

Kevin T. Shoemaker

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EDUCATION

SUNY-ESF*	Conservation Biology	Ph.D. (J.P. Gibbs, advisor)	2011
SUNY-ESF*	Conservation Biology	M.S. (J.P. Gibbs, advisor)	2007
Haverford College	Biology	B.S.	2000

* State University of New York, College of Environmental Science and Forestry, Syracuse, NY

EMPLOYMENT

July 2021 to present: Associate Professor, University of Nevada, Reno, Reno, NV

Nov 2015 to July 2021: Assistant Professor, University of Nevada, Reno, Reno, NV

Jan 2014 to Nov 2015: Senior Scientist, Applied Biomathematics, Inc., Setauket, NY

June 2011 to Nov 2015: Post-doctoral Associate, Stony Brook University, Stony Brook, NY (Postdoctoral advisor: H. Resit Akçakaya)

June 2011 to Dec 2013: Research Ecologist, Applied Biomathematics, Inc., Setauket, NY (1/2 time)

May 2011 to Dec 2011: Post-doctoral Associate, SUNY-ESF, Syracuse, NY — Postdoctoral advisor: James P. Gibbs

AREAS OF EXPERTISE

Demographic simulation modeling (matrix-based and agent-based) population viability analysis (PVA)

Applications of statistics and machine learning for wildlife conservation

Estimating abundance and life history parameters with capture-mark-recapture data in R and Jags/stan

Bayesian inference using Markov Chain Monte Carlo (MCMC) in R, BUGS/Jags and Stan

Scripting and web-hosted application development using R/shiny

Reproducible scientific workflows and integrated modeling in R and GitHub

Spatial analysis and visualization using R and QGIS

Designing and executing field monitoring protocols for wild populations of reptiles, small mammals and birds, including trapping and passive acoustic monitoring.

PUBLICATIONS

In Preparation

Crowell, M.M., Matocq, M.D., Dilts, T., **Shoemaker, K.T.** *In prep.* Turnover in pygmy rabbit (*Brachylagus idahoensis*) site and burrow activity in the Great Basin. In prep for *Conservation Biology*.

Crowell, M.M., Byer, N.W., **Shoemaker, K.T.**, and Matocq, M.D. *In prep.* Fine-scale relatedness structure within populations of pygmy rabbits (*Brachylagus idahoensis*) across the Great Basin. In prep for *Molecular Ecology*.

Crowell, M.M., Matocq, M.D., **Shoemaker, K.T.** *In prep.* Environmental drivers of population and burrow density in a mammalian sagebrush obligate, the pygmy rabbit (*Brachylagus idahoensis*). *In prep* for *Journal of Animal Ecology*.

Cook, N.A., Nicolai, C.A., **Shoemaker, K.T.** *In prep.* Monitoring waterfowl breeding activities with geolocators: a case study with Wood Ducks (*Aix sponsa*) in northern Nevada. *In prep* for *Journal of Animal Ecology*.

Loope, K.J., Walden, M.A., Hunter, E.H., Drake, K.K. Esque, T.C., **Shoemaker, K.T.** *In prep.* Warming nest temperatures reduce hatching success and skew sex ratios in a threatened tortoise. *In prep* for *Biology Letters*.

Submitted

Shoemaker, K.T., Tran, M., Loope, K.J. Submitted. Diagnosis for a declining tortoise: unfounded assumptions, biased parameters, or extinction debt? *Biological Conservation*.

Hunter, E.A., DeSha, J.N., Smith, L.L., Rostal, D.C., Rothermel, B.B., Legare, M.L., Surratt, A.G., **Shoemaker, K.T.**, and Loope, K.J. Gopher tortoise (*Gopherus polyphemus*) nesting decisions and outcomes across the latitudinal range and implications for climate change. *Animal Conservation*.

Hegg, S., **Shoemaker, K.T.**, Weisberg, P.W., Sedinger, J., Matocq, M.D. Submitted. Soil, vegetation, and interspecific competition determines density distribution of a sand-dune endemic heteromyid, the Pale Kangaroo Mouse (*Microdipodops pallidus*). *Journal of Mammalogy*.

Resubmitted

Accepted/In Press

Goldman, M.R., **Shoemaker, K.T.**, Jacobson, E.K., Thomas, L., Morris, C.D., Waitland, S., Duck, C.D., Russell, D.J.F. Accepted. A Bayesian state-space model for estimating pup production in an asynchronous breeder: the grey seal (*Halichoerus grypus*). Royal Society Open Science.

Published

Sergeyev, M. Barrile, G.M., Augustine, D.J., Porensky, L.M., Duchardt, C.J., **Shoemaker, K.T.**, Hartway, C.R., Davidson, A.D. 2026. PDOG MAPR: a decision support tool to inform management of prairie dog ecosystems. *Rangeland Ecology and Management* 108:1-12. DOI: [10.1016/j.rama.2026.04.010](https://doi.org/10.1016/j.rama.2026.04.010)

Hromada, S.J., Folt, B., **Shoemaker, K.T.**, Allison, L.J., Dougherty, J., Drake, K.K., Esque, T.C., Walden, M.A., Freilich, J., Lovich, J.E., McLuckie, A.M., Mitchell, C.I., Standen, M., Vamstad, M.S., Vandergast, A.G., Hunter, E.A., Nussear, K.E., Dickson, B.G. 2026. An integrated model improves inferences about survival in the Mojave desert tortoise. *Endangered Species Research* 59:1-19. DOI: [10.3354/esr01468](https://doi.org/10.3354/esr01468)

Shoemaker, K.T., Reich, H.E., Williams, P.J., Osterhout, M., Vasquez, J., Beckman, J.P., Lackey, C.W., Stewart, K.M. 2025. Late season frosts and changing snowpack may exacerbate human-bear conflicts. *Ecosphere*. DOI: [10.1002/ecs2.70379](https://doi.org/10.1002/ecs2.70379) press coverage: [<https://www.unr.edu/nevada-today/news/2025/bear-climate-research>]

Shoemaker, K.T., Loope, K.J. 2025. We need better ways to re-evaluate conservation policies when they're founded on flawed research. *Proceedings of the National Academy of Sciences*. DOI: [10.1073/pnas.2426166122](https://doi.org/10.1073/pnas.2426166122)

Borokini, I.T., France, M.D., Harmon, D., **Shoemaker, K.T.**, Weisberg, P.J., Peacock, M.M. 2025. Seed biology and regeneration niche of the threatened cold desert perennial *Ivesia webberi* A. Gray. *Frontiers in Plant Science*. DOI: [10.3389/fpls.2025.1568951](https://doi.org/10.3389/fpls.2025.1568951)

Nagelson, P.B., York, R.A., **Shoemaker, K.T.**, Foster, D.E., Stephens, S.L., and Bisbing, S.M. 2025. Repeated fuel treatments fall short of fire-adapted regeneration objectives in a Sierra Nevada mixed conifer forest, USA. *Ecological Applications*. DOI: [10.1002/eap.3075](https://doi.org/10.1002/eap.3075)

Loope, K.J., DeSha, J.N., Aresco, M.J., **Shoemaker, K.T.**, Hunter, E.A. 2024. Common-garden experiment reveals outbreeding depression and region-of-origin effects on reproductive success in a frequently translocated tortoise. *Animal Conservation*. DOI: [10.1111/acv.12977](https://doi.org/10.1111/acv.12977)

Macey, S., Myers, A., Tesauro, J., Feil, A., Polanco, K., Clark, J.A., **Shoemaker, K.T.** 2024. Bog Turtle (*Glyptemys muhlenbergii*) nesting ecology and the efficacy of predator excluders in New York. *Northeastern Naturalist* 31(sp12), G117-G137. DOI: [10.1656/045.031.s1232](https://doi.org/10.1656/045.031.s1232)

Matocq, M.D., Hunter, E.A., Murphy, P.J. and **Shoemaker, K.T.** 2024. Asymmetric mate preference and reproductive interference mediate climate-induced changes in mate availability in a small mammal hybrid zone. *Evolution* 78:1818–1830. DOI: [10.1093/evolut/qpae110](https://doi.org/10.1093/evolut/qpae110)

Loope, K.J., Akçakaya, H.R., **Shoemaker, K.T.** 2024. Inflated predictions from a flawed model influenced the decision to deny federal protection for the gopher tortoise. *Global Ecology and Conservation*. DOI: [10.1016/j.gecco.2024.e03089](https://doi.org/10.1016/j.gecco.2024.e03089)

McElroy, C.L., Windmiller, B., Berkholtz, J., Wilder, E., Welch, J., **Shoemaker, K.T.**, Kamm, M.D. 2024. *Accepted*. Recovery of a Blanding's Turtle Population through Nest Protection and Headstarting. *Northeastern Naturalist*. DOI: [10.1656/045.031.s1203](https://doi.org/10.1656/045.031.s1203)

Long, M. E., Stewart, K.M., **Shoemaker, K.T.**, Reich, H., Lackey, C.W., Beckmann, J.P. 2024. Selection of den sites and chronology of denning by black bears in the eastern Sierra Nevada and western Great Basin. *Ecology and Evolution*. DOI: [10.1002/ece3.11689](https://doi.org/10.1002/ece3.11689)

Osterhout, M.J., Blum, M.E., Wakeling, B.F., Schroeder, C.A., **Shoemaker, K.T.**, Brockman, J.C., and Stewart, K.M. 2024. Effects of Large-Scale Gold Mining on Habitat Use and Selection by American Pronghorn. *Science of the Total Environment*. DOI: [10.1016/j.scitotenv.2024.170750](https://doi.org/10.1016/j.scitotenv.2024.170750)

Walden, M.A., Loope, K.J., Hunter, E.A., Divers, S.J., Comolli, J.R., Esque, T.C., and **Shoemaker, K.T.** 2023. Testosterone identifies hatchling sex for Mojave desert tortoises (*Gopherus agassizii*). *Scientific Reports*. DOI: [10.1038/s41598-023-41677-2](https://doi.org/10.1038/s41598-023-41677-2)

Dyck, M., **Shoemaker, K.T.**, Dennison, C., and Popescu, V. 2023. Simulated effects of roadkill and harvest on the viability of a recovering bobcat population. *Journal of Wildlife Management*. DOI: [10.1002/jwmg.22460](https://doi.org/10.1002/jwmg.22460)

Gustin, M.S., Dunham-Cheatham, S.M., Choma, N., **Shoemaker, K.T.**, and Allen, N. 2023. Determining sources of reactive mercury compounds in Reno, Nevada, USA. *Frontiers in Environmental Chemistry*. DOI: [10.3389/fenvc.2023.1202957](https://doi.org/10.3389/fenvc.2023.1202957)

Goldman, M.R., Shinderman, M., Jeffress, M.R., Rodhouse, T.J., and **Shoemaker, K.T.** 2023. Integrating multiple sign types to improve occupancy estimation for inconspicuous species. *Ecology and Evolution*. DOI: [10.1002/ece3.10019](https://doi.org/10.1002/ece3.10019)

Dilts, T.E., Zeller, K.A., Cushman, S.A., Larrucea, E.S., Crowell, M.M., Byer, N.W., **Shoemaker, K.T.**, Matocq, M.D. 2023. Pygmy rabbit habitat network reveals threats and opportunities for management and conservation. *Landscape Ecology*. DOI: [10.1007/s10980-023-01672-4](https://doi.org/10.1007/s10980-023-01672-4)

Crowell, M.M., LaHue, N., Heath, E., **Shoemaker, K.T.**, and Matocq, M.D. 2023. Detection of Rabbit Hemorrhagic Disease Virus 2 in the Pygmy Rabbit (*Brachylagus idahoensis*) in Nevada, USA. *Journal of Wildlife Diseases*. DOI: [10.7589/JWD-D-22-00067](https://doi.org/10.7589/JWD-D-22-00067)

Dilts, T.E., Blum, M., **Shoemaker, K.T.**, Weisberg, P.J., Stewart, K. 2023. Improved topographic ruggedness indices more accurately model fine-scale ecological patterns. *Landscape Ecology*. DOI: [10.1007/s10980-023-01646-6](https://doi.org/10.1007/s10980-023-01646-6)

Blum, M.E., Stewart, K.M., **Shoemaker, K.T.**, Wakeling, B., Dilts, T.E., Bennett, J.R., Cox, M., Sullivan, B.W., Bleich, V. 2023. Changes in selection of resources with reproductive state in a montane ungulate. *Movement Ecology* 11:20. DOI: [10.1186/s40462-023-00378-1](https://doi.org/10.1186/s40462-023-00378-1)

