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EDUCATION

2016 – 2022 **Ph.D. in Ecology with an Emphasis in Ecological Genetics and Genomics**
University of California, Davis. Davis, CA
Supervisor: Dr. Ben Sacks.

2008 – 2012 **B.S. in Evolution, Ecology, and Biodiversity**
College of Biological Sciences
University of California, Davis. Davis, CA

RESEARCH EXPERIENCE

2024 – Present **Postdoctoral Scholar,** U.S. Forest Service, National Genomics Center for Wildlife and Fish Conservation, Missoula, Montana. In conjunction with the Mammalian Ecology and Conservation Unit, Veterinary Genetics Lab, University of California, Davis. *Characterizing inbreeding and genetic load of an island wolf population in Southeast Alaska and evaluating the natural (rare immigration) and anthropogenic (harvest quotas) "levers" that may help counteract these threats using forward-time simulations.*

2022 – Present **Postdoctoral Scholar,** Mammalian Ecology and Conservation Unit, Veterinary Genetics Laboratory, University of California, Davis. *Exploring the physical and behavioral drivers of metapopulation connectivity in the endangered San Joaquin kit fox and investigating how historical and contemporary bottlenecks have affected genetic load and functional diversity in a disease-impacted population.*

2016 – 2022 **Graduate Research,** Ecology Graduate Group, University of California, Davis, Davis, CA.
Dissertation: *Genomic Analysis of Divergence and Secondary Contact in Red Foxes and Gray Foxes. Investigated the role of historical divergence, selection, and demography in shaping reproductive isolation and introgression following secondary contact in two distinct canids*

MANUSCRIPTS (PUBLISHED & IN REVIEW)

2026 **Preckler-Quisquater S**, Cypher BM, Rudd JL, Clifford DL, Vanderzwan SL, Sacks BN. *Drivers and patterns of connectivity among endangered kit fox populations across a human altered landscape*. (In Review) Proceedings of the Royal Society B.

2026 Rodriguez CR, Sikich JA, **Preckler-Quisquater S,** Vanderzwan S, Supple MA**,** Riley SPD, Sacks BN. *Busy Freeway Causes Severe Inbreeding in Mountain Lions Ahead of a Major Wildlife Connectivity Project.* (In Review) Current Biology

2026 Owen-Orcutt J, Quinn CB, **Preckler-Quisquater S**, Bolas E, Brenner L, Schamel J, Parrino B, Van Vuren D, Sacks B.N. (In Review) *Genomic evidence of colonization, divergence, and inbreeding in island spotted skunks*. Ecology and Evolution.

2024 Quinn, C. B., **Preckler-Quisquater, S.**, Buchalski, M. R., & Sacks, B. N. 2024. *Whole Genomes Inform Genetic Rescue Strategy for Montane Red Foxes in North America*. Molecular Biology and Evolution, 41(9), msae193.

2024 Ahrens K, Sacks BN, **Preckler-Quisquater S**, Buchalski M. *Development of a 96 SNP panel for fecal genotyping and individual identification of bobcats (Lynx rufus) in California*. 2024. Conservation Genetics Resources, 16:279–282.

2024 **Preckler-Quisquater S**, Quinn CB, S. Sacks, BN. 2024. *Maintenance of a narrow hybrid zone between native and introduced red foxes (Vulpes vulpes) despite conspecificity and high dispersal capabilities.* Molecular Ecology. 33(13), e17418.

2024 Rando H, Alexander E, **Preckler-Quisquater S**, Quinn C, Stutchman J, Johnson J, Bastounes E, Horecka B, Black K, Robson M, Shepeleva D, Herbeck Y, Kharlamova A, Trut L, Pauli J, Kukekova A, Sacks B. 2024. *Missing History of a Modern Domesticate: Historical Demographics and Genetic Diversity in Farm-bred Red Fox Populations*. *Journal of Heredity*. 115(4):411–423.

2023 **Preckler-Quisquater S**, Kierepka E, Reding D, Piaggio A, Sacks BN. 2023. *Can demographic histories explain long-term isolation and recent pulses of asymmetric gene flow between highly divergent gray fox lineages?* Molecular Ecology. 32(19):5323–5337.

