

Curriculum vitae

GORDON LUIKART

August 2025

RESEARCH INTERESTS & EXPERTISE: Conservation Biology, Evolutionary Ecology, Population Genomics, Landscape Genetics, Environmental DNA

CURRENT APPOINTMENTS:

Professor in Wildlife Biology, Flathead Lake Biological Station, University of Montana, Polson MT, 59860

EDUCATION: Ph.D., University of Montana, Missoula MT, 1997, Organismal Biology and Ecology

Supervisor: Dr. Fred Allendorf; Field supervisor: Dr. J. T. Hogg

M.S., University of Montana, 1992, Zoology

B.S., Iowa State University, Ames, IA, 1988, General Biology, minor in Animal Ecology

POST-DOCTORAL:

Research Fellow, Population Genetics and Demography, CNRS, Grenoble, France, 1999-2000.

NSF-NATO Postdoc Fellowship, Conservation Biology and Population Genetics, France, 1998-1999

Advisors: P. Taberlet (Université Joseph Fourier, CNRS, Grenoble, France), J.-M. Cornuet (Institut National Recherche Agriculture, Montpellier, France).

European Postdoc Fellow, Conservation & Evolutionary Genetics, Université Joseph Fourier, 1997-1998.

EMPLOYMENT:

2014-current, Professor, FLBS, Division of Biological Sciences, University of Montana, USA

2010-2014, Associate Professor, Flathead Lake Biological Station, University of Montana, USA

2005-2010, Research Associate Professor, Organismal Biology and Ecology, University of Montana, USA

2005-2015, Senior Researcher (or Visiting) Scientist, Centro de Investigação em Biodiversidade e

Recursos Genéticos (CIBIO), University of Porto, Vairão, Portugal

2003-2005, Faculty Affiliate, University of Montana, USA

2004-2005, Research Scientist, Montana Conservation Science Institute (MOCSI), USA

2001-2005, Research Scientist (CR1), CNRS (Centre National Recherche Scientifique), France

2000-2001, CNRS, Research Fellow, Statistical and Population Genetics, France

1991-1992, Teaching Assistantships, Flathead Lake Biological Station, U. of Montana (Botany, Mammalogy)

1989-1995, Teaching Assistantships, U. of Montana (Genetics & Evolution, Conservation Genetics, Mammalogy, Ecology, Anatomy & Physiology, General Biology)

ACADEMIC HONORS:

Named a top scholar (0.05% worldwide) by the ScholarGPS platform in 2024 using metrics of scholarly activity like productivity, impact, and quality of publications.

Named one of "The World's Most Influential Scientific Minds" in 2014-2016 & 2018 by Thomson Reuters for publishing highly-cited papers during the past decade (e.g., see:

https://mcyt.educa.madrid.org/empleo/documentos/doc/The_Worlds_Most_Influential_Scientific_Minds_2015.pdf

Adjunct Professor Department of Integrative Biology at Michigan State University, 2019-current

Professor, Wildlife Biology Program and Systems Ecology Program, University of Montana, 2010-current

Bronze medal, a top scientist in France CNRS (Centre Nationale de la Recherche Scientifique), 2004-2005

Doctoral Research Fellowship, University of Montana, 1996

Fulbright Fellow, La Trobe Univ., Melbourne, Australia, 1994-95 (Genetics of endangered marsupials)

PROFESSIONAL ACTIVITIES: 2001-2004, Journal editorial board member for *Conservation Biology*

2003-2006, Journal associate editor for *Molecular Ecology Resources*

2009-2011, Associate Editor for *Journal of Heredity*

2010-current, Member Swan Ecosystem Center Native Fish Committee

2010-current, Member IUCN Conservation Genetics Specialist Group

2018-current, Member GEO BON Genetics Composition working group

2019-current, Journal editorial board member for *Environmental DNA*

2023-current, Journal associate editor for *Conservation Science & Practice*

TEACHING: 2010-current, Conservation Ecology, 3 credits (advanced undergrads), field course

2006-current, Population Genetic Data Analysis, 3 credits (grad students & postdocs)

<http://www.umt.edu/sell/cps/congen2018/>; www.popgen.net/congen2013

2007-current, Population Genetics Seminar, 1 credit (undergrads, grads), Spring & Autumn

