

## ***Christopher R. Vennum***

Postdoctoral Researcher  
Dept. of Fish, Wildlife & Conservation Ecology  
New Mexico State University, Las Cruces NM  
Email: [cvennum@nmsu.edu](mailto:cvennum@nmsu.edu)

### **Professional Interests**

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Quantitative ecology, avian physiology, ecological immunology, migration ecology, avian ecology & conservation, applied wildlife management

### **Research Positions & Education**

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Postdoctoral Researcher – National Raptor Program 2025-Present  
New Mexico State University - Dept. of Fish, Wildlife & Conservation Ecology  
Adviser: Dr. Fitsum Abadi Gebreselassie

Postdoctoral Researcher 2023-2025  
New Mexico State University - Dept. of Fish, Wildlife & Conservation Ecology  
Adviser: Dr. Abby Lawson

ABAX Postdoctoral Fellow – FitzPatrick Institute of African Ornithology 2022-2023  
University of Cape Town  
Adviser: Dr. Arjun Amar

Ph.D. - Dept. of Fish, Wildlife, and Conservation Biology 2017-2022  
Colorado State University  
Advisor: Dr. David Koons  
Dissertation Title: Demographic Consequences of Agricultural Practices on  
a Long-Lived Avian Predator

M.S. - Biology 2014-2017  
University of Nevada – Reno  
Advisor: Dr. Jack Hayes  
Thesis Title: Ecoimmunology and Demography of Swainson's Hawk  
(*Buteo swainsoni*) Nestlings

B.S. - Biology w/ Marine Emphasis, Chemistry Minor 2005-2009  
Western Washington University

## Scientific Publications

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**Vennum, C.R.**, Gilmore, A., Wells, C.P., Briggs, C.W. and Koons, D.N., 2025. Morphometric Sex Determination Across Nestling Age Classes of Swainson's Hawks. *Journal of Raptor Research*, 59(4), pp.1-10.

**Vennum, C.R.**, Briggs, C.W., Collopy, M.W., Woodbridge, B. 2024. Inequality among offspring, correlates of recruitment and lifetime reproductive success in a long-lived raptor. *Journal of Ornithology*. 165:681-690.

Briggs, C.W., Farner, C., Hunt, M.G. and **Vennum, C.R.**, 2024. Daily Diet and Temporal Variation of Swainson's Hawk Prey Deliveries. *Journal of Raptor Research*, 58(4), pp.505-512.

Kane, S.A., **Vennum, C.R.**, Woodbridge, B., Collopy, M.W., Bloom, P.H., Briggs, C.W. 2020. Age distribution and longevity in a breeding population of Swainson's Hawks, *Buteo swainsoni*. *Journal of Ornithology*. 161(3): 885-891.

Herring, G., Eagles-Smith, C.A., Buck, J.A., Shiel, A.E., **Vennum, C.R.**, Emery, C., Johnson, B., Leal, D., Heath, J.A., Dudek, B.M. and Preston, C.R., Woodbridge, B. 2020. The lead (Pb) lining of agriculture-related subsidies: enhanced Golden Eagle growth rates tempered by Pb exposure. *Ecosphere*. 11(1), e03006.

**Vennum, C.R.**, Downs, C.J., Hayes, J.P., Houston, I., Collopy, M.W., Woodbridge, B., Briggs, C.W. 2019. Early life conditions and immune defense in nestling Swainson's Hawks. *Physiological and Biochemical Zoology*. 92(4): 419-429.

Dudek, B.M., Kochert, M.N., Barnes, J.G., Bloom, P.H., Papp, J.M., Gerhold, R.W., Purple, K.E., Jacobson, K.V., Preston, C.R., **Vennum, C.R.**, Watson, J.W., Heath, J.A. 2018. Prevalence and risk factors of *trichomonas gallinae* and trichomonosis in Golden Eagles (*Aquila chrysaetos*) nestlings in western north America. *Journal of Wildlife Diseases*. 54(4): 755-764.

Luján-Vega, C., Johnson, C.K., Briggs, C., **Vennum, C.**, Bloom, P., Hull, J.M., Cray, C., Pesti, D., Wolff, B., Ciembor, P., Ritchie, B., and Hawkins, M.G. 2018. Atypical chlamydiaceae in free-ranging populations of hawks (*BUTEO SPP.*) in northern California. *Journal of Zoo and Wildlife Medicine*. 49(1):108-115.

