**DANIEL H. THORNTON**

***Curriculum Vitae***

Washington State University, School of the Environment

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**PROFESSIONAL APPOINTMENTS**

**Washington State University, Pullman, WA** Aug 2016-present

Assistant Professor

**Washington State University, Pullman, WA** Aug 2013 – July 2016

Clinical Assistant Professor

**Trent University, Peterborough, Canada** July 2013 - present

Adjunct professor

**Trent University, Peterborough, Canada** May 2011 - July 2013

Post-doctoral research fellow, Department of Biology

**Southwestern University, Georgetown, TX** Aug 2010 - May 2011

Mellon post-doctoral fellow in Environmental Studies

**EDUCATION**

### **University of Florida, Gainesville**

### Ph.D. in Wildlife Ecology and Conservation 2010

Dissertation: *The influence of species traits and landscape attributes on the response of mid- and large-sized neotropical mammals to forest fragmentation*

### **University of Florida, Gainesville**

### M.S. in Wildlife Ecology and Conservation 2003

Thesis: *Ecological separation within newly sympatric populations of coyotes and bobcats in south-central Florida*

### **Carleton College, Northfield**

### B.A., *magna cum laude,* Geology 1998

**PUBLICATIONS (PEER-REVIEWED) \*\* = senior authorship on publication, 1 = supervised graduate student, 2 = supervised undergraduate student**

*Journal Impact Factor and citations in brackets [5yr journal impact factor/Google scholar citations in 2018/Google scholar total citations]*

*My contribution to the work in different phases of the project (Idea, Design, Implementation, Analysis and Writing) given below each citation from 2016 onward.*

Submitted

King1, T., Vynne, C., Miller, D., Fisher, S., Fitkin, S., Rohrer, J., Ransom, J., and **D.H. Thornton**\*\*. Threatened Species on the Edge: Canada Lynx Occupancy in Washington. Journal of Wildlife Management.

*Contribution: Idea, Design, Analysis and Writing*

Accepted

**Thornton, D.H**., Branch, L.C., and D.L. Murray. (*accepted*) Distribution and connectivity of protected areas in the Americas facilitates transboundary conservation. *Ecological Applications*.

*Contribution: Idea, Design, Implementation, Analysis and Writing*

**Thornton, D.H.** and M.J.L. Peers (*accepted*)**.** Chapter 8. Species Distribution Modeling. Population Ecology in Practice (Murray, D.L. & Chapron, G., eds). Wiley-Blackwell, London.

*Contribution: Idea, Design, Implementation, Analysis and Writing*

Murray, D.L., Bastille-Rousseau, G., Hornseth, M., Row, J. F , and **D.H. Thornton.** (*accepted*) Chapter 3. From research hypothesis to model selection: A strategy toward robust inference in population ecology. Population Ecology in Practice (Murray, D.L. & Chapron, G., eds). Wiley-Blackwell, London.

*Contribution: Analysis and Writing*

2019

**Thornton, D.H.**, and L.C. Branch. 2019. Transboundary mammals in the Americas: asymmetries in protection challenge climate change resilience. *Diversity and Distributions* 25:674-683. [IF=4.7/NA/NA]

*Contribution: Idea, Design, Implementation, Analysis and Writing*

\*\*Special Issue on Climate Change Conservation Biogeography (one of only two papers in the issue in the “Guiding Policy” section)\*\*

**Thornton, D.H.**, King1, T., Scully2, A., and D.L. Murray. 2019. Reassessing the success of experts and non-experts in correctly differentiating between closely related species from camera trap images: A reply to Gooliaff and Hodges. *Ecology and Evolution* 9:6172-6175.

*Contribution: Idea, Design, Implementation, Analysis and Writing*

Ebenhoch1, K., D.H. Thornton\*\*, Shipley, L., Manning, J., White, K. 2019. Effects of post-release movements on survival of translocated sage-grouse. *Journal of Wildlife Management* 83: 1314-1325.

*Contribution: Idea, Design, Analysis and Writing*

Santos, P. M., A. Bocchiglieri, A. G. Chiarello, A. P. Paglia, A. Moreira, A. C. de Souza, A. M. Abba, A. Paviolo, A. Gatica, A. Z. Medeiro,….**D.H. Thornton**…et al. 2019. NEOTROPICAL XENARTHRANS: a data set of occurrence of xenarthran species in the Neotropics. Ecology 100:e02663.

*Contribution: This was a data paper – I contributed data.*

2018

**Thornton, D.H**., Wirsing, A.W., Lopez-Gonzalez, C.L., Squires, J.R., Fisher, S., Larsen, K.W., Peatt, A., Scrafford, M.A., Moen, R.A., Scully, A.E., King, T.W., and D.L. Murray. 2018. Asymmetric cross-border protection of peripheral transboundary species. *Conservation Letters* 11:e12430. [IF=7.9/1/1]

*Contribution: Idea, Design, Implementation, Analysis and Writing*

**Thornton, D.H.**, Scully1, A., King1, T., Fisher, S., Fitkin, S., and J. Rohrer. 2018. Hunting associations of badgers and coyotes revealed by camera trapping. *Canadian Journal of Zoology* 96:769-773. [IF=1.6/0/0]

*Contribution: Idea, Design, Implementation, Analysis and Writing*

Olsoy1, P.J., Shipley, L.A., Rachlow, J.L., Forbey, J.S., Glenn, N.F., Burgess, M.A., and **D.H. Thornton\*\***. 2018. Unmanned aerial systems measure structural habitat features for wildlife across multiple scales. *Methods in Ecology and Evolution*. 9:594-604. [IF=9.8/3/3]

*Contribution: Design and Writing*

Scully1, A.E., Fisher, S., Miller, D.A.W., and **D.H. Thornton\*\*.** (***This article was Editor’s Choice for the issue***) 2018. Influence of biotic interactions on Canada lynx (*Lynx canadensis*) distribution at their southern range edge. *Journal of Mammalogy* 99:760-772. [IF=2.2/2/2]

*Contribution: Idea, Design, Analysis and Writing*

Milling, C.R., J.L. Rachlow, P.J. Olsoy, M.A. Chappell, T.R. Johnson, J.S. Forbey, L.A.

