

CURRICULUM VITAE

ANA DESIREE DAVIDSON

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EDUCATION

- 1998 – 2005 Ph.D. *with Distinction* in Biology, University of New Mexico (UNM).
- 1994 – 1998 B.S. *Magna Cum Laude*, Major in Biology, Minor in Earth & Planetary Sciences, UNM.

PROFESSIONAL EXPERIENCE

- 2016-Present *Research Associate*. Department of Wildlife, Humboldt State University.
- 2014-Present *Faculty (Lecturer of Vertebrate Ecology, present)*. Department of Wildlife, Humboldt State University.
- 2014-Present *Research Assistant Professor*. Department of Biology, UNM.
- 2014 *Research Ecologist*. Institute for Wildlife Studies (IWS).
- 2013 – 2014 *Research Assistant Professor*. Department of Ecology & Evolution, Stony Brook University (SBU).
- 2013 (May-June) *Special Visiting Researcher*. Centro de Biociências, Universidade Federal do Rio Grande do Norte (UFRN), Natal, Brazil. Science without Borders Program. Host: Dr. Gabriel Costa.
- 2012 – 2013 *Research Assistant Professor*. Joint position between Department of Ecology & Evolution, SBU with Dr. Catherine Graham and NatureServe with Dr. Bruce Young, under a National Science Foundation (NSF) Dimensions of Biodiversity Grant, led by Dr. Thomas Brooks.
- 2009 – 2012 *Postdoctoral Research Assistant*. Institute of Ecology, UNAM with Dr. Gerardo Ceballos.
- 2007 – 2009 *National Science Foundation International Research Fellow*. Host: Institute of Ecology, UNAM, Dr. Gerardo Ceballos.

(PROFESSIONAL EXPERIENCE CONTINUED)

- 2006 – 2007 *Postdoctoral Fellow*. Institute of Ecology, UNAM with Dr. Gerardo Ceballos.
- 2005 – 2006 *Nature Conservancy Postdoctoral Fellow*. Hosts: Drs. Gerardo Ceballos, Institute of Ecology, UNAM and James H. Brown, Department of Biology, UNM.
- 2001 – 2005 *Museum Curatorial Assistant*. Division of Arthropods, Museum of Southwestern Biology (MSB), Department of Biology, UNM.

ADDITIONAL EXPERIENCE IN ECOLOGY

- 2000 - 2004 *Graduate Research Assistant*. Sevilleta Long-Term Ecological Research (LTER) Program, Department of Biology, UNM.
- 2002 (October) *Contract Biologist*. Southwestern Biomes, Inc. Riparian restoration monitoring project, Pueblo of Santa Ana, Bernalillo County, NM.
- 2002 (June) *Contract Biologist*. Grand Canyon Monitoring and Research Center, US Geological Survey. Ecological monitoring project of the Grand Canyon riparian ecosystem, Grand Canyon, AZ.
- 1998 – 2000 *Contract Biologist*. USDA, Jornada Experimental Range, Doña Ana County, NM. Cross-site desert grassland fire ecology study.
- 1999 (October) *Contract Biologist*. Arid Lands Project. Prairie dog ecology study at the Gray Ranch, Hidalgo County, NM.
- 1999 (October) *Contract Biologist*. Arid Lands Project. Cross-site desert grassland fire ecology study at the Gray Ranch, Hidalgo County, NM.

TEACHING EXPERIENCE

- 2014-2016 *Lecturer*. Management of Mammals, Upland Habitat Ecology, Senior Project, Wildlife Techniques, Department of Wildlife, HSU.
- 2005-2014 *Guest lecturer* in upper division courses, including: Community Ecology, Mammalogy, Conservation Biology, Restoration Ecology, Mammals Management, Wildlife Ecology and Management. HSU, UNAM, UNM.
- 2000 – 2003 *Instructor*. Desert Field Biology, Department of Biology, UNM.

1999-2005 *Graduate Teaching Assistant* in upper division courses: Ecosystem Dynamics, Bosque Biology and Desert Field Biology, and lower division General Biology Labs, Department of Biology, UNM.