Barrile, G.M., Augustine, D.J., Porensky, L.M., Duchardt, C.J., **Shoemaker, K.T.**, Hartway, C.R., Derner, J.D., Hunter, E.A., and Davidson, A.D. 2023. A big data–model integration approach for predicting epizootics and population recovery in a keystone species. *Ecological Applications*. DOI: [10.1002/eap.2827](https://doi.org/10.1002/eap.2827)

Blum, M.E., Stewart, K.M., Cox, M., **Shoemaker, K.T.**, Bennett, J. R., Sullivan, B. W., Wakeling, B.F., and Bleich, V.C. 2023. Variation in diet of desert bighorn sheep around parturition: tradeoffs associated with parturition. *Frontiers in Ecology and Evolution* 10, 1293. DOI: [10.3389/fevo.2022.1071771](https://doi.org/10.3389/fevo.2022.1071771)

Loope, K.J., Rostal, D.C., Walden, M.A., **Shoemaker, K.T.**, and Hunter, E.A. 2022. A comparison of non-surgical methods for sexing young gopher tortoises (*Gopherus polyphemus*). *PeerJ* 10:e13599 DOI: [10.7717/peerj.13599](https://doi.org/10.7717/peerj.13599)

Walden, M. A., Jania, R., Kinney, M. E., Devan-Song, A., Drake, K. K., Esque, T. C., and **Shoemaker, K.T.** (2022). Computed tomography for measuring body fat reserves in the threatened Mojave Desert Tortoise (*Gopherus agassizii*). *Journal of Zoo and Wildlife Medicine*, 54: 412-423. DOI: [10.1638/2020-0168](https://doi.org/10.1638/2020-0168)

Reynolds, D.S., **Shoemaker, K.T.**, von Oettingen, S., Nager, S., Veilleaux, J.P. and Moosman, P. 2021. Integrating Multiple Survey Techniques to Document a Shifting Bat Community in the Wake of White-nose Syndrome. *Journal of Fish and Wildlife Management*. DOI: [10.3996/JFWM-20-043](https://doi.org/10.3996/JFWM-20-043)

Byer, N.W., Dilts, T.E., Larrucea, E.S., Crowell, M.M., **Shoemaker, K.T.**, Weisberg, P.J., Matocq, M.D. 2021. Holocene-era landscape conditions affect genetic connectivity in a sagebrush obligate species, the pygmy rabbit (*Brachylagus idahoensis*). *Landscape Ecology*. DOI: [10.1007/s10980-021-01328-1](https://doi.org/10.1007/s10980-021-01328-1)

Byer, N.W., Holding, M.L., Crowell, M.M., Pierson, T.W., Dilts, T.E., **Shoemaker, K.T.**, and Matocq, M.D. 2021. Adaptive divergence despite low effective population size in a peripherally isolated population of the pygmy rabbit, *Brachylagus idahoensis*. *Molecular Ecology*. DOI: [10.1111/mec.16040](https://doi.org/10.1111/mec.16040)

Fordham, D.A., Brown, S.C., Akçakaya, H.R., Brook, B.W., Haythorne, S., Manica, A., **Shoemaker, K.T.**, Austin, J.J., Blonder, B., Rahbek, C., Nogues-Bravo, D. 2021. Process-explicit models reveal pathway to extinction for woolly mammoth using pattern-oriented validation. *Ecology Letters*. DOI: [10.1111/ele.13911](https://doi.org/10.1111/ele.13911)

Cook, N.A., Nicolai, C.A., **Shoemaker, K.T.** 2021. Inferring movements and staging locations of Canvasback (*Aythya valisineria*) in the Pacific Flyway. *Journal of Fish and Wildlife Management*. DOI: [10.3996/JFWM-20-032](https://doi.org/10.3996/JFWM-20-032)

Mitchell, C.I., **Shoemaker, K.T.**, Esque, T.C., Vandergast, A.G., Hromada, S.J., Dutcher, K.E., Heaton, J.S., and Nussear, K.E. 2021. Integrating telemetry data at several scales with spatial capture-recapture to improve density estimates for a rare and elusive reptile. *Ecosphere*. DOI: [10.1002/ecs2.3689](https://doi.org/10.1002/ecs2.3689)

Hughey, L.F., **Shoemaker, K.T.**, Stewart, K.M., McCauley, D.J., Cushman, J.H. 2021. Effects of human-altered landscapes on a reintroduced native ungulate: patterns of resource selection at the rangeland-wildland interface. *Biological Conservation* 257: 109086. DOI: [10.1016/j.biocon.2021.109086](https://doi.org/10.1016/j.biocon.2021.109086)

Mitchell, C.I., Friend, D.A., Phillips, L.T., Hunter, E.A., Lovich, J.E., Agha, M., Puffer, S.R., Cummings, K.L., Medica, P.A., Esque, T.C., Nussear, K.E., **Shoemaker, K.T.** 2021. “Unscrambling” the drivers of egg production in the Mojave desert tortoise: Climate and individual attributes predict reproductive output. *Endangered Species Research*. 44:217-230. DOI: [10.3354/esr01103](https://doi.org/10.3354/esr01103)

Matthews, S., Mellin, C., Pratchett, M. **Shoemaker, K.T.** 2020. COTSMoD: A spatially explicit metacommunity model for the management of Crown-of-thorns starfish and coral recovery. *Advances in Marine Biology* 87:259-290. Academic Press. DOI: [10.1016/bs.amb.2020.09.001](https://doi.org/10.1016/bs.amb.2020.09.001)

Macey, S.K., Vaidya, P.B., Chiu, C., Clark, J.A., and **Shoemaker, K.T.** 2020. Evidence for Nest-Site Fidelity but not Natal Homing in Bog Turtles (*Glyptemys mhlenbergii*). *Journal of Herpetology*. DOI: [10.1670/19-073](https://doi.org/10.1670/19-073)

Crowell, M.M., Matocq, M.D., **Shoemaker, K.T.** 2020. Ideal trapping conditions for increased trap success of pygmy rabbits (*Brachylagus idahoensis*) across the Great Basin. *Journal of Mammalogy*. DOI: [10.1093/jmammal/gyaa114](https://doi.org/10.1093/jmammal/gyaa114)

Simmons, J.B., Campbell, T., Jerde, C.L., Chandra, S., Cowan, W., Hogan, Z., Saenz, J., **Shoemaker, K.T.** 2020. Population dynamics of threatened Lahontan cutthroat trout in Summit Lake. *Scientific Reports*. DOI: [10.1038/s41598-020-65992-0](https://doi.org/10.1038/s41598-020-65992-0)

- Heffelfinger, L.J., Stewart, K.M., **Shoemaker, K.T.**, Darby, N.W., and Bleich, V.C. 2020. Balancing Current and Future Reproductive Investment: Variation in Resource Selection During Stages of Reproduction in a Long-Lived Herbivore. *Frontiers in Ecology and Evolution*. DOI: [10.3389/fevo.2020.00163](https://doi.org/10.3389/fevo.2020.00163)
- Bleich, V.C., Blum, M.E., Holl, S.A., **Shoemaker, K.T.**, Sustaita, D. 2019. Habitat selection by bighorn sheep in a mesic ecosystem: the San Rafael Mountains, California, USA. *California Fish and Game* 105:205-224. DOI: [10.51492/cfwj.105.13](https://doi.org/10.51492/cfwj.105.13)
- Wakeling, B.F., Van Dellen, A., **Shoemaker, K.T.**, Gritts, M., Tull, J.C., and Stewart, K.M. 2019. The Nature of Diversity: diversity builds resiliency – in the wild and in the workplace – but it isn't easy. *The Wildlife Professional* 13(6):46-49.
- Hunter, E.A., Gibbs, J.P., Cayot, L.J., Tapia, W., Quinzin, M.C., Miller, J.C., Caccone, A., and **Shoemaker, K.T.** 2020. Seeking compromise across competing goals in conservation translocations: The case of the “extinct” Floreana Island Galapagos giant tortoise. *Journal of Applied Ecology*. DOI: [10.1111/1365-2664.13516](https://doi.org/10.1111/1365-2664.13516)
- Keehn, J. E., **Shoemaker, K.T.**, & Feldman, C. R. 2019. Population-level effects of wind farms on a desert lizard. *The Journal of Wildlife Management*, 83:145-157. DOI: [10.1002/jwmg.21565](https://doi.org/10.1002/jwmg.21565)
- Hall, D.B., **Shoemaker, K.T.**, and Greger, P.D. 2019. Western red-tailed skink (*Plestiodon gilberti rubricaudatus*) distribution and habitat use in southern Nevada, USA. *Herpetological Conservation and Biology* 14:455–469.
- Sullivan, B.W., Nifong, R.L., Nasto, M.K., Alvarez-Clare, S., Dencker, C., Soper, F.M., **Shoemaker, K.T.**, Ishida, F.Y. Zaragoza-Castells, J., Davidson, E.A., Cleveland, C.C. 2019. Biogeochemical recuperation of lowland tropical forest during succession. *Ecology*. DOI: [10.1002/ecy.2641](https://doi.org/10.1002/ecy.2641)
- Petersky, R., Calvin, W., **Shoemaker, K.T.**, Weisberg, P. and Harpold, A. 2019. The sensitivity of snow ephemerality to warming climate across an arid to montane vegetation gradient. *Ecohydrology* 12: e2060. DOI: [10.1002/eco.2060](https://doi.org/10.1002/eco.2060)
- Shoemaker, K.T.**, Heffelfinger, L.J., Jackson, N.J., Blum, M.E., Wasley, T., and Stewart, K.M. 2018. A machine-learning approach for extending classical wildlife resource selection analyses. *Ecology and Evolution* 8:3556-3569. DOI: [10.1002/ece3.3936](https://doi.org/10.1002/ece3.3936)
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- Davidson, A.D., **Shoemaker, K.T.**, Weinstein, B., Costa, G., Brooks, T., Ceballos, G., Rondinini, C., Radeloff, V., and Graham, C. 2017. Geography of current and future global mammal extinction risk. *PLOS-ONE* 12(11), e0186934. DOI: [10.1371/journal.pone.0186934](https://doi.org/10.1371/journal.pone.0186934)
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- Shoemaker, K.T.**, Breisch, A.R., Jaycox, J.W., & Gibbs, J.P. 2014. Disambiguating the Minimum Viable Population Concept: Response to Reed and McCoy. *Conservation Biology* **28**:871-873. DOI: [10.1111/cobi.12273](https://doi.org/10.1111/cobi.12273)
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- Chan, H-K, **Shoemaker, K.T.** & Karraker, N.E. 2014. Demography of *Quasipaa* frogs in China reveals high vulnerability to widespread harvest pressure. *Biological Conservation* **170**:3-9. DOI: [10.1016/j.biocon.2013.12.014](https://doi.org/10.1016/j.biocon.2013.12.014)
- Shoemaker, K.T.**, A.R. Breisch, J. Jaycox, and J.P. Gibbs. 2013. Re-examining the minimum viable population concept for long-lived species. *Conservation Biology* **27**:542-551. DOI: [10.1111/cobi.12028](https://doi.org/10.1111/cobi.12028)
- Shoemaker, K.T.**, and J.P. Gibbs. 2013. Genetic Connectivity Among Populations of the Threatened Bog Turtle (*Glyptemys mühlenbergii*) and the Need for a Regional Approach to Turtle Conservation. *Copeia* **2013**:324-331. DOI: [10.1643/OT-12-022](https://doi.org/10.1643/OT-12-022)
- Shoemaker, K.T.**, and J.P. Gibbs. 2010. Evaluating basking-habitat deficiency in the threatened eastern massasauga rattlesnake. *Journal of Wildlife Management* **74**:504-513. DOI: [10.2193/2008-519](https://doi.org/10.2193/2008-519)

Schlaepfer, M.A., W.D. Helenbrook, K.B. Searing, and **K.T. Shoemaker**. 2009. Assisted colonization: evaluating contrasting management actions (and values) in the face of uncertainty. *Trends in Ecology and Evolution* **24**:471-472. DOI: [10.1016/j.tree.2009.05.008](https://doi.org/10.1016/j.tree.2009.05.008)

Book Chapters

Shoemaker, K.T., G. Johnson and K.A. Prior. 2009. Habitat manipulation as a viable conservation strategy. Pp. 221–243 in (S.J. Mullin and R.J. Seigel, eds.) *Snakes: Ecology and Conservation*. Cornell Univ. Press. DOI: [10.7591/9780801459092-012](https://doi.org/10.7591/9780801459092-012)

Book Reviews

Shoemaker, K.T. 2018. Current Trends in Wildlife Research (Mateo, R., Arroyo, B., Garcia, J.T., editors). *The Quarterly Review of Biology* **93**: 145. DOI: [10.1086/698051](https://doi.org/10.1086/698051)

Shoemaker, K.T. 2013. Design and Analysis of Long-Term Ecological Monitoring Studies (R.A. Gitzen et al., editors). *The Quarterly Review of Biology* **88**: 334. DOI: [10.1086/673779](https://doi.org/10.1086/673779)

Natural History Notes

Miles, D., Burrus, K., & **K.T. Shoemaker**. 2021. Distinct white facial fur patterns of deer mouse, *Peromyscus maniculatus*, populations in northern Nevada. *Northwestern Naturalist*. DOI: [10.1898/1051-1733-102.3.254](https://doi.org/10.1898/1051-1733-102.3.254)

Miles, D.C., Burrus, K.R., Burrus, M., and **K.T. Shoemaker**. *In prep*. Foot Drumming in Pinyon Mice, *Peromyscus truei*. *Western North American Naturalist*.

