

KELLY R. THOMPSON PROFESSOR IN QUAIL RESEARCH  
CHAIR OF THE DEPARTMENT OF NATURAL RESOURCE MANAGEMENT  
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## RYAN S. LUNA

### EDUCATION

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**Doctor of Philosophy**, Aquatic Resources and Integrative Biology, May 2013

*Texas State University, San Marcos, Texas*

**Dissertation:** *Body size, rumen-reticulum functions, and dietary nutrition of white-tailed deer*

**Master of Science**, Biology, December 2007

*University of Texas at San Antonio, San Antonio, Texas*

**Bachelor of Science**, Zoology, minor in Chemistry, May 2001

*Texas Tech University, Lubbock, Texas*

### RESEARCH INTERESTS

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My main research interests are upland game bird ecology and management. Other interests include habitat use and foraging ecology of ungulates and control techniques for feral hogs.

### PROFESSIONAL EXPERIENCE

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2018-present Kelly R. Thompson Endowed Professor of Quail Management—Borderlands Research Institute at Sul Ross State University, Alpine, Texas

2018-present Department Chair for Natural Resource Management, Sul Ross State University, Alpine, Texas

2018-present Associate Professor of Wildlife Management. Dept. of Natural Resource Management, Sul Ross State University, Alpine, Texas

2013-2018 Assistant Professor of Wildlife Management, (July 2013-July 2018) Dept. of Natural Resource Management, Sul Ross State University, Alpine, Texas

Tenure track position with responsibilities including teaching, advising, and recruiting. Managed the Upland Gamebird Program and was a faculty advisor for the Range and Wildlife Club. Conducted regional and broad scale research in

wildlife ecology and management. Supervised graduate students on research projects as primary advisor, co-advisor, or committee member.

- 2011-2013 National science Foundation (NSF) GK-12 Fellow (Aug 2011-May 2013)
- Developed and taught education science curriculum for a variety of grade levels for Middle School and High School students. Created multisensory labs for diverse age groups with varied scientific background knowledge to teach specific curriculum and expose students to new laboratory and field techniques. Developed, coordinated, and implemented comprehensive curriculum based activities for youth in formal and informal educational settings including a “What’s in your backyard” Ecology Lab at the city pond, a field study at a wildfire site, and a trip to a US Fish and Wildlife Service hatchery. The hatchery trip introduced students to various aquatic vertebrate and invertebrate sampling techniques, and introduced them to several endangered and endemic local salamander species. Students were shown how research was used to make management decisions in the captive breeding and restocking program.
- 2010-2013 Roosevelt elk study-Redwood National and State Parks, Orick, California (January each year, Texas State University)
- Estimated populations and recorded movement activities of groups and focal animals in the national and state park. Forage intake was estimated through focal animal surveys and vegetation sampling. The influence of body size on relative food intake and foraging behavior was analyzed.
- 2008-2013 Graduate student (Texas State University) working on white-tailed deer studies (Aug 08-May 13)
- Compiled information on harvested animals on wildlife management areas owned by Texas Parks and Wildlife. Conducted physiological studies on rumen-reticulum capacity, liver weights, digesta loads, surface enlargement factor from papillae, bacterial colonies, and how each parameter related to forage quality and life history demands. Analyses of morphological changes associated with environmental heterogeneity was also assessed.
- 2011-2012 Field Assistant (Texas State University)
- Estimated overwintering populations of Brazilian free-tailed bats and conducted microclimate habitat analysis. Conducted herpetofauna surveys for endangered Houston toad research in Bastrop, Texas. Seined portions of Pinto Creek, Los Moros Creek and the Devil’s River to catalogue species and create a distribution map for the endangered Devil’s River minnow.
- 2008-2011 Biology Lab Instructor (Texas State University) (Aug 08-May 11)
- Taught two to three undergraduate Labs for Biology students each week. Set up labs for necessary experiments, lectured on relevant coursework and oversaw all aspects of lab experiments. Wrote and administered quizzes and lab practicals.
- 2006-2007 Graduate student at University of Texas at San Antonio (Aug 06-Dec 07)

Directed research: Animal behavior studies for human-waterfowl interactions.

2004-2006 Research Assistant at University of Texas Health Science Center at San Antonio, Dept. of Pharmacology (Jan 04- Aug 06)

Organized and assisted in hosting 2006 Behavioral Pharmacology Society Conference in San Francisco, CA. Trained Rhesus Macaques for behavioral assays with Morphine, Cocaine, Tetrahydrocannabinol ( $\Delta^9$ -THC), Midazolam, and 2,5-Dimethoxy-4-methylamphetamine (DOM). Made dilutions for appropriate dosage. Trained and oversaw new research assistants in the research laboratory. Performed blood draws for CBC testing, Simian B Virus tests, and regular Pharmacokinetic studies.

2001-2003 New Mexico Department of Game and Fish (Game Warden) (Aug 01-Dec 03)

Performed chronic wasting disease (CWD) testing on deer and elk. Assisted with desert bighorn sheep reintroductions. Tranquilized and relocated nuisance bears. Trapped and relocated other nuisance animals (raccoon & fox). Administered antibiotics as needed to captured wildlife. Performed numerous necropsies on poached animals to identify cause of death/obtain evidence to build cases. Bullet recovery and identification. Conducted deer and elk surveys via helicopter to record sex ratios, locations, habitat type and canopy cover utilization. Compiled data from Operation Bear Den, which dealt with survival and movements of relocated bears. Guided hunters on White Sands Missile Range for Oryx once in a lifetime hunts. Conducted electrofishing and milking for kokanee salmon spawning.