PUBLICATIONS

- 2016 Penone, C., B. Weinstein, C. H. Graham, T. M. Brooks, C. Rondinini, S. B. Hedges, **A. D. Davidson**, and G. C. Costa. Global mammal betadiversity show parallel assemblage structure in similar but isolated environments. *Proceedings of the Royal Society B* 283:20161028
- 2016 Böhm, M., D. Cook, H. Ma, **A.D. Davidson**, A. Garcia, B. Tapley, P. Pearce-Kelly, and J. Carr. Hot and bothered: using trait-based approaches to assess climate change vulnerability in reptiles. *Biological Conservation* 204:32-41.
- 2016 Oliveira, B., A. Machac, G. C. Costa, T. M. Brooks, **A. D. Davidson**, C. Rondinini, and C. H. Graham. Species and functional diversity accumulate differently in terrestrial mammals. *Global Ecology and Biogeography* 25:1119-1130.
- 2016 Ponce-Guevara, E., **A. D. Davidson**, R. Sierra-Corona, G. Ceballos. Interactive Effects of Black-Tailed Prairie Dogs and Cattle on Shrub Encroachment in a Desert Grassland Ecosystem. *PLOS ONE* 11(5): e0154748.
- 2016 Böhm, M., R. Williams, H. Bramhall, K. McMillan, **A.D. Davidson**, A. Garcia, L. Bland, J. Bielby, and B. Collen. The correlates of extinction risk in reptiles: the relative importance of biology, geography and threat. *Global Ecology and Biogeography* 25: 391–405.
- 2015 Sierra–Corona, R., **A. D. Davidson**, E.L. Fredrickson, H. Luna-Soria, E. Ponce, and G. Ceballos. Black-tailed prairie dogs, cattle, and the conservation of North America’s arid grasslands. *PLOS ONE* 10(3): e0118602.
- 2014 Penone, C., **A. D. Davidson**, K. T. Shoemaker, M. Di Marco, , C. Rondinini, T. Brooks, B. Young, C. H. Graham, and G. C. Costa. Imputation of missing data in life-history traits datasets: which approach performs the best? *Methods in Ecology and Evolution* 5:961-970.

(PUBLICATIONS CONTINUED)

- 2014 **Davidson, A. D.**, M. T. Friggens, K. Shoemaker, C. L. Hayes, J. Erz, and R. Duran. Population dynamics of reintroduced Gunnison's prairie dogs in the southern portion of their geographic range. *Journal of Wildlife Management* 78:429-439.
- 2014 Murray, K. A., L. D. Verde Arregoitia, **A. D. Davidson**, M. Di Marco, and M. M. I. Di Fonzo. Threat to the point: improving the value of comparative extinction risk analysis for conservation action. *Global Change Ecology* 20:483-494.
- 2014 Bergstrom, B. J., L. C. Arias, **A. D. Davidson**, A. W. Ferguson, L. Randa, and S. R. Sheffield. License to kill: reforming Wildlife Services to restore biodiversity and ecosystem function. *Conservation Letters* 7:131-142.
- 2014 J. H. Brown, C. Allen, J. R. Burger, W. Burnside, M. Chang, **A. D. Davidson**, T. Fristoe, M. J. Hamilton, S. T. Hammond, A. Kodrick-Brown, N. Mercado-Silva, J. Nekola, J. Okie, and W. Woodruff. Macroecology meets Macroeconomics: Resource Scarcity and Global Sustainability. *Ecological Engineering* 65:24-32.
- 2013 Nekola J., J. H. Brown, R. Burger, W. Burnside, **A. D. Davidson**, T. Fristoe, M. J. Hamilton, S. T. Hammond, A. Kodrick-Brown, N. Mercado, J. Okie. The Malthusian-Darwinian dynamic and human nature. *Trends in Ecology and Evolution* 28:127-130. * all authors contributed equally
- 2012 Lightfoot, D. C., **A. D. Davidson**, D. G. Parker, L. Hernandez, J. Laundre. Bottom-up regulation of desert grassland and shrubland rodent communities: implications of species-specific reproductive potentials. *Journal of Mammalogy* 93(4):1017-1028.
- 2012 **Davidson, A. D.**, J. K. Detling, and J. H. Brown. Ecological roles and conservation challenges of social, herbivorous, burrowing mammals in the world's grasslands. *Frontiers in Ecology and the Environment* 10:477-485.
- 2012 Burger, J. R., C. Allen, J. H. Brown, W. Burnside, **A. D. Davidson**, T. Fristoe, M. J. Hamilton, N. Mercado, J. Okie, W. Zuo, and J. Nekola. The macroecology of sustainability. *PLoS Biology* 10(6): e1001345. * all authors contributed equally
- 2012 **Davidson, A. D.**, A. G. Boyer, H. Kim, S. Pompa-Mansilla, M. J. Hamilton, D. P. Costa, G. Ceballos, and J. H. Brown. Drivers and hotspots of extinction risk in marine mammals. *Proceedings of the National Academy of Sciences* 109:3395-3400.