Miles, D.C., Burrus, K., and **K.T. Shoemaker**. *Accepted*. First Records of the Dusky-Footed Woodrat, *Neotoma fuscipes*, in Northern Nevada. *Northwestern Naturalist*.

Miles, D.C., Danser, C., and **K.T. Shoemaker**. 2020. Tail bifurcation in *Plestiodon skiltonianus*. *Herpetology Notes*. <https://www.biotaxa.org/hn/article/viewFile/57502/60850>

Miles, D.C., Burrus, K.R., and **K.T. Shoemaker**. 2020. First records of California Kangaroo Rats, *Dipodomys californicus*, in Nevada, " *Northwestern Naturalist* 101(1), 61-63. DOI: [10.1898/1051-1733-101.1.61](https://doi.org/10.1898/1051-1733-101.1.61)

Final Reports

Stewart, K.M., **Shoemaker, K.T.**, Andreasson, A. Final Report: Long-term data for elk in Nevada: Habitat Selection and Demography. Final report submitted to Nevada Department of Wildlife. 20 pg.

Stewart, K.M., **Shoemaker, K.T.** Movement Patterns, Resource Selection, and Demography of Bighorn Sheep in North Dakota. Final report submitted to North Dakota Game and Fish. 15 pg.

Shoemaker, K.T., Miles, D.M. Monitoring Bat Activity, Movement, and Habitat Selection in Response to Juniper Removal Treatments in the Vya Region. Final report submitted to Bureau of Land Management, Surprise Valley Field Office. 27 pp.

Shoemaker, K.T., Chandra, S., Hogan, Z., Lam, M. A demographic simulation model for the Summit Lake population of Lahontan Cutthroat Trout. Report submitted to Summit Lake Paiute Tribe, Natural Resources Department. 89 pp.

Shoemaker, K.T. et al. 2024. NV GBCESU: American Pika (*Ochotona princeps*) Monitoring in the Black Rock Desert - High Rock Canyon Emigrant Trails National Conservation Area. 71 pp.

Shoemaker, K.T. et al. 2024. Investigating the Effects of Spring Protection on Wildlife Communities in Northwestern Nevada: a Pilot Study. Final report submitted to NDOW. 35 pp.

Shoemaker, K.T. et al., 2023. Measuring the Regional Impacts of Pinyon and Juniper Removal on Non-Target Wildlife Communities in the Vya Region. Final report submitted to BLM Applegate Field Office. 57pp.

Shoemaker, K.T. et al., 2023; RC18-1103: Critical Habitat Breadth for *Gopherus* Tortoises: a New Paradigm for Managing Threatened and Endangered Species in a Non-stationary World. Final Report for Strategic Environmental

Research and Development Program. Department of Natural Resources and Environmental Science. University of Nevada, Reno. 170 pp. <https://apps.dtic.mil/sti/html/trecms/AD1229793/index.html>

Averill-Murray, R.C., Esque, T.C., Allison, L.J., Bassett, S., Carter, S.K., Dutcher, K.E., Hromada, S.J., Nussear, K.E., and **Shoemaker, K.**, 2021, Connectivity of Mojave Desert tortoise populations—Management implications for maintaining a viable recovery network: U.S. Geological Survey Open-File Report 2021–1033, 23 p., DOI: [10.3133/ofr20211033](https://doi.org/10.3133/ofr20211033)

Shoemaker, K.T. 2020. Critical habitat breadth for *Gopherus* tortoises: a new paradigm for managing threatened and endangered species in a non-stationary world. Interim Report, January 2020. Project RC18-1103. 54 pp.

Matocq, M.D., **Shoemaker, K.T.**, Crowell, M., Dilts, T., Weisberg, P. Ecology and demography of pygmy rabbit (*Brachylagus idahoensis*) in Nevada: integrating habitat quality, demography and landscape connectivity. Final report to BLM. February 2020. 110 pp.

Friedenberg, N.A. and **Shoemaker, K.T.** 2013. Population-Level Impacts of Wind Energy Development on Golden Eagles (*Aquila chrysaetos*). Electric Power Research Authority (EPRI) publication #3002004770.

Shoemaker, K.T., J. Stanton, J. Ray, and N.A. Friedenber. 2013. Assessing Population-level Risks of Wind Power Development for the Indiana Bat (*Myotis sodalis*). Electric Power Research Authority (EPRI). 95 pp.

Friedenberg, N.A. and **Shoemaker, K.T.** 2012. Ecological risks associated with wind and solar power. Electric Power Research Authority (EPRI). 69 pp.

Friedenberg, N.A. and **Shoemaker, K.T.** 2013. Golden Eagle Nesting Habitat in the Contiguous Western United States. Electric Power Research Authority (EPRI) publication #3002002401.

Shoemaker, K.T., A.T. Krofta and J.P. Gibbs. 2007. Management recommendations for the eastern massasauga rattlesnake at Cicero Swamp Wildlife Management Area based on recent surveys. Unpublished report prepared for the New York State Department of Environmental Conservation, Albany, NY. 13 pp.

Shoemaker, K.T., A.T. Krofta and J.P. Gibbs. 2006. Is Management Intervention Necessary for the Conservation of the Massasauga Rattlesnake at Cicero Swamp? A Report Based on a 2-year Ecological Study. Unpublished report prepared for the New York State Department of Environmental Conservation, Albany, NY. 39 pp.

Theses / Dissertations

Shoemaker, K.T. 2011. Demography and population genetics of the bog turtle (*Glyptemys muhlenbergii*): implications for regional conservation planning in New York State. Dissertation, State University of New York College of Environmental Science and Forestry, Syracuse, NY. May 2011. 221 pp.

Shoemaker, K.T. 2007. Habitat manipulation as a viable strategy for the conservation of the massasauga rattlesnake in New York State. Master's Thesis, State University of New York College of Environmental Science and Forestry, Syracuse, NY. May 2007.

GRANTS AND FELLOWSHIPS

Submitted (awaiting response)

Key Personnel. 2025 (PIs: Emily Hand and Anna Panorska). NRT-HDR: Applied Data Science Informing Environmental Justice (DS4EJ). National Science Foundation \$3m.

Successfully funded

PI. 2025 (co-PIs: Kevin Loope and Elizabeth Hunter, Virginia Tech). An Updated Rangewide Population Viability Analysis for Gopher Tortoise. \$83,500.00 (Foundation award).

Key Personnel. 2025. Eggs to Knots: Supporting Red Knot Recovery with Improved Egg Densities on Delaware Bay. National Fish and Wildlife Foundation (NFWF). \$600k

Co-PI, 2024. Collaborative Research: The role of gene copy number variation in determining detoxification capacity, individual fitness, and population dynamics in a vertebrate herbivore. [PI- M. Matocq (UNR); co-PIs J. Forbey (Boise State University), W.B. Simison (California Academy of Sciences)]. National Science Foundation \$1,239,776.

Co-PI, 2024-2025. Assessing the viability of Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*) in the Summit Lake watershed. Summit Lake Paiute Tribe. (Sudeep Chandra, PI). \$183,650.

PI, 2023. UNR Graduate School. DRIVE RAships. Two full-year research assistantships awarded to the NRES graduate program in 2023-2025. (~\$60k in value to the NRES grad program)

PI, 2023. UNR Graduate School. GradSTART recruitment program. \$1k

PI, 2023. Evaluation and reanalysis of 2022 ASMFC Horseshoe Crab and Red Knot Population Models. Earthjustice. \$17,332.

Co-PI, 2023. College of Agriculture, Biotechnology and Natural Resources. NRES Seminar and Graduate Program Funding. \$5k.

PI, 2023. GB CESU: Monitoring habitat use by rattlesnakes and their rodent prey in a fire-managed ecosystem in eastern Nevada. Great Basin National Park. \$110,753.

co-PI, 2023. Ecology, demography and space use of pygmy rabbit (*Brachylagus idahoensis*) in Nevada: integrating habitat quality with population dynamics. Nevada Department of Wildlife. \$110,000.

PI, 2023-2024. UNR Graduate School and College of Agriculture, Biotechnology and Natural Resources. Gradventure 2023 (supporting a graduate recruitment event for NRES program). \$4,600.

PI, 2022-2023. UNR Graduate School and College of Agriculture, Biotechnology and Natural Resources. Gradventure 2023 (supporting a graduate recruitment event for NRES program). \$7,600.

Co-PI, 2022-2024. Demographics, movement patterns, and selection of resources by Rocky Mountain bighorn sheep translocated to North Dakota. North Dakota Game and Fish Department (PI: K. Stewart). \$439,287.

PI, 2022-2024. Nevada Department of Wildlife - Wildlife Reserve Account Project Proposal - Spring Protection Effects on Non-Game Species. \$30,000.

Co-PI, 2021-2024. RAPID: The role of disturbance in climate-driven hybrid zone dynamics. National Science Foundation. \$198,219. (PI: M. Matocq).

PI, 2021-2024. Nevada Bureau of Land Management - GBCEU: American Pika (*Ochotona princeps*) Monitoring in the Black Rock Desert-High Rock Canyon National Conservation Area \$25,000.

PI, 2021-2022. Nevada Department of Wildlife - Monitoring American Pika Occupancy and Population Pressures in Northwestern Nevada. \$40k.

PI, 2021-2023. Nevada Department of Wildlife. 'Habitat mapping for mule deer and pronghorn in NV'. NDOW. \$59k

PI, 2022. GBCEU: Occupancy Analysis in Support of: 'Monitoring American Pika in Protected Lava Landscapes. Subaward from Oregon State University (Matt Shinderman, PI). \$2,620.25.

Co-PI, 2022. College of Agriculture, Biotechnology and Natural Resources. NRES Seminar and Graduate Program Funding. \$5k.

Co-PI, 2021-2022. Nevada DRIVE Program, "DRIVE GRAs for the PhD in Natural Resources and Environmental Science (NRES)". Co-PIs: Greenberg, J.A., B. Sullivan, K. Shoemaker, K. Stewart, and P. Weisberg. \$50,000.

PI, 2021-2022. "Monitoring bat activity, movement, and habitat selection in response to juniper removal treatments in the Vya region". Bureau of Land Management. \$61,192.

Co-PI, 2020-2023. "Identification of Migration Corridors and Movement Patterns of American Pronghorn". USDA/NIFA (Hatch funds). \$135,200 (PI: K.M. Stewart, UNR)

Co-PI, 2020-2024. "Ecology, demography and space use of pygmy rabbit (*Brachylagus idahoensis*) in Nevada: integrating habitat quality with population dynamics". Nevada Department of Wildlife, Bureau of Land Management. \$366,846. (PI: M.D. Matocq, UNR)

Key Personnel, 2020-2023. "Population dynamics of endangered freshwater turtles—from long-term monitoring to tangible conservation actions". Hong Kong Research Grants Council (RGC). \$127k (Primary institution: Lingnan University, Hong Kong, PI: SUNG Yik Hei)

Supervisor, 2020. "Undergraduate Research Award: Understanding avian species interactions using automated acoustic technology". University of Nevada, Reno. \$1,800 [awarded to Richard Goltart, an undergraduate mentee in the Shoemaker lab]

Co-PI, 2019-2020. "Monitoring Habitat Use of Northern Great Basin Bat Communities". Nevada Department of Wildlife (in partnership with BLM). \$20,000 [award administered through NDOW]

PI, 2020. "Desert Tortoise Mating Opportunities on the Boulder City Conservation Easement". Clark County, NV. \$15,798.20. (supplement to existing award)

PI, 2020-2021. "Nesting study of Mojave desert tortoise (*Gopherus agassizii*) at the Boulder City Conservation Easement, Clark County, NV". Clark County. \$92,298.