#### COURSES TAUGHT

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2013 NRM 2302—Wildlife Resources  
NRM 4309—Wildlife Population Dynamics  
NRM 5409—Wildlife Population Dynamics

2014 NRM 2330—Wildlife Conservation and Management  
NRM 2303—Principles of Conservation Biology  
NRM 3302—Forest Ecology  
NRM 4305—Wildlife Management Techniques  
NRM 4309—Wildlife Population Dynamics  
NRM 5303—Forest Ecology  
NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as assigned)

- 2015      NRM 2330—Wildlife Conservation and Management  
            NRM 4305—Wildlife Management Techniques  
            NRM 4311—McNair Internship  
            NRM 5302—Wildlife Nutrition  
            NRM 5302—Ecology and Field Biology  
            NRM 5305—Range/Wildlife Research Methods  
            NRM 5316—Project Research  
            NRM 5409—Wildlife Population Dynamics  
            NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as  
            assigned)
- 2016      NRM 2330—Wildlife Conservation and Management  
            NRM 3302—Forest Ecology  
            NRM 4305—Wildlife Management Techniques  
            NRM 4308—Big Game Management  
            NRM 4309—Wildlife Population Dynamics  
            NRM 5303 Big Game Management  
            NRM 5303--Silviculture  
            NRM 5305—Range/Wildlife Research Methods  
            NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as  
            assigned)
- 2017      NRM 4305—Wildlife Management Techniques  
            NRM 4308—Big Game Management  
            NRM 5302—Ecology and Field Biology  
            NRM 5305—Range/Wildlife Research Methods  
            NRM 5409—Wildlife Population Dynamics  
            NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as  
            assigned)
- 2018      NRM 2330—Wildlife Conservation and Management  
            NRM 3302—Forest Ecology

NRM 3310—Ecology of African Game  
 NRM 4305—Wildlife Management Techniques  
 NRM 4309—Wildlife Population Dynamics  
 NRM 5302—Ecology of African Game  
 NRM 5303--Silviculture  
 NRM 5305—Range/Wildlife Research Methods  
 NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as assigned)

2019 NRM 4305—Wildlife Management Techniques  
 NRM 5302—Ecology and Field Biology  
 NRM 5305—Range/Wildlife Research Methods  
 NRM 5316, 6301, 6302—Project Research, Thesis Proposal, Thesis Defense (as assigned)

## GRADUATE STUDENTS ADVISED

### **M.S. Thesis Chair:**

1. Zoe Carroll, “Investigating primary forages, diet shifts associated with supplemental feeding and vegetation associations with eyeworm (*Oxyspirura petrowi*) and caecal worm (*Aulonocephalus pennula*) infestations in Scaled Quail (*Callipepla squamata*) in the Trans-Pecos region of Texas” (in progress)
2. Rachel Bittner, “Assessing prevalence of eyeworm and caecal worm infestations in scaled quail throughout the Trans-Pecos” (in progress)
3. Trey Johnson, “Assessing habitat associations with eyeworm and caecal worm loads in Tans-Pecos scaled quail” (in progress)
4. Josh Coward, “Evaluation of soil factors and changes in plant communities resulting from roosting behavior of invasive wild pigs on the Kerr Wildlife Management Area.” (in progress)
5. Ronald Jankowiak, “Comparative ecology of two sympatric desert quail species during the reproductive season in Trans-Pecos, Texas” (in progress)
6. Josh Coward, “Efficacy of sodium nitrite as a feral pig toxicant” (in progress)

7. Kaitlyn Williams, “Grassland birds as indicators of Chihuahuan Desert grassland ecosystem health” (Co-Chair, 2019)
8. Katherine Sauer, “Effects of livestock grazing on grassland bird abundance and ecosystem health” (Co-Chair, 2018)
9. Elizabeth Oaster, “Ecology of Montezuma quail in the Capitan Mountains of New Mexico” (2018)
10. Brenda Gallegos, “The effect of supplemental feed on scaled quail and fall-winter diets of scaled quail in the Trans-Pecos region of Texas” (2017)
11. Karlee Cork, “Habitat selection and spatial ecology of Montezuma quail in the Capitan Mountains of New Mexico” (2017)
12. Ernesto Garcia-Ortega, “Scaled quail selection and avoidance of artificial resources and how they influence survival in the Trans-Pecos, Texas” (2017)
13. Grant Lawrence, “Evaluation of pH dependent prototype feral pig toxicants” (2017)
14. James Eddy, “Effectiveness of Sendero<sup>®</sup> on western honey mesquite for scaled quail habitat restoration” (2017)

**M.S. Thesis Committee Member:**

1. Roy Saffel (in progress)
2. John Clayton Campbell (in progress)
3. Ryan Anthony (2019)
4. Daniel Tidwell (2019)
5. Rich Mrozinski (2018)
6. Philip Boyd (2018)
7. Skylar Stevens (2017)
8. Josh Cross (2016)
9. Robert Allcorn (2015)
10. James Martin (2015)
11. Carlos “Lalo” Gonzalez (2015)
12. Richard Temple (2014)