(PUBLICATIONS CONTINUED)

- 2011 Brown, J. H., W. Burnside, **A. D. Davidson**, J. P. DeLong, B. Dunn, M. J. Hamilton, N. Mercado, J. Okie, W. Woodruff, and W. Zuo. Energetic limits to economic growth. *BioScience* 61:19-26.
- 2011 Hamilton, M. J., **A. D. Davidson**, R. M. Sibly, and J. H. Brown. Universal scaling of production rates across mammalian lineages. *Proceedings of the Royal Society B* 278:560-566.
- 2010 Lightfoot, D. C., **A. D. Davidson**, D. Parker, and C. M. McGlone. Rabbit abundance in northern Chihuahuan Desert grassland and shrubland habitats relative to rainfall and plant production. *Western North American Naturalist* 70:490-499.
- 2010 **Davidson, A. D.**, E. Ponce, D. C. Lightfoot, E. L. Fredrickson, J. H. Brown, J. Cruzado, S. L. Brantley, R. Sierra, R. List, D. Toledo, and G. Ceballos. Rapid response of a grassland ecosystem to an experimental manipulation of a keystone rodent and domestic livestock. *Ecology* 91:3189-3200.
- 2010 Ceballos, G., **A. D. Davidson**, R. List, J. Pacheco, P. Manzano, G. Santos, and J. Cruzado. Rapid decline of a grassland ecosystem and its ecological and conservation implications. *PLoS ONE* 5:e8562.
- 2009 Ceballos, G., R List, **A. D. Davidson**, E. Fredrickson, R. Sierra, L. Martínez, J. Herrick, and J. Pacheco. Grassland conservation in the borderlands: understanding coupled human- ecological systems to achieve conservation goals in Lopez-Hoffman, L., R. Varady, and K. Flessa. Conservation of Shared Environments: Learning from the United States and Mexico. University of Arizona Press.
- 2009 **Davidson, A. D.**, M. J. Hamilton, A. G. Boyer, J. H. Brown, and G. Ceballos. Multiple ecological pathways to extinction in mammals. *Proceedings of the National Academy of Sciences* 106:1702-1705.
- 2008 **Davidson, A. D.**, D. C. Lightfoot, and J. L. McIntyre. Engineering rodents create key habitat for lizards. *Journal of Arid Environments* 72:2142-2149.
- 2008 **Davidson, A. D.** and D. C. Lightfoot. Burrowing rodents increase landscape heterogeneity in a desert grassland. *Journal of Arid Environments* 72:1133-1145.
- 2007 **Davidson, A. D.** and D. C. Lightfoot. Interactive effects of keystone rodents on the structure of desert grassland arthropod communities. *Ecography* 30:515-525.

(PUBLICATIONS CONTINUED)

- 2006 **Davidson, A. D.** and D. C. Lightfoot. Keystone rodent interactions: prairie dogs and kangaroo rats structure the biotic composition of a desertified grassland. *Ecography* 29:755-765.
- 1999 **Davidson, A. D.**, R. R. Parmenter, and J. R. Gosz. Responses of small mammals and vegetation to a reintroduction of Gunnison's prairie dogs. *Journal of Mammalogy* 80:1311-1324.