Co-PI, 2020-2023. "Understanding how to manage prairie dog population dynamics in the context of plague, climate, and livestock production". USDA-AFRI. \$496,000 [UNR component: \$14,218. KTS will co-advise a postdoc at Colorado State University as part of this award] (PI: A.D. Davidson, Colorado State University)

PI, 2018-2021. "Critical habitat breadth for *Gopherus* tortoises: a new paradigm for managing threatened and endangered species in a non-stationary world". Department of Defense (SERDP program). \$899k.

PI, 2017-2021. "Assessing the wildlife community response to pinyon and juniper removal in the Vya region". Bureau of Land Management (Cedarville, CA). \$70k.

PI, 2017-2018. "Movements, breeding propensity, and effects based on use of geolocators attached to three species of ducks in Nevada". Nevada Waterfowl Association. \$45k.

PI, 2017. "Population Modeling to Support Giant Tortoise Restoration on Pinta, Santa Fe, and Española Islands, Galápagos". Galapagos Conservancy. \$5k.

Co-PI, 2015-2020. "Ecology of pygmy rabbit (*Brachylagus idahoensis*) in Nevada: integrating habitat quality, demography, and landscape connectivity". Nevada Department of Wildlife, Bureau of Land Management, USFWS, Greater Hart-Sheldon Fund. \$640,000. (PI: M.D. Matocq, UNR)

PI, 2016-2021. "Measuring the regional impacts of pinyon and juniper removal on insect, bat, and reptile communities". GBLCC. \$199,587.82.

PI, 2016-2019. "Assessing the regional response of avian and small mammal sagebrush communities to pinyon and juniper removal". WAFWA. \$61,235.71.

PI, 2016. "Population Modeling to Support Giant Tortoise Restoration to Pinta and Floreana Islands, Galapagos". Galapagos Conservancy. \$5k.

PI, 2014-2016. "Effect of Human Population on Land Use and Species Viability: Methodology and Software". USDA SBIR grant #2014-02598. \$450,000.

Co-PI, 2012-2014. "Restoring critical habitat, mitigating multiple threats in Bergen Swamp". USFWS Great Lakes Research Initiative grant. \$128,064. (PI: D. Leopold, SUNY-ESF)

Additional Submitted Proposals

Submitted, 2025 (PI; co-PI: Resit Akçakaya). A Demographic Modeling Toolbox to Facilitate Process-Based Ecological Understanding across Taxonomic, Organizational, and Spatiotemporal Scales. Vision Statement (pre-proposal) submitted to Simons Foundation. \$1.5m.

Submitted, 2025 (co-PI) (lead: Elissa Olimpi, Conservation Science Partners, co-I: Kenneth Nussear). Socio-ecological Optimization of Off-highway Vehicle Mitigation Planning in the Western Mojave Desert. \$600k (UNR: \$52,700).

Submitted, 2025 (PI). Collaborative Research: A Demographic Modeling Toolbox to Facilitate Process-Based Ecological Understanding across Taxonomic, Organizational, and Spatiotemporal Scales: Co-I H.R. Akçakaya (Stony Brook University). National Science Foundation. UNR component: \$613,118.

Submitted, 2024 (co-PI). PACSP: Enabling land use planning that maximizes wildlife climate adaptation and renewable energy development: bridging the science-action gap through partnership. [PI: M. Matocq (UNR); co-PI K. Nussear (UNR)]. National Science Foundation \$1,779,370.

Submitted, 2023 (co-PI). Homes on the range: large mammals as indicators of ecological and provisioning services on BLM lands in the Great Basin. Bureau of Land Management. \$2m. (Kelley Stewart, PI).

Submitted, 2022 (co-PI). ORCC: Integrating functional variation in detoxification genes with demography of range edge populations to predict expansion into novel chemical landscapes. [PI- M. Matocq; co-PIs J. Forbey (Boise State University), W.B. Simison (California Academy of Sciences)]. National Science Foundation \$1,210,438

Submitted, 2022 (co-PI). Collaborative Proposal: Predicting host evolution of resistance to introduced disease in dynamic metapopulation. National Science Foundation (NSF-EDGE). PI: Loren Cassin Sackett, University of Louisiana). \$352,256. [Funded, but UNR portion was declined]

Submitted, 2022 (co-PI). RUI: Ecological and demographic consequences of climate change-driven phenological shifts along a latitudinal gradient. National Science Foundation (BIO-DEB). UNR portion \$55,859 (total ~\$2m).

Submitted, 2021 (PI). Nevada Bureau of Land Management - GBCEU: Measuring and Mitigating the Threat of Plague in Faunal Communities at Talus Sites in the Northwestern Great Basin. \$100,000.

Submitted, 2021 (PI). Bureau of Land Management Black Rock Field Office - Pika Plague Research - Black Rock Range. \$66,000.

Submitted, 2021 (PI). Bureau of Land Management Black Rock Field Office - Shrew Conservation - Black Rock Range. \$66,000.

Submitted, 2021 (co-PI). Wildlife Acoustics (student submission) - Triangulation of Coyote Packs in Sheldon National Antelope Refuge. \$5,000.

Submitted, Fall 2020 (co-PI). "Climate change as a 'threat multiplier' for wild populations: a multi-species investigation using massively replicated, continent-wide avifaunal time series". 749. Strategic Environmental Research and Development Program (SERDP), US Department of Defense.

Submitted, 2020 (PI). "Measuring and Mitigating the Threat of Plague in Faunal Communities at Talus Sites in the Northwestern Great Basin". Bureau of Land Management. \$164,636.

Submitted, 2021 . Western North American Naturalist (Co-author on submission by technician Kelsey Burrus) - Understanding Diet Shifts in Response to Pinyon-Juniper Removals Using Stable Isotope Analysis of Small Mammal Museum Specimens. \$2,000.

Submitted, 2021. Western North American Naturalist (Co-author on submission by student Richard Gorgart) - Comparing Detection Probabilities for Great Basin Breeding Birds Using Passive Acoustic Recorders. \$2,000.

Submitted, 2021 . Western North American Naturalist - Assessing the Conservation Status and Habitat Associations of Pygmy Short-horned Lizards (*Phrynosoma douglasii*) in Northwestern Nevada. \$2,000.

Submitted, March 2020 (PI). “Passive Monitoring of Avian Communities for Indiana's Grasslands for Gamebirds and Songbirds Initiative”. Indiana Division of Fish and Wildlife. \$269,991.92.

Submitted, 2019 (co-PI). “Predicting host evolution of resistance to introduced disease in dynamic metapopulations”. NSF (DEB, EP cluster). \$1.99m [UNR component: \$200k] [declined, 2019]

Submitted, 2017 (co-PI). “Collaborative Research: Predicting evolution of resistance to introduced disease and its effects on landscape-level transmission in dynamic metapopulations”. NSF (EEID program). \$2.99m [UNR component: \$300k] [declined, 2018]

Submitted, 2017 (PI). “Preliminary Proposal: Predicting host evolution of resistance to introduced disease in dynamic metapopulations”. NSF (EP cluster) pre-proposal. [Full proposal invited 2017] [declined, 2018]

Submitted, 2016 (PI). “Integrating ecological theory into continental-scale projection models of species abundance and distribution, using songbirds as a model system”. NSF MacroSystems proposal. \$233,719.89. [declined, 2017]

Other

I helped draft several grant applications as a postdoctoral associate, including a 5-year NSF-RCN grant which supported much of my postdoctoral work at Stony Brook University (2011-2015)

I drafted a proposal to the New York State Biodiversity Research Institute (2006), which was funded and supported my MS research at SUNY-ESF (PI: James P. Gibbs).

PROFESSIONAL PRESENTATIONS AND INVITED TALKS

(if multiple authors, presenter denoted with asterisk)

Invited seminars, symposia and keynotes

Shoemaker, K.T. How can we ensure policy-relevant models adhere to the rules of science? Invited presentation for Symposium: “Putting models to work for conservation” at the North American Congress for Conservation & Restoration, Milwaukee, WI. July 2026.

Shoemaker, K.T. PVA for the common (wildlife) man(ager): democracy in demography. Invited presentation for the Ecology and Evolution Colloquium Series, Stony Brook University, Stony Brook NY. October 2024.

Shoemaker, K.T. PVA for the common (wildlife) man(ager): democracy in demography. Invited presentation for the CREEM Seminar Series, University of St. Andrews, St. Andrews, Scotland, U.K. May 2024.

Shoemaker, K.T. A new framework for modeling rangewide threats to Mojave desert tortoise populations: preliminary results and next steps. Invited presentation for the Desert Tortoise Management Oversight Group (MOG). Springs Preserve, Las Vegas, NV. October 2023.

Shoemaker, K.T.* and E.A. Hunter*, and **K.T. Shoemaker**. Critical habitat Breadth for *Gopherus* Tortoises: A New Paradigm for Managing Threatened and Endangered Species in a Non-Stationary World. Invited presentation for SERDP Scientific Advisory Board (in-progress review). April 2023.

Shoemaker, K.T.*. An augmented workflow for wildlife habitat modeling using machine learning. Invited presentation for “Fuzzy Boundaries” symposium on machine learning at The Wildlife Society annual meeting. Nov. 2022. Spokane, WA.

Hunter, E.A.*, and **K.T. Shoemaker**. Critical habitat Breadth for *Gopherus* Tortoises: A New Paradigm for Managing Threatened and Endangered Species in a Non-Stationary World. Invited presentation for SERDP Scientific Advisory Board (in-progress review). April 2022.

Shoemaker, K.T.*. Modeling the environmental drivers of population dynamics for desert and gopher tortoises in North America. Invited presentation for SERDP annual symposium. Nov. 2021. Virtual.

Hunter, E.A.*, and **K.T. Shoemaker**. Critical habitat Breadth for *Gopherus* Tortoises: A New Paradigm for Managing Threatened and Endangered Species in a Non-Stationary World. Invited presentation for SERDP Scientific Advisory Board (in-progress review). April 2021.

Hunter, E.A.*, and **K.T. Shoemaker**. Critical habitat Breadth for *Gopherus* Tortoises: A New Paradigm for Managing Threatened and Endangered Species in a Non-Stationary World. Invited presentation for SERDP Scientific Advisory Board (in-progress review). April 2020.

Shoemaker, K.T.* "Simulation models for wildlife conservation". Invited seminar at Lingnan University and Hong Kong University, Hong Kong. November 2019.

Shoemaker, K.T.* "Population modeling for conservation: case studies with bog turtles, Galapagos tortoises and prairie dogs". Invited seminar at Humboldt State University. Arcata, CA. October 2016.

Shoemaker, K.T.* et al., "Modeling the recovery of the black-footed ferret in a linked predator-prey-disease system". Invited talk for the seminar series at Warnell School of Forestry and Natural Resources, University of Georgia, Athens, GA, October 2014.

Shoemaker, K.T.* et al., "Mitigating the demographic impacts of roads on long-lived organisms". Invited talk for 2014 Wildlife Mitigation Strategy workshop in Peterborough, ON, organized by the Ontario Ministry of Transportation. May 2014.

Shoemaker, K.T.* et al. "Assessing the conservation value of small gopher tortoise populations: lessons from a bog turtle metapopulation in New York". Keynote address for the annual meeting of the Gopher Tortoise Council, Ponte Vedra, FL, Nov. 2013.

Shoemaker, K.T.* "When is a small turtle population worth protecting". Invited talk for seminar series at University of Rhode Island, September 2013.

Shoemaker, K.T.* "Modeling black-footed ferret recovery in a dynamic disease-driven system". Invited seminar, University of Adelaide, Adelaide, Australia. December 2012.

Shoemaker, K.T.* "Scaling up bog turtle conservation in New York". Invited talk for seminar series at Paul Smiths college April 2011.