2019-current, Seminars in Ecology & Resource Management, 1 credit, undergrads

2018-2021, Advanced Population Genetics, 3 credits (advanced undergrads, grad students)

2014-2017, Conservation Genetics, 3 credits (advanced undergrads and graduate students)
 2007-2010, Genetics and Evolution, 3 credits (graduate students in NSF-IGERT)
 2006, 2010, Frontiers in Conservation Genetics, 2 credits (team taught)

SOCIETIES (Last five years): American Fisheries Society, American Genetic Association (AGA)
 Ecological Society of America, Society for Conservation Biology (SCB)
 Wildlife Society, Freshwater Mollusk Conservation Society

PRODUCTS:

BOOKS:

Allendorf, F.W. and **G. Luikart**. 2007. *Conservation and the Genetics of Populations*. Wiley-Blackwell. Pp. ~600.
 Allendorf, F.W., **G. Luikart**, and S. Aitken. 2013. *Conservation and the Genetics of Populations* [2nd Edition]. Wiley-Blackwell. Pp. 642.
 Allendorf, F.W., W.C. Funk, S.N. Aitken, M. Byrne, **G. Luikart**. 2022. *Conservation and the Genomics of Populations*. [3rd Edition]. Oxford University Press. Pp. 784

BOOK CHAPTERS:

Scribner, K., M. Kardos, **G. Luikart**, R.S. Waples, N. Sard, J. Homola, J. Kanefsky, and *S. Smith. Application of genetic data and theory in fisheries management. Chapter 20 in *Analysis and Interpretation of Freshwater Fisheries Data*. 2nd ed. Eds: Guy, Brown, and Brenden. In revision.
Luikart, G., B.K. Hand, ^M. Kardos, O.P. Rajora, S. Aitkin, and P. Hohenlohe. 2018. Population genomics: Advancing understanding of nature. *Chapter 1 in Population Genomics Concepts, Approaches and Applications*. Ed: Om P. Rajora.
 Hohenlohe, P., ^M. Kardos, B. Hand, K. Andrews, and **G. Luikart**. 2018. Population genomics revolutionizes ecology and evolution. *In Population Genomics Concepts, Approaches and Applications*. Editor: Om P. Rajora. DOI: 10.1007/13836_2018_20
 Pierson, J.C., **G. Luikart**, and M.K. Schwartz. 2015. The application of genetic indicators in wild populations: potential and pitfalls for genetic monitoring. In *Surrogates and Indicators in Ecology, Conservation and Environmental Management*. Eds: Lindenmayer, D.B., J.C. Pierson, and P. Barton. CSIRO Publishing, Melbourne. CRC Press, London.
 Schwartz, M.K., **G. Luikart**, K.S. McKelvey, and S. Cushman. 2009. Landscape genomics: a brief perspective. Chapter 19 in *Spatial Complexity, Informatics and Animal Conservation*, Eds: S.A. Cushman and F. Huettman. Springer, Tokyo.
 Geffen, E., **G. Luikart**, and R.S. Waples. 2006. Impacts of modern molecular techniques on conservation biology. Chapter 4 In: *Key Topics in Conservation Biology*, Eds: D.W. Macdonald and K. Service, Blackwell Publishing.
Luikart, G., H. Fernandez, M. Mashkour, P.R. England, and P. Taberlet. 2006. Origins and diffusion of domestic goats inferred from DNA markers: example analyses of mtDNA, Y-chromosome and microsatellites. In: *Documenting Domestication*, Eds: M. Zeder, B. Smith, and D. Bradley, Smithsonian Press, USA.
 Taberlet, P., **G. Luikart**, and E. Geffen. 2001. Novel approaches for obtaining and analyzing genetic data for conserving wild carnivore populations, In: *Carnivore Conservation*, Eds: Gittleman, J.L., Funk, S.M., Macdonald, D., and Wayne, R. Cambridge University Press.

