

LUCAS P. GRIFFIN
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EDUCATION

B.S. Marine Biology, 2015
Ph.D. Candidate, Marine Science

The College of Charleston
University of Massachusetts

PROFESSIONAL RESEARCH EXPERIENCE

Research Assistant, Bonefish & Tarpon Trust, 2015 - present

Tarpon (Megalops atlanticus), permit (Trachinotus falcatus) and bonefish (Albula vulpes) projects
Florida Keys

Primary project supervisor responsible for field research logistics, data analyses, and report preparation for the first extensive study of habitat connectivity for Tarpon and Permit in the Florida Keys. Responsible for capture and surgical transmitter implants of fish; data management and statistical analyses, writing of donor reports and scientific publications. In addition, conducting a study of the potential effects of urban development on bonefish health. Data collected from bonefish include gill and lateral line swabs, fin clips, and non-lethal blood samples. Participate in collaborative efforts and stakeholder engagement with Florida Fish and Wildlife Conservation Commission, fishing guides, and local fishing tournaments.

Research Assistant, Dept. of Environmental Conservation, UMass, 2015 (summer)

Golden Dorado (Salminus brasiliensis) recreational fisheries assessment
Salta, Argentina

Examined the physical, physiological, and immediate and short-term movement patterns of Golden Dorado post catch-and-release. Navigated remote rivers with oar rafts and all terrain vehicles. Assessed physiological stress and reflex impairment of recreationally angled Dorado using reflex action mortality predictors and non-lethal blood sampling techniques. Attached radio telemetry transmitters to fish externally through dorsal-musculature tissue. Located and documented movement tracks of Dorado using a directional VHF receiving antenna. Distributed surveys to recreational anglers to better inform future management plans for the emerging recreational fishery. In addition, participated in a stakeholder engagement event that included open forum discussion. Collaborated with anglers, NGOs, fishing guides, fisheries researchers, government officials, and fly-fishing tackle companies (Patagonia, Temple Fork Outfitters Fly Rods, Rio Products, and Costa).

Research Assistant, National Oceanic & Atmospheric Administration, 2015 (summer)

Queen Conch (Lobatus gigas) project
Culebra, Puerto Rico

Provided on-island support network, coordinating logistics and boat operation. Performed conch density and habitat surveys for adult and juvenile conch in human impacted and non-human impacted habitats. Assisted in telemetry array design, implementation, and transmitter attachment. Collected benthic core samples to examine additional contributing factors to conch density and preferences. Participated in outreach event on conch conservation with primary school students.

Research Assistant, Dept. of Environmental Conservation, UMass, 2013 - present

Green turtle (Chelonia mydas) ecology project
Culebra, Puerto Rico

Graduate research project on the spatial ecology of immature green sea turtles. Used seine nets and hand capture techniques to catch green turtles, collected turtle morphometric data (sex, mass, straight-line carapace length), assisted in flipper tag attachment and documented any present fibropapillomatosis tumors. Attached ultrasonic transmitters to turtles' carapace through drill, wire, and epoxy method. Used acoustic telemetry to understand the factors affecting the movements and spatial ecology of immature green turtles. Required extensive statistical programming, modeling, and network analysis in R. Analyzed complex data derived from a fine-scale array (Vemco Positioning System). Experimentally assessed the effects of snorkelers on the behavior of immature green turtles and determined if turtles exhibited consistent individual-level responses using multivariate statistical techniques. Collaborated, disseminated information, and maintained professional relationships with local green turtle snorkel tourist guides, dive operators, U.S. Fish & Wildlife Service, and Departamento De Recursos Naturales Y Ambientales de Puerto Rico (DRNA). In addition, provided DRNA field support for both a 15 year-long green turtle mark-and-recapture study and a hawksbill turtle (*Eretmochelys imbricate*) snorkel survey. Participated in sea turtle conservation outreach events on island with the local youth.

