

## CURRICULUM VITAE

### ANA DESIREE DAVIDSON

*Instituto de Ecología, Universidad Nacional Autónoma de México*

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#### EDUCATION

- 1998 – 2005      Doctor of Philosophy (Ph.D.) *with Distinction*, Department of Biology, University of New Mexico, Albuquerque, New Mexico. Dissertation: *The comparative and interactive effects of prairie dogs and banner-tailed kangaroo rats plants and animals in the northern Chihuahuan Desert.*
- 1994 – 1998      Bachelor of Science (B.S.) *Magna Cum Laude* (Major in Biology, Minor in Earth & Planetary Sciences), University of New Mexico, Albuquerque, New Mexico. Senior Honors Thesis: *Responses of small mammals and vegetation to a reintroduction of Gunnison's prairie dogs.*
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#### PROFESSIONAL EXPERIENCE

- 2007 (Sept.) – Present      *National Science Foundation (NSF) International Research Fellow.* Institute of Ecology, Universidad Nacional Autónoma de México (UNAM) *host* Dr. Gerardo Ceballos.
- 2007 (June) – Present      *Adjunct Research Assistant Professor.* Department of Biology, University of New Mexico (UNM).
- 2006 – 2007      *Postdoctoral Research Associate.* Institute of Ecology, UNAM under Dr. Gerardo Ceballos.
- 2005 – 2006      *Postdoctoral Research Associate.* Joint position between the Institute of Ecology, UNAM under Dr. Gerardo Ceballos and the Department of Biology, UNM under Dr. James H. Brown.
- 2001 – 2005      *Museum Curatorial Assistant.* Division of Arthropods, Museum of Southwestern Biology (MSB), Department of Biology, UNM.
- 2004 (June – July)      *Graduate Research Assistant.* Sevilleta Long-Term Ecological Research (LTER) Program, Department of Biology, UNM.
- 2003 (June – July)      *Graduate Research Assistant.* Sevilleta 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 – July)      *Graduate Research Assistant.* Sevilleta LTER Program, Department of Biology, UNM.

**(PROFESSIONAL EXPERIENCE CONTINUED)**

- 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.
- 2001 (Aug. – Dec.) *Graduate Research Assistant.* Sevilleta LTER Program, Department of Biology, UNM.
- 2001 (June – July) *Graduate Research Assistant.* Sevilleta LTER Program, Department of Biology, UNM.
- 1998 – 2000 *Contract Biologist.* USDA, Jornada Experimental Range, Doña Ana County, NM. Cross-site desert grassland fire ecology study.
- 2000 (June – July) *Graduate Research Assistant.* Sevilleta LTER Program, Department of Biology, UNM.
- 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.
- 2000 (June – July) *Graduate Research Assistant.* Sevilleta LTER Program, Department of Biology, UNM.
- 1998 (May – August) *Student in the Undergraduate Mentoring in Environmental Biology (UMEB) Program.* Sevilleta LTER Program, Department of Biology, UNM.
- 1997 (May – August) *Student in the Research Experiences for Undergraduates (REU) Program.* Department of Biology, UNM.

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**TEACHING EXPERIENCE**

- 2004 (spring) *Graduate Teaching Assistant.* Ecosystem Dynamics (402/502), UNM.
- 2002 – 2003 (fall) *Graduate Teaching Assistant.* Bosque Biology (407/507), UNM.
- 2000 – 2003 (spring) *Graduate Teaching Assistant.* Desert Field Biology (447/547), UNM.
- 1999 – 2000 *Graduate Teaching Assistant.* General Biology Labs (121L,122L), UNM.

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**PUBLICATIONS**

- In Review **Davidson, A. D.**, E. Ponce, S. L. Brantley, J. Cruzado, E. L. Fredrickson, R. Sierra, R. List, D. C. Lightfoot, D. Toledo, J. H. Brown, and G. Ceballos. Interactive effects of small and large herbivores: Prairie dogs and cattle cause rapid changes to a grassland community. *Ecology*.
- In Review Lightfoot, D. C., **A. D. Davidson**, D. Parker, and C. M. McGlone. Rabbit population dynamics in northern Chihuahuan Desert grassland and shrubland habitats relative to rainfall and plant production. *The Southwestern Naturalist*.