Oral presentations

Standen, M., Hromada, S.J., **Shoemaker, K.T.** et al. Mojave Desert Tortoise Population Response to Multiple Stressors Across its Range. Annual Meeting of the Desert Tortoise Council. Feb. 2026. Las Vegas, NV.

Standen, M., Hromada, S.J., **Shoemaker, K.T.** et al. New methods to estimate Mojave desert tortoise population response to multiple stressors across its range. Annual Meeting of the Desert Tortoise Council. Feb. 25-28 2025. Las Vegas, NV.

Irons, C., **Shoemaker, K.T.**, Hamilton, B.T. and Nussear, K.E. Habitat Selection by The Great Basin Rattlesnake: Patterns of Resource Selection in Habitat Suitability. The Wildlife Society – Western Section: Natural History of Snakes. February 6th, 2025. Visalia, CA.

Smith, C., Stewart, J., **Shoemaker, K.T.**, Opalenik, M., Fitzpatrick, L., Heckman, K. Silent Peaks: Widespread Extirpations of American Pika Populations in the Northern Sierra. UC Davis Tahoe Monthly Lecture Series. May 2025. UNR@ Tahoe campus

Irons, C., **Shoemaker, K.T.**, Nussear, K.E., Hamilton, B. Monitoring Habitat Use by the Great Basin Rattlesnake (*Crotalus lutosus*): Patterns of Resource Selection and Thermal Environment in Eastern Nevada. Mojave Desert Network Science Symposium. Oct. 17, 2025. Boulder City, NV.

Smith, C*, **Shoemaker, K.T.** Stewart, J., Opalenik, M. Fitzpatrick, L. Heckman, K. Silent Peaks: Widespread Extirpation of American Pika Populations in the Northern Sierra. Annual Meeting of the American Society of Mammalogists, June 7-11 2024. Colorado, USA.

Walden, M.A., Hunter, E.A., Esque, T.C., Drake, K.K., **Shoemaker, K.T.** Faster somatic growth may contribute to climate change resilience for a terrestrial vertebrate ectotherm. Annual Meeting of the Desert Tortoise Council. Las Vegas, NV. Feb. 2024.

Hromada, S.J., **Shoemaker, K.T.**, Folt, B., Hunter, E.A., Dickson, B. An Integrated Model Improves Inferences about Historical Patterns of Survival in the Mojave Desert Tortoise. Annual Meeting of the Desert Tortoise Council. Las Vegas, NV. Feb. 2024.

Loope, K.J.*, Breakfield, D.B., Cozad, R.A., Aresco, M.J., **Shoemaker, K.T.**, DeSha, J.N., Diemer Berish, J., Rostal, D.C., Rothermel, B.B., Seigel, R.A., Hunter, E.A. How does translocation affect the reproductive rate of female gopher tortoises? Annual meeting of the Gopher Tortoise Council, St. Petersburg, FL. Nov 2024.

Hunter, E.A., Loope, KJ, DeSha, N, Rothermel, BB, Smith, LL, Rostal, DC, Arneson, AG, **Shoemaker, KT.** Gopher tortoise nesting decisions and outcomes across the latitudinal range and implications for climate change. Annual meeting of the Gopher Tortoise Council, St. Petersburg, FL. Nov 2024.

Barrile, G. M., Sergeev, M., Augustine, D. J., Porensky, L. M., Duchardt, C. J., **Shoemaker, K. T.**, Hartway, C. R., and Davidson, A.D. PDOG MAPR: A decision support tool to inform the management of prairie dog ecosystems. 1st Wyoming Computing Symposium. Laramie, Wyoming. September 2023.

Loope, K.J., DeSha, N., Cozad, R.A., Breakfield, D.B., Aresco, M.J., **Shoemaker, K.T.**, and Hunter, E.A. Survival and reproduction in translocated tortoises: region-of-origin effects and outbreeding depression. Annual Meeting of the Gopher Tortoise Council. Tifton, GA. November 2023.

Hunter, E.A., Loope, K.J., **Shoemaker, K.T.** Indirect effects of climate change on habitat management drive population declines in Gopher Tortoises. Annual meeting of The Wildlife Society. November 2023.

Hromada, S, Nussear, K. Collins, A., **Shoemaker, K.T.** 2023. Climatic Drivers of Mojave Desert Tortoise Survival. Contributed talk at Ecological Society of America Annual Meeting. July 2023.

Adkins, C., **K.T. Shoemaker**, M.D. Matocq. Environmental correlates of changes in genomic composition across a small mammal hybrid zone. Contributed talk at American Society of Mammalogists (ASM) Annual Meeting, Anchorage, AK. July 2023.

Matocq, M, E. Hunter, P. Murphy, and **K.T. Shoemaker.** Increased admixture and reproductive interference as a consequence of climate-induced changes in mate availability. Contributed talk at American Society of Mammalogists (ASM) Annual Meeting, Anchorage, AK. July 2023.

Coconis, A.C., K.E. Nussear, **K.T. Shoemaker**, B.T. Hamilton, M.D. Matocq. Discerning drivers of distribution in *Neotoma lepida* and *Neotoma cinerea* in the Great Basin. Contributed talk at American Society of Mammalogists (ASM) Annual Meeting, Anchorage, AK. July 2023.

Crowell, M., M. Matocq, Dilts, T., **Shoemaker, K.T.** Fantastic pygmy rabbits and where to find them: long-distance exploratory behavior and barriers to movement. Contributed talk at American Society of Mammalogists (ASM) Annual Meeting, Anchorage, AK. July 2023.

Vasquez, J. *, **Shoemaker, K.T.**, Stewart, K., Schroeder, C. Seasonal and regional differences in mule deer resource selection across northern Nevada. Contributed talk at The Wildlife Society Annual Meeting, Spokane, WA, November 2022.

Jackson, N. *, Stewart. K.M., **Shoemaker, K.T.**, Clark, D., Wisdom, M. and Rowland, M. Shifting patterns of space use by sympatric herbivores: resource selection response to changing densities of interspecific competitors. Contributed talk at The Wildlife Society Annual Meeting, Spokane, WA, November 2022.

Walden, M. *, **Shoemaker, K.T.**, Loope, K., Hunter, E., Divers, S., Esque, T. Innate Testosterone Identifies Sex of Hatchling Mojave Desert Tortoises (*Gopherus agassizii*). Contributed talk at the annual meeting of the Desert Tortoise Council, Feb. 2022 (virtual meeting).

Goldman, M.*, **Shoemaker, K.T.** Improving occupancy estimation for inconspicuous species using multiple sign types: a case study of American pika. Contributed talk at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Crowell, M.*, **Shoemaker, K.T.** Fantastic pygmy rabbits and where to find them: investigating long distance movements with GPS collars. Contributed talk at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Jackson, N.*, **Shoemaker, K.T.**, Stewart, K. Variation in resource selection by a large herbivore: effects of reproductive status and interspecific competition. Contributed talk at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Osterhout, M., **Shoemaker, K.T.**, Stewart, K. Selection of resources by pronghorn near large-scale disturbance. Contributed talk at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Dyck, M., Dennison, C., **Shoemaker, K.T.**, Popescu, V. Population viability analysis of Ohio's recovering bobcats. Contributed talk at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Barrile, G.*, **Shoemaker, K.T.**, Augustine, D., Duchart, C., Hartway, C., Porensky, L., Davidson, A. Modeling Colony Growth and Plague Epizootics in Black-Tailed Prairie Dogs Across Eleven National Grasslands. Contributed talk at NACCB 2022, Reno, NV, July 2022.

Dilts, T.*, Zeller, K., Cushman, S., Crowell, M., Larrucea, E., Matocq, M. Pygmy Rabbit Habitat Network Reveals Threats and Opportunities for Management and Conservation. Contributed talk at NACCB 2022, Reno, NV, July 2022.

Shoemaker, K.T.*, Walden, M., Hunter, E.A., Nussear, K.E., Esque, T.C., Drake, K.K., and Averill-Murray, R. Modeling the range-wide environmental drivers of population dynamics for desert tortoises using long-term capture-recapture data. Contributed talk at NACCB 2022, Reno, NV, July 2022.

Miles, D.*, **Shoemaker, K.T.**, Tenney, J., Burrus, K. Understanding Diet Shifts in Response to Pinyon-Juniper Removals Using Stable Isotope Analysis of Small Mammal Museum Specimens. Contributed talk at NACCB 2022, Reno, NV, July 2022.

Burrus, K.*, Miles, D., **Shoemaker, K.T.**, Tenney, J. Improving Spotted Bat (*Euderma maculatum*) Detection Through Auditory Surveys and Increased Citizen Science Engagement in Nevada. Speed talk at NACCB 2022, Reno, NV, July 2022.

Hunter, E.A.*, K.J. Loope, J.N. DeSha, M.J. Aresco, D.C. Rostal, B.B. Rothermel, L.L. Smith, and **K.T. Shoemaker**. 2022. Natural variation and plasticity in response to climate change in gopher tortoise nest-site selection, nest thermal environment, and hatching success. North American Congress for Conservation Biology annual meeting, Reno, Nevada.

Miles, D.M.* and **K.T. Shoemaker**. Assessing the top-down and bottom-up drivers of community diversity across sagebrush and conifer habitats in the northern Great Basin. Society for Range Management symposium: Applying Long Term Monitoring Data to Rangeland Science: Perspectives from Early-Career Rangeland Scientists (virtual session). Jan 2022.

Jackson, N.*, **Shoemaker, K.T.**, Stewart, K. Variation in resource selection by mule deer: effects of reproductive status and interspecific competition. The Western Section of The Wildlife Society Annual Meeting. Reno, Nevada. Feb 2022.

Pighetti, C.*, **Shoemaker, K.T.**, and D.M. Miles. Mapping Coyote Habitat Use in Altered Landscapes of the Northern Great Basin. The Western Section of The Wildlife Society Annual Meeting. Reno, Nevada. Feb 2022.

Tenney, J.*, **Shoemaker, K.T.** and D.M. Miles. Modeling Plasticity in Rodent Responses to the Lunar Cycle Following Habitat Modification. The Western Section of The Wildlife Society Annual Meeting - Reno, Nevada. Feb 2022. [won student presentation award]

Tenney, J.*, **Shoemaker, K.T.** and D.M. Miles. Spotted Bat (*Euderma maculatum*) Acoustic Survey Training and Citizen Science Data. Nevada Bat Working Group Annual Meeting. (virtual meeting). Feb 2022.

Miles, D.M.* and **K.T. Shoemaker**. Monitoring Pygmy Short-horned Lizards (*Phrynosoma douglasii*) in Northwestern Nevada. Horned Lizard Conservation Society Conference. Postponed to 2022 due to COVID-19.

Hunter, E.A.*, K.J. Loope, D.C. Rostal, and **K.T. Shoemaker**. "Climate variability influences aspects of gopher tortoise fecundity." Virginia Chapter of The Wildlife Society, virtual. March 2021

Hegg, S.*, **Shoemaker, K.T.**, Matocq, M., Sedinger, J., Weisberg, P. A rare desert mouse's perspective; illuminating demographics and microhabitat preferences of the pale kangaroo mouse. American Society of Mammalogists Annual Meeting (virtual). June 2021.

Dyck, M.*, **Shoemaker, K.T.**, Dennison, C., Popescu, V. Assessing population viability and susceptibility to harvest of Ohio's recovering bobcats (*Lynx rufus*). American Society of Mammalogists Annual Meeting (virtual). June 2021.

Mitchell, C. I.*, Friend, D.A., Phillips, L., Hunter, E., ...Esque, T.C., Nussear, K.E., and **Shoemaker, K.T.** "Unscrambling" the Drivers of Egg Production in Agassiz's Desert Tortoise: Climate and Individual Attributes Predict Reproductive Output. Desert Tortoise Council Symposium (virtual). Feb. 2021.

Miles, D.M.* and **K.T. Shoemaker**. Multiyear Bat Community Monitoring in Northern Nevada. Western Bat Working Group Biennial Conference (virtual). Summer 2021.

Golgart, R.*, **Shoemaker, K.T.** and D.M. Miles. Effects of Conifer Removal on Birds of the Great Basin. The Western Section of The Wildlife Society Annual Meeting (virtual). Feb 2021.

Pighetti, C.*, **Shoemaker, K.T.**, and D.M. Miles. Improved techniques for mapping coyote packs using passive acoustic recorders. The Western Section of The Wildlife Society Annual Meeting (virtual). Feb 2021.