Shipley, **D.H. Thornton**. 2018. Habitat structure modifies microclimate: an approach for mapping fine-scale thermal refugia. *Methods in Ecology and Evolution* 9:1648-1657. [IF=9.8/1/1]

*Contribution: Analysis*

2017

King2, T.W., Salom-Perez, R., Shipley, L.A., Quigley, H.B., and **D.H. Thornton\*\***. 2017. Ocelot latrines: communication centers for Neotropical Mammalia. *Journal of Mammalogy. 98: 106-113.* [IF=2.2/0/3]

*Contribution: Idea, Design, Analysis and Writing*

Otis, J-A, **Thornton, D.H**., Rutledge, L, and D.L. Murray. 2017. Ecological niche differentiation across a wolf-coyote hybrid zone in eastern North America. *Diversity and Distributions*. 23:529-539. [IF=4.7/2/4]

*Contribution: Idea, Design, Analysis and Writing*

Camp, M., Shipley, L., Johnson, T., Olsoy, P., Crowell, M., Forbey, J., Rachlow, J., and **D.H. Thornton.** 2017. The balancing act of foraging: mammalian herbivores trade-off multiple risks when selecting food patches. *Oecologia* 185: 537-549. [IF=3.4/2/2]

*Contribution: Analysis*

Gelin, M.L., Branch, L.C., **Thornton, D.H.**, Novaro, A.J., Gould, M.J., and Caragiulo, A. 2017. Response of pumas (*Puma concolor*) to migration of their primary prey in Patagonia. *PlosOne* 12: e0188877. [IF=3.3/0/0]

*Contribution: Idea, Design, Analysis and Writing*

Feldman, R. Peers, M.J., Pickles, R.S.A., **Thornton, D.H.,** and D.L. Murray. 2017. Climate driven niche divergence among host species affects range-wide patterns of parasitism. *Global Ecology and Conservation* 9:1-10*.* [IF=2.2/1/2]

*Contribution: Analysis*

Murray, D.L., Peers, M.J.L., Majchrzak, Y.N., Wehtje, M., Ferreira, C., Pickles, R.S.A., Row, J.R., and **D.H. Thornton.** 2017. Continental divide: Predicting climate-mediated fragmentation and biodiversity loss in the boreal forest*. PlosOne* 12:e0176706. [3.3/4/4]

*Contribution: Idea, Analysis and Writing*

Hidalgo-Mihart, M.G., Jesús de la Cruz, A., Juárez-Lopez, R., Contreras-Moreno, F.M., Bravata de la Cruz, C., Hernández-Lara, C., Pérez-Solano, L.A., Kohler González, J.M., Friedeberg, D., and **D.H. Thornton**. 2017. Medium and large –sized mammal inventory in the wetlands of Laguna de Terminos and Pantanos de Centla, México. *Checklist: Journal of Biodiversity Data* 13:711-726. [NA/0/0]

*Contribution: Design and Writing*

Juárez-López, R., Pérez-López, M., Bravata-de la Cruz, Y., Jesus-de la Cruz, J., Contreras-Moreno, F.M., **Thornton, D.H.**, Hidalgo-Mihart, M.G. 2017. Range extension of the northern naked-tailed armadillo (*Cabassous centralis*) in southern Mexico. *Western North American Naturalist* 77:398-403. [IF=0.5/0/0]

*Contribution: Design and Writing*

2016

**Thornton, D.H.**, Zeller, K., Rondinini, C., Boitani, L., Crooks, K., Burdett, C., Rabinowitz, A., and H. Quigley. 2016. Assessing the umbrella value of a range-wide conservation network for jaguars (*Panthera onca*). *Ecological Applications* 26:1112-1124. [IF=4.8/9/22]

*Contribution: Idea, Design, Implementation, Analysis and Writing*

Olsoy1, P.J., Zeller, K.A., Hicke, J.A., Quigley, H.B., Rabinowitz, A.R., and **D.H. Thornton\*\***. 2016. Quantifying the effects of deforestation and fragmentation on a range-wide conservation plan for jaguars. *Biological Conservation* **203**:8-16. [IF=5.0/7/18]

*Contribution: Idea, Design, Writing*

Peers1, M.J., **Thornton, D.H.**, Majchrzak, Y.N., Bastille-Rousseau, G., and Murray, D.L. 2016. De-extinction potential under climate change: extensive mismatch between historic and future habitat suitability for three candidate birds. *Biological Conservation* 197:164-170. [IF=5.0/2/8]

*Contribution: Design, Analysis, Writing*

2015

Guillaumet, A., Bowman, J., **Thornton, D.H.**, and D.L. Murray. 2015. The influence of coyote on Canada lynx populations assessed at two different spatial scales. *Community Ecology* 16:135-146. [IF=1.4/0/1]

**Thornton, D.H.,** and Pekins, C. 2015. Spatially-explicit capture recapture analysis of bobcat density in central Texas: implications for mesocarnivore monitoring. *Wildlife Research* 42:394-404. [IF=1.5/4/6]

Murray, D.L., Majchrzak, Y.N., Peers, M.J.L., Wehtje, M., Ferreira, C., Pickles, R.S.A., Row, J.R., and **D.H.** **Thornton.** 2015. Potential pitfalls of private initiatives in conservation planning: A case study from Canada's boreal forest. *Biological Conservation* 192: 174-180. [IF=5.0/0/4]

Wang, Y., **Thornton, D**.**H**., Wang, S., Ding, P. 2015. Ecological correlates of vulnerability to fragmentation in forest birds on inundated subtropical land-bridge islands. *Biological Conservation* 191:251-257. [IF=5.0/4/10]

2014

**Thornton, D.H.**, and D.L. Murray. 2014.Influence of hybridization on niche shifts in expanding coyote populations. *Diversity and Distributions* 20: 1355-1364. [IF=4.7/4/9]

Row, J.R., Wilson, P.J., Gomez, C, Koen, E.L., Bowman, J., **Thornton, D**., and D.L. Murray. 2014. The subtle role of climate change on population genetic structure in Canada lynx. *Global Change Biology* 20: 2076-2086. [IF=9.45/3/13]

