristics of black bear mortality on the coastal plain of North Carolina. *Proc. Annu. Conf. Southeast Assoc. Fish and Wildl. Agencies* 47:276-286.

93. Weaver, J.L., P.C. Paquet, and L.F. Ruggiero. 1996. Resilience and conservation of large carnivores in the Rocky Mountains. *Conservation Biology*. 10:964-976.
94. Wieneke, F., and W. Schroder. 1995. Planning of green bridges at the highway, with special consideration of the brown bear. Master's Thesis, Institute of Geography at Ludwig-Maximilians University, Munich.
95. Wooding, J.B., and J.R. Brady. 1987. Black bear roadkills in Florida. *Proc. Annu. Conf. Southeast Assoc. Fish and Wildl. Agencies* 41, 438-442.

Ungulates

1. Ager, A., and M. Hitchcock. 1994. Heicalc-elk-habitat-effectiveness index software. *Wildlife Society Bulletin*. 22: 126-128.
2. Allen, R.E. and D.R. McCullough. 1976. Deer-car accidents in southern Michigan. *Journal of Wildlife Management*. 40:317-325.
3. Anderson, R., B. Wiseth, P. Pederson, V. Jaren. 1991. Moose-train collisions: effects of environmental conditions. *Alces*. 27: 79-84.
4. Armstrong, J. J. 1992. An evaluation of the effectiveness of Swareflex deer reflectors. Downsview, Ontario, Transportation Research Lab. Ontario Ministry of Transportation. 9303RT368E. 15 p.
5. Arnold, D. A. 1978. Characteristics and cost of highway deer kills. In: Kirkpatrick, C. M. ed. *The 1978 John S. Wright Forestry Conference*. Lafayette, IN. Department of Forestry and Natural Resources and Indiana Cooperative Extension Service, Purdue University. Pp. 92-101.
6. Arnold, D. A. 1979. Deer on the highway. *Traffic Safety*. May. [Pages unknown].
7. Bangs, E. E., T. N. Bailey, and M. F. Porter. 1989. Survival rates of adult female moose on the Kenai Peninsula, Alaska. *Journal of Wildlife Management*. 53: 557-563.
8. Barnes, R. F. W., K. L. Barnes, M. P. T. Alers, and A. Blom. 1991. Man determines the distribution of elephants in the rain forests of northeastern Gabon. *African Journal of Ecology*. 29(1): 54-63.
9. Bascompte, J., and R. Sole. 1996. Habitat fragmentation and extinction thresholds in spatially explicit models. *Journal of Animal Ecology*. 65: 465-473.
10. Bashore, T.L., W.M. Tzilkowski, E.D. Bellis. 1985. Analysis of deer-vehicle collision sites in Pennsylvania. *Journal of Wildlife Management*. 49:769-774.
11. Basile, J.V., and T.N. Lonner. 1979. Vehicle restrictions influence elk and hunter distribution in Montana. *Journal of Forestry*. 77:155-159.
12. Becker, E. F., and C. A. Grauvogel. 1991. Relationship of reduced train speed on moose-train collisions in Alaska. *Alces*. 27: 161-168.
13. Belant, J. L. 1995. Moose collisions with vehicles and trains in northeastern Minnesota. *Alces*. 31: 45-52.

14. Bellis, E.D., and H.B. Graves. 1971. Deer mortality on a Pennsylvania interstate highway. *Journal of Wildlife Management*. 35:232-237.
15. Bellis, E.D., and H.B. Graves. 1971. Collision of vehicles with deer studied on Pennsylvania interstate road section. *Highway Research News*. 43:13-17.
16. Bellis, E. D., and H. B. Graves. 1971. Highway fences as deterrents to vehicle-deer collisions. *Transportation Research Record*. 674: 53-58.
17. Bergerud, A. T., R. D. Jakimchuk, and D. R. Carruthers. 1983. The buffalo of the north: caribou (*Rangifer tarandus*) and human developments. *Arctic*: 37: 7-22.
18. Bissonette, J. A., M. E. Lehnert, and J. W. Haefner. 2000. Dead on the road: mitigative models to address deer highway mortality. Abstract P. 52. *In Wildlife and Highways: Seeking solutions to an ecological and socio-economic dilemma. (Proceedings of the symposium). 7th Ann. Meeting of the Wildlife Society, 12-16 September, Nashville TX.*
19. Bissonette, J. A., M. E. Lehnert, and M. Harrison. 2000. Lanes of destruction: effectiveness of highway right-of-way escape structures for mule deer. Abstract P. 124. *In Wildlife and Highways: Seeking solutions to an ecological and socio-economic dilemma. (Proceedings of the symposium). 7th Ann. Meeting of the Wildlife Society, 12-16 September, Nashville TX.*
20. Bleich, V. C., J. D. Wehausen, and S. A. Holl. 1990. Desert-dwelling mountain sheep: conservation implications of a naturally fragmented distribution. *Conservation Biology*. 4: 383-390.
21. Boer, A. H. 1990. Spatial distribution of moose kills in New Brunswick. *Wildlife Society Bulletin*. 18: 431-434.
22. Borton, W. L. 1984. An analysis of deer crossing warning signs. Lansing, MI. Michigan Department of Transportation, Traffic and Safety Division. TSD-550-84. 37 pp.
23. Bottini, M. 1976. Initial effects of highway fencing and wildlife underpasses on elk movement and behavior in Banff National Park. The University of British Columbia. Unpublished Report.
24. Bottini, M. 1987. Elk roadkills on the Trans-Canada Highway in Banff National Park. Unpublished Report.
25. Brown, R. L., W. T. Smith, and R. D. Cameron. 1986. Big game investigations: distribution and movements of caribou in relation to the Kupaaruk

- development area. AK W-021-2/Job 3.30R. Alaska Department of Fish and Game. Anchorage, AK. 50 p.
26. Calvo, R. N., and N. J. Silvy. 1996. Key deer mortality, U.S. 1 in the Florida Keys. 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: 287-296.
 27. Cameron, R. D., and K. R. Whitten. 1980. Big game investigations: effects of the Trans-Alaska Pipeline on caribou movements. Alaska Department of Fish and Game. Anchorage, AK. 27 p.
 28. Cameron, R. D., and K. R. Whitten. 1980. Big game investigations: effects of the Trans-Alaska Pipeline on caribou movements. Alaska Department of Fish and Game. W-017-R. Anchorage, AK. 484 p.
 29. Cameron, R. D., K. R. Whitten, and W. T. Smith. 1981. Big game investigations: effects of the Trans-Alaska Pipeline on caribou movements. Alaska Department of Fish and Game. Anchorage, AK. 79 p.
 30. Cameron, R. D., K. R. Whitten, and W. T. Smith. 1985. Big game investigations: effects of the Trans-Alaska Pipeline on caribou movements. Alaska Department of Fish and Game. Anchorage, AK. 27 p.
 31. Cameron, R. D., D. J. Reed, J. R. Dau, and W. T. Smith. 1981. Redistribution of calving caribou in response to oil field development on the arctic slope of Alaska. *Arctic*: 45: 338-342.
 32. Cameron, R. D., and W. T. Smith. 1992. Wildlife research and management: distribution and productivity of the central Arctic caribou herd in relation to petroleum development: case history studies with a nutritional perspective. Alaska Department of Fish and Game. W-023-5/Study 3.35. Anchorage, AK. 40 p.
 33. Cameron, R. D., E. A. Lenart, D. J. Read, and others. 1995. Abundance and movements of caribou in the oilfield complex near Prudhoe Bay, Alaska. *Rangifer*. 15: 3-7.
 34. Carbaugh, B. T. 1970. Activity and behavior of white-tailed deer (*Odocoileus virginianus*) along an interstate highway in a forest region of Pennsylvania. Ph.D. thesis, Pennsylvania State University, University Park, PA.

35. Carbaugh, B., J.P. Vaughan, E.D. Bellis, and H.B. Graves. 1975. Distribution and activity of white-tailed deer along an interstate highway. *Journal of Wildlife Management*. 39: 570-581.
36. Child, K., S. Barry, and D. Aitken. 1991. Moose mortality on highways and railways in British Columbia. *Alces*. 27: 41-49.
37. Child, K. 1984. Railways and moose in the central interior of British Columbia: a recurrent management problem. *Alces*. 19: 118-135.
38. Child, K. N., and K. M. Stuart. 1987. Vehicle and train collisions fatalities of moose: some management and socio-economic considerations. *Swedish Wildlife Research Supplement*. [Pages unknown.]
39. Christensen, A. G., L. J. Lyon, and T. N. Tonner. 1991. Proceedings of elk vulnerability – a symposium. 1991, April 10-12, Bozeman, MT. Montana State University. 330 pp.
40. Cole, E. K., M. D. Pope, and R.G. Anthony. 1997. Effects of road management on movement and survival of Roosevelt elk. *Journal of Wildlife Management*. 61:1115-1126.
41. Cunningham, S. C., L. Hannah, and J. Sacco. 1993. Possible effects of the realignment of U.S. highway 93 on movements of desert bighorns in the Black Canyon area. In: Rowlands, P.G., C. Riper, and M. K. Sogge. Eds. Proceedings of the first biennial conference on research in Colorado Plateau National Parks. July 22-25, 1991, Flagstaff, AZ. U.S. National Park Service, Phoenix AZ: 83-100.
42. Curatolo, J. 1983. Caribou response to the pipeline / road complex in the Kuparuk oilfield, Alaska. Proceedings of the Alaska Science Conference. 34: 10-13.
43. Curatolo, J.A., and S.M. Murphy. 1986. The effects of pipelines, roads and traffic on the movements of caribou, *Rangifer tarandus*. *Canadian Field Naturalist*. 100:218-224.
44. Dalton, L. B., and M C. Stranger. 1990. Reflector effects on deer road kills. Utah Division of Wildlife Resources. Price, UT. 9 p.
45. DeClasta, D. S. 1990. Factors influencing number of road-killed deer in Pennsylvania. *Journal of Wildlife Management*. 63: 210-213.
46. Del Frate, G. G., and T. H. Spraker. 1991. Moose vehicle interactions and an associated public awareness program on the Kenai Peninsula, Alaska. *Alces* 27: 1-7.

