

CURRICULUM VITAE

Anthony Paul Clevenger

Research Wildlife Biologist

Western Transportation Institute, Montana State University
Bozeman, Montana 59717 USA

Mailing address:

138 Birch Avenue, Harvie Heights, Alberta T1W 2W2, CANADA

Tel: 403 609 2127

e-mail: apclevenger@gmail.com

Languages: **English** – Mother tongue. **Spanish & French** - Fluent.

Education

Ph.D. 1990 - *Zoology (Vertebrate ecology)*. Universidad de León, SPAIN.

M.Sc. 1986 - *Wildlife Ecology*. University of Tennessee, Knoxville, USA.

B.Sc. 1980 - *Conservation of Natural Resources*. University of California, Berkeley, USA.

Employment history

Senior Research Wildlife Biologist. **Western Transportation Institute, Montana State University**, Bozeman, Montana USA – November 2002 to present

Conservation biologist (on contract). **Parks Canada, Banff National Park**, Banff, Alberta, CANADA. – August 1996 to 2002

Wildlife Consultant. **WWF-World Wide Fund for Nature**, Gland, SWITZERLAND. – February 1996 to April 1996

Wildlife Biologist-Project Leader. **le Direction Régionale de l'Environnement**, Midi-Pyrénées, Toulouse, FRANCE. -- March 1995 to May 1995

Research Wildlife Biologist. **USDA Forest Service**, Pacific Southwest Experiment Station, Redwood Sciences Laboratory, Arcata, Calif. USA. -- April 1994 to December 1994

Research Associate. **Universidad de León**, Depto. de Biología Animal, León, SPAIN. – April 1985 to September 1993

Peer-refereed publications (since 1990)

- Cerqueira, R., P. Leonard, L. Gonçalves da Silva, A. Bager, J. Jaeger, A.P. Clevenger, C. Grilo.** Potential movement corridors and high road-kill likelihood do not spatially coincide for felids in Brazil: Implications for road mitigation. *Journal of Environmental Management (In review)*.
- Barrueto, M., M.A. Sawaya, A.P. Clevenger. In press.** Low wolverine density in protected area complex in the Canadian Rocky Mountains. *Canadian Journal of Zoology*.
- Pinto, F., A. Bager, A.P. Clevenger, C. Grilo. 2020.** Effects of roads on wildlife communities in Latin America. *Environmental Impact Assessment and Review* 81(2020) 106337.
- Mowat, G., A.P. Clevenger, A. Kortello, D. Hausleitner, M. Barrueto, L. Smit, C. Lamb, B. Dorsey, P.K. Ott. 2019.** The sustainability of wolverine trapping mortality in southern Canada. *Journal of Wildlife Management* 84:213-226.
- Creech, T, ER Fairbank, AP Clevenger, R Callahan, R Ament. 2019.** Differences in spatiotemporal patterns of vehicle collisions with wildlife and livestock. *Environmental Management* 64:736-745.
- Heim, N, JT Fisher, J Volpe, AP Clevenger, J Paczkowski. 2019.** Carnivore community response to anthropogenic landscape change: species-specificity foils generalizations. *Landscape Ecology* 11:2493-2507..
- Sawaya, M, AP Clevenger, M Schwartz. 2019.** Demographic fragmentation of a protected wolverine (*Gulo gulo*) population bisected by a major transportation corridor. *Biological Conservation* 236:616-625.
- Ford, AF, AP Clevenger. 2019.** Factors affecting the permeability of road mitigation measures to the movement of small mammals. *Canadian Journal of Zoology* 97: 379-384.
- Grilo, C., F.A.S. Pinto, R. Andrasik, H.M. Pereira, A.P. Clevenger. 2019.** Reply: Modeling scenarios of population response to roads as a conservation risk assessment. *Biological Conservation* 30:201-202.
- Plante, J, K Belanger-Smith, A Spanowicz, AP Clevenger, JAG Jaeger. 2018.** Road mortality locations of small and medium-sized mammals along a partly-fenced highway in Quebec, Canada, 2012-2015. *Data in Brief* 21:1209-1215.
- Jaeger, J., A. Spanowicz, J. Bowman, A.P. Clevenger. 2018.** Clôtures et passages fauniques pour les petits et moyens mammifères le long de la route 175 au Québec: quelle est leur efficacité? *Le Naturaliste Canadien* 143:69-80..
- Pinto, F.A.S., A. Bager, A.P. Clevenger, C. Grilo. 2018.** Giant anteater (*Myrmecophaga tridactyla*) conservation in Brazil: analyzing the relative effects of fragmentation and mortality due to roads. *Biological Conservation* 228:148-157.