**Thornton, D.H.**, and R. Fletcher. 2014. Body size and spatial scales in avian response to landscape structure: a meta-analysis. *Ecography* 37:454-463. [IF=5.6/5/22]

Peers2, M.J.L., Wehtje, M., **Thornton, D.H.** and D.L. Murray. 2014. Prey switching as a means of enhancing persistence in predators at the southern range edge. *Global Change Biology* 20:1126-1135. [IF=9.5/4/18]

2013

Peers2, M.J.L., **Thornton, D.H.** and D.L. Murray. 2013. Evidence for large-scale effects of competition: niche displacement in carnivores. *Proceedings of the Royal Society B* 280: 20132495. [IF=5.4/9/35]

Pickles, R.S.A., **Thornton, D.H.**, Marques1, A., D. L. Murray. 2013. Predicting shifts in parasite distribution with climate change: a multitrophic level approach. *Global Change Biology* 19: 2645-2654. [IF=9.5/2/36]

**Thornton, D.H.**, A.J. Wirsing, J.D. Roth, and D.L. Murray 2013. Habitat quality and population density drive occupancy dynamics of snowshoe hare in variegated landscapes. *Ecography* 36: 610-621. [IF=5.6/4/13]

2012

**Thornton, D.H.** A.J. Wirsing, J.D. Roth, and D.L. Murray. 2012. Complex effects of harvest and site preparation on snowshoe hare abundance on a patchy forest landscape. *Forest Ecology and Management* 280: 132-139. [IF=3.4/3/12]

**Thornton, D.H.**, L.C. Branch, and M.E. Sunquist. 2012. Response of large galliforms and tinamous (Cracidae, Phasianidae, Tinamidae) to habitat loss and fragmentation in northern Guatemala. *Oryx* 46: 567-576. [IF=2.3/7/20]

Peers1, M.J.L., **Thornton, D.H.**, and D.L. Murray. 2012. Reconsidering the specialist-generalist paradigm in niche breadth dynamics: Canada lynx and bobcats. *PLoSOne.* 7(12): e51488. doi:10.1371/journal.pone.0051488 [IF=3.3/7/45]

2011

**Thornton, D.H.**, L.C. Branch, and M.E. Sunquist. 2011. The relative influence of habitat loss and fragmentation: Do tropical mammals meet the temperate paradigm? *Ecological Applications* 21(6):2324-2333. [IF=4.8/8/61]

**Thornton, D.H.**, L.C. Branch, and M.E. Sunquist. 2011. Passive sampling effects and landscape location alter associations between species traits and response to fragmentation. *Ecological Applications:* 21(3):817-829. [4.8/7/43]

**Thornton, D.H.**, L.C. Branch, and M.E. Sunquist. 2011. The influence of landscape, patch, and within-patch factors on species presence and abundance: a review of focal patch studies. *Landscape Ecology:* 26:7-18*.* [IF=4.4/11/93]

Pre-2011

**Thornton, D.H.**, M.E. Sunquist, and M.B. Main. 2004. Ecological separation within newly sympatric populations of coyotes and bobcats in southern Florida. *Journal of Mammalogy* 85(5):973-982. [IF=2.2/4/64]

In preparation

**Thornton, D.H.**, Reyna, R., Perera, L. et al. (in preparation). Heading toward regional extinction: precipitous decline of white-lipped peccary populations in Mesoamerica.

**PUBLICATIONS (Non-peer reviewed reports, etc.)**

**2018**

Reyna-Hurtado, R., Radachowsky, J., Mcloughlin, L., **Thornton, D.**, Moreira-Ramirez, J.F., Garcia-Anleu, R., et al. 2017. Rapid Decline of White-lipped peccary populations in Mesoamerica. WCS Report.

**2017**

Reyna-Hurtado, R., Radachowsky, J., Mcloughlin, L., **Thornton, D.**, Moreira-Ramirez, J.F., Garcia-Anleu, R., et al. 2017. White-lipped peccary in Mesoamerica: status, threats, and conservation actions. Suiform Soundings: Newsletter of the IUCN/SSC Wild Pig, Peccary and Hippo Specialist Groups 15: 31-35.

**GRANTS, AWARDS, AND FELLOWSHIPS \*(role is PI unless otherwise noted)**

Awarded in 2019

* Glacier National Park Conservancy ($93,318)

*Determining lynx population status in Glacier National Park*

* US Forest Service Pacific Northwest Research Station ($35,176)

*Effects of wildfire and forest restoration on lynx, deer, and other wildlife in Northeastern Washington*

* Conservation Northwest ($5,000)

*Transboundary lynx movement*

Awarded in 2018

* Glacier National Park Conservancy ($108,114)

*Grizzly bear use of army cutworm moth aggregations in Glacier National Park, Montana*

* US Forest Service ($34,574)

*Biodiversity Monitoring in Colville National Forest*

* Seattle City Light ($20,194)

*Snowshoe hare population ecology in lynx-occupied areas of Washington*

* Seattle City Light ($67,560, My role is a Co-PI on this project)

*Effects of Montane Carnivores on Marmot Declines in North Cascades National Park*

Awarded in 2017

* WA Department of Fish and Wildlife ($56,470)

*Snowshoe hare population ecology in lynx-occupied areas of Washington: Implications for bag limit and hunting season management*

* NW Climate Science Center (Fellowship for T. King: $33,270)

*Climate Change and Canada Lynx in the Cascades: Building a Better Understanding of the Range Dynamics of a Threatened Species*

* Furbearers Unlimited ($6,000)

*Coordinating Across Borders: Transboundary Research to Inform Canada Lynx and Bobcat Management and Sustainable Harvest*

Awarded in 2016

* USFWS Wildlife Without Borders Central America ($52,668)

*Multi-organizational collaboration to integrate data and survey methods for large mammal indicator species at the Mesoamerica regional scale*

* Bureau of Land Management Cost Share Program renewal ($9,900)

*Characterizing Sage Grouse Movement Patterns*

* Seattle City Light ($57,448)

*Assessment of the status and distribution of Canada lynx in Washington: large-scale camera surveys in the Okanogan*

* USFWS Restoration and Recovery Program ($19,192)

