

Shelby D. McCay

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EDUCATION

Texas A&M University, College Station, Texas
Master of Natural Resources Development

August 2019

Texas A&M University, College Station, Texas
Bachelor of Science in Wildlife and Fisheries Sciences

May 2015

WORK EXPERIENCE

Project Coordinator I

August 2019-present

Texas A&M Natural Resources Institute, College Station, Texas

- Coordinated the Institute's distance education program and coursework, including management of more than 60 undergraduate and graduate students.
- Create new, multimedia educational materials for distance education and private land stewardship programs.
- Assist with endangered species related research projects, including surveys for Lower Keys Marsh Rabbits (*Sylvilagus palustris hefneri*).

Student Technician

August 2017-August 2019

Texas A&M Natural Resources Institute, College Station, Texas

- Facilitated the creation of a new [wild pig website](#) and maintain all information uploaded to the site.
- Created and managed social media content for the Feral Hogs Community of Practice Facebook and Twitter pages.
- Wrote newsletter articles and blog posts concerning a variety of wildlife topics including wild pig abatement, quail management and backyard wildlife habitats.
- Assisted with set up and running of the Texas A&M AgriLife Service's 2017 Statewide Quail Symposium in Abilene, Texas.

Field Contact Representative

February 2016-January 2017

Space Exploration Technologies Corporation (SpaceX), Brownsville, Texas

- Wrote, reviewed and implemented various project documents. Examples included NEPA documents (Environmental Assessments) and avian, vegetation and sea turtle monitoring plans.
- Coordinated and assisted with annual avian, vegetation and sea turtle monitoring surveys. Avian surveys focused on sensitive shorebird and falcon species including the Red Knot, the Piping Plover and the Aplomado Falcon. Sea turtle surveys focused on five species of sea turtles found in U.S. waters and nesting on U.S. beaches.
- Provided direction, support and critical judgment on environmental compliance issues relating to construction and mitigation activities.
- Oversaw the proper implementation of all mitigation measures agreed upon in the Final Environmental Impact Statement for the SpaceX Texas Launch Site (May 2014).
- Conducted environmental, health and safety training for all construction personnel.
- Provided technical leadership, support and direction on natural resource related topics to field staff and interns.
- Critically assessed environmental conditions in the field to evaluate potential environmental impacts from construction activities.
- Oversaw and verified flagging of wetland boundaries, cultural and biological resources exclusion zones, etc.
- Evaluated potential environmental issues and concerns ahead of construction activities.
- Inspected and documented compliance with the project's environmental requirements by preparing daily and weekly written field inspection reports that provide up-to-date and consistent written and photo documentation of activities observed in the field. Inspections included weekly stormwater pollution prevention plan (SWPPP) monitoring of best management practices (BMPs) and daily monitoring of

construction sites for invasive plant species and federally and state endangered and threatened wildlife species. Wildlife species included the Ocelot, Gulf Coast Jaguarundi, Texas Indigo Snake and Texas Tortoise.

- Interacted with and served as a point of contact with agency officials, regulatory agency staff, landowners, contractors, clients and other project members and conducted required agency notifications.
- Coordinated quarterly beach and highway cleanup events for SpaceX employees.

Fish and Wildlife Technician I (Wildlife Technician)
Texas Parks and Wildlife Department, Hondo, Texas

October 2015-January 2016

- Responsible for collecting lymph node and brain tissue samples from hunter harvested and road kill White-tailed Deer and other cervids to be tested for chronic wasting disease (CWD).
- Prepared and submitted samples to Texas A&M Veterinary Medical Diagnostic Laboratory.
- Collected geographic and morphological data for each deer processed at hunter check stations. Data included GPS coordinates, age, weight and antler measurements.
- Educated hunters, members of the public and private landowners about CWD, how it can be managed and its potential biological and economic impacts.
- Assisted biologists and technicians with working 250 adult white-tailed deer at the Kerr Wildlife Management Area as a part of a long-term nutritional study. Duties included collecting DNA samples and administering vaccinations.
- Gained knowledge and applied the Stem Count Index technique for evaluating white-tailed deer impacts on habitat at Government Canyon State Natural Area.
- Assisted wildlife biologists in deer spotlight surveys.