Golden, J.*, **Shoemaker, K.T.**, and D.M. Miles. Pilot Study of Winter Activity of American Pika in Talus Habitat of Nevada. The Western Section of The Wildlife Society Annual Meeting (virtual). Feb 2021.

M.M. Crowell, N.W. Byer, **K.T. Shoemaker**, and M.D. Matocq. Down the rabbit hole: habitat correlated of population density and relatedness in a semi-fossorial mammal. Elmer C. Birney Award, ASM Virtual Conference. Summer 2021.

N.W. Byer, M.L. Holding, M.M. Crowell, T.W. Pierson, T.E. Dilts, E.S. Larrucea, **K.T. Shoemaker**, and M.D. Matocq. Maintenance of adaptive divergence despite limited gene flow and low effective population size in the pygmy rabbit, *Brachylagus idahoensis*. ASM Virtual Conference 2021.

N.W. Byer, M.L. Holding, M.M. Crowell, T.W. Pierson, T.E. Dilts, E.S. Larrucea, **K.T. Shoemaker**, and M.D. Matocq. Maintenance of adaptive divergence despite limited gene flow and low effective population size in the pygmy rabbit, *Brachylagus idahoensis*. IALE, Virtual Conference 2021.

Popescu, V.D., M. Dyck; **K.T. Shoemaker**; M. Back; R. Brown; M. Kenyon; C. Dennison. Implications of Road Mortality for the Population Viability of Recovering Bobcats in Ohio. Annual meeting of The Wildlife Society (virtual). September 2020.

Shoemaker, K.T.*, Walden, M., Esque, T., Nussear, K., Hunter, E.A. "Climatic and environmental sensitivities of Mojave Desert Tortoise demographic rates: New insights from old data". Ecological Society of America. Aug 2020.

Shoemaker, K.T.*, Hunter, E.A., Gibbs, J.P. "Balancing competing objectives in re-establishing an 'extinct' giant tortoise population on Floreana Island, Galapagos". North American Conference for Conservation Biology. July, 2020.

Miles, D.M. and **K.T. Shoemaker**. Measuring Parasite Load and Small Mammal Diversity After Pinyon and Juniper Removal. North American Conference for Conservation Biology. July, 2020.

Shoemaker, K.T.*, M.A. Walden, E.A. Hunter, T.C. Esque, and K. Nussear. Invited Symposium Paper. February 23 2020. Modeling Habitat for Mojave Desert Tortoises in a Non-Stationary World. Annual Meeting of the Desert Tortoise Council, Las Vegas, NV.

DeSha, J.N., K.J. Loope, M.J. Aresco, **K.T. Shoemaker**, and Elizabeth A. Hunter. Plasticity in gopher tortoise nesting behaviors and fecundity in a translocated population. Contributed oral presentation at the annual meeting of The Wildlife Society (virtual). September 2020.

Shoemaker, K.T.*, Walden, M., Hunter, E., Esque, T., Nussear, K. "Modeling Habitat for Mojave Desert Tortoises in a Non-Stationary World". Invited paper for the Desert Tortoise Management Oversight Group, October 29, 2019.

Shoemaker, K.T.*, Walden, M.A., Hunter, E.A., Esque, T., Nussear, K. "Rangewide Environmental Sensitivities of Mojave Desert Tortoise Demographic Rates: New Insights from Old Data". Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Miles, D.* , **Shoemaker, K.T.** "Acoustic Indices for Monitoring Avian Biodiversity in Sagebrush and Pinyon-Juniper Habitats". Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Dilts, T.* , Zeller, K., Cushman, S., Weisberg, P., Larrucea, E., Crowell, M., **Shoemaker, K.**, Matocq, M. "Multi-Scale and Replicate Landscape Habitat Modeling of Pygmy Rabbit Habitat in the Great Basin, U.S.A.". Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Jackson, N.* , Stewart, K., **Shoemaker, K.T.**, Clark, D., Wisdom, M. "Relationship between Mule Deer Reproduction and Resource Selection: Quid Pro Quo". Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Matocq, M.* , Dilts, T., Larrucea, E., Weisberg, P., Crowell, M., **Shoemaker, K.** "Landscape Genetics of the Pygmy Rabbit (*Brachylagus idahoensis*) across the Sagebrush Sea of the Great Basin." Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Crowell, M.* , Matocq, M., **Shoemaker, K.T.** "Estimating Densities of a Patchily Distributed, Sagebrush Specialist across the Great Basin." Contributed paper, AFS/TWS Joint National Meeting, Reno NV, Oct. 2019.

Mitchell, C.* , Esque, T., Vandergast, A., Heaton, J., Dutcher, K., Hromada, S., **Shoemaker, K.T.**, Nussear, K. "Integrating Telemetry and Mark-Recapture Methods to Estimate Density for the Mojave Desert Tortoise". Joint Meeting of Ichthyologists and Herpetologists, Snowbird UT, July 2019.

Shoemaker, K.T.* "Critical Habitat Breadth for *Gopherus* Tortoises: A New Paradigm for Managing Threatened and Endangered Species in a Non-Stationary World". Invited talk for In Progress Review, SERDP science advisory board, April 2019.

Jackson, N.J.* , Stewart, K.M., **Shoemaker, K.T.**, Clark, D.A., Wisdom, M.J. "Relationship between mule deer reproduction and resource selection: quid pro quo." The Wildlife Society, Western Section, Feb 2019.

Crowell, M.M.* , Matocq, M.D., **Shoemaker, K.T.** "Temporal and spatial density estimates of pygmy rabbit populations across the great basin." The Wildlife Society, Western Section, Feb 2019.

Goldman, M.* , Miles, D.M, **Shoemaker, K.T.** "Could insect diversity and abundance be the missing link to understanding reptile presence across sagebrush and pinyon in Northern Great Basin habitat?". The Wildlife Society, Nevada Chapter, Jan 2019.

Blum, M.* , **Shoemaker, K.T.**, Bleich, V., Stewart, K. "Resource selection in female desert bighorn sheep: tradeoffs associated with reproduction". The Wildlife Society, Nevada Chapter, Jan 2019.

Crowell, M., Matocq, M., **Shoemaker, K.T.*** "Estimating densities of pygmy rabbits in the Great Basin". The Wildlife Society, Nevada Chapter, Jan 2019.

Miles, D.* , **Shoemaker, K.T.**, Forister, M., Feldman, C., Hamilton, B., VanGunst, J. "Measuring the regional impacts of pinyon and juniper removal on bat and small mammal communities in the Norther Great Basin". The Wildlife Society, Nevada Chapter, Jan 2019.

Crowell, M.M.* , **Shoemaker, K.T.**, Matocq, M. "Best of the BUN-ch: recaptured rabbits provide essential information for estimating population densities and individual movement". The Wildlife Society, Nevada Chapter, Feb 2018.

Cook, N.* , Nicolai, C., **Shoemaker, K.T.** "Movements and staging locations of canvasback in the Pacific Flyway". The Wildlife Society, Nevada Chapter, Feb 2018.

Miles, D.* , **Shoemaker, K.T.** "Measuring the regional impacts of pinyon and juniper removal on non-target faunal communities". The Wildlife Society, Nevada Chapter, Feb 2018.

Shoemaker, K.T.*, Walden, M.A., and Hunter, E.A. "Assessing critical habitat breadth for *Gopherus* tortoises". The Wildlife Society, Nevada Chapter, Feb 2018.

Crowell, M.M.* , **Shoemaker, K.T.**, Matocq, M. "Been there, trapped that! Trap success of pygmy rabbits in the Great Basin." The Wildlife Society, Western Section, Feb 2018.

Shoemaker, K.T.*, Stewart, K., Blum, M., Heffelfinger, L., Wasley, T., and Jackson, N. "Integrating machine-learning with classical wildlife resource selection analyses." The Wildlife Society, Western Section, Feb 2018.

Hunter, E.A.* , Matocq, M., Murphy, P. and **Shoemaker, K.T.** "Differential effects of climate on survival rates drive hybrid zone movement". The Wildlife Society, Western Section, Feb 2018.

Cook, N.A.* , Nicolai, C.A., and **Shoemaker, K.T.** "Movements and staging locations of canvasback (*Aythya valisineria*) in the pacific flyway." Poster, The Wildlife Society, Western Section, Feb 2018.

Dilts, T.E.* , Crowell, M., Matocq, M., **Shoemaker, K.T.**, Larrucea, E., Weisberg, P. "Habitat selection by pygmy rabbit at regional and landscape scales". The Wildlife Society, Western Section, Feb 2018.

Davidson, A.D., Erz, J., Hunter, E.A., **Shoemaker, K.T.***, "Fecundity limits initial success of reintroduced Gunnison's prairie dogs in an arid grassland ecosystem". The Wildlife Society, Western Section, Feb 2017.

Crowell, M.M.* , Dilts, T.E., Weisberg, P., **Shoemaker, K.T.**, Matocq, M. "I'd trap that: Trap success and initial population estimates of pygmy rabbits in the Great Basin". The Wildlife Society, Western Section, Feb 2017.

Dilts, T.E.* , Crowell, M., Matocq, M., **Shoemaker, K.T.**, Weisberg, P. "Habitat selection by pygmy rabbit at regional and landscape scales". The Wildlife Society, Western Section, Feb 2017.

Miles, D.C.* , **Shoemaker, K.T.** "Measuring the regional impacts of pinyon and juniper removal on insect, bat, and reptile communities". The Wildlife Society, Western Section, Feb 2017.

Shoemaker, K.T.*, Sackett, L., Davidson, A.D., Rocke, T., Busch, J. "Modeling genetic adaptation to sylvatic plague in black-tailed prairie dog metapopulations". The Wildlife Society, Western Section, Feb 2017.

Shoemaker, K.T.*, Davidson, A.D., Hunter, E.A. "Predicting plague outbreaks in black-tailed prairie dog colonies". Ecological Society of America. Portland, OR, Aug 2017.

Hunter, E.A., **Shoemaker, K.T.***, et al. "Differential effects of climate on survival rates drive woodrat hybrid zone dynamics". Ecological Society of America. Portland, OR, Aug 2017.

Shoemaker, K.T.* "Regional Impacts of Pinyon and Juniper Removal on Insect, Bat, and Reptile Communities". Summer Field Tour - Restoring and Conserving Great Basin Ecosystems. Austin, NV. July 2017.

Shoemaker, K.T.*, et al. "Linking individual-based and population-based models for process-based inference of extinction risk". North American Conference for Conservation Biology. Madison, WI. July, 2016.

Shoemaker, K.T.*, et al. "Assessing the impact of wind power on the threatened Indiana bat (*Myotis sodalis*)". Invited talk for retirement celebration for Lev Ginzburg. Stony Brook, NY. Dec. 2015.

Shoemaker, K.T.* et al., "Improving regional abundance dynamics and range-shift forecasts by coupling individual-based dispersal models with matrix-based population projections." At the Ecological Society of America 99th Annual Meeting, Sacramento, CA, Thu., Aug. 14, 2014.

Shoemaker, K.T.* et al. "Can the IUCN Red List provide sufficient advance warning of extinction under climate change?" North American Congress for Conservation Biology. Missoula, MT. Monday, 14 July, 2014.

Shoemaker, K.T.* et al. "Mixing good data with bad: How to do it and when you should not". At the Society for Risk Analysis annual meeting. Baltimore, MD. 8 December 2013.

Shoemaker, K.T.* et al. "Modeling the recovery of the black-footed ferret in a linked predator-prey-disease system". At the International Congress for Conservation Biology. Baltimore, MD, 22 July 2013.

Friedenberg, N.A. and **Shoemaker, K.T.***. "RAMAS IIR: Software for risk-based durability assessment". At the Entomological Society of America Annual Meeting, Knoxville TN. Nov 2012.

Shoemaker, K.T.* et al. "Assessing Population-level Risks of Wind Power Development for the Indiana bat (*Myotis sodalis*)". At the Electric Power Research Institute (EPRI) annual meeting, Nashville TN. Oct 2012.

Shoemaker, K.T.* and H.R. Akçakaya. "Inferring the nature of anthropogenic threats from long term abundance records". At the Ecological Society of America 97th Annual Meeting, Portland, OR. Aug 2012.

Friedenberg, N.A., and **Shoemaker, K.T.*** "Wildlife risk assessment for new wind and solar facilities". At the Electric Power Research Institute (EPRI) annual meeting, Boston MA, Sep 2011.