*Large-scale remote camera surveys for threatened Canada lynx: a tool to evaluate population status, identify threats, and inform long-term monitoring and recovery in Washington*

* US Fish and Wildlife (renewal: $45, 000)

*Comparing Population Vital Rates from Translocated and Resident Greater Sage-Grouse (Centrocercus urophasianus)*

* Wildlife Conservation Society (Fellowship for L. Perera: $36,000)
* Conservation Northwest renewal ($10,000)

*Canada lynx distribution and connectivity surveys in Northeastern Washington*

Awarded in 2015

Washington Fish and Game ALEA grant program ($21,529)

*Climate Change and Canada Lynx in the Cascades: Building a Better Understanding of the Range Dynamics of a Threatened Species*

* US Fish and Wildlife ($27, 025)

*Comparing Population Vital Rates from Translocated and Resident Greater Sage-Grouse (Centrocercus urophasianus)*

* Bureau of Land Management Cost Share Program ($24,206)

*Characterizing Sage Grouse Movement Patterns*

* Seattle City Light ($26,234)

*Climate Change and Canada Lynx in the Cascades: Building a Better Understanding of the Range Dynamics of a Threatened Species*

* LCAO Jaguar Research Grant renewal ($12,000)

*Validation of the Lacandon Corridor in southeastern Mexico: testing methodologies for large-scale jaguar surveys within corridor landscapes*

Awarded in 2014

* National Science Foundation – Catalyzing New International Collaborations

($47,255)

*US-Canada Planning Visit: Building a Transboundary Research Program to Understand the Influence of Climate Change on Southern Range Limits*

* WSU new faculty seed grant ($26,952)

*Transboundary Research on Response of Southern Populations to Climate Change*

* Panthera ($17,000)

*Range wide carnivore conservation: improving scientific foundations of Panthera's jaguar program*

* Conservation Northwest ($10,000)

*Canada lynx distribution and connectivity surveys in Northeastern Washington*

* WSU School of Environment competitive RA-ship competition ($84,000)

*Two years of funding for a research assistantship (support for PhD student Peter Olsoy)*

* Snohomish County Public Utilities District ($49,055)

*Wildlife use of snags in Everett, Washington*

* WSU Undergraduate summer research minigrant ($3,000)

*Summer funding for undergraduate research (support for Travis King – ocelot density estimation)*

* American Society of Mammalogists travel award for early career scientists ($500)
* LCAO Jaguar Research Grant ($12,000)

*Validation of the Lacandon Corridor in southeastern Mexico: testing methodologies for large-scale jaguar surveys within corridor landscapes*

Awarded in 2013

* Panthera ($17,000)

*Range wide carnivore conservation: improving scientific foundations of Panthera's jaguar program*

* La Pampa Department of Natural Resources (collaborator, $50,000)

*Assessing and improving large-scale interview-based data for ecology and conservation: agricultural surveys from La Pampa, Argentina*

Awarded Pre-2013

* Fort Hood Natural Resources Management Branch ($40,000)

*Investigation of bobcat distribution and abundance across military activity gradients*

* National Science Foundation Doctoral Dissertation Enhancement Grant ($14970)

PIs: Thornton and Branch

*Local Versus Landscape Factors as Determinants of Neotropical Mammal Distributions in Heterogeneous Landscapes*

* American Society of Mammalogist’s Grants-in-Aid award. ($1500)

*Local Versus Landscape Factors as Determinants of Neotropical Mammal Distributions in Heterogeneous Landscapes*

* Presidential Fellowship, University of Florida. ($72,000)
* Graduate Student Council Travel Grant, University of Florida. ($250)
* Wildlife Conservation Society – Guatemala small grants program. ($1500)
* IDEA Wild equipment grant. ($500)
* IGERT Working Forests in the Tropics small grants program. ($3000)
* Jennings Scholarship, University of Florida. ($1500)
* Florida Fish and Wildlife Conservation Commission. ($4200)

* Jennings Scholarship, University of Florida. ($1000)

**PRESENTATIONS \*\*=senior authorship on presentation, 1=supervised graduate student, 2= supervised undergraduate student**

2019

**Thornton, D.H.** (invited semina) Broad-scale distribution modeling of threatened, transboundary species to inform conservation and management. Washington Department of Fish and Wildlife Seminar Series. Feb. 24th, 2019, Olympia, Washington.

2018

**Thornton, D.H.** and D.L. Murray. 2018. **(Symposium co-host): Symposium title: “**Applied Transboundary Mammal Research in the Americas”. 2018 Annual Meeting of the North America Congress for Conservation Biology. July 21-26, Toronto, Canada.

**Thornton, D.H.**, and L.C. Branch. 2018. Distribution of protected areas in the Americas facilitates transboundary mammal conservation. 2018 Annual Meeting of the North America Congress for Conservation Biology. July 21-26, Toronto, Canada.

**Thornton, D.H.,** Radachowsky, J, and C. Jordan**.** 2018. **(Workshop co-organizer):** Regional Wildlife Monitoring and Five Forest Report Card. November 25-30. La Amistad Biological Station, Costa Rica.

**Thornton, D.H.,** and L. Perera1**.** 2018.Modelos regionales de grandes mamíferos en Mesoamerica (Regional models for large mammals in Mesoamerica).Regional Wildlife Monitoring and Five Forest Report Card. November 25-30. La Amistad Biological Station, Costa Rica.

**Thornton, D.H.,** King, T., and A. Scully. 2018. Assessment of Status and Distribution of Canada Lynx in Washington Using Broad-scale Remote Camera Surveys. 2018 Joint Annual Meeting of the Oregon Chapter of the Wildlife Society. February 13-16, 2018. Portland, OR.

**Thornton, D.H.** 2018. Canada lynx occupancy in Washington. Wildlinks Annual Conference. October 22-24. Leavenworth, WA.

Olsoy1, P.J., L.A. Shipley, J.L. Rachlow, J.S. Forbey, N.F. Glenn, M.A. Burgess, **D.H. Thornton\*\***. 2018. Measuring habitat quality across multiple scales with unmanned aerial systems. Joint Meeting of the Oregon and Washington Chapters of the Wildlife Society. February 13-16, 2018. Portland, OR.

