

PAUL M. LUKACS

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EDUCATION

- Ph.D. 2005. Fishery and Wildlife Biology, Colorado State University, Fort Collins, CO.
Dissertation: *Statistical aspects of using genetic markers to identify individuals in capture-recapture studies.*
- M.S. 2001. Fishery and Wildlife Biology, Colorado State University, Fort Collins, CO.
Thesis: *Estimating density of animal populations using trapping webs: evaluation of web design and data analysis.*
- B.S. 1999. Wildlife Biology with High Honors, University of Montana, Missoula, MT.

WORK EXPERIENCE

Senior Associate Dean of Research and Graduate Studies 2021-present
W.A. Franke College of Forestry and Conservation
University of Montana
Missoula, MT 59812

Oversee 3 PhD and 6 MS graduate programs serving ~140 graduate students including curricula, teaching assistantships, and research assistantships. Facilitate research enterprise for 46 faculty and numerous research professionals with >\$10M in annual research expenditures. Lead the McIntire-Stennis program for the college. Supervise the IT group for the college. Manage physical space for the college across 6 university buildings including offices, classrooms, and laboratories. Provide oversight for UM Foundation spending within the college. Interface with the Office of Vice President for Research, Sponsored Programs, and Graduate School. Assist with college development activities.

Chair, Department of Ecosystem and Conservation Sciences 2020-2021
Professor 2020-present
Associate Professor 2014-2020
Assistant Professor 2011-2014
Merit Awards Earned – 2015, 2016, 2018
Wildlife Biology Program
Department of Ecosystem and Conservation Sciences
W.A. Franke College of Forestry and Conservation
University of Montana
Missoula, MT 59812

Department Chair – manage activities of a large, research-intensive academic department.
Supervise 16 tenure track faculty. Engage with multiple undergraduate and graduate degree

programs.

Professor – engage in research, teaching, and service for the university – Maintain an extramurally funded research program in quantitative wildlife ecology. Publish results in international and local journals. Mentor graduate students. Teach undergraduate and graduate courses in areas of expertise.

Courses Taught:

- WILD 240 - Introduction to Biostatistics, Honors, 3 credits
- WILD 470 - Conservation of Wildlife Populations, 4 credits
- WILD 540 – Research Design, 3 credits
- WILD 541 - Research Design Lab: Introduction to R, 1 credit
- WILD 542 - Statistical Applications in Wildlife, 1-2 credits
- WILD 571 - Estimation of Demographic Parameters, 4 credits

Research:

- >\$9M in external research funding
- 74 publications while at UM (105 total)

University Service:

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| Institutional Animal Care and Use Committee | 2022-present |
| Montana Forest Conservation Experiment Station | |
| Associate Director Search – Chair | 2021 |
| College of Forestry and Conservation Recruitment Committee – Chair | 2020-2021 |
| Faculty Senator | 2014-2017 |
| Executive Committee of Senate | 2016-2017 |
| Provost Search Committee Member | 2016 |
| Faculty Development Office Committee Member | 2016-2018 |
| Wildlife Biology Director Search – Co-chair | 2014 |
| Population Ecologist Search – Chair | 2013 |
| Wildlife Biology Program Grad Evaluation Committee – Chair | 2015-2017 |
| Wildlife Biology Program Website committee | 2011-2015 |
| College of Forestry and Conservation Communications Committee | 2013-2017 |
| Faculty advisor for the Student Chapter of The Wildlife Society | 2013-2021 |
| College of Forestry and Conservation Space Committee | 2017-2018 |
| Wildlife Biology Undergraduate Committee – Chair | 2018-2020 |
| Wildlife Biology Undergraduate Committee | 2020-2021 |
| College of Forestry Undergraduate Affairs Committee | 2018-2021 |

SpeedGoat Wildlife Solutions, LLC 2016-present
 Co-founder

Development and deployment of state-of-the-art statistical, data and workflow management software for wildlife biologists - [PopR](#). Statistical consulting and training. Our company was founded as a start-up with the assistance of UM Office of Technology Transfer and Blackstone LaunchPad.

Colorado Division of Parks and Wildlife
Fort Collins, CO 80526

2005 – 2011

Supervisor: John Broderick (Terrestrial Resources Manager)

Biometrician

Provide statistical analyses and advice to Colorado Division of Parks and Wildlife (CPW) researchers and biologists. Develop statistical analyses and designs for the CPW ungulate management program. Interpret the results of statistical analyses. Develop new, rigorous statistical methods for the design and analysis of telephone and Internet hunter harvest surveys. Perform statistical analyses in computer programs such as, R, SAS, MARK and Distance. Provide computer programming for new statistical software to analyze data from wildlife studies in R, C++ and Visual Basic. Extract and manipulate data in databases such as SQL Server and Access. Prepare manuscripts for publication in internal reports and peer-reviewed scientific literature. Present results at scientific conferences. Interact with personnel from State, Federal, University and private organizations to develop statistical theory and promote its application in wildlife research and monitoring. Provide statistical reviews of CPW research proposals and publications as well as documents from external scientists.

USGS Patuxent Wildlife Research Center,
National Park Service,
& IAP World Services. Fort Collins, CO 80525

2004 – 2005

Supervisor: John R. Sauer (Research Wildlife Biologist) Statistician

Provide statistical assistance and advice for the design and analysis of long-term animal and plant monitoring studies in National Parks throughout the country. Develop new, rigorous methods for long-term monitoring and short-term learning. Teach statistical methods and sampling design to NPS personnel.

Colorado Cooperative Fish & Wildlife Research Unit
Fort Collins, CO 80523

1999-2005

Supervisor: Kenneth P. Burnham (Assistant Unit Leader)

Graduate Research Assistant

Graduate student research focused on the development of statistical methods for the use of non-invasive genetic sampling to estimate demographic parameters such as abundance and survival. Research involved both theoretical statistical development and application of the theory to empirical data. Developed statistical theory in general form and applied it to lynx in Colorado. Earlier research focused on the design of trapping webs, a passive distance sampling method applicable to small mammal, herp and insect sampling.

PUBLICATIONS

Citations: 5,084, h-index: 36 (source: Google Scholar – 03/26/2024)

ORCID: 0000-0002-3584-8314

Journal articles published or in press

1. Sells, S. N., C. M. Costello, P. M. Lukacs, L. L. Roberts, and M. A. Vinks. 2023. Predicted connectivity pathways between grizzly bear ecosystems in Western Montana. *Biological Conservation* 284:110199. <https://doi.org/10.1016/j.biocon.2023.110199>.
2. Schorr, R. A., K. A. Pitcher, R. A. Aldredge, and P. M. Lukacs. Accepted. *Patterns of Florida*