**(PUBLICATIONS CONTINUED)**

- In Review                    Ceballos, G., **A. D. Davidson**, R. List, J. Pacheco, P. Manzano, G. Santos, and J. Cruzado. Rapid collapse of a grassland ecosystem and its ecological and conservation implications. *PLoS One*.
- In Press                        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. Transboundary conservation between the US 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.
- 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.

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**PRESENTATIONS**

- Oct 2009                        **Davidson, A. D.**, R. List, and G. Ceballos. The Janos grassland system: Experimental research and 20 years of synthesis revealing new insights for conservation and management. To be presented at the Ecology and Conservation of the US-Mexico Borderlands Region Symposium, Colorado Plateau Chapter of the Society for Conservation Biology Meeting, Flagstaff, AZ. (*Invited Presentation*)
- Aug 2009                        **Davidson, A. D.**, M. J. Hamilton, A. G. Boyer, J. H. Brown, G. Ceballos. Multiple ecological pathways to extinction in mammals. To be presented at the Global Patterns of Mammal Species Distribution: Implications for Macroecology and Conservation Symposium, International Mammalogical Congress, Mendoza, Argentina. (*Invited Presentation*)
- Aug 2009                        **Davidson, A. D.**, E. Ponce, S. L. Brantley, J. Cruzado, E. L. Fredrickson, R. Sierra, R. List, D. C. Lightfoot, D. Toledo, J. H. Brown, and G. Ceballos. Interactive effects of native and exotic herbivores: Prairie dogs and cattle cause rapid changes to a grassland community. To be presented at the Ecological Society of America Meeting, Albuquerque, NM.

**(PRESENTATIONS CONTINUED)**

- Aug 2009 Fredrickson, E. L., Ceballos, G., List, R., Barajas, N., Sayre, N., Roacho, J. O., Sierra, R., Ponce, E., **Davidson A. D.**, Melgoza, A., Jaquez, C., and Bezanilla, G.A. Linking biological conservation to healthy rural communities: a case history of the Janos – Casas Grandes Biosphere Reserve. To be presented at the Ecological Society of America Meeting, Albuquerque, NM.
- Aug 2009 Friggens, M., **A. D. Davidson**, D. C. Lightfoot, and S. L. Collins. A reintroduction of Gunnison's prairie dogs to the Sevilleta National Wildlife Refuge. To be presented at the Ecological Society of America Meeting, Albuquerque, NM.
- 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*)
- 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*)
- 2007 Sierra, R., E. L. Fredrickson, G. Ceballos, A. L. González, A. S. Laliberte, **A. D. Davidson**, R. List, G. Bezanilla, E. Ponce. Can prairie dog-cattle interactions be used to remediate desertified Chihuahuan Desert grasslands? Ecological Society of America/Society for Ecological Restoration International Joint Meeting, San Jose, CA.
- 2007 **Davidson, A. D.**, R. List, J. Pacheco, P. Manzano, J. Cruzado, H. Zarza, and G. Ceballos. Rapid ecological collapse of a grassland system. 87<sup>th</sup> American Society of Mammalogists Meeting, Albuquerque, NM.
- 2006 **Davidson, A. D.** The role of prairie dogs as ecosystem engineers across grassland systems. LTER All Scientists Meeting, Estes Park, CO. (*Invited Presentation*)
- 2006 **Davidson, A. D.** and D. C. Lightfoot. Interactive impacts of keystone rodent species: implications for conservation and biodiversity. 20<sup>th</sup> Society for Conservation Biology Meeting, San Jose, CA.
- 2006 Friggens, M., **A. D. Davidson**, and P. Martin. Reintroduction of Gunnison's prairie dogs to the Sevilleta National Wildlife Refuge. Sevilleta LTER Symposium, UNM, Albuquerque, NM.
- 2005 **Davidson, A. D.** and D. C. Lightfoot. Apparent mutualism between prairie dogs and banner-tailed kangaroo rats. Sevilleta LTER Symposium, UNM, Albuquerque, NM.
- 2004 **Davidson, A. D.** and D. C. Lightfoot. Effects of prairie dogs and banner-tailed kangaroo rats on desert grassland vegetation in the northern Chihuahuan Desert. Sevilleta LTER Symposium, UNM, Albuquerque, NM.