Jensen1, P.O., and **D.H. Thornton\*\*.** 2018. Snowshoe hare population ecology in lynx-occupied areas of Washington. Washington Cooperative Fish and Wildlife Research Unit Annual Student Symposium. October 17, 2018. Seattle, WA.

King1, T., and **D.H. Thornton**\*\*. 2018. A state wide occupancy survey of Canada lynx in Washington State. Northwest Climate Action Science Center Annual Review Conference. September 18. Seattle, WA.

**Camp, M. J.,** L. A. Shipley, and D. H. Thornton. (poster). A new method for measuring densities of deer in forested habitats. August. International Deer Biology Congress, Estes Park,CO.

2017

**Thornton, D.H.**, Branch, L.C., Rodriguez, R. 2017. Climate change adaptation for mammals challenged by asymmetric transboundary protection. International Congress for Conservation Biology. July 24-27, Cartegena, Colombia.

Ebenhoch1, K., **Thornton, D.H.\*\*,** and L. Shipley. 2017. (poster) “Do greater sage-grouse movements influence survival on the Yakima Training Center, Washington, USA.” Washington Wildlife Society Conference, Yakima, WA.

Olsoy1, P.J., L.A. Shipley, J.L. Rachlow, J.S. Forbey, N.F. Glenn, **D.H. Thornton**\*\*. 2017. “Unmanned aerial systems measure structural habitat quality for pygmy rabbits across multiple scales.” 97th Annual Meeting of the American Society of Mammalogists. June 20-24, 2017. Moscow, ID.

Heale, J.D., Shipley, L., **Thornton, D.H**., and P.M. Meyers. 2017. (poster). “Habitat use by Columbian white-tailed deer along the lower Columbia River”. Washington Wildlife Society Conference, Yakima, WA.

Lessin, L.2, and D.H. Thornton\*\*. 2017 (poster). “Human impact on the activity patterns of sympatric carnivores in the Kettle Region of Washington”. WSU SURCA.

**Thornton, D.H.** 2017. “Estudios de Canada lynx en el norte de los Estados Unidos”. Invited seminar, University Juárez Autónoma de Tabasco, Villahermosa, MX.

Cramer, A.N., Katz, S., Andrews, K., and **D.H. Thornton**. 2017. Do sharks swim in balmy brine? Sixgill shark (*Hexanchus griseus*) distribution in relation to temperature and salinity: first stetps in marine habitat suitability modeling using passive acoustic telemetry data. Ecological Society of America Annual Conference, Portland, OR.

**Thornton, D.H.** 2017. Canada lynx research in the Washington/British Columbia transboundary landscape. Wildlinks Annual Conference, Manning Park, BC, Nov 23-25, 2017.

2016

**Thornton, D.H**., Wirsing, A.W, and D.L. Murray. 2016. “Peripheral transboundary species: conflicting cross-border management may threaten a large number of peripheral species”. North American Congress for Conservation Biology. July 17-20, Madison, WI.

**Thornton, D.H.**, King, T., and Scully, A.R. 2016. Invited presentation. “Large-scale lynx camera trapping in the Okanogan.” WildLinks Annual Meeting, Nov. 2-3, Seattle, WA.

**Thornton, D.H.** 2016. Invited presentation. “Meta-analysis con trampas camaras: pecari y tapir”. Symposium: White-lipped Peccary in MesoAmerica: Status, Threats, and Conservation Actions. The XX Mesoamerican Society for Biology and Conservation, August 22-26, Belize City, Belize.

**Thornton, D.H.** 2016. Invited presentation. “Meta-analysis con trampas camaras: pecari y tapir”. Peccary Mapping Workshop. Hosted by the Wildlife Conservation Society, Feb 28th, Flores, Guatemala.

Arab, M.F., Villarreal, D., Branch, L.C., and **D.H. Thornton**. 2016 (poster). “Conflictos entre la Fauna Silvestre y el Ganado: Diferentes Percepciones sobre Pumas y Guanacos.”. XII International Congress of Wildlife Management in the Amazon and Latin America. 8-12 August 2016. Quito-Ecuador.

Gelin, M.L., Branch, L.C., **Thornton, D.H.**, Novaro, A.J., and Ruiz-Blanco, M. 2016 (poster). “Respuesta del puma a la migración estacional del guanaco en Argentina.” XII International Congress of Wildlife Management in the Amazon and Latin America. 8-12 August 2016. Quito-Ecuador.

Olsoy1, P.J., M. Atamian, J. Gallie, M.A. Schroeder, and **D.H. Thornton\*\***. 2016. “Characterizing movement patterns of resident and translocated greater sage-grouse in Washington through high-resolution GPS telemetry.” 2016 Joint Partner Wildlife Conference. February 22-26, 2016. Coeur d’Alene, ID.

Olsoy, P.J.1, Zeller, K.A., Hicke, J.A., Quigley, H.B., Rabinowitz, A.R., and **D.H. Thornton\*\***. 2016. Invited presentation. “Quantifying the effects of deforestation and fragmentation on a range-wide conservation plan for jaguars.” Invited Seminar, University of Idaho, Department of Geography. September 28, 2016. Moscow, ID.

Scully1, A., and **D.H. Thornton\*\*.** 2016. Exploring efficacy of non-invasive spatially-explicit capture-recapture to estimate Canada lynx density in Washington. 2016 Joint Partner Wildlife Conference. February 22-26, 2016. Coeur d’Alene, ID

Contreras Moreno, F.M., Reyna-Hurtado, R., **Thornton, D.H.**, Hidalgo-Mihart, M.G., Juarez-Lopez, R., and A. González Gallina. 2016. Abundancia de Odocoileus virginianus en el sureste de México. XIII Congreso Nacional de Mastozoologia, Tuxtla, Chiapas.

Shipley, L., Camp, M., Crowell, M., Olsoy, P, **Thornton, D.,** Forbey, J., Rachlow, J., and T. Johnson. 2016. Risky rabbits: evaluating tradeoffs in food and predation risks perceived by rabbits. World Lagomorph Conference, Turlock, CA. July 11-15, 2016.

