

CURRICULUM VITAE

University of Idaho

NAME: Ryan A. Long

DATE: 1/4/21

RANK OR TITLE: Associate Professor

DEPARTMENT: Fish and Wildlife Sciences

OFFICE LOCATION AND CAMPUS ZIP: CNR 103C, 1136

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DATE OF FIRST EMPLOYMENT AT UI: October 2014

DATE OF TENURE: July 1, 2020

DATE OF PRESENT RANK OR TITLE: 2020

EDUCATION BEYOND HIGH SCHOOL:

PhD (Biological Sciences), 2013, Idaho State University, Pocatello, Idaho

MS (Wildlife Resources), 2007, University of Idaho, Moscow, Idaho

BS (Wildlife Biology), 2004, University of Alaska Fairbanks, Fairbanks, Alaska

EXPERIENCE:

Teaching, Extension and Research Appointments:

July 2020 – present: Associate Professor, Department of Fish and Wildlife Sciences, University of Idaho

October 2014 – present: Assistant Professor, Department of Fish and Wildlife Sciences, University of Idaho

August 2015 – present: Ecology and Conservation Biology Program Faculty member

August 2017 – present: Bioinformatics and Computational Biology Program Faculty member

June 2013 – October 2014: Postdoctoral Research Associate, Department of Ecology and Evolutionary Biology, Princeton University

August 2010 – May 2013: Environmental Protection Agency STAR Fellow, Department of Biological Sciences, Idaho State University

June 2009 – July 2010: Research Assistant, Department of Biological Sciences, Idaho State University

August 2008 – May 2009: National Science Foundation GK-12 Fellow, Department of Biological Sciences, Idaho State University

August 2007 – May 2008: Teaching Assistant, Department of Biological Sciences, Idaho State University

August 2004 – May 2007: Research/Teaching Assistant, Department of Fish and Wildlife Resources, University of Idaho

TEACHING ACCOMPLISHMENTS:

Areas of Specialization: Population Ecology, Physiological Ecology, Ecological Modeling

Courses Taught at UI:

Quantitative Analysis of Fish and Wildlife Populations, WLF 550, 2020, 2 cr, enrollment ~15
 Physiological Ecology of Fish and Wildlife, WLF 371, 2017-2020, 3 cr, enrollment ~30-60
 Fish and Wildlife Population Ecology, WLF 448, 2015-2020, 4 cr, enrollment ~35-65
 Resource Selection Analysis, WLF 504, 2018, 2 cr, enrollment ~30
 Applied Mixed Effects Modeling, WLF 504, WLF 551, 2016-2020, 2 cr, enrollment 10-22
 Resource Selection Analysis, WLF 503, 2015, 1 cr, enrollment ~30
 Thermal Ecology of Vertebrates, WLF 504, 2015, 1cr, enrollment 7

Courses Taught at other Universities:

Mammalogy, BIOL 4441, 2011, 3 cr, enrollment ~ 20, Idaho State University
 Environmental Physiology, BIOL 6607, 2010, 3 cr, enrollment 5, Idaho State University

Graduate Students Advised as Major Professor:

2020 – present: Jeremy Van Driessche, PhD, Wildlife
 2020 – present: Katie Hugler, PhD, Wildlife
 2018 – present: Hallie Walker, PhD, Wildlife
 2017 – present: Nicole Bilodeau, MS, Wildlife
 2016 – present: Marc Wiseman, MS, Wildlife
 2017 – 2019: Savannah Kollasch, MS, Bioinformatics and Computational Biology
 2015 – 2019: Sierra Robotcek, MS, Wildlife
 2015 – 2018: Paola Stramandinoli-Branco, MS, Wildlife
 2015 – 2018: Jennifer Merems, MS, Wildlife

Graduate Student Committee Membership:

2021 – present: Elyce Gosselin, PhD, Wildlife, **UI**
 2020 – present: Rebekah Lumkes, MS, Wildlife, **WSU**
 2020 – present: Rance Bare, PhD, Biological Engineering, **UI**
 2019 – present: Austin Allison, MS, Wildlife, **UI**
 2019 – present: Lorina Keery, PhD, Wildlife, **UI**
 2019 – present: Sam Foster, MS, Wildlife, **UI**
 2019 – present: Aakansha Solomon, MS, Statistics, **UI**
 2017 – present: Manoj Bhusal, MS, Environmental Science, **UI**
 2017 – 2020: Kayte Groth, MS, Wildlife, **UI**
 2017 – 2020: John Guthrie, MS, Wildlife, **UI**
 2014 – 2020: Carl Lundblad, PhD, Wildlife, **UI**
 2015 – 2019: Roberto Salom-Pérez, PhD, Wildlife, **UI**
 2016 – 2019: Ian Riley, MS, Wildlife, **UI**
 2015 – 2019: Azzura Valerio, PhD, Wildlife, **WSU**
 2015 – 2018: Amanda Goldberg, PhD, Wildlife, **UI**
 2016 – 2018: Tayler LaSharr, MS, Wildlife, **UW (Wyoming)**
 2016 – 2018: Curtis Roth, MS, Fisheries, **UI**
 2016 – 2017: Thomas Schrempp, MS, Wildlife, **UI**
 2016 – 2017: Yannik Roell, MS, Biology, **UI**
 2015 – 2017: Stephanie Berry, MS, Wildlife, **WSU**
 2015 – 2016: Laura McMahan, MS, Wildlife, **UI**
 2015 – 2016: Philip Branigan, MS, Fisheries, **UI**
 2015 – 2016: Elizabeth Ng, MS, Statistics, **UI**
 2015 – 2016: Brenda Hanley, MS, Statistics, **UI**
 2015 – 2016: Amanda Bowe, MS, Statistics, **UI**
 2015 – 2016: Cara Leatherman, MS, Statistics, **UI**

Undergraduate Senior Thesis Students Advised:

2020 – present: Tyler Barron, Ecology and Conservation Biology
 2018 – 2020: Matthew Rafferty, Animal and Veterinary Sciences

2018 – 2019: Brendon Harker, Ecology and Conservation Biology
 2017 – 2018: Katie Anderson, Ecology and Conservation Biology
 2016 – 2016: Ramona Bicandi, Ecology and Conservation Biology
 2015 – 2016: Savannah Kollasch, Undergraduates in Biological Mathematics Program
 2015 – 2016: Elyce Gosselin, Undergraduates in Biological Mathematics Program

SCHOLARSHIP ACCOMPLISHMENTS:

Refereed Publications * indicates a graduate student that I advised or helped mentor (e.g., as a committee member); ** indicates an undergraduate student that I mentored.

