

## Education

### University of California, Berkeley

Fall 2006-Spring 2010

Bachelor of Science in Environmental Science  
GPA: 3.57 out of 4.00

### University of Wyoming

Spring 2015-Fall 2017 (expected)

Wyoming Cooperative Fish and Wildlife Research Unit, Dept. of Zoology and Physiology  
Masters of Science in Zoology  
Advisor: Dr. Anna Chalfoun

Thesis: *Mechanisms underlying increased songbird nest predation rates with natural gas development*

- Graduate coursework, in progress (GPA 4.00)
- Study design and literature review
- Project management: budget, hiring, permitting, field logistics
- Field work: nest searching and monitoring, small mammal trapping, vegetation surveys, raptor point counts, baited trail cameras
- Data analysis and report preparation

## Publications

Carlisle, J.D., L.E. Sanders, A.D. Chalfoun and K.G. Gerow. In prep. Raptor nest-site use in relation to the proximity of coalbed-methane development. *Avian Biodiversity and Conservation*.

Parsons, L., L. Sanders, A. Ryan, M. Reichmuth. 2015. Changes in the food web linked to restoration effort intensity and watershed conditions. *Natural Resources* (6): 344: 362.

Chalfoun, A., J. Carlisle, L. Sanders and K. Gerow. 2013. Analysis of temporal and spatial patterns of raptor nest occupancy in areas of coal-bed methane development in the Powder River Basin, Wyoming. Final Report to the Bureau of Land Management, Buffalo Field Office.

Sanders, L. 2012. Algerian ivy removal techniques along a riparian zone in Berkeley, CA. *Berkeley Scientific Journal* 16(2): 1-7.

## Presentations

Sanders, L. and A. Chalfoun. Is a mesopredator release underlying increased songbird nest predation rates near natural gas development? Joint Conference of the Wyoming Chapter of the Wildlife Society and The Society for Range Management, Cody, WY, November 2016 (oral presentation)

Sanders, L. and A. Chalfoun. Is a mesopredator release underlying increased songbird nest predation rates near natural gas development? North American Ornithological Conference, Washington D.C., August 2016 (oral presentation)

Sanders, L. and A. Chalfoun. Mechanisms underlying increased songbird nest predation rates with natural gas development. Joint Conference of the Wyoming Chapter of the Wildlife Society and The Wyoming Landscape Conservation Initiative, Lander, WY, December 2015 (poster)

Sanders, L., J. Carlisle, A. Chalfoun, K. Gerow. Raptor Nest Occupancy in relation to coal-bed methane development in the Powder River Basin, Wyoming. The Wildlife Society 19<sup>th</sup> Annual Conference, Portland, OR, October 2012 (poster)

## Research Experience

- Sierra Nevada Red Fox Technician, University of California, Davis July-Oct 2014
- Collected red fox scat for genetics study
  - Maintained passive and baited trail cameras (Scoutguard and Reconyx)
  - Hiked over steep terrain at high elevation
- Biological Science Tech, GS-5, USGS N. Prairie Wildlife Research Center Apr-July 2014
- Re-sighted piping plovers and least terns and located nest locations
  - Trapped birds on nests using walk-in and bow-net traps, applied color bands and federal metal bands
  - Drove government vehicles while trailering a boat, drove motorboats (flat bottomed boats and Zodiacs)
- Biological Science Technician, GS-5, Sequoia-Kings Canyon National Park June-Sept 2013
- Removed invasive trout from high alpine lakes using gill nets and a backpack electro fisher
  - Conducted shoreline surveys for mountain yellow-legged frogs
  - Lived and worked in the backcountry, maintained two remote backcountry camps
- Prairie-Chicken Research Technician, University of Nebraska March-May 2013
- Trapped Greater Prairie-Chickens using drop nets and walk-in traps on leks
  - Collected measurements, took feather sample, applied leg bands, attached radio transmitters
  - Tracked birds using handheld radio telemetry unit
- Avian Point Count Technician, PRBO Conservation Science April-Aug 2012
- Early morning avian point counts
  - Conducted 3-4 hour woodpecker nest searches
  - Vegetation surveys (DBH, % cover, tree height, tree/shrub ID)
- Statistical Research Assistant, Wyoming Cooperative Research Unit Oct 2011-April 2012
- Statistical analysis of raptor nest locations in areas of coal-bed methane development
  - Reviewed videos of sparrow nesting behavior, compiled spot map data
- Bird and Small Mammal Technician, Wyoming Cooperative Research Unit June-Sept 2011
- Early morning avian point counts
  - Small mammal trapping and processing (administered anesthesia, collected measurements, PIT tagged)
  - Habitat assessments (DBH, % groundcover, litter depth, shrub/tree ID)
- Restoration Intern, Point Reyes National Seashore Oct 2011-May 2012
- Data collection in a recently restored wetland (vegetation transects, water quality, digging sediment cores, zooplankton sampling, benthic invertebrate sampling)
- Pika Research Technician, Wyoming Cooperative Research Unit June-Sept 2010
- Pika density and occupancy surveys (based on scat and audio/visual observations)
  - Vegetation surveys (alpine flora ID, % groundcover, talus depth)
  - Backpacked through steep alpine terrain for 4-7 days at a time with a heavy pack

## Memberships and Affiliations

### Laramie Audubon Society

Local Member	Jan 2015-present
Membership Coordinator, Board of Directors	Nov 2015-present
Small Grants Committee Chair, Board of Directors	March 2016-present

### The Wildlife Society

National Member	Nov 2011-present
Wyoming Chapter, Member	Nov 2015-present

### American Ornithological Society

March 2015-present

## Outreach

### University of Wyoming

January 2016-present

- Currently mentoring two undergraduate researchers who have developed their own independent research projects. Mentorship includes helping students to: develop research questions, establish protocols for answering those questions, apply for their own grant money, collect data, analyze data, and prepare manuscripts for publication.
- Provided semester long internships for two undergraduate researchers, giving them lab skills and allowing them to participate in the scientific process.

### Laramie High School

April 2017 (planned)

- Currently developing a three-day long curriculum for high school students using trail camera photos from my research. Curriculum will teach students about the scientific process, and allow them to develop research questions, collect data, view results, and formulate conclusions based on the data.

### Laramie Girl Scouts

June 2017 (planned)

- Currently developing a bluebird box monitoring program for the Laramie girl scouts. This program, in conjunction with the Laramie Audubon Society, will allow scouts to learn about avian biology, monitor bird nests, collect data, and present their results to the public meeting.

### Bietel Elementary

- Presentation to fourth grade class about predator prey dynamics

### Wyoming State Science Fair

March 2016

- Co-organized and implemented three hour-long workshops for elementary students across Wyoming participating in the State Science Fair (~70 participants). Workshops helped students become more comfortable presenting their results in front of science fair judges.

## Specialized Skills

### Certifications

Motorboat Operator Certification Course, CPR Training, Wilderness First Aid Certification

### Software Programs

Program R, ArcMap, Microsoft Office Suite, MiniTab 16, PC-Ord, Estimate S, Sigma Plot, SQL