47. Drummond, F. 1989. Factors influencing road mortality of Key deer. M.S. thesis, Southern Illinois University, Carbondale IL. 84 p.
48. Edge, W. D., C. L. Marcum, and S. L. Olson-Edge. 1987. Summer habitat selection by elk in western Montana: a multivariate approach. *Journal of Wildlife Management*. 51 (4), 844-851.
49. Edge W.D., and C.L. Marcum. 1991. Topography ameliorates the effects of roads and human disturbance on elk. Pages 132-137, In: A.G. Christensen, L.J. Lyon, and T.N. Lonner, Eds. *Proceedings of the Elk Vulnerability Symposium*, Montana State University, Bozeman, MT. 330 pp.
50. Falk, N. W. 1975. Fencing as a deterrent to deer movement along highways. Ph.D. dissertation. Pennsylvania State University. University Park, PA.
51. Falk, N.W., H. B. Graves, and E. D. Bellis. 1978. Highway right-of-way fences as deer deterrents. *Journal of Wildlife Management*. 42: 646-650.
52. Feldhammer, G. A., J. Gates, D. Harman, and others. 1986. Effects of interstate highway fencing on white-tailed deer activity. *Journal of Wildlife Management*. 50:497-503.
53. Flygare, H. 1976. Trans-Canada Highway Rocky Mountain bighorn sheep vehicle mortality. Unpublished Report, Banff National Park Warden Service.
54. Flygare, H. 1978. Section C: ungulate census in the Bow Valley corridor: winter 1976-1977. Warden Service, Parks Canada, Banff National Park, Banff, Alberta.
55. Flygare, H. 1978. Section D: ungulate foraging areas in the Bow Valley corridor. Warden Service, Parks Canada, Banff National Park, Banff, Alberta.
56. Flygare, H. 1978. Ungulate mortality and mitigated measures: Trans-Canada highway, Banff National Park. Warden Service, Parks Canada, Banff National Park, Banff, Alberta.
57. Ford, S. G. 1980. Evaluation of highway deer kill mitigation on SIE / LAS-395 (1976-1979). U.S. Department of Transportation, Federal Highway Administration. Washington, DC. FHWA/ CA /TP-80-01. 45 p.
58. Ford, S. G., and S. L. Villa. 1993. Reflector use and the effect they have on the number of mule deer killed on California highways. Sacramento, CA: California State Department of Transportation. FHWA/CA/PD-94/01. 12 pp.

59. Fraser, D., and E.R. Thomas. 1982. Moose-vehicle accidents in Ontario: relation to highway salt. *Wildlife Society Bulletin*. 10:261-265.
60. Fraser, D. and H. Hristienko. 1982. Moose-vehicle accidents in Ontario: a repugnant solution? *Wildlife Society Bulletin*. 10: 266-270.
61. Geist, V. 1971. A behavioural approach to the management of wild ungulates. Pp. 413-424, In: *The scientific management of animal and plant communities for conservation*. (Eds: Duffey, E; Watt, A.S.)
62. Gilbert, T. 1982. Evaluation of deer mirrors for reducing deer / vehicle collisions. Federal Highway Administration, Department of Transportation.. FHWA / RD / 061. 14 p.
63. Gleason, J.S., and J.A. Jenks. 1993. Factors influencing deer/vehicle mortality in east-central South Dakota. *Prairie Naturalist*. 25:281-287.
64. Goodwin, G.A., and A.L. Ward. 1976. Mule deer mortality on Interstate 80 in Wyoming: causes, patterns and recommendations. USDA Forest Service: Research Note-332.
65. Graves, H. B., and E. D. Bellis. 1971. Deer and motorists: can they coexist? *Pennsylvania Game News*. 42(12): 40-42.
66. Groot Bruinderink, G.W.T.A., and E. Hazebroek. 1996. Ungulate traffic collisions in Europe. *Conservation Biology*. 10:1059-1067.
67. Hanna, P. 1982. The impact of Interstate Highway 84 on the Sublette-Black Pine migratory deer population. A 12-year summary, with recommendations for mitigation of identifiable averse impacts. Boise, ID: Idaho Department of Fish and Game; Project W-160. 97 pp.
68. Hansen, C.S. .1983. Costs of deer related automotive accidents. *Univ. Mich. Transp. Res. Rev.* 14, 9-12.
69. Hansen, C.S. 1983. Costs of deer-vehicle accidents in Michigan. *Wildlife Society Bulletin*. 11:161-164.
70. Harper, W.L., and D.N. Lougheed. 1988. A guide for the installation of 2.5m ungulate exclusions fencing on highway right-of-ways. Unpubl. rept. B.C. Government.
71. Hawkins, R.E., W.D. Ooag, O.W.T.U. Klimstra, D.C. Autry, and S.R. Hieb. 1970. Significant mortality factors of deer on Crab Orchard National Wildlife Refuge. *Trans. Ill. State Acad. Sci.* 63, 202-206.

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. thesis, University of British Columbia, Vancouver.
74. Ingerbrigtsen, D. K., and J. R. Ludwig. 1986. Effectiveness of Swarefelx wildlife warning reflectors in reducing deer-vehicle collisions in Minnesota. Minnesota Department of Natural Resources. St. Apul, MN. Report No. 3 6 p.
75. Jahn, L.R. 1959. Highway mortality as an index of deer-population change. *Journal of Wildlife Management*. 23:187-197.
76. Jaren, V., R. Andersen, M. Ulleberg, and others. 1991. Moose-train collisions: the 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 mountain caribou. *Canadian Field Naturalist*. 91(3): 312-314.
79. Klein, D.R. 1971. Reaction of reindeer to obstructions and disturbances. *Science* (173): 393-398.
80. Lehnert, M. E. 1996. Mule deer-highway mortality in northeastern Utah: an analysis of population level impacts and a new mitigative system. M.S. Thesis, Utah State University, Logan UT.
81. Lehnert, M. E., L. A. Romin, and J. A. Bissonette. 1996. Mule deer-highway 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.
82. Lehnert, M. E., and J. A. Bissonette. 1997. Effectiveness of highway crosswalk structures at reducing deer-vehicle collisions. *Wildlife Society Bulletin*. 25:809-818.

83. Livezey, K. B. 1991. Home range, habitat use, disturbance, and mortality of Columbian black-tailed deer in Mendocino National Forest. *California Fish and Game*. 77: 201-209.
84. Ludwig, J., and T. Bremicker. 1981. Evaluation of 2.4 meter and one-way gates for reducing deer-vehicle collisions. *Minnesota Wildlife Research Quarterly*. 41: 77-88.
85. Lyon, L.J. 1983. Road density models describing habitat effectiveness for elk. *Journal of Forestry*. 81:592-595.
86. Lyon, J. L., T. N. Lonner, J. P. Weigand, and others. 1985. Coordinating elk and timber management: final report of the Minnesota cooperative elk-logging study, 1970-1985. Bozeman, MT: Montana Department of Fish, Wildlife, and Parks. MT W-120-R. 53 pp.
87. McCaffery, K.R. 1973. Road-kills show trends in Wisconsin deer populations. *Journal of Wildlife Management*. 37:212-216.
88. McDonald, M. G. 1991. Moose movement and mortality associated with the Glenn Highway expansion, Anchorage, Alaska. *Alces*. 27: 208-219.
89. Miller B. K., and J. A. Litvaitis. 1992. Use of roadside salt licks by moose, *Alces alces*, in northern New Hampshire. *Canadian Field Naturalist*. 106: 112-117.
90. Miller, F. L., C. J. Jonkel, and E. C. Garrett. 1972. Group cohesion and leadership response by barren-ground caribou to man-made barriers. *Arctic*. 25: 193-201.
91. Murphy, S. M., and J. A. Curatolo. 1986. Activity budgets and movements of caribou encountering pipelines, roads and traffic in northern Alaska. *Canadian Journal of Zoology*. 65: 2483-2490.
92. Muzzi, D., and A. Bisset. 1990. Effectiveness of ultrasonic wildlife warning devices to reduce moose fatalities along railway corridors. *Alces*. 26: 37-43.
93. O’Gara, B. W., and R. B. Harris. 1988. Age and condition of deer killed by predators and automobiles. *Journal of Wildlife Management*. 52: 316-320.
94. Olbrich, P. 1984. A study of the effectiveness of deer warning reflectors and suitability of deer passage corridors. *Zeitschrift fur Jagdwissenschaft*. 30: 101-116. In German.