Shoemaker, K.T.* "Monitoring and restoring bog turtle metapopulations in NY". Invited presentation for USFWS, New York Ecological Services Field Office, Cortland, New York, NY. April 27, 2011.

Shoemaker, K.T.* Assessing the status of massasauga rattlesnakes (*Sistrurus c. catenatus*) in New York State. Paper presented at the Northeast Natural History Conference. Albany, NY. April 17–18, 2008.

Shoemaker, K.T.* and J.P. Gibbs. Assessing the case for thermal limitation in a threatened population of massasauga rattlesnakes at Cicero Swamp, New York. Paper presented at the Snakes of the Northeast. Amherst, MA. Dec. 30, 2007.

Shoemaker, K.T.* Conservation of the Eastern Massasauga Rattlesnake in New York State. Keynote address delivered at the annual meeting of the Bergen Swamp Preservation Society. Bergen, NY. Oct. 26, 2007.

Shoemaker, K.T.* The Eastern Massasauga Rattlesnake: a New York State Conservation Priority. Invited presentation for the Seneca Park Zoo (SPZ) Conservation Committee. Rochester, NY. Oct. 11, 2007.

Shoemaker, K.T.* and J.P. Gibbs. Assessing the case for thermal limitation in a threatened population of massasauga rattlesnakes at Cicero Swamp, New York. Paper presented at the Joint Meeting of Ichthyologists and Herpetologists (JMIH). St. Louis, MO. July 11, 2007.

PUBLIC TALKS

Shoemaker, K.T. 2025. "What happens when a critical conservation decision is based on a flawed model?". Public talk for Bowman Hill Wildflower Preserve, July 31 2025.

Shoemaker, K.T. 2025. "A simulation model for Lahontan Cutthroat Trout at Summit Lake". Invited talk for Summit Lake Paiute Tribe at UNR/SLPT signing ceremony. June 6-7, 2025.

Miles, D.M. and **Shoemaker, K.T.** 2021. "Avian Acoustic Monitoring in the Northern Great Basin". Plumas Audubon Chapter – Quincy, CA (Guest Research Talk). <https://www.youtube.com/watch?v=m3odkPZjnUs&t=3189s>

POSTER PRESENTATIONS

(presenter denoted with asterisk)

Pugh, G. J., **Shoemaker, K.T.**, Folt, B., Esque, T.C., Murphy, S.M., Vandergast, A.G., Nussear, K.E. Estimating Adult and Juvenile Desert Tortoise Density Using Bayesian Spatial Explicit Capture–Recapture (SECR) Models. Poster presented at ASIH annual meeting, New Orleans, LA. July 2025.

Loope, K.J.* Inflated predictions from a flawed model influenced the decision to deny federal protection for the gopher tortoise. Poster presented at the annual meeting of the Gopher Tortoise Council, St. Petersburg, FL. Nov 2024.

Goldman, M.*, Thomas, L., Jacobson, E., Russell, D., and **Shoemaker, K.T.** Developing novel methods to estimate grey seal pup abundance across the U.K. Poster presented at the annual International Statistical Ecology Conference (ISEC), Swansea U.K, July 2024.

Loope, K.J., Folt, B. and **Shoemaker, K.T.** Revised maturation rate estimation in population viability analysis predicts steeper declines for the gopher tortoise. Poster presented at the annual Meeting of the Gopher Tortoise Council. Tifton, GA. November 2023.

Adkins, C., Hunter, E.A., **Shoemaker, K.T.**, Matocq, M. Environmental correlates of changes in genomic composition across a small mammal hybrid zone. Poster presented at the American Society of Mammalogists. Anchorage, AK. 2023.

Sergeyev, M., **K.T. Shoemaker**, G. Barrile. 2023. A Decision Support Tool for Prairie Dog Management. Poster presented at America's Grasslands Conference, Cheyenne WY August 2023.

Shoemaker, K.T. E.A. Hunter, K.E. Nussear, M.A. Walden. Critical habitat breadth for *Gopherus* tortoises. Poster presented at SERDP Symposium (virtual). November, 2022.

Vasquez, J. *, Schroeder, C., Stewart, K., **Shoemaker, K.T.** Characterizing and mapping habitat for mule deer in Nevada. The Western Section of The Wildlife Society Annual Meeting. Reno, Nevada. Feb 2022.

Adkins, C. *, Byer, N., Hunter, E., **Shoemaker, K.T.**, Matocq, M. Decadal change in the distribution and genomic composition of a woodrat hybrid zone. Poster presented at the annual meeting of the American Society of Mammalogists. Tucson AZ, June 2022.

Loope, K., DeSha, N., Aresco, M., **Shoemaker, K.T.**, Hunter, E.A. Reproductive Integration Of Gopher Tortoises In A Translocated Population With Multiple Source Populations. Poster presented at NACCB 2022, Reno NV, July 2022.

Tenney, J., **Shoemaker, K.T.** and D.M. Miles. 2022. Monitoring Pygmy Short-horned Lizards (*Phrynosoma douglasii*) in Northwestern Nevada. The Western Section of The Wildlife Society Annual Meeting. Reno, Nevada.

Dyck, M., R. Brown, M. Kenyon, **K.T. Shoemaker**, and V. D. Popescu. Assessing the viability of Ohio's recovering bobcat (*Lynx rufus*) population. Poster presented at Ohio Wildlife Conference, Jan 21, 2021.

Shoemaker, K.T. E.A. Hunter, K.E. Nussear, M.A. Walden. Critical habitat breadth for *Gopherus* tortoises. Poster presented at SERDP Symposium (virtual). November, 2021.

Shoemaker, K.T. E.A. Hunter, K.E. Nussear, M.A. Walden. Critical habitat breadth for *Gopherus* tortoises. Poster presented at SERDP Symposium (virtual). December 3, 2020.

Loope, K.J. N. DeSha, B.B. Rothermel, L.L. Smith, D.C. Rostal, **K.T. Shoemaker**, and E.A. Hunter. Nest site, nest temperature, and hatching outcomes across an environmental gradient in the gopher tortoise *Gopherus polyphemus*). Poster presented at the annual meeting of The Wildlife Society (virtual). September 2020.

Crowell, M.M., **K.T. Shoemaker**, and M.D. Matocq. Sagebrush chemistry and nutrition may contribute to observed pygmy rabbit population fluctuations and colony movement. Poster presented at "Genomes Underlying Toxin Tolerance" EPSCOR workshop, August 2020.

Loope, K.J.*, D.C. Rostal, H. Baker, M.A. Walden, **K.T. Shoemaker**, and E.A. Hunter. Non-invasive methods for sexing hatchling gopher tortoises *Gopherus polyphemus*). Poster presented at Annual meeting of The Wildlife Society, Reno, NV. Sept 30, 2019.

DeSha, J.N.*, K.J. Loope, M.J. Aresco, **K.T. Shoemaker**, and E.A. Hunter. Can gopher tortoise nesting behavior compensate for the effects of climate change? Poster presented at Annual meeting of the Gopher Tortoise Council, Gulf Shores, AL. Nov 16, 2019.

Loope, K.J.*, D.C. Rostal, H. Baker, M.A. Walden, **K.T. Shoemaker**, and E.A. Hunter. Non-invasive methods for sexing hatchling gopher tortoises (*Gopherus polyphemus*). Poster presented at Annual meeting of the Gopher Tortoise Council, Gulf Shores, AL. Nov 16, 2019.

Hunter, E.A*, **K.T. Shoemaker**, and D.C. Rostal. Effects of climatic variation on gopher tortoise populations. Poster presented at Georgia Climate Conference, Atlanta, GA. Nov 8, 2019.

Miles, D.M.* **Shoemaker, K.T.** "Measuring the regional impacts of pinyon and juniper removal on bat and small mammal communities in the northern great basin". Poster presented at The Wildlife Society, Western Section, Feb 2019.

McCarty, K.*, Hunter, E.A., Walden, M., **Shoemaker, K.T.** Modeling as a Tool to Guide Head-Starting, Translocation and Monitoring Decisions for the Mojave Desert Tortoise. Poster presented at Desert Tortoise Council, Las Vegas, NV, Feb. 2018

Shoemaker, K.T.*, Miles, D.M., Hamilton, B., Forister, M., Feldman, C. "Regional Impacts of Pinyon and Juniper Removal on Non-target Faunal Communities". Poster presented at Great Basin Consortium, Sagebrush Science Initiative. Feb. 2017.

Shoemaker, K.T.* "Modeling plague resistance in prairie dog populations". Poster presented at The Wildlife Society, Western Section, Reno, NV 2017.

Shoemaker, K.T.*, "Regional Impacts of Pinyon and Juniper Removal on Non-target Faunal Communities". Poster presented at Great Basin Consortium. Reno, NV. February 2017.

Shoemaker, K.T.* and J.P. Gibbs. Are small turtle populations worth protecting? Insights from Population Viability Analysis. Poster presented at the Student Conference on Conservation Science. New York, NY. Nov. 3-9, 2010.

Shoemaker, K.T.* and J.P. Gibbs. Demography of a viable bog turtle metapopulation in New York. Poster presented at the Turtle Survival Alliance meeting. Orlando, FL. Aug. 16-19, 2010.

Shoemaker, K.T.*, G. Johnson, and J.P. Gibbs. Relating habitat structure, thermal quality, and massasauga habitat use in Central New York: implications for management. Poster displayed at the Spotlight on Student Research and Outreach. SUNY-ESF, Syracuse, NY. Apr. 19, 2006

Shoemaker, K.T.* and J.P. Gibbs. Relating habitat structure and operative temperatures in massasauga habitat in central New York: implications for management. Poster displayed at the Third International Conference and Workshop on the Conservation of the Massasauga Rattlesnake, Toronto Zoo, Toronto, ON. Oct. 12-14, 2005.

TEACHING EXPERIENCE

NRES 470/670: Applied Population Ecology (offered every Spring semester). I serve as primary instructor for this course in applied population modeling aimed at future conservation biologists and wildlife managers. Originally developed in 2016 (and continuously updated), this course emphasizes practical approaches to problem-solving in ecology, conservation, and wildlife management via creative application of population ecology theory using simulation models and statistics (<https://kevintshoemaker.github.io/NRES-470/>).

NRES 746: Advanced Analysis Methods for Natural Resources and Environmental Science (offered every Fall semester). I serve as primary instructor for this advanced graduate-level course in model-based inference, maximum likelihood and Bayesian methods in R. This course focuses on using computational algorithms to infer ecological processes and relationships from observed data, and students emerge with the skills to write their own algorithms to solve complex data analysis problems (<https://kevintshoemaker.github.io/NRES-746/>).

NRES 710: Graduate Environmental Statistics (offered every other Fall semester, even years). Starting in Fall 2020, I have served as primary instructor for a graduate level course designed to help graduate students achieve fundamental statistical competencies, including probability theory, correlation tests, ANOVA, regression, generalized linear models (GLM) and mixed-effects models. Students also gain proficiency in data visualization and analysis in R. Students emerge from this course understanding how and why statistical methods are fundamental to the generation of scientific knowledge (<https://kevintshoemaker.github.io/NRES-710/>).

R “bootcamp” (workshop series offered every Fall semester and periodically at scientific conferences). For many years (starting in 2018, ending in 2023), I led a 2-day (8 hours per day) workshop to introduce graduate students and faculty to the widely-used programming language ‘R’ and provide hands-on experience using R to perform data exploration, visualization, and analysis (<https://kevintshoemaker.github.io/R-Bootcamp/>). This workshop has been offered for credit (GRAD 778: Elements of Research Computing) as one component of a series of similar research computing seminars offered throughout the semester.

Advanced RSF workshop (workshop series offered through conferences). In 2025/2026 I developed and led a workshop to introduce wildlife professionals to state-of-the-art techniques for modeling wildlife habitat from telemetry data using generalized additive models (GAMs) with spatiotemporally varying random fields using packages in the programming language ‘R’. This workshop is designed to provide hands-on experience using R to perform resource selection analysis (<https://kevintshoemaker.github.io/GAM-RSF-Workshop/>). This workshop was offered in conjunction with The Wildlife Society, Western Section’s 2026 annual symposium.

