

Brittany L. Wagler

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EDUCATION

MSc, University of Wyoming, December 2022

Zoology and Physiology

Thesis: Herbal remedies: The interface of forage quality and disease in bighorn sheep

Advisor: Dr. Kevin L. Monteith

GPA: 4.0/4.0

BSc, University of Wyoming, December 2017

Wildlife and Fisheries Biology and Management; minor Statistics

Thesis: Do reclaimed areas within natural gas fields augment deer mouse body condition and abundance?

Advisor: Dr. Anna D. Chalfoun

GPA: 3.9/4.0; graduated *magna cum laude*, dean's list 8 semesters

PROFESSIONAL EXPERIENCE

Research Scientist, November 2022 – present

Monteith Shop, Haub School of Environment and Natural Resources, University of Wyoming

Working in collaboration with the Monteith Shop and the Wyoming Game and Fish Department to address applied ecological questions and challenges within Wyoming. Duties include leading multiple projects; providing analytical and writing support; leading adult capture events; managing large datasets; archiving, and managing GPS data; and public outreach

Graduate Research Assistant, June 2018 – November 2022

Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming

Assessed the role of disease and nutrition in bighorn sheep population dynamics; ran daily logistics of the Northwest Wyoming Bighorn Sheep Nutrition and Disease Project; captured neonate bighorn sheep in the Fitzpatrick and Gros Ventre Wilderness; conducted habitat transects on alpine summer ranges; managed a crew of 6 technicians; captured adult bighorn sheep in December and March via helicopter net gunning and ground darting; managed access database; provided project updates and preliminary analyses to collaborators; prepare grants; participated in public education and outreach; presented research at professional and public meetings

Bighorn Sheep Field Technician, March 2018 – May 2018

University of Nevada, Reno

Captured bighorn sheep neonates by hand; PIT tagged lambs; identified Great Basin / Sierra Nevada plants; collected fecal samples of collared adult; navigated extremely rugged terrain

Research Aide, September 2017 – December 2018

Haub School of Environment and Natural Resources, University of Wyoming

Assisted with a variety of ongoing research in the lab; delineated migrations using Program R; classified habitat using ArcGIS, NAIP imagery, and ground-truthed data; retrieved mule deer mortalities from winter ranges; cleaned and manipulated data

Undergraduate Research Fellow, 2015 – 2017

University of Wyoming EPSCoR Fellow

Composed research proposal and study design; wrote grants; nocturnally trapped small mammals with baited Sherman traps on 10 plots for 4 weeks; lead a crew of 2 technicians; analyzed data using Program R and RMARK, sampled vegetation using SamplePoint; identified small mammals of the sagebrush steppe; prepared results for publication

Mule Deer Technician, May 2017 – August 2017

Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming

Captured neonate mule deer by hand; drew blood of fawns from jugular; determined cause-specific mortality of fawns; monitored recruitment with observational data

Songbird and Small Mammal Technician, June 2016 – August 2016

Wyoming Cooperative Fish and Wildlife Research Unit, University of Wyoming

Searched for sagebrush obligate songbird nests; monitored and set up video cameras on nest; nocturnally and diurnally trapped small mammals using Sherman and Tomahawk traps; raptor point counts; trail cameras to detect apex predators

ADDITIONAL WORK EXPERIENCE

Fawn Capture Volunteer, Starkey Experimental Forest, June 2018

Lab Intern, University of Wyoming, September 2016 – May 2016

Devils Tower Winter Porcupine Survey, Winter 2016

Baggs Mule Deer Study Winter, 2016, 2017

TEACHING EXPERIENCE

Guest Lecturer: Interpreting Methods and Results, Practicum in Science Communication, University of Wyoming, 2022

Statistics Tutor, University of Wyoming Athletic Department, 2015 – 2017

PEER-REVIEWED PUBLICATIONS

T. N. LaSharr, S. P. H. Dwinnell, **B. L. Wagler**, H. Sawyer, R. P. Jakopak, A. C. Ortega, L. R. Wilde, K. S. Huggler, P. W. Burke, M. Valdez, P. Lionberger, D. Birmeyer, B. Scurlock, J. Randall, R. C. Kaiser, M. Thonhoff, G. Fralick, and K. L. Monteith. 2022. Evaluating risks associated with mule deer capture and handling for individual-based, long-term research. *Journal of Wildlife Management* e22333. <http://doi.org/10.1002/jwmg.22333>

Smiley, R. A., **B. L. Wagler**, T. N. LaSharr, K. A. Denryter, T. R. Stephenson, A. B. Courtemanch, T. W. Mong, D. Lutz, D. McWhirter, D. Birmeyer, P. Hnilicka, B. Lowrey, and K. L. Monteith.