**(PRESENTATIONS CONTINUED)**

- 2003a                    **Davidson, A. D.** and D. C. Lightfoot. Effects of prairie dogs and banner-tailed kangaroo rats on desert grassland vegetation in the northern Chihuahuan Desert. 88<sup>th</sup> Ecological Society of America Annual Meeting, Savannah, GA.
- 2003b                    **Davidson, A. D.** Interactions between prairie dogs and banner-tailed kangaroo rats in northern Chihuahuan Desert grasslands. 83<sup>rd</sup> Annual Meeting of the American Society of Mammalogists, Texas Tech University, Lubbock, TX.
- 2003c                    **Davidson, A. D.** and D. C. Lightfoot. Gunnison's prairie dogs and banner-tailed kangaroo rat effects on plants and animals at the Sevilleta NWR. Sevilleta LTER Symposium, UNM, Albuquerque, NM.
- 2003d                    **Davidson, A. D.** and D. C. Lightfoot. Comparative and interactive effects of two keystone rodent species, prairie dogs (*Cynomys gunnisoni*) and banner-tailed kangaroo rats (*Dipodomys spectabilis*), on plants and animals in a northern Chihuahuan Desert grassland. 2003 LTER All Scientists Meeting, Seattle, WA. (*poster*)
- 2003e                    **Davidson, A. D.** and D. C. Lightfoot. Comparative and interactive effects of two keystone rodent species, prairie dogs (*Cynomys gunnisoni*) and banner-tailed kangaroo rats (*Dipodomys spectabilis*), on plants and animals in a northern Chihuahuan Desert grassland. Sevilleta LTER, NSF Site Review, UNM, Albuquerque, NM. (*poster*)
- 2001                    **Davidson, A. D.** and D. C. Lightfoot. Comparative effects of Gunnison's prairie dogs and banner-tailed kangaroo rats on plants and arthropods in a semi-arid grassland. Sevilleta LTER Symposium, Sevilleta NWR, NM.
- 2000                    **Davidson, A. D.**, D. C. Lightfoot, and J. R. Gosz. Comparative effects of Gunnison's prairie dogs and banner-tailed kangaroo rats on plants and grasshoppers in a semi-arid grassland. 86<sup>th</sup> Ecological Society of America Annual Meeting, Snowbird, UT.
- 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. Sevilleta LTER Symposium, Sevilleta NWR, NM.

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**GRANTS RECEIVED**

- 2009                    Research Grant. United States Fish and Wildlife Service. \$25,000.
- 2008                    Share with Wildlife Program. New Mexico Game and Fish Dept. \$11,000.
- 2008                    Research Fellowship. Universidad Nacional Autónoma de México. \$25,000.
- 2007                    Research Fellowship. NSF. International Research Fellowship Prog. \$157,705.
- 2006                    Postdoctoral Fellowship. Universidad Nacional Autónoma de México. \$24,000.
- 2006                    Postdoctoral Fellowship. J. M. Kaplan Fund. \$15,000.

