

CURRICULUM VITAE

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Research Interests

My research is focused on identifying conservation strategies for endangered species while advancing analytical techniques and our understanding of ecology. I integrate methods from statistics, GIS, and remote sensing to study landscape-scale patterns and processes, often learning new skills and working with collaborators. My research has largely focused on herpetofauna, though I am interested in extending my work to other taxa and entire ecosystems.

Education

2009-2014. Ph.D., Dept. of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX.
 2007-2010 M.S., Dept. of Wildlife and Fisheries Sciences, Texas A&M University, College Station, TX.
 2004-2007 B.S., Natural Resources, Cornell University, Ithaca, NY.

Research Experience

2014-Pres **Postdoctoral Research Associate.** Focused on understanding relationships between environmental variability across multiple scales and biodiversity; working as part of the Oklahoma NSF-EPSCoR Program. Supervisor: Dr. Ron Bonett, University of Tulsa.

2009-14 **Dissertation.** Title: *Conservation of the endangered Arroyo Toad across multiple scales.* Five chapters focused on identifying threats to, and conservation opportunities for, the Arroyo Toad (*Anaxyrus californicus*). Supervisor: Dr. Lee Fitzgerald, Texas A&M University.

2007-10 **Master's Thesis.** Title: *A translocated population of the St. Croix Ground Lizard: Analyzing its detection probability and investigating its impacts on the local prey base.* Four chapters focused on understanding the ecology of the endangered St. Croix Ground Lizard (*Ameiva polops*), and examining effects of the species' detectability on monitoring. Supervisor: Dr. Lee Fitzgerald, Texas A&M University.

2007 **Research Assistant.** Collected field data for a long-term study on relationships between forestry management, coarse woody debris, and biodiversity. Supervisor: Dr. Stephen Morreale, Cornell University.

2005-07 **Research Assistant.** Maintained collection of live reptiles for research and teaching, including over 40 venomous snakes and lizards. Supervisor: Dr. Harry Greene, Cornell University.

2006 **NSF-REU Intern.** Conducted undergraduate research on reptiles and amphibians of St. Vincent, Lesser Antilles, resulting in four publications. Supervisor: Dr. Robert Powell, Avila University.

2004-05 **Lab Assistant.** Set up soil samples for chemical analysis with gas chromatograph. Supervisor: Dr. Joseph Yavitt, Cornell University.

- 2003-04 **Intern.** Bred poison dart frogs and analyzed effects of different diets on growth and development rates of the tadpoles. This research was submitted to Intel Science Talent Search Competition. Supervisor: Ms. Cathy Eser, Staten Island Zoo.
- 2002-04 **Intern.** Collected field data on pond turtles in New York for long-term research projects. Supervisor: Mr. David Karrmann, American Museum of Natural History.

Fellowships, Grants, and Awards

- 2013-14 Tom Slick Doctoral Dissertation Fellowship. College of Agriculture and Life Sciences, Texas A&M University. \$25,000.
- 2013 Willie May Harris Fellowship for Outstanding Teaching Assistants, College of Agriculture and Life Sciences, Texas A&M University. \$12,000.
E. E. Williams Research Grant, The Herpetologists' League. \$1,000.
Sylvia Scholarship, Mensa Foundation. \$600.
- 2012, 2013 Travel Grants, Ecology and Evolutionary Biology Program at Texas A&M. \$675; \$700.
- 2010-12 NSF-IGERT Traineeship for the Applied Biodiversity Science Doctoral Program at Texas A&M University. \$84,000.
- 2009 Outstanding Master's Student, Department of Wildlife and Fisheries Sciences, Texas A&M University.
- 2008 2nd Place for Talk, "An Invasive Anole, *Anolis sagrei*, on St. Vincent and its Potential Impact on Native Anoles." Student Research Week, Texas A&M University.
- 2007-08 Regents Graduate Fellowship, Texas A&M University. \$15,000.
- 2007 Ullman Scholarship, Cornell University. \$500.
- 2005 Arthur H. and Karin A. Nelson Scholarship, Cornell University. \$500.