PUBLICATIONS (in peer-reviewed journals): (*my students, ^students helped, **postdocs)

From Google Scholar – August 2025 – 58,990 total citations h-index = 86

*Dahlquist, Z., *D. Miller, S. Amish, *L. Howard, M. McCartney, **G. Luikart**. 2025. Invasive species monitoring: Combining environmental DNA qPCR and traditional microscopy methods improves early detection. *Aquaculture, Fish and Fisheries*, e70075. doi.org/10.1002/aff2.70075.
 Jordan, S, ^S. Naderi, ^H-R. Rezaei, **G. Luikart. 2025. A phylogeny for genus *Capra* based on extensive sampling of wild populations. *PLoS One* 20: e0334624. doi.org/10.1371/journal.pone.0334624
 ^Lee, A., W. Hemstrom, ^N. Molea, **G. Luikart**, M.R. Christie. 2025. 'Highly-informative' genetic markers can bias conclusions: examples and general solutions. *Molecular Ecology Resources*, doi.org/10.1111/1755-0998.70011.
 Flores, A.M., K. Christensen, T. Godin, Y. Palti, M. Campbell, G. Waldbieser, S. Simpson, B. Scheffler, S. Smith, A. Whiteley, R. Kovach, **G. Luikart**, M. Boyer, M. Kardos, S. Relyea, C. Wells, Be. Koop. 2025. The genome assembly of the westslope cutthroat trout, *Oncorhynchus lewisi*,