2023 Kierepka E, **Preckler-Quisquater S**, Reding D, Piaggio A, Riley S, Sacks BN. 2023. *Genomic analyses of gray fox lineages suggest ancient divergence and secondary contact in the southern Great Plains*. Journal of Heredity. 114(2):110–119.

2022 Quinn CB, **Preckler-Quisquater S**, Akins JA, Cross P, Alden PB, Vanderzwan SL, Stephenson JA, Figura P, Green GA, Hiller T, Sacks BN. 2022. *Contrasting genetic trajectories of endangered and expanding red fox populations in the western U.S*. Heredity. 129:123–136.

2021 Sacks BN, Mitchell KJ, Quinn CB, Hennelly LM, Sinding MHS, Statham MJ, **Preckler-Quisquater S**, Fain SR, Kistler L, Vanderzwan SL, Meachen JA, Ostrander EA, Frantz LAF. 2021. *Historical mitochondrial genomes reveal Pleistocene origin of the red wolf and insights for North American Canis phylogeography.* Molecular Ecology. 30:4292–4304.

2019 Black KM, **Preckler-Quisquater S**, Batter TJ, Anderson S, Sacks, BN. 2019. *Occupancy Modeling to Characterize Habitat Use and Population Size of the Sacramento Valley Red Fox*. Journal of Wildlife Management. 83:158-156.

2018 Agha M, Batter T, Bolas EC, Collins AC, Gomes da Rocha D, Monteza-Moreno CM, **Preckler-Quisquater S**, Sollman R. 2018. *A review of wildlife camera trapping trends across Africa*. African Journal of Ecology. 56(4):694-701. Authors ordered alphabetically with equal contribution.

MANUSCRIPTS (IN PREP)

2026 **Preckler-Quisquater S**, Cypher BM, Rudd JL, Clifford DL, Vanderzwan SL, Sacks BN. *Historical bottlenecks and contemporary fragmentation jointly shape inbreeding depression risk across the endangered San Joaquin kit fox metapopulation*. (In Prep)

2026 *****Finnerty K, **Preckler-Quisquater S,** Vanderzwan SL, Camacho J, Cypher BM, Rudd JL, Clifford DL, Kelly E, Sacks BN. *Urban diets of San Joaquin kit fox (Vulpes macrotis mutica) revealed by DNA metabarcoding: Diverse prey and anthropogenic food use suggest a shift in foraging strategy*. (In Prep)

***Undergraduate student first-authored manuscript**

TECHNICAL REPORTS

2026 **Preckler-Quisquater S** and Sacks BN. *San Joaquin kit fox genomics: metapopulation connectivity and genetic health.* Report to the Bureau of Land Management. April 30th, 2026.

2025 Reimer JP, **Preckler-Quisquater S**, Markegard S, Sacks BN. *Population structure and geneflow analysis for Alaska's little brown myotis (Myotis lucifugus)*. Report to U.S. Fish and Wildlife Service. February 28, 2025.

2025 Akins J and **Preckler-Quisquater S.** *Genetic Characteristics and Conservation Status of Canada Lynx in Washington and Connectivity with Southern British Columbia*. Report to U.S. Fish and Wildlife Service. June 20, 2025.

2022 Sacks BN, Quinn CB, **Preckler-Quisquater S**. *Genomic markers for the Sierra Nevada red fox.* Report to the U.S. Fish and Wildlife Service. April 30, 2022.

2019 Bellido F, Broad A, Gaffney S, Hernandez D, Holmes A, Lo V, Moore-O'Leary K, Peckney J, **Preckler-Quisquater S**, Schwartz M, Wiener J, Williamson M. *Climate Threats Assessment for the Kern and Pixley National Wildlife Refuges.* Report to U.S. Fish and Wildlife Service. *Authors listed in alphabetical order

2017 **Preckler-Quisquater, S.**, Anderson, S., Nguyen, C., Sacks, B.N. 2017. *Range-wide Occupancy Survey for the Sacramento Valley red fox*. Final Report to the California Department of Fish and Wildlife. September 30, 2017. pp.1-18.