Publications (*In Prep. Manuscripts are available upon request*)

- 2015 Fitzgerald, L.A., **M.L. Treglia**, N. Angeli, T.J. Hibbitts, D.J. Leavitt, A.L. Subalusky, I. Lundgren, and Z. Hillis-Starr. 2015. Determinants of successful establishment of a new population of the critically endangered St. Croix Ground Lizard (Teiidae: *Ameiva polops*). *Restoration Ecology*. DOI: 10.1111/rec.12248
- Treglia, M.L.**, R.N. Fisher, and L.A. Fitzgerald. 2015 Integrating potential and current species distribution models to identify conservation opportunities for an endangered toad. *PLoS ONE*. DOI: 10.1371/journal.pone.0131628
- Wang, H.H., C.L. Wonka, **M.L. Treglia**, W.E. Grant, F.E. Smeins, W.E. Rogers. 2015. Species distribution modeling of an endangered endemic orchid, *Spiranthes parksii* (Correll). *AoB Plants*. DOI: 10.1093/aobpla/plv039
- 2013 **Treglia, M.L.**, J. Valiulis, D. J. Leavitt, and L.A. Fitzgerald. 2013. Establishment of the Puerto Rican Ground Lizard (*Ameiva exsul*: Teiidae), on St. Croix, U.S. Virgin Islands: a threat to native fauna. *Caribbean Journal of Science* 47(2-3): 373-378.
- 2011 **Treglia, M.L.** and L.A. Fitzgerald. 2011. Translocation of the St. Croix ground lizard to Buck Island Reef National Monument, St. Croix, U.S. Virgin Islands. Pp. 109-115. In. Soorae P.S. (ed.) (2011). *Global Re-introduction Perspectives: 2011. More case studies from around the globe*. Gland, Switzerland: IUCN/SSC Re-introduction Specialist Group and Abu Dhabi, UAE: Environment Agency-Abu Dhabi. Xiv +250 pp.
- 2009 **Treglia, M.L.**, O. Ramirez. 2009. *Nerodia rhombifer*. Geographic distribution. *Herpetological Review* 40(2):238.

- 2008 **Treglia, M.L.**, A.J. Muensch, R. Powell, and J.S. Parmerlee, Jr. 2008. An invasive anole, *Anolis sagrei* on St. Vincent and its potential impact on native anoles. *Caribbean Journal of Science* 44(2):251–256.
- Henderson, R.W., **M.L. Treglia**, and S.D. Powell. 2008. *Corallus cookii*. Foraging. *Herpetological Review* 38(4):466.
- 2007 Powell, S.D., **M.L. Treglia**, R.W. Henderson, and R. Powell. 2007. Treeboas in the West Indies: responses of *Corallus cookii* and *C. grenadensis* to disturbed habitats. Pp. 374–387 in: R. W. Henderson and R. Powell (eds.). *Biology of the Boas and Pythons*. Eagle Mountain Publ., Utah.
- In Prep. **Treglia, M.L.**, S.D. Martin, A.L. Boardman, R.M. Bonett. Does habitat stability promote the loss of a complex life cycle stage in a stream-associated salamanders. Target Journal: *Functional Ecology*.
- Treglia, M.L.**, A.C. Landon, G.T. Kyle, R.N. Fisher, L.A. Fitzgerald. Multi-scale effects of land cover conditions on a riparian habitat specialist. Target Journal: *Conservation Biology*.
- Treglia, M.L.** and L.A. Fitzgerald. A field experiment on the effects of an active-foraging lizard on its invertebrate prey base. Target Journal: *Journal of Zoology*.