- bonneted bat occupancy at the northern extent of its range. *Journal of Fish and Wildlife Management*.
3. Helm, J., S. M. Gende, and P. M. Lukacs. 2023. Quantifying behavior and collision risk of humpback whales near large ships: implications for detection and avoidance. *Endangered Species Research* 51: 115-126.
 4. Sells, S. N., C. M. Costello, P. M. Lukacs, F. T. van Manen, M. Harldson, W. Kasworm, J. Teisberg, M. A. Vinks, and D. Bjornlie. 2023. Grizzly bear movement models predict habitat use for nearby populations. *Biological Conservation* 279:109940. <https://doi.org/10.1016/j.biocon.2023.109940>
 5. Londe, D. W., A. K. Moeller, P. M. Lukacs, S. D. Fuhlendorf, C. A. Davis, R. D. Elmore, and M. C. Chitwood. 2023. Review of range-wide vital rates quantifies Eastern Wild Turkey population trajectory. *Ecology and Evolution* <https://onlinelibrary.wiley.com/doi/10.1002/ece3.9830>
 6. Sells, S. N., C. M. Costello, P. M. Lukacs, L. L. Roberts, and M. A. Vinks. 2022. Grizzly bear habitat selection across the Northern Continental Divide Ecosystem. *Biological Conservation* 276:109813 <https://doi.org/10.1016/j.biocon.2022.109813>.
 7. Moeller, A. K., S. J. Waller, N. J. DeCesare, M. C. Chitwood, and P. M. Lukacs. 2023. Best practices to account for capture probability and viewable area in camera-based abundance estimation. *Remote Sensing in Ecology and Conservation* 9:152-164. DOI: <https://doi.org/10.1002/rse2.300>
 8. Ausband, D. E., P. M. Lukacs, M. Hurley, S. Roberts, K. Strickfaden, and A. K. Moeller. 2022. Estimating wolf abundance from cameras. *Ecosphere* 13 (2): e3933. <https://doi.org/10.1002/ecs2.3933>.
 9. Ventura, F., J. P. Granadeiro, P. M. Lukacs, and P. Catry. 2021. Environment drives inter-annual variability of divorce rates in monogamous albatrosses. *Proceedings of the Royal Society, Series B* 288: 20212112. <https://doi.org/10.1098/rspb.2021.2112>.
 10. Bell, D. A., R. P. Kovach, C. C. Muhlfeld, R. Al-Chokhachy, T. J. Cline, D. C. Whited, D. A. Schmetterling, P. M. Lukacs, and A. R. Whiteley. 2021. Climate change and expanding invasive species drive widespread declines of native trout in the northern Rocky Mountains, USA. *Science Advances* 7:eabj5471.
 11. Krohner, J. M., P. M. Lukacs, R. Inman, J. D. Sauder, J. A. Gude, C. Mosby, J. A. Coltrane, R. A. Mowry, and J. J. Millspaugh. 2022. Finding fishers: determining fisher occupancy in the Northern Rocky Mountains. *Journal of Wildlife Management* 86(2): e22162. DOI: 10.1002/jwmg.22162
 12. Krohner, J., J. Sauder, R. Inman, J. Gude, P. Lukacs, and J. Millspaugh. 2021. In search of a ghost: a collaborative effort monitors fishers in the Northern Rockies. *Wildlife Professional* 15(4): 33-36.
 13. Moeller, A. K., and P. M. Lukacs. 2021. spaceNtime: an R package for estimating abundance of unmarked animals using camera-trap photographs. *Mammalian Biology*. <https://doi.org/10.1007/s42991-021-00181-8>
 14. McDevitt, M. C., E. F. Cassirer, S. B. Roberts, P. M. Lukacs. 2021. A novel sampling approach to estimating abundance of a low-density and observable species. *Ecosphere* 12(11):e03815.
 15. Dyck, M. G., P. M. Lukacs, J. V. Ware. 2021. Recovery from reduction: the M'Clintock Channel polar bear Subpopulation, Nunavut, Canada. *Arctic* 74:509-524.
 16. Ventura, F., P. M. Lukacs, J. P. Granadeiro, R. Matano, and P. Catry. 2021. Demographic responses to environmental change of the black-browed albatross, sentinel of the Patagonian

- Shelf Large Marine Ecosystem. *Marine Ecology Progress Series* 668: 107-120.
<http://dx.doi.org/10.3354/meps13743>
17. Day, C. C., E. L. Landguth, R. K. Simmons, W. P. Baker, A. R. Whiteley, P. M. Lukacs, K. Davenport, and A. Bearlin. 2021. Evaluation of management factors affecting the relative success of a Brook Trout eradication program using YY male fish and electrofishing suppression. *Canadian Journal of Fisheries and Aquatic Sciences* <https://doi.org/10.1139/cjfas-2020-0433>
 18. Loonam, K. E., P. M. Lukacs, D. E. Ausband, M. S. Mitchell, and H. S. Robinson. 2021. Assessing the robustness of time-to-event models for estimating unmarked wildlife abundance using remote cameras. *Ecological Applications* doi: 10.1002/eap.2388.
 19. Moeller, A. K., J. Nowak, L. Neufeld, M. Bradley, M. Manseau, P. Wilson, S. McFarlane, P. M. Lukacs, M. Hebblewhite. 2021. Integrating counts, telemetry, and non-invasive DNA data to improve demographic monitoring of an endangered species. *Ecosphere* <https://doi.org/10.1002/ecs2.3443>.
 20. Loonam, K. E., D. E. Ausband, P. M. Lukacs, M. S. Mitchell, and H. S. Robinson. 2020. Estimating abundance of an unmarked, low-density species using camera traps. *Journal of Wildlife Management* 85: 87–96.
 21. Lukacs, P. M., D. Evans Mack, R. Inman, J. A. Gude, J. S. Ivan, R. P. Lanka, J. C. Lewis, R. A. Long, R. Sallabanks, Z. Walker, S. Courville, S. Jackson, R. Kahn, M. K. Schwartz, S. C. Torbit, J. S. Waller, and K. Carroll. 2020. Wolverine occupancy, spatial distribution, and monitoring design. *Journal of Wildlife Management* 84: 841–851.
 22. Monterroso, P., F. Diaz-Ruiz, P. M. Lukacs, P. C. Alves, and P. Perreras. 2020. Ecological traits and the spatial structure of competitive coexistence among carnivores. *Ecology* 101(8):e03059. 10.1002/ecy.3059.
 23. Day, C., E. Landguth, R. Simmons, B. Baker, A. Whiteley, P. M. Lukacs, and A. Bearlin. 2020. Simulating effects of fitness and dispersal on the use of Trojan sex chromosomes for invasive species management. *Journal of Applied Ecology* 57: 1413-1425.
 24. Bergman, E. J., F. P. Hayes, P. M. Lukacs, and C. J. Bishop. 2020. Moose calf detection probabilities: quantification and evaluation of a ground-based survey technique. *Wildlife Biology* doi: 10.2981/wlb.00599.
 25. Lonsinger, R. C., P. M. Lukacs, E. M. Gese, and L. P. Waits. 2019. Empirical comparisons of abundance estimators for two sympatric carnivores using noninvasive genetic sampling. *Wildlife Biology* doi: 10.2981/wlb.00534.
 26. Bassing, S. B., D. E. Ausband, M. S. Mitchell, P. M. Lukacs, A. Keever, G. Hale, and L. Waits. 2019. Stable pack abundance and distribution in a harvested wolf population. *Journal of Wildlife Management* 87: 577-590.
 27. Tabak, M. A., N. S. Norouzzadeh, D. W. Wolfson, S. J. Sweeney, K. C. Vercauteren, N. P. Snow, J. M. Halseth, P. A. Di Salvo, J. S. Lewis, M. D. White, B. Teton, J. C. Beasley, P. E. Schlichting, R. K. Boughton, B. Wright, E. S. Newkirk, J. S. Ivan, E. A. Odell, R. K. Brook, P. M. Lukacs, A. K. Moeller, E. G. Mandeville, J. Clune, R. S. Miller. 2019. Machine learning to classify animal species in camera trap images: applications in ecology. *Methods in Ecology and Evolution*. 10: 585-590.
 28. Moeller, A. K., P. M. Lukacs, and J. S. Horne. 2018. Three novel methods to estimate abundance of unmarked animals using remote cameras. *Ecosphere* 9(8):e02331. 10.1002/ecs2.2331.

