

George Wittemyer

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APPOINTMENTS

2020- Full Professor Dept. of Fish, Wildlife, Conservation Biology, Colorado State University
2020 - Scientific Advisor to Mara Elephant Project
2015- 2020 Associate Professor Dept. of Fish, Wildlife, Conservation Biology, Colorado State University
2014- Scientific Board Member: Elephants Alive!
2012- 2017 Technical Advisory Board, Kenya Wildlife Service
2010- Faculty Graduate Degree Program in Ecology, Colorado State University
2010- Chairman of the Scientific Board, Save the Elephants
2009-2015 Assistant Professor Dept. of Fish, Wildlife, Conservation Biology, Colorado State University
2009- Member IUCN Species Survival Commission African Elephant Specialist Group
2007-2009 Adjunct Professor Dept. of Biology, Portland State University
2007-2008 Postdoctoral Associate, Department of Environmental Science, Policy and Management, UC Berkeley
2006 Postdoctoral Associate, Department of Evolutionary Sciences, University of Copenhagen
2005 Postdoctoral Associate, Institute of Environment and Natural Resources, Makerere University
2000-2003 National Science Foundation Graduate Research Fellow
1997-1998 Fulbright Fellow

EDUCATION

Postdoc Dept. of Environmental Science, Policy, and Management University of California, Berkeley 2007-2008
Postdoc National Science Foundation International Research Fellowship Makerere University, Uganda and University of Copenhagen, Denmark 2006-2007
Ph.D. Dept. of Environmental Science, Policy, and Management University of California, Berkeley; Dissertation Chair: Wayne M. Getz 2005
B.A. Colorado College, Biology (Honors), 1997

AWARDS

2018 CSU Monfort Professorship
2018 Outstanding Research Impact Award, Warner College of Natural Resources
2017 Vodafone Wireless Innovation Project Award 2nd place
2016 WCNR Monfort Professor nominee
2015 Smithsonian Institute Visiting Scholar Award
2014 Ecology, Evolution, and Behavioral Biology (EEBB) Program's Distinguished Speaker
2014 Outstanding Publication of the Year, Warner College of Natural Resources
2014 Great Elephant Census 2014 Elephant Hero (<http://www.greatelephantcensus.com/>)

2014 Featured Scientist of the week ZME Science (<http://www.zmescience.com...>)
 2014 Visiting Scholar to the Erasmus Mundus Program of the European Union
 2013-2014 *Colorado State University Outreach and Publicity Campaign*: Images and statements regarding my research on African elephant conservation are being used in CSU's current publicity campaign, including magazine and newspaper advertisements (5280), website banners (Yahoo!, MSN.com, etc.), CSU website spotlight, and a billboard at Denver International Airport.
 2006-2007 National Science Foundation International Research Fellow
 2000-2004 National Science Foundation Graduate Research Fellow
 2000 Outstanding Graduate Student Instructor; U.C. Berkeley
 1999 Foreign Language Area Studies Fellowship
 1997-1998 Fulbright Fellowships

GRANTS

2024-2026 USFS White River National Forest
 2023-2026 National Science Foundation
 2023-2027 USFS Rocky Mountain Research Station Grant
 2022-2026 USDA National Wildlife Research Center Grant
 2021-2023 USDA APHIS Research Grant
 2020-2022 USDA National Wildlife Research Center Grant
 2019-2023 National Park Service Natural Sounds and Night Skies Research Grant
 2018-2019 San Diego Zoological Society Grant
 2018-2020 USDA National Wildlife Research Center Grant
 2017 National Park Service Biological Monitoring
 2017-2018 World's Women's Works Grant
 2016-2017 Wildlife Conservation Society, Wilderness Society, National Park Service Collaborative Funding Grant
 2015-2018 The Nature Conservancy
 2015-2018 National Park Service Natural Sounds and Night Skies Research Grant
 2015 Google Earth Engine Academic Research Awards
 2015-2018 XTO Energy Development and Conservation Research Grant
 2014-2015 XTO Energy Development and Conservation Research Grant
 2014-2015 Chevron Corporation Energy Development Research Grant
 2014 Wildlife Conservation Society Research Grant
 2013-2014 National Park Service Natural Sounds and Night Skies Research Grant
 2012-2020 Save the Elephants Research Grant (Annually)
 2011-2013 Liz Claiborn Art Ortenberg Foundation Conservation Grant
 2011-2013 Safari Club International
 2010-2014 Exxon Energy Development and Conservation Research Grant

PUBLICATIONS

Research Articles (students in italics)

2024

(165) Wall, J., Lefcourt, J., Jones, C., Doehring, C., O'Neill, D., Schneider, D., Steward, J., Krautwurst, J., Wong, T., Jones, B., Goodfellow, K., Schmitt, T., Gobush, K., Douglas-Hamilton, I., Pope, F., Schmidt, E., Palmer, J.,

Stokes, E., Reid, A., Elbroch, M.L., Kulits, P., Villeneuve, C., Matsanza, V., Clinning, G., van Oort, J., Denninger-Snyder, K., Peter Daati, A., Gold, W., Cunliffe, S., Craig, B., Cork, B., Burden, G., Goss, M., Hahn, N., Carroll, S., Gitonga, E., Rao, R., Stabach, J., Dulude-de Broin, F., Omondi, P., **Wittemyer, G.** 2024. EarthRanger: An Open-Source Platform for Ecosystem Monitoring, Research, and Management. *Methods in Ecology and Evolution*