- reveals interspecific chromosomal rearrangements with the rainbow trout, *Oncorhynchus mykiss*. *G3 (Genes Genomes & Genetics)*, 15(5), doi.org/10.1093/g3journal/jkaf064.
- Kirtane, A., *L. Howard, C. Beaver, M.E. Hunter, **G. Luikart**, and K. Deiner. 2025. How, what, and where you sample environmental DNA affects diversity estimates and species detection. In press. *Environmental DNA*, 6: e70042. DOI:10.1002/edn3.70042
- **Hemstrom, W., **J. Grummer, **G. Luikart**, and M. Christie. 2024. Next-generation data-filtering in the genomics era. *Nature Reviews Genetics*. Invited Review, 25:750–767 doi.org/10.1038/s41576-024-00738-6
- *Miller, D., S. Amish, L. Howard, R. Bajno, M. McCartney, and **G. Luikart**. 2024. Improved eDNA detection using high-volume sampling: the effect of sampling methods on qPCR signal of invasive zebra mussels. *Environmental DNA*. 6: e511. doi.org/10.1002/edn3.511
- *Strait, J.T., **J. Grummer, ^N.F. Hoffman, C.C. Muhlfeld, S.R. Narum, and **G. Luikart**. 2024. No effect of invasive hybridization on cardiac performance in native trout. *Evolutionary Applications*, 17: e13663. 10.1111/eva.13663.
- Schiebelhut, L., A.S. Guillaume, A. Kuhn, R.M. Schweizer, E.E. Armstrong, M.A. Beaumont, M. Byrne, T. Cosart, B.K. Hand, *L. Howard, S.M. Mussmann, S.R. Narum, R. Rasteiro, A.G. Rivera-Colón, N. Saarman, A. Sethuraman, H.R. Taylor, G.W.C. Thomas, M. Wellenreuther, **G. Luikart**. 2023. Practical guidance in conservation genomics: from study design to application. *Molecular Ecology Resources*. 24: e13893. doi.org/10.1111/1755-0998.13893
- ^Moreno, N., *L. Howard, S. Relyea, J. Dunnigan, M. Boyer, M. Kardos, S. Glaberman, **G. Luikart**, and Y. Chiari. 2023. Influence of RNA-Seq library construction, sampling methods, and tissue harvesting time on gene expression estimation. *Molecular Ecology Resources*. 23:803-818
- Amish, S.J., S. Bernall, P. DeHaan, M. Miller, S. O'Rourke, M.C. Boyer, C. Muhlfeld, S. Painter, R.F. Leary, and **G. Luikart**. 2022. Rapid SNP genotyping, sex identification, and hybrid-detection in threatened bull trout. *Conservation Genetics Resources*, 14:421–427. DOI:10.1007/s12686-022-01289-w
- ^Ritter, M.N., B.K. Hand, R. Malison, S.E. Lower, J. Stanford, **G. Luikart**, S. Jordan. 2022. Population structure of obligate groundwater amphipod crustaceans (*Stygobromus* spp.) in alluvial aquifers. *Hydrobiologia*, 850:1503–1513. DOI.org/10.1007/s10750-022-05096-0
- **Malison, R.L., B.K. Hand, E. Winter, J.J. Giersch, S.J. Amish, D. Whited, J.A. Stanford, and **G. Luikart**. 2022. Landscape connectivity and genetic structure in a mainstem and a tributary stonefly (Plecoptera) species using a novel reference genome. *Journal of Heredity*, 113:453-71.