Technical Reports and Other Documents

- 2015 **Treglia, M.L.** 2015. An Introduction to GIS Using QGIS (v. 2.6.1). Training material for QGIS, available at: <http://mltconsecol.github.io/QGIS-Tutorial/>.
- 2014 **Treglia, M.L.** 2014. Results of surveys for the endangered Arroyo Toad (*Anaxyrus californicus*) in 2013. Annual Report to the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.
- 2010 **Treglia, M. L.** and L. A. Fitzgerald. 2010 The translocation of the St. Croix ground lizard, *Ameiva polops*, to Buck Island Reef National Monument. Final Report to the National Park Service, U.S. Fish and Wildlife Service and Virgin Islands Department of Planning and Natural Resources.
- Treglia, M. L.** and L. A. Fitzgerald. 2010 Population estimation of the St. Croix ground lizard, *Ameiva polops*, on Protestant Cay and Ruth Cay, St. Croix, United States Virgin Islands. Final Report to the United States Fish and Wildlife Service (Cooperative Agreement 401917J125).
- 2006 **Treglia, M.L.** 2006. An annotated checklist of the amphibians and reptiles of St. Vincent, West Indies. *Iguana* 13: 252–263.

Oral Presentations (* indicates Invited Presentation)

- 2015 ***Treglia, M.L.** Landscape-Scale Approaches Guide Conservation and Inform Ecology in a Complex World. *Lecture to the Anthropology Department at the University of Tulsa*.
- Treglia, M.L.**, S.D. Martin, A.L. Boardman, and R.M. Bonett. Multi-scale influences of environmental variability on life history strategies of the Oklahoma salamander. *World Congress of the International Association of Landscape Ecologists, Portland, OR*.
- 2014 Wang, H.-H., C.L. Wonkka, **M.L. Treglia**, W.E. Grant, F.E. Smeins, and W.E. Rogers. Determinants and likelihood of occurrence of an endangered endemic orchid (*Spiranthes parksii* (Correll)) in central Texas. *Texas Plant Conservation Conference, Austin, TX*.
- ***Treglia, M.L.** Multi-Scale Conservation in an Altered Landscape: The Case of the Endangered Arroyo Toad in Southern California. *Department of Biological Science, The University of Tulsa, Tulsa, OK*.

- Treglia, M.L.** and G.T. Kyle. Estimating effects of land cover at multiple scales on habitat for the endangered arroyo toad. In J. Franklin, J.M. Sierra-Diaz, and L. Sweet (Chairs), *Impacts of Global Change: Linking Across Scales*. Symposium presented at the *Annual Meeting of the U.S. Regional Association of the International Association for Landscape Ecology*, Anchorage, AK.
- 2013 **Treglia, M.L.** and R.N. Fisher. Integrating Historic and Current Distribution Models of an Endangered Species to Benefit Conservation. *Annual Meeting of the U.S. Regional Association of the International Association for Landscape Ecology*, Austin, TX.
- ***Treglia, M.L.** Conservation of the Endangered St. Croix Ground Lizard. *Lecture to Aggies for the Protection of Endangered Species at Texas A&M University*.
- 2011 ***Treglia, M.L.** Manifold GIS: Exploring the Capabilities of an Alternative GIS Package. *U.S. Geological Survey, Western Ecological Research Center – San Diego Field Station. San Diego, CA.*
- Treglia, M.L.** Anthropogenic Disturbances and Conservation of Endangered Amphibians in a Semi-arid Landscape: A Proposal Talk. *12th Annual Ecological Integration Symposium, Texas A&M University*.
- 2010 **Treglia, M.L.** and L.A. Fitzgerald. Effects of an Insular Lizard Translocation on the Local Invertebrate Assemblage. *Annual Meeting of the Ecological Society of America, Pittsburgh, PA.*
- Treglia, M.L.** and L.A. Fitzgerald. Impacts of a Translocated Lizard on an Island Arthropod Assemblage. *11th Annual Ecological Integration Symposium, Texas A&M University*.
- 2009 **Treglia, M.L.** and L.A. Fitzgerald. Effects of Detectability on Lizard Population Estimates. *Annual Meeting of the Southwestern Association of Naturalists, Monterrey, Nuevo Leon, MX.*
- 2008 **Treglia, M.L.** *The Translocation of an Extirpated Lizard in the Caribbean: A Proposal Talk. Student Research Week/9th Annual Ecological Integration Symposium, Texas A&M University.*
- Treglia, M.L.,** A.J. Muensch, R. Powell, J.S. Parmerlee, Jr. An Invasive Anole: *Anolis sagrei* on St. Vincent and its Potential Impact on Native Anoles. *Student Research Week/9th Annual Ecological Integration Symposium, Texas A&M University.*