**UNDERGRADUATE STUDENTS ADVISED (MCNAIR & BRI MENTORSHIP PROGRAMS)**

1. Jacob Locke, “Evaluating grassland bird morphological measurements to distinguish sexes” (BRI 2017-2018)

2. Alec Ritzell, “Distribution of wildlife documented pre-Sendero treatment” (BRI 2016-2017)
3. Kaitlyn Williams, “Loafing habitat of Montezuma quail in the Capitan Mountains of New Mexico” (BRI 2016-2017)
4. Evans, J.D., R. Anthony, R. O’Shaughnessy, R.S. Luna, and D.P. Collins. “Comparison of common methods used in wetland seed bank analysis” (BRI 2015-2016)
5. Felicia Rocha, “Habitat associations of Montezuma quail during the breeding season” (McNair 2015-2016)
6. Alec Ritzell, “Long-term response of vegetation to Spike 20P treatment” (BRI 2014-2015)
7. Felicia Rocha, “Determining movements of two species of quail near Sul Ross State University” (McNair 2014-2015)
8. Felicia Rocha, “Comparison of epidermal microstructures between plant species from different areas” (BRI 2015)

## UNIVERSITY SERVICE

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### **Committees/Councils:**

Task Force on Academic Alignment (2018-present)  
 Faculty Assembly Executive Council (2017-present)  
 Department Chairs Council (2018-present)  
 Academic Appeals Committee (2018-present)  
 International Studies Task Force (2018-present)  
 Research Symposium Planning Committee (2018-2019)  
 ANRS Centennial Committee (2016-present)  
 Athletics Council (2015-present)  
 Executive Committee on Master Plan Development (2014-present)  
 Man and Woman of the Year Committee (2017-2019)  
 Strategic Plan Subcommittee (2016)  
 Title V Special Committee (2015-2016)  
 IACUC Committee (2015-present)  
 Instructional Technology Committee (2015-2016)  
 Research Council (2014-2015)  
 University Scholarship Committee (2014-2016)  
 Orientation Committee (2013-2016)  
 McNair-Tafoya Symposium Committee (2013-2014, 2016-2017 (chair), 2017-2018)

### **Other Service:**

McNair-Tafoya Symposium judge (2015-present)  
 Range and Wildlife Club—faculty sponsor (2015-present)  
 Assisted with Lobo Days (2013-present)  
 ANRS kickoff BBQ (2013-present)  
 Assisted with Sully’s Showcase—NRM (2013-present)

**Search Committees:**

Search committee for NRM Assistant Professor of Range Management (ongoing)  
Search Committee for BRI Endowed Professor/Chair of Habitat Management (2019)  
Search committee for ANRS Ranch Manager (2014)  
Search committee for BRI Post-Doc Research Scientist (2014)

**PROFESSIONAL DEVELOPMENT AND TRAINING**

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Texas Chapter of the Wildlife Society in Montgomery, TX (2019)  
Meeting with University of Botswana Faculty, Gaborone, Botswana (2018)  
NRCT Program PI Meeting at Ghost Ranch, NM (2018)  
Texas Chapter of the Wildlife Society in Dallas, TX (2018)  
Texas Wildlife Association Meeting in San Antonio, TX (2018)  
State Quail Symposium in Abilene, TX (2017)  
Quail VIII—National Quail Symposium in Knoxville, TN (2017)  
Texas Wildlife Association Meeting in San Antonio, TX (2017)  
Principal Investigators Meeting-USDA in Albuquerque, NM (2017)  
Wildlife Management in the Trans-Pecos in Alpine, TX (2017)  
Chemical Immobilization of Animals-Safe Capture, Alpine, TX (2016)  
Western Association of Fish and Wildlife Agencies meeting in Cody, WY (2016)  
Trans-Pecos Wildlife Conference in Alpine, TX (2016)  
Houston Livestock Show and Rodeo—Wildlife Talks, Houston, TX (2016)  
Pinyon-Juniper Symposium in Albuquerque, NM (2016)  
Texas Wildlife Association Meeting in San Antonio, TX (2016)  
Quail Coalition “Meet the Researchers” in Dallas, TX (2016)  
Texas Chapter of the Wildlife Society in San Antonio, TX (2016)  
Texas Parks and Wildlife regional quail at Elephant Mountain (2016)  
Texas A&M Agrilife Trans-Pecos Wildlife Management Program, Alpine, TX (2015)  
America’s Grasslands Conference in Ft. Collins, CO (2015)  
Statewide Quail Symposium in Abilene, TX (2015)  
Texas Wildlife Association Meeting in San Antonio, TX (2015)  
Quail Coalition “Meet the Researchers” in Dallas, TX (2015)  
Texas Chapter of the Wildlife Society in San Antonio, TX (2015)  
Texas Parks and Wildlife regional quail at Elephant Mountain (2015)  
Texas Wildlife Association Meeting in San Antonio, TX (2014)  
Texas Parks and Wildlife regional quail at Elephant Mountain (2014)  
Texas Chapter of the Wildlife Society in Austin, TX (2014)  
Pronghorn Symposium in Alpine, TX (2014)  
Quail Coalition “Meet the Researchers” in Dallas, TX (2014)  
Texas Parks and Wildlife regional quail at Elephant Mountain (2013)  
5<sup>th</sup> Quail Short Course and Restoration Workshop, Kingsville, TX (2013)