- (164) Pardo, M., Lolchuragi, D., Poole, J., Granli, P., Moss, C., Douglas-Hamilton, I., **Wittemyer, G.** 2024. African elephants rumbles differ between populations and sympatric social groups: possible consequences of vocal learning. *Royal Society Open Science* 11:241264
- (163) Chan, A.N., Werner, K., Stabach, J., Leimgruber, P., **Wittemyer, G.** 2024. Landscape features structuring connectivity of desert elephants. *Landscape Ecology* 39:148.
- (162) Chan, A.N., Leimgruber, P., Williams, C., Shwe, N.M., Aung, S.S., Lwin, N., Oo, Z.M., Chit, A.M., **Wittemyer, G.** 2024. Can Asian elephants persist just by eating crops? *Global Ecology and Conservation* 53:e03025.
- (161) Oduor, S., Gitchuki, N., Brown, J.L., Parker, J., Kimata, D., Murray, S., Goldenberg, S.Z., Schutgens, M., **Wittemyer, G.** 2024. Adrenal and metabolic hormones demonstrate risk-reward tradeoffs for African elephants foraging in human dominated landscapes. *Conservation Physiology* 12:coae051.
- (160) Kuria, L.W., Kimuyu, D.M., Kinyanjui, M. J., **Wittemyer, G.**, Ihwagi, F. W. 2024. Seasonal variation in the ranging behavior of elephants in the Laikipia-Samburu ecosystem. *Ecology and Evolution* 14:e70198.
- (159) Hahn, N., Wall, J., Deninger-Snyder, K., Sairowua, W., Goss, M., Ndambuki S., Eblate, E., Mbise, N., Kiambi, S., **Wittemyer, G.** 2024. Crop use structures resource selection strategies in a human-dominated landscape. *Ecology and Evolution* 14:e11574
- (158) Pardo, M., Fristrup, K., Lolchuragi, D., Poole, J., Granli, P., Moss, C., Douglas-Hamilton, I., **Wittemyer, G.** 2024. African elephants address conspecifics with individually specific names. *Nature Ecology and Evolution* 8:1353-1364.
- (157) Pardo, M. and **Wittemyer, G.** 2024. African elephants call one another by 'name'. *Nature Ecology and Evolution* 8:1214-1215.
- (156) **Wittemyer, G.** and Ryan, S.J. 2024. An Introduction to the Wayne Getz Festschrift. *Movement Ecology* 12:9
- (155) Wall, J., Hahn, N., Carroll, S., Mwiu, S., Goss, M., Sairowua, W., Tiedman, K., Kiambi, S., Omondi, P., Douglas-Hamilton, I., **Wittemyer, G.** 2024. Land-use drives differential resource selection by African elephants in the greater Mara ecosystem, Kenya. *Movement Ecology* 12:11
- 2023
- (154) Yang, A., Boughton, R., Miller, R., Snow, N.P., Vercauteren, K., Pepin, K., **Wittemyer, G.** 2023. Individual-level patterns of resource selection do not predict hotspots of contact. *Movement Ecology* 11, 74.
- (153) Ditmer, M., Carter, N., Hersey, K.R., Leclerc, M. **Wittemyer, G.**, Stoner, D.C. *In press*. Navigating the wildland-urban interface: Sensory pollution and infrastructure effects on mule deer behavior and connectivity. *Basic and Applied Ecology* 73:62-71.
- (152) Tucker, M.A., Schipper, A.M., et al. 2023. Behavioral responses of terrestrial mammals to COVID-19 lockdowns. *Science* 380:1059-1064.

- (151) Hahn, N., Wall, J., Deninger-Snyder, K., Sairowua, W., Goss, M., Ndambuki S., Eblate, E., Mbise, N., Kiambi, S., WITTEMYER, G. 2023. Staging Behaviors Identify Spatial and Temporal Risk of Human-Wildlife Conflict. *J. of Animal Ecology* **60**:1495-1506.
- (150) Gill, B., **Wittemyer, G.**, Cerling, T., Kertzial, T. 2023. Foraging history of individual elephants using DNA metabarcoding. *Proceedings of the Royal Society Open Science* **10**:230337
- (149) Waebar, P., Roberts, M., Schuurman, D., Nijman, V., **Wittemyer, G.**, Barber, C., Innes, J., Lowry, P.P., Wilme, L. *In press*. Gaps in CITES policy undermine conservation of threatened species by providing loopholes for illegal trade. *Bioscience*
- (148) Clontz, L., Yang, A., Chinn, S., Pepin, K., Vercauteren, K., **Wittemyer, G.**, Miller, R., Beasley, J. *In press*. Role of social structure in establishment of an invasive large mammal after translocation. *Pest Management Science*
- (147) Yang, A., Wilbur, M., Manlove, K.R., Miller, R.S., Boughton, R.K., Beasley, J.C., Northrup, J.M, VerCauteren, K., **Wittemyer, G.**, Pepin, K.M., 2023. Deriving spatially explicit direct and indirect interactions networks from animal movement data. *Ecology and Evolution* **13**:e9774
- (146) Kleist, N.J., Fristrup, K., Buxton, R.T., Mckenna, M.F., Angeloni, L.M., Crooks, K. **Wittemyer, G.** 2023. Effects of Noise on Organisms: From Mechanisms to Ecological Consequences. *Frontiers in Ecology and Evolution* **11**:1149097
- (145) Kellner, A., Breck, S., Atwood, T., Douglas, D., **Wittemyer, G.** 2023. High winds and melting sea ice trigger landward movement in a polar bear population of concern. *Ecosphere* **14**:e4420