30. Rogers*, S.A., C.T. Robbins, P.D. Mathewson, A.M. Carnahan, F.T. van Manen, M.A. Haroldson, W.P. Porter, T.R. Rogers, T. Soule, and R.A. Long. 2021. Thermal constraints on energy balance, behavior, and spatial distribution of grizzly bears. *Functional Ecology* 35:398-410. **(Cover article)**
29. Russell, M., J.M. Cartwright, G.H. Collins, R.A. Long, and J.H. Eitel. 2020. Legacy effects of hydrologic alteration in playa wetland responses to droughts. *Wetlands* 40:2011-2024.
28. Maguire, A.J., J.U.H. Eitel, K.L. Griffin, T.S. Magney, R.A. Long, L.A. Vierling, S.C. Schmiege, J.S. Jennewein, W.A. Weygint, N.T. Boelman, and S.G. Bruner. 2020. On the functional relationship between fluorescence and photochemical yields in complex evergreen needleleaf canopies. *Geophysical Research Letters* 46: e2020GL087858.
27. Merems*, J.L., L.A. Shipley, T. Levi, J. Ruprecht, D.A. Clark, M.J. Wisdom, N.J. Jackson, K.M. Stewart, and R.A. Long. 2020. Nutritional-landscape models link habitat use to condition of mule deer (*Odocoileus hemionus*). *Frontiers in Ecology and Evolution* 8:98.
26. Branco*, P.S., J.A. Merkle, R.M. Pringle, L. King, T. Tindall, M. Stalmans, and R.A. Long. 2020. An experimental test of community-based strategies for mitigating human-wildlife conflict around protected areas. *Conservation Letters*: 13(1): e12679.
25. LaSharr*, T., R.A. Long, J. Heffelfinger, V. Bleich, P. Krausman, R.T. Bowyer, J. Shannon, E. Rominger, C. Lehman, M. Cox, and K.L. Monteith. 2019. Biological relevance of antler, horn, and pronghorn size in records programs. *Journal of Mammalogy* 100:1447-1458. **(Cover article)**
24. LaSharr*, T., R.A. Long, J. Heffelfinger, V. Bleich, P.R. Krausman, R.T. Bowyer, J.M. Shannon, R.W. Klaver, C.E. Brewer, M. Cox, A.A. Holland, A. Hubbs, C.P. Lehman, J.D. Muir, B. Sterling, and K.L. Monteith. Hunting and mountain sheep: do current harvest practices affect horn growth? *Evolutionary Applications* 12:1823-1836.
23. Schrempp*, T.V., J.L. Rachlow, T.R. Johnson, L.A. Shipley, R.A. Long, J.L. Aycrigg, and M.A. Hurley. 2019. Linking forest management to moose population trends: the role of the nutritional landscape. *PLoS ONE* 14(7): e0219128.
22. Berry*, S.L., L.A. Shipley, R.A. Long, and C. Loggers. 2019. Differences in dietary niche and foraging behavior of sympatric mule and white-tailed deer. *Ecosphere* 10(7): e02815.
21. Atkins*, J.L., R.A. Long, J. Pansu, J.H. Daskin, A.B. Potter, M. Stalmans, C.E. Tarnita, and R.M. Pringle. 2019. Cascading impacts of large-carnivore extirpation in an African ecosystem. *Science* 364:173-177.
20. Branco*, P.S., J.A. Merkle, R.M. Pringle, J. Pansu, A.B. Potter, A. Reynolds, M. Stalmans, and R.A. Long. 2019. Determinants of elephant foraging behavior in a coupled human-natural system: is brown the new green? *Journal of Animal Ecology* 88:780-792.
19. Gaynor, K.M., P. Branco*, J.S. Brashares, D. D'Emille, P. Granli, R.A. Long, and J. Poole. 2018. Effects of human settlement and roads on diel activity patterns of elephants (*Loxodonta africana*). *African Journal of Ecology* 56:872-881.