McMahon, L., Rachlow, J., Forbey, J., Shipley, L., Johnson, T., and **D. Thornton**. 2016 (poster). Evaluating performance of two GPS technologies to quantify space use by pygmy rabbits. World Lagomorph Conference, Turlock, CA, July 11-15, 2016.

2015

Olsoy1, P.J., and **D.H. Thornton\*\***. 2015. “Characterizing movement patterns of sage-grouse through high-resolution GPS telemetry.” Washington Sage-grouse Working Group Meeting. October 28-29, 2015. Moses Lake, WA.

Olsoy, P.J.1, J.S. Forbey, J.L. Rachlow, M.A. Burgess, N.F. Glenn, L.A. Shipley, and **D.H. Thornton\*\***. 2015. “Mapping herbivore habitat quality with high-resolution imagery from unmanned aerial systems.” Ecological Society of America Annual Meeting. August 9-14, 2015. Baltimore, MD.

Olsoy, P.J.,J.S. Forbey, J.L. Rachlow, J.D. Nobler, M.A. Burgess, N.F. Glenn, L.A. Shipley, and **D.H. Thornton**. 2015. “Mapping fearscapes for grouse: high-resolution assessment of concealment from predators using remote sensing.” 13th International Grouse Symposium. 4-7 September 2015. Reykjavik, Iceland.

**Thornton, D.H.**, Hidalgo-Mihart, M. and Lopez-Gonzalez, C. 2015. Symposium organizers: “Jaguars and Corridors in Mesoamerica: What do we know and where do we go from here” at the XIV meeting of the Society for Mesoamerican Biology and Conservation in Villahermosa, Mexico. Aug 25-30, 2015

**Thornton, D.H.**, Olsoy, P., Zeller. K., Hicke, J, and Quigley, H. 2015. Forest loss in jaguar corridors and JCUs: implications for network connectivity. XIV meeting of the Society for Mesoamerican Biology and Conservation in Villahermosa, Mexico. Aug 25-30, 2015

**Thornton, DH.** 2015. Spatial ecology of large mammals: implications for conservation in the face of global change. Invited seminar, University of Florida, Gainesville, FL.

**Thornton, DH.** 2015. Mammals in space: using spatial ecology to inform management and conservation of mammals. Invited seminar, University of Idaho, Moscow, ID.

2014

**Thornton, DH**. 2014. *Mammal spatial ecology and conservation*. Invited seminar, University Juárez Autónoma de Tabasco, Villahermosa, MX.

Peers, MJL, **Thornton, D.H.**, Pearce, E., Murray, D.L. 2014. *Are southern range translocation likely viable under climate change?* Canadian Society for Ecology and Evolution Annual Meeting, Montreal, Canada.

Peers, MLJ, Wehtje, M., **Thornton, D.H.**, Murray, D.L. 2014. *Climate change effects on Canada lynx at the southern edge*. Ontario Ecology, Ethology and Evolution Colloquium, Guelph University.

Olsoy, P.J., Forbey, J.S., Rachlow, J.L., Burgess, M.A., Glenn, N.F., Shipley, L.S., and**. Thornton, D.H.**. 2014. *Mapping herbivore habitat quality with unmanned aerial systems*. UAS Working Group Meeting, University of Idaho.

Rachlow, J.L., Forbey, J.S., Shipley, L., Burgess, M., Olsoy, P.J., **Thornton, D.**, Milling, C, and Nobler, J.D. 2014. Scaling-up habitat attributes in the sagebrush-steppe environment using unmanned aircraft technology. Invited presentation. The Wildlife Society Annual Meeting, Pittsburgh, PA.

Otis, J-A., **Thornton, D.H**., Rutledge, L.Y., and Murray, D.L. 2014. *Ecological niche differentiation along the genetic gradient by hybridization of eastern wolf and coyote in Northeastern America*. Canadian Society for Ecology and Evolution Annual Meeting, Montreal, Canada.

**Thornton, D.H**., Kathy Zeller, Carlo Rondinini, Luigi Boitani, Chris Burdett, Kevin Crooks, Howard Quigley. 2014. *Evaluating the umbrella value of a range-wide conservation network*. American Society of Mammalogists 2014 meeting.

**Thornton, D.H**., Kathy Zeller, Carlo Rondinini, Luigi Boitani, Chris Burdett, Kevin Crooks, Howard Quigley. 2014. *Evaluating the umbrella value of a range-wide conservation network.* International Wildcat Symposium, Sarapiqui, Costa Rica.

**Thornton, DH**. 2014. *Mammal ecology and conservation at large scales*. Invited seminar, University of Belize, Belmopan, BZ.

2013

Peers, MLJ, **Thornton, D.H.**, Murray, D.L. 2013. *Evidence for large-scale effects of competition: niche displacement in Canada lynx and bobcat.* Quebec Society for the Biological Study of Behaviour Annual Meeting, Concordia University.

**Thornton, D.H.** *Jaguar ecology and conservation*. 2013. WSU Wildlife Society.

2012

**Thornton, D.H.**, Branch, L.C., Sieving, K., Walker, S. 2012. Symposium organizers: “Landscape Ecology as a Foundation for Wildlife Conservation: Research Approaches and Applications” at the X International Congress for Wildlife Management in Amazonia & Latin America conference

**Thornton, D.H.,** Peers, M., and D.L. Murray**.** *Range and niche shifts of North American mesocarnivores as revealed by species distribution models.* Invited Lecture. Universidad Nacional de La Salta, La Salta, Argentina. May 2012.

**Thornton, D.H.,** Branch, L.C., Villarreal, D., and M. Gonzolez-Roglich. X International Conference for Management of Wildlife in Amazon and Latin America, Salta, Argentina, May 2012. Analyzing species occurrence data obtained through standardized surveys of rural landowners to examine species-environment relationships at large scales.

2011

**Thornton, D.H.** Life Science Seminar Series. Trent University. December 2011. Carnivore conservation in human-dominated environments: a landscape ecology approach.

**Thornton, D.H.** Board of Visitors Sustainability Conference, Southwestern University. April 2011. Research and education in Conservation Biology at Southwestern University.