- Poot, C., A.P. Clevenger. 2018.** Reducing Vehicle Collisions with the Central American Tapir in Central Belize District, Belize. Submitted: *Tropical Conservation Science* 11:1-7.
- Ascensao, F, L Fahrig, AP Clevenger, R Corlett, J Jaeger, WF Laurance, H Pereira. 2018.** Environmental challenges for the Belt and Road Initiative. *Nature Sustainability* 1:206-209.
- Mohammadi, A., K. Almasieh, A.P. Clevenger, A. Rezaie, F. Fatemizadeh, H. Joukar, M. Kabouli. 2018.** Road expansion and conservation of mammals, with particular emphasis on the endangered Asiatic cheetah in Iran. *Journal of Nature Conservation* 43:8-18.
- Ford, A.T., M. Barrueto, A.P. Clevenger. 2017.** Road-mediated demographic filtering in a large carnivore. *Wildlife Society Bulletin*. DOI: 10.1002/wsb.828
- Heim, N., J. Fisher, A.P. Clevenger, J. Paczkowski, J. Volpe. 2017.** Cumulative effects of climate and landscape change drive spatial distribution of wolverine distribution in the Canadian Rocky Mountains. *Ecography* DOI: 10.1002/ece3.3337 .
- Steenweg, R., M. Hebblewhite, R. Kays, J. Ahumada, J. Fisher, C. Burton, S. Townsend, C. Carbone, M. Rowcliffe, J. Whittington J. Brodie, J.A. Royle, A. Switalski, A.P. Clevenger, N. Heim, L. Rich. 2017.** Scaling up camera traps — monitoring the planet's biodiversity with networks of remote sensors. *Frontiers in Ecology and Environment* 15:26-34.
- Stewart, F., N. Heim, A.P. Clevenger, J. Paczkowski, J. Volpe, J. Fisher. 2016.** Wolverine behaviour varies spatially with anthropogenic footprint: implications for conservation and inferences about declines. *Ecology and Evolution* 6:1493-1503.
- D'Amico, M., A.P. Clevenger, J. Roman, E. Revilla. 2015.** Generic vs. specific surveys: Estimating the effectiveness of different road-crossing structures for small mammals. *Journal of Wildlife Management* 79:854-860.
- Kociolek, A., R. Ament, R. Callahan, AP Clevenger. 2015.** Wildlife Crossings: The new norm for transportation planning. *ITE Journal* April 2015: 45-47.
- Clevenger, AP, M Barrueto, K Gunson, F Caryl, AT Ford. 2015.** Context-dependent effects on spatial variation in deer-vehicle collisions. *Ecosphere* 6:art47. <http://dx.doi.org/10.1890/ES14-00228.1>
- Hopkins, J., J. Whittington, AP, Clevenger, M. Sawaya, C. St. Clair. 2014.** Stable isotopes reveal rail-associated behavior in a threatened carnivore. *Isotopes in Environmental and Health Studies* 50:322-331.
- Ascensao, F., C. Grilo, S. LaPoint, J. Tracey, A.P. Clevenger, M. Santos-Reis. 2014.** Inter-individual variability of stone marten behavioral responses to a highway. *PLoS ONE* 9(7): e103544. doi:10.1371/journal.pone.0103544.

Clevenger, AP. Accepted. Mitigating highways with wildlife passages: Guidelines for planning, design and assessments. *Revista de Biología Tropical*.