- Her, C., ^H-R. Rezaei, S. Hughes, S. Naderi, M. Duffraisse, M. Mashkour, *H-R. Naghash, A. Bălăşescu, **G. Luikart**, **S. Jordan, ^D. Özüt, A. Kence, M.W. Bruford, A. Tresset, J-D. Vigne, P. Taberlet, C. Hänni, and F. Pompanon. 2022. Extensive maternal origin of domestic sheep in Anatolia and the Zagros. *Animal Genetics*, 53:452-459. doi: 10.1111/age.13191.
- Nagarajan, R.P., M. Bedwell, A.E. Holmes, T. Sanches, S. Acuña, M. Baerwald, M.A. Barnes, S. Blankenship, R.E. Connon, K. Deiner, D. Gille, C.S. Goldberg, M.E. Hunter, C.L. Jerde, **G. Luikart**, R.S. Meyer, A. Watts, and A. Schreier. 2022. Environmental DNA methods for ecological monitoring and biodiversity assessment in estuaries. *Estuaries and Coasts*, 45:2254–2273. doi.org/10.1007/s12237-022-01080-y
- **van Rees, C.B., B.K. Hand, ^S.C. Carter, C. Barger, T.J. Cline, W. Daniel, J.A. Ferrante, K. Gaddis, M.E. Hunter, C.S. Jarnevich, M.A. McGeoch, J.T. Morissette, M.E. Neilson, H.E. Roy, M.A. Rozance, A. Sepulveda, R.D. Wallace, D. Whited, T. Wilcox, J.S. Kimball, and **G. Luikart**. 2022. A framework to integrate innovations in invasion science for proactive management. *Biological Reviews*, 97:1712-1735, <https://doi.org/10.1111/brv.12859>.
- *Howard, L., **C.B. van Rees, B.K. Hand, and **G. Luikart**. 2022. A review of invasive species reporting apps for citizen science and opportunities for innovation. *NeoBiota*, 71:165-88.
- ^Carter, S., **C.B. van Rees, B.K. Hand, C. Muhlfeld, **G. Luikart**, J.S. Kimball. 2021. Aquatic invasive species target screening: a case study using machine learning species distribution models on an invasive trout. *Frontiers in Big Data*, 4:734990. doi:10.3389/fdata.2021.734990.
- ^Smith, S.R., E. Normandeau, H. Djambazian, P.M. Nawarathna, P. Berube, A.M. Muir, J. Ragoussis, C.M. Penney, K.T. Scribner, **G. Luikart**, C.C. Wilson, and L. Bernatchez. 2022. A chromosome-anchored genome assembly for lake trout (*Salvelinus namaycush*). *Molecular Ecology Resources*, 2:679-694. <https://doi.org/10.1111/1755-0998.13483>
- VarGoats Consortium, et al. 2022. Geographical contrasts of Y-chromosomal haplogroups from wild and domestic goats reveal ancient migrations and recent introgressions. *Molecular Ecology*, 31: 4364-4380.
- **Kardos, M., and **G. Luikart**. 2021. The genomic architecture of fitness drives population viability in changing environments. *American Naturalist*, 197:511–525. doi.org/10.1086/713469
- ^Myers, B.J.E., S.R. Weiskopf, A.N. Shiklomanov, S. Ferrier, E. Weng, K.A. Casey, M. Harfoot, S.T. Jackson, A.K. Leidner, T.M. Lenton, **G. Luikart**, H. Matsuda, N. Pettorelli, I.M.D. Rosa, A.C. Ruane, G.B. Senay, S.P. Serbin, D.P. Tittensor, and T.D. Beard. 2021. A new approach to