**PROFESSIONAL SERVICE AND AWARDS**

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Advisory board for Southwest Texas Junior College Wildlife Program (2018-present)  
Safari Club International—Birds of the World Committee (2015-present)  
Texas Parks and Wildlife Upland Gamebird Advisory Committee Member (2014-present)  
TBGA-LOTY committee member (Texas Big Game Awards associated with TWA) (2013-present)  
CDE contest—FFA group wildlife Techniques (2014-present)  
CLFT instructor (Conservation leaders for Tomorrow) (2013-present)  
Nominated to serve as Texas Chapter of the Wildlife Society Board Member at Large (2018-2019)  
Appreciation plaque for support of SRSU Plant ID Team (2018)  
Appointed the Kelly R. Thompson Professorship of Quail Research (2017)  
Sam Houston State University—Invited Talk on desert quail (2016)  
Texas State University—Invited presentation on bird banding (2016)  
Texas Chapter of the Wildlife Society poster and/or quiz bowl judge (2014-2016)  
NSF fellow—Project Flowing Waters-NSF GK-12 Program 2011-2012, 2012-2013  
Dan Boone Memorial Scholarship from the Dan Boone Endowment fund and Texas Chapter of the Wildlife Society, 2011 & 2013  
Academic Excellence Award 2010-2013.  
American Conservation and Education Society Scholarship from the Houston Safari Club, 2009-2010 & 2010-2011  
American Society of Mammalogists Travel Grant, 2010 & 2012

**Professional Associations/Memberships:**

Texas Chapter of the Wildlife Society  
Southwest section of the Wildlife Society  
Wildlife Society  
American Society of Mammalogists  
Safari Club International  
Houston Safari Club  
Quail Coalition  
Texas Wildlife Association

**Scientific Journal Reviewer:**

Journal of Wildlife Management  
Functional Ecology  
Journal of Mammalogy  
Southwestern Naturalist  
Quail VIII Proceedings

**RESEARCH AND EDUCATIONAL GRANTS**

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2018-2019 Park Cities Quail— “Determining the prevalence of eyeworms (*Oxyspirura petrowi*) in scaled quail (*Callipepla squamata*) in the Trans-Pecos.” \$75,000

2018-2019	San Antonio Quail Coalition— “Determining the year round diet in scaled quail ( <i>Callipepla squamata</i> ) in the Trans-Pecos.” \$25,000
2017-2018	Park Cities Quail—“Montezuma quail habitat suitability map projection for the Trans-Pecos.” \$25,000
2017-2018	San Antonio Quail Coalition—“Montezuma quail habitat use in the Trans-Pecos.” \$25,000
2016-2017	South Texas Quail Coalition—“Using quail as indicators of Chihuahuan Desert grassland ecosystem health.” \$25,000
2016-2017	Park Cities Quail—“Trans-Pecos Quail Research.” \$45,000
2016-2017	San Antonio Quail Coalition—“Using quail as indicators of Chihuahuan Desert grassland ecosystem health.” \$25,000
2016-2017	SRSU Faculty Research Enhancement Grant—“Evaluating mule deer movements across years in an urban-rural landscape matrix in Alpine, TX.” \$4,500
2016-2018	BLM—“Montezuma quail habitat use post-thinning.” \$40,000
2015-2020	USDA—“Southwest Natural Resource Conservation Tract (NRCT) program. Associated with New Mexico State University” SRSU sub-award \$315,533
2015-2017	BLM—“Effects of thinning on Montezuma quail.” \$12,000
2014-2017	Texas Parks and Wildlife—“The effects of Sendero on mesquite and scaled quail habitat use.” \$119,810
2015-2016	Texas A&M Agrilife—“Desert quail research.” \$13,500
2015-2016	Park Cities Quail—“Ecology of desert quail species.” \$45,000
2015-2016	SRSU Faculty Research Enhancement Grant—“Using GPS to assess habitat use and movement of Montezuma quail in the Trans-Pecos region of Texas.” \$7,500
2014-2018	National Wild Turkey Federation (NWTf)-“Forest thinning and Montezuma quail habitat use.” \$178,481
2014-2015	Texas Parks and Wildlife—“Efficacy of Sodium Nitrite for feral pig control.” \$85,681
2014-2015	Park Cities Quail—“Scaled quail habitat use, survival and recruitment.” \$45,000
2014-2015	SRSU Faculty Research Enhancement Grant—“Using thermal imaging to determine how disturbances and environmental heterogeneity affect roosting cohort characteristics of Montezuma quail.” \$7,438
2013-2018	Apache Ranch—“Desert quail ecology” \$125,000 (CO-PI)
2013-2018	Nine Point Mesa Ranch—“Desert quail ecology” \$125,000 (CO-PI)
2013-2018	Lado Ranch—“Desert quail ecology” \$125,000 (CO-PI)

## PUBLICATIONS

1. Weckerly, F.W., G. Bhaskar, A. Duarte, R.S. Luna, and H.D. Starns. 2018. Heavier rumen–reticulum organs in white-tailed deer (*Odocoileus virginianus*) is consistent with dietary bulk not quality. *Canadian Journal of Zoology* 96:748-752.
2. Luna, R.S., E.A. Oaster, K.D. Cork, and R. O’Shaughnessy. 2017. Changes in habitat use of Montezuma quail in response to tree canopy reduction in the Capitan Mountains of New Mexico. *National Quail Symposium Proceedings* 8:387.