Regional Interpretive Specialist Intern Clerk III
Texas Parks and Wildlife Department, Waco, Texas

June 2015-August 2015

- Developed, implemented, managed, publicized and evaluated interpretive programs concerning local natural and cultural resources at Fairfield Lake State Park and Possum Kingdom State Park.
- Attended a one-week training at Bastrop State Park in order to learn about various aspects of interpretive work including different cultural traditions, historic practices, and experiences.
- Learned how to effectively and properly demonstrate various historic activities to park visitors using a variety of artifacts, replicas and related techniques.
- Learned about different presentation topics and programs such as Leave No Trace, Junior Ranger, Arts in the Parks, and stargazing.
- Researched, prepared and wrote the official bird checklist for Fairfield Lake State Park as the summer project.
- Learned how to use a GPS unit and conduct a geocaching program.
- Identified, researched and compiled information for programs for a variety of topics, including native plant communities and natural landscapes.
- Provided quality customer service in a courteous and professional manner to park visitors.
- Prepared and submitted a monthly interpretive report.

Student Technician

August 2012-May 2015

Texas A&M AgriLife Institute for Plant Genomics and Biotechnology, Texas A&M University, College Station, Texas

- Harvested and ginned (saw and roller) genetically modified cotton.
- Prepared nutritional media for bacteria and plant growth.
- Responsible for cleaning and sterilization of lab equipment through the use of a dishwasher, dryer and autoclave.
- Responsible for disposal of biohazard and genetically modified plants through the use of hand clippers, shears and autoclave.
- Assisted in planting and maintaining plants in field trials.
- Harvested, dissected and processed genetically modified tomatoes and seeds.
- Worked independently with frequent interruptions and multiple changing priorities, but still maintained flexibility and completed tasks in an orderly manner.

Law Creek Ranch, Fredonia, Texas

- Assisted owners in fawn nursery operations (general care, feeding, observation, barn cleaning and veterinary care).
- Responsible for preparation of bottles for fawns.
- Assisted owners in whitetail deer ranch operations and maintenance.
- Assisted in the care of adult whitetail deer (feeding, care, observation, pen/barn maintenance, and veterinary care).
- Prepared samples for CWD shipment and testing.
- Assisted in record keeping of fawn weight, DNA samples and tags.
- Assisted in fence repair and maintenance of the adult deer pens.
- Handled stressful situations and medical emergencies involving both fawns and adult deer.
- Gained knowledge of issues affecting both wild deer and the deer breeding industry.

TRAINING EXPERIENCE

Mexican Small Mammal Assessment, Prioritization and Conservation Planning Workshop

April 9-12, 2018

Africam Safari, Puebla, Mexico

- Helped to facilitate conservation prioritization setting for endemic, highly threatened, Mexican small mammal species and the creation of a list of high priority species projects, including conservation actions required and species champions. Participants included small mammal conservation experts from a Mexican zoo (Africam Safari), universities (UNAM, SACBÉ) and a government agency (CONABIO). Facilitators included members of the IUCN Small Mammal Specialist Group (SMSG) and the IUCN Conservation Planning Specialist Group (CPSG).
- Helped to facilitate the creation of a list of high priority areas for initiating survey efforts and further research.
- Provided a review of IUCN Red List terms, categories and criteria, the assessment process, and data quality types for all participants.
- Created a plan for improving communication between assessors, contributors and the SMSG for future Red List assessments.

IUCN Red List Assessor Training Workshop

May 24-29, 2018

UNESP, Rio Claro, Brazil

- Facilitated a 4-day IUCN Red List assessor training workshop for 23 participants (graduate students, post docs and professors) from two different Brazilian universities (UNESP-Rio Claro and UFRJ – Rio de Janeiro).
- Presented a mix of short presentations detailing the IUCN Red List assessment process, the categories and criteria, spatial data and mapping standards and applying the assessment process to regional and national level assessments.
- Facilitated practical sessions on key terms, mapping standards, supporting information and using the Species Information Service (SIS) toolkit.

RESEARCH EXPERIENCE

New World Program Coordinator – IUCN SSC Small Mammal Specialist Group

January 2017-present

Department of Wildlife and Fisheries, Texas A&M University, College Station, Texas

- Coordinate and assist with IUCN Red List assessments and reassessments for approximately 1,500 new world small mammal species (rodents, shrews, moles, hedgehogs, tree shrews, and solenodons).
- Assist in promoting on the ground conservation actions for threatened and endangered species.
- Update species range maps using ArcMap GIS software.
- Attended the IUCN Red List Trainer workshop and earned a Red List Trainer certification in October 2017 at Arizona State University in Tempe.

Undergraduate Researcher

September 2014-May 2015

Department of Wildlife and Fisheries, Texas A&M University, College Station, Texas

- Collected Blue Crab individuals, with little supervision, using various trapping methods from 14

populations in five different states along the Gulf of Mexico as a part of a natural resource survey.