2022. Heterogeneity in risk-sensitive allocation of somatic reserves in a long-lived mammal. *Ecosphere* 13:e4161. <https://doi.org/10.1002/ecs2.4161>

Smiley, R. A., T. N. LaSharr, H. N. Abernathy, Y. N. Shakeri, R. L. Levine, S. Rankins, R. P. Jakopak, R. T. Rafferty, J. T. Kolek, **B. L. Wagler**, S. P. H. Dwinnell, T. J. Robinson, J. E. Randall, R. C. Kaiser, M. Tonhoff, B. Scurlock, T. Fieseler, G. L. Fralick, and K. L. Monteith. 2022. Biomarkers of animal nutrition: from seasonal to lifetime indicators of environmental conditions. *Life* 12:375. <https://doi.org/10.3390/life12030375>

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, G. Anderson, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, C. P. Massing, D. W. German, T. R. Stephenson, and K. L. Monteith. 2022. Effects of helicopter net-gunning on the survival of bighorn sheep. *Journal of Wildlife Management* 1–18. <https://doi.org/10.1002/jwmg.22181>

PEER-REVIWED PUBLICATIONS (in final stages of preparation, review, or revision)

Blum, M. E., T. N. LaSharr, K. M. Stewart, J. T. Hogg, **B. L. Wagler**, R. A. Smiley, K. S. Huggler, R. P. Jakopak, M. J. Brunet, R. Levine, S. P. H. Dwinnell, B. M. Regan, M. Cox, B. F. Wakeling, D. Birmeyer, G. L. Fralick, B. Scurlock, R. Kaiser, M. Tonoff, P. W. Burke, A. B. Courtemanch, D. Lutz, and K. L. Monteith. Capture-induced mortality in neonate ungulates: Role of handling protocols? *In review*. Intended Outlet: *Journal of Mammalogy*.

Tucker, M. A., Tempe S. F. Adams, ... **B. L. Wagler** ..., T. Mueller. Behavioral responses of terrestrial mammals to COVID-19 lockdowns. *In revision*. *Science*.

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, K. L. Monteith. Implications of forage quality for population recovery of bighorn sheep following a pneumonia epizootic. *In prep*. Intended Outlet: *Journal of Wildlife Management*.

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, K. L. Monteith. Disparate home range dynamics influence nutritional inadequacies on summer range for a large herbivore. *In prep*. Intended Outlet: *Journal of Wildlife Management*.

Argov, J. R., N. B. Michaels, R. A. Smiley, **B. L. Wagler**, A. B. Courtemanch, D. Clause, R. C. Kaiser, D. Lutz, D. McWhirter, B. Scurlock, P. Hnilicka, D. Brimeyer, K. L. Monteith. Prediction of birthdates based on fetal development in bighorn sheep. *In prep*. Intended Outlet: *Journal of Mammalogy*.

OTHER ARTICLES

Wagler, B. L. [Herbal remedies: The interface of forage quality and disease in bighorn sheep](#). 2022. Master's Thesis. University of Wyoming, Laramie, Wyoming.

Wagler, B. L. [Risk and reward capturing bighorn sheep via helicopter net-gunning](#). 2022. Biologist's Corner: Wild Sheep® Magazine.

Wagler, B. L., and K. L. Monteith. An assessment of bighorn sheep in the Sweetwater Rocks: Habitat suitability and risk of contact with domestic sheep. 2021 Research Brief. Haub School of Environment and Natural Resources, University of Wyoming.

Wagler, B., R. Smiley, and K. Monteith. 2020. [Bighorn sheep nutrition and disease summer 2020 Update](#). Fall 2020 Rampage, Wyoming Wild Sheep Foundation Newsletter.

Smiley, R. A., **B. L. Wagler**. 2020. [Communicating science as stories](#). Winter 2020 Newsletter – Wyoming Chapter of The Wildlife Society.