2022

- (144) Bonar, M., Anderson, S.J., Anderson, C., **Wittemyer, G.**, Northrup, J., Shafer, A. 2022. Genomic correlates for migratory direction in a free-ranging cervid. *Proceedings of the Royal Society: B* **289**: 20221969
- (143) Ditmer, M.A., **Wittemyer, G.**, Breck, S.W. and Crooks, K.R. 2022. Defining ecological and socially suitable habitat for the reintroduction of an apex predator. *Global Ecology and Conservation* **38**:e02192
- (142) Koskei, M.K., Kolowski, J., **Wittemyer, G.**, Lala, F., Douglas-Hamilton, I., Okita-Ouma, B. 2022. The role of environmental, structural and anthropogenic variables on underpass use by African savanna elephants (*Loxodonta africana*) in the Tsavo Conservation Area. *Global Ecology and Conservation* **38**:e02199
- (141) Goldenberg, S.Z., Chege, S.M., Mwangi, N., Craig, I., Daballen, D., Douglas-Hamilton, I., Lamberski, N., Lenaipa, M., Lendir, R., Lesowapir, C., Lokooria, L.P., Mutinda, M., Omengo, F., Rowe, K., Stacy-Dawes, J., **Wittemyer, G.**, Owen, M.A. 2022. Social integration of translocated wildlife: A case study of rehabilitated and released elephant calves in northern Kenya. *Mammalian Biology* **10**:1007
- (140) Benitez, L., Killian, W.K., **Wittemyer, G.**, Hughley, L.F., Fleming, C.H., Leimgruber, P., du Preez, P., Stabach, J. A. 2022. Precipitation, vegetation productivity, and human impacts control home range size of elephants in dryland systems in Northern Namibia. *Ecology and Evolution* **12**:e9288
- (139) Parker, J.M., Brown, J., Daballen, D., Goldenberg, S.Z., Lepirei, J., Letitiya, D., Lolchuragi, D., Leadismo, C., Douglas-Hamilton, I., **Wittemyer, G.** 2022. Social support correlates with glucocorticoid concentrations in wild African elephant orphans. *Nature Communications Biology* **5**:630

- (138) Parker, J.M., **Wittemyer, G.** 2022. Orphaning stunts growth in wild African elephants. *Conservation Physiology* **10**:coac053.
- (137) Ditmer, M., Niemiec, R., **Wittemyer, G.**, Crooks, K. 2022. Socio-ecological drivers of public conservation voting: restoring gray wolves to Colorado, USA. *Ecological Applications* **32**:e2532.
- (136) Manlove, K., Wilber, M., White, L., Bastille-Rousseau, G., Yang, A., Gilbertson, M.L.J., Kraft, M.E., Cross, P.C., **Wittemyer, G.**, Pepin, K., 2022. Defining an epidemiological landscape that connects movement ecology to pathogen transmission and pace-of-life. *Ecology Letters* e.14032
- (135) Marsh C.J., et al. 2022. Expert range maps of global mammal distributions harmonized to three taxonomic authorities. *Journal of Biogeography* **49**:979-992.
- (134) Hahn, N. R., Bombaci, S.P., **Wittemyer, G.** 2022. Identifying Conservation Technology Needs, Barriers, and Opportunities. *Scientific Reports* **12**:4802.
- (133) Wilber, M., Yang, A., Boughton, R., Manlove, K., Miller, K., Pepin, K., **Wittemyer, G.** 2022. A framework for leveraging animal movement to understand spatio-temporal disease dynamics. *Ecology Letters* **25**:1290-1304.
- (132) Chan, A.N., **Wittemyer, G.**, McEvoy, J., Williams, C., Grindley, M., Shwe, N.M., Cox, N., Soe, P., Chit, A.M., Oo, Z.M., Leimgruber, P. 2022. Landscape characteristics influence ranging behavior of Asian elephants at the human-wildlands interface in Myanmar. *Movement Ecology* **10**:6
- (131) Taylor, L.A., **Wittemyer, G.**, Lambert, B., Douglas-Hamilton, I., Vollrath, F. 2022. Movement behaviour after birth demonstrates precocial abilities of African savannah elephant (*Loxodonta africana*) calves. *Animal Behaviour* **187**:331-353
- (130) McClure, K., Bastille-Rousseau, G., Davis, A.J., Stengel, C. A., Nelson, K., **Wittemyer, G.**, Chipman, R., Abdo, Z., Gilbert, A.T., Pepin, K., 2022. Accounting for animal movement improves vaccination strategies against wildlife disease in heterogeneous landscapes. *Ecological Applications* **32**:e2568.
- (129) Speaker, T., O'Donnell, S., Bruyere, B., Loucks, C., Dancer, A., **Wittemyer, G.**, Carter, M., Fegraus, E., Palmer, J., Warren, E., Solomon, J. 2022. A Global Community-Sourced Assessment of the State of Conservation Technology. *Conservation Biology* **36**:13871
- (128) Tyrell, P., Amoke, I., Betjes, K., Broekhuis, F., Buitenwerf, R., Carroll, S., Hahn, N., Haywood, D., Klaassen, B., Lovschal, M., Macdonald, D., Maiyo, K., Mbithi, H., Mwangi, N., Ochola, C., Odire, E., Ondrusek, V., Ratemo, J., Pope, F., Russell, S., Sairowua, W., Sigilai, K., Stabach, J., Svenning, J., Stone, E., Dutoit, J., Western, G., **Wittemyer, G.**, Wall, J. 2022. Landscape Dynamics (landDX): An open-access spatial-temporal database for the Kenya-Tanzania borderlands. *Scientific Data* **9**:8
- (127) Goldenberg, S.Z., Hahn, N., Stacy-Dawes, J., Chege, S.M., Daballen, D., Douglas-Hamilton, I., Lendra, R., Lengees, M.J., Loidialo, L.S., Omengo, F., Pope, F., Thouless, C., **Wittemyer, G.**, Owen, M.A., 2022. Movement of rehabilitated African elephant calves following soft release into a wildlife sanctuary. *Frontiers in Conservation Science*.
- (126) Hahn, N., Wall, J., Denninger-Snyder, K., Goss, M., Sairowua, W., Mbise, N., Estes, A., Ndambuki, S., Eblate, E., Douglas-Hamilton, I., **Wittemyer, G.** 2022. Risk perception and tolerance shape variation in agricultural use for a transboundary elephant population. *Journal of Animal Ecology* **91**:112-123.