- Collected morphological, demographic and genetic data for each individual.
- Entered and compiled all data into MS Excel.
- Trained other students in effective crab trapping techniques.
- Used a GPS unit to mark each site where crabs were collected.
- Conducted DNA extractions, gel electrophoresis and spectrophotometry for over 200 samples.
- Interacted with members of the public and explained the importance of our research for the maintenance of blue crab populations as a natural resource and potential issues affecting the fishery.

REU Student in Convergence Ecology

June 2014-August 2014

Department of Zoology, Southern Illinois University, Carbondale, Illinois

- Conducted independent research project concerning essential fatty acid transfer and content in three wolf spider species.
- Drafted bi-weekly progress reports, and a detailed project proposal.
- Prepared and presented a poster detailing my research project.
- Collected spiders daily through pit fall traps and night surveys.
- Extracted crude lipids and prepared fatty acid methyl esters through acid-catalyzed transmethylation.
- Assisted with the collection of emerging amphibian species through use of pitfall traps and seining.
- Assisted in collection of data for temporary ponds and their amphibian species through the use of larval cores, pan traps, bug emergence nets and dimension measurements.

REU Student in the Ecology of Human-Dominated Landscapes

May 2013-August 2013

Department of Zoology, Miami University, Oxford, Ohio

- Conducted independent research project on the influence of familiarity and sex on proximity in free-living domestic cats.
- Collected and analyzed data daily on cat behaviors and interactions.
- Prepared a detailed oral presentation detailing my research project.
- Trapped 30 cats and collected hair samples for genetic analysis.
 - Sampled lake fish species through electroshocking.
 - Sampled and identified stream invertebrates through seining.

CERTIFICATIONS

- IUCN CPSG Facilitating Species Conservation Planning Workshops October 2018
- IUCN Red List of Threatened Species Trainer October 2017
- IUCN Red List of Threatened Species Global Assessor January 2017
- Associate Wildlife Biologist October 2016
- SCUBA Open Water Diver April 2015
- CPR/AED & First Aid December 2014
- Conservation Leaders for Tomorrow January 2014
- Project WILD October 2011

AWARDS AND HONORS

- TAMU WFSC Department Outstanding M.S. Student Award April 2018
- College of Agriculture and Life Sciences Senior Merit Award March 2015
- TAMU WFSC Department Outstanding Junior Student Award April 2014
- Distinguished Student Award September and May 2012

PROFESSIONAL MEMBERSHIPS

- The Wildlife Society August 2011- present
- The Society of Conservation Biology August 2011- present

FELLOWSHIPS

Society for Freshwater Science Instars Fellow

May 2015

PUBLICATIONS

Federal Aviation Administration, Office of Commercial Space Transportation. 2018. Final Environmental Assessment and Finding of No Significant Impact for Issuing a Reentry License to SpaceX for Landing the Dragon Spacecraft in the Gulf of Mexico.

https://www.faa.gov/about/office_org/headquarters_offices/ast/environmental/nepa_docs/review/launch/media/Final_EA_and_FONSI_SpaceX_Dragon_Gulf_Landing.pdf.

Kennerly, R., Lacher Jr, T.E., Mason, V., **McCay, S. D.**, Roach, N., Stephenson, P.J., Superina, M. and Young, R. Conservation Priorities and Actions for the orders Cingulata, Pilosa, Afrosoricida, Macroscelidea, Scandentia, Dermoptera, and Eulipotyphla. Special chapter in Handbook of the Mammals of the World – Volume 8: Insectivores, Sloths and Colugos. Edited by Don E. Wilson and Russell A. Mittermeier. Published by Lynx Edicions in association with Conservation International and IUCN.

Macedo, D., Caballero, I., Mateos, M., **McCay, S.**, and Hurtado, L.A. 2018. Population genetics inferences of the blue crab in the US based on microsatellites: high levels of connectivity and genetic diversity, and high differentiation from populations in southern Brazil. *PeerJ in review*.

Lacher Jr, T.E., Young, R.P., Kennerley, R.J., Turvey, S.T., Roach, N.S. and **McCay, S.D.** 2017. Conserving the Biodiversity of the Largest Order of Mammals: Priorities and Actions for the Rodentia. Special chapter in Handbook of the Mammals of the World - Volume 7: Rodents II. Edited by Don E. Wilson, Thomas E. Lacher, Jr, Russell A. Mittermeier. Published by Lynx Edicions in association with Conservation International and IUCN.

Fritz, K.A., Kirschman, L.J., **McCay, S.D.**, Trushenski, J.T., Warne, R.W. and Whiles, M.R.. 2017. Subsidies of essential nutrients from aquatic environments correlate with immune function in terrestrial consumers. *Freshwater Science*.