- evaluate and reduce uncertainty of model-based biodiversity projections for conservation policy formulation. *Biosciences*, 71:1261–1273. <https://doi.org/10.1093/biosci/biab094>
- Leigh, D.M., C.B. **van Rees**, K.L. Millette, **G. Luikart** et al. 2021. Opportunities and challenges of macrogenetic studies. *Nature Reviews Genetics*, 22:791–807. <https://doi.org/10.1038/s41576-021-00394-0>
- Schweizer, R.M., N. Saarman, K.M. Ramstad, B.R. Forester, J.L. Kelley, B.K. Hand, R.L. Malison, A.S. Ackiss, M. Watsa, T.C. Nelson, A. Beja-Pereira, R.S. Waples, W.C. Funk, and **G. Luikart**. 2021. Big data in conservation genomics: boosting skills, hedging bets, and staying current in the field. *Journal of Heredity*, 112:313–327. doi.org/10.1093/jhered/esab019
- *Strait, J., L.A. Eby, R.P. Kovach, C.C. Muhlfeld, M.C. Boyer, S.J. Amish, *S. Smith, W.H. Lowe, and **G. Luikart**. 2021. Hybridization alters growth and migratory life history expression of native trout. *Evolutionary Applications*, 8:821–833. doi.org/10.1111/eva.13163
- Luikart, G.**, T. Antao, B.K. Hand, C.C. Muhlfeld, M.C. Boyer, T. Cosart, ^B. Trethaway, R. Al-Chockhachy, and R. Waples. 2021. Detecting population declines via estimating the effective number of breeders (N_b). *Molecular Ecology Resources*. 21: 379–393. doi.org/10.1111/1755-0998.13251
- Ezenwa, V.O., S.A. Budischak, P. Buss, M. Seguel, and **G. Luikart**, A.E. Jolles, and K. Sakamoto. 2021. Natural resistance to worms exacerbates bovine tuberculosis severity independently of worm coinfection. *Proceedings of the National Academy of Sciences, USA*, 118 (3) e201508011. <https://doi.org/10.1073/pnas.2015080118>
- ^Robinson, Z., ^Bell, D., ^Dhendup, T., **Luikart, G.**, Whiteley, A., and **Kardos, M. 2021. Evaluating genetic rescue attempts in the Anthropocene. *Conservation Biology*, 35: 666–677. doi.org/10.1111/cobi.13596
- Paz-Vinas I., E. Jensen, L. Bertola, M. Breed, B.K. Hand, M.E. Hunter, F. Kershaw D.M. Leigh, **G. Luikart**, J. Mergeay, J.M. Miller, **C.B. Van rees, G. Segelbacher, S. Hoban. 2020. Macro-genetic studies must not ignore limitations of genetic markers and scale. *Ecology Letters*, 24:1282–1284.
- Antao, T., Cosart, T., ^B. Trethway, R.S. Waples, M.W. Ackerman, **G. Luikart**, and B.K. Hand. 2020. AgeStrucNb: Software for simulating and detecting changes in the effective number of breeders (N_b). *Journal of Heredity*, 111:491–497.
- *Garner, B.A., S. Hoban, and **G. Luikart**. 2020. IUCN red list and the value of integrating genetics. *Conservation Genetics*, 21:795–801.
- Sepulveda, A., N. Nelson, C. Jerde, and **G. Luikart**. 2020. Are environmental DNA methods ready for aquatic invasive species management? *Trends in Ecology and Evolution*, 35:668–678.
- Malison, R.L., A. DelVecchia, A. Woods, B.K. Hand, **G. Luikart**, and J.A. Stanford. 2020. Tolerance of aquifer stoneflies to repeated hypoxia exposure and oxygen dynamics in an alluvial aquifer. *Journal of Experimental Biology*, <https://doi.org/10.1242/jeb.225623>
- Malison, R.L., B.K. Ellis, A.G. DelVecchia, H.N. Jacobson, B.K. Hand, **G. Luikart**, H.A. Woods, M. Gamboa, K. Watanabe, and J.A. Stanford. 2020. Remarkable anoxia tolerance by stoneflies from a floodplain aquifer. *Ecology* 101: e03127. [10.1002/ecy.312](https://doi.org/10.1002/ecy.312)
- Smith, S., S.A. Amish, L. Bernatchez, J. Le Luyer, C. Wilson, O. Boeberitz, **G. Luikart**, and K. Scribner. 2020. Mapping of adaptive traits enabled by a high-density linkage map for lake trout. *Genes Genomes and Genetics*, 1929–1947. <https://doi.org/10.1534/g3.120.401184>
- Schabacker J., S.J. Amish, A. Sepulveda, B. Gardner, D. Miller, Y. Wang, and **G. Luikart**. 2020. Sensitive eDNA detection using large-volume water samples and seasonal sampling. *Environmental DNA*, 2: 244–251.
- ^Stahlke A, ^D. Bell, ^T. Dhendup, ^B. Kern, *S. Pannoni, ^Z. Robinson, *J. Strait, *S. Smith, **B.K. Hand, P.A. Hohenlohe, and **G. Luikart**. 2020. Population genomics training for the next generation of conservation geneticists: ConGen 2018 Workshop. *J Heredity*, 111: 227–236, <https://doi.org/10.1093/jhered/esaa001>
- Jordan, S., B.K. Hand, S. Hotaling, ^A. DelVecchia, R. Malison, C. Nissley, J. Stanford, and **G. Luikart**. 2019. Genomic data reveal similar genetic differentiation in aquifer species with different dispersal capabilities and life histories. *Biological Journal of the Linnean Society*, 129:315–322.
- Kotzé, A., ^R.M. Smith, Y. Moodley, **G. Luikart**, C. Birss, A.M. Van Wyk, J.P. Grobler, and D.L. Dalton. 2019. Lessons for conservation management: Monitoring temporal changes in genetic diversity of Cape mountain zebra (*Equus zebra zebra*). *PloS one* 14 (7), e0220331
- Haines, M.L., **G. Luikart**, S.J. Amish, *S. Smith, and E.K. Latch. 2019. Evidence for adaptive introgression of exons across a hybrid swarm in deer. *BMC Evolutionary Biology*, 19:199-. doi.org/10.1186/s12862-019-1497-x
- Sepulveda, A., S.A. Amish. *J. Schabacker, *D. Miller, and **G. Luikart**. 2019. Improved detection of rare, endangered and invasive trout in using a new large-volume sampling method for eDNA capture. *Environmental DNA*, 1: 227–237. DOI: 10.1002/edn3.23