MacColl, E., Vanesky, K., Buck, J.A., Dudek, B.M., Eagles-Smith, C.A., Heath, J.A., Herring, G., **Vennum, C.**, Downs, C.J. 2017. Correlates of immune defenses in Golden Eagle nestlings. *Journal of Experimental Zoology A*. 327(5): 243-253.

## *In Progress*

**Vennum, C.R.**, Woodbridge, B., Street, P.A., Collopy, M.W., Bloom, P., Hayes, J.P., Briggs, C.W. 2024. Cross-seasonal effects of agricultural pesticides on a hemispheric migrant. {Resubmission Process}

**Vennum, C.R.**, Briggs, C.W., Collopy, M.W., Woodbridge, B., Koons, D.N. 2025. Effects of natal conditions and sex on early life survival, age of first reproduction, and selection of recruitment habitat. {Submitting Soon}

**Vennum, C.R.**, Briggs, C.W., Collopy, M.W., Woodbridge, B., Koons, D.N. 2025. Dynamic Heterogeneity: adult lifetime reproductive success and fitness. {Submitting Soon}

### **Fellowships & Grants – Total \$143,600**

Dr. Fritz Knopf Graduate Fellowship for Avian Conservation (Declined)	\$100,000
California Swainson's Hawk Technical Advisory Committee MOTUS Grant (2018)	\$12,500
Fran McDermott Estate Research Grant (2021)	\$10,500
California Swainson's Hawk Technical Advisory Committee Migration Grant (2015)	\$10,000
Sea & Sage Audubon Society "Bloom-Hayes Ecological Research Grant" (2018)	\$2,500
USFWS Connecting People with Nature Grant (2016)	\$2,400
Oscar and Isabel Anderson Graduate Fellowship - CSU (2019)	\$1,600
University of Nevada – Reno Graduate Student Travel Award (2014, 2015, 2016)	\$1,500
Van Riper Travel Grant – Colorado State University (2020)	\$1,000
Klamath Basin Audubon Society Grant (2018)	\$600
Raptor Research Foundation James R. Koplin Travel Award (2016)	\$500
Raptor Research Foundation James R. Koplin Travel Award (2021)	\$500

### **Awards**

William C. Andersen Memorial Award – Raptor Research Foundation 2016  
Best Student Oral Presentation

### **Professional Presentations (\* Invited Speaker, †Organized Symposium)**

†Raptor Research Foundation Conference – San Juan, Costa Rica Organized Swainson's Hawk Symposium Oral Presentation – Title: From Nest to Recruitment: Morphometrics, Sex Prediction, and Habitat Effects in a Long-Lived Raptor	October 2025
*NAU Biennial Conference of Science & Management – Flagstaff, Arizona Oral Presentation – Title: Creating a Decision Support Tool for Setting Sustainable Raptor Take Limits under Future Environmental Nonstationarity	September 2025
FWCE Dept. Seminar (NMSU) – Las Cruces, New Mexico Oral Presentation – Title: Balancing the skies: navigating climate, energy, and avian conservation	March 2025
Raptor Research Foundation Conference – Charlottesville, North Carolina Oral Presentation – Title: Incorporating Climate Uncertainty into Integrated Population Models for Raptors with Contrasting Migration Strategies	October 2024

The Wildlife Society National Conference – Baltimore, Maryland	October 2024
Oral Presentation – Title: Incorporating Climate Uncertainty into Integrated Population Models for Raptors with Contrasting Migration Strategies	
New Mexico Avian Conservation Partners - Sevilleta NWR, New Mexico	February 2024
Oral Presentation – Title: Decision support for sustainable raptor take limits in a changing climate	
Chihuahuan Desert Conference – El Paso, Texas	November 2023
Oral Presentation – Title: Decision Support for Setting Raptor Take Limits in a Rapidly Changing World	
Raptor Research Foundation Conference – Albuquerque, New Mexico	October 2023
Oral Presentation – Title: Using GPS Tracking of Martial Eagles to Inform Future Wind Farm Development	
Raptor Research Foundation Conference – Albuquerque, New Mexico	October 2023
Oral Presentation – Title: Do Verreaux's Eagles fly at Night? Implications for Future Wind Farm Developments	
The Wildlife Society National Conference – Louisville, Kentucky	October 2023
Oral Presentation – Title: Full Life-Cycle Demographic Rates and Lifetime Fitness of Swainson's Hawks Breeding in Agricultural Environments	
Pan-African Ornithological Congress (PAOC 15) – Victoria Falls, Zimbabwe	November 2022
Oral Presentation – Title: Using GPS Tracking to Understand and Map Wind Turbine Collision Risk for Raptors	
Raptor Research Foundation Conference – Fort Collins, Colorado	November 2019
Oral Presentation – Title: Immunity and Sub-lethal Lead Exposure in Golden Eagle Nestlings	
Raptor Research Foundation Conference – Kruger NP, South Africa	November 2018
Oral Presentation – Title: State Uncertainty: Sex Effects and Correlates of Recruitment	
American Ornithological Society Conference – Tucson, Arizona	April 2018
Oral Presentation – Title: Swainson's Hawk Recruitment: Environmental Impacts and Trends Across Three Decades”	
Raptor Research Foundation Conference – Salt Lake City, Utah	October 2017
Oral Presentation – Title: Juvenile Swainson's Hawk Demography: Environmental Impacts and Trends Across Three Decades”	