Barrueto, M., A.T. Ford, A.P. Clevenger. 2014. Anthropogenic effects on activity patterns of wildlife at crossing structures. *Ecosphere* 5(3):27. <http://dx.doi.org/10.1890/ES13-00382.1>

McKelvey, K.S., K.B. Aubry, N.J. Anderson, A.P. Clevenger, J.P. Copeland, K.S. Heinemeyer, R.M. Inman, J. Squires, J.S. Waller, K. Pilgrim, M.K. Schwartz. 2014. Recovery of wolverines in the Western United States: Recent extirpation and re-colonization or range retraction and expansion? *Journal of Wildlife Management* 78:325-334.

Sawaya, M, S Kalinowski, AP Clevenger. 2014. Genetic connectivity for two bear species at wildlife crossing structures in Banff National Park. *Proceedings of the Royal Society (B)* 281:201131705.

Clevenger, AP, A Kociolek. 2013. Potential impacts of highway median barriers on wildlife: State of practice and gap analysis. *Environmental Management* 52:1299-1312.

Clevenger AP. 2013. Mitigating highways for a ghost: Data collection challenges and implications for managing wolverines and transportation corridors. *Northwest Science* 87:257-264.

Sawaya, M, AP Clevenger, S Kalinowski. 2013. Wildlife crossing structures connect Ursid populations in Banff National Park. *Conservation Biology* 27:721-730.

Ascensao, F., A Clevenger, M Santos-Reis, P Urbano, N Jackson. 2013. Wildlife-vehicle collision mitigation: is partial fencing the answer? An agent-based model approach. *Ecological Modelling* 257:36-43.

Clevenger, AP. 2012. Mitigating continental scale bottlenecks: How small-scale highway mitigation has large-scale impacts. *Ecological Restoration* 30:300-307.

Ascensao, F., AP Clevenger, C Grilo, J Filipe, M Santos-Reis. 2012. Highway verges as habitat providers for small mammals in agrosilvopastoral environments. *Biodiversity and Conservation* 21:3681-3697.

Sawaya, M, J Stetz, AP Clevenger, M Gibeau, S Kalinowski. 2012. Estimating grizzly and black bear population abundance and trend in Banff National Park using noninvasive genetic sampling. *PLoS ONE* 7(5): e34777. [doi:10.1371/journal.pone.0034777](https://doi.org/10.1371/journal.pone.0034777)

Clevenger, AP. 2012. Leçons tirées de l'étude des passages fauniques enjambant une autoroute dans le parc national de Banff. *Le Naturaliste canadien* 136:36-41.

Ford, AT, AP Clevenger, MP Huisjer, A Dibb. 2011. Planning and prioritization strategies for phased highway mitigation using wildlife-vehicle collision data. *Wildlife Biology* 17:253-265.

Kociolek, A, AP Clevenger, CC St Clair, D Proppe. 2011. Effects of the road transportation

network on bird populations. *Conservation Biology* 25: 241-249.

Ford, AT, AP Clevenger. 2010. Validity of the prey trap hypothesis for carnivore-ungulate interactions at wildlife crossing structures. *Conservation Biology* 24: 1679-1685.

van der Ree, R., J. A. G. Jaeger, E. A. van der Grift, and A. P. Clevenger. 2011. Effects of roads and traffic on wildlife populations and landscape function: road ecology is moving towards larger scales. *Ecology and Society* 16(1): 48. [online] URL: [++vol16/iss1/art48/](#)

van der Ree, R, J Jaeger, AP Clevenger, E Van der Grift (eds.). 2010. Effects of roads and traffic on wildlife populations and landscape function. Special issue, *Ecology and Society* (online).