95. Pafko, F., and B. Kovach. 1996. Minnesota experience with deer reflectors. 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: 116-124.
96. Pedevillano, C., and R. G. Wright. 1987. The influence of visitors on mountain goat activities in Glacier National Park, Montana. *Biological Conservation*. 39: 1-11.
97. Pojar, T.M., R.A. Prosen, D.F. Reed, and T.N. Woodard. 1975. Effectiveness of a lighted animated deer crossing sign. *Journal of Wildlife Management*. 39:87-91.
98. Pojar, T.M., D.F. Reed, T.C. Reseigh. 1972. Highway construction - motorist and deer safety. *Proc. West. Assoc. Game and Fish Comm.* 52:268-271.
99. Pollard, R. H., W. B. Ballard, L. E. Noel, and M. A. Cronin. 1996. Summer distribution of caribou, *Rangifer tarandus granti*, in the area of the Prudhoe Bay oil field, Alaska, 1990-1994. *Canadian Field Naturalist*. 110: 659-674.
100. Pollard, R. H., W. B. Ballard, L. E. Noel, and M. A. Cronin. 1996. Parasitic insect abundance and microclimate of gravel pads and tundra within the Prudhoe Bay oil field, Alaska, in relation to use by caribou, *Rangifer tarandus granti*. *Canadian Field Naturalist*. 110: 649-658.
101. Puglisi, M.J., J.S. Lindzey, and E.D. Bellis. 1974. Factors associated with highway mortality of white-tail deer. *Journal of Wildlife Management*. 38: 799-807.
102. Putman, R. J. 1997. Deer and road traffic accidents: options for management. *Journal of Environmental Management*. 51: 43-57.
103. Reed, D.F., Woodward, T.N. and Pojar, T.M. 1975. Behavioral response of mule deer to a highway underpass. *Journal of Wildlife Management*. 39: 361-367.
104. Reed, D. F. and T. N. Woodward. 1981. Effectiveness of highway lighting in reducing deer-vehicle accidents. *Journal of Wildlife Management*. 39: 361-367.

105. Reed, D.F. 1981. Mule deer behavior at a highway underpass exit. *Journal of Wildlife Management*. 45:542-543.
106. Reed, D.F., T.D.I. Beck, and T.N. Woodard. 1982. Methods of reducing deer-vehicle accidents: benefit-cost analysis. *Wildlife Society Bulletin*. 10: 349-354.
107. Reed, D.F., T.M. Pojar, and T.N. Woodard. 1974. Mule deer responses to deer guards. *Journal of Range Management*. 27: 111-113.
108. Reeves, A. F., and S. H. Anderson. 1993. Ineffectiveness of Swareflex reflectors at reducing deer-vehicle collisions. *Wildlife Society Bulletin*. 21: 349-354.
109. Reilly, R. E., and H. E. Green. 1981. Deer mortality on a Michigan highway. *Journal of Wildlife Management*. 38: 16-19.
110. Romin, L. A., and L. B. Dalton. 1992. Lack of response by mule deer to wildlife warning whistles. *Wildlife Society Bulletin*. 20: 382-384.
111. Romin, L. A., and J. A. Bissonette. 1996. Temporal and spatial distribution of highway mortality of mule deer on newly constructed roads at Jordanelle Reservoir, Utah. *Great Basin Naturalist*. 56: 1-11.
112. Romin, L. A., and J. A. Bissonette. 1996. Deer-vehicle collisions: nationwide status of state monitoring activities and efforts. *Wildlife Society Bulletin*. 24: 276-283.
113. Rost, G. R., and J. A. Bailey 1979. Distribution of mule deer and elk in relation to roads. *Journal of Wildlife Management*. 43: 634-641.
114. Schafer, J.A., and S.T. Penland. 1985. Effectiveness of Swareflex reflectors in reducing deer-vehicle accidents in Washington State. *Transportation Research Record*. 85-88.
115. Schafer, J.A., and S.T. Penland. 1985. Effectiveness of Swareflex reflectors in reducing deer-vehicle accidents. *Journal of Wildlife Management*. 49: 774-776.
116. Scott-Brown, J. M. 1984. Ungulate Monitoring Along the Trans-Canada Highway Banff National Park. M.Sc. Thesis, Faculty of Environmental Design, University of Calgary, Calgary.
117. Singer, F.J., and J.L. Doherty. 1985. Managing mountain goats at a highway crossing. *Wildlife Society Bulletin*. 13: 469-477.

118. Stout, R.J., R.C. Stedman, D.J. Decker, and B.A. Knuth. 1993. Perceptions of risk from deer-related vehicle accidents: implications for public preferences for deer herd size. *Wildlife Society Bulletin*. 21: 237-249.
119. Ujvári, M., H. J. Baagøe, and A. B. Madsen. 1998. Effectiveness of wildlife warning reflectors in reducing deer-vehicle collisions: a behavioral study. *Journal of Wildlife Management*. 62: 1094-1099.
120. Vassant, J., S. Brandt, and J.M. Jullien. 1993. Effects of wildlife passage over motorway A5 on the populations of red deer and wild boar. Part 1: case of the population of red deer. *Bull. Mens. Office Natl. Chasse*. 183: 15-25.
121. Walro, J.M. 1976. Analysis of deer-vehicle accidents in southeastern Ohio. M.Sc. Thesis, Ohio University, Athens, Ohio. 19 p.
122. Ward, A. L. 1980. Effects of highway operation practices and facilities on elk, mule deer and pronghorn antelope. Rocky Mountain Forest and Range Experiment Station. Fort Collins, CO.
123. Ward, A. L., S. E. Fornwalt, S. E. Henry, R. A. Hodorff. 1980. Effects of highway operation practices and facilities on elk, mule deer, and pronghorn antelope. Washington, DC. U.S. Department of transportation, Federal Highway Administration. FHAW-RD-79-143. 48p.
124. Ward, A. L. 1982. Mule deer behavior in relation to fencing and underpasses on Interstate 80 in Wyoming. *Transportation Research Record*. 859: 8-13.
125. Welsh, C.J.E., and W.M. Healy. 1993. Ineffectiveness of swareflex reflectors at reducing deer-vehicle collisions. *Wildlife Society Bulletin*. 21: 127-132.
126. Witmer, G.W., and D.S. DeCalesta. 1985. Effect of forest roads on habitat use by Roosevelt elk. *Northwest Science*. 59:122-125.
127. Woelfel, H., and H. H. Kruger. 1995. On the design of game passages across highways. *Zeitschrift fuer Jagdwissenschaft*. 41: 209-216.
128. Wood, P., and M.L. Wolfe. 1988. Intercept feeding as a means of reducing deer-vehicle collisions. *Wildlife Society Bulletin*. 76:376-380.
129. Woods, J. 1990. Effectiveness of fences and underpasses on the Trans-Canada Highway and their impact on ungulate populations project. Final Report. Prepared for Canadian Parks Service, Banff National Park Warden Service. 103 pp.

130. Zacks, J. L. 1985. An investigation of Swareflex wildlife warning reflectors. Final Report. Washington, DC. U.S. Department of Transportation, Federal Highway Administration. FHWA-MI-RD-85-04. 53 pp.
131. Zacks, J. L. 1986. Do white-tail deer avoid red? An evaluation of the premise underlying the design of swareflex wildlife reflectors. Transportation Research Board, National Research Council, Washington, DC. Transportation Research Record. 1075: 35-43.

Small to Medium Mammals

1. Aarissorenson, J. 1995. Road-kills of badgers (*Meles meles*) in Denmark. *Annales Zoologici Fennici*. 32(1): 31-36.
2. Adams, L. W., and A. D. Geis. 1981. Roads and roadside habitat in relation to small mammal distribution and abundance. In: Tillman, R. E. Ed. Proceedings of second symposium on environmental concerns in right-of-ways management; 1979, October 16-18, Ann Arbor, MI. Ann Arbor, University of Michigan: 1-54.
3. Adams, L.W. and Geis, A.D. 1983. Effects of roads on small mammals. *Journal of Applied Ecology*. 20:403-415.
4. Adams, L.W. 1984. Small mammal use of an interstate highway median strip. *Journal of Applied Ecology*. 21: 175-178.
5. Adams, L. W., and A. D. Geis. 1984. Effects of roads on breeding birds. In: Crabtree, A. F. ed. Proceedings of the third international symposium on environmental concerns in right-of-way management. 1982, February 15-18, San Diego, CA. [Locations of publisher unknown]: Mississippi State College: 562-569.
6. Allen, S. H., and A. B. Sargeant. 1993. Dispersal patterns of red foxes relative to population density. *Journal of Wildlife Management*. 57: 526-533.
7. Andreassen, H. P., R. A. Ims, and O. Steinset. 1996. Discontinuous habitat corridors – effects on male root vole movements. *Journal of Applied Ecology*. 33: 555-560.
8. Arnold, G. W., J. R. Weelenburg, and D. E. Steven. 1991. Distribution and abundance of two species of kangaroo in remnants of native vegetation in the central wheatbelt of western Australia and the role of native vegetation along road verges and fencelines as linkages. In, Saunders, D. A., and R. J. Hobbs. Eds. Nature conservation 2: the role of corridors. Chipping Norton, Australia. Surrerty Beatty and Sons. Pp: 273-280.
9. Austin, M. and S. Herrero. 1995. Wolverine travel routes and response to human-constructed linear corridors in the Kicking Horse Pass between Yoho and Banff National Parks. Progress report on the 1994-1995 Field Season.
10. Austin, M. 1998. Wolverine winter travel routes and response to transportation corridors in Kicking Horse Pass between Yoho and Banff National Parks. M.Sc. Thesis, Faculty of Environmental Design, University of Calgary, Calgary.