Research Assistant, Dept. of Environmental Conservation, UMass, 2013 - 2015

Spatial ecology of bonefish (Albula vulpes),
permit (Trachinotus falcatus), and barracuda (Sphyraena barracuda)
Culebra, Puerto Rico

Designed acoustic telemetry arrays (including fine-scaled Vemco Positioning System array), made concrete moorings for receivers, implemented receiver and temperature logger deployment, range testing, maintenance, and performed quarterly downloads. In addition, performed habitat surveys and technical scuba diving. Provided assistance in the capture and surgical transmitter implants of fishes. Conducted a study on physiological stress and reflex impairment of recreationally angled bonefish using reflex action mortality predictors and non-lethal blood sampling techniques. Euthanized bonefish and collected photos and organs in-part of an epigenetics study. In addition, assisted in a comparative density study on barracuda (*Sphyraena barracuda*) through catch per unit effort. Trailered and operated a boat in remote locations where self-reliance and mechanic maintenance was often required.

Research Assistant, Cape Eleuthera Institute, 2011-2013 (summers)

Ecology of juvenile bonefish (Albula vulpes)

Eleuthera, The Bahamas

Responsible for systematic seining of coastal habitats to determine essential juvenile habitats for bonefish. Remote wilderness boat and vehicle operation was required daily. In addition, deployed larval channel nets and larval light traps, performed dissections and gut content analyses, collected otoliths, and analyzed sediment core samples. Regularly interviewed local fishers for ecological knowledge of bonefish habitats and taught a variety of field labs for primary and high school students (e.g. best handling practices for catch-and-release fishing, mangrove ecology and conservation, and sustainable fisheries strategies). Experience in additional research projects includes use of inshore and offshore long-lines to catch and tag sharks, assisted in snorkel surveys to assess the effects of invasive lionfish on patch reef communities, capture of adult bonefish with nets and fly rods and tagged for population and migration studies, use of respirometer in tank studies of fish to measure potential effects of temperature and salinity changes on fish physiology, assisted with the maintenance of aquaculture tanks for cobia and a aquaponics system with tilapia, also aided in the harvest of fish for consumption. Provided walking tours at the Cape Eleuthera Institute to both visiting scientists and potential benefactors. Lived and contributed in a sustainable green community.

Research Assistant, Dept. of Environmental Conservation, 2009 (summer)

Blacked-legged kittiwake (Rissa tridactyla) and Kittlitz's murrelet (Brachyramphus brevirostris) project
Prince William Sound, Alaska

Captured and banded kittiwakes at the Shoup Bay breeding colony as part of a long-term population study. Retrieved geo-locators used to map over-wintering sites, and assisted with blood sampling from brachial vein. Assisted with conducting systematic boat transect surveys for Kittlitz's murrelets in Harriman Fjord to determine relationship of murrelets to glacier terminus and underwater moraines. Tracked radio-tagged murrelets and downloaded telemetry data from permanent tracking stations. Zodiac boat use and camped at remote wilderness field sites.

TEACHING EXPERIENCE

Teaching Assistant, Dept. of Environmental Conservation UMass, 2013 – present

Courses:

Ecology of Fish (25 students) –

Responsibilities included student feedback, grading, and teaching students common fisheries related lab techniques such as fish handling, non-lethal blood sampling of tilapia and largemouth bass (*Micropterus salmoides*), otolith collection and aging, dissections, gut content analysis, and gonad scoring. In addition, aided students in a mark-and-recapture study on bluegill (*Lepomis macrochirus*) and pumpkinseed (*Lepomis gibbosus*) fish in a local pond. Independently presented lectures on the physiological consequences of catch-and-release recreational angling, gut content analysis, and on the relationships between fish morphology, behavior, and evolution.

Sustainable Aquaculture (25 students) –

Responsibilities included student feedback, grading, and assisting students in aquaponic maintenance. Oversaw the health and condition of tilapia in classroom aquaponics system. Assisted students in video projects that demonstrated common aquaponics maintenance techniques.

Fish Conservation and Management (120 students) –

Responsibilities included grading and student feedback on term papers. Met with individual students regularly to review research-writing techniques.

Introduction to Environmental Science (195 students x 3 semesters) –

Responsibilities included grading exams and running three weekly discussions with thirty students in each section. Responsible for creating syllabus, reading assignments, grading rubric, and facilitating in-class room discussions and debates. Used Team Based Learning (TBL) strategies to engage students in critical thought about environmental science and justice. Evaluated student contribution on three levels: individual, group work, and overall in-class.

Evolution and Conservation (40 students) –

Responsibilities included grading and aiding with in-class projects. Helped to trouble-shoot the program Vortex – a software program that simulates extinction in animal populations.