Beckmann, J, AP Clevenger, M Huijser, J Hilty (eds.). 2010. *Safe passages: Highways, wildlife and habitat connectivity*. Island Press, Washington DC

Clevenger AP, AT Ford. 2010. "Terrestrial Mitigation – Crossing structures, fencing and other highway design considerations." Chapter 2 in: Jon P. Beckmann, Tony Clevenger, Marcel Huijser, and Jodi Hilty (eds.) *Safe Passages: Highways, Wildlife and Habitat Connectivity*. Island Press, Washington DC.

Ford, AT, AP Clevenger, K Rettie. 2010. Banff Wildlife Crossings, Trans-Canada Highway, Alberta – An international public-private partnership. Chapter in *Safe passages: Highways, wildlife and habitat connectivity*. J Beckmann, AP Clevenger, M Huijser, J Hilty (eds.). Island Press, Washington DC

Clevenger, AP, M Sawaya. 2009. A non-invasive genetic sampling method for measuring population-level benefits of wildlife crossings for bears in Banff National Park, Alberta, Canada. *Ecology and Society* 15(1): 7. [online] URL: <http://www.ecologyandsociety.org/vol15/iss1/art7/>.

Huijser, MP, JW Duffield, AP Clevenger, RJ Ament, PT. McGowen. 2009. Cost-benefit analyses of mitigation measures aimed at reducing collisions with large ungulates in North America; a decision support tool. *Ecology and Society* 14(2): 15. [online] URL: <http://www.ecologyandsociety.org/vol14/issue2/art15/>.

Ford, AT, AP Clevenger, A Bennett. 2009. Comparison of non-invasive methods for monitoring wildlife crossing structures on highways. *Journal of Wildlife Management* 73:1213-1222.

Ford, AT, K Rettie, AP Clevenger. 2009. Fostering ecosystem function through an international public-private partnership: a case study of wildlife mitigation measures along the Trans Canada Highway in Banff National Park, Alberta, Canada. *International Journal of Biodiversity Science, Ecosystems Services & Management* 5:181-189

Rettie, K, AP Clevenger, AT Ford. 2009. Innovative approaches for managing conservation and use challenges in the national parks: An example from Canada. Pages 396-415. In: T. Jamal and M. Robinson (eds.). *In: Handbook of Tourism Studies*. Sage Publications Inc.

- Gunson, K, A Clevenger, A Ford, J Bissonette, A Hardy. 2009.** A comparison of data sets varying in spatial accuracy used to predict the occurrence of wildlife-vehicle collisions. *Environmental Management* 44:268-277.
- Ament, R, AP Clevenger, O Yu, A Hardy. 2008.** An assessment of road impacts on wildlife populations in U.S. National Parks. *Environmental Management* 42, 480-496.
- Clevenger, AP, J Wierzchowski. 2006.** Maintaining and restoring connectivity in landscapes fragmented by roads. Pages 502-535 in *Connectivity Conservation* (Eds. K. Crooks, M. Sanjayan). Cambridge University Press, Cambridge, U.K.
- Huijser, MP, AP Clevenger. 2006.** Habitat and corridor function of rights-of-ways. Pages 233-254 in : *The ecology of transportation: managing mobility for the environment*. J. Davenport & J.L. Davenport (eds). Springer, London, UK.
- National Research Council. 2005.** *Assessing and managing the ecological impacts of paved roads*. Washington, DC: The National Academies Press. (authors: **L Gunderson, A Clevenger, A Cooper, V Dale, L Evans, G Evink, L Fahrig, K Haynes, W Kober, S Lester, K Redford, M Strand, P Wagner, J Yowell**)
- Hansen, M, AP Clevenger. 2005.** The influence of disturbance and habitat on the frequency of non-native plant species along transportation corridors. *Biological Conservation* 125:249-259.
- Clevenger, AP. 2005.** Conservation value of wildlife crossings : measures of performance and research directions. *GAIA-Ecological Perspectives for Science and Society* 14 :124129.
- Clevenger, AP, N Waltho. 2005.** Performance indices to identify attributes of highway crossing structures facilitating movement of large mammals. *Biological Conservation* 121:453-464.
- Chruszcz, B, AP Clevenger, K Gunson, M Gibeau. 2003.** Relationships among grizzly bears, highways and habitat in the Banff-Bow Valley, Alberta. *Canadian Journal of Zoology* 81:1378-1391.
- Clevenger, AP, B Chruszcz, K Gunson 2003.** Spatial patterns and factors influencing small vertebrate fauna road-kill aggregations. *Biological Conservation* 109:15-26.
- Forman, RTT, D Sperling, J Bissonette, A Clevenger, C Cutshall, V Dale, L Fahrig, R France, C Goldman, K Heanue, J Jones, F Swanson, T Turrentine, T Winter. 2003.** *Road ecology: Science and Solutions*. Island Press, Washington, DC.
- Little, SJ, RG Harcourt, AP Clevenger. 2002.** Do wildlife passages act as prey-traps? *Biological Conservation* 107:135-145.
- Clevenger, AP, 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.