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.

11. Bakowski, C., and M. Kozakiewicz. 1988. The effect of forest road on bank vole and yellow-necked mouse populations. *Acta Theriologica*. 33:345-353.
12. Barnett, J. L., R. A. How, and W. F. Humphries. 1978. The use of habitat components by small mammals in eastern Australia. *Australian Journal of Ecology*. 3: 277-285.
13. Bennett, A. F. 1990. Habitat corridors and the conservation of small mammals in a fragmented forest environment. *Landscape Ecology*. 4:109-122.
14. Bennett, A. F., K. Henein, and G. Merriam. 1994. Corridor use and the elements of corridor quality: chipmunks and fence rows in a farmland mosaic. *Biological Conservation*. 68: 155-165.
15. Berthoud, G. 1980. The hedgehog (*Erinaceus europaeus*) and the roads. *Terre Vie*. 34(3): 361-372.
16. Blake, D., A. M. Hutson, P. A. Racey, and others. 1994. Use of lamp lit roads by foraging bats in southern England. *Journal of Zoology*. 234: 3-462.
17. Boinski, S., and L. Sirot. 1997. Uncertain status of squirrel monkeys in Costa Rica, *Saimiri oerstedii* and *Saimiri oerstedii citrinellus*. *Folia Primatologica*. 68(3-5): 181-193.
18. Bourquin, J. D., and A. Meylan. 1982. Small mammals communities along divided highways: faunas and examples of spatial distribution of *Microtus arvalis* (Pallas). *Revue Suisse Zoology*. 89(4): 977-991. [In French]
19. Bright, P. W. 1993. Habitat fragmentation: problems and predictions for British mammals. *Mammal Review*. 23: 101-111.

20. Broekhuizen, S. and H. Derckx. 1996. Passages for badgers and their efficiency. *Zeitschrift fur Jagdwissenschaft*. 42: 134-142. In German.
21. Buchanan, J. B. 1987. Seasonality in the occurrence of long-tailed weasel road-kills. *Murrelet*. 68(2): 67-68.
22. Burnett, S. E. 1992. Effects of a rainforest road on movements of small mammals: mechanisms and implications. *Wildlife Research*. 19: 95-104.
23. Canfield, P. J. 1991. A survey of koala road kills in New South Wales. *Journal of Wildlife Diseases*. 27: 657-660.
24. Clark, D. R. 1979. Lead concentrations: bats vs. terrestrial small mammals collected near a major highway. *Environmental Science and Technology*. 13: 338-340.
25. Clevenger, A.P., B. Chruszcz, & K. Gunson. 2002. Spatial patterns and factors influencing small vertebrate fauna road-kill aggregations. *Biological Conservation (in press)*.
26. Clevenger, A.P., B. Chruszcz, & K. Gunson. 2001. Drainage culverts as habitat linkages and factors affecting passage by mammals. *Journal of Applied Ecology*. 38:1340-1349.
27. Davis, J. M., T. J. Roper, and D. J. Sheperdson. 1987. Seasonal distribution of road kills in the European badger (*Meles meles*). *Journal of Zoology*. 211: 525-529.
28. Disney, M., and L. K. Spiegel 1992. Sources and rates of San Joaquin kit fox mortality in western Kern County, California. *Transactions of the Western Section of the Wildlife Society*. 28: 73-82.
29. Douglass, R. J. 1977. Effects of winter road on small mammals. *Journal of Applied Ecology*. 14: 827-834.
30. Douglass, R. J. 1977. Impacts of vehicle traffic on coyote movement in western Colorado. In: Comer, R. D. ed. *Issues and technology in the management of impacted western wildlife. Proceedings of a national symposium, February 4-6, 1985, Glenwood Springs, CO.* Thorne Ecological Institute, Boulder, CO. 269-300.
31. Drews, C. 1995. Road kills of animals by public traffic in Mikumi National Park, Tanzania, with notes on baboon mortality. *African Journal of Ecology*. 33: 89-100.

32. Droessen, M. M., S. A. Mallick, and G. J. Hocking. 1996. Habitat of the eastern barred bandicoot, *Perameles gunnii*, in Tasmania: an analysis of road-kills. *Wildlife research*. 23: 721-727.
33. Garland, T., G. Bradley. 1984. Effects of a highway on Mojave desert rodent populations. *American Midland Naturalist*. 111:47-56.
34. Getz, L. L., L. Verner, and M. Prather. 1977. Lead concentrations in small mammals living near highways. *Environmental Pollution*. 13: 151-157.
35. Getz, L.L., F.R. Cole, and D.L. Gates. 1978. Interstate roadsides as dispersal routes for *Microtus pennsylvanicus*. *Journal of Mammalogy*. 59:208-212.
36. Gibeau, M. 1993. Use of urban habitats by coyotes in the vicinity of Banff, Alberta. M.Sc. thesis. Univ. of Montana, Missoula.
37. Gordon, K. 1932. Rabbits killed on an Idaho highway. *Journal of Mammalogy*. 13:169.
38. Haner, T. W., M. P. Moulton, J. R. Choate, and T. P. Redfearn. 1996. Species composition of small mammals at an interstate highway interchange. *Southwestern Naturalist*. 41(2): 192-194.
39. Hewitt, D. G., A. Cain, V. Tuovila, D. B. Shindle, and M. E. Tewes. 1998. Impacts of an expanded highway on ocelots and bobcats in southern Texas and their preferences for highway crossings. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. *Proceedings of the International Conference on Wildlife Ecology and Transportation*. February 10- 12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 97-103.
40. Hines, T. D., and R. M. Case. 1991. Diet home range movements and activity periods of swift fox in Nebraska, USA. *Prairie Naturalist*. 23(3): 131-138.
41. Hodgman, T. P., D. J. Harrison, D. D. Katnik, and K. D. Elowe. 1994. Survival of an intensively trapped marten population in Maine. *Journal of Wildlife Management*. 58: 593-600.
42. Hubert, G. F. 1991. Striped skunk investigations: striped skunk road-kill survey. Illinois Department of Transportation. IL W-099-R-3 / Job 1 / Study XI. 20 p.
43. Hubert, G. F. 1991. Cottontail rabbit investigations: Cottontail rabbit road-kill survey. Illinois Department of Transportation. IL W-099-R-3 / Job 1 / Study I. 20 p.

44. Huijser, M. P., P. Bergers, and H. de Vries. 1998. Hedghog traffic victims: how to quantify effects on the population level and the projects for mitigation. In: Evink, G. L., P. Garrett, D. Ziegler, and J. Berry. Eds. Proceedings of the International Conference on Wildlife Ecology and Transportation. February 10-12, 1998. Ft Myers, FL. Tallahassee, FL. Florida Department of Transportation. 97-103.
45. Jefferies, D. J. 1975. Different activity patterns of male and female badgers (*Meles meles*) as shown by road mortality. *Mammal Review*. 23: 155-166.
46. Johnson, W. A., and W. T. Arlen. 1985. Fisher, *Martes pennanti*, behavior in the proximity to human activity. *Canadian Field Naturalist*. 99(3): 367-369.
47. King, C. M., M. Flux, J. G. Innes, and B. M. Fitzgerald. 1996. Population biology of small mammals in Pureora Forest Park: 1. Carnivores (*Mustela ermina*, *M. furo*, *M. nivalis*, and *Felis catus*). *New Zealand Journal of Ecology*. 20(2): 241-251.
48. Kline, P. D. 1965. Factors influencing roadside counts of cottontails. *Journal of Wildlife Management*. 29: 665-670.
49. Korbel, O. 1995. Hindering otter (*Lutra lutra*) road kills. Part 2. IUCN Otter Specialist Group Bulletin. 1: 40-47.
50. Korn, H. 1992. Rapid repopulation by small mammals of an area isolated by roads. *Mammalia*. 5(4): 629-632.
51. Korn, H. 1993. Detecting small mammal movements across roads with the aid of coloured bait. *Zeitschrift Fuer Angewandte Zoologie*. 79(3): 371-376.
52. Kozel, R. M. and E. D. Fleharty. 1979. Movements of rodents across roads. *Southwestern Naturalist*. 24: 239-248.
53. LeBlanc, R. 1994. Small mammal use of culverts along the Trans-Canada Highway (Phase III), Banff National Park. Banff, Alberta: Parks Canada, Banff National Park Warden Service. 22 pp.
54. Lovallo, M. J., and E. M. Anderson. 1996. Bobcat movements and home ranges relative to roads in Wisconsin. *Wildlife Society Bulletin*. 24: 71-76.
55. Merriam, G., M. Kozakiewicz, E. Tsuchiya, and K. Hawley. 1989. Barriers as boundaries for metapopulations and demes of *Peromyscus leucopus* in farm landscapes. *Landscape Ecology*. 2(4): 227-235.
56. Mierau, G. W., and B. E. Favara. 1975. Lead poisoning in roadside populations of deer mice. *Environmental Pollution*.