- (125) Tucker, C., Fagre, A., **Witemyer, G.**, Webb, T., VandeWoude, S. 2021. Parallel pandemics illustrate the need for One Health Solutions. *Frontiers in Microbiology* **12**:718546.
- (124) Parker, J.M., Webb, C.T., Daballen, D., Goldenberg, S.Z., Lepirei, J., Letitiya, D., Lolchuragi, D., Leadismo, C., Douglas-Hamilton, I., **Witemyer, G.** 2021. Poaching of African elephants indirectly decreases population growth through lowered orphan survival. *Current Biology* **31**:4156-4162.
- (123) **Witemyer, G.**, Daballen, D., and Douglas-Hamilton, I. 2021. Human impacts dominate ecological, density and life history drivers of demography in an African elephant population. *Ecosphere* **12**: e03720
- (122) Yang, A.; Boughton, R.K.; Miller, R.S.; Wight, B.; Anderson, W.M.; Beasley, J.C.; VerCauteren, K.; Pepin, K.M., **Witemyer, G.** 2021. Spatial variation in direct and indirect contact rates at the wildlife-livestock interface for informing disease management. *Preventive Veterinary Medicine* **194**:105423.
- (121) Rheault, H., Anderson, C.A., Bonar, M., Marrotte, R.R., Ross, T., **Witemyer, G.** and Northrup, J.M. 2021. Some memories never fade: The role of short and long-term memory in driving seasonal range use by a migratory ungulate. *Frontiers in Ecology and Evolution* **9**:702818
- (120) Wall, J., **Witemyer, G.**, Klinkenberg, B., LeMay, V., Blake, S., Strindberg, S., Henley, M., Vollrath, F., Maisels, F., Ferweda, J., Douglas-Hamilton, I. 2021. Human footprint and protected areas shape elephant range across Africa. *Current Biology* **31**:2437-2445.
- (119) Suraci, J.P., Gaynor, K.M., Allen, M.L. Alexander, P., Brashares, J.S., Cendejas-Zarelli, S., Crooks, K., Elbroch, L.M., Forrester, T., Green, A.M., Haight, J., Harris, N.C., Hebblewhite, M., Isbell, F., Johnston, B., Kays, R., Lendrum, P.E., Lewis, J.S., McInturff, A., McShea, W., Murphy, T.W., Palmer, M.S., Parsons, A., Parsons, M.A., Pendergast, M.E., Pekins, C., Prugh, L.R., Sager-Fradkin, K.A., Schuttler, S., Şekercioğlu, C.H., Shepherd, B., Whipple, L., Whittington, J., **Witemyer, G.**, Wilmers, C.C. 2021. Disturbance type and species life history predict mammal responses to humans. *Global Change Biology* **27**:3718-3731.
- (118) Kauffman, M.J., Cagnacci, F., Chamailé-Jammes, S., Hebblewhite, M., Hopcraft, J.G.C., Merkle, J.A., Mueller, T., Myserud, A., Peters, W., Roettger, C., Steingisser, A., Meacham, J.E., Abera, K., Adamczewski, J., Aikens, E.O., Bartlam-Brooks, H., Bennitt, E., Berger, J., Boyd, C., Côté, S.D., Debeffe, L., Dekrout, A.S., Dejid, N., Donadio, E., Dziba, L., Fagan, W.F., Fischer, C., Focardi, S., Fryxell, J.M., Fynn, R.W.S., Geremia, C., González, B.A., Gunn, A., Gurarie, E., Heurich, M., Hilty, J., Hurley, M., Johnson, A., Joly, K., Kaczensky, P., Kendall, C.J., Kochkarev, P., Kolpaschikov, L., Kowalczyk, R., Langevelde, F. Van, Li, B. V., Lobora, A.L., Loison, A., Madiri, T.H., Mallon, D., Marchand, P., Medellín, R.A., Meisingset, E., Merrill, E., Middleton, A.D., Monteith, K.L., Morjan, M., Morrison, T.A., Mumme, S., Naidoo, R., Novaro, A., Ogutu, J.O., Olson, K.A., Oteng-Yeboah, A., Ovejero, R.J.A., Owen-Smith, N., Paasivaara, A., Packer, C., Panchenko, D., Pedrotti, L., Plumptre, A.J., Rolandsen, C.M., Said, S., Salemgareyev, A., Savchenko, A., Savchenko, P., Sawyer, H., Selebatso, M., Skroch, M., Solberg, E., Stabach, J.A., Strand, O., Sutor, M.J., Tachiki, Y., Trainor, A., Tshipa, A., Virani, M.Z., Vynne, C., Ward, S., **Witemyer, G.**, Xu, W. & Zuther, S. 2021. Mapping out a future for ungulate migrations. *Science* **372**:566-568.
- (117) Yang, A.; Schlichting, P.; Wight, B.; Anderson, W.; Chinn, S.; Wilber, M.; Miller, R.; Beasley, J.; Boughton, R.; Vercauteren, K.; **Witemyer, G.**; Pepin, K. 2021. Effects of Social Structure and Management on Risk of Disease Establishment in Wild Pigs. *Journal of Animal Ecology* **90**:820-833.
- (116) Kleist, N., Buxton, R., Lendrum, P., Linares, C., Crooks, K., **Witemyer, G.** 2021. Noise and landscape features influence habitat use of mammalian herbivores in a natural gas field. *Journal of Animal Ecology* **90**:875-885.
- (115) Murphy, D., Henley, M., **Witemyer, G.**, Mumby, H. 2021. Detecting community structure in wild populations: a simulation study based on male elephant (*Loxodonta africana*) data. *Animal Behaviour* **174**:127-148.
- (114) Vincelette, H., Buxton, R.T., Kleist, N., McKenna, M.F., Betchkal, T., **Witemyer, G.** 2021. Insights on the effect of aircraft traffic on avian vocal activity. *Ibis* **163**:353-365.