- Gibeau, ML, AP Clevenger, S Herrero, J Wierzchowski, J. 2002.** Grizzly bear response to human development and activities in the Bow River watershed, Alberta. *Biological Conservation* 103:227-236.
- Garin, I, I Zuberogoitia, J Zabala, J Aihartza, AP Clevenger, A Rallo, A. 2002.** Home ranges of European mink *Mustela lutreola* in southwestern Europe. *Acta Theriologica* 47:55-62.
- Clevenger, AP, B Chruszcz, K Gunson. 2001.** Drainage culverts as habitat linkages and factors affecting passage by mammals. *Journal of Applied Ecology* 38 :1340-1349.
- Clevenger, AP, 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.
- Clevenger, AP, B Chruszcz, K Gunson. 2001.** Effectiveness of highway mitigation fencing at reducing wildlife-vehicle collisions. *Wildlife Society Bulletin* 29:646-653.
- Gloyne, CC, AP Clevenger. 2001.** Cougar use of wildlife crossing structures on the Trans-Canada highway in Banff National Park, Alberta. *Wildlife Biology* 7:117-124.
- Clevenger, AP, N Waltho. 2000.** Factors influencing the effectiveness of wildlife underpasses in Banff National Park, Alberta, Canada. *Conservation Biology* 14:47-56.
- Zielinski, WJ, N Duncan, C Farmer, R Truex, AP Clevenger, RH Barrett. 1999.** Diet of the fisher (*Martes pennanti*) at the southernmost extent of its range. *Journal of Mammalogy* 80:961-971.
- Clevenger, AP, FJ Purroy, MA Campos. 1997.** Habitat assessment of a relict brown bear population in northern Spain. *Biological Conservation* 80:17-22.
- Clevenger, AP, FJ Purroy. 1996.** Sign surveys for estimating trend of a remnant brown bear population in northern Spain. *Wildlife Biology* 2 :275-281.
- Clevenger, AP. 1996.** Frugivory of *Martes martes* and *Genetta genetta* in an insular Mediterranean habitat. *Revue d'Ecologie (Terre Vie)* 51:19-28.
- Clevenger, AP. 1995.** Seasonality and relationships of food resource use among *Martes martes*, *Genetta genetta*, and *Felis catus* in the Balearic Islands. *Revue d'Ecologie (Terre Vie)* 50:109-131.
- Clevenger, AP. 1994.** Habitat characteristics of Eurasian pine martens in an insular Mediterranean environment. *Ecography* 17:257-263.
- Clevenger, AP, MA Campos, A Hartasanchez. 1994.** Brown bear *Ursus arctos* predation on livestock in the Cantabrian Mountains, Spain. *Acta Theriologica* 39:267-278.

Clevenger, AP. 1994. Feeding ecology of the Eurasian pine marten *Martes martes* and stone marten *Martes foina* in Europe. Pages 326-340 in: S.W. Buskirk, A.S. Harestad, M.G. Raphael & R.A. Powell, eds. *Martens, sables, and fishers: biology and conservation*. Cornell Univ. Press, Ithaca, N.Y.

Clevenger, AP. 1993. Pine marten comparative feeding ecology in an island and mainland population of Spain. *Zeit. Säugetierkunde* 58:212-224.