GRANTS

2026 Disney Conservation Innovation Grant - Institutionally selected nominee (limited submission)
Primary Investigator; proposal pending; $50k requested)
"*A Predictive Framework for San Joaquin Kit Fox Connectivity and Recovery*"

2025 Central Valley Project Conservation Fund (Co-Investigator; proposal pending; $250k requested)
"*San Joaquin kit fox range-wide fecal-genetic mange and dietary surveys*"

2025 U.S. DOI - Endangered Species - Candidate Conservation Action Funds (Co-Investogator; $163k awarded)
"*Expanding our understanding of little brown bat (Myotis lucifugus) population structure across Alaska and northwestern Canada*"

2024 UC Davis Postdoctoral Student Association Travel Grant ($400)

2022 The Wildlife Society, Molecular Ecology Working Group Travel Grant ($325)

FELLOWSHIPS

2017 – 2021 UC Davis Graduate Group in Ecology Fellowship ($37k)

2020 Kit Rice Ecology Fellowship ($4k)

AWARDS

2022 Best Poster Presentation – Graduate Student Symposium in Ecology

2020 Best Oral Presentation – The Wildlife Society Western Section

2018 William and Linda Sullivan Environmental Sciences Scholarship

2017 UC Davis Ecology Student Endowment Award

SELECT INVITED & ORAL PRESENTATIONS

Feb 2026 **Preckler-Quisquater S**, Quinn CB, Fraik A, Roffler G, Vanderpool D, Wilcox T, Pilgrim K, Schwartz M. (2026) *Evaluating the Risk of Inbreeding Depression for Wolves on Prince of Wales Island and Southeast Alaska.* Alaska Department of Fish and Game. Anchorage, AK. ***Invited Speaker**

Feb 2026 **Preckler-Quisquater S,** Cypher BL, Rudd JL, Clifford D, Vanderzwan S, Sacks BN. (2026) *Historical Bottlenecks and Fragmentation Underlie Genomic Erosion and Reduced Immune Diversity in the Endangered San Joaquin Kit Fox*. The Wildlife Society Western Section Annual Conference. Monterey, CA.

Feb 2025 **Preckler-Quisquater S,** Cypher BL, Rudd JL, Clifford D, Vanderzwan S, Sacks BN. (2025) *Genomic Impacts of Fragmentation and Disease in the Endangered San Joaquin Kit Fox*. The Wildlife Society Western Section Annual Conference. Visalia, CA.

Oct 2024 **Preckler-Quisquater S**, Sanchez K, Cypher B, Rudd J, Clifford D, Vanderzwan S, Sacks BN. (2024) *Characterizing the genomic effects of habitat fragmentation and disease outbreaks on metapopulation connectivity and inbreeding in the San Joaquin kit fox.* The Wildlife Society Annual Conference. Baltimore, MD.

Nov 2022 **Preckler-Quisquater S**, Kierepka E, Reding D, Piaggio A, Riley S, Sacks BN. (2022) *Whole-genome sequencing uncovers recent admixture pulses and selective introgression between highly divergent gray fox lineages*. The Wildlife Society National Conference. Spokane, WA.

Feb 2020 **Preckler-Quisquater S**, Sacks BN. (2020) *Do Reproductive Barrier Genes Contribute to the Maintenance of Distinct Red Fox (Vulpes vulpes) Populations across a Zone of Secondary Contact?* The Wildlife Society Western Section Conference. Redding, CA. Awarded Best Oral Presentation.

Sep 2019 **Preckler-Quisquater S**, Sacks BN. (2019) *Does Natural Selection Affect Gene Flow Between Nonnative and Native Red Fox Populations?* The Wildlife Society National Conference. Reno, NV.

Jun 2017 **Preckler-Quisquater S**, Anderson S, Miles K, Batter TJ, Sacks BN. (2017) *California Native Species Presentation: Sacramento Valley red fox (Vulpes vulpes patwin).* California Natural Diversity Database Branch. Sacramento, CA. ***Invited Speaker**

Feb 2017 **Preckler-Quisquater S**, Miles K, Batter TJ, Anderson S, Sacks BN. (2017) *Occupancy estimation as a tool to test and refine a predictive species distribution model for the Sacramento Valley red fox.* The Wildlife Society Western Section Conference. Reno, NV.