- (113) *Buxton, R., Pearson, A., Allou, C., Fristrup, K., Wittemyer, G.* 2021. Natural sound and national parks: A synthesis examining benefits to human health. *Proceedings of the National Academy of Sciences* **118**:e2013097118
- (112) *Bastille-Rousseau, G., Wittemyer, G.* 2021. Characterizing animal “movescapes” to identify critical habitats and movement corridors for conservation planning. *Conservation Biology* **35**:346-349
- (111) *Bastille-Rousseau, G.; Schlichting, P.; Keiter, D.; Smith, J.; Kilgo, J.; Wittemyer, G.; Vercauteren, K; Beasley, J.; Pepin, K.* 2021. Multi-level movement response of invasive wild pigs (*Sus scrofa*). *Pest Management Science* **77**:85-95.
- (110) *Goldenberg, S., Turkalo, A., Wrege, P., Hedwig, D., Wittemyer, G.* 2021. Entry and aggregation at a central African bai reveal social patterns in the elusive forest elephant (*Loxodonta cyclotis*). *Animal Behaviour* **171**:77-85.
- (109) *Northrup, J. M., Anderson, C. R., Gerber, B.D., Wittemyer, G..* 2021. Behavioral plasticity buffers mule deer from demographic impacts of energy development. *Wildlife Monographs* **208**:1-37.

2020

- (108) *Uno, K., Fisher, D. C., Schuster, G. T., Wittemyer, G., Douglas-Hamilton, I., Omondi, P., Litoroh, M., Cerling, T.* 2020. High-resolution stable isotope profiles from elephant (*Loxodonta africana*) tusk dentin and tail hair document seasonal variability in climate, ecology, and diet. *Palaeogeography, Palaeoclimatology, Palaeoecology* **559**:109962
- (107) *Uno, K., Fisher, D. C., Wittemyer, G., Douglas-Hamilton, I., Carpenter, N., Omondi, P., Cerling, T.* 2020. Forward and inverse methods for extracting climate and diet information from stable isotope profiles in proboscidean molars. *Quaternary International* **557**:92-109.
- (106) *Wilmé, L., Innes, J., Schuurman, D., Ramamonjisoa, B., Langrand, M., Barber, C., Butler, R., Wittemyer, G., Waeber, P.* 2020. The elephant in the room: Madagascar’s rosewood stocks and stockpiles. *Conservation Letters* **13**:e12714
- (105) *Buxton, R.T., Seymoure, B., White, J., Angeloni, L.M., Crooks, K.R., Fristrup, K., Wittemyer, G.* 2020. The relationship between anthropogenic light and noise in U.S. National Parks. *Landscape Ecology* **35**:1371-1384
- (104) *Shannon, G., McKenna, M., Wilson-Henjum, G., Angeloni, L.M., Crooks, K.R. Wittemyer, G.* 2020. Vocal characteristics of prairie dog alarm calls across an urban noise gradient. *Behavioural Ecology* **31**:393-400
- (103) *Parker, J.M., Goldenberg, S., Letitiya, D., Wittemyer, G.* 2020. Nematode infection varies with age, sex, movement and social factors in wild African elephants. *Parasitology* **147**:348-359.
- (102) *Goldenberg, S. Z., Wittemyer, G.* 2020. Elephant behavior towards their dead: a review and insights from field observations. *Primates* **61**:119-128.
- (101) *Buxton, R.T., McKenna, M.F., Brown, E., Ohms, R., Hammesfahr, A., Angeloni, L.M., Crooks, K.R., and Wittemyer, G.* 2020. Varying behavioral responses of wildlife to motorcycle traffic. *Global Ecology and Conservation* **21**:e00844
- (100) *Bastille-Rousseau, G., Wall, J., Douglas-Hamilton, I., Lesowapir, B., Loloju, B., Mwangi, N., Wittemyer, G.* 2020. Landscape-scale habitat selection of African elephants shows strong response to foraging opportunities in a human dominated ecosystem. *Ecography* **43**:149-160.
- (99) *Taylor, L., Vollrath, F., Lambert, B., Lunn, D., Douglas-Hamilton, I., Wittemyer, G.* 2020. Movement reveals reproductive tactics in male elephants. *Journal of Animal Ecology* **89**:57-67.