**(GRANTS RECEIVED CONTINUED)**

2005	Postdoctoral Fellowship. The Nature Conservancy. \$25,000.
2005	Postdoctoral Fellowship. J. M. Kaplan Fund. \$15,000.
2005	Research Grant. T & E, Inc. \$2,500.
2005	Research Grant. T & E, Inc. \$2,500.
2004 – 2005	Share with Wildlife Program. New Mexico Game and Fish Dept. \$5,000.
2004 (June– July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$2,500.
2003 (June– July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$4,000.
2002 (June– July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$4,000.
2002	Alvin R. and Caroline G. Grove Summer Scholarship. \$2,500.
2002	UNM Graduate Research, Project, and Travel (RPT) Grant. \$200.
2001 – 2003	Graduate Research Grant. T & E, Inc. \$2,500.
2001 (Aug. – Dec.)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$3,500.
2001 (June – July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$3,200.
2000 (June – July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$4,500.
1999 (June – July)	Graduate Research Assistantship. NSF. Sevilleta LTER Program. \$4,500.
1998 (May – Aug.)	UMEB Award. NSF. Sevilleta LTER Program. \$3,500.
1997 (May – Aug)	REU Award. NSF. Sevilleta LTER Program. \$3,200.

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**ACADEMIC HONORS**

2005	Ph.D. with Distinction
1998	B.S. with Honors, <i>Magna Cum Laude</i>
1998	Departmental Honors in Biology, <i>Cum Laude</i>

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**PROFESSIONAL ORGANIZATIONS**

Ecological Society of America  
 American Society of Mammalogists  
 International Biogeography Society

**SYNERGISTIC ACTIVITIES**

- 2008 – Present      *Board Member.* Great Plains Restoration Council.
- 2007 (April)        *Meeting Organizer.* *Understanding coupled human-ecological systems to achieve conservation goals in the Janos Region, Mexico.* Toluca, Mexico.
- 2006 (September)    *Meeting Organizer.* *Janos Conservation Strategy Session,* San Pedro, Chihuahua, Mexico.
- 2005 – Present      *Scientific Advisory Member.* Prairie Dog Coalition.
- 2004 – Present      *Scientific Advisory Member.* Albuquerque Prairie Dog Task Force. Albuquerque Parks and Recreation Department.
- 2004 – Present      *Biological Consultant.* Forest Guardians, New Mexico.
- 2004 – Present      *Biological Consultant.* Prairie Ecosystems Conservation Alliance, Colorado.
- 2000 – Present      *Scientific Advisory Committee Member.* New Mexico Black-Tailed Prairie Dog Working Group. New Mexico Game and Fish (NMGF) Department.
- 2000 – Present      *Reviewer.* *Proceedings of the National Academy of Sciences, Oecologia, National Science Foundation, Journal of Mammalogy, Ecography, Restoration Ecology, Plant Ecology, Basic and Applied Ecology, Western North American Naturalist, Southwestern Naturalist, Journal of Arid Environments, Landscape and Urban Planning.*
- 1998 – Present      *Biological Consultant.* People for Native Ecosystems, New Mexico.
- 1998 – Present      *Biological Consultant.* Prairie Dog Pals of Albuquerque, New Mexico.
- 2002 (July)        *Invited Lecturer.* Prairie dog ecology and conservation. Rio Grande Nature Center summer school program.
- 2002 (March)       *Invited Lecturer.* Prairie dogs, kangaroo rats, and grassland biodiversity. Audubon Expedition Institute.
- 2001 (October)      *Conference Coordinator.* *Grasslands, Ecosystems, Endangered Species, and Sustainable Ranching in the New Mexico – US Borderlands Symposium,* Nuevo Casas Grandes, Chihuahua, Mexico.
- 2000 – 2001        *Graduate Student Representative.* Department of Biology, UNM.
- 2000 – Present      *Scientific Advisory Committee Member.* People for Native Ecosystems, New Mexico.
- 1994 – 2000        *Staff Biologist.* Great Plains Restoration Council.
- 1994 – 1998        *Wildlife Rehabilitator.* Wildlife Rescue, Inc. of New Mexico.
- 1994 – 1998        *Vice-President.* Prairie Dog Pals of Albuquerque, New Mexico.

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**REFERENCES**

Dr. James H. Brown  
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University of New Mexico  
Albuquerque, NM 87131  
(505) 277-9337  
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Dr. David C. Lightfoot  
Department of Biology  
University of New Mexico  
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Dr. Gerardo Ceballos  
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