Smiley, R., **B. Wagler**, and K. Monteith. 2020. [Bighorn sheep nutrition and disease project winter 2020 update](#). Spring 2020 Rampage, Wyoming Wild Sheep Foundation Newsletter.

Wagler, B., R. Smiley, and K. Monteith. 2019. [Sheep nutrition, predation, and disease: a successful first season monitoring lambs](#). Fall 2019 Rampage, Wyoming Wild Sheep Foundation Newsletter.

Smiley, R., **B. Wagler**, and K. Monteith. 2018. [Sheep nutrition, predation, and disease: exciting new work to get underway this spring](#). Fall 2018 Rampage, Wyoming Wild Sheep Foundation Newsletter.

B. L. Wagler, L. E. Sanders, A. D. Chalfoun. 2017. Do reclaimed areas within natural gas fields augment deer mouse body condition and abundance? Undergraduate Thesis. University of Wyoming, Laramie, Wyoming.

PRESENTATIONS

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, T. J. Robinson, K. L. Monteith. 2023. Implications of forage quality for population recovery of bighorn sheep following a pneumonia epizootic. Wyoming Chapter of The Wildlife Society Annual Conference: Laramie, Wyoming. *Oral*

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, G. Anderson, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, C. P. Massing, D. W. German, T. R. Stephenson, and K. L. Monteith. 2022. Effects of helicopter net-gunning on the survival of bighorn sheep. The Wildlife Society Conference: Spokane, Washington. *Oral*.

Smiley, R. L., T. N. LaSharr, H. N. Abernathy, Y. N. Shakeri, R. L. Levine, S. Rankins, R. P. Jakopak, R. T. Rafferty, J. T. Kolek, **B. L. Wagler**, S. P. H. Dwinell, T. J. Robinson, J. E. Randall, R. C. Kaiser, M. Tonhoff, B. Scurlock, T. Fieseler, G. L. Fralick, and K. L. Monteith. 2022. Biomarkers of animal nutrition: From seasonal to lifetime indicators of environmental conditions. The Wildlife Society Conference: Spokane, Washington. *Oral*.

Wagler, B.L. Herbal remedies: The interface of forage quality and disease of bighorn sheep. 2022. MSc Thesis Defense: Laramie, Wyoming. *Oral*.

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, G. Anderson, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, C. P. Massing, D. W. German, T. R. Stephenson, and K. L. Monteith. 2022. Effects of helicopter net-gunning on the survival of bighorn sheep. 8th World Conference on Mountain Ungulates: Cogne, Aosta Valley, Italy. *Oral*.

Wagler, B. L. 2022. The interface of forage quality and disease in bighorn sheep. Wyoming Cooperative Research Unit Annual Meeting. *Oral – ignite style*.

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, G. Anderson, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, C. P. Massing, D. W. German, T. R. Stephenson, and K. L. Monteith. 2022. Effects of helicopter net-gunning on the survival of bighorn sheep. Wyoming Chapter of The Wildlife Society Annual Conference: Jackson, Wyoming. *Oral*.

Smiley, R. L., **B. L. Wagler,** T. N. LaSharr, K. Denryter, T. R. Stephenson, A. B. Courtemanch, T. Mong, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, B. Lowrey, and K. L. Monteith. 2022. Heterogeneity in risk-sensitive allocation of somatic reserves in a long-lived mammal. Wyoming Chapter of the Wildlife Society, Jackson, Wyoming. *Oral*.

Wagler, B. L., R. A. Smiley, A. B. Courtemanch, G. Anderson, D. Lutz, D. McWhirter, D. Brimeyer, P. Hnilicka, C. P. Massing, D. W. German, T. R. Stephenson, and K. L. Monteith. 2022. Effects of helicopter net-gunning on the survival of bighorn sheep. Northern Wild Sheep and Goat Council Symposium: Jackson, Wyoming. *Oral*.

Wagler, B. L. Herbal remedies: The interface of forage quality and disease of bighorn sheep. 2021. MSc Thesis Proposal Defense: Laramie, Wyoming. *Oral*.

Wagler, B. L., R. A. Smiley, H. Edwards, J. Malmberg, G. Anderson, D. Lutz, A. Courtemanch, G. Fralick, D. McWhirter, T. Mong, C. Class, L. Yandow, C. Downs, P. Hnilicka, and K. L. Monteith. 2019. Fad diets: Does forage quality affect the ability of bighorn sheep to tolerate pathogens? Wyoming Chapter of The Wildlife Society Annual Conference: Sheridan, Wyoming. *Poster*.