GRANTS, AWARDS, AND FELLOWSHIPS

- 2015 Research Grant. New Mexico Department of Game and Fish. \$20,000.
- 2014 Carlos Slim Research Grant. World Wildlife Fund. \$200,000.
- 2013 Future Fellowship (awarded to Australian Professor, Dr. Heloise Gibb, to study at SBU with me). Australian Research Council.
- 2013 Sandwich Fellowship (awarded to Brazilian Ph.D. Student, Fernanda Thiesen Brum, to study abroad for 9 months at SBU, with me as her advisor). Brazil Science without Borders Program. \$8500.
- 2013 UNAM Fellowship (awarded to Mexican Ph.D. Student, Eduardo Ponce, to study abroad for 3 months at SBU, with me as his advisor). UNAM. \$5000.
- 2013 Carlos Slim Research Grant. World Wildlife Fund. \$120,000.
- 2013 Research Grant. Program for the protection of the black-tailed prairie dog in Sonora and Chihuahua. National Commission of Natural Protected areas (CONANP), Secretariat of Environment and Natural Resources (SEMARNAT). \$25,000.
- 2013 Range-Wide Prairie Dog Mapping Project. Prairie Dog Coalition, Humane Society of the United States (HSUS). \$40,000.
- 2012 Research Grant. New Mexico Dept. Game and Fish. \$17,000.
- 2012 President's Award to Conservation Committee members. American Society of Mammalogists.
- 2009 Research Grant. United States Fish and Wildlife Service. \$25,000.
- 2008 Research Grant. Share with Wildlife Program, New Mexico Dept. Game and Fish. \$11,000.

(GRANTS, AWARDS, AND FELLOWSHIPS CONTINUED)

2008	Research Fellowship. UNAM. \$25,000.
2007	Research Fellowship. NSF. International Research Fellowship Prog. \$157,705.
2006	Postdoctoral Fellowship. UNAM. \$24,000.
2006	Postdoctoral Fellowship. J. M. Kaplan Fund. \$15,000.
2005	Postdoctoral Fellowship. The Nature Conservancy. \$25,000.
2005	Postdoctoral Fellowship. J. M. Kaplan Fund. \$15,000.
2005	Research Grants. T & E, Inc. \$5,000.
2004 – 2005	Share with Wildlife Program. New Mexico Dept. Game and Fish. \$5,000.
1999 – 2004	Graduate Research Assistantships. NSF. \$28,900. (total across these years)
2001 – 2004	Graduate Research Grants. T & E, Inc & Alvin R. and Caroline G. Grove Summer Scholarship, UNM Graduate Research, Project, and Travel Grant. \$5,200.
1997 – 1998	Research Experiences for Undergraduates & Undergraduate Student in Environmental Biology Awards. NSF. \$6,700.

ORGANIZED SYMPOSIA AND WORKSHOPS

2016	Shoemaker, K. T., A. D. Davidson , J. Busch. NSF Research Coordination Network Workshop: plague resistance in prairie dogs NSF EEID proposal development. Colorado State University, Fort Collins, CO, USA.
2015	Davidson, A. D. , D. Wagner, and K. T. Shoemaker. Understanding plague resistance in prairie dogs and its potential consequences for large-scale conservation of North America's central grasslands. Colorado State University, Fort Collins, CO, USA.
2013	Bergstrom, B., A. A. Ahlers, A. D. Davidson , A. Ferguson, R. Honeycutt, L. Randa. Predator Control Technical Session. 93 rd American Society of Mammalogists Meeting, Philadelphia, PA, USA.

(ORGANIZED SYMPOSIA AND WORKSHOPS)

- 2010 **Davidson, A. D.**, A. G. Boyer, and G. Ceballos. Addressing the Extinction Crisis for a Changing Planet: Synthesis and New Directions for Predicting Risk Across Vertebrates Symposium, 24th International Congress for Conservation Biology Meeting, Edmonton, Canada.
- 2010 **Davidson, A. D.**, M.T. Friggens, D. C. Lightfoot, and S. C. Collins. Determining the Cascading Effects of a Reintroduced Keystone Rodent on a Grassland Ecosystem. Workshop held at the Sevilleta LTER, NM, USA.
- 2009 Skroch, M. and **A. D. Davidson**. Ecology and Conservation of the US-Mexico Borderlands Region Symposium, USGS and the Society for Conservation Biology's 10th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ, USA.