Poster Presentations

- 2015 **Treglia, M.L.** and M.E. Young. Utilizing Patch Metrics to Improve Classification of Remote Sensing Imagery. *World Congress of the International Association of Landscape Ecologists, Portland, OR.*
- 2014 Lovette, J. T. Chang, **M.L. Treglia**, T. Gan, J. Duncan. Assessing Ecohydrological Impacts of Forest Disturbance Using Open Source Software. *Annual Meeting of the American Geophysical Union, San Francisco, CA.*
- 2012 **Treglia, M.L.** and A.C. Landon. Integrative Research for Biodiversity Conservation and Water Resource Management. *Student Conference on Conservation Science – New York. New York, NY.*
- Treglia, M.L.** and R.N. Fisher. Presence-Only Modeling to Understand the Historic Distribution of an Endangered Toad. *7th World Congress of Herpetology. Vancouver, BC, Canada*
- 2011 **Treglia, M.L.** Conserving an Endangered Toad in a Dynamic Landscape. *1st Annual NSF-IGERT Online Competition*. Available online at: <http://www.igert.org/posters2011/posters/94>
- 2009 **Treglia, M.L.** Effects of Detectability on Population Estimates of the Ground-Dwelling Lizard, *Ameiva polops*. *10th Annual Ecological Integration Symposium, Texas A&M University.*

Teaching Experience

- 2015 Instructor for *Graduate Seminar on Spatial Ecology*, University of Tulsa, Tulsa, OK
 Instructor for *Landscape Analysis and Modeling*, University of Tulsa, Tulsa, OK.
- 2014 Half-day course on QGIS, as part of the Open Source for Open Science Workshop for the Ecology and Evolutionary Biology Program, Texas A&M University, College Station, TX.
- 2010, 2013 TA for *Herpetology*, Texas A&M University, College Station, TX.
- 2012 Guest Lecturer for class, *Recreation Management of Wildlands*, Texas A&M University, College Station, TX.
- 2007, 2012 TA for *Natural History of the Vertebrates*, Texas A&M University, College Station, TX.
- 2009 TA for *Fundamentals of Ecology Lab*, Texas A&M University, College Station, TX.
- 2008 TA for *Natural History of the Invertebrates*, Texas A&M University, College Station, TX.

Service

- 2014-15 Reviewer for E.E. Williams Research Grant Program, The Herpetologists' League.
- 2011-12 Co-Chair of the 13th Annual Ecological Integration Symposium, Texas A&M University.
- 2010-11 Treasurer of the Association of Graduate Wildlife and Fisheries Scientists.
- 2009-10 President of the Association of Graduate Wildlife and Fisheries Scientists.
 Web-Designer for the 11th Annual Ecological Integration Symposium, Texas A&M University.
 Judge for Student Research Week, Texas A&M University.
- 2007-08 Mentor for Undergraduate Research Group at Texas A&M University, supervised by Dr. Lee Fitzgerald.
- 2006-07 President of the Cornell Herpetological Society.
- 2005-06 Treasurer of the Cornell Herpetological Society.
- 2004-06 Docent at Staten Island Zoo.

Reviewer for the following journals: *Ecological Modeling; Herpetologica; Herpetological Conservation and Biology; Journal of Applied Ecology; Herpetological Review; Biological Invasions; Journal of Biogeography; Applied Herpetology; African Journal of Herpetology.*

Member of the following organizations: Society for the Study of Amphibians and Reptiles; U.S. Regional Association of the International Association for Landscape Ecology.

Active member of the following software listserves: QGIS-User List (Quantum [Q]GIS); R-Sig-Geo (R Spatial Analysis).

Contributor to the following R Packages: pgirmess (available on CRAN); Rfrag (available at the Fragstats Website)

Technical Skills

- Programming in R
- Multivariate Statistics and Machine Learning Methods
- GIS, Remote Sensing, and LiDAR Processing with Free and Open Source Software, ArcGIS and Google Earth Engine
- Git Version Control System
- Familiarity with Python, Bash, SQL, LaTeX, and Stata