Wagler, B. L., R. A. Smiley, H. Edwards, J. Malmberg, G. Anderson, D. Lutz, A. Courtemanch, G. Fralick, D. McWhirter, T. Mong, C. Class, P. Hnilicka, and K. L. Monteith. 2019. Is it in your horoscope? How neonate birth date influences survival in the light of disease. The Wildlife Society Annual Conference: Reno, Nevada. *Poster*.

Wagler, B. L., R. A. Smiley, H. Edwards, J. Malmberg, G. Anderson, D. Lutz, A. Courtemanch, G. Fralick, D. McWhirter, T. Mong, C. Class, P. Hnilicka, and K. L. Monteith. 2018. Baaacterial pathogens, not the wool story: Interactions of disease and nutrient in bighorn sheep. Wyoming Chapter of the Wildlife Society Annual Conference: Laramie, Wyoming. *Poster*.

Wagler, B. L., L. E. Sanders, and A. D. Chalfoun. 2017. A nest predator's response to reclaimed areas on natural gas fields at the home-range scale. Wyoming Chapter of The Wildlife Society Annual Conference: Jackson, Wyoming. *Oral*.

Wagler, B. L., L. E. Sanders, and A. D. Chalfoun. 2017. Do reclaimed areas within natural gas fields augment deer mouse fitness and abundance? University of Wyoming Undergraduate Research Day: Laramie, Wyoming. *Oral*.

Wagler, B. L., L. E. Sanders, and A.D. Chalfoun. 2016. Do reclaimed areas within natural gas fields augment deer mouse fitness and abundance? Wyoming Chapter of The Wildlife Society Annual Conference: Cody, Wyoming. *Poster*.

GRANTS

Wagler, B. L., R. A. Smiley, K. L. Monteith. 2020. Western Wyoming bighorn sheep nutrition and disease. Teton Conservation District. \$10,000.

SCHOLARSHIPS AND AWARDS

2022 – Scott-Walter Foundation Fund Award - \$500

2020 – Wyoming Wildlife Society Graduate Student Scholarship - \$750

2017 – *Magna cum laude* graduate honors

Wyoming Chapter of The Wildlife Society Travel Grant - \$250

Jack and Eileen Rouston Wildlife Biology Scholarship - \$5,000

2016 – Wyoming EPSCoR Fellowship - \$8,600

Gore Family Independent Study Award - \$3,000

OUTREACH AND PROFESSIONAL SERVICE

2022 – Wyoming Wildlife Federation’s “Wildlife on Tap” speaker

2020 – Outreach booth at The Sheep Show, Reno, NV (The Wild Sheep Foundation’s annual fundraising exposition)

Shared my research with multiple elementary classrooms via the program Skype a Scientist

2019 – Lead radio telemetry activity for 30 kids attending Camp Bighorn, Dubois, WY

2017 – Organized multiple fundraising events for the Wyoming Student Chapter of The Wildlife Society

SKILLS

Technical Field Skills: Radio telemetry; animal capture including helicopter net gun, ground darting, drop net, stationary traps (Havahart, Tomahawk, Sherman); animal handling and collection of biological data (tooth extraction for aging, disease sampling, blood drawing from cephalic and jugular, GPS/VHF collar fitting, VIT insertion); chemical immobilization; camera trapping; Rocky Mountain plant identification (alpine, forest, sage-steppe); animal track and sign identification; various vegetation survey methods; field necropsy; GPS, map, and compass navigation; route finding; winter backcountry travel and camping; vehicle operation (snowmobile, ATV, manual transmission, trailers)

Computer Software: Program R and R Studio (analysis, figure preparation, data cleaning and manipulation); QGIS (spatial data manipulation); Microsoft Office (Word, Excel, PowerPoint, Access); SamplePoint

Analytical: Movement modeling (home range delineation, resource selection); multivariate regression analysis; familiar with Bayesian analysis

PROFESSIONAL MEMBERSHIPS AND INVOLVEMENT

The Wildlife Society 2015 – present

Wyoming Chapter 2015 – present

University of Wyoming Student Chapter 2015 – 2018

2017 President

2016 Vice President

Wild Sheep Foundation 2021–present