EECB 703: Principles of Ecology, Evolution and Conservation Biology. I served as primary instructor for this course in Fall 2017 and may occasionally rotate with other faculty in leading this course in the future. This course introduces incoming PhD students in the interdisciplinary EECB program (Ecology, Evolution and Conservation Biology) to the diverse disciplines that fall under the EECB umbrella, largely through a series of guest lectures from members of the EECB faculty at UNR (<https://kevintshoemaker.github.io/EECB-703/>).

Guest lectures. Each year at UNR, I deliver multiple guest lectures in Conservation Biology (3 lectures per year covering population ecology and Population Viability Analysis [PVA]), Population Ecology (1-2 lectures per year), Wildlife Monitoring/Management (1-2 lectures per year), and other ad hoc topics in statistics, data science and modeling (0-2 lectures per year). I typically give a guest lecture for incoming undergraduates in NRES (part of CABNR FIT program), which covers wildlife survey data and analysis. The PVA mini-course I offer as part of NRES 421 is available here: https://kevintshoemaker.github.io/NRES-470/PVA1_421.html

Honors College (UNR) lectures: In Summer 2025, I delivered a lecture and led a discussion for incoming enrollees in UNR’s Honors College for undergraduates. The title of my lecture/discussion was: *"Science-based decision making for endangered species conservation."*

‘Math/Bio Stats Chats’. Starting in Spring 2016, I have co-facilitated (with Dr. Paul Hurtado of the Math/Stats department and Ken Nussear of the Geography department) a weekly one-hour quantitative help session for graduate students (Math-Bio “Stats Chats”). Starting in Spring 2023, “Stats Chats” is now offered through the Research Data Services office (UNR Library services), where I continue to attend and co-facilitate all sessions.

In Spring 2015 I developed and led a two-day workshop in spatial data analysis for students in the Masters in Wildlife Medicine Program at Tufts University, Grafton campus.

In Fall 2013 I co-led two 1-day seminars on methods in risk analysis at the annual meeting of the Society for Risk Analysis, 2013, Baltimore MD.

In Fall 2012 I led a two-day workshop on Population Viability Analysis (PVA) for wildlife biologists at the New York State Department of Environmental Conservation (NYS-DEC).

In Spring 2012 I co-taught a seminar-style course (1 credit) on population viability analysis (PVA) at Stony Brook University.

Prior to my appointment at UNR, I have delivered guest lectures in Conservation Biology, Population Ecology and Herpetology at SUNY-ESF, Stony Brook University, and University of Georgia.

In Spring 2010 (as a PhD candidate) I co-taught a seminar-style course (1 credit) at SUNY-ESF on using software tools for population biology (e.g., Program Presence, Program Distance, Program MARK).

For three summers (2007-2009) I co-taught a field ecology course in which I introduced hundreds of undergraduate students to field methods in herpetology.

For two years (2005-2006) I collaborated with high school science teachers in Syracuse, NY and surrounding areas to develop and deliver innovative hands-on lab exercises and learning activities and to mentor high school students conducting research projects as part of an NSF-funded GK-12 program at SUNY-ESF.

MENTORSHIP

Graduate student and postdoctoral advising

I served as **dissertation advisor for two PhD students** at University of Nevada, Reno: Margarete Walden (graduated December 2022) and Miranda Crowell (co-advised with Marjorie Matocq; graduated Spring 2023). Miranda Crowell received Birney award from ASM (\$2k).

I served as **primary thesis advisor for four MS students** at University of Nevada, Reno: Colton Irons (*graduated Fall 2025*), Nathan Cook (*graduated December 2018*), Mia Goldman (*graduated May 2022*) and Joshua Vasquez (*graduated Spring 2024*). In 2021, Mia Goldman received UNR's Dickenson Scholarship.

I currently serve as **primary advisor for two doctoral students** at University of Nevada, Reno: Chris Smith (Fall 2024 to present) and Danielle Miles (2015 to present).

I served as co-advisor for a **post-doctoral associate**, Dr. Maksim Sergeyev, at Colorado State University (fall 2022 – spring 2024).

I served as co-advisor for a **post-doctoral associate**, Dr. Gabe Barrile, at Colorado State University (fall 2021 – fall 2022).

I served as **primary mentor for a post-doctoral associate** at University of Nevada, Reno: Dr. Elizabeth Hunter (*Spring 2015 to Fall 2017*).

Graduate committees

Current committee assignments: 11 total UNR committees: 4 MS, 7 PhD

I currently serve as **steering committee member for 7 doctoral students/candidates** at the University of Nevada, Reno: Ryoyu Peng (Anthropology), Clare Dittimore (EECB), Casey Adkins* (*EECB*), Jerrod Merrell (NRES), Jordan Zabrecky* (NRES), Taylor Brown* (NRES), James Simmons (EECB) [asterisks indicate Candidacy status as of January 2025]

I currently serve as **steering committee member for 4 Master's students** at the University of Nevada, Reno (NRES, EECB and Geography programs): Griffin Pugh (EECB), Hanna Grock (NRES), Alanna Garcia (NRES), Arturo Macias (Math/Stats).

I served as a **steering committee member for one Master's student** at Georgia Southern University who has since graduated: Nicole DeSha (2021).

I served on the **steering committee for ten UNR PhD students who have since graduated**: Nathan Jackson (2024), Lauren Phillips (2023), Jorge Valencia (2023), Masoud Rostami (2022), Laura Cirillo (2022), Derek Friend (2022), Steve Hromada (2022), Valentina Alaasam (2022), Alison Agneray (2022), Adriana Parra (2021), Marcus Blum (2021), Phillip Street (2020), Thomas Riecke (2020)

I served on the **steering committee for 13 UNR Master's students who have since graduated**: Sean McCain (2025), Sage Ellis (2024), Heather Reich (2024), Jacqueline Dougherty (2024), Justice Best (2023), Morgan Long (2023), Jerrod Merrell (2022), Bryant Nagelson (2021), Tyler Molter (2021), Corey Mitchell (2020), Ally Xiong (2020), Amy Robards (2019), Nathan Jackson (2018), Rose Petersky (2018).

I served as a **steering committee member for one PhD candidate** at Fordham University (New York, USA): Suzanne Macey (2016).

As a postdoctoral associate and PhD student, I helped to mentor and advise graduate students in the Akçakaya lab at Stony Brook University and SUNY-ESF.

Undergraduate training and research supervision

Since 2016, my graduate students and I have trained and supervised 50+ field and laboratory technicians and undergraduate research assistants (including 25+ formal UNR undergraduate trainees) across research programs on pinyon-juniper treatment effects on wildlife communities, critical habitat for Gopher and Desert tortoises, and pygmy rabbit population dynamics and habitat use, among others.

Since 2021, I have also trained and supervised 20+ additional field and laboratory volunteers, technicians, and high-school/undergraduate mentees in shorter-term or volunteer roles (e.g., bird and bat acoustic monitoring, camera-trap and small-mammal data processing, GIS and stable-isotope work); several of these mentees have gone on to co-author natural history notes, conference presentations, or peer-reviewed manuscripts.

As part of my dissertation research at SUNY-ESF (2008-2011), I trained and supervised 3 undergraduate assistants and one MS student in the field.

As part of my Master's research at SUNY-ESF (2005-2007), I trained and supervised 2 undergraduate assistants and one MS student in the field.

Supervising undergraduate independent research: since 2021, I have supervised 10+ undergraduate independent research projects (for course credit); several of these students have gone on to co-author conference presentations or peer-reviewed publications derived from their projects, and one mentee received a UNR Undergraduate Research Award.

SERVICE

Department/University

NOTE: I was awarded a sabbatical leave for the 2024-2025 academic year (no service commitments).

NRES Graduate Program Director (July 2022 to present). In this role, I work to recruit and retain students in the NRES MS and PhD programs (currently 22 students enrolled; 14 MS and 8 PhD), write offer letters, plan program events, work with faculty to ensure students are supported financially, help determine the awarding of department GTA lines each semester, coordinate with the graduate committee, revise the student handbook, monitor student progress, help manage conflicts, secure program funding, solicit student awards for internal funding, coordinate with faculty to ensure a rich graduate curriculum, and work with students to develop and maintain collegiality and productivity.

Working with the UNR Graduate School, I assist in facilitating conversations with faculty about mentoring graduate students through their **"Mentoring Mentors' workshop series"**. I was trained as a facilitator of these discussions through the CIMER program in a 2-day training workshop in Summer 2016.

I currently serve as chair of the **NRES Graduate Program Committee** (2019 to present).

I currently serve on the **EECB Curriculum Committee** (fall 2022 to present).

I served on the **EECB comprehensive examination committee** (2017-present), where I have helped to administer and grade the comprehensive exam for EECB.

In Fall 2018, I **chaired a faculty search committee** charged with identifying top candidates for a tenure-track position in Quantitative Population Ecology (search was successful, and resulted in the hiring of Dr. Perry Williams).

I served on the **EECB awards committee** (2017-spring 2022).

I served on the **NRES Web Committee** (2020 to spring 2022).

I served on the **NRES awards committee** (2016-2019), where I have helped to prepare nomination packets for deserving faculty and students and to select recipients for graduate student awards.

In Spring 2017 I served on a tenure-track **faculty search committee** that successfully identified top candidates for a tenure-track position in Forest Science.

Starting in Spring 2019 and continuing every Fall thereafter, lead 2-day (7 hours per day) **R workshops** ('R Bootcamp') that I designed to get graduate students and faculty started using R for data exploration, visualization, and analysis (<https://kevintshoemaker.github.io/R-Bootcamp/>).

Professional

I led a **full-day workshop on using R for data visualization and analysis** at the annual meeting of The Wildlife Society, Western Section on February 6, 2024.

I currently serve on the **executive board for the Nevada Chapter of The Wildlife Society**, where I have served as President (2019) and remain actively involved (currently as Secretary).

In 2023-2024 I served in a pro bono capacity to assist the Center for Biological Diversity (CBD) to evaluate a population model that was used to justify the USFWS decision to remove the gopher tortoise as a candidate for federal protection.

In 2022-2024 I worked as a **paid consultant with Earthjustice** to evaluate a population model that was used to justify the resumption of commercial harvest of horseshoe crabs in Delaware Bay (horseshoe crab eggs are a critical resource for a Federally threatened shorebird, the Red Knot).

I currently serve as **handling editor for the journal 'Population Ecology'**. My term began in 2014. In this capacity I handle ca. 3-5 manuscript submissions each year.

In 2021, I served on the North American Congress for Conservation Biology Organizing Committee (Scientific Program subcommittee for 2022 meeting in Reno, NV).

In 2010 I served as a **consulting biostatistician** for regulators and industry consultants for the wind power industry in New York, assisting in the analysis of large data sets related to avian and bat fatalities at wind power facilities. This work has cast some doubt on the utility of pre-construction radar and avian acoustic surveys for predicting bird and bat fatalities at wind farms.

I served as an informal advisor to USFWS and Mid-Atlantic Center for Herpetology and Conservation for developing management and monitoring plans for metapopulations of the bog turtle (*Glyptemys muhlenbergii*), an endangered freshwater turtle of the eastern United States (the primary focus of my doctoral research).

In fall 2012 I taught a 2-day **Population Viability Analysis (PVA) workshop** for agency biologists at the New York State Department of Environmental Conservation (NYS-DEC).

Service as ad hoc peer reviewer: Nature Climate Change, Conservation Biology, Conservation Genetics, Global Change Biology, Ecography, Population Ecology, Landscape Ecology, Northeastern Naturalist, Journal of Herpetology, Copeia, Journal of Wildlife Management, Canadian Journal of Zoology, Herpetologica, PLOS ONE, Biology Letters.

Professional society memberships: Society for Conservation Biology, Ecological Society of America, The Wildlife Society.

OTHER RELEVANT ACTIVITIES

During my time working at Applied Biomathematics, I Co-developed a generic simulation model (**RAMAS IRM**) for assessing the rate of insect pest evolution to transgenic crops. This software is currently being used by industry and consultants to develop best management practices for optimizing crop durability. By providing a rigorous framework for exploring the effects of alternative agricultural practices, this software platform facilitates more effective communication among industry, regulators and academic ecologists.

AWARDS

2022, 2023: Nominated for **Tibbitts Award for excellence in teaching**. [finalist- spring 2022]

2019 **Outstanding Teacher of the Year**, College of Agriculture, Biotechnology and Natural Resources, University of Nevada, Reno

2019 **Jenkins Award for Graduate Teaching and Mentorship**, Program in Ecology, Evolution, and Environmental Science (voted on and awarded by PhD students in the EECB program)