Raptor Research Foundation Conference – Cape May, New Jersey Oral Presentation – Title: Demography and Ecoimmunology of Recruitment in Swainson’s Hawks ( <i>Buteo swainsoni</i> )	October 2016
Lahontan Audubon Society - Reno, Nevada Oral Presentation – Title: Breeding Ecology of Swainson’s Hawks	May 2016
Butte Valley, California 4-H Club Oral Presentation – Occurrence & Importance of Raptors in Agricultural Lands	January 2016
Raptor Research Foundation Conference – Sacramento, CA Poster – Title: Documenting an Emerging Population of Ferruginous Hawks ( <i>Buteo regalis</i> ) in Northern California	November 2015
Klamath Basin Audubon Society – Klamath Falls, OR Oral Presentation – Title: Swainson’s Hawks in our Backyard	May 2015
Raptor Research Foundation Conference – Corpus Christi, TX Oral Presentation – Title: Monitoring Population Health of Swainson’s Hawks through Immunocompetence in Northern California	September 2014
Raptors of the Northwest Symposium – Pasco, WA Oral Presentation – Title: Monitoring Population Health of Swainson’s Hawks through Immunocompetence in Northern California	February 2014
SURCP State of the Beaver Conference – Canyonville, OR Oral Presentation - Title: Methow Beaver Restoration Project	February 2011

### **Mentored Undergraduate Research Projects**

Meisman, E., **Vennum, C.R.**, Briggs, C.W., Bloom, P., Collopy, M., Johnson, M. 2024. Poster Title: The Effects of Body Size on Swainson’s Hawk Natal Dispersal Distance and Recruitment Dynamics. American Ornithological Society Annual Conference.

Gilmore, A., Wells, C.P., Briggs, C.W., **Vennum, C.R.** 2019. Poster Title: Genetic and morphometric sex determination of Swainson’s hawk nestlings. Raptor Research Foundation Annual Conference.

Walker, T.C., **Vennum, C.R.**, Woodbridge, B., Collopy, M.W., Briggs, C.W. 2019. Poster Title: Who gets the house? Fitness consequences of mate turnover in Swainson’s hawks. Raptor Research Foundation Annual Conference.

### **Professional Workshops Taught**

Virtual 5-part R Workshop Series for Early Career Researchers  
Raptor Research Foundation

June 2021

Title: "Graduate Student Toolbox: Tips and Tricks"  
Annual Raptor Research Foundation Conference

October 2017

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### **Professional Journal Manuscript Reviews**

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Behavioral Ecology and Sociobiology  
Ecography  
Ecology & Evolution  
Frontiers in Zoology  
Journal of Animal Ecology  
Journal of Raptor Research

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### **Professional Society Membership**

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Raptor Research Foundation (current member)  
The Wildlife Society (current member)  
American Ornithological Society  
Wilson Ornithological Society

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### **Professional Service**

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President – Graduate Student Organization; Fish, Wildlife, and Conservation Biology Dept. 2019  
Warner College of Nat. Res. (CSU) Technology Fee Committee Graduate Rep (2017- 2021)  
Raptor Research Foundation (International Foundation)  
Member of the Code of Conduct Committee (2017-2022)  
Co-President Early Career Raptor Research Committee (2019-2022)  
Local Planning Committee – 2019 Annual Conference  
Planning Committee – 2020 Virtual Annual Conference