Clevenger, AP. 1993. The European pine marten (*Martes martes* L.) in the Balearic Islands, Spain. *Mammal Review* 23:65-72.

Clevenger, AP. 1993. Pine marten *Martes martes* L. home ranges and activity patterns on the island of Minorca, Spain. *Zeit. Säugetierkunde* 58:137-143.

Clevenger, AP. 1993. Spring and summer food habits and habitat use of the European pine marten *Martes martes* L. on the island of Minorca, Spain. *Journal of Zoology (London)* 229:153-161.

Clevenger, AP, FJ Purroy, MR Pelton. 1992. Brown bear habitat use in the Cantabrian Mountains, Spain. *Mammalia* 56:203-214.

Clevenger, A., FJ Purroy, MR Pelton. 1992. Food habits of brown bears in the Cantabrian Mountains, Spain. *Journal of Mammalogy* 73:415-421.

Clevenger, AP, FJ Purroy, M Sáenz de Buruaga. 1992. Copulation of wild European brown bears, with comments on the breeding behaviour of one adult male. *Mammalia* 56:3-8.

Other publications (technical or not peer-reviewed)

Clevenger, A.P., M. Sawaya, E. Landguth. 2016. *Trans-Canada Highway, Yoho National Park: Mitigation and opportunities assessment*. Final report to Highway Engineering Services, Parks Canada, Banff, Alberta, Canada. 185 pp.

Clevenger, A.P., M. Barraeto. 2016. *Highway 16 Jasper National Park: Mitigation and opportunities assessment*. Final report to Highway Engineering Services, Parks Canada, Banff, Alberta, Canada. 134 pp.

Clevenger, A.P., M.A. Sawaya, E.L. Landguth, and B.P. Dorsey. 2014. *Mitigating multi-species mortality and fragmentation on the Trans-Canada Highway through Mount Revelstoke and Glacier National Parks, British Columbia*. Final report to Parks Canada Agency, Revelstoke, British Columbia.

Clevenger, A.P., M. Barraeto. 2014. *Trans-Canada Highway wildlife monitoring and research. Final report 2014, Part B Research*. Final report to Parks Canada Agency, Radium Hot Springs, British Columbia, Canada. 225 pp.

Clevenger, A.P. & M.P. Huijser. 2011. *Wildlife Crossing Structure Handbook, Design and Evaluation in North America*, Publication No. FHWA-CFL/TD-11-003. Department of Transportation, Federal Highway Administration, Washington D.C., USA.

Clevenger, A.P. 2011. *Best management practices for planning considerations for wildlife passage in urban environments*. Contract 0010203. Report to Alberta Transportation, Edmonton, Alberta.

Clevenger, A.P., C. Apps, T. Lee, M. Quinn, D. Paton, D. Poulton, R. Ament. 2010. *Highway 3: Transportation mitigation for wildlife and connectivity in the Crown of the Continent Ecosystem*. Report prepared for Woodcock, Wilburforce and Calgary Foundations. 54pp.

Kociolek, A., A.P. Clevenger, B. Cypher. 2010. *Effects of four-lane highways on Desert Kit Fox and Swift Fox : Inferences for the San Joaquin Kit Fox population*. Report prepared for California Department of Transportation, Sacramento, CA. 54 pp.

Clevenger, A.P., A.T. Ford, and M.A. Sawaya. 2009. *Banff wildlife crossings project : Integrating science and education in restoring population connectivity across transportation corridors*. Final report to Parks Canada Agency, Radium Hot Springs, British Columbia, Canada. 165 pp.

Clevenger, A.P., A.V. Kociolek, B. Cypher. 2009. *Effects of Four-Lane Highways on Desert Kit Fox and Swift Fox: Inferences for the San Joaquin Kit Fox Population*. Caltrans Research Contract 65A0250. California Department of Transportation, Sacramento, CA.