ORAL PRESENTATIONS

Thomas E. Lacher, Jr., Rosalind Kennerley, **Shelby McCay**, Nicolette S. Roach, Richard P. Young. “Taxonomic clarity and accurate spatial data are the cornerstones of the IUCN Red List process. “Presented in the symposium “Mammal Diversity from GenBank to Red List.” 100th Meeting of the American Society of Mammalogists, June 28 – July 2, 2019, Washington, DC.

Vega, S. D., Fritz, K., Kirschman, L., Whiles, M.R. and Trushenski, J.T. 2015. Emerging amphibians as a potential source of essential fatty acids for riparian predators. Our Freshwater Futures, The Society for Freshwater Science Annual Meeting.

Vega, S. D., and Solomon, N. G. 2013. Influence of familiarity and sex on proximity in the free-living domestic cat (*Felis catus*). Oral presentation at the Miami University Ecology of Human Dominated Landscapes Symposium.

Vega, S. D., Fritz, K., Kirschman, L., Whiles, M.R. and Trushenski, J.T. 2014. Emerging amphibians as a potential source of essential fatty acids for riparian predators. CURE (Colloquium for Undergraduate Research Experience).

POPULAR MEDIA PUBLICATIONS

McCay, S. 2019. Spotlight on Quail Predators: Raptors. NRI Blog. <https://nri.tamu.edu/blog/2019/july/spotlight-on-quail-predators-raptors/>.

McCay, S. 2019. Permit Required: What You Need to Know to Hunt, Release, or Move Quail in Texas. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2019/03/permit-required-what-you-need-to-know.html>.

McCay, S. 2019. Statewide Quail Symposium Returns!. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2019/02/statewide-quail-symposium-returns.html>.

McCay, S. 2018. The Many Functions of Wallowing for Wild Pigs. Wild Pig Newsletter. Texas A&M Natural Resources Institute. 3:2 4-6. <https://wildpigs.nri.tamu.edu/media/1297/wild-pig-newsletter-vol-32-summer-2018.pdf>.

McCay, S. 2018. The Problem with Pen Raised Quail. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2018/07/the-problem-with-pen-raised-quail.html>.

McCay, S. 2018. Coping with the Cold: Challenges Faced by Quail in Winter. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2018/01/coping-with-cold-challenges-faced-by.html>

McCay, S. 2017. Supplemental Feeding for Backyard Wildlife. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2017/12/supplemental-feeding-for-backyard.html>.

McCay, S. 2017. Wild Pigs and Mast Crops. Wild Pig Newsletter. Texas A&M Natural Resources Institute. 2:3 1-5. <https://wildpigs.nri.tamu.edu/media/1208/wild-pig-newsletter-vol-23-fall-2017.pdf>.

McCay S. 2017. Native Plants for Backyard Wildlife. Wild Wonderings Blog. <http://wild-wonderings.blogspot.com/2017/10/native-plants-for-backyard-wildlife.html>.

Vega, Shelby. 2015. Park Pick: Christmas at Fairfield Lake. *Texas Parks and Wildlife Magazine*.

GRANTS AWARDED

COALS Council Student Organization Development Grant. Awarded November 2014. (\$1200)

Texas A&M University Wildlife and Fisheries Sciences Undergraduate Research Grant. Awarded May 2014. (\$3500)

Monsanto COALS Student Organization Grant. Awarded October 2013 & February 2014. (\$1000)

STUDENT ACTIVITIES

<i>Graduate Students of Wildlife and Fisheries Sciences</i>	January 2017-present
• Graduate and Professional Student Council Delegate (2017-2018)	
<i>Ecological Integration Symposium</i>	March 2017-March 2018
• Treasurer (2017-2018)	
<i>TAMU Student Chapter of the Society for Conservation Biology</i>	August 2011-May 2015
• President (2013-2015)	
• Secretary (2012-2013)	
<i>TAMU Student Chapter of the Wildlife Society</i>	August 2011-May 2015

SCHOLARSHIPS AWARDED

• TAMU Association of Former Students Scholarship	2014-2015
• Houston Rodeo Scholarship	2014-2015
• W. B. Davis Endowed Scholarship	2014-2015
• Donnie Harmel Scholarship	2013-2014
• Texas Parks and Wildlife Foundation Scholarship	2012-2013
• Dallas Ecological Foundation Scholarship	2012-2013
• Houston Rodeo Scholarship	2012-2013
• Caesar Kleberg Foundation Scholarship	2011-2012
• National Organization of Professional Hispanic Natural Resources Conservation Service Employees Scholarship	2011-2012