- Grummer, J., L.B. Beheregaray, L. Bernatchez, B.K. Hand, **G. Luikart**, S.R. Narum, and E.B. Taylor. 2019. Aquatic landscape genomics and environmental effects on genetic variation. *Trends in Ecology and Evolution*, 34:641-654.
- Hand, B.K., C.G. Flint, C. Frissell, C.C. Muhlfeld, S. Devlin, B. Kennedy, R. Crabtree, A. McKee, **G. Luikart**, and J.A. Stanford. 2019. Challenges in Columbia River fisheries conservation. *Frontiers in Ecology and the Environment*, 17: 11-13. doi:10.1002/fee.1990
- ^Hendricks, S., E. Anderson, T. Antao, L. Bernatchez, B. Forester, *B.A. Garner, B. Hand, P. Hohenlohe, M. Kardos, L.B. Koop, R. Waples, and **G. Luikart**. 2018. Recent advances in population genomics data analysis: Improving bioinformatics and computational approaches. *Evolutionary Applications*, 11:1197–1211. doi.org/10.1111/eva.12659
- Hand, B.K., C.G. Flint, C. Frissell, C.C. Muhlfeld, S. Devlin, B. Kennedy, R. Crabtree, A. McKee, **G. Luikart**, and J.A. Stanford. 2018. Social-ecological systems approach for riverscape sustainability in the Columbia River Basin. *Frontiers in Ecology and the Environment*, S23-S33. doi.org/10.1002/fee.1752
- Amish, S.J., ^A.O. Ali, M. Peacock, M. Miller, M. Robinson, *S. Smith, **G. Luikart**, and H. Neville. 2018. Assessing thermal adaptation using family-based association and F_{ST} -outlier tests in a threatened trout. *Molecular Ecology*, 28:2573-2593.
- ^Cross, P.R., B.N. Sacks, **G. Luikart**, M.K. Schwartz, K.W. Van Etten, and R.L. Crabtree. 2018. Red fox ancestry and connectivity assessments reveal minimal fur farm introgression in the Greater Yellowstone Ecosystem. *Journal of Fisheries and Wildlife Management*, 9:519-30. DOI: 10.3996/092017-JFWM-073
- **Kardos, M., **G. Luikart**, and F.W. Allendorf. 2018. Predicting the evolutionary effects of hunting requires an understanding of genetics. *Journal of Wildlife Management and Wildlife Monographs*. 82: 889-891. doi.org/10.1002/jwmg.21475
- ^Harrison, K.A., S. Amish, A. Pavlova, S. Narum, M. Telonis-Scott, M.L. Rourke, J. Lyon, Z. Tonkin, D. Gilligan, B. Ingram, M. Lintermans, H.M. Gan, C.M. Austin, **G. Luikart**, and P. Sunnucks. 2017. Signatures of polygenic adaptation associated with climate across the range of an Australian freshwater fish species. *Molecular Ecology*, 28: 6253-6269. DOI: 10.1111/mec.14368
- ^Hotaling, S., C.C. Muhlfeld, J.J. Giersch, ^O.A. Ali, S. Jordan, M.R. Miller, **G. Luikart**, and D.W. Weisrock. 2018. Demographic modelling reveals a history of divergence with gene flow for a glacially tied stonefly in a changing post-Pleistocene landscape. *J of Biogeography*, 45: 304-317. DOI: 10.1111/jbi.13125.
- Kovach, R., C.C. Muhlfeld, R. Al-Chokhachy, S.J. Amish, J.L. Kershner, R.F. Leary, W.H. Lowe, **G. Luikart**, P. Matson, D.A. Schmetterling, B.B. Shepard, P.A.H. Westley, D. Whited, A. Whiteley, and F.W. Allendorf. 2017. No evidence for ecological segregation protecting native trout from invasive hybridization. *Global Change Biology*, e11-12. DOI: 10.1111/gcb.13825
- Muhlfeld C.C., R.P. Kovach, R. Al-Chokhachy, S.J. Amish, J.L. Kershner, R.F. Leary, W.H. Lowe, **G. Luikart**, P. Matson, D.A. Schmetterling, B.B. Shepard, P.A.H. Westley, D. Whited, A. Whiteley, and F.W. Allendorf. 2017. Legacy introductions and climatic variation explain spatiotemporal patterns of invasive hybridization in a native trout. *Global Change Biology*, 23: 4663-4674. DOI: 10.1111/gcb.13681
- **Kovach, R., B.K. Hand, P. Hohenlohe, T. Cosart, M. Boyer, H. Neville, C. Muhlfeld, S. Amish, K. Carim, S. Narum, W. Lowe, F.W. Allendorf, and **G. Luikart**. 2016. Vive la résistance: genome-wide selection against introduced alleles in invasive hybrid zones of trout. *Proceedings of the Royal Society*, 283: 4663-4674.
- Wade A.A., B.K. Hand, **R.P. Kovach, C.C. Muhlfeld, R. Waples, and **G. Luikart**. 2017. Assessments of species' vulnerability to climate change: from pseudo to science. *Biodiversity and Conservation*, 26: 223–229.
- ^Rezaeie, H.R., **G. Luikart**, et al. 2016. Corrigendum to "Evolution and taxonomy of the wild species of the genus *Ovis* (Mammalia, Artiodactyla, Bovidae). *Molec. Phylogenet. Evol.* 54:315–326.
- ^Ackerman, M.W., B.K. Hand, R.K. Waples, **G. Luikart**, R.S. Waples, C. Steele, *B.A. Garner, J. McCane, N. Vu, and M. Campbell. 2017. Effective number of breeders estimated from sibship reconstruction: empirical evaluations using hatchery steelhead. *Evolutionary Applications*, 10: 146–160.
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SELECTED PUBLICATIONS in review or revision: (*students, ^postdocs)