Clevenger, AP, N Wilson, AT Ford. 2009. *Project recommendations for the Kinder Morgan Canada Trans-Mountain Legacy Fund*. Report to Kinder Morgan Canada, Calgary, Alberta. 64pp.

Clevenger, A.P., R. Long, R. Ament. 2008. *I-90 Snoqualmie Pass East wildlife monitoring plan*. Prepared for Washington State Department of Transportation, Yakima, Washington.

Clevenger, A.P., A.T. Ford, and S. MacDougall. 2008. *Strategies workshop on the reduction of animal-vehicle collisions on Alberta's roadways : Synthesis and recommendations*. Final report (December 2008). Contract No. CE108/08. Prepared for Alberta Transportation, Edmonton, Alberta, Canada.

Clevenger, A.P. and A.V. Kociolek. 2006. *Highway median impacts on wildlife movement and mortality: State of the practice survey and gap analysis*. Caltrans Research Report No. F/CA/MI-2006/09. California Department of Transportation, Sacramento, CA.

Clevenger, A.P. 2006. Science-based approach to adaptive management of the TCH corridor: Canadian Rocky Mountain Parks. Pages 94-100, in *Proceedings of the 2005 International Conference on Ecology and Transportation*, edited by C.L. Irwin, P. Garrett and K. McDermott. Raleigh, NC. Center for Transportation and the Environment, North Carolina State University.

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 (October 2002). Report prepared for Parks Canada, Banff, Alta. 445p.

Clevenger, AP, J Wierzchowski, N Waltho. 2002. Planning and performance of wildlife crossing structures in a major transportation corridor. Pages 267-276, in: *Environmental Concerns in Rights-of-Way Management : Seventh International Symposium*. J.W. Goodrich-Mahoney, D.F. Mutrie & C.A. Guild (eds). Elsevier Science Ltd., London, UK.

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: *Proceedings of the International Conference on Wildlife Ecology and Transportation*. G. Evink, P. Garrett, D. Ziegler, and J. Berry (eds.). FL-ER-69-98, Florida Dept. of Transportation, Tallahassee, Florida. 263 pp.

Clevenger, AP, FJ Purroy, MR Pelton. 1993. Winter activity and den characteristics of brown bears in the Riaño National Hunting Reserve, Spain. *Transactions International Union Game Biologists Congress 18:349-352*.

Clevenger, AP, FJ Purroy. 1991. Demografía del oso pardo en la Cordillera Cantábrica. *Ecología 5:243-256*.

Clevenger, AP, FJ Purroy. 1991. Ecología del oso pardo en España. *CSIC-Museo Nacional de Ciencias Naturales, Monografía No. 4. 155 pp*.

Clevenger, AP, MR Pelton. 1990. Pre and post breakup movements and space use of black bear family groups in Cherokee National Forest, Tennessee. *International Conference Bear Research and Management 8:289-296*.

Clevenger, AP, FJ Purroy, MR Pelton. 1990. Movement and activity patterns of a European brown bear in the Cantabrian Mountains, Spain. *International Conference Bear Research and Management 8:205-212*.

Clevenger, AP. 1987. Observación del lince *Lynx pardinus* en la provincia de Lugo, España. *Doñana Acta Vertebrata 14:140-142*.

Clevenger, AP. 1987. Atypical incubation rates of peregrine falcons in New Mexico. *Journal Raptor Research 21:33-35*.

Clevenger, AP, FJ Purroy, M Saénz de Buruaga. 1987. Status of the brown bear in the Cantabrian Mountains, Spain. *International Conference Bear Research and Management 7:1-8*.

Graduate Supervision/Committee

Complex Effects of Human-Impacted Landscapes on the Spatial Patterns of Mammalian

Carnivores

Nicole Heim - MSc

Department of Geography, University of Victoria, Victoria BC Canada.

Supervisor: Dr Jason Fisher

Committee: Anthony Clevenger, John Volpe

Completion: 2014.