SELECTED INVITED PRESENTATIONS

- 2016 **Davidson, A. D.** Scaling up biodiversity conservation: from local to global. Humboldt State University, Arcata , CA, USA. (*Invited Seminar*)
- 2015 **Davidson, A. D.** Biodiversity conservation: from local to global scale. *In* symposium: Going Macro: Is Scaling Up All the Same? Ecological Society of America Meeting, Baltimore, MD. (*Invited presentation*)
- 2013 **Davidson, A. D.**, J. K. Detling, and J. H. Brown. Biodiversity conservation: from prairie dogs to global mammal extinction risk. Humboldt State University, Arcata , CA, USA. (*Invited Seminar*)
- 2013 **Davidson, A. D.**, J. K. Detling, and J. H. Brown. Biodiversity conservation: from prairie dogs to global mammal extinction risk. Oklahoma State University, Stillwater , OK, USA. (*Invited Seminar*)
- 2013 **Davidson, A. D.** Biodiversity conservation: from prairie dogs to global mammal extinction risk. University of Nebraska-Lincoln, Lincoln, NE. (*Invited Seminar*)
- 2013 **Davidson, A. D.** Biodiversity conservation: from prairie dogs to global mammal extinction risk. Universidade Federal do Rio Grande do Norte, Natal, Brazil. (*Invited Seminar*)
- 2013 **Davidson, A. D.** Forecasting global mammal extinction risk & unraveling the consequences across the dimensions of biodiversity. McMaster University, Hamilton, Ontario, Canada. (*Invited Seminar*)

(SELECTED INVITED PRESENTATIONS CONTINUED)

- 2013 **Davidson, A. D.** Forecasting global mammal extinction risk & unraveling the consequences across the dimensions of biodiversity. Stony Brook University, Stony Brook, NY, USA. *(Invited Seminar)*
- 2013 **Davidson, A. D.** Forecasting global mammal extinction risk. Conservation Biogeography Special Session, 6th International Biogeography Society meeting, Miami, Florida, USA. *(Invited Presentation)*
- 2011 **Davidson, A. D.** Biodiversity conservation through two lenses: community ecology and macroecology. University of California, Irvine, Irvine, CA, USA. *(Invited Seminar)*
- 2010 **Davidson, A. D.,** M. J. Hamilton, A. G. Boyer, J. H. Brown, G. Ceballos. Multiple ecological pathways to extinction in terrestrial and marine mammals. Addressing the Extinction Crisis for a Changing Planet: Synthesis and New Directions for Predicting Risk Across Vertebrates Symposium, 24th International Congress for Conservation Biology Meeting, Edmonton, Alberta, Canada. *(Invited Presentation)*
- 2009 **Davidson, A. D.** Interactive Effects of Small and Large Herbivores on the Structure of Grassland Ecosystems. University of North Dakota, Grand Forks, ND, USA. *(Invited Seminar)*
- 2009 **Davidson, A. D.,** S. L. Brantley, J. H. Brown, J. Cruzado, E. L. Fredrickson, D. C. Lightfoot, R. List, P. Manzano-Fischer, E. Ponce, J. Pacheco, G. Santos, R. Sierra, and G. Ceballos. The Janos grassland ecosystem: 20 years of synthesis and experimental research revealing new insights for conservation and management. Ecology and Conservation of the US-Mexico Borderlands Region Symposium, USGS and the Society for Conservation Biology's 10th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ, USA. *(Invited Presentation)*
- 2009 **Davidson, A. D.,** M. J. Hamilton, A. G. Boyer, J. H. Brown, G. Ceballos. Multiple ecological pathways to extinction in mammals. Global Patterns of Mammal Species Distribution: Implications for Macroecology and Conservation Symposium, International Mammalogical Congress, Mendoza, Argentina. *(Invited Presentation)*
- 2009 **Davidson, A. D.,** M. J. Hamilton, A. G. Boyer, J. H. Brown, G. Ceballos. Multiple ecological pathways to extinction in mammals. Biogeography of Extinction Symposium, International Biogeography Society Meeting, Merida, Mexico. *(Invited Presentation)*

REFERENCES

Dr. James H. Brown, *Distinguished Professor*
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Dr. Joel Berger, *Barbara Cox Anthony University Chair and Professor*
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