- *Strait, J.T., R.P. Kovach, L.A. Eby, C.C. Muhlfeld, M.C. Boyer, S.J. Amish, P.M. Lukacs, W.H. Lowe, and **G. Luikart**. Invasive hybridization has variable effects on trout survival in contrasting environments. In revision for resubmission to *American Naturalist*.
- *Strait, J.T. et al. Migration-associated locus discovered in a hybrid zone via genome-wide SNP analysis. In revision for resubmission to *Molec Ecol Resources*.
- *Howard, L., C.B. van Rees, S. Carter, T. Cosart, J. Naudet, W. Daniel, M. Nielson, J. Kimball, B.K. Hand, **G. Luikart**. Improving invasive Species Spread Predictions with Remotely-Sensing, Biotic Predictors, and Machine-Learning. In revision for resubmission.
- *Smith, S.R., **G. Luikart**, K. Scribner. The genomic basis for ecomorphological variation in Lake Superior Lake Trout (*Salvelinus namaychus*). In revision for *Molecular Ecology*.

GRANTS AND CONTRACTS AWARDED (SELECTED):

- USGS-Water Resources Research Program: Predicting Invasive Species Spread by Integrating Big Data on the Environment and Species-occurrence Using Machine-learning Modeling. Funded **2025-2026**. PI.
- USGS-Water Resources Research Program: Next-Generation Monitoring: Satellite Remote Sensing and eDNA Integration for Management of Aquatic Invasive Plants. **2025-2027**. PI is from Oklahoma State U.
- MISC (Montana Invasive Species Council): Protecting Western Lakes by Validating Novel LAMP eDNA Testing for Earlier-detection of Invasive Zebra Mussels and Eurasian Milfoil. **2024-2026**. PI.
- NASA-ROSES: Predicting the Spread of Aquatic Invasive Species Using Remote Sensing, Genetics, and Climate Modeling. Pending. PI. **2025-2028**
- Frankie-UM (University of Montana): Predicting Aquatic Invasive Species spread by combining remote sensing & eDNA metabarcoding. Co-PI. **2023-2025**.
- TU (Trout Unlimited Donor): Predicting invasive hybridization, genetic diversity, and connectivity among conservation populations of cutthroat trout. PI, Co-IJ. Grummer. **2024-2025**.
- MT-FWP (Fish Wildlife & Parks): Effects of hybridization on reproductive success in native trout. PI. 2024-2025.
- Donor gift: Development and application of eDNA assay for invasive mystery snail. 2025

SYNERGISTIC ACTIVITIES & OUTREACH:

- **Development of young scientists** – I've mentored or co-mentored >50 undergrad and grad students (& published with >30), mentored >6 postdocs, and helped occasional high school students in research projects. With collaborators, we've mentored >25 university undergrads from Montana and nationwide working on aquatic ecology projects for >2-40 weeks per student since 2010. I guest teach primary or high school students about science, ecology, & conservation.
- **Organizing courses** - Population Genetic Data Analysis for advanced undergrads, graduate students, postdocs, faculty & government researchers; Portugal, 2006, 2008; Montana, 2007, 2009, 2011, 2013-current; e.g. <https://www.umt.edu/ces/conferences/congen/>, and **Rwanda 2023**. Also: Workshops on invasive species detection with citizen scientists and biologists from US Forest Service, US Geological Survey, Montana Fish Wildlife & Parks, County Weed Districts.
- **Development of educational and fundraising videos (with B. Garner & collaborators)** – on "Conservation Genetics" <https://www.youtube.com/watch?v=MlaQnjibMqQ>; and "Aquatic invasive species" prevention and eDNA detection <https://www.youtube.com/watch?v=ONXV2hhTp44&feature=youtu.be>; and citizen science "sampling trout" training video: <https://www.youtube.com/watch?v=ymETcLLm5QY>; and on sampling wildlife to understand and control disease transmission <http://vimeo.com/33527913>; <http://www.gyeburcellosis.net/index.php>. See also Brittany Garner's CV (videographer).

- **Advising managers, agencies & specialist groups** (selected examples) – Montana Fish Wildlife and Parks; Hatcheries or wild salmon NGOs and law firms 2011-present; Swan Valley Trout Restoration Program; MFWP bighorn sheep biologists and action plan authors. IUCN Caprinae Specialists Group 2001–2014. IUCN Genetics Specialist Group. GEO BON Species - Populations working group.
- **Formal exchange program agreements** – Established between The University of Montana and The University of Porto, Portugal, 2007–2020; and Zoological Gardens of South Africa (SANBI) 2018-present; Obtained funding for students and faculty from Montana to travel to or collaborate with Portugal and South Africa.
- **Reviewer (recent)**– for the US National Science Foundation, Genome Canada, South African Science Foundation, several journals (e.g., Science, Nature Reviews Genetics, Trends in Ecology & Evolution) and natural resource agencies. Advisory board member for the Journal Environmental DNA. Subject Editor for Conservation Science and Practice.
- **Co-Director of eDNA Lab** – research and monitoring to advance environmental DNA science and biodiversity conservation (with L. Howard, FLBS - Univ. of Montana).