2019

- (98) Northrup, J. M., Avrin, A., Anderson, C. R., Brown, E.L., **Wittemyer, G.** 2019. On-animal acoustic monitoring provides a novel test of the predictions of optimal foraging theory. *Journal of Mammalogy* **100**:1479-1489.
- (97) Denninger Snyder, K., Mneney, P. and **Wittemyer, G.** 2019. Predicting risk of illegal activity using ranger patrol and intervention data. *Conservation Science and Practice* **1**:e81
- (96) Buxton, R.T., McKenna, M.F., Mennit, D., Brown, E., Fristrup, K.M., Crooks, K.R., Angeloni, L.M., and **Wittemyer, G.** 2019. Sources and spatial extent of noise in U.S. National Parks. *Frontiers in Ecology and Evolution* **17**:559-564
- (95) Bastille-Rousseau, G. and **Wittemyer, G.** 2019. A framework for defining individual movement tactics demonstrates the influence of heterogeneity in resource selection on population distribution of African elephants. *Ecology Letters* **22**:9 1417-1427.
- (94) **Wittemyer, G.**, Northrup, J.M., and Bastille-Rousseau, G. 2019. Behavioral valuation of landscapes using movement data. *Philosophical Transactions of the Royal Society B* **374**:20180046.
- (93) Wilson-Henjum, G., Job, J., McKenna, M., Shannon, G., **Wittemyer, G.** 2019. Alarm-call modification by Prairie Dog in the presence of juveniles. *Journal of Ethology* **37**:167-174.
- (92) Goldenberg, S.Z., Owen, M.A., Brown J.L., **Wittemyer, G.**, Min Oo, Z., Leimgruber, P. *In press*. Increasing conservation translocation success by building social functionality in released populations. *Global Ecology and Conservation* **18**:e00604

2018

- (91) Buxton, R.T., Lendrum, P.E., Crooks, K.R., and **Wittemyer, G.** 2018. Pairing camera traps and acoustic recorders to monitor the ecological impact of human disturbance. *Global Ecology and Conservation* **16**:e00493
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- (11) **Wittemyer, G.***, Rasmussen, H. B.*, & Douglas-Hamilton, I. 2007. Breeding phenology in relation to NDVI variability in free-ranging African elephant. *Ecography* **30**:42-50

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- (8) Rasmussen, H. B.*, **Wittemyer, G.***, & Douglas-Hamilton, I. 2006. Predicting time-specific changes in demographic processes using remote-sensing data. *Journal of Applied Ecology* **43**:366-376
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- (5) **Wittemyer, G.**, Daballen, D., Rasmussen, H., Kahindi, O., Douglas-Hamilton, I. 2005. Demographic status of elephants in the Samburu and Buffalo Springs National Reserves, Kenya. *African Journal of Ecology* **43**:44-47
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- (3) Rasmussen, H. B., **Wittemyer, G.**, & Douglas-Hamilton, I. 2005. Estimating age of immobilized elephants from teeth impressions using dental silicon. *African Journal of Ecology* **43**:215-219

2002

- (2) Rasmussen, L.E.L. & **Wittemyer, G.** 2002. Chemosignaling of musth by individual wild African elephants, (*Loxodonta africana*): implications for conservation and management. *Proceedings of the Royal Society: Biological Sciences* **269**:853-860

2001

- (1) **Wittemyer, G.** 2001. The elephant population of Samburu and Buffalo Springs National Reserves, Kenya. *African Journal of Ecology* **39**:357-365

*Joint first authors

Graduate Students and Post Docs italicized

Book Chapters & Other Articles

- (8) **Wittemyer, G.** 2015. Testimony to U.S. Senate Foreign Relations Subcommittee on Africa and Global Health. <http://www.foreign.senate.gov>
- (7) **Wittemyer, G.** 2013. Perceptions of elephants. In *Global Guide to Animal Protection*. University of Illinois Press, Champaign, IL.
- (6) **Wittemyer, G.** 2011. Family Elephantidae In: *Handbook of Mammals of the World Volume 2* (D.E. Wilson & R.A. Mittermeier, Eds.). Lynx Edicions in association with Conservation International and IUCN.
- (5) **Wittemyer, G.** 2008. National Geographic Geopedia: Samburu Elephants. http://ngm.nationalgeographic.com/geopedia/Samburu_Elephants
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- (2) **Wittemyer, G.** 2005. Book Review: Secrets of the Savanna: Twenty-three Years in the African Wilderness unraveling the Mysteries of Elephants and People. *Social Biology* **52**:192-193
- (1) Kuriyan, R. and **Wittemyer, G.** (1999). Integrating community conservation and research. *SWARA: The Journal of the East African Wildlife Society* 22:38-41

Technical Reports

- o [Grand Canyon National Park: Acoustic Monitoring Report: 2017](#), 2020.
- o [Homestead National Monument of America: Acoustic Monitoring Report - 2017](#), 2020.
- o [Homestead National Monument of America: Acoustic Monitoring: 2011-2012](#), 2020.
- o [Katmai National Park and Preserve: Acoustic Inventory 2015 - 2017](#), 2020.
- o [Valles Caldera National Preserve: Acoustic Monitoring Report](#), 2020.
- o [Walnut Canyon National Monument: Acoustic Monitoring Report](#), 2020.
- o [Washita Battlefield National Historic Site: Acoustic Monitoring Report](#), 2020.