SELECT POSTER PRESENTATIONS

Feb 2026 *****Finnerty K, **Preckler-Quisquater S,** Vanderzwan SL, Camacho J, Cypher BM, Rudd JL, Clifford DL, Kelly E, Sacks BN. *Urban diets of San Joaquin kit fox (Vulpes macrotis mutica) revealed by DNA metabarcoding: Diverse prey and anthropogenic food use suggest a shift in foraging strategy*. The Western Section of The Wildlife Society Conference. Monterey, CA. ***Undergraduate student first-authored paper**

Feb 2023 **Preckler-Quisquater S**, Sanchez K, Cypher B, Rudd J, Clifford D, Vanderzwan S, Sacks BN. (2023) *Preliminary comparison of genetic diversity in the endangered San Joaquin Kit Fox (Vulpes macrotis mutica) before and after a mange outbreak.* The Western Section of The Wildlife Society Conference. Riverside, CA. Awarded 2nd Place Poster Presentation.

Feb 2022 **Preckler-Quisquater**, Kierepka E, Reding D, Piaggio A, Riley S, Sacks BN. (2022) *Genomic sequencing across a zone of secondary contact uncovers complex demographic history and admixture between cryptic gray fox lineages*. UC Davis Graduate Student Symposium in Ecology. Awarded Best Poster Presentation.

Jan 2020 **Preckler-Quisquater S**, Sacks BN. (2020) *Do Reproductive Barrier Genes Contribute to the Maintenance of Distinct Red Fox (Vulpes vulpes) Populations across a Zone of Secondary Contact?* International Plant and Animal Genomics Conference. San Diego, CA.

Feb 2018 **Preckler-Quisquater S**, Anderson S, Buchalski M, Sacks BN. (2018) *Assessing selective introgression of nonnative red fox genes into the genomic background of the native Sacramento Valley red fox.* The Wildlife Society Conference Western Section Conference. Santa Rosa, CA.

Feb 2016 **Preckler-Quisquater S**, Batter TJ, Anderson S, Sacks BN. (2016) *Increasing distribution of nonnative red fox haplotypes within the range of the native Sacramento Valley red fox.* The Wildlife Society Western Section Conference. Pomona, CA.

TEACHING EXPERIENCE

4 quarters	**Teaching Assistant.** Introduction to Evolution. Biological Sciences Department. UC Davis, CA.
5 quarters	**Teaching Assistant.** Introductory Biology: Principles of Ecology and Evolution. Biological Sciences Department. UC Davis. Davis, CA.
1 quarter	**Teaching Assistant.** Field Methods in Wildlife, Fish, & Conservation Biology. UC Davis, CA.
1 semester	**Invited Guest Lecturer**. Conservation Biology. American River College. Sacramento, CA. Fall 2020
3 semesters	**Invited Guest Lecturer**. Ecology. American River College. Sacramento, CA. Fall 2020-2023
1 semester	**Invited Guest Lecturer**. Wildlife Biology. American River College. Sacramento, CA. Spring 2020
3 semesters	**Invited Guest Lecturer**. Mammalogy. Sacramento State University. Sacramento, CA. Fall 2017-2019.
2020 – 2021	**Career Discovery Group Mentor** to 21 first-year, UC Davis undergraduate students. Working to guide them throughout the 2020-2021 school year as they assess their skills, interests, and values, and the role in which these play in successfully choosing a major and building a career.
March 2019	**Software Carpentry Instructor Training.** Trained in evidence-based pedagogy for teaching foundational computational and data science skills to diverse groups of researchers.
Fall 2020	**Teaching Methods in Science and Society.** Training in mentorship, teaching methods, and course design

RESEARCH MENTORSHIP

2026	**NSF REU Mentor** to Jordyn Wynn. UC Davis Ecological and Evolutionary Response to Rapid Environmental Change (EERREC) Research Experience for Undergraduates (REU). National Science Foundation. Independent research project: *On the Move: Landscape Genetics of Coyotes and Bobcats in Yosemite National Park.*
2025 – 2026	**NSF REU Mentor** to Keegan Finnerty. UC Davis Ecological and Evolutionary Response to Rapid Environmental Change (EERREC) Research Experience for Undergraduates (REU). National Science Foundation. Independent research project: *Urban diets of San Joaquin kit fox (Vulpes macrotis mutica) revealed by DNA Metabarcoding: Diverse prey and anthropogenic food use suggest a shift in foraging strategy.* *****Presented at regional conference ***first-authored undergraduate publication (in prep)**

