

Erin C. O'Connell

(910) 986-2002

eoconne@ncsu.edu

<https://github.com/oconnell9>

EDUCATION

North Carolina State University, Raleigh, NC Sept 2023-Present

- Ph.D. Student in Geospatial Analytics '26

Sul Ross State University, Alpine, TX Sept 2020-Dec 2022

- Master of Science in Natural Resource Management '22

Wofford College, Spartanburg, SC Aug 2016-May 2020

- Bachelor of Science in Biology '20

Education Abroad: Chile, Viña del Mar, *Universidad Viña del Mar* (interim exchange),
Australia, Perth, *Murdoch University* (semester exchange)

EXPERIENCE

North Carolina State University, NC Sept 2023-Present

Graduate Research Assistant

- Modeling high-risk areas for biological invasions and training machine-learning algorithms to look for host vegetation species
- Identifying habitat characteristics of long-distance Spotted Lanternfly (SLF) dispersal to aid open-source PoPS forecasting model
- Member of Biological Invasions Lab in the Landscape Dynamics Research Group

Borderlands Research Institute, TX Dec 2022-Sept 2023

Staff Programmer

- Created GitHub repository and managed active scripts
- Created Git workflow for BRI specific packages and database querying functions
- Built Shiny user interface for AWS Big Game database
- Helped other masters students with scripting code and choosing appropriate statistical analysis
- Managed AWS database using SQL and updated existing records with new GPS collar data
- Programmed and tested 250 Vectronic and Lotek collars
- Executed spatial analysis and created maps for data visualization
- Assisted Texas Parks & Wildlife Biologists with automated reports

Borderlands Research Institute, TX

Sept 2020-Dec 2022

Graduate Research Assistant

- Developed code using machine learning methods to remote sense oil well pad locations over a large spatial landscape (320,000 acres)
- Programmed animal movement analysis models using multivariate statistics and helped other students create code and execute various statistical analyses
- Performed QA/QC on Landsat 7-9 ARD overflight imagery and produced time series of MSAVI of each pixel by month to track vegetation phenology
- Updated and managed BRI internal Big Game database and programmed Big Game GPS collars
- Investigated, led, and performed pronghorn necropsies to determine cause of mortality and retrieved GPS collar
- Performed radio telemetry to capture and collect collars from species including, Mule Deer, Bighorn Sheep, Aoudad, and Scaled Quail through rugged desert terrain
- Worked directly with landowners and Texas Parks & Wildlife Biologists on various habitat restoration, big game captures, and guzzler projects
- Created and presented public and stakeholder outreach presentations

Bat Conservation International, USA

June 2020-Present

Research Volunteer

- Collaborated with Dr. Kristen Lear and BCI Subterranean Team to locate agave in Big Bend National Park and Big Bend Ranch State Park as a part of research efforts for the endangered Mexican long-nosed bat (*Leptonycteris nivalis*)
- Monitored agave in Big Bend National Park and collected samples for eDNA analysis as a part of BCI's US/Mexico Agave Restoration Project

Pittsburgh Wildlife & Environmental, PA

May 2018-Sept 2019

Bat Field Technician

- Followed USFWS protocol to conduct surveys on endangered and threatened bats. Conducted independent night surveys under team lead. Monitored presence of bats in WV, PA, and KY. Specifically looked for presence of endangered or threatened species
- Handled and identified *Myotis leibii*, *Perimyotis subflavus*, *Eptesicus fuscus*, *Lasiurus borealis*, *Nycticeius humeralis*, *Myotis septentrionalis*, *Lasiurus cinereus*, and *Lasionycteris noctivagans*
- Placed radio transmitters on bats and used telemetry to track bats to roost tree
- Hiked ~10 mi per day through steep mountainous terrain with 50+lb gear. Worked outside at night through adverse conditions.
- Worked independently at study sites my second summer. Independently selected net locations and corridors. Independently set up/tore down mist nets.
- Used QGIS to create site maps and delineate habitat corridors

Wofford College, Spartanburg, SC

Sept 2018-May 2020

Statistics Tutor

- Recommended by statistics professor to be a tutor
- Assisted students with homework and problem-solving skills
- Helped students interpret and understand different figures and graphs
- Helped students find appropriate statistics for their projects

Murdoch University, Murdoch, Western Australia

Spring 2019

Independent Research

- Designed and executed my own research with on predation behavior of Octopuses in intertidal pools at Coral Bay, WA
- Produced manuscript published in BARNA student research journal

Murdoch University, Murdoch, Western Australia

Spring 2019

Undergraduate Research Assistant

- Worked independently under PhD student studying giant clams in the intertidal zone
- Collected data on intertidal zone invertebrates from ocean transects inside and outside of Ningaloo Marine Sanctuary
- Analyzed data from previous study years and wrote brief note "Do Sanctuary Zones Matter? An analysis of *Tridacna* abundance and size on Ningaloo Reef, WA"