57. O'Neill, D. H., and J. R. Robert. 1985. Food habits of *Microtus*, *Peromyscus*, and *Blarina* along Kansas roadsides: cause for caution in roadside contamination studies. *Transactions of the Kansas Academy of Science*. 88: 40-45.
58. Oxley, D. J., M. B. Fenton, and G. R. Carmody. 1974. The effects of roads on populations of small mammals. *Journal of Applied Ecology*. 11: 51-59.
59. Reading, R. P., and R. Matchett. 1997. Attributes of black-tailed prairie dog colonies in north central Montana. *Journal of Wildlife Management*. 61(3): 664-673.
60. Richardson, B. C. R. F. Shore, J. R. Treweek, and S. B. C. Larkin. 1997. Are major roads a barrier to small mammals? *Journal of Zoology*. 243: 840-846.
61. Ruefenacht, B., and R. L. Knight. 1995. Influences of corridor width on survival and movement of deer mice (*Peromyscus maniculatus*). *Biological Conservation*. 71: 269-274.
62. Rydell, J. 1992. Exploitation of insects around streetlamps by bats in Sweden. *Fundamental and Applied Nematology*. 6: 744-750.
63. Schultz, T. T., and L. A. Joyce. A spatial application of a marten habitat model. *Wildlife Society Bulletin*. 20: 74-83.
64. Singleton, P. H. 1995. Winter habitat selection by wolves in the north fork of the Flathead River Basin, Montana and British Columbia. M.S. Thesis, University of Montana, Missoula MT. 116 pp.
65. Smallwood, K. S., and E. L. Fitzhugh. 1995. A track count for estimating mountain lion (*Felis concolor californica*) population trend. *Biological Conservation*. 71: 251-259.
66. Stanley, T. R. 1991. Effects of roadside habitat and fox density on a snow track survey for foxes in Ohio. *Ohio Journal of Science*. 91(15): 186-190.
67. Swartz, O. A., A. M. Vivas, A. Orris, and C. J. Miller. 1994. Small mammal species associations in three types of roadside habitats in Iowa. *Prairie Naturalist*. 26: 45-52.
68. Swihart, R. K., and N. A. Slade. 1984. Road crossing in *Sigmodon hispidus* and *Microtus ochrogaster*. *Journal of Mammalogy*. 65: 357-360.

69. Van der Reest, P. J. 1992. Small mammal fauna of road verges in the Netherlands: ecology and management. *Lutra*. 35: 1-27.
70. Van der Zee, F. F., J. Wiertz, J. F. Ter Braak, and R. C. Van Apeldoorn. 1992. Landscape change as a possible cause of the badger *Meles meles* L. decline in The Netherlands. *Biological Conservation*. 61: 17-22.
71. Wiegand, P., and R. Schropfer. 1997. DNA fingerprinting analysis of subpopulations of the red squirrel (*Sciurus vulgaris*, L. 1751). *Journal of Zoological Systematics and Evolutionary Research*. 35: 71-74.
72. Wilkins, K. T. 1982. Highways as barriers to rodent dispersal. *Southwestern Naturalist*. 27: 459-460.
73. Wolff, J. O., E. M. Schauber, and W. D. Edge. 1996. Can dispersal barriers really be used to depict emigrating small mammals? *Canadian Journal of Zoology*. 74: 1826-1830.
74. Wooward, S. M. 1990. Population density and home range characteristics of woodchucks (*Marmota monax*) at expressway interchanges. *Canadian Field Naturalist*. 104: 421-428.

Birds

1. Arnold, G. W., and J. R. Weeldenburg. 1990. Factors determining the number and species of birds in road verges in the wheatbelt of western Australia. *Biological Conservation*. 53: 295-315.
2. Aye, P. P., R. M. Nakamura, T. R. Sawa, and P. Silva. 1995. Mortality of owls in Hawaii. *Elepaio*. 5: 9-12.
3. Banks, R.C. 1979. Human related mortality of birds in the United States. USDI Fish & Wildlife Special Science Report. - Wildlife No. 215. 16 p.
4. Barrett, D.E. 1996. Traffic-noise impact study for least Bell's vireo habitat along California state route 83. *Transportation Research Record*. 1559: 3-7.
5. Bélisle, M. and C. C. St. Clair. 2001. Cumulative effects of barriers on the movement of forest birds. *Conservation Ecology* 5(2): 9.
[URL: <http://www.consecol.org/vol5/iss2/art9>]
6. Belz, A. 1988. Waterbirds and highways. *Charadrius*. 24: 111-112.
7. Benson, R. H. 1996. The effects of roadway traffic noises on territory selection by golden-cheeked warblers. *Journal of the Acoustical Society of America*. 99(4 / 2): 25-27.
8. Berg, A. and T. Part. 1994. Abundance of breeding farmland birds on arable and set-aside fields at forest edges. *Ecography*. 17:147-152.
9. Bergin, T. M., L. B. Best, and K. E. Freemark. 1997. An experimental study of predation on artificial nests in roadsides adjacent to agricultural habitats in Iowa. *Wilson Bulletin*. 109(3): 437-448.
10. Blodget, B. G. 1978. The effect of off-road vehicles on least terns and other shorebirds. M.S. thesis. University of Massachusetts. Boston. 79 p.
11. Booth, C. J., and P. Reynolds. 1984. Great skuas scavenging on Orkney roads. *British Birds*. 7(8): 358
12. Braun, M. 1991. Influence of the roadside design on the biotope interlacing in intensively agriculturally used areas. The example of the yellow-bunting and the corn-bunting. *Foreign Technology Fach Informations Zentrum Energie Physik*. 45 p. [Location of Publisher Unknown].
13. Brown, R. J., M. N. Brown, and B. Pesotto. 1986. Birds killed on some secondary roads in Western Australia. *Corella*. 0(4): 118-122.

14. Burger, J., and M. Gochfeld. 1992. Vulnerability and mortality of young Australian magpies on roads. *Wilson Bulletin*. 4: 365-367.
15. Burgess, R. M. 1992. The relative influence of oil-development related disturbances and environmental factors on activity budgets of brood-rearing snow geese at Howe Sound, Alaska. North American Arctic Goose Conference Workshop Number 7. Fairbanks, AK. Biological research. p. 35 [abstract].
16. Cale, P. 1990. The value of road reserves o avifauna of the central wheatbelt of western Australia. *Proceedings of the Ecological Society of Australia*. 16: 359-367.
17. Camp, M., and L. B. Best. 1993. Bird abundance and species richness in roadsides adjacent to Iowa rowcrop fields. *Wildlife Society Bulletin*. 21: 315-325.
18. Camp, M., and L. B. Best. 1994. Nest density and nesting success of birds in roadsides adjacent to rowcrop fields. *American Midland Naturalist*. 131: 347-358.
19. Carey, M. 1998. Peregrine falcons and the Washington State Department of Transportation. In: Evink, G., P. Garrett, D. Zeigler, and J. Berry, eds. *Proceedings of the international conference on wildlife ecology and transportation*. February 10-12, 1998; Ft. Meyers, FL., Tallahassee FL. Florida Department of Transportation. 151-165.
20. Clark, W.D., and J.R. Karr. 1979. Effects of highways on red-winged blackbird and horned lark populations. *Wilson Bulletin*. 91:143-145.
21. Codoner, N. A. 1995. Mortality of Connecticut birds on roads and at buildings. *Connecticut Warbler*. 5(3): 89-98.
22. Conner, R.N., and C.S. Adkisson. 1976. Concentration of foraging common ravens along the Trans-Canada Highway. *Canadian Field Naturalist*. 90:496-497.
23. Costas, R. 1991. A survey of bird mortality in several southwestern Galician roads during spring and summer. *Curos Congress University Santiago Compsotela*. 66: 219-230.
24. Cottam, C. 1931. Birds and motor cars in South Dakota. *Wilson Bulletin*. 43:313-314.
25. Daniels, R. J. R. 1994. A landscape approach to conservation of birds. *Journal of Biosciences*. 19: 503-509.

26. David, L. M., and R. E. Warner. 1981. Roadside management of pheasants and songbirds in east-central Illinois. In: Tillman, R. E. Ed. Proceedings of second symposium on environmental concerns in right-of-ways management; 1979, October 16-18, Ann Arbor, MI. Ann Arbor, University of Michigan: 1-54.
27. Decker, D. 1987. A limited survey of road kills on the Warsaw-Hamilton blacktop. *Illinois Birds Birding*. 3(3): 63-64.
28. Demartis, A. M. 1987. Birds killed by traffic on the roads and their density. *Riv. Ital. Orntol*. 57(3-4): 193-205.
29. Dhindsa, M.S., J.S. Sandhu, and H.S. Toor. 1988. Roadside birds in Punjab (India): relation to mortality from vehicles. *Environmental Convservation*. 15:303-310.
30. Dickerson, R. C., and A. P. Dickerson. 1993. Kestrels feeding on road casualties. *Scottish Birds*. 17(1): 56.
31. Dixon, N., C. Shawyer, and C. Sperring. 1996. The impact of road mortality on barn owl populations: its significance to road development schemes. *Raptor*. 23: 37-40.
32. Donazar, J. A., F. Hiraldo, and J. Bustamante. 1993. Factors influencing nest site selection, breeding density and breeding success in the bearded vulture (*Gypaetus barbatus*). *Journal of Applied Ecology*. 30: 504-514.
33. Dowler, R. C., and G. A. Swanson. 1982. High mortality of cedar waxwings associated with highway plantings. *Wilson Bulletin*. 94: 602-603.
34. Dunforth, A.A., and F. P. Errington. 1964. Casualties among birds along a selected road in Wiltshire. *Bird Study* 11: 168-182.
35. Ericson, J. E. 1983. Aerial photo censusing of sandhill cranes: distributional effects of Interstate 80. *Proceedings of the North Dakota Academy of Science*. 37: 105-108.
36. Franchimont, J. 1993. Use of birds of roads as navigational cues. *British Birds*. 6(1): 17.
37. Ferrer, M., and M. Harte. 1997. Habitat selection by immature Spanish imperial eagles during the dispersal period. *Journal of Applied Ecology*. 34(6): 1359-1364.
38. Ferris, C.R. 1979. Effects of interstate 95 on breeding birds in northern Maine. *Journal of Wildlife Management*. 43:421-427.