29. Jędrzejewski, W., H. S. Robinson, M. Abarca, K. A. Zeller, G. Velasquez, E. Paemelaere, J. F. Goldberg, E. Payan, R. Hoogesteijn, E. O. Boede, K. Schmidt, M. Lampo, Á. L. Vilorio, R. Carreño, N. Robinson, P. M. Lukacs, J. J. Nowak, R. Salom-Pérez, F. Castañeda, V. Boron, H. Quigley. 2018. Estimating large carnivore populations at global scale based on spatial predictions of density and distribution – application to the jaguar (*Panthera onca*). *PlosONE* 13(3): e0194719.
30. Lonsinger, R. C., P. M. Lukacs, E.M. Gese, R.N. Knight, and L.P. Waits. 2018. Estimating densities for sympatric kit foxes (*Vulpes macrotis*) and coyotes (*Canis latrans*) using noninvasive genetic sampling. *Canadian Journal of Zoology* 96:1080-1089.
31. Nowak, J. J., P. M. Lukacs, M. A. Hurley, A. J. Lindbloom, K. A. Robling, J. A. Gude, and H. Robinson. 2018. Customized Software to Streamline Routine Analyses for Wildlife Management. *Wildlife Society Bulletin* 42: 144-149.
32. Barfoot, C. A., L. A. Evarts, and P. M. Lukacs. 2018. Long-term trends in abundance and size of sport fishes in the Flathead River, Montana, following changes in hydroelectric dam operations. *Northwest Science* 92: 92-106.
33. Lukacs, P. M., M. S. Mitchell, M. Hebblewhite, B. K. Johnson, H. Johnson, M. Kauffman, K. M. Proffitt, P. Zager, K. Hersey, A. A. Holland, M. Hurley, S. McCorquodale, A. Middleton, M. Nordhagen, J. J. Nowak and D. P. Walsh. 2017. Factors Influencing Elk Recruitment across Three Ecotypes in the Western USA. *Journal of Wildlife Management* 81: 364-378.
34. Woodruff, S. P., P. M. Lukacs, and L. P. Waits. 2018. Comparing performance of multiple noninvasive genetic capture-recapture methods for abundance estimation: a case study from Sonoran pronghorn. *Oryx* doi:10.1017/S003060531800011X.
35. Steenweg, R., M. Hebblewhite, J. Whittington, P. M. Lukacs, and K. McKelvey. 2018. Sampling scales define occupancy and underlying occupancy-abundance relationships in animals. *Ecology* 99: 172-183.
36. Oyler-McCance, S. J., J. A. Fike, P. M. Lukacs, D. W. Sparks, T. J. O'Shea, J. O. Whitaker Jr. 2017. Genetic mark-recapture improves estimates of maternity colony size for Indiana bats. *Journal of Fish and Wildlife Management* 9: 25-35.
37. Pavlacky, D. C., P. M. Lukacs, J. A. Blakesley, R. C. Skorkowsky, D. S. Klute, B. A. Hahn, V. J. Dreitz, T. L. George, and D. J. Hanni. 2017. A statistically rigorous sampling design to integrate avian monitoring and management within Bird Conservation Regions. *PlosONE* 12 (10) e0185924.
38. Henderson, C R., M. S. Mitchell, W. L. Myers, P. M. Lukacs, and G. P. Nelson. 2018. Seasonal home range attributes influence choice of migratory in white-tailed deer. *Journal of Mammalogy* 99: 89-96.
39. Hurley, M. A., M. Hebblewhite, P. M. Lukacs, J. J. Nowak, J.-M. Gaillard, C. Bonefant. 2017. Generality and precision of regional-scale models for predicting overwinter survival of juvenile ungulates. *Journal of Wildlife Management* 81: 364-378. **Selected as the feature article for the April 2017 issue.**
40. Eacker, D. R., P. M. Lukacs, K. M. Proffitt, and M. Hebblewhite. 2017. Assessing the importance of demographic parameters for population dynamics using Bayesian integrated population modeling. *Ecological Applications* 27:1280-1293.
41. Dreitz, V. J., L. T. Stinson, B. A. Hahn, J. D. Tack, and P. M. Lukacs. 2017 A large-scale perspective for managing prairie avifauna assemblages across the western US: influences of habitat

- landownership and latitude. PeerJ 5 e2879.
42. Borg, N. J., M. S. Mitchell, P. M. Lukacs, C. M. Mack, L. P. Waits, P. R. Krausman. 2017. Behavioral connectivity among groups of bighorn sheep suggests potential for disease spread. *Journal of Wildlife Management* 81: 38-45.
 43. Lipsey, M. K., D. E. Naugle, J. J. Nowak, and P. M. Lukacs. 2017. Extending utility of hierarchical models to multi-scale habitat selection. *Diversity and Distributions* 23: 783-793.
 44. McCaffery, R. M. and P. M. Lukacs. 2016. A generalized integrated population model to estimate greater sage-grouse population dynamics. *Ecosphere* 7(11):e01585. 10.1002/ecs2.1585.
 45. Williams, S. H., S. M. Gende, P. M. Lukacs, and K. Webb. 2016. Factors affecting whale detection from large ships in Alaska with implications for whale avoidance. *Endangered Species Research* 30: 209-223.
 46. McCaffery, R. M., J. J. Nowak, and P. M. Lukacs. 2016. Improved analysis of lek count data using N-mixture models. *Journal of Wildlife Management* 80: 1011-1021.
 47. Steenweg, R., J. Whittington, M. Hebblewhite, A. Forshner, B. Johnston, D. Petersen, B. Shepherd and P. M. Lukacs. 2016. Camera-based occupancy monitoring at large scales: power to detect trends in grizzly bears across the Canadian Rockies. *Biological Conservation* 201: 192-200.
 48. Kissling, M. K., S. B. Lewis, P. M. Lukacs, J. N. Waite, and S. M. Gende. 2016. Breeding decisions of Kittlitz's murrelets, Icy Bay, Alaska. *Marine Ornithology* 44: 171-182.
 49. Woodruff, S. P., P. M. Lukacs, D. Christianson, and L. P. Waits. 2016. Estimating endangered Sonoran pronghorn (*Antilocapra americana sonoriensis*) abundance and survival using fecal DNA and capture-recapture methods. *Conservation Biology* 30: 1102-1111.
 50. DeCesare, N. J., M. Hebblewhite, P. M. Lukacs, D. Hervieux. 2016. Evaluating common sources of censoring and truncation in telemetry-based survival data. *Journal of Wildlife Management* 80: 138-148.
 51. Lukacs, P. M., A. Seglund, S. Boyle. 2015. Effects of Gunnison Sage-Grouse habitat treatment efforts on associated avifauna and vegetation structure. *Avian Conservation and Ecology* 10:7 <http://dx.doi.org/10.5751/ACE-00799-100207>.
 52. Goldberg, J. F., T. Tempa, N. Norbu, M. Hebblewhite, L. S. Mills, T. Wangchuk and P. M. Lukacs. 2015. Examining temporal sample scale and model choice with spatial capture-recapture models in the common leopard, *Panthera pardus*. *PlosONE* 10 e0140757. doi:10.1371/journal.pone.0140757.
 53. Schaefer, A. L., P. M. Lukacs, and M. L. Kissling. 2015. Testing factors influencing identification rates of similar species during abundance surveys. *Condor* 117: 460-472.
 54. Riordan, M. M., P. M. Lukacs, K. P. Hayveart, and V. J. Dreitz. 2015. Does the skewed sex ratio in the Mountain Plover population begin in the early life stages? *Avian Conservation and Ecology* 10(2):3. <http://dx.doi.org/10.5751/ACE-00772-100203>.
 55. Divoky, G. J., P. M. Lukacs, and M. L. Druckenmiller. 2015. Effects of recent decreases in arctic sea ice on an ice-associated marine bird. *Progress in Oceanography – Synthesis of Arctic Research*. 136: 151-161.
 56. Kissling, M. L., S. M. Gende, S. B. Lewis, and P. M. Lukacs. 2015. Reproductive performance of Kittlitz's Murrelet in a glaciated landscape, Icy Bay, Alaska, USA. *Condor* 117: 237-248.
 57. Proffitt, K. M., N. Anderson, P. M. Lukacs, M. M. Riordan, J. A. Gude, J. Shamhart. 2015. Effects of elk density on elk aggregation patterns and exposure to brucellosis. *Journal of Wildlife Management* 79: 373-383.