SKILLS

Computer: R, SQL, Shiny, PostgreSQL, Machine Learning Algorithms, Database Querying and Management, Git, APIs, eCognition, Python, Jupyter Notebook, VSCode, ArcGISPro, QGIS, JavaScript, Fusion 360, Affinity Photo

Lab: Aseptic lab techniques, light microscopy, T-streaking, Gram staining, pipetting, obtaining a pure culture, gel electrophoresis, light spectrophotometry, PCR

Tracking: Able to recognize 50+ animal tracks and scat, Radio Telemetry

Languages: English and Spanish (Advanced-mid)

Certifications: American Red Cross CPR, First Aid, AED, NAUI Open Water SCUBA, American Red Cross Lifeguard, North Carolina Fish & Wildlife Boating License, Conservation Leaders for Tomorrow: *Hunting for Conservation Course and Workshop*

PUBLICATIONS

Erin C. O'Connell, Justin T. French, Carlos E. Gonzalez, Louis A. Harveson (Borderlands Research Institute), Shawn S. Gray (Texas Parks and Wildlife Department). (Will submit Fall 2023). Modeling Pronghorn Behavior: Acclimation of translocated pronghorn in Edward's Plateau. *Biological Conservation*.

Erin C. O'Connell, Justin T. French, Carlos E. Gonzalez, Louis A. Harveson (Borderlands Research Institute), L., Cody Webb (Rocker b Ranch), Shawn S. Gray (Texas Parks and Wildlife Department). (Submitted Apr 2022, in print July 2022). Assessing Restoration Success: Movement Behavior and the Short-Game. *Texas Wildlife Association*.

O'Connell, E. (2019). Octopus escape routes and den camouflage at Ningaloo Reef, Western Australia. *BARNA Journal of Student Initiated Research*. Volume 2)

PRESENTATIONS

Pronghorn Fence and Social Group Behavior at ESA Meeting in Portland, OR	Aug 2023
Presented Pronghorn Fence and Social Group Behavior at TCTWS Meeting in Houston, TX	Feb 2023
Presented Pronghorn Habitat Selection at TCTWS Meeting in Houston, TX	Feb 2023
Presented Thesis Research at Pronghorn TPWD Technical Committee Meeting in Alpine, TX	Aug 2022
Presented Pronghorn Public Outreach at Marathon Public Library Summer Speaker Series	Jun 2022
Presented Thesis Research at Sul Ross Graduate Symposium	Apr 2022
Presented Thesis Research to University of Wyoming Students	Mar 2022
Presented in the <i>Clarence Cottom Awards Competition</i> at	Feb 2022
The Texas Chapter of the Wildlife Society Annual Meeting in Marble Falls, TX Modeling Pronghorn Behavior and Movement: <i>Acclimation of Translocated Pronghorn in Edward's Plateaus</i>	
Presented Thesis Research at TPWD Technical Committee Meeting in Lubbock, TX	Aug 2021
Presented Thesis Proposal at Texas Parks & Wildlife Symposium	Sept 2020

MEDIA

Skinner, N. (2022, July 15). Translocated pronghorn move through modified fences. *Lone Star Outdoor News*. <https://www.lsonews.com/translocated-pronghorn-move-through-modified-fences/>.

AWARDS & SCHOLARSHIPS

Clarence Cottam Award, Texas Chapter of the Wildlife Society	2022
Alec D. Ritzell Education Scholarship	2022
West Texas Safari Club Scholarship	2022
Wayne and JoAnn Moore Endowed Scholarship, <i>BRI Foundation</i>	2022
Dan L. Duncan Scholarship, <i>Houston Safari Club Foundation</i>	2021, 2022
(2X) Graduate Fellowship, PPOHA Grant: Advancing Graduate Programs en la Frontera	2022
21st Century Boarding Pass, Wofford College International Affairs	2017

RELEVANT COURSEWORK

Advanced GIS, GPS, and Remote Sensing, Animal Movement, Remote Sensing, Wildlife Population Dynamics, Biostatistics I and II, Research Methods, Field Biology, Scientific Writing, GIS, Grand Challenges in Geospatial Analytics

REFERENCES

Dr. Justin T. French (PI)

(817) 676-7962

justin.french@sulross.edu

Paul Jones (Senior Biologist and Close Mentor)

(403) 303-2283

paul.jones@ab-conservation.com

Shawn S. Gray (TPWD, Pronghorn and Mule Deer State Leader, Committee Member)

(432) 837-0666

Shawn.Gray@tpwd.texas.gov