18. Spitz, D., D. Clark, M.J. Wisdom, M. Rowland, B. Johnson, R.A. Long, and T. Levi. 2018. Fire history influences large-herbivore behavior at circadian, seasonal, and successional scales. *Ecological Applications* 28:2082-2091.
17. Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T.N. LaSharr*. 2018. Horn size and nutrition in mountain sheep: can ewe handle the truth? *Journal of Wildlife Management* 82:67-84.
16. Long, R.A., A. Wambua, J.R. Goheen, T.M. Palmer, and R.M. Pringle. 2017. Climatic variation modulates the indirect effects of large herbivores on small-mammal habitat use. *Journal of Animal Ecology* 86:739-748.
15. Tarnita, C.E., J.A. Bonachela, E. Sheffer, J.A. Guyton*, T.C. Coverdale*, R.A. Long, and R.M. Pringle. 2017. A theoretical foundation for multi-scale regular vegetation patterns. *Nature* 541:398-401 (**Cover article**).
14. Long, R.A., R.T. Bowyer, W.P. Porter, P. Mathewson, K.L. Monteith, S.L. Findholt, B.L. Dick, and J.G. Kie. 2016. Linking habitat selection to fitness-related traits in herbivores: the role of the energy landscape. *Oecologia* 181:709-720.
13. Seidler, R.G., R.A. Long, J. Berger, S. Bergen, and J.P. Beckmann. 2015. Identifying impediments to long-distance mammal migrations. *Conservation Biology* 29:99-109.
12. Long, R.A., R.T. Bowyer, W.P. Porter, P. Mathewson, K.L. Monteith, and J.G. Kie. 2014. Behavior and nutritional condition buffer a large-bodied endotherm against direct and indirect effects of climate. *Ecological Monographs* 84:513-532.
11. Monteith, K.L., R.A. Long, V.C. Bleich, J.R. Heffelfinger, P.R. Krausman, and R.T. Bowyer. 2013. Effects of harvest, culture, and climate on trends in size of horn-like structures in trophy ungulates. *Wildlife Monographs* 183.
10. Lendrum, P.E., C.R. Anderson, Jr., R.A. Long, J.G. Kie, and R.T. Bowyer. 2012. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. *Ecosphere* 3:art82. <http://dx.doi.org/10.1890/ES12-00165.1>.
9. Anderson, E.D., R.A. Long, M.P. Atwood, J.G. Kie, T.R. Thomas, P. Zager, and R.T. Bowyer. 2012. Winter resource selection by female mule deer *Odocoileus hemionus*: functional response to spatiotemporal changes in habitat. *Wildlife Biology* 18:153-163.
8. Aho, K.A., R.A. Long, J.G. Kie, and R.T. Bowyer. 2010. A new index for measuring perpendicularity of animal movements in relation to patch boundaries. *Ecological Modelling* 221:2003-2007.
7. Long, R.A., J.G. Kie, R.T. Bowyer, and M.A. Hurley. 2009. Resource selection and movements by female mule deer: effects of reproductive stage. *Wildlife Biology* 15:288-298.
6. Long, R.A., J.L. Rachlow, and J.G. Kie. 2009. Sex-specific responses of North American elk to habitat manipulation. *Journal of Mammalogy* 90:423-432.
5. Long, R.A., J.D. Muir, J.L. Rachlow, and J.G. Kie. 2009. A comparison of two modeling approaches for evaluating wildlife-habitat relationships. *Journal of Wildlife Management* 73:294-302.
4. Long, R.A., J.L. Rachlow, and J.G. Kie. 2008. Effects of season and scale on response of elk and mule deer to habitat manipulation. *Journal of Wildlife Management* 72:1133-1142.
3. Long, R.A., J.L. Rachlow, J.G. Kie, and M. Vavra. 2008. Fuels reduction in a western coniferous forest: effects on quantity and quality of forage for elk. *Rangeland Ecology and Management* 61:302-313.

2. Long, R.A., R.A. Hut, and B.M. Barnes. 2007. Simultaneous collection of body temperature and activity data in burrowing mammals: a new technique. *Journal of Wildlife Management* 71:1375-1379.
1. Long, R.A., T.J. Martin, and B.M. Barnes. 2005. Body temperature and activity patterns in free-living arctic ground squirrels. *Journal of Mammalogy* 86:314-322.

Other Publications:

2. Long, R.A. 2015. A mule deer retrospective: vintage photos and memorabilia from the Boone and Crockett Club archives (book review). *Journal of Wildlife Management* 79:349-350.
1. Bowyer, R.T., K.M. Stewart, K.L. Monteith, and R.A. Long. 2012. Wildlife ecology in *Encyclopedia of Environmetrics Second Edition*, A.H. El-Shaarawi and W.W. Piegorsch (eds). John Wiley & Sons Ltd, Chichester, UK, pp. 2963-2968.

Popular Articles:

1. Long, R.A. 2013. Effects of fuels reduction on eastside elk and mule deer. *Western Forester* 58:14-15.

Invited Research Presentations:

- Long, R.A. 2019. Foraging and fear in the savanna: lessons from a congeneric assemblage of African antelope. Department of Biological Sciences Seminar, University of Idaho.
- Long, R.A. 2019. The elephants of Gorongosa: A case study at the interface of basic and applied ecology. Palouse Ecology, Evolution, and Systematics (PEES) meeting, Moscow, Idaho.
- Long, R.A. 2019. The elephants of Gorongosa: An interdisciplinary approach to conservation and conflict mitigation in the shadow of war. Gorongosa Research Symposium, Gorongosa National Park, Mozambique.
- Long, R.A. 2019. You do what for a living? An hour in the life of a large-mammal ecologist. University of Idaho Prison Lecture Series, Idaho Correctional Institution, Orofino, Idaho.
- Long, R.A. 2019. You do what for a living? An hour in the life of a large-mammal ecologist. University of Idaho Prison Lecture Series, North Idaho Correctional Institution, Cottonwood, Idaho.
- Long, R.A. 2018. Life in a landscape of fearlessness: cascading consequences of carnivore extirpation in an African savanna. SAS (Short and Sweet) talk, University of Idaho.
- Long, R.A., E. Gosselin, S. Rogers, P. Mathewson, W.P. Porter, and R.M. Pringle 2018. Ecosystem engineering by subterranean insects buffers large mammals against climate warming. Gorongosa Research Symposium, Gorongosa National Park, Mozambique.
- Long, R.A. 2018. Ecology of large mammals in a post-war African Savanna: an update. Zoo Boise Donors Meeting.
- Long, R.A. 2017. The elephants of Gorongosa: an interdisciplinary approach to conservation and conflict mitigation in the shadow of war. University of Idaho Malcolm M. Renfrew Colloquium.
- Long, R.A., E. Gosselin, S. Kollasch, P. Mathewson, W.P. Porter, and R.M. Pringle. 2017. Ecosystem engineering by subterranean insects buffers large mammals against climate warning. The American Society of Mammalogists 97th Annual Conference.
- Long, R.A. 2016. Ecology of large mammals in a post-war African Savanna. Zoo Boise Donors Meeting.
- Long, R.A. 2014. The fat and the curious: how (and why) nutritional condition shapes herbivore behavior in a changing climate. The Wildlife Society 21st Annual Conference.
- Long, R.A. 2014. Behavior and nutritional condition buffer a large herbivore against direct and indirect effects of climate. Joint sagebrush-steppe ecology seminar, University of Idaho, Washington State University, Boise State University.
- Long, R.A., K.L. Monteith, V.C. Bleich, J.R. Heffelfinger, P.R. Krausman, and R.T. Bowyer. 2013. Effects of harvest, culture, and climate on trends in size of horn-like structures in trophy ungulates. Idaho Department of Fish and Game.
- Long, R.A. 2013. Linking climate to behavior and fitness in herbivores: a bioenergetic approach. Invited seminar at Brigham Young University.
- Long, R.A. 2012. Effects of fuels reduction on elk, mule deer, and their habitat. Rocky Mountain Elk Foundation Field Day, Starkey Experimental Forest and Range.
- Monteith, K.L., R.A. Long, V.C. Bleich, J.R. Heffelfinger, P.R. Krausman, and R.T. Bowyer. 2011. Size of