58. Sells, S. N., M. S. Mitchell, J. J. Nowak, P. M. Lukacs, N. J. Anderson, J. M. Ramsey, J. A. Gude, and P. R. Krausman. 2015. Modeling Risk of Pneumonia Epizootics in Bighorn Sheep. *Journal of Wildlife Management*. *Journal of Wildlife Management* 79: 195-210. **Featured on the cover of JWM February 2015.**
59. Kissling, M. L., P. M. Lukacs, S. M. Gende, S. B. Lewis. 2015. Multi-state mark-recapture model to estimate survival of a dispersed-nesting seabird, the Kittlitz's Murrelet. *Journal of Wildlife Management*. 79: 20-30.
60. Schorr, R. A., P. M. Lukacs, J. A. Gude. 2014. The Montana deer and elk hunting population: the importance of cohort group, license price, and population demographics on hunter retention, recruitment, and population change. *Journal of Wildlife Management* 78: 944–952.
61. Whittington, J., K. Heuer, B. Hunt, M. Hebblewhite, and P. M. Lukacs. 2014. Estimating occupancy using spatially and temporally replicated snow surveys. *Animal Conservation* 18: 92-101.
62. Schorr, R. A., L. E. Ellison, and P. M. Lukacs. 2014. Efficacy of bat banding studies to estimate decline of migratory bat populations. *Acta Chiropterologica* 16: 231-239.
63. Zimova, M., L. S. Mills, P. M. Lukacs, and M. S. Mitchell. 2014. Snowshoe hares display limited phenotypic plasticity to mismatch in seasonal camouflage. *Proceedings of the Royal Society B* 281: 20140029. **Featured on the cover of PRSB May 7, 2014**
64. Nehring, R. B., P. M. Lukacs, D. V. Baxa, M. E. T. Stinson, B. Poole, and A. Horton. 2014. Susceptibility to *Myxobolus cerebralis* among *Tubifex tubifex* populations from ten major drainage basins in Colorado where cutthroat trout are endemic. *Journal of Aquatic Animal Health* 26: 19-32.
65. Devineau, O., W. L. Kendall, P. F. Doherty Jr., T. M. Shenk, G. C. White, and P. M. Lukacs. 2014. Increased flexibility for modelling telemetry and nest survival data using the multistate framework. *Journal of Wildlife Management* 78: 224-230.
66. Walters, D. M., R. E. Zuellig, H. J. Crockett, J. F. Bruce, P. M. Lukacs, and R. M. Fitzpatrick. 2014. Barriers impede upstream spawning migration of flathead chub. *Transactions of the American Fisheries Society*. 143: 17-25.
67. Mills, L. S., M. Zimova, J. Oyler, S. Running, J. Abatzoglou, and P. M. Lukacs. 2013. Camouflage mismatch in seasonal coat color due to decreased snow duration. *Proceedings of the National Academy of Sciences* 110: 7360-7365. **Featured on the cover of PNAS April 30, 2013.**
68. Brodie, J., H. Johnson, M. Mitchell, P. Zager, K. Proffitt, M. Hebblewhite, M. Kauffman, B. Johnson, J. Bissonette, C. Bishop, J. Gude, J. Herbert, K. Hersey, M. Hurley, P. M. Lukacs, S. McCorquodale, E. McIntire, J. Nowak, H. Sawyer, D. Smith, and P.J. White. 2013. Relative influence of human harvest, carnivores, and weather on adult female elk survival across western North America. *Journal of Applied Ecology* 50: 295-305.
69. Pavlacky, D. C., J. A. Blakesley, G. C. White, D. J. Hanni, and P. M. Lukacs. 2012. Hierarchical multi-scale occupancy for monitoring wildlife populations. *Journal of Wildlife Management*. 76:154-162
70. Lukacs, P. M., J. A. Gude, R. E. Russell, and B. B. Ackerman. 2011. Evaluating cost- efficiency and accuracy of hunter harvest survey designs. *Wildlife Society Bulletin* 35: 430–437.
71. Bergman, E. J., B. E. Watkins, C. J. Bishop, P. M. Lukacs, and M. Lloyd. 2011. Biological and socio-economic effects of statewide limitation of deer licenses in Colorado. *Journal of Wildlife Management* 75: 1443–1452.
72. Kissling, M. L, P. M. Lukacs, S. B. Lewis, S. M. Gende, K. J. Kuletz, N. R. Hatch, S. K. Schoen, and S. Oehlers. 2011. Distribution, abundance, and changes in populations of the Kittlitz's Murrelet in Southeast Alaska. *Marine Ornithology* 39: 3–11.
73. Lukacs, P. M., M. L. Kissling, M. Reid, S. M. Gende, and S. B. Lewis. 2010. Testing

- assumptions of distance sampling on a pelagic seabird. *Condor* 112: 455–459.
74. Wolfe, L. L., M. M. Conner, C. L. Bidwell, P. M. Lukacs, and M. W. Miller. 2010. Select liver mineral concentrations and chronic wasting disease status in mule deer from northcentral Colorado. *Journal of Wildlife Diseases* 46: 1029–1034.
 75. Devineau, O., T. M. Shenk, G. C. White, P. F. Doherty Jr., P. M. Lukacs, and R. H. Kahn. 2010. Evaluating the lynx reintroduction programme in Colorado: patterns in mortality. *Journal of Applied Ecology* 47: 524–531. ***Paper selected as the Editor's Choice for the issue.***
 76. Lukacs, P. M., K. P. Burnham, and D. R. Anderson. 2010. Model selection bias and Freedman's paradox. *Annals of the Institute of Statistical Mathematics: Special Issue of AISM in Honor of Dr. Hirotugu Akaike*.62: 117–125. Cited >100 times.
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Book chapters

98. Lukacs, P. M. and J. J. Nowak. 2023. Modeling populations dynamics of black-tailed and mule deer. Pages 95-102 in: *Ecology and Management of Black-tailed and Mule Deer of North America*. J. Heffelfinger and P. Krausman (eds.). CRC Press.
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103. Royle, J. A., T. R. Stanley, and P. M. Lukacs. 2008. Statistical modeling and inference from carnivore survey data. pages. 293-312 In: *Noninvasive survey methods for North American carnivores*. R. A. Long, P. MacKay, J. C. Ray and W. J. Zielinski (eds). Island Press, Washington D. C., USA
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Conference proceedings

- Kissling, M. K., M. Reid, P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2007. Recommendations for monitoring Kittlitz's Murrelets in Icy Bay. *Alaska Park Science* 6 (2): 59–61.

STUDENT THESES

- Moeller, A. K. 2022. Making “habitat quality” meaningful: quantifying demographic effects of habitat in two sympatric species. PhD Dissertation. Wildlife Biology Program, University of Montana, Missoula, MT.
- Krohner, J. M. 2020. Finding fishers: determining the distribution of a rare forest carnivore in the Northern Rocky Mountains. MS Thesis. Wildlife Biology Program, University of Montana, Missoula, MT.
- Henderson, C. R. 2020. Optimizing the use of wildlife monitoring resources. PhD Dissertation, Wildlife Biology Program, University of Montana, Missoula, MT.
- Helm, J. E. 2018. Confronting the challenges of whale avoidance by large vessels to reduce collision risk: a quantitative approach. MS Thesis. Wildlife Biology Program, University of Montana, Missoula, MT.
- Williams, S. H. 2017. Factors affecting whale detection from large vessels in Alaska with implications for whale avoidance. PhD Dissertation, Wildlife Biology Program, University of Montana, Missoula, MT.
- Moeller, A. K. 2017. New methods to estimate abundance from unmarked populations using remote camera trap. MS Thesis. Wildlife Biology Program, University of Montana, Missoula, MT.
- Schaefer, A. L. 2014. Addressing the challenges of monitoring a rare and elusive seabird. MS Thesis. Wildlife Biology Program, University of Montana, Missoula, MT.
- Riordan, M. M. 2013. Examining skewed sex ratio in the mountain plover (*Charadrius montanus*) population. MS Thesis. Wildlife Biology Program, University of Montana, Missoula, MT.