Pre-2011

**Thornton, D.H.**, Branch, L.C., and M.E. Sunquist. Annual Meeting of the Society for Conservation Biology, Edmonton, Canada. July 2010. Evaluating the relative influence of habitat loss and fragmentation: Do tropical mammals meet the temperate paradigm?

**Thornton, D.H.** Wildlife Ecology Seminar Series, University of Florida, Gainesville. April 2010. Influence of species traits and landscape attributes on the response of mid and large-sized neotropical mammals to forest fragmentation.

**Thornton, D.H.**, and L.C. Branch. Biology Special Seminar, Universidad Nacional de La Pampa, La Pampa, Argentina. June 2009. The effects of habitat fragmentation of the distribution of mid-large sized mammals in Petén, Guatemala.

**Thornton, D.H.**, and L.C. Branch. Ecology Special Seminar, Universidad Nacional de La Salta, La Salta, Argentina. June 2009. The effects of habitat loss and fragmentation on the distribution of mid-large sized mammals in Petén, Guatemala.

**Thornton, D.H.**, Branch, L.C., and M.E. Sunquist. VIII International Conference for Management of Wildlife in Amazon and Latin America, Rio Branco, Brazil. August. 2008. Determining the vulnerability to fragmentation of mid-large sized mammals in Petén, Guatemala.

**Thornton, D.H.** VIII International Conference for Management of Wildlife in Amazon and Latin America, Rio Branco, Brazil. *4-hour workshop involving lecture and computer exercises*. 2008. Estimating occupancy of species through the use of repeated detection/non detection surveys.

**Thornton, D.H.** Wildlife Monitoring Roundtable, Wildlife Conservation Society, Peten, Guatemala. March 2008. Understanding the response of mammals to habitat loss and fragmentation.

**Thornton, D.H.** Conservation Seminar, Programa de Incentivos Forestales, Peten, Guatemala. March 2008. Wildlife conservation in habitat fragments of Peten, Guatemala.

**Thornton, D.H.**, Branch, L.C., and M.E. Sunquist. X Conference of the Mesoamerican Society for Biology and Conservation, Antigua, Guatemala. September 2006. The distribution of jaguars and their prey in a fragmented tropical landscape.

**Thornton, D.H.** Wildlife Conservation Society Camera-trapping Workshop, Tikal National Park, Petén, Guatemala. *4-hour workshop involving lecture and computer exercises*. Jan 2004. Estimating occupancy of species through the use of repeated detection/non detection surveys.

**Thornton, D.H.**, Sunquist, M.E., and M.B. Main. Wildlife Ecology Masters Symposium, University of Florida, Gainesville. May 2003. Ecological separation within newly sympatric populations of coyotes and bobcats.

**TEACHING AND MENTORING EXPERIENCE**

**Instruction (WSU):**

2018: Spring term: Landscape Ecology (3 credit undergraduate course), Fall term: Species Distribution Modeling (3 credit graduate class), Graduate Skills seminar (1 credit graduate class)

2017: Spring term: Landscape Ecology (new prep; 3 credit lab undergraduate course).

\*Landscape Ecology was a new course preparation as I took over the class from Mark Swanson

2016: Spring term: International Wildlife Conservation (new prep; 3 credit undergraduate course); NATRS 204 (2 credit undergraduate course); Fall term: Species distribution modeling (3 credit graduate course)

Prior to 2013-2015:

From 2013-2015, I have taught 3 classes per year. I have developed two new classes for the SoE curriculum, which includes a 3 credit graduate class (*Species Distribution Modeling*) and a 3 credit advanced undergraduate class (*International Wildlife Conservation*). I have also taught three existing courses, which includes a 2 credit lower division undergraduate class (*Measurements and Computers in Natural Resources*) and an online 100 level course (*Introduction to Environmental Sciences*), and 4 credit lab class (Landscape Ecology).

Southwestern University, Georgetown (2010-2011)

* Instructor, 4 credit course (undergraduate), *Conservation Biology*
* Instructor, 4 credit course (undergraduate), *Biodiversity*

University of Florida, Gainesville (2007-2008)

* Instructor, 3 credit course*Perspectives in Wildlife Ecology and Conservation*
* Co-instructor, 3 credit course*Conservation Biology*

**Mentoring:**

**In 2018, I supervised or co-supervised 2 PhD and 6 MS students. 1 MS student completed their degree in 2018. I also co-supervised a post-doc scholar.**

* Post-doc: **Meghan Camp (co-supervised with Lisa Shipley);** Research: Deer population ecology in Colville National Forest
* Primary advisor (PhD): **Peter Olsoy**; Research: Application of UAVs to habitat quality mapping, pygmy rabbit habitat selection at multiple scales, **Lucy Perera** Research: Jaguar ecology and conservation
* Primary advisor (MS): **Travis King**; Research: Lynx distribution modeling, **Michelle Peziol**; Research: Carcass ecosystem impacts, **Paul Jensen;** Research: Snowshoe hare spatial ecology, **Logan Whiles (co-advisor with Lisa Shipley)**; Research: marmot predator-prey ecology, **Kelsey Gump**; Research: impacts of recreation on mammals, **Anna Staudenmeier (co-advisor with Lisa Shipley)**; Research: deer occupancy and niche dynamics
* Current graduate committee member (PhD): Amanda Stahl (WSU), Allison Cramer (WSU), Tony Carnahan (WSU), Wilber Martinez (Ecosur, Mexico), Arthur Scully (Trent University), Sarah Bassing (UW)
* Current graduate committee member (MS): Rugieri Juarez Lopez (Universidad Autonoma de Tabasco, Mexico)

**Completed graduate students (I have supervised four MS student to thesis completion at WSU)**

Summer 2018: Co-advisor with Swanson (MS): Landon Charlo (WSU) Thesis: Influence of artificial canopy gaps on wildlife and understory in young coastal temperate coniferous forests of the Pacific Northwest.

Fall 2017: Primary advisor (MS): Kyle Ebenhoch (WSU) Thesis: *Comparing population vital rates of resident and translocated greater sage-grouse on the Yakima Training Center, Yakima, WA*.