horn-like structures of trophy ungulates: effects of climate, culture, or harvest? Annual meeting of the Boone and Crockett Club Records Committee.

Long, R.A. 2009. Fuels reduction in a dry forest ecosystem: effects on two large herbivores and their habitat. Dry Forests and Dependent Wildlife: Yesterday, Today, and in the Future, workshop hosted by The Nature Conservancy.

Professional Research Presentations: * indicates a graduate student that I advised or helped mentor (e.g., as a committee member); ** indicates an undergraduate student that I mentored.

- Jennewein*, J.S., J.U.H. Eitel, K. Joly, R.A. Long, A.J. Maguire, L.A. Vierling, and W. Weygint. 2020. Estimating integrated measures of forage quality for herbivores by fusing optical and structural remote sensing data. American Geophysical Union Annual Meeting.
- Rogers*, S.A., C.T. Robbins, P.D. Mathewson, A.M. Carnahan, F.T. van Manen, M.A. Haroldson, W.P. Porter, T.R. Rogers, T. Soule, and R.A. Long. 2020. Climatic constraints on energy balance, behavior, and spatial distribution of grizzly bears. Idaho Chapter of the Wildlife Society Meeting.
- Bilodeau*, N., E.F. Cassirer, L. Shipley, S. Gilbert, and R.A. Long. 2020. Linking nutrition to behavior and lamb survival of bighorn sheep. Idaho Chapter of the Wildlife Society Meeting.
- Walker*, R.H., M.C. Hutchinson, R.M. Pringle, and R.A. Long. 2020. Is individual trophic niche width determined by state-dependent behaviors in a large herbivore? Idaho Chapter of the Wildlife Society Meeting.
- K. Groth*, J. Horne, R.A. Long, and S. Gilbert. 2020. Summer habitat selection of white-tailed deer: can we reduce crop depredations in northern Idaho? Idaho Chapter of the Wildlife Society Meeting.
- Merems*, J.L., J. Ruprecht, L.A. Shipley, D.A. Clark, M.J. Wisdom, N.J. Jackson, K.M. Stewart, T.D. Forrester, T. Levi, and R.A. Long. 2019. Variation in the nutritional landscape links behavior to early winter condition of mule deer. 26th Annual Meeting of the Wildlife Society.
- Maguire*, A., J. Eitel, K.L. Griffin, T.S. Magney, R.A. Long, N. Boelman, S. Bruner, J.S. Jennewein, J. Jensen, S.C. Schmiege, L.A. Vierling, and W. Weygint. 2019. Assessing the sensitivity of shoot-level chlorophyll fluorescence to scalable proxies of absorbed radiation in an evergreen needleleaf forest. American Geophysical Union Annual Meeting.
- Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T.N. LaSharr*. 2019. Horn size and nutrition in mountain sheep: can ewe handle the truth? 7th World Mountain Ungulate Conference.
- Daskin, J.H., J.L. Atkins*, R.A. Long, and R.M. Pringle. 2019. Allometric and state-dependent drivers of ungulate space use. Gordon Research Conference on Movement Ecology of Animals.
- Groth*, K., J. Horne, S. Gilbert, and R.A. Long. 2019. Evaluating fear-enhancing treatments for reducing white-tailed deer depredation of agricultural crops. Idaho Chapter of the Wildlife Society Meeting.
- Bilodeau*, N., E.F. Cassirer, and R.A. Long. 2019. Effects of dam body condition on lamb survival of bighorn sheep in Idaho. Idaho Chapter of the Wildlife Society Meeting.
- Robatcek*, S., C. White, E.K. Strand, and R.A. Long. 2019. Using nutritional-landscape models to predict pregnancy rates of elk at broad spatial scales. Idaho Chapter of the Wildlife Society Meeting.
- Long, R.A., P.S. Branco*, J.A. Merkle, R.M. Pringle, J. Pansu, A.B. Potter, A. Reynolds, and M. Stalmans. 2019. Determinants of elephant foraging behavior in a coupled human-natural system: is brown the new green? Gordon Research Conference on Movement Ecology of Animals.
- LaSharr*, T.N., R.A. Long, J.R. Heffelfinger, R.T. Bowyer, V.C. Bleich, P.R. Krausman, J. Shannon, R. Klaver, and K.L. Monteith. 2018. Does harvest influence size and growth of horns in mountain sheep? 25th Annual Meeting of the Wildlife Society.
- Hayes*, M.M., R.A. Long, E. Wald, E.C. Fuller, T. LaSharr, K.S. Huggler, S. Dwinnell, M. Blum, K. Stewart, and K.L. Monteith. 2018. Predicting ungulate parturition using GPS movement data. 25th Annual Meeting of the Wildlife Society.
- Bhusal*, M., S. Malla, S.A. Subba, S. Koirala, S. Gilbert, R.A. Long, D. Becker, and L.P. Waits. 2018. Spatial ecology of red panda (*Ailurus fulgens fulgens*) in Langtang National Park, Nepal. 25th Annual Meeting of the Wildlife Society.
- Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T.N. LaSharr*. 2018. Horn size and nutrition in mountain sheep: can ewe handle the truth? 25th Annual Meeting of the Wildlife Society.
- Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T.N. LaSharr*. 2018. Horn size and nutrition in mountain sheep: can ewe handle the truth? Wyoming Wild Sheep Foundation Convention.

- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, R. Klaver, J. Shannon, and K.L. Monteith. 2018. Role of harvest and environmental factors on horn size of mount sheep. Wyoming Wild Sheep Foundation Convention.
- Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T.N. LaSharr*. 2018. Horn size and nutrition in mountain sheep: can ewe handle the truth? 21st Biennial Northern Wild Sheep and Goat Council Symposium.
- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, R. Klaver, J. Shannon, and K.L. Monteith. 2018. Role of harvest and environmental factors on horn size of mount sheep. 21st Biennial Northern Wild Sheep and Goat Council Symposium.
- Shipley, L.A., S.L. Berry*, R.A. Long, and C.O. Loggers. 2018. A comparison of nutritional and foraging ecology of sympatric mule and white-tailed deer. Idaho Chapter of the Wildlife Society meeting.
- Merems*, J.L., and R.A. Long. 2018. Behavioral plasticity modulates the indirect effects of interference competition on herbivore fitness. Idaho Chapter of the Wildlife Society Meeting.
- Branco*, P., and R.A. Long. 2018. The elephants of Gorongosa: an integrated approach to conservation and conflict mitigation in the shadow of war. Idaho Chapter of the Wildlife Society Meeting.
- Schremp*[†], T.V., J.L. Rachlow, T.R. Johnson, L.A. Shipley, R.A. Long, J.L. Aycrigg, and M.A. Hurley. 2018. Quantifying the nutritional landscape for moose: an approach for assessing large-scale changes in forage. Idaho Chapter of the Wildlife Society Meeting.
- Schremp*[†], T.V., J.L. Rachlow, T.R. Johnson, L.A. Shipley, R.A. Long, J.L. Aycrigg, and M.A. Hurley. 2018. Variation in the nutritional landscape links forest management to population performance of moose. Idaho Chapter of the Wildlife Society Meeting.
- Anderson**[†], K., S. Robatcek*, and R.A. Long. 2017. Using vegetation and forage data to understand group movement and behavior in elk. Idaho Conference on Undergraduate Research.
- Sheffer, E., R.M. Pringle, J.A. Bonachela, R.A. Long, J.A. Guyton, T.C. Coverdale, and C.E. Tarnita. 2017. Causes and consequences of spatial vegetation patterns in dryland ecosystems. Ecological Society of America 102nd Annual Meeting.
- Monteith, K.L., R.A. Long, T.R. Stephenson, V.C. Bleich, R.T. Bowyer, and T. LaSharr*. 2017. Horn size and nutrition in mountain sheep: can ewe handle the truth? Wyoming Chapter of the Wildlife Society Meeting.
- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, J. Shannon, and K.L. Monteith. 2017. Influence of harvest and the environment on horn size of mountain sheep. Wyoming Chapter of the Wildlife Society Meeting.
- Robatcek*, S.L., R.A. Long, C. White, and E. Strand. 2017. Predicting nutritional condition and pregnancy of elk from remotely sensed data. Western Association of Fish and Wildlife Agencies Deer and Elk Workshop.
- Heffelfinger, J., K.L. Monteith, R.A. Long, R.T. Bowyer, V. Bleich, P. Krausman, and T. LaSharr*. 2017. The inefficiency of harvest-based selection in ungulates. The Wildlife Society 24th Annual Conference.
- Long, R.A., E. Gosselin**[†], S. Kollasch**[†], P. Mathewson, W.P. Porter, and R.M. Pringle. 2017. Ecosystem engineering by subterranean insects buffers large mammals against climate warning. The Wildlife Society 24th Annual Conference.
- Schremp*[†], T.V., J.L. Rachlow, L.A. Shipley, R.A. Long, and T.R. Johnson. 2017. Estimating quality and quantity of moose forage in northern Idaho. The American Society of Mammalogists 97th Annual Conference.
- Berry*, S.L., L.A. Shipley, R.A. Long, M.E. Swanson, and C.O. Loggers. 2017. A comparison of nutrition and foraging behavior between sympatric mule and white-tailed deer in Washington. The American Society of Mammalogists 97th Annual Conference.
- Merems*, J.L., R.A. Long, L.A. Shipley, D.A. Clark, and M.J. Wisdom. 2017. Population ecology of mule deer in northeastern Oregon: understanding the fundamental role of nutrition. The American Society of Mammalogists 97th Annual Conference.
- Merems*, J.L., R.A. Long, L.A. Shipley, D.A. Clark, and M.J. Wisdom. 2017. Population ecology of mule deer in northeastern Oregon: understanding the fundamental role of nutrition. Oregon Chapter of the Wildlife Society Meeting.
- Merems*, J.L., R.A. Long, L.A. Shipley, D.A. Clark, and M.J. Wisdom. 2017. Population ecology of mule deer in northeastern Oregon: understanding the fundamental role of nutrition. Idaho Chapter of the Wildlife Society Meeting.
- Gosselin**[†], E., R.A. Long, S. Kollasch**[†], P. Mathewson, W.P. Porter, and R.M. Pringle. 2017. Large herbivores in a changing climate: how does body size influence the importance of thermal refugia? Idaho Chapter of the Wildlife Society Meeting.

- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, J. Shannon, and K.L. Monteith. 2017. Role of harvest and environmental factors on horn size of mountain sheep. The Wildlife Society 24th Annual Conference.
- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, J. Shannon, and K.L. Monteith. 2017. Evaluating the role of harvest on weapon size of mountain sheep. Desert Bighorn Council Meeting.
- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, and K.L. Monteith. 2016. Influence of harvest and environmental factors on horn size of wild sheep. Wyoming Chapter of the Wildlife Society Meeting.
- LaSharr*, T., R.A. Long, J. Heffelfinger, R.T. Bowyer, V. Bleich, P. Krausman, and K.L. Monteith. 2016. Role of harvest and environmental factors on horn size of wild sheep. The Wildlife Society 23rd Annual Conference.
- Gosselin**, E., S. Kollasch**, W.P. Porter, R.M. Pringle, and R.A. Long. 2016. The importance of thermal refugia to large herbivores of different body sizes. The Wildlife Society 23rd Annual Conference.
- Merems*, J.L., R.A. Long, L.A. Shipley, D.A. Clark, and M.J. Wisdom. 2016. Population ecology of mule deer in northeastern Oregon: understanding the fundamental role of nutrition. The Wildlife Society 23rd Annual Conference.
- Long, R.A., R.T. Bowyer, J.G. Kie, and W.P. Porter. 2013. Linking climate to behavior and fitness of endotherms: a bioenergetic approach. 93rd Meeting of the American Society of Mammalogists.
- Long, R.A., R.T. Bowyer, J.G. Kie, and W.P. Porter. 2012. Linking climatic variability to state-dependent behavior in herbivores: a bioenergetic approach. The Wildlife Society 19th Annual Conference.
- Long, R.A., R.T. Bowyer, J.G. Kie, and W.P. Porter. 2012. Linking climatic variability to state-dependent behavior in herbivores: a bioenergetic approach. 92nd Meeting of the American Society of Mammalogists.
- Long, R.A., R.T. Bowyer, J.G. Kie, and W.P. Porter. 2012. Linking climatic variability to behavior and fitness in herbivores: a bioenergetic approach. Idaho Chapter of the Wildlife Society Meeting.
- Long, R.A. 2011. Linking climatic variability to behavior and fitness in herbivores: a bioenergetic approach. Environmental Protection Agency STAR Fellowship Conference.
- Long, R.A., R.T. Bowyer, J.G. Kie, and W.P. Porter. 2011. Linking climatic variability to behavior and fitness in herbivores: a bioenergetic approach. 91st Meeting of the American Society of Mammalogists.
- Long, R.A., R.T. Bowyer, and J.G. Kie. 2011. Monitoring elk in the desert: preliminary results. Idaho Chapter of the Wildlife Society Meeting.
- Anderson, E.D., R.A. Long, J.G. Kie, R.T. Bowyer, P. Zager, and T.R. Thomas. 2011. Winter habitat selection by female mule deer: do changes in habitat spatially and temporally affect selection? Idaho Chapter of the Wildlife Society Meeting.
- Long, R.A., M.P. Atwood, R.T. Bowyer, P. Zager, and J.G. Kie. 2010. Resource selection by mule deer: winter severity and competition with elk. Idaho Chapter of the Wildlife Society Meeting.
- Long, R.A., J.G. Kie, R.T. Bowyer, M.A. Hurley. 2010. Resource selection and movements by female mule deer: effects of reproductive status. Northwest Section of The Wildlife Society Meeting.
- Long, R.A., M.P. Atwood, R.T. Bowyer, P. Zager, and J.G. Kie. 2009. Resource selection by mule deer on winter range: effects of space use by elk. 89th Meeting of the American Society of Mammalogists.
- Long, R. A., J.G. Kie, R.T. Bowyer, and M.A. Hurley. 2009. Resource selection and movements by female mule deer: effects of reproductive status. Idaho Chapter of The Wildlife Society Meeting.
- Long, R.A., J.L. Rachlow, J.G. Kie, and R.T. Bowyer. 2008. Sex-specific responses of North American elk to fuels reduction. 88th Meeting of the American Society of Mammalogists.
- Long, R.A., J.L. Rachlow, J.G. Kie, and R.T. Bowyer. 2008. Sex-specific responses of North American elk to fuels reduction. Idaho Chapter of The Wildlife Society Meeting.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2007. Seasonal response of elk and mule deer to forest fuels reduction. The Wildlife Society 14th Annual Conference.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2007. Seasonal response of two sympatric cervids to habitat alteration: elk and mule deer in managed forests. 87th Annual Meeting of the American Society of Mammalogists.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2007. Seasonal response of elk to forest fuels reduction. Joint Meeting of the Oregon and Washington Chapters of The Wildlife Society.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2007. Seasonal response of elk to forest fuels reduction. International Association of Wildland Fire Conference.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2007. Seasonal response of elk to forest fuels reduction. Idaho Chapter of The Wildlife Society Meeting.