RESEARCH FUNDING

Total funding: \$9,073,000

- Collaborative Planning to Support Talented, Low-income Graduate Students Being Employed while Completing their Degrees, National Science Foundation S-STEM, 10/15/23-9/30/24. \$99,000 PIs: C.A. Ogilvie, B.J. LaMeres, J.D. Macette, P.M. Lukacs, K.M. Greene.
- National Parks Conservation Fellowships: Technical Assistance Support to Biological Resources Division for Wildlife Conservation and Ecological Restoration, National Park Service, 8/1/2023-6/30/2028. \$450,000. PI: P. M. Lukacs
- Population and Spatial Ecology of Collared Peccary in the South Texas Plains Ecoregion. Texas Parks and Wildlife Department. 9/1/2023-8/31/2028. \$2,134,388 - subaward to UM \$361,648. PI: S. L. Webb, J. L. Dykes, W. E. Cook, M. E. Blum, P.M. Lukacs.
- Integrated Elk Management, Montana Department of Fish, Wildlife, and Parks, 7/1/2022-7/31/2024.

- \$2,421,676. PI: J. Millspaugh, C. Bishop, P.M. Lukacs
Modernizing harvest surveys in Texas. Texas Parks and Wildlife Department 10/1/2022-9/30/2022.
\$132,574. PI: P. M. Lukacs
Assessment of camera-based trail population estimators in a known deer population. Wisconsin
Department of Natural Resources. 1/1/2022-6/30/2025. \$309,772. PI: P. M. Lukacs
The Next Frontier: Developing and Evaluating Tools for Estimating Density from Remote Cameras to
Examine Population Impacts of CWD and Effects of Management. \$174,103. PI: M. M. Mitchell,
P. M. Lukacs, D. P. Walsh.
An Innovative Approach to Evaluating Effects of Cervid Population Management For Chronic Wasting
Disease on both Public and Private Lands. Iowa Department of Natural Resources. 10/2020-
9/30/21. \$173,990. PI: P. M. Lukacs
Habitat use and disturbance of nesting Kittlitz's murrelets at Tin City Long Range Radar Site, Alaska. U.S.
Army Corps of Engineers. 8/2020-9/30/2021. \$139,958. PI: P. M. Lukacs
Elk Recreation. Montana Fish Wildlife and Parks. 4/1/2020-6/30/2025. \$346,000. PIs: M. Mitchell, P. M.
Lukacs
Elk Recreation. Colorado Parks and Wildlife. 1/1/2020-6/30/2022. \$68,706. PI: P.M. Lukacs
Breeding ecology and movements of Kittlitz's murrelets in a glaciated landscape: implications for
monitoring. Alaska Department of Fish and Game. 7/1/19-6/30/21. \$143,073 PI: P. M. Lukacs
Ungulate and Predator Population Dynamics, Modeling and Data Quality Advancements. Idaho
Department of Fish and Game. 7/1/2019-6/30/2020. \$142,091. PIs: M. Mitchell, P. M. Lukacs.
Evaluation of Resource Selection, Population Performance, and Movements of Pronghorn Throughout a
Habitat Gradient. South Dakota Department of Game, Fish, and Parks. 1/1/2020-6/30/2024. PI:
P.M. Lukacs. \$1,141,254
Estimating Wolf Abundance with Camera Data. Alaska Department of Fish and Game. 1/1/19-6/30/20.
\$114,599. PI: P. M. Lukacs
Fisher Occupancy, Habitat Needs, and Responses to Management in the Northern Rocky Mountains.
Idaho Department of Fish and Game. 1/1/2019-6/30/2019. \$58,286. PIs: M. Mitchell, P. M.
Lukacs.
Resource selection and population performance of mule deer and white-tailed deer in heterogeneous
landscapes. South Dakota Department of Game, Fish, and Parks. 7/1/2018-6/30/22. \$857,874.
PI: P. M. Lukacs
Estimating deer and elk abundance in complex topography. South Dakota Department of Game, Fish,
and Parks. 7/1/2018-6/30/22. \$122,730. PI: P. M. Lukacs
Fisher Occupancy, Habitat Needs, and Responses to Management in the Northern Rocky Mountains,
Montana Fish Wildlife and Parks. 10/2018-6/2022. \$245,955 PIs: J. Millspaugh, P. M. Lukacs, M.
Mitchell
Develop framework for estimating cougar population trend and potentially abundance. 7/1/2018-
6/30/2020. \$52,952. PIs: M. Mitchell, H. Robinson, P. M. Lukacs.
Ungulate and Predator Population Dynamics, Modeling and Data Quality Advancements. 7/1/2018-
6/30/2019. \$157,407. PIs: M. Mitchell, P. M. Lukacs.
Development of Integrated Population Models for Black Bears and Bobcats in Montana. 9/15/2017-
6/30/2019. \$52,000 PIs: M. Mitchell, P. M. Lukacs.
Sage-grouse population model programming and data structures. 7/17/2017-6/30/2022. \$30,000 PI: P.
M. Lukacs
Population dynamics, modeling and data quality enhancements. Idaho Department of Fish and Game.
7/2016-6/2017. \$263,000. PIs: P.M. Lukacs, M. Mitchell
Develop framework for estimating cougar population trend and potentially abundance. Idaho
Department of Fish and Game. 1/2017-6/2019. \$101,791. PIs: M. Mitchell, P.M. Lukacs

- Assessment of Mule Deer Survey Techniques, Population Estimates, and Harvest Recommendations for the Nevada Department of Wildlife. 1/2016-6/30/2016 \$30,144. PIs: C. J. Bishop and P.M. Lukacs
- Population dynamics, modeling and data quality enhancements. Idaho Department of Fish and Game. 7/2016-6/2017. \$220,719. PIs: P.M. Lukacs, M. Mitchell
- Broad-scale analysis of mule deer survival: understanding process and improving prediction. Southern Rockies Landscape Conservation Cooperative. \$110,000. PIs: P. M. Lukacs and C. J. Bishop.
- Quantifying detection probability of whales from cruise ships necessary for understanding whale avoidance and regulation compliance: supplement. National Park Service. 5/2015-12/2017. \$4,700. PI: P. M. Lukacs
- Multistate wolverine occupancy analysis. MT Fish, Wildlife, and Parks. 6/1/2016-6/30/2018. \$40,000.
- Big Game Management review for Arizona Game and Fish Department. 12/2015-6/30/2016 \$35,000. PIs: C. J. Bishop and P.M. Lukacs
- Development of deer population models. South Dakota Game, Fish and Parks. 9/1/2015-6/30/2016. \$32,677. PI: P. M. Lukacs
- Evaluating occupancy estimation and abundance relationships as an alternative method for ungulate abundance surveys - supplement. Idaho Department of Fish and Game. 10/2014-6/2017. \$54,280. PIs: P.M. Lukacs, M. Mitchell
- Quantifying detection probability of whales from cruise ships necessary for understanding whale avoidance and regulation compliance. National Park Service. 5/2015-12/2017. \$116,819. PI: P. M. Lukacs
- Evaluating occupancy estimation and abundance relationships as an alternative method for ungulate abundance surveys. Idaho Department of Fish and Game. 10/2014-6/2017. \$87,236. PIs: P.M. Lukacs, M. Mitchell
- Develop habitat and population models for mule deer in Idaho to assist management of this game species. Idaho Department of Fish and Game. -- Supplement. 7/2014-6/2015. \$100,949. PIs: P.M. Lukacs, M. Mitchell, M. Hebblewhite
- Mountain lion population modeling. Panthera, Inc. 2/2014-10/2014. \$36,000. PI: P. M. Lukacs
- Spatial modeling of Brucellosis seroprevalance in elk. Montana Fish, Wildlife and Parks. 10/2013-4/2014. \$3,000
- Development of deer population models. South Dakota Game, Fish and Parks. 7/1/2014-6/30/2016. \$99,430. PI: P. M. Lukacs
- Rangewide sampling design for population size and trend estimation in greater sage-grouse. Western Association of Fish and Wildlife Agencies 7/2013-9/2015. \$147,177 PIs: P. M. Lukacs and V. J. Dreitz. Competitive – 4 of 42 proposals funded.
- Field and Biometric Analyses of Biological Resources - supplement. U. S. Forest Service Regions 1 and 2. 9/2013-9/2014. \$5,896. PI: P. M. Lukacs
- Develop habitat and population models for mule deer in Idaho to assist management of this game species. Idaho Department of Fish and Game. -- Supplement. 6/2013-6/2014. \$28,000. PIs: P.M. Lukacs, M. Hebblewhite
- Applying spatial models to better understand the nature of ship-whale encounters in and near Glacier Bay National Park. National Park Service, Glacier Bay National Park -- Supplement. 6/2013-6/2016. \$25,475. PI: P. M. Lukacs.
- Mountain lion population modeling. Panthera, Inc. 2/2013-2/2014. \$30,546. PI: P. M. Lukacs
- Western Elk Research Collaborative 2012-2014. \$181,799 PI: M. Mitchell, Co-PI: P. M. Lukacs
- Factors influencing survival of mountain plover chicks in eastern, Colorado. Colorado Parks and Wildlife. 7/2011-6/2013. \$90,110. PIs: V.J. Dreitz, P. M. Lukacs, M. Mitchell.