MENTORING

Graduate Students

2024-	Jesse Turner, PhD, Development of animal borne acoustic sensor
2023-	Sara Hathaway, MSc, Co-infection impacts on deer behavior
2023-	Adele Reinking, PhD, Using Snow-Model to understand ungulate-snow interactions
2022-	Jeremy Alder, PhD, Prevalence and transmission of COVID in deer
2021-	Kelly Russo; MSc; Role of scavengers on CWD mitigation
2020-	Nelson Gathuku Mwangi; PhD; Drivers of African elephant movement behavior
2017-2023	Aung Chan PhD; Landscape planning for elephant conservation in Myanmar
2017-2022	Nathan Hahn PhD; Developing technology solutions to address emerging conservation challenges in Africa
2016-2021	Jenna Parker PhD; Elephant physiological responses to illegal killing
2014-2018	Patrick Lendrum PhD; Wildlife community occupancy in relation to natural gas development in the Piceance Basin

2011-2016	Shifra Goldenberg PhD; Social impacts of human perturbations on wild elephants
2010-2015	Joe Northrup PhD; Mule deer movement in relation to energy development in the Piceance Basin
2010-2014	Julia Gessner PhD (Co-Advised at University of Oldenberg, Germany); Correlates of forest elephant use in bai systems in Central Africa
2011-2013	Emma Lynch MSc; Mule deer space use in relation to the soundscape in the Piceance Basin

Postdoctoral Associates

2024-	Maksim Sergeev
2023-2024	Mike LaForge
2023-2024	Heather Abernathy
2021-2024	Jenna Parker
2019-2023	Mickey Pardo
2020-2021	Mark Ditmer
2019-2021	Anni Yang
2017-2021	Kristen Denninger-Snyder
2018-2019	Nathan Kleist
2017-2019	Guillaume Bastille-Rousseau
2015-2019	Rachel Buxton
2017-2018	Shifra Goldenberg
2016-2017	Alexander Keyel
2015-2016	Joe Northrup
2015-2016	Jake Wall
2012-2014	Graeme Shannon
2011-2014	Shermin de Silva
2010	Leo Polansky

TEACHING EXPERIENCE

Lecturer

2021	Graduate Seminar on Animal Movement, CSU
2017- (3x)	Conservation and Management of Large Mammals, CSU
2010- (8x)	Principles of Wildlife Management, CSU
2010-2017	Wildlife Habitat Use and Management, CSU
2016	Graduate Level Wildlife Space Use and Habitat Management, CSU
2013	Graduate Seminar on Applied Evolutionary Ecology, CSU
2012	Graduate Seminar on Acoustic Ecology, CSU
2011-2015	Evolutionary Concepts in Conservation, CSU
2005	Wildlife Ecology, UC Berkeley

Teaching Assistant

2004	Environmental Issues, UC Berkeley
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PRESENTATIONS (1st Authored Only)

Invited

- 2024 CSU Wildlife Disease Association. Fort Collins, CO
- 2024 Colorado State University Ram Talks. Fort Collins, CO
- 2023 Global Initiative on Ungulate Migrations. Jackson, WY
- 2022 Grumeti Conservation Technology Gathering. Serengeti, Tanzania
- 2022 Elephant Managers Association Conference, Milwaukee, WI
- 2022 Kenya Meteorological Department. Nairobi, Kenya
- 2021 Ecosystem Science and Sustainability Department Seminar, Fort Collins, CO
- 2021 African Elephant Specialist Group Webinar on 2021 Red List Assessment, Online
- 2020 Denver Mile High TEDx, Denver, CO
- 2020 Workshop for Predicting Spatial Disease Dynamics. St. Paul, MN (Online)
- 2019 Environmental Journalist Society Annual Conference. Fort Collins, CO
- 2019 Biodiversity and Borders panel moderator. Fort Collins, CO
- 2019 Teen Science Cafe. Fort Collins, CO.
- 2019 IUCN African Elephant Specialist Group Red List Assessment. Pretoria, South Africa
- 2019 SOCES Water and Land Conservation Panel. Fort Collins, CO
- 2018 Zoological Society of London Behavioral Ecology and Conservation Conference. London, U.K.
- 2018 SOGES Managing the Planet Series; Biodiversity Working Group panel. Fort Collins, CO
- 2018 San Diego Zoo Safari Park. San Diego, CA.
- 2018 Africa Center Panel Discussion. Fort Collins, CO
- 2018 Winter Animal Behavior Conference—Steamboat Springs, CO
- 2017 Wildlife Conservation Society Field Project—Kaziranga, India
- 2017 Global Biodiversity Summit Panel—Fort Collins, CO
- 2017 Social Innovation Summit—Chicago, IL
- 2017 Vodafone Innovation Summit—San Francisco, CA
- 2017 Biodiversity Working Group Ignite—Fort Collins, CO
- 2017 University of Chicago, Dept. of Ecology and Evolution Seminar Series—Chicago, IL
- 2017 Front Range Student Ecology Seminar Ignite Presentations—Fort Collins, CO
- 2017 Aspen Environmental Institute Lecture Series—Aspen, CO
- 2017 Wilderness Workshop Lecture Series—Carbondale, CO
- 2016 Denver Museum of Nature and Science—Denver, CO
- 2016 IUCN World Conservation Congress: Google Pavilion Talks—Honolulu, HI
- 2016 IUCN World Conservation Congress: Applied Movement Ecology—Honolulu, HI
- 2016 U.S. Fish and Wildlife Service Monitoring Illegal Killing—Washington, D.C.
- 2016 Smithsonian Museum Wide Movement of Life Initiative—Front Royal, VA
- 2015 Smithsonian Conservation Biology Institute Animal Movement Initiative—Front Royal, VA.