- Long, R.A., J.L. Rachlow, and J.G. Kie. 2006. Spatiotemporal response of elk to forest fuels reduction. The Wildlife Society 13th Annual Conference.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2006. Spatiotemporal response of elk to forest fuels reduction. 86th Annual Meeting of the American Society of Mammalogists.
- Long, R.A., J.D. Muir, J.L. Rachlow, and J.G. Kie. 2006. Evaluating wildlife-habitat relationships: a comparison of two model-building approaches. Joint meeting of Idaho Chapter and Northwest Section of the Wildlife Society.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2005. Evaluating wildlife-habitat relationships: a comparison of two model-building approaches. The Wildlife Society 12th Annual Conference.
- Long, R.A., J.L. Rachlow, and J.G. Kie. 2005. Modeling wildlife-habitat relationships: an evaluation of daily patterns of resource selection using a new technique. 85th Annual Meeting of the American Society of Mammalogists.
- Long, R.A., J.L. Rachlow, J.G. Kie, and M. Vavra. A niche-based framework for evaluating species- and sex-specific responses of elk and mule deer to forest fuels reduction. Western States and Provinces Deer and Elk Workshop.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2004. Behavioral thermoregulation and activity patterns in free-living arctic ground squirrels. 84th Annual Meeting of the American Society of Mammalogists.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2004. Behavioral thermoregulation and activity patterns in free-living arctic ground squirrels. Joint meeting of the Alaska Chapter and Northwest Section of The Wildlife Society.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2003. Behavioral thermoregulation in free-living arctic ground squirrels. 54th AAAS Arctic Division Conference.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2003. Behavioral thermoregulation in free-living arctic ground squirrels. NSF EPSCoR National Conference.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2003. Behavioral thermoregulation in free-living arctic ground squirrels. 83rd Annual Meeting of the American Society of Mammalogists.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2003. Behavioral thermoregulation in free-living arctic ground squirrels. Alaska Chapter of The Wildlife Society Meeting.
- Long, R.A., T.J. Martin, and B.M. Barnes. 2002. Behavioral thermoregulation in the arctic ground squirrel, *Spermophilus parryii*, during their active season. 53rd AAAS Arctic Division Conference.

Workshops Organized:

Spatial Distribution, Movement, and Home Range Analysis

I have taught half of this week-long workshop (co-taught with Dr. John Kie) twice at the USFWS National Conservation Training Center (2011 and 2012) and five times at the Idaho State University GIS Center (2012-2015).

Analysis of Resource Selection by Animals

I presented this 2.5-day workshop on resource selection analysis (background, theory, and application) to the Wyoming Cooperative Fish and Wildlife Research Unit at the University of Wyoming in 2013 and 2018, to the Department of Natural Resources and Environmental Science at the University of Nevada Reno in 2014, to the Oregon Chapter of the Wildlife Society in 2018 and 2019, and to the Caesar Kleberg Wildlife Research Institute at Texas A&M University in 2018.

Grants and Contracts Awarded:

- Campbell-Staton, S.C., R.M. Pringle, R.A. Long, and D. Gonçalves. 2019. How the elephant lost its tusks: human-mediated evolution in the African elephant (*Loxodonta africana*) during the Mozambican Civil War. National Geographic Society; \$27,013.
- Long, R.A., M. Hurley, F. Cassirer, and S. Roberts. 2017 (renewed for 4 more years in 2019). Relationships among bighorn sheep nutrition, movements, and demographics. Idaho Department of Fish and Game; \$208,324 (2017), \$331,091 (2019).
- Long, R.A. 2017. The elephants of Gorongosa: an integrated approach to conservation and conflict mitigation in the shadow of war. National Geographic Society; \$29,914.
- Long, R.A., R.M. Pringle, and C.E. Tarnita. 2017. Allometry of behavior in spatially patterned resource landscapes. National Science Foundation (IOS); \$1,250,000 (UI portion: \$700,000 for 4 years).
- Long, R.A. 2015. Population ecology of mule deer in northeastern Oregon: understanding the fundamental

- role of nutrition. Oregon Department of Fish and Wildlife; \$167,818.
- Long, R.A. 2015. Predicting nutritional condition and pregnancy of elk from remotely sensed indices of vegetation greenness. Idaho Department of Fish and Game; \$100,259.
- Strand, E.K., J. Aycrigg, R.A. Long, M. Lonaker, and L. Svancara. 2015. Development of a vegetation map for predicting nutritional condition of ungulate habitat in Idaho: pilot project (phase I) and implementation (phase II). Idaho Department of Fish and Game; \$266,000.
- Pringle, R.M., R.A. Long, T.R. Kartzinel, and C.E. Tarnita. 2013. Ecosystem spatial pattern and development opportunities in African Rangelands. Princeton Environmental Institute; \$200,000.
- Long, R.A., and R.M. Pringle. 2013. How self-organized spatial pattern regulates behavior and energetics of large mammals in a recovering African savanna: Gorongosa National Park, Mozambique. National Geographic Society; \$20,000.
- Muir, J.D., R.A. Long, and K.L. Monteith. 2012. Fetal sex ratios and nutritional condition of mule deer in south-central Oregon: a test of the Trivers-Willard hypothesis. Mule Deer Foundation; \$3,000.
- Long, R.A., J.C. Whiting, and M. Case. 2011. Monitoring exposure of potentially contaminated forage and soils in areas used by big game on the INL Site. U.S. Department of Energy; \$76,300.
- Long, R.A., R.T. Bowyer, and J.G. Kie. 2011. Habitat selection and movements of elk in SE Idaho: managing elk in the desert. Rocky Mountain Elk Foundation; \$1,500.
- Long, R.A., and R.T. Bowyer. 2010. Mitigating wildlife conflicts on the Idaho National Laboratory: elk versus agriculture. Berryman Institute; \$15,000.
- Long, R.A., R.T. Bowyer, R.J. Smith, and J.G. Kie. 2010. A proposed study on the distribution, abundance, and movements of mammals on the Idaho National Laboratory. SM Stoller Corporation; \$102,592.
- Long, R.A. 2001-2003. Alaska EPSCoR Undergraduate Research Grants; \$12,500.

Consulting:

2017: Conducted resource selection and least-cost-path analyses of bighorn sheep data from four populations for the Idaho Department of Fish and Game.

2016: Developed an analytical approach for delineating mule deer herd units from GPS data for the Oregon Department of Fish and Wildlife.

2015: Formally reviewed a population viability analysis for wolves in Oregon for the Oregon Department of Fish and Wildlife.