- Develop habitat and population models for mule deer in Idaho to assist management of this game species. Idaho Department of Fish and Game. 1/2012-12/2013. \$14,030. PIs: P.M. Lukacs, M. Mitchell, M. Hebblewhite
- Field and Biometric Analyses of Biological Resources. U. S. Forest Service Regions 1 and 2. 4/2012-2/2013. \$28,506. PI: P. M. Lukacs
- Range-wide population model and viability analysis for the Kittlitz's Murrelet. U. S. Fish and Wildlife Service Alaska Region. 7/2012-7/2013. \$24,999. PI: P. M. Lukacs
- Applying spatial models to better understand the nature of ship-whale encounters in and near Glacier Bay National Park. National Park Service, Glacier Bay National Park. 6/2012-6/2016. \$189,911. PI: P. M. Lukacs.
- Mountain Lion Population Modeling and Demography of Montana Deer and Elk Hunters. Montana Fish Wildlife and Parks. 7/2012-6/2014. \$49,000. PI: P. M. Lukacs
- Mountain Lion Population Modeling. Panthera, Inc. 7/2012-6/2013. \$22,000. PI: P. M. Lukacs
- Analysis of Bird Monitoring Data at the Region and Black Hills National Forest Levels. U. S. Forest Service Regions 1 and 2. 8/2012-3/2014. \$73,300. PIs: P. M. Lukacs and V. J. Dreitz
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PRESENTATIONS

Student and research associate co-authors in bold

- Lukacs, P. M. and J. J. Nowak, M. A. Hurley, A. J. Lindbloom. 2019. Interpreting survival analyses for ungulates in context: Sample Size, Process Variance, and Model Selection. 13th Western Deer and Elk Workshop, Marfa, TX.
- Lukacs, P. M. and J. J. Nowak. 2018. Population Modeling and Data Management for Proactive Deer Management. Southeast Deer Study Group, Nashville, TN. Invited plenary speaker.
- Lukacs, P. M., J. J. Nowak, A. K. Moeller, and M. A. Hurley. 2018. Synthesizing Population Models for Proactive Conservation. University of Porto. Invited seminar speaker.
- Lukacs, P. M. and J. J. Nowak. 2018. Streamlining Workflows for Sage-grouse Population Analyses. Sage-grouse Technical Meeting. Billings, MT.
- Moeller, A. K., P. M. Lukacs, and J. Horne. 2018. Novel methods to estimate abundance of unmarked animals using camera trap data. The Wildlife Society Conference, Albuquerque, NM.
- Henderson, C. R., P. M. Lukacs, and M. A. Hurley. 2018. Data weighting for Integrated Population Models. The Wildlife Society Conference, Albuquerque, NM.
- Bassing, S., D. Ausband, M. Mitchell, P. M. Lukacs, M. Schwartz, G. Hale, and L. P. Waits. 2018. Variable effects of harvest within and across wolf packs in the Rocky Mountains. The Wildlife Society Conference, Albuquerque, NM.
- Lukacs, P. M., J. J. Nowak, C. Henderson, and A. K. Moeller. 2017. Inference to populations of unmarked animals. 12th Western Deer and Elk Workshop, Sun Valley, ID. May 2017. Invited plenary presentation.
- Nowak, J. J. and P. M. Lukacs. 2017 Practical application of integrated population models. 12th Western Deer and Elk Workshop, Sun Valley, ID. May 2017. Invited plenary presentation.
- Moeller, A. K., J. Horne, and P. M. Lukacs. 2017. New methods to estimate abundance from unmarked populations using camera trap data. 12th Western Deer and Elk Workshop, Sun Valley, ID. May 2017.
- Lukacs, P.M., and J. J. Nowak. 2017. PopR: Streamlining wildlife population analysis. Western Association of Fish and Wildlife Agencies winter meeting. Phoenix, AZ January 6.

- Lukacs, P.M., and J. J. Nowak. 2016. From Capture to Web Apps: how customized software can up your game. Colorado Chapter of the Wildlife Society, Colorado Springs, CO February 2016. Invited lead plenary presentation.
- S. H. Williams, S. M. Gende, P. M. Lukacs and K. Webb. 2015. Factors affecting whale detection from large vessels in Alaska with implications for whale avoidance. 21st Biennial Conference on the Biology of Marine Mammals. December 13-18, San Fransisco, CA.
- S. M. Gende, K. Webb, N. Hendrix, P. M. Lukacs, and S. H. Williams. 2015. Quantifying ship-whale encounters in Alaska. . 21st Biennial Conference on the Biology of Marine Mammals. December 13-18, San Fransisco, CA.
- R. McCaffery, Lukacs, P. M., and J. J. Nowak. 2015. Improving population size and trend estimation in greater sage-grouse. International Congress for Conservation Biology, Montpellier, France. August 2015 (presentation).
- Nowak, J. J., P. M. Lukacs, A. Lindbloom, K. Robling, M. Hurley, J. Gude, C. Krause and H. Robinson. 2015. Big Data for Big Game: Custom Web Apps to Automate and Simplify the Wildlife Workflow. Midwest Deer and Turkey Study Group, Lake Delton, WI. September 2015 (presentation)
- Lukacs, P.M., R. McCaffery, J. J. Nowak. 2015. Improving population size and trend estimation in greater sage-grouse. Western Association of Fish and Wildlife Agencies Summer Meeting, Reno NV, July 2015 (presentation)
- Nowak, J. J., P. M. Lukacs, A. Lindbloom, K. Robling, M. Hurley, J. Gude, C. Krause and H. Robinson. 2015. Big Data for Big Game: Custom Web Apps to Automate and Simplify the Wildlife Workflow. Western States and Provinces Deer and Elk Workshop, Canmore, AB, CA. May 2015 (presentation)
- Henderson, C. R., M. S. Mitchell, W. L. Myers, P. M. Lukacs and G. P. Nelson. 2015. Habitat quality influences migratory strategy of female white tailed deer. MT Chapter of The Wildlife Society, Helena, MT, February 2015 (presentation)
- Sells, S. N., M. S. Mitchell, N. J. Arnason, J. M Ramsey, J. A. Gude, P. M. Lukacs, P. R. Krausman, 2015. Modeling proactive decisions to manage pneumonia epizootics in bighorn sheep. MT Chapter of The Wildlife Society, Helena, MT, February 2015 (presentation)
- Henderson, C. R., M. S. Mitchell, W. L. Myers, P. M. Lukacs and G. P. Nelson. 2015. Habitat quality influences migratory strategy of female white tailed deer. The Wildlife Society Annual Conference, Pittsburgh, PA, October 2014 (presentation)
- Schaefer, A. L., M. K. Kissling, C. Breuner, P. M. Lukacs, S. Berk. 2014. Understanding the Influence of Ocean Productivity on Pre- and Post-breeding Season Stress Physiology. North American Congress for Conservation Biology, Missoula, MT, July 13-16, 2014. (presentation)
- Woodruff, S., L. Waits, T. Johnson and P. M. Lukacs. 2014. Simultaneous demographic monitoring of predator and prey population sizes using fecal DNA sampling. North American Congress for Conservation Biology, Missoula, MT, July 13-16, 2014. (presentation)
- Zimova, M., L. S. Mills, M. Mitchell, P. M. Lukacs, J. Oyler, S. Running, J. Abatzoglou, and J. J. Nowak. 2014 Camouflage mismatch in seasonal coat color due to decreased snow duration: will snowshoe hares keep up with climate change? North American Congress for Conservation Biology, Missoula, MT, July 13-16, 2014. (presentation)
- Lukacs, P. M., S. H. Williams, S. M. Gende. Animal marking, location and movement in ecology. State of the Science Conference, Rural Institute, University of Montana, May 29, 2014. (Invited presentation).
- Nowak, J. J., J. Gude, H. Robinson, and P. M. Lukacs. 2014. Complicated Models and Simple

