

Joshua G. Cross

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Education

Sul Ross State University

- Master of Science (Thesis) in Natural Resource Management
- Thesis: *Survival and Habitat Utilization of Desert Bighorn Sheep Translocated to the Santiago Mountains, Texas*
- Overall GPA 4.0
- Graduated Spring 2016

Sul Ross State University

- Bachelor of Science in Natural Resource Management
- Major in Wildlife Management
- Overall GPA 3.3
- Graduated Fall 2012

Professional Experience

Borderlands Research Institute (40 Hours/Week) June 2016-Present

Ranch Mapping Program Coordinator

Supervisor: Dr. Louis Harveson (432) 837-8225

- Manage the Borderlands Research Institute's Ranch Mapping Program. Supervise mapping project production (at times multiple and simultaneous) utilizing ESRI ArcGIS software, coordinate the efforts of myself and student volunteers, establish priorities and lay out specific project goals to be met by all involved, supervise student and staff volunteers.
- Reach out to and coordinate with rural landowner clients. Evaluate their detailed management goals and develop map products tailored to fit their specific needs.
- Coordinate logistics and mapping team to lead trips into the field to locate and ground truth ranch features. Utilize a handheld GPS unit to mark roads, fence lines, infrastructure, water systems, etc. Record detailed field notes and observations. Oversee and maintain safety for all volunteers while out in the field.
- Compile all data and create professional quality map products for landowner clients, including map books, poster-size maps, and digital files usable across multiple interfaces. Have mapped >380k acres of privately owned Trans-Pecos ranches to date.

Research Associate – Upland Gamebird Ecology Program

Supervisor: Dr. Ryan Luna (432) 837-8615

- Work both as a team member and independently with little to no supervision. Supervise and guide graduate assistants through the process of research project planning and design, field work, data collection, data analysis, and thesis construction.

- Edit and approve all theses, written reports, and presentations before they are sent on to coauthors, advisors, or committee members. Review and edit research reports for distribution among landowners, constituents, and the scientific community.
- Prepare presentations and analyze data for associate mentor, Dr. Ryan Luna. Perform GIS analysis and prepare maps for various faculty and staff members. Create map products for colleagues and partners belonging to other agencies and departments.
- Serve as a liaison for the Borderlands Research Institute Stewardship Program. Meet with landowners both on site and in an office setting, discuss management objectives and offer guidance when possible, direct landowners to specialists when necessary. Provide guidance for the application of common habitat enhancement techniques.
- Participate in local, regional, and statewide conservation and restoration efforts.
- Guest lecture various classes (listed below).
- Coauthored/provided support of various undergraduate research projects completed through the Borderlands Undergraduate Mentorship Program.

Sul Ross State University (4 Hours/Week, Spring Semesters) January 2016-Present

Course Instructor – NRM5306 GIS, GPS, and Remote Sensing

Supervisor: Dr Ryan Luna, (432) 837-8615

- Serve as the primary course instructor. Instruct graduate-level students through the entire process of utilizing ESRI ArcGIS to create map products for a landowner, including: coordinating and developing plans with landowners, utilizing satellite imagery to discover and locate ranch features, acquiring necessary data (elevation, hydrography, topography, etc.) online specific to the area of interest, conduct field work to ground truth physical ranch features, compile and organize data into an easily transferrable dataset, produce professional quality map products including books and posters. Oversee and maintain safety for all students while out in the field.

Sul Ross State University / Borderlands Research Institute (20 Hours/Week) January 2011-May 2016

Graduate Research Assistant (2013-2016)

Supervisor: Dr Louis Harveson (432) 837-8225

- Developed study design and preliminary procedures for thesis research project titled “Survival and Habitat Utilization of Desert Bighorn Sheep Translocated to the Santiago Mountains, Texas”. Worked both as a team member and independently with little to no supervision.
- Assisted with the capture of desert bighorn sheep (DBS). Performed weekly on-the-ground telemetry to monitor DBS movements and survival. Conducted aerial telemetry when necessary to locate DBS. Collected and analyzed scientific data. Conducted annual and seasonal survival statistical analysis of DBS using known-fate Program MARK. Estimated annual and seasonal home ranges of DBS using ArcMap GIS program and utilization distributions created in the “t-locoh” package of Program R. Determined the habitat utilization and built habitat models for DBS using ArcMap GIS program and statistical analysis performed in SPSS statistics program.