39. Finnis, R.G. 1960. Road casualties among birds. *Bird Study*. 7:21-32.
40. Foppen, R., R. Reijnen. 1994. The effects of car traffic on breeding bird populations in woodland. II. Breeding dispersal of male willow warblers (*Phylloscopus trochilus*) in relation to the proximity of a highway. *Journal of Applied Ecology*. 31: 95-101.
41. Forman, R. T. T., B. Reineking and A. M. Hersperger. 2002. Road traffic and nearby grassland bird patterns in a suburbanizing landscape. *Environmental Management* 29: in press.
42. Glue, D.E., J.J.M. Flegg, and J.M. Dymond. 1971. When do birds die? *Ibis*. 113:4.
43. Greenwood, J. G. 1989. Sandwich terns apparently using roads as navigational cues. *British Birds*. 2(3): 117.
44. Grue, C. E., D. J. Hoffman, W. N. Beyer, and L. P. Franson. 1986. Lead concentrations and reproductive success in European starlings (*Sturnus vulgaris*) nesting within highway roadside verges. *Environmental Pollution (Series A)*. 42: 157-182.
45. Harding, B.D. 1986. Short-eared owl mortality on roads. *British Birds*. 79:403-04.
46. Hanowski, J. A. M., and G. J. Niemi. 1995. A comparison of on- and off-road bird counts: do you need to go off-road to count birds accurately? *Journal of Field Ornithology*. 66(4): 469-483.
47. Havlin, J. 1987. Motorways and birds. *Folia Zoology*. 36(2): 137-153.
48. Hodson, N. L. 1962. Some notes on the causes of bird road casualties. *Bird Study*. 9: 168- 173.
49. Hodson, N. L., and D. W. Snow. 1965. Road deaths enquiry, 1960-1961. *Bird Study*. 12: 168-172.
50. Holbrook, H. T., and M. R. Vaughan. 1985. Influence of roads on turkey mortality. *Journal of Wildlife Management*. 9(3): 611-614.
51. Horkel, J. D., R. S. Lutz and N. J. Silvy. 1981. Right-of-way as habitat for the endangered Attwater's prairie chicken. In: Tillman, R. E. Ed. Proceedings of second symposium on environmental concerns in right-of-ways management; 1979, October 16-18, Ann Arbor, MI. Ann Arbor, University of Michigan: 65-65.

52. Hsu, M., and T. J. Peterle. 1989. Use of artificial nest cavities along Ohio interstate highways by bluebirds (*Sialia sialia*) and mice (*Peromyscus*). *Ohio Journal of Science*. 89(2): 44-52.
53. Hull, C. N. 1979. A comparative study of bird populations on a wooded expressway median. *Jack-Pine Warbler*. 57(4): 184-189.
54. Illner, H. 1992. Effect of roads with heavy traffic on grey partridge (*Perdix perdix*) density. *Gibier Faune Sauvage*. 9: 467-480.
55. Illner, H. 1992. Road deaths of Westphalian owl: methodological problems, influence of road type and possible effects on population levels. In: Galbraith, C. A., I. R. Taylor, and S. M. Percival. Eds. *The ecology and conservation of European Owls*. Peterborough Joint Nature Conservation Committee. Peterborough, UK. 94-100.
56. Ishigaki, K. 1987. The effects of highway construction through the forest on avifauna. *Research Bulletin of the College of Experimental Forestry, Hokkaido University*. 44(2): 823-832.
57. Ishigaki, K. 1987. The effects of a highway on the behaviour of birds.. *Research Bulletin of the College of Experimental Forestry, Hokkaido University*. 44(2): 809-821.
58. Jozsef, R. K. 1980. Cenological and ecological investigations on birds of roadside mulberry trees. *Aquila*. 87: 79-93.
59. Kartanas, E. 1996. Breeding bird communities inhabiting vegetation belts along mid-field roads. *Acta Universitatis Nicolai Copernici Biologia*. 51: 93-110.
60. Keller, V. E. 1991. The effect of disturbance from roads on the distribution of feeding sites of geese (*Anser brachyrhynchus*, *A. anser*), wintering in north-east Scotland. *Ardea*. 79: 229-232.
61. Keller, V., H. G. Bauer, H. W. Ley, and H. P. Pfister. 1996. The influence of wildlife overpasses for birds. *Ornithol. Beob.* 93(3): 249-258.
62. Khokhlov, A. N. 1981. bird mortality on roads. *Priroda (Moscow)*. 981(9): 51-55.
63. Killbride, K. M., J. A. Crawford, K. L. Blakely, and B. A. Williams. 1992. Habitat use by breeding female California quail in western Oregon. *Journal of Wildlife Management*. 56: 85-90.

64. Kinnear, P. K. 1978. Common and black-headed gulls feeding on road corpses. *British Birds*. 71(2): 80-85.
65. Knight, R. L., and J. Y. Kawashima. 1993. Response of raven and red-tailed hawk populations to linear right-of-ways. *Journal of Wildlife Management*. 57: 266-271.
66. Knight R. L., H. A. Knight, and R. J. Camp. 1995. Common ravens and the number and type of linear right-of-ways. *Biological Conservation*. 74(1): 65-67.
67. Kostelecka-Myrcha, A., J. Zukowski, and E. Oksiejczk. 1997. Changes in the red blood indices during nestling development of the tree sparrow (*Passer montanus*) in an urban environment. *Ibis*. 139(1): 92-96.
68. Leach, G. J., and H. F. Recher. 1993. Use of roadside remnants of softwood scrub vegetation by birds in south-eastern Queensland. *Wildlife Research*. 20(2): 233-249.
69. Mead, C. 1993. Use by birds of roads for navigation. *British Birds*. 86(8): 375-376.
70. Moore, T. G., and M. Mangel. 1996. Traffic related mortality and the effects on local populations of barn owls (*Tyto alba*). 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: 125-140.*
71. Nero, R. W. 1981. High mortality of great gray owls in Manitoba: winter 1980-81. *Blue Jay*. 39: 158-165.
72. Nero, R. W. 1986. Great gray owls apparently feeding on frogs on roads at night. *Blue Jay*. 4(3): 189-190.
73. Newton, I., I. Willie, and A. Asher. 1991. Mortality causes in British barn owls (*Tyto alba*) with a discussion of aldrin-dieldrin poisoning. *Ibis*. 133: 162-169.
74. Reijnen, R., R. Foppen, C. Ter Braak, and J. Thissen. 1995. The effects of car traffic on breeding bird populations in woodland: III. Reduction of density in relation to the proximity of main roads. *Journal of Applied Ecology*. 32: 87-202.

75. Reijnen, R., and R. Foppen. 1995. The effects of car traffic on breeding bird populations in woodland. IV. Influence of population size on the reduction of density close to a highway. *Journal of Applied Ecology*. 32: 481-491.
76. Rich, A. C., D. S. Dobkin, and L. J. Niles, 1994. Defining forest fragmentation by corridor width: the influence of narrow forest-dividing corridors on forest-nesting birds in southern New Jersey. *Conservation Biology*. 8:1109-1121.
77. Robinson, S. K., and D. S. Wilcove. 1994. Forest fragmentation in the temperate zone and its effects on migratory songbirds. *Bird Conservation International*. 4(2-3): 233-249.
78. Sutton, P. 1996. Road mortality of northern saw-whet owls in southern New Jersey, winter 1995-96. *New Jersey Audubon Record of New Jersey Birds*. 22(2): 31-32.
79. van der Zande, C. J. ter Keurs, W. J. van der Weigjen. 1980. The impact of roads on the densities of four bird species in an open field habitat-evidence of a long distance effect. *Biological Conservation*. 18: 299-321.
80. Warner, R. E. 1992. Nest ecology of grassland passerines on road rights-of-way in central Illinois. *Biological Conservation*. 59: 1-7.
81. Warner, R. E., M. D. Larry, L. E. Stanley, and G. B. Joselyn. 1992. Costs and benefits of roadside management for ring-necked pheasants in Illinois. *Wildlife Society Bulletin*. 20: 279-285.
82. Zelenak, J. R., and J. J. Rotella. 1997. Nest success and productivity of ferruginous hawks in northern Montana. *Canadian Journal of Zoology*. 75: 1035-1041.