2022 – 2023 **NSF REU Mentor** to Katelyn Sanchez. UC Davis Ecological and Evolutionary Response to Rapid Environmental Change (EERREC) Research Experience for Undergraduates (REU). National Science Foundation. Independent research project: *Genetic Diversity of the San Joaquin Kit Fox*. *Presented at regional conference

2019 – 2021 **Research Mentor** to Stephanie Oleksy. Undergraduate Animal Biology Research Practicum: *Museum skull specimens offer insight into ecologically relevant body size differences between closely related montane and lowland red fox subspecies.*

2018 – 2019 **Research Mentor** to Taylor Davis. Independent research project: *Optimizing tissue sampling and extraction protocol for next-generation genomic sequencing.* *Presented at regional conference

2017 – 2018 **Research Mentor** to Emma Sutphin. Undergraduate Animal Biology Research Practicum: *Comparison of photographic and genetic determination of abundance of Sacramento Valley Red Foxes (Vulpes vulpes patwin) at den sites.*

2016 – 2017 **Research Mentor** to Nicole Gonzalez. Undergraduate Animal Biology Research Practicum: *Contrasting Relative Abundance Indices between Designated and Non-Designated Wildlife Areas.*

PROFESSIONAL AFFILIATIONS

American Genetic Association; The Wildlife Society; Society for Conservation Biology; UC Davis DataLab (Postdoctoral Affiliate)

ACADEMIC SERVICE

2022 – 2025 **Board Member** – Molecular Ecology Working Group of The Wildlife Society
2019, 2020 **Co-Chair** – Graduate Student Symposium in Ecology
2017, 2019 **Committee Member** – UC Davis Graduate Group in Ecology Admissions
2017, 2018 **Committee Member** – Graduate Student Symposium in Ecology
2016, 2017 **Meeting Representative** – Graduate Student Association

Reviews Completed: Molecular Ecology (3), Molecular Ecology Resources (1), Scientific Reports (2), The California Fish and Wildlife Journal (1)

PUBLIC SERVICE & OUTREACH

Fall 2021 **Preckler-Quisquater S.** (2021) *Trappers help fill the knowledge gap in North American red fox history*. Saskatchewan Trappers Association Magazine. Fall 2021. Popular science publication written as part of a broader coordinated effort to obtain genetic samples from trappers throughout Canadian provinces.

Dec 2020 **Preckler-Quisquater S.** (2020) *Peaks, Valleys, and Farms: Insights into the complex heritage of western red foxes.* Yolo Basin Foundation Flyway Nights Speaker Series, **Invited Speaker**.

2017 – 2022 UC Davis Girls Outdoor Adventure in Leadership and Science (GOALS). **Founding member**. Developed a free, immersive summer science program for high school girls and gender-expansive youth.

Apr 2016 **Preckler-Quisquater S.** (2016) *Current status of the Sacramento Valley red fox in light of a proposed RV Campsite development at a sensitive denning site.* CA State Parks Commission. **Invited Speaker**.

ADDITIONAL RESEARCH & FIELD EXPERIENCE

Jun 2015 – Aug 2016 **Field Technician.** Sacramento Valley red fox project. UC Davis – California Department of Fish and Wildlife. P.I Sacks BN. Davis, CA.

Nov 2013 – May 2015 **Biological Science Technician.** Fisher Research Project, Pacific Southwest Research Station, US Forest Service. P.I. Thompson C. Oakhurst, CA.

Apr 2013 – Nov 2013 **Biological Science Technician.** Sierra Nevada Adaptive Management Project – Pacific Fisher Monitoring, UC Berkeley. P.I. Roller G. Oakhurst, CA.

Jan 2012 – Mar 2013 **Field Technician.** Mendocino Deer and Mountain Lion Project. UC Davis – California Department of Fish and Wildlife. P.I. Forrester T. Mendocino National Forest, CA.

Sep 2010 – Aug 2011 **Research Intern.** Giraffe Research Project. UC Davis – Kenya Wildlife Service. P.I. Vanderwaal K. Davis, CA – Ol' Pejeta Nature Conservancy, Nanyuki, Kenya.

Dec 2010 – Jun 2011 **Research Intern.** Chimpanzee Research Project. UC Davis. P.I. Sharpe N. Oakland Zoo, Oakland, CA – Ol' Pejeta Nature Conservancy, Nanyuki, Kenya.