3. Gonzalez-Gonzalez, C.E., L.A. Harveson and R.S. Luna. 2017. Survival and nesting ecology of scaled quail in the Trans-Pecos, Texas. National Quail Symposium Proceedings 8:395-400.
4. Temple, Jr. R.A., L.A. Harveson, and R.S. Luna. 2017. Breeding season space use and habitat selection of adult female scaled and Gambel's quail in West Texas. National Quail Symposium Proceedings. 8: 416-432.
5. Luna, R.S., E. A. Oaster, K.D. Cork, and R. O'Shaughnessy. 2017. Changes in habitat use of Montezuma quail in response to tree canopy reduction in the Capitan Mountains of New Mexico. Symposium Proceedings—Pinon-Juniper Habitats: Status and Management for Wildlife.
6. Aiken, M.R.E., D.M. Wolcott, A. Duarte, R.S. Luna, H.D. Starns, and F.W. Weckerly. 2015. Use of rumen-reticulum fill to examine nutrient transfer and factors influencing food intake in white-tailed deer (*Odocoileus virginianus*). Canadian Journal of Zoology. 93: 439-445.
7. Aiken, M.R.E., A. Duarte, R.S. Luna, D.M. Wolcott, and F.W. Weckerly. 2014. Daytime declines in rumen-reticulum fill of male white-tailed deer (*Odocoileus virginianus*) from south Texas. Canadian Journal of Zoology 92: 637-642.
8. Duarte, A. R.S. Luna, H.D. Starns, and F.W. Weckerly. 2014. Intraspecific scaling of rumen-reticulum fill might depend on dietary fiber. American Midland Naturalist. 172: 329-337.
9. Parra, C.A., A. Duarte, R.S. Luna, D.M. Wolcott, and F.W. Weckerly. 2014. Body mass, age and reproductive influences on liver mass of white-tailed deer (*Odocoileus virginianus*). Canadian Journal of Zoology 92: 273-278.
10. Luna, R.S., and F.W. Weckerly. 2013. Variation across years in rumen-reticulum capacity and digesta load in white-tailed deer (*Odocoileus virginianus*). Southwestern Naturalist. 12(2): 283-296.
11. Luna, R.S., A. Duarte, and F.W. Weckerly. 2013. Influence of body size on dietary nutrition of white-tailed deer *Odocoileus virginianus*. Journal of Fish and Wildlife Management 4(1): 53-62.
12. Luna, R.S., A. Duarte, and F.W. Weckerly. 2012. Rumen-reticulum characteristics, scaling relationships, and ontogeny in white-tailed deer (*Odocoileus virginianus*). Canadian Journal of Zoology. 90: 1351-1358.
13. A. Duarte, R.S. Luna, and F.W. Weckerly. 2011. Rumen-reticulum capacity and fill in female white-tailed deer: Meeting demands in a stochastic environment. ESA Annual Convention Proceedings.

**In Review or ready to submit:**

1. Samarth, M., J. Tomeček, A. Heniff, R. Luna and A. DeWoody. (In review). Evidence of genetic erosion in a peripheral population of a North American game bird: the Montezuma quail (*Cyrtonyx montezumae*). Molecular Ecology.
2. Sullins, M.R., L.A. Harveson, J.G. Cross, and R.S. Luna. (In review). Principal foods of Gambel's Quail in Trans-Pecos, Texas. Journal of Wildlife Management.
3. Greene, C.D., L.A. Harveson, J.G. Cross, and R.S. Luna. (In review). Spatial ecology and habitat utilization of Montezuma quail in the Davis Mountains of Texas. Journal of Wildlife Management.

4. Garcia-Ortega, E., L.A. Harveson, and R.S. Luna. (In preparation). Selection and avoidance of artificial resources by scaled quail in the Trans-Pecos, Texas. *Journal of Wildlife Management*.
5. Garcia-Ortega, E., L.A. Harveson, and R.S. Luna. (In preparation). Influence of artificial resources on survival and nest success of scaled quail in the Trans-Pecos, Texas. *Journal of Fish and Wildlife Management*.
6. Eddy, J.D., C. Hart, B.J. Warnock, and R.S. Luna. (In preparation). Effectiveness of Sendero on western honey mesquite. *Rangeland Ecology and Management*.
7. Eddy, J.D., C. Hart, B.J. Warnock, and R.S. Luna. (In preparation). Wildlife response to Sendero treatments on western honey mesquite. *Journal of Fish and Wildlife Management*.