Herpiles

1. Adams, M. D., M. J. Lacki. 1993. Factors affecting amphibian use of road-rut ponds in Daniel Boone National Forest. Transactions of the Kentucky Academy of Science. 54(1-2): 13-16.
2. Ashley, E. P., and J. T. Robinson. 1996. Road Mortality of Amphibians, Reptiles and Other Wildlife on the Long Point Causeway, Lake Erie, Ontario. The Canadian Field-Naturalist. 110: 403-412.
3. Ballasina, D. 1989. Toads and roads in Belgium. In Langton 1989: Amphibians and Roads. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 83-86.
4. Barry, S. J., and H. B. Shaffer. 1994. The status of the California tiger salamander (*Ambystoma californiense*) at Langunita: a 50 years update. Journal of Herpetology. 28: 159-164.
5. Bedford, G. 1991. Two records of road kill predation by mulga snakes (*Pseudechis australis*). Herpetofauna. 21(2) 39-40.
6. Bedford, G. 1991. Record of kill predation by the fresh water snakes (*Tropidonophis mairii*). Herpetofauna. 21(2) 35-36.
7. Bedford, G., and D. G. Anthony. 1995. Road kill predation by the blackheaded python (*Aspidites melanocephalus*). Herpetofauna. 25: 53
8. Bernardino, F., and G. Dalrymple. 1992. Seasonal activity and road mortality of the snakes of the Pa-hay-okee wetlands of Everglades National Park, USA. Biological Conservation 62: 71-75.
9. Boarman, W.I. 1991. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: final report on study design. Report to California Energy Commission. 11 pp.
10. Boarman, W.I. 1992. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: summary of initial field season. Report to California Energy Commission. 30 pp.
11. Boarman, William I., Marc Sazaki, Kristin H. Berry, Gilbert O. Goodlett, W. Bryan Jennings, A. Peter Woodman. 1993. Measuring the effectiveness of a tortoise-proof fence and culverts: status report from first field season. Proceedings Desert Tortoise Council 1993:126-142.

12. Boarman, W.I. 1993. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: summary of 1992 field season. Report to California Energy Commission. 25 pp.
13. Boarman, W.I. 1993. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: annual report for U.S. Fish and Wildlife Service Scientific Research Permit. Unpublished report to U.S. Fish and Wildlife Service, Portland, OR. 27 pp.
14. Boarman, W.I. 1994. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: summary of 1993 field season. Report to California Energy Commission. 30 pp.
15. Boarman, W.I. and M. Sazaki. 1994. Methods for measuring the effectiveness of tortoise-proof fences and culverts along Highway 58, California. Proceedings of the Desert Tortoise Council 1994:284-291.
16. Boarman, W.I. 1995. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: 1991-1994. Report to California Energy Commission. 52 pp.
17. Boarman, W.I. and M. Sazaki. 1996. Highway mortality in desert tortoises and small vertebrates: success of barrier fences and culverts. *In*: G. J. Evink, P. Garrett, D. Zeigler, and J. Berry, Trends in addressing transportation related wildlife mortality: Proceedings of the Transportation Related Wildlife Mortality Seminar. Environmental Management Office, Department of Transportation, Tallahassee, FL.
18. Boarman, W.I. 1996. Effectiveness of fences and culverts for protecting desert tortoises along California Highway 58: 1995 report to U.S. Fish and Wildlife Service. Unpublished report to U.S. Fish and Wildlife Service, Portland, OR. 7 pp.
19. Boarman, W.I. and M. Sazaki. In Press. The effect of roads, barrier fences, and culverts on desert tortoise populations in California, USA. Proceedings of the International Conference on Conservation, Restoration, and Management of Tortoises and Turtles.
20. Brehm, K. 1989. The acceptance of 0.2-meter tunnels by amphibians during their migration to the breeding site. *In*: Langton, T. E. S. ed.: Amphibians and Roads. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 83-86.
21. Buck, D. T., and R. Dobrick. 1989. The behavior of migrating anurans at a tunnel and fence system. *In*: Langton, T. E. S. ed.: Amphibians and Roads.

- Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 137-143.
22. Bugbee, R. E. 1945. A note on the mortality of snakes on highways in western Kansas. Transactions of the Kentucky Academy of Science. 47: 373-374.
 23. Bush, R. Browne-Cooper, and B. Maryan. 1991. Some suggestions to decrease reptile roadkills in reserves with emphasis on the western Australian wheatbelt. Herptofauna. 21: 23-24.
 24. Chan, J. 1993. Evaluation of methods to reduce road mortality of red-sided garter snakes at Narcisse Wildlife Management Area. M.S. thesis, University of Manitoba. Winnipeg, Manitoba. [Pages unknown].
 25. Chardon, J. P., and C. C. Vos. 1993. Locations of tunnels for amphibians in the Netherlands. Waaremingen Van Amfibieen En Reptielen In Nederland. 1993: 47-50.
 26. Chardon, J. P., C. Vos, and H. DeVries. 1996. The use of amphibian tunnels under roads. Lebende Natuur. 97: 110-115.
 27. Cifuentes, T. A., and O. B. Garcia. 1992 Amphibia mortality on the roads of Pontevedra Province. In: Lopez, R. ed. I jornadas para el estudio y prevencion de la mortalidad de vertebrados en carreteras, Madrid, 5 y 6 de octubre de 1991. Tomo 2. [Sessions in the study of prevention of road mortalities of vertebrates, Madrid, 5 and 6 October, 1991. Volume 2.]. Ambiental, Madrid: Coordinadora de Organizaciones de Defensa. 231-238.
 28. Clevenger, A.P., M. McIvor, D. McIvor, B. Chruszcz. & K. Gunson. 2001. Tiger salamander, *Ambystoma tigrinum*, movements and mortality on the Trans-Canada highway in southwestern, Alberta. Canadian Field-Naturalist 115:199-204.
 29. Cooke, A. S. 1988. Mortality of toads (*Bufo bufo*) on roads near a Cambridge breeding site. British Herpetological Society. 6: 29-30.
 30. Corbett, K. F. 1989. Amphibian fencing. In Langton 1989: Amphibians and Roads. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd.: 83-86.
 31. Degn, H. J. 1985. Road-kill of toads (*Bufo bufo*). Flora Og Fauna. 1(1): 17-21.

32. deMaynadier, P. G., and M. L. Hunter Jr. 1995. The relationship between forest management and amphibian ecology: a review of the North American literature. *Environmental Reviews*. 3: 230-261.
33. Dixel, R. 1989. Investigations into the protection of migrant amphibians from the threats from road traffic in the Federal Republic of Germany: a summary. In Langton 1989: *Amphibians and Roads*. Proceedings of the Toad Tunnel Conference Rendsburg, Federal Republic of Germany, 7-8, pp.43-49.
34. Dodd, C.K., K.M. Enger, and J.N. Stuart. 1989. Reptiles on highways in north-central Alabama, USA. *Journal of Herpetology*. 23:197-200.
35. Eason, G. W. Jr., and J. E. Faith. 1996. Patterns of diversity: the influence of roads and firebreaks on the declining amphibian population. *Bulletin of the South Carolina Academy of Science*. 58: 90-94.
36. Engel, E., and G. A. Swanson. 1982. Functionality of a new protection site for amphibians in the Kehlen township. *Bulletin De La Societe Des Naturalistes Luxembourgeois*. 1993: 121-127.
37. Fahrig, L. J.H. Pedlar, S.E. Pope, P.D. Taylor, and J.F. Wagner. 1995. Effect of road traffic on amphibian density. *Biological Conservation*: 3: 177-182.
38. Feldmann, R., and A. Geiger. 1989. Protection for amphibians on roads in Nordrhein-Westphalia. In Langton 1989: *Amphibians and Roads*. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 51-57.
39. Fowle, S. 1996. Effects of roadkill mortality on the western painted turtle (*Chrysemys picta bellii*) in the Mission Valley, western Montana. In: Evink, D. Ziegler, 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: 205-223.
40. Fusari, M. 1982. Feasibility of a highway crossing system for desert tortises. Department of Transportation, Federal Highways Admonistration. FHWA / CA / TP-81 / 1. 41 p.
41. Guyot, G., and J. Clobert. 1997. Conservation measures for a population of Hermann's tortoise, *Testudo hermanni*, in southern France bisected by a major highway. *Biological Conservation*. 79:251-256.

42. Gittins, P. 1983. Road casualties solve toad mysteries. *New Scientist*. 97: 158-162.
43. Goodman, S. M., M. Pigeon, and S. O'Connor. 1994. Mass mortality of Madagascar radiated tortises caused by road construction. *Oryx*. 28: 115-118.
44. Hamel, P. B. 1996. *Agkistrodon piscivorus leucostoma* (western cotton mouth). Carrion feeding. *Herpetological Review*. 27(3): 143-145.
45. Henry, P., and C. Espain. 1989. Amphibian protection on Highway A71 in Solonge, France. In Langton 1989: Amphibians and Roads. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 91-92.
46. Jackson, S., 1996. Underpass Systems for Amphibians. 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: 224-227.
47. Jackson, S.D., and T. F. Tynning. 1989. Effectiveness of drift fences and tunnels for moving spotted salamanders (*Ambystoma maculatum*) under roads. In Langton 1989: Amphibians and Roads. Proceedings of the toad tunnel conference Rendsburg, Federal Republic of Germany. Shefford, England. ACO Polymer Products, Ltd. Pp: 83-86.
48. Kolodenko, A. I. 1981. On the mortality of reptiles and amphibians by vehicles on the roads of Turkmenistan. In : Darevskij, I. S., N. B. Ananeva, Z. S. Barkagan, and others, eds. The problem of herpetology: abstracts. Leningrad: Nauka: 68-68.
49. Langton, T.E.S., 1989. Amphibians and Roads. Proceedings of the Toad Tunnel Conference Rendsburg, Federal Republic of Germany, 7-8.
50. Lehtinen, R. M., S. M. Galatowitsch, J. R. Tester, 1999. Consequences of Habitat Loss and Fragmentation for Wetland Amphibian Assemblages. *Wetlands*. 19:1-12.
51. Leeuwen, B.H. 1982. Protection of migrating common toad (*Bufo bufo*) against car traffic in the Netherlands. *Environmental Conservation* 9:34.