PUBLICATIONS

L.P. Griffin, J.W. Brownscombe, T.O. Gagné, A.D.M. Wilson, S.J. Cooke, A.J. Danylchuk. 2016. Individual-level behavioral responses of immature green turtles to snorkeler disturbance. *Oecologia*.

Gagné, T.O., K.L. Ovitz, L.P. Griffin, J.W. Brownscombe, S.J. Cooke, A.J. Danylchuk. 2016. Evaluating the consequences of catch-and-release recreational angling on golden dorado (*Salminus brasiliensis*) in Salta, Argentina. *Fisheries Research*.

Brownscombe, J.W., L.P. Griffin, T. Gagné, C.R. Haak, S.J. Cooke and A.J. Danylchuk. 2015. Physiological stress and reflex impairment of recreationally angled bonefish in Puerto Rico. *Environmental Biology of Fishes*. doi:10.1007/s10641-015-0444-y

CONFERENCES

Griffin, L.P., J.W. Brownscombe, T.O. Gagné, A.D.M. Wilson, A.J. Danylchuk. 2015. Individual-level behavioral responses of immature green turtles to snorkeler disturbance. UMass Intercampus Marine Science Graduate Program Symposium. Amherst, MA. Apr 11.

Griffin, L.P., J.W. Brownscombe, T.O. Gagné, A.D.M. Wilson, A.J. Danylchuk. 2015. Individual-level behavioral responses of immature green turtles to snorkeler disturbance. UMass Life Sciences Graduate Research Symposium. Amherst, MA. Nov 20.

Gagné, T.O., E. Markowitz, S.J. Cooke, L.P. Griffin, K.O. Ovitz, S. Danylchuk, F. Mariani, and A.J. Danylchuk. 2015. Multi-stakeholder participation in the development of best practices for catch-and-release: a case study on Golden Dorado, Argentina. 145th Annual meeting of the American Fisheries Society, Portland OR. Aug 16-20.

Haak, C.R., L. Griffin, J. Lewis, and A.J. Danylchuk. 2014. Ecology of juvenile bonefish in The Bahamas: Implications for conservation and management. 5th International Bonefish & Tarpon Trust Symposium. Dania Beach, FL. Nov 7-8.

Griffin, L., C. Diez, J. Finn, C. Griffin, and A. Danylchuk. 2014. Spatial ecology of immature and subadult green turtles in Culebra, Puerto Rico: Preliminary Results. 34th International Sea Turtle Symposium. New Orleans, LA. Apr 10-17. Poster.

Workshop: Collaborative fisheries research and mitigating marine turtle bycatch. 34th International Sea Turtle Symposium. New Orleans, LA. Apr 10-17.

Griffin, L., C. Haak, A. Danylchuk, and C. Griffin. 2011. Diet of juvenile bonefish off Eleuthera Island, The Bahamas. 4th International Bonefish and Tarpon Symposium. Nov 11-12. Dania Beach, FL. Poster.

AWARDS

- Best M.S. Oral Presentation at the Intercampus Marine Science Graduate Program Symposium, 2016.
- Best Oral Presentation at the Life Sciences Graduate Research Symposium, 2015.
- Richard Cronin Fisheries Research Fund Award, 2013.

RELEVANT GRADUATE COURSES

Current GPA: 3.9

Courses: Advanced Statistical Ecology, Analysis of Environmental Data, Applied Biostatistics, Applied Multivariate Statistics, Applied Network Methods / Telemetry Data, Biological Oceanographic Processes, Chemical Oceanography, Coastal Marine Spatial Planning, Landscape Ecology, Physical Oceanography, Recreational Fisheries Science and Conservation, Research Concepts

SPECIALIZED AND CERTIFICATIONS

R – statistical program to interpret data and create graphics. Experience within R includes advanced data exploration, Frequentist and Bayesian modeling, state space modeling, multivariate analyses, acoustic telemetry analyses, and network analyses.

Fragstats – software program used to compute landscape metrics from ArcGIS.

Vortex – software program that stochastically simulates extinction in animal populations.

MINEQL+ – chemical equilibrium modeling software program.

Advanced PADI certified SCUBA

Hunter & Firearm Safety

EXTRACURRICULAR

Member of the American Fisheries Society UMass Chapter

Member of the International Sea Turtle Society

Member of the UMass Fly Fishing Club