2011: Evaluated a population model for desert bighorn sheep in Arizona for the U.S. Fish and Wildlife Service.

Honors and Awards:

- Alumni Award for Excellence (UI, 2017)
- The Wildlife Society Publication Award for Outstanding Monograph (UI, 2016)
- Alumni Award for Excellence (UI, 2015)
- Outstanding Graduate Researcher in Biology (ISU, 2013)
- American Society of Mammalogists Fellowship (2012)
- U.S. Environmental Protection Agency Science to Achieve Results (STAR) Fellowship (2010-2013)
- Idaho State University Doctoral Teaching Fellowship (2010-2011)
- National Science Foundation Graduate Students in K-12 Education (GK-12) Fellowship (2008-2009)
- Outstanding Graduate Student in Wildlife Resources (UI, 2007)
- National Science Foundation Graduate Research Fellowship Program, Honorable Mention (2005)
- American Society of Mammalogists Undergraduate Honoraria Award (2004)
- Joel Wiegert Award for Outstanding Graduating Senior Man (UAF, 2004)
- Outstanding Undergraduate in Wildlife Biology (UAF, 2003)
- Sigma Xi Undergraduate Poster Award (2002, 2003)

SERVICE:

Major Committee Assignments:

Departmental

2019: Third-year review committee
 2018 – 2019: Quantitative curriculum committee
 2016: Promotion review committee
 2015 – 2019: Student recruitment and retention committee
 2015: Search committee for wildlife habitat ecologist faculty position
 2014: Third-year review committee

College

2021: CNR bylaws committee
 2018 – present: CNR petitions committee
 2018: CNR F & A advisory board
 2015 – present: CNR safety committee

University

2019 – 2020: Program prioritization committee
 2019 – present: Budget and finance committee
 2016 – 2023: Alternate member for Institutional Animal Care and Use Committee

Other Committees and Working Groups

2019 – present: Nutritional ecology working group, The Wildlife Society
 2005 – 2011: Spatial ecology and telemetry working group, The Wildlife Society
 2016 – 2019: Program committee, American Society of Mammalogists (co-hosted annual meeting of ASM on U of I campus in 2017)
 2013 – 2014: Grants-in-Aid committee, American Society of Mammalogists
 2005 – 2010: Resolutions committee, American Society of Mammalogists
 2015 – present: Awards committee, Idaho Chapter of the Wildlife Society

Professional and Scholarly Organizations:

Ecological Society of America, 2009 – present
 Physiological Ecology Section, 2009 – present
 American Society of Mammalogists, 2002 – present
 The Wildlife Society, 2002 – present
 Idaho Chapter of The Wildlife Society, 2004 – present

Manuscript, Proposal, and other External Review:

Associate Editor, Journal of Wildlife Management: 2017-present

Reviewer for: African Journal of Ecology, American Naturalist, Arctic, Antarctic, and Alpine Research, Behavioral Ecology, Biological Conservation, Canadian Journal of Zoology, Ecological Applications, Ecology, Ecology and Evolution, Ecology and Society, Ecology Letters, Écoscience, Ecosphere, Environmental Conservation, Environmental Monitoring and Assessment, Forest Ecology and Management, Global Change Biology, Global Ecology and Conservation, Journal of Animal Ecology, Journal of Biogeography, Journal of Mammalogy, Journal of Wildlife Management, Landscape Ecology, Mammalian Biology, Oikos, Prairie Naturalist, Proceedings of the Royal Society B, Rangeland Ecology and Management, Royal Society Open Science, Scientific Reports, Southwestern Naturalist, Western North American Naturalist, Wildlife Monographs, Wildlife Research, Zoological Science

NSF proposal review (panel or ad hoc): 2016, 2017, 2018, 2019, 2021

NERC (UK) proposal review: 2018

External dissertation review, Victoria University of Wellington: 2018

Outreach Service:

2019-2020: I gave presentations on wildlife science at a summer camp for children with developmental

disabilities in Coeur d'Alene, Idaho.

2019: I gave a presentation on careers in wildlife ecology and management at a tribal science fair in Lapwai, Idaho, followed by a hands-on darting exercise with a group of junior-high students.

2019: Interviews with 1) Paul Ross radio show in London, 2) "Quirks and Quarks" radio show in Canada, 3) ABC News "Start Here" podcast, 4) Voice of America TV, and 5) CBS News about elephant tusklessness research.

2018: Participated in live interview with CTV News Canada about elephant tusklessness research.

2018: Two articles about elephant research based in my lab published online by National Geographic.

2018: Participated in interview with media personnel from The Wildlife Society about Executive Order 3362.

2018: Participated in UI podcast on climate change as expert in climate effects on wildlife.

2018: I gave a presentation on careers in wildlife ecology at Woodland Junior High School in Coeur d'Alene, Idaho.

2016: I gave a presentation on elephants and our elephant research in Africa to a group of 4th and 5th grade students at St. Mary's School in preparation for their First Lego League competition (one of the major themes of the competition was human-wildlife conflict).

2016: Two of my students (one graduate and one undergraduate) worked with the Department of Community Relations at Gorongosa National Park, Mozambique to develop protocols and train community members to quantify and report crop damage by elephants prior to the implementation of experimental mitigation trials.

2015: Worked with managers and foresters at the Farragut Wildlife Management Area in northern Idaho to initiate a study of the effects of timber harvest on ungulate densities as part of a class project for WLF 448.

2015: Attended a 3-day "Storytelling Bootcamp" workshop at National Geographic Society Headquarters in Washington DC (invitation only).

2015: Featured in episode 3 of a 6-part series on Gorongosa National Park (Gorongosa: Rebirth of Paradise) that aired nationally on PBS and internationally on National Geographic TV.

2015: Featured in Idaho Public Television documentary: Into Africa: The Idaho Gorongosa Connection.