- Worked side-by-side with Texas Parks and Wildlife Department (TPWD) in a large scale desert bighorn sheep restoration effort. Provided reports and maintained communication with TPWD Bighorn Sheep Program Leader - Froylan Hernandez.
- Trained technicians in the use of telemetry equipment, GIS, and GPS systems. Assisted fellow researchers with numerous big game and small mammal captures. Assisted fellow researchers with the trapping, banding, equipping of radio transmitters, and monitoring of desert quail species. Participated in local, regional, and statewide conservation and restoration efforts.

Undergraduate Research Technician (2011-2013)

Supervisor: James Weaver (432) 244-6431

- Worked side-by-side with TPWD in a large scale pronghorn antelope restoration effort. Was directly supervised by current TPWD Technical Guidance Biologist - James Weaver.
- Monitored and located adult pronghorn via radio telemetry, both on-the-ground and aerially. Utilized GIS and GPS systems.
- Captured, equipped collars, aged, weighed, measured, and ear tagged pronghorn fawns.
- Monitored pronghorn fawn movements and survival via on-the-ground radio telemetry. Utilized GIS and GPS systems.
- Collected, recorded, and processed pronghorn tissue samples for disease, parasite, and mineral level testing.
- Modified fences in preparation for the translocation of pronghorn to the Trans-Pecos region of Texas.
- Constructed traps for quail projects.
- Assisted fellow students and researchers with numerous big game captures.
- Assisted Sul Ross Range and Wildlife Club with various spotlight counts.
- Assisted Sul Ross Range and Wildlife Club with annual turkey shoot fundraiser.
- Assisted fellow students and researchers with various vegetation surveys, implemented plant identification skills.

Publications – Lead author, Coauthor, or Contributor

Theses Completed Under My Guidance

- “Effects of livestock grazing on scaled quail and grassland birds in the Chihuahuan Desert Region of Texas”
- “Ecology of Mearns’ quail (*Cyrtonyx montezumae*) in the Capitan Mountains of New Mexico”
- “The effect of supplemental feed on scaled quail and their fall-winter diets in Trans-Pecos, Texas”
- “Habitat selection and spatial ecology of Montezuma quail in the Capitan Mountains of New Mexico”
- “Scaled quail selection and avoidance of artificial resources and how they influence survival in the Trans-Pecos, Texas”

- “Evaluation of pH dependent prototype feral pig toxicants”
- “Effectiveness of Sendero® on western honey mesquite for scaled quail habitat restoration”

Published

- “Spatial ecology and habitat utilization of Montezuma quail in the Davis Mountains of Texas”
- “Texas Land Trends: Trends in Land Ownership Along Texas Borderlands”
- “The River and the Wall”
- “Survival and habitat utilization of desert bighorn sheep translocated to the Santiago Mountains, Texas”

Under Review

- “Principal foods of Gambel’s quail in Trans-Pecos, Texas”
- “Nesting ecology of scaled and Gambel’s quail in west Texas”
- “Herbicide treatment of western honey mesquite”
- “Survival and cause-specific mortality of translocated desert bighorn in Texas”
- “Habitat based probability distribution model for desert bighorn sheep”

In Progress

- “An analysis of factors influencing Mearns’ and scaled quail distribution in west Texas”
- “Influence of supplemental feed on scaled quail diets in the Trans-Pecos, Texas”
- “Mule deer utilization of urban environments”
- “Tree canopy cover and vegetation selection of Mearns’ quail in the Capitan Mountains of New Mexico”
- “First Documentation of Nematode, *Dispharynx nasuta*, in scaled quail”
- “Survival and habitat utilization of translocated Rio Grande wild turkey in southern Brewster county, Texas”
- “Population characteristics of Mearns’ quail in the Capitan Mountains of New Mexico”
- “Influence of artificial resources on survival and nest success of scaled quail in the Trans-Pecos, Texas”
- “Roost site characteristics of Mearns’ quail in the Capitan Mountains of New Mexico”
- “*Oxyspirura petrowi* infection in Montezuma quail in the Trans-Pecos, Texas”
- “Evaluating Montezuma quail foraging site selection”
- “Selection and avoidance of artificial resources by scaled quail in the Trans-Pecos, Texas”
- “Habitat selection of Montezuma quail”

Classes Lectured / Presentations Given August 2013-Present

- Wildlife Conservation and Management
- Wildlife Management Techniques
- Wildlife Population Dynamics

- Range and Wildlife Research Methods
- Ecological Modelling
- Range and Wildlife Habitat Management
- Big Game Management
- Sustainability and Diversity in Ranching
- Marketing in Agriculture
- Freshman Seminar
- Texas Chapter of The Wildlife Society
- Desert Bighorn Council
- Various Events Hosted by BRI for Donors/Constituents