#### POPULAR ARTICLES

1. Williams, K. and R.S. Luna. 2019. How livestock grazing affects scaled quail and grassland birds in West Texas. *Texas Wildlife*. In press.
2. Coward, J and R.S. Luna. 2018. Studying the effects of feral swine rooting behavior on soils and native plant communities on the Kerr Wildlife Management Area. *Texas Wildlife*, May issue, p34-35.
3. R. Jankowiak and R.S. Luna. 2018. Survival of Trans-Pecos Gambel's Quail. *Texas Wildlife* issue January p34-37.
4. E. Oaster and R.S. Luna. Spring 2018. The Cryptic Montezuma Quail: Population Characteristics and Preferred Habitat. *Desert Tracks* feature article.
5. Luna, R.S., R.A. Temple, M.R. Sullins, L.A. Harveson, R. Perez, A. Ortega-Sanchez, and M.T. Gray. 2017. Gambel's Quail in Texas: Biology and Management. *Borderlands Research Institute Report*.
6. Eddy, J.D., and R.S. Luna. 2017. Effects of Sendero, combating wood encroachment by western honey mesquite using Sendero herbicide. *Texas Wildlife*, May issue, p36-38.
7. Lawrence, G.S., J.A. Foster, J.C. Kinsey, and R.S. Luna. 2016. Feral pig toxicants in Texas: An additional control technique. *Texas Wildlife*, September issue, p40-41.
8. Garcia-Ortega, E., and R.S. Luna. 2016. Scaled quail habitat use in association with supplemental feed and water. *Texas Wildlife*, May issue, p44-46.
9. Garcia-Ortega, E., and R.S. Luna. 2016. The role of rainfall in scaled quail reproductive success. *Desert Tracks*, Volume 9, Issue 1.
10. Luna, R.S., and B. Gallegos. 2015. Scaled quail diets in the Trans-Pecos. *Texas Wildlife*, November issue, p34-35.
11. Martin, J.C., J.A. Foster, and R.S. Luna. 2015. Feral pig control: present and future. *Texas Wildlife*, January issue, p32-33.
12. Luna, R.S., Gonzalez-Gonzalez, C. And L.A. Harveson. 2014. Using radio-telemetry to determine nest site selection and recruitment for scaled quail in the Trans-Pecos. *Texas Wildlife*, May issue, p22-23.
13. Luna, R.S., C. Gonzalez-Gonzalez, R.A. Temple, B. Gallegos, R. Jankowiak, E. Garcia, C. Greene, J. Turney, and L.A. Harveson. 2013. A Research Report on Desert Quail Ecology and Management. *Borderlands Research Institute Report*.

#### PRESENTATIONS

1. Texas Chapter of the Wildlife Society Meeting, Montgomery, Texas. Dewoody, J.A., S. Mathur, A. Heniff, R. Luna, and J. Tomecek. Evidence of Genetic Erosion in a Peripheral Texas Population of a North American Game Bird: the Montezuma Quail. (2019).
2. SRSU Undergraduate and Graduate Symposium. T. Bryant and R. S. Luna. Survival and site fidelity of translocated Rio Grande turkey. (2019).
3. SRSU Undergraduate and Graduate Symposium. J. Coward and R. S. Luna. Evaluation of Soil Factors and Changes in Plant Communities Resulting in Rooting Behavior of Invasive Wild Pigs on the Kerr Wildlife Management Area. (2019).
4. SRSU Undergraduate and Graduate Symposium. Z. Carroll and R. S. Luna. Diet and Association with Parasite Infestation of Scaled Quail in the Trans-Pecos Region of Texas. (2019).
5. SRSU Undergraduate and Graduate Symposium. E.I. Dunn, W.G. Flocke, S. Largent C.A. Putman and R.S. Luna. Bait Preference of Raptor Species in Trans-Pecos, Texas. (2019).
6. Rio Grande Joint Venture. Alpine, TX R.S. Luna. Quail of the Trans-Pecos (2019)
7. Texas Chapter of the Wildlife Society Meeting, Dallas, Texas. Cork, K.D, and R.S. Luna. Foraging site selection of Montezuma Quail in the Capitan Mountains of New Mexico. (2018)
8. Texas Chapter of the Wildlife Society Meeting, Dallas, Texas. Oaster, E., K. Cork, R. O'Shaughnessy, D. Foley, and R. Luna. Canopy cover selection of Montezuma Quail in the Capitan Mountains of New Mexico. (2018)
9. Texas Chapter of the Wildlife Society Meeting, Dallas, Texas. Locke, J.C., K.M. Williams, and R. S. Luna. Using morphological measurements to distinguish between sexes of grassland birds in the Chihuahuan Desert, Texas. (2018).
10. Texas Chapter of the Wildlife Society Meeting, Dallas, Texas. Williams, K.M., K.J. Sauer, R. O'Shaughnessy, W. C. Conway, and R. Luna. Scaled quail and grassland birds as indicators of grassland health in the Chihuahuan Desert. (2018)
11. Texas Chapter of the Wildlife Society Meeting, Dallas, Texas. K.J. Sauer, K.M. Williams, R. O'Shaughnessy, D. Collins, and R. Luna. Effects of livestock grazing on grassland abundance and ecosystem health. (2018)
12. Sul Ross State University Graduate Student Research Symposium. K. Williams and R.S. Luna. How Livestock Grazing Affects Grassland Bird Abundance and Diversity in the Chihuahuan (2018)
13. Quail and Grassland Birds as Indicators of Chihuahuan Desert Grassland Ecosystem Health. Texas Section Society for Range Management, San Angelo, Texas. K. Williams and R.S. Luna (2018)
14. Texas Society for Range Management Meeting. K. Williams and R.S. Luna. Livestock Grazing Effects on Scaled Quail and Grassland Bird Abundance and Diversity in the Chihuahuan Desert, Texas. (2018)
15. Statewide Quail Symposium 2017, Abilene, Texas. Luna, R.S. Foraging ecology of desert quail. (2017)
16. National Quail Symposium Proceedings, Knoxville, Tennessee. Luna, R.S., E.A. Oaster, K.D. Cork, and R. O'Shaughnessy. Changes in habitat use of Montezuma quail in response to tree canopy reduction in the Capitan Mountains of New Mexico. (2017, coauthor)