- Software: Working Towards Comprehensive System Knowledge. 11th Annual Mountain Lion Workshop, Cedar City, UT. (poster).
- Schaefer, A. L., P.M. Lukacs, G.J. Divoky. Egg volume of Black Guillemot (*Cepphus grylle mandtii*) is correlated with Pacific Decadal Oscillation. Poster presented at: the Pacific Seabird Group, 41st Annual Meeting; 2014 Feb 19-22, Juneau, AK. (poster)
- Schaefer, A. L., P.M. Lukacs, G.J. Divoky. Egg volume of Black Guillemot (*Cepphus grylle mandtii*) is correlated with Pacific Decadal Oscillation. Poster presented at: The Seabird Group, 12th International Seabird Meeting; 2014 March 21-23, Oxford, UK. (poster)
- Lukacs, P. M. and G. J. Divoky. 2014. Broad scale climatic influences are stronger drivers of survival than local impacts for an arctic seabird. Alaska Marine Science Symposium. Anchorage, AK. (presentation)
- Schaefer, A. L., P. M. Lukacs, and G. J. Divoky. 2014. Egg volume decline of Black Guillemot (*Cepphus grylle mandtii*) is correlated with the Pacific Decadal Oscillation. Alaska Marine Science Symposium. Anchorage, AK. (poster)
- Williams, S. H., S. M. Gende, and P. M. Lukacs. 2014. Factors influencing detection probability of humpback whales in Glacier Bay National Park and Preserve. Alaska Marine Science Symposium. Anchorage, AK. (poster)
- Lukacs, P. M. 2013. Background and motivation for aerial sampling of wildlife populations. The Wildlife Society Annual Conference, Milwaukee, WI. (presentation)
- Zimova, M., L. S. Mills, J. Oyler, S. Running, J. Abatzglou, and P. M. Lukacs. 2013. Camouflage mismatch in seasonal coat color due to decreased snow duration: will snowshoe hares keep up with climate change? Society for Conservation Biology 26th International Congress for Conservation Biology, Baltimore, MD (presentation)
- Lukacs, P. M., R. A. Schorr, and J. A. Gude. 2013. The Montana deer and elk hunting population: the importance of cohort group, license price, and population demographics on hunter retention, recruitment, and population change. Western States Deer & Workshop, Missoula, MT. (presentation)
- Lukacs, P. M. and G. J. Divoky. 2013. Understanding the interactions of climate and life history trade-offs in an arctic seabird. Wildlife Biology Program Graduate Seminar. The University of Montana (presentation)
- Lukacs, P. M. and G. J. Divoky. 2013. Interactions of climate and life history: 37 years of insight from black guillemots. Pacific Seabird Group Conference, Portland, OR. (presentation)
- Lewis, S. B., M. L. Kissling, S. M. Gende, and P. M. Lukacs. 2013. Assessing raptor predation on Kittlitz's Murrelet in a recently deglaciated coastal fjord. Pacific Seabird Group Conference, Portland, OR. (poster)
- Schaefer, A. L., P. M. Lukacs and M. L. Kissling. 2013. Quantifying misidentification rates of *Brachyramphus* murrelets during at-sea abundance surveys. Pacific Seabird Group Conference, Portland, OR. (poster)
- Riordan, M. M., V. J. Dreitz, and P. M. Lukacs. 2013. Examining sex ratio bias in mountain plovers (*Charadrius montanus*). Colorado Chapter of The Wildlife Society Annual Conference, Colorado Springs, CO. (poster)
- Morrison, T, M. Kauffman, P. M. Lukacs. 2011. A quantitative evaluation of survey methods to model, monitor and manage mule deer populations. Wyoming Chapter of the Wildlife Society, Jackson, WY. (presentation)
- Kissling, M. L., P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2012. Estimating demographic parameters to understand trend of the Kittlitz's murrelet. Alaska Marine Science Symposium, Anchorage,

- Alaska. (presentation)
- Kissling, M. L., S. M. Gende, S. B. Lewis, and P. M. Lukacs. 2012. Needle in a haystack: locating Kittlitz's murrelet nests in a glacial landscape. Pacific Seabird Group, Hawaii. (poster)
- Kissling, M. L., P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2012. Estimating demographic parameters to understand trend of the Kittlitz's murrelet. Pacific Seabird Group, Hawaii. (presentation)
- Lukacs, P. M., M. L. Kissling, S. B. Lewis, and S. M. Gende. 2012. Unsustainably low survival of the Kittlitz's murrelet. North American Ornithological Congress, Vancouver, BC, Canada. (presentation)
- Lukacs, P. M. and E. J. Bergman. 2011. Patterns of big game hunting license purchases in Colorado. Colorado Chapter of the Wildlife Society Annual Meeting, Fort Collins, CO.
- Lukacs, P. M., M. L. Kissling, M. K. ,P. M. Lukacs, S. B. Lewis, S. M. Gende. 2010. Estimation of demographic parameters of a solitary nesting seabird, the Kittlitz's murrelet. The Wildlife Society Annual Conference, Snowbird, UT. (presentation)
- Lukacs, P. M., J. A. Gude, R. E. Russell, and B. B. Ackerman. 2010. Evaluating cost-efficiency and accuracy of hunter harvest survey designs. The Wildlife Society Annual Conference, Snowbird, UT. (presentation)
- Kissling, M. L. ,P. M. Lukacs, S. B. Lewis, S. M. Gende. 2010. Estimation of demographic parameters of a solitary nesting seabird, the Kittlitz's murrelet. World Seabird Conference, Victoria, BC, Canada. (presentation)
- Kissling, M. L., S. B. Lewis, P. M. Lukacs, S. M. Gende, N. Hatch, S. Schoen. 2010. Refining protocols for capture and handling of Kittlitz's murrelets, Icy Bay, Alaska. World Seabird Conference, Victoria, BC, Canada. (poster)
- Kissling, M. L., P. M. Lukacs, S. M. Gende, S. B. Lewis, K. Kuletz, N. Hatch, S. Schoen, and S. Oehlers. 2010. Distribution, abundance, and changes in populations of the Kittlitz's Murrelet in Southeast Alaska. Pacific Seabirds Group 37th Annual Meeting, Long Beach, CA. (presentation)
- Lukacs, P. M. 2008. DNA-based capture-recapture for wildlife population estimation. The Wildlife Society 15th Annual Conference. Miami, FL. (presentation)
- Devineau, O., T. M. Shenk, G. C. White, P. F. Doherty Jr., P. M. Lukacs, and R. H. Kahn. 2008. Estimating mortality for a widely dispersing reintroduced carnivore, the Canada lynx (*Lynx canadensis*). The Wildlife Society 15th Annual Conference. Miami, FL. (presentation)
- Bishop, C. J., G. C. White, and P. M. Lukacs. 2007. Evaluating dependence among mule deer siblings in fetal and neonatal survival analyses. The Wildlife Society 14th Annual Conference. Tucson, AZ. (presentation)
- Lukacs, P. M. and M. Lloyd. 2007. Internet and telephone harvest surveys. 2007 Western States Deer and Elk Workshop, Estes Park, CO. (presentation)
- Lukacs, P. M., K. P. Burnham, B. P. Dreher, K. T. Scribner, and S. R. Winterstein. 2007. Extending the robust design for DNA-based capture-recapture data incorporating genotyping error and multiple data sources. EURING Conference, Dunedin, New Zealand. (presentation)
- Kissling, M., M. Reid, P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2006. Using spatial models to understand abundance patterns of a declining seabird. 4th North American Ornithological Conference, Veracruz, Mexico. (presentation)
- Kissling, M., M. Reid, P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2006. Using spatial models to understand abundance patterns of a declining seabird. The Wildlife Society 13th Annual Conference, Anchorage, AK. (presentation)
- Eggert, L. S., P. M. Lukacs, C. Siripunkaw, and C. Kongrit. 2006. Using non-invasive sampling to study elephants in the forests of Africa and Asia. The Wildlife Society 13th Annual Conference,