Ecologically scaled responses of forest vertebrates to habitat fragmentation

Fernando Ascensao - PhD

Depto Biologia Animal, Universidade de Lisboa, Lisboa, Portugal

Supervisor: Dr Margarida Santos-Reis & Anthony Clevenger

Committee:

Completion: 2013.

Evaluating the effects of wildlife passages and exclusion fencing on road mortality for medium-sized and small mammals along Quebec's Route 175

Katrina Belanger - MSc

Department of Geography, Concordia University, Montreal, QC Canada.

Supervisor: Drs Jochen Jaeger & Anthony Clevenger

Committee: Robert Weladji, James Grant

Completion: 2014.

Using noninvasive genetic sampling methods to estimate genetic and demographic parameters for large carnivore populations in the Rocky Mountains.

Michael A. Sawaya - PhD

Department of Ecology, Montana State University, Bozeman, Montana, USA.

Supervisor: Dr Stephen Kalinowski

Committee: Anthony Clevenger, Scott Creel, L. Scott Mills

Completion: 2012.

Factors affecting bear and ungulate mortalities on the Canadian Pacific Railway through Banff and Yoho National Parks.

Ben Dorsey - MSc

Department Land, Resource and Environmental Studies, Montana State University, Bozeman, Montana, USA.

Supervisor: Drs. Bruce Maxwell & Lisa Rew

Committee: Anthony Clevenger, Scott Creel

Completion: 2011.

Small scale winter habitat selection by American marten (*Martes americana*)

Aswea Porter - MSc

Department of Biological Sciences, University of Alberta, Edmonton, CANADÁ.

Supervisor: Dr. Colleen Cassady St. Clair

Committee: Anthony Clevenger, Fiona Schmiegelow, David Hik.

Completion: 2002.

Effects of habitat fragmentation on small mammal movement behaviour in Banff National Park

Wayne McDonald - MSc

*Department of Biological Sciences, University of Alberta, Edmonton, CANADÁ.***Supervisor:** Dr. Colleen Cassady St. Clair**Committee:** Anthony Clevenger, Jens Roland, Ross Wein.**Completion:** 2002.**Distribution of subadult and adult grizzly bears in relation to human development and human activity in the Bow River Watershed, Alberta**

Cedar Mueller - MSc

*Faculty of Environmental Design, University of Calgary, Alberta, CANADÁ.***Supervisor:** Dr. Stephen Herrero**Committee:** Anthony Clevenger, Robert Barclay, Jim Patterson, Paul Paquet.**Completion:** 2001.**Road impacts on plants – spread of introduced species in Banff National Park, Canada**

Malin Hansen

*Department of Plant Ecology, Uppsala University, Uppsala, SUECIA.***Supervisor:** Drs. Brita Svensson y A.P. Clevenger**Completion:** 2000.**Reducing the impacts of highways on large carnivores**

Gareth Goldthorpe - MSc

*Department of Biological Sciences, University of East Anglia, Norwich, REINO UNIDO.***Supervisor:** Drs. Diana Bell y A.P. Clevenger**Completion:** 2000.**Cougars and roads: their use of wildlife crossing structures on the Trans-Canada highway, in Banff National Park, through analysis of their tracks**

Claire Gloyne - MSc

*Department of Biological Sciences, University of East Anglia, Norwich, REINO UNIDO.***Supervisor:** Drs. John D. Reynolds y A.P. Clevenger**Completion:** 1999.**Related activities**

Named member of **U.S. National Academy of Sciences** committee to study the *Effects of Highways on Natural Communities and Ecosystems* (December 2002-2005).

Associate Editor for *Wildlife Biology*, quarterly journal published by the Nordic Council for Wildlife Research, Rønde, Denmark (June 2003-present).

Adjunct Assistant Professor (non-remunerated). **University of Calgary**, Faculty of Environmental Design. – (1998-2001, 2005-2013).

*Adjunct Assistant Professor (non-remunerated). Present (since October 1988) - **University of Tennessee, Knoxville**, Dept. Forestry, Wildlife & Fisheries, Knoxville, Tennessee, USA.*

Updated: May 2018