17. National Quail Symposium Proceedings, Knoxville, Tennessee. Gonzalez-Gonzalez, C.E., L.A. Harveson and R.S. Luna. 2017. Survival and nesting ecology of scaled quail in the Trans-Pecos, Texas. (2017, coauthor)
18. National Quail Symposium Proceedings, Knoxville, Tennessee. Temple, Jr. R.A., L.A. Harveson, and R.S. Luna. Breeding season space use and habitat selection of adult female scaled and Gambel's quail in West Texas. (2017, coauthor).
19. Wildlife Management in the Trans-Pecos Conference, Alpine, Texas. Luna, R.S. Boom-bust of desert quail. (2017)
20. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Lawrence, G.S., J.A. Foster, J.C. Kinsey, and R.S. Luna. Evaluation of vomit characteristics in microencapsulated sodium nitrite bait formulations on captive feral pigs. (2017, Clarence Cottam Award Competition coauthor)
21. The Wildlife Society Meeting, Raleigh, North Carolina. Cork, K.D., E. Oaster, and R.S. Luna. Trapping techniques for Montezuma quail (2016, coauthor).
22. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Tidwell, D.J., L.A. Harveson, R.S. Luna, and R. O'Shaughnessy. Site fidelity and survival of captive-reared white-tailed deer following liberation. (2016, coauthor)
23. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Campbell, J.C.K., L.A. Harveson, R.S. Luna, R. O'Shaughnessy, S.S. Gray, and T.S. Janke. Survival and movements of translocated mule deer in southeastern Brewster County, Texas. (2017, coauthor)
24. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. K.D. Cork, E. Oaster. And R.S. Luna Evaluating maximum home range of Montezuma quail. (2017, coauthor).
25. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. J.D. Eddy, R.S. Luna, B.J. Warnock, and C.R. Hart. Results of Sendero treatment on western honey mesquite for scaled quail habitat restoration. (2017, coauthor)
26. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Garcia-Ortega, E., R.S. Luna, L.A. Harveson, and F. Hernandez. Influence of artificial resources on scaled quail survival and nest success. (2017, coauthor)
27. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Williams, K.M., E.A. Oaster, and R.S. Luna. Summer loafing habitat selection of Montezuma quail in the Capitan Mountains, New Mexico. (2017, coauthor)
28. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Ritzell, A. J.D. Eddy, T.S. Janke, and R.S. Luna. Wildlife frequency and plant cover associations recorded with remote camera traps at Elephant Mountain Wildlife Management Area, Texas. (2017, poster coauthor)
29. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Bustamante, J. L.A. Harveson, R.S. Luna, J.A. Foster, and J.C. Kinsey. Preliminary risk assessment of turkey vultures exposed to sodium nitrite through consumption of feral swine carcasses. (2017, poster coauthor)
30. Houston Livestock Show and Rodeo Wildlife Talks. Luna, R.S. Boom-bust of desert quail. (2017)
31. Society for Range Management annual meeting, Uvalde, Texas. Williams, K.M., E. Oaster, and R.S. Luna. Summer loafing habitat selection of Montezuma quail in the Capitan Mountains, New Mexico. (2016, coauthor)

32. Society for Range Management annual meeting, Uvalde, Texas. Garcia-Ortega, E. and R.S. Luna. Selection and avoidance of artificial resources and its impact on scaled quail survival in Trans-Pecos, Texas. (2016, coauthor)
33. Sam Houston State University ecology class. Luna, R.S. Desert quail ecology and management. (2016)
34. Texas State University ecology class\ . Luna, R.S. Banding desert quail and songbirds. (2016)
35. WAFWA—Western Association of Fish and Wildlife Agencies annual meeting, Cody Wyoming. Luna, R.S. Desert quail ecology and management. (2016)
36. Pinyon-Juniper Symposium, Albuquerque, New Mexico. Ecology of Montezuma quail in the Capitan Mountains of New Mexico. (2016)
37. Trans-Pecos Wildlife Conference, Alpine, Texas. Boom-bust of desert quail. (2016).
38. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Garcia-Ortega, E., R.S. Luna, L.A. Harveson, and F. Hernandez. Selection and avoidance of habitat and artificial resources of desert scaled quail during the nesting season in the Trans-Pecos, Texas. (2016, coauthor)
39. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Lawrence, G.S., R.S. Luna, J.A. Foster, and J.C. Kinsey. Development and evaluation of prototype feral pig toxicants. (2016, coauthor).
40. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Anthony, R. S., R. O'Shaughnessy, D.P. Collins, and R.S. Luna. Seed-bank potential of moist-soil wetlands in the Southwest. (20146, coauthor)
41. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Jankowiak, R.P. and R.S. Luna. An ecological comparison of two sympatric desert quail species during the reproductive season in the Trans-Pecos. (2016, coauthor)
42. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Cork, K.D., R.S. Luna, and E.A. Oaster. Evaluating novel capture methods of Montezuma quail in central New Mexico. (2016, coauthor)
43. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Eddy, J.D., R.S. Luna, B.J. Warnock, C.R. Hart, and D. Stockbridge. Effectiveness of Sendero on Torrey Mesquite for scaled quail habitat restoration. (2016, coauthor)
44. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Gallegos, B.I., R.S. Luna, L.A. Harveson, and B.J. Warnock. Species visitation at quail block feeders. (2016, coauthor)
45. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Ritzell, A.D., J.D. Eddy, T.S. Janke, and R.S. Luna. Distribution of wildlife captured on stratified random remote cameras at Elephant Mountain Wildlife Management Area, Texas. (2016, poster coauthor)
46. Texas Chapter of the Wildlife Society Meeting, San Antonio, Texas. Evans, J.D., R. Anthony, R. O'Shaughnessy, R.S. Luna, and D.P. Collins. Comparison of common methods used in wetland seed bank analysis. (2016, poster coauthor)
47. BRI Undergraduate Research and Mentorship Symposium, Alpine, Texas. A. Ritzell, J.D. Eddy, and R.S. Luna. Distribution of wildlife documented pre-Sendero treatment. (2016, coauthor)