- Anchorage, AK. (presentation)
- Lukacs, P. M. 2006. Study design to investigate the effect of wind power development on wildlife. Wind Power and Wildlife Symposium, Fort Collins, CO. (presentation)
- Kissling, M., M. Reid, P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2006. Temporal and spatial variability of Kittlitz's Murrelets in Icy Bay, Alaska. Pacific Seabird Group meeting, Girdwood, AK. (poster).
- Kissling, M., M. Reid, P. M. Lukacs, S. M. Gende, and S. B. Lewis. 2006. Temporal and spatial variability of Kittlitz's Murrelets in Icy Bay, Alaska. Alaska Birds Conference. (poster)
- Lukacs, P. M., and K. P. Burnham. 2005. Estimating population size from dung-based DNA capture-recapture data. The Wildlife Society 12th Annual Conference, Madison, WI. (presentation)
- Lukacs, P. M., and K. P. Burnham. 2005. Extending capture-recapture theory to analyze DNA-based data. Western North American Region of the International Biometrics Society / Institute of Mathematical Statistics, Fairbanks, AK. (presentation)
- Steenhof, K., M. R. Fuller, M. N. Kochert, K. K. Bates, J. O. McKinley, P. M. Lukacs. 2005. Effects of radio marking on Prairie Falcons: attachment failures provide insights about survival. Raptor Research Foundation, Green Bay, WI. (poster)
- Steenhof, K., M. R. Fuller, M. N. Kochert, K. K. Bates, J. O. McKinley, P. M. Lukacs. 2005. Effects of radio marking on Prairie Falcons: attachment failures provide insights about survival. American Ornithologists' Union. Annual Meeting. Santa Barbara, California. (poster)
- Lukacs, P. M., and K. P. Burnham. 2005. Extending capture-recapture theory to analyze DNA-based data. Seminar given at Patuxent Wildlife Research Center, Laurel, MD.
- Lukacs, P. M. 2005. Determining sample size for long-term monitoring programs. The George Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, Philadelphia, PA. (presentation)
- Lukacs, P. M., and K. P. Burnham. 2003. Statistical aspects of using genetic markers for individual identification in capture-recapture studies. 3rd International Wildlife Management Congress, Christchurch, New Zealand. (presentation)
- Franklin, A. B., P. M. Lukacs, and D. R. Anderson. 2003. A new design to estimate density of trappable organisms: the trapping line transect. 3rd International Wildlife Management Congress, Christchurch, New Zealand. (presentation)
- Lukacs, P. M., and K. P. Burnham. 2003. Statistical aspects of using genetic markers for individual identification in capture-recapture studies. EURING Technical Meeting, Radolfzell, Germany. (presentation)
- Lukacs, P. M., and K. P. Burnham. 2003. Statistical aspects of using genetic markers for individual identification in capture-recapture studies. 10th Annual Wildlife Society Conference, Burlington, Vermont. Received a Biometrics Working Group travel grant to present the paper. (presentation)
- Lukacs, P. M., K. P. Burnham, and D. R. Anderson. 2001. Using first captures and recaptures in the estimation of density from trapping web data. International Conference on Distance Sampling. University of St. Andrews, St. Andrews, Scotland. (presentation)
- Lukacs, P. M., D. R. Anderson, and K. P. Burnham. 2001. Optimal design of trapping webs via simulation. International Conference on Distance Sampling. University of St. Andrews, St. Andrews, Scotland. (presentation)

PROFESSIONAL ACTIVITY AND SERVICE

Affiliate Faculty, Texas A&M University

Affiliate Faculty, Oklahoma State University
Affiliate Faculty, South Dakota State University
Affiliate Faculty, University of Idaho, 2013-2016.

Associate Editor – Frontiers in Ecology and Evolution 2023-present
Associate Editor – Journal of Applied Ecology 2007-2014
Associate Editor – Journal of Wildlife Management. 2004-2005

National Hunting, Fishing and Wildlife Associated Recreation Survey working group member for the
Association of Fish and Wildlife Agencies 2009-2011

Professional Membership

The Wildlife Society

Board Member of the Biometrics Working Group 2004-2005, 2009-2010. Montana
Chapter member 2011-present

University of Montana Student Chapter faculty advisor

Workshops, Guest Lectures and Other Service

Colorado Division of Wildlife Statistics Workshop Series 2006-2011

Topics include: avian monitoring design and analysis, survey sampling and study design, R
programming
Develop and present applied statistics topics for management biologists and research
scientists.

Guest lectures at Colorado State University 2005-present

Topics include: GRTS sampling (graduate level sampling), harvest management (undergraduate
wildlife management), individual identification from molecular markers (graduate level
conservation genetics).

Distance sampling workshop January 2003

University of Wyoming

Presented distance sampling theory and data analysis methods to a class of graduate
students.

FW 663 Sampling and Analysis of Vertebrate Populations January 2002 – April 2002

Department of Fishery and Wildlife Biology

Colorado State University

Graduate Teaching Assistant

Responsibilities included organizing and leading review session, writing and grading exam
questions, presenting some lectures. Course topics include capture- recapture, mark-resight,
and distance sampling theory and application.

Program MARK Workshop June 2005, 2004, 2003, 2002, 2001, 2000

Fort Collins, CO.

Teaching assistant. Assisted in teaching capture–recapture software and theory to biologists
and statisticians.

Distance Sampling Workshop for Desert Tortoise Abundance Estimation 2001
Las Vegas, NV.

Presented two multi-day workshop distance sampling theory and analyzed line transect data to aid in the long-term monitoring of the desert tortoise. Aided in field training of the sampling crew.

Consulting Biometrician 2004-2005
USDA Forest Service

Contact: Robert Skorkowsky (District Wildlife Biologist)

Design and analysis of a monitoring program for the Routt and Medicine Bow National Forests avian Management Indicator Species. Design includes a stratified sample with distance sampling, latent abundance and patch occupancy estimators based on extensive pilot data.

Northern Spotted Owl Demography Workshop January 2004

Analyst

Analyzed long-term northern spotted owl capture-recapture data sets to estimate survival and population rate of change.