52. Means, B. D. 1999. The effects of highway mortality on four species of amphibians at a small, temporary pond in northern Florida. In G.L. Evink, P. Garrett, D. Zeigler, and J. Berry (eds), *Third International Conference on Wildlife Ecology and Transportation (ICOWET): proceedings*, FL-ER-73-99, pp.125-128.
53. Means, D. B., 1996. A Preliminary Consideration of Highway Impacts on Herpetofauna Inhabiting Small Isolated Wetlands in the Southeastern U.S. Coastal Plain. Proceedings of the Florida Department of Transportation/Federal Highway Administration Transportation-Related Wildlife Mortality Seminar (ICOWET).
54. Pauli, B. 1997. Effects of highway salting on amphibians. Environment Canada. Ottawa, Ontario. [Pages unknown].
55. Podloucky, R. 1989. Protection of amphibians on roads: examples and experiences from Lower Saxony. In Langton 1989: Amphibians and Roads. Proceedings of the Toad Tunnel Conference Rendsburg, Federal Republic of Germany, 7-8, pp.43-49. Pp.15-28.
56. Reh, W. and Z. Seitz. 1990. The influence of land use on genetic structure of populations of the common frog (*Rana temporaria*). *Biological Conservation* 54:239-249.
57. Rosen, P.C. and C.H. Lowe. 1994. Highway mortality of snakes in the Sonoran Desert of southern Arizona. *Biological Conservation* 68:143-148.
58. Sazaki, Marc, William I. Boarman, Glenn Goodlett, and Tracy Okamoto. 1995. Risk associated with long-distance movements by desert tortoises. *Proceedings of the Desert Tortoise Council* 1995:33-48.
59. Seabrook, W. A., and E. B. Dettmann. 1996. Roads as activity corridors for cane toads in Australia. *Journal of Wildlife Management*. 60: 363-368.
60. Vos, C.C., and J.P. Chardon. 1998. Effects of habitat fragmentation and road density on the distribution of the moor frog *Rana arvalis*. *Journal of Applied Ecology*. 35:44-56.
61. Weatherhead, P. J., and K. A. Prior. 1992. Preliminary observations of habitat use and movements of the eastern massassauga rattlesnake (*sistrurus c. catenatus*). *Journal of Herpetology*. 26: 447-452.

Fish

1. Carey, M., and P. Wagner. 1996. Salmon passages and other wildlife activities in Washington State. In: Evink, G., D. Ziegler, 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: 153-168.
2. Chase, S. 1998. Road recovery salmon restoration: the regional approach. In: Evink, G., P. Garrett, D. Zeigler, and J. Berry, eds. Proceedings of the international conference on wildlife ecology and transportation. February 10-12, 1998; Ft. Meyers, FL., Tallahassee FL. Florida Department of Transportation. 140-142.

Invertebrates

1. Baur, A., and B. Baur. 1990. Are roads barriers to dispersal in the land snail (*Arianta arbustorum*)? Canadian Journal of Zoology. 68:613-617.
2. Beckemeyer, R. J. 1996. Dragonflies as roadkills. Argia. 8:19-20.
3. Beeby, A., and L. Richmond. 1987. Adaptation by an urban population of the snail *Helix aspersa* to a diet contaminated with lead. Environmental Pollution (Series A). 46:73-82.
4. Coulson, G. 1982. Road-kills of macropod on a section of highway in central Victoria. Australian Wildlife Research. 9: 21-26.
5. Coulson, G. 1989. The effect of drought on road mortality of macropods. Australian Wildlife Research. 16: 79-83.
6. Demers, M. N. 1993. Roadside ditches as corridors for range expansion of the western harvester ant (*Pogomyrmex occidentalis* Cresson). Landscape Ecology. 8: 93-102.
7. Den Boer, P. J. 1979. The significance of dispersal power for the survival of species, with special reference to the carabid beetles in a cultivated countryside. Fortschr. Zool. 25: 79-94.
8. Dennis, R.L.H. 1986. Motorways and cross-movements. An insect "mental map" of the M56 in Chesire. Bull. Amateur Entomol. Soc. 45: 228-243.
9. Munguira, M. L., and J. A. Thomas. 1992. Use of road verges by butterfly and burnet populations and the effect of roads on adult dispersal and mortality. Journal of Applied Ecology. 9(2): 316-329.
10. Port, G. R., and J. R. Thompson. 1980. Outbreaks of insect herbivores on plants along motorways in the United Kingdom. Journal of Animal Ecology. 17: 649-656.
11. Spencer, H. J., and G. R. Port. 1988. Effects of roadside conditions on plants and insects. II. Soil conditions. Journal of Applied Ecology. 25: 709-715.
12. Vermeulen, H. J. W. 1993. The composition of the carabid fauna on poor sandy roadside verges in relation to comparable open areas. Biodiversity and Conservation. 4: 331-350.
13. Vermeulen, H. J. W. 1994. Corridor function of a road verge for dispersal of stenotopic heathland ground beetles (*Carabidae*). Biological Conservation. 69: 339-349.

14. Zangger, A. 1995. Wildlife overpasses over a motorway as connecting means for arthropod communities. M.S. thesis. Universitat Bern, Switzerland. 95 p.

Vegetation

1. Auerbach, N., M.D. Walker, and D.A. Walker. 1997. Effects of roadside disturbance on substrate and vegetation properties in arctic tundra. *Ecological Applications*. 7:218-235.
2. Amor, R. L., and P. L. Stevens. 1976. Spread of weeds from a roadside into sclerophyll forests at Dartmouth, Australia. *Weed Research*. 16: 111-118.
3. Angold, P. G. 1977. The impact of a road upon adjacent heathland vegetation – effects on plant species composition. *Journal of Applied Ecology*. 34: 409-417.
4. Ayeni, A. O., D. T. Lordbanjou, and B. A. Majek. 1997. *Tithonia diversifolia* (Mexican sunflower) in southwestern Nigeria - occurrence and growth habitat. *Weed Research*. 37: 443-449.
5. Hofstra, G., and R. Hall. 1971. Injury on roadside trees: leaf injury on pine and white cedar in relation to foliar levels of sodium and chloride. *Journal of Environmental Management*. 19(3): 261-271.
6. Thompson, J. R. and A. J. Rutter. 1986. The salinity of motorway soils: IV. Effects of sodium chloride on some native British shrubs species, and the possibility of establishing shrubs on the central reserves of motorways. *Journal of Applied Ecology*. 23: 299-315.
7. Wilcox, D. A. 1989. Migration and control of purple loosestrife (*Lythrum salicaria* L.) along highway corridors. *Environmental Management*. 13: 365-370.

Environmental Contaminants, Water Quality, Noise and Erosion

1. Albasel, N., and A. Cottenie. 1985. Heavy metal contamination near major highway, industrial and urban areas in Belgium grassland. *Water, Air, Soil Pollution*. 24: 103-109.
2. Brown, C. T., and D. Brinkley. 1994. Effect of management on water quality in North American forests. General Technical Report GTR-RM-248. U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. Ft. Collins, CO. 27 p.
3. Demers, C. L., and W. S. Richard. 1990. Effects of road deicing salt on chloride levels in four Adirondack streams. *Water, Air, Soil Pollution*. 49: 369-373.
4. Hofstra, G., and D. W. Smith. 1984. The effects of road deicing salt on the level of ions in roadside soils in southern Ontario. *Journal of Environmental Management*. 19(3): 261-271.
5. Hsu, M. T. 1984. Roadside deicing chemical accumulation after 10 years. *Transportation Research Record*. 969: 36-40.
6. Kjensmo, J. 1997. The influence of road salts on the salinity and the meromictic stability of Lake Svinsjoen, southern eastern Norway. *Hydrobiologia*. 347: 151-158.
7. Roberts, B. C. 1995. Best management practices for erosion and sediment control. Washington, DC: U.S. Department of Transportation, Federal Highway Administration. FHWA-FLP-94-005. 187 pp.
8. Rutter, A. J., and J. R. Thompson. 1986. The salinity of motorway soils. III. Simulation of the effects of salt usage and rainfall on sodium and chloride concentrations in the soil of central reserves. *Journal of Applied Ecology*. 23: 281-297.
9. Shaw, E. A. 1996. Noise environments outdoors and the effects on community noise exposure. *Noise Control Engineering Journal*. 44: 109-119.
10. Ylaranta, T. 1995. Effect of road traffic on heavy metal concentrations of plants. *Agricultural Science in Finland*. 4: 35-48.