48. BRI Undergraduate Research and Mentorship Symposium, Alpine, Texas. K. Williams, E. Oaster, and R. S. Luna. Loafing habitat of Montezuma quail in the Capitan Mountains of New Mexico. (2016, coauthor)
49. Statewide Quail Symposium 2015, Abilene, Texas. Luna, R.S. Ecology of desert quail. (2015)
50. Grassland Conference annual meeting, Ft. Collins, Colorado. Management of quail in the Chihuahuan Desert. (2015)
51. Texas Chapter of the Wildlife Society Meeting, Corpus Christi, Texas. Garcia-Ortega, E., R.S. Luna, and L.A. Harveson. Habitat utilization and weather effects on scaled quail before and during the nesting season in the Trans-Pecos, Texas. (2015, coauthor)
52. Texas Chapter of the Wildlife Society Meeting, Corpus Christi, Texas. Lawrence, G.S., R.S. Luna, J.A. Foster, and J.C. Kinsey. Development and evaluation of prototype feral pig toxicants. (2015, coauthor)
53. Texas Chapter of the Wildlife Society Meeting, Corpus Christi, Texas. Anthony, R.S., R. O'Shaughnessy, L.A. Harveson, D.P. Collins, and R.S. Luna. Invertebrate and seed bank potential of moist soil management units in West Texas and the lower Rio Grande Valley. (2015, poster coauthor)
54. Texas Chapter of the Wildlife Society Meeting, Corpus Christi, Texas. Anthony, R.S., R. O'Shaughnessy, L.A. Harveson, D.P. Collins, and R.S. Luna. Invertebrate and seed bank potential of moist soil management units in West Texas and the lower Rio Grande Valley. (2015, coauthor)
55. BRI Undergraduate Research and Mentorship Symposium, Alpine, Texas. Ritzell, A., J.D. Eddy, and R.S. Luna. Long-term Response of Vegetation to Spike 20P treatment. (2015, coauthor)
56. BRI Undergraduate Research and Mentorship Symposium, Alpine, Texas. F. Rocha, J. French, and R.S. Luna. Comparison of epidermal microstructures between same-species plants from different areas of the Trans-Pecos, Texas. (2015, coauthor).
57. Texas Chapter of the Wildlife Society Meeting, Austin, Texas. Aiken, M.R., D.M. Wolcott, H.D. Starns, R.S. Luna, A. Duarte, and F.W. Weckerly. Variation in rumen-reticulum fill in white-tailed deer. (2014, coauthor).
58. Texas Academy of Science, Kerrville, Texas. Luna R.S., A. Duarte, And F.W. Weckerly. Influence of white-tailed deer (*Odocoileus virginianus*) body size on dietary nutrition. (2013)
59. Texas Chapter of the Wildlife Society, Houston, Texas. Luna, R.S., A. Duarte, and F.W. Weckerly. Influence of body size on dietary nutrition of white-tailed deer (*Odocoileus virginianus*). (2013)
60. International Research Conference for Graduate Students, San Marcos, Texas. Luna, R.S., A. Duarte, and F.W. Weckerly. Rumen-reticulum characteristics, scaling relationships, and ontogeny in white-tailed deer. (2012)
61. American Society of Mammalogists, Reno, Nevada. Luna, R.S., A. Duarte, and F.W. Weckerly. Body size influence on dietary nutrition of white-tailed deer. (2012)
62. Texas Chapter of the Wildlife Society. Ft. Worth, Texas. Luna R.S., A. Duarte, and F.W. Weckerly. Influence of body size on forage selection and niche partitioning in white-tailed deer. (2012)
63. Sixteenth Annual Biology Student Colloquium, San Marcos, Texas Dynamics of rumen-reticulum capacity and fill in female white-tailed deer (*Odocoileus virginianus*). (2011)



64. Ecological Society of America annual meeting, Austin, Texas. Luna, R.S., A. Duarte, and F.W. Weckerly. Rumen-reticulum capacity and fill in female white-tailed deer: Meeting demands in a stochastic environment. (2011)
65. American Society of Mammalogists annual meeting, Laramie, Wyoming. Luna, R.S., and F.W. Weckerly. Rumen-reticulum morphology in male white-tailed deer foraging on natural or pelleted diets. (2010)
66. Southeast Deer Study Group annual meeting, San Antonio, Texas. Luna, R.S., and F.W. Weckerly. Effects of high protein vs. natural forage on rumen-reticulum morphology in white-tailed deer. (2010)
67. Texas Chapter of the Wildlife Society annual meeting, Galveston, Texas. Luna, R.S., and F.W. Weckerly. Effects of high protein vs. natural forage on rumen-reticulum morphology in white-tailed deer. (2010)
68. Texas Chapter of the Wildlife Society annual meeting, Lubbock, Texas. Luna, R.S., and F.W. Weckerly. Is rumen-reticulum organ weight associated with digest load in white-tailed deer? (2009)
69. Biology Student Symposium, San Marcos, Texas. Luna, R.S., and F.W. Weckerly. Rumen-reticulum organ weight and digesta load in white-tailed deer. (2009).