2015 UC Davis Dept. Fish, Wildlife and Conservation Biology Seminar—Davis, CA.
 2015 UC Berkeley Environmental Science, Policy and Management Colloquium—Berkeley, CA.
 2015 Clinton Global Initiative Winter 2015 Meeting—New York, NY
 2014 Michigan State University Wildlife Biology Seminar—Lansing, MI
 2014 Distinguished Ecologist: Michigan State University Ecology, Evolution, and Behavioral
 Biology's Lecture Series—Lansing, MI
 2014 SXSW Eco—Austin, TX
 2014 Plenary: Guild of Rocky Mountain Ecologists and Evolutionary Biologists—Pingree, CO
 2014 Ignite Biodiversity School of Global Environmental Sustainability—Fort Collins, CO
 2014 Ecology and Evolutionary Biology Seminar Series—University of California at Los Angeles
 2014 Environmental Science Colloquium—University of California at Los Angeles
 2013 Smithsonian Zoological Park Seminar Series—Washington, D.C.
 2013 Environmental Studies Seminar—University of California at Santa Cruz
 2013 Denver Museum of Science and Nature — Denver, CO
 2012 IUCN Conservation Congress — Jeju, Korea
 2012 Colorado College Biology Symposium — Colorado Springs, CO
 2011 The Wildlife Society Movement Symposium — Hawaii
 2011 Biology Departmental Seminar — Colorado State U.
 2011 Evolutionary Ecology Seminar—University of Northern Colorado
 2009 J.N.C. Applied Scientific Research— Bangalore, India
 2009 IUCN SSC African Elephant Specialist Group—Nairobi, Kenya
 2008 Woodrow Wilson Policy Center—Washington D.C.
 2008 Dept. Fish, Wildlife, Conservation Biology—Colorado State U.
 2008 Animal Behavior Seminar—U.C. Davis
 2007 Center for Population Biology—U.C. Davis
 2007 Biology Departmental Seminar—Portland State University
 2006 Wildlife Trust of India—New Delhi, India
 2006 Centre for Ecological Science, Indian Institute Science—Bangalore, India
 2001/2004 Oakland Zoo—California
 2000 Elephants: Behavioral, Ecological, and Cultural Perspectives—U.C. Davis
 1999 Kenya Wildlife Service Research Seminar Series—Kenya

Contributed

2022 Winter Animal Behavior Conference. Steamboat, CO
 2020 International Conference on Conservation Biology. Virtual
 2019 African Elephant Specialist Group Meeting. Pretoria, South Africa
 2016 Pathways to Success: Kenya; Nanyuki, Kenya.
 2014 28th Annual Society Conservation Biology Meeting —Montana
 2012 26th Annual Society Conservation Biology Meeting —California
 2010 Pathways to Success: Human Dimensions of Conservation—Colorado
 2007 Ecological Society of America Annual Meeting—California

- 2007 21th Annual Society Conservation Biology Meeting—South Africa
 2007 Etosha National Park Centennial Symposium—Namibia
 2007 MVZ Evolutionary Biology Seminar Series—UC Berkeley
 2003 17th Annual Society Conservation Biology Meeting—Minnesota
 2003/2007 Bay Area Conservation Biology Symposium—California
 2001/03/07 Behavior Group Seminar Series—UC Berkeley
 2001/2007 Wildlife and Conservation Biology Seminar Series—UC Berkeley

POLICY

- 2015 Testimony to U.S. Senate Foreign Relations Subcommittee on Africa and Global Health.
<http://www.foreign.senate.gov>
 2015 Clinton Global Initiative Winter Meeting: Roundtable on elephant poaching (attended by Hillary Clinton, Bill Clinton, and Chelsea Clinton)
 2013 State Department Briefing on Illegal Killing of Elephants
 2013 White House Wildlife Trafficking Technical Advisory Board Meeting

REVIEWING

African Journal of Ecology; Animal Behaviour; Animal Cognition; Animal Conservation; Austral Ecology; Behavioral Ecology; Behavioral Ecology and Sociobiology; Behaviour; Biological Conservation; Conservation Biology; Diversity and Distributions; Ecography; Ecological Applications; Ecological Economics; Ecology; Ecology Letters; Functional Ecology; Heredity; Hormones and Behavior; J. of Applied Ecology; J. of Environmental Management; J. of Mammalogy; J. of Zoology; Naturwissenschaften; Oikos; Pachyderm; Population Ecology; PLoS One; Proceedings of the National Academy of Science U.S.A.; Proceedings of the Royal Society: Biological Sciences + Biology Letters; Rangeland Ecology and Management; Reproduction, Fertility, and Development; Science; Social Biology; National Science Foundation, National Geographic and numerous private funding bodies

POPULAR PRESS (primary pieces)

Animal Planet, Associated Press, BBC News, BBC Planet Earth Live, Coloradoan, Discovery Channel/News, Economist, Examiner, Five-Thirty-Eight, Fox News, Guardian Unlimited, Huffington Post, Int. Business Times, Los Angeles Times, National Geographic Magazine/Web News, National Public Radio (Morning Edition, Radio Times), Nature Magazine, New York Times, Reuters, Scientific American, Science Today, Science Now (Science Magazine), Telegraph, Washington Post, Wired
 *Exceptional press on "Illegal killing for ivory drives global decline in African elephants" in the *Proceedings of the National Academy of Sciences* exceeded any story handled by Warner College

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