Fall 2016: Primary advisor (MS): Arthur Scully (WSU) Thesis: *Climate mediated spatial and temporal segregation of sympatric felids at a range edge contact zone*

Spring 2015: Primary advisor (MS): Katie Van (WSU) Thesis: *Predicting future habitat suitability for the Balfourianae Pines in the face of climate change using species distribution modeling*. Graduated Spring 2015.

Graduate committee member for completed students:

2018: Mallory Bedwell (WSU), John Heale (WSU), Izzie Tween (WSU)

2017: Matt Smith (WSU), Gabe Spence (WSU), Meghan Camp (WSU)  
2016: Coleen Kamoroff (WSU); Grant Glover (WSU); Laura Gelin (University of Florida)

2015: Lyndsay Welfelt (WSU); Steven Borrego (WSU); Ronit Amit (University of Florida); Josee-Anne Otis (Trent University)

2014: Michael Peers (Trent University)

**Undergraduate mentoring**

**2018:**

* Co-supervisor for undergraduate honors thesis: Anna McCracken
* Supervisor for undergraduate honors thesis and McNair Diversity Fellowship: Leandro Lessin
* Supervised undergraduate IGNITE student: Lilly Zachary
* 20 undergraduates participated in research (e.g., photo identification/organization, soil analysis, field work, and equipment/data management) in my lab (Mara Huang, Katie Gibson, Kelley Goodrich, Austin Reeder, Ian Barnes, Taylor Schaeffer, Joy Navarrete, Dan Stamper, Cassidy Rudd, Liliana Gudiel, Maria Tooker, Maddison Folwell, Sanka Troika, Karli Knudson, Wyatt Mattingly, Julia Lowe, Leinie Hattabaugh, Thurman Johnston, Brittany Thibeault and Meaghan Palmer)

**2017:**

* Reader for undergraduate honor’s thesis: Sonja Berjerud (Spring 2017)
* Supervised McNair Diversity Scholar: Leandro Lessin (Spring-Fall 2017)
* Supervised lab volunteers: Taylor Schaeffer, Erick Rockwood, Hunter Warrick, Tianna Phan, Claire Simmons, Claire Stein, Ethan Gardner, Cassidy Peru

**2016 and previous:**

* Supervised McNair Diversity Scholar: Leandro Lessin (Fall 2016)
* Supervised undergraduate IGNITE students: Taylor Schaeffer (Spring and Fall 2016), Kathryn Sutherland (Fall 2015 and Spring 2016)
* Supervised undergraduate independent study: Justin Mays (Spring 2016), Travis King (Fall 2014), Jena Saito (Fall 2014), Travis King (Summer 2014), Chloe Burt (Spring 2014), Kathryn Sutherland (Fall 2015)
* Current mentor for undergraduate honor thesis: Sonja Bergerud (Spring 2016)
* Reader for undergraduate honors thesis: Travis King (Spring 2014)
* Supervised undergraduate senior thesis (completed): Michael Peers (Trent University), Kyle Yurkew (Trent University)
* Supervised lab volunteers: Taylor Schaeffer (2016), Erick Rockwood (2016), Riley Grey (2016), Nicole Waters, Alex Albert (2015)

**Graduate Student Special Recognition/Awards/Fellowships**

2017

**Peter Olsoy** (current PhD student) received the Richard R. and Constance M. Albrecht Fellowship and the Robert Lane Fellowship in Environmental Science

**Travis King** (current MS student) received the NW Climate Science Center Research Fellowship and Kaplan Graduate Student Award

**Landon Charlo** (current MS student) received the CSKT (Confederated Salish and Kootenai) Tribal scholarship and the AISES - Lighting the pathways scholarship

2016

**Travis King** (current MS student) received both a Fulbright Student Award and a 3-year NSF Graduate Research Fellowship

**Peter Olsoy** (current PhD student) received the Robert Lane Fellowship in Environmental Science

**Landon Charlo** (current MS student) received the CSKT (Confederated Salish and Kootenai) Tribal scholarship

**MEDIA COVERAGE OF RESEARCH**

2018

* Press release from Wildlife Conservation Society regarding collaborative research on white-lipped peccary populations and range dynamics (https://newsroom.wcs.org/News-Releases/articleType/ArticleView/articleId/11786/The-Hairy-Canary-in-the-Coal-Mine-A-New-Report-Finds-that-White-Lipped-Peccaries-have-been-Eliminated-from-87-Percent-of-their-Historical-Range.aspx)

2017

* WSU news article on lynx research (<https://news.wsu.edu/2017/04/27/photographing-endangered-lynx/>)
* WSU news article on jaguar research (<https://news.wsu.edu/2017/02/09/deforestation-threat-to-jaguars/>)

2016

* *Science News* article on mentored undergraduate research in Journal of Mammalogy (Travis King) (<http://www.sciencemag.org/news/2016/12/ocelot-bathrooms-are-meeting-place-several-central-american-mammals>)
* Conservation Northwest news article on lynx research (<https://www.conservationnw.org/news-updates/lynx-photographed-in-washingtons-kettle-range/>)

**SERVICE AND PROFESSIONAL ACTIVITIES**

Member of the SoE Awards Committee for School of the Environment 2018-present

WSU School of Environment Representative for the Rocky Mountain and Pacific Northwest Cooperative Ecosystem Studies Units 2015-present

Member of the Pacific Northwest Camera Trapping Network 2015-present

Member of international team seeking to develop a standardized report card system for Mesoamerican forests. 2018-present

Citizen-science camera trapping (involving 8 citizen-scientists in field work to date) 2016-present

Member of international team of peccary experts seeking to petition IUCN to uplist white-lipped peccary in Mesoamerica. I am leading the mapping component of the uplisting process. 2016-present

Reviewer for: Diversity and Distribution, Ecological Applications, Ecography, Journal of Applied Ecology, Journal of Zoology, Journal of Mammalogy, Journal of Ethology, Tropical Conservation Science, Biodiversity and Conservation, Wildlife Research, Journal of Tropical Ecology, Mammalian Biology, Journal of Arid Environments 2010-present

**PROFESSIONAL SOCIETIES**

* Society for Conservation Biology
* Ecological Society of America
* American Society of Mammalogists

**FOREIGN LANGUAGES**

* Spanish

**PROFESSIONAL REFERENCES**

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