

Brian J. Smith

PhD Student – Utah State University
Department of Wildland Resources • 5230 Old Main Hill • Logan, UT 84322
✉ bjsmith@aggiemail.usu.edu 🌐 www.ecosmith.org

Education

- PhD in Ecology** **August 2019 – present**
Utah State University, Logan, UT
Co-Advisors: Dr. Tal Avgar and Dr. Dan MacNulty
- Master of Science in Wildlife Ecology and Conservation** **August 2014 – December 2016**
University of Florida, Gainesville, FL
Advisor: Dr. Christina Romagosa
Thesis Title: *Spatial Ecology of Invasive Burmese Pythons in the Florida Everglades*
4.00/4.00 GPA
- Bachelor of Science in Wildlife Ecology and Conservation** **August 2005 – May 2009**
University of Florida, Gainesville, FL
3.55/4.00 Overall GPA
3.83/4.00 Upper Division GPA
Graduated *Cum Laude*
-

Professional Experience

- Scientist III** **May 2017 – August 2019**
CNT, contracted to USGS
Davie, FL
Quantitative and Field Ecology
Researcher responsible for data management, analysis, and co-authoring of scientific papers related to Burmese pythons, marine turtles, crocodylians, and other projects, in addition to field work.
- Researcher** **December 2016 – May 2017**
University of Florida
Davie, FL
Quantitative and Field Ecology
Researcher responsible for data management, analysis, and co-authoring of scientific papers related to Burmese pythons, marine turtles, crocodylians, and other projects, in addition to field work.
- Wildlife Research Technician** **September 2011 – August 2014**
Jacobs/CNTS, contracted to USGS
Davie, FL
Quantitative and Field Ecology
Technician mostly responsible for field research related to Burmese python spatial ecology.
- Wildlife Research Technician** **December 2010 – September 2011**
University of Florida FLREC
Davie, FL
Field Ecology
Technician mostly responsible for field research related to Burmese python spatial ecology.
- Wildlife Research Technician** **May 2010 – August 2010**
Montana Cooperative Wildlife Research Unit
Missoula, MT

Gray Wolf Ecology

Technician building rub stations and collecting hairs for study on gray wolf genetic connectivity.

Wildlife Research Technician
Western Transportation Institute
Wall, SD

May 2009 – October 2009

Swift Fox Ecology

Technician radio-tracking swift foxes and monitoring track stations in culverts to determine road crossing patterns in swift foxes.

Laboratory Technician
USGS

December 2008 – May 2009

Gainesville, FL

Benthic Ecology

Laboratory work sorting benthic invertebrates and preparing samples for stable isotope analysis.

Wildlife Research Technician
Florida Fish and Wildlife Conservation Commission

January 2007 – December 2007

Gainesville, FL

Black Bear Ecology

Technician radio-tracking Florida black bears in Ocala National Forest.

Teaching Experience

Teaching Assistant
Utah State University

January 2020 – May 2020

Logan, UT

Space-use Ecology

Graduate course. Redesigned and taught R labs.

Adjunct Faculty
Broward College

August 2018 – December 2018

Davie, FL

Wildlife Ecology

Instructor of record. Undergraduate course. Designed lectures, assignments, and examinations.

Teaching Assistant
University of Florida

August 2014 – December 2014

Gainesville, FL

Wildlife Techniques

Undergraduate course. Responsible for supervising the field-based labs, assisting with classroom portion, and designing some lectures and labs.

Publications

Hart, K.M., Guzy, J.C., & **Smith, B.J.** 2021. Drivers of realized satellite tracking duration in marine turtles. *Movement Ecology* 9 (1): 1-14. DOI: 10.1186/s40462-020-00237-3

Whitney, N.M., White, C.F., **Smith, B.J.**, Cherkiss, M.S., Mazzotti, F.J., & Hart, K.M. 2021. Accelerometry to study fine-scale activity of invasive Burmese pythons (*Python bivittatus*) in the wild. *Animal Biotelemetry* 9 (1): 1-13. DOI: 10.1186/s40317-020-00227-7

Griffin, L.P., **Smith, B.J.**, Cherkiss, M.S., Crowder, A.G., Pollock, C.G., Hillis-Starr, Z., Danylchuk, A.J., & Hart, K.M. 2020. Space use and relative habitat selection for immature green turtles within a Caribbean marine protected area. *Animal Biotelemetry* 8: 22. DOI: 10.1186/s40317-020-00209-9

- Picardi, S., **Smith, B.J.**, Boone, M.E., Frederick, P.C., Cecere, J.G., Rubolini, D., Serra, L., Pirrello, S., Borkhataria, R.R., & Basille, M. 2020. Analysis of movement recursions to detect reproductive events and estimate their fate in central place foragers. *Movement Ecology* 8: 24. DOI: 10.1186/s40462-020-00201-1
- Hart, K.M., Lamont, M.M., Iverson, A.R., **Smith, B.J.** 2020. The Importance of the Northeastern Gulf of Mexico to Foraging Loggerhead Sea Turtles. *Frontiers in Marine Science* 7: 330. DOI: 10.3389/fmars.2020.00330
- Smith, B.J.**, Selby, T.H., Cherkiss, M.S., Crowder, A.G., Hillis-Starr, Z., Pollock, C.G., & Hart, K.M. 2019. Acoustic tag retention rate varies between juvenile green and hawksbill sea turtles. *Animal Biotelemetry* 7: 15. DOI: 10.1186/s40317-019-0177-3
- Selby, T.H., Hart, K.M., **Smith, B.J.**, Pollock, C.J., Hillis-Starr, Z., & Oli, M.K. 2019. Juvenile hawksbill residency and habitat-use within a Caribbean marine protected area. *Endangered Species Research* 40: 53-64. DOI: 10.3354/esr00975
- Demopoulos, A.W.J., McClain-Counts, J., Bourque, J.R., Prouty, N., **Smith, B.J.**, Brooke, S., Ross, S.W., & Ruppel, C. 2019. Examination of *Bathymodiolus childressi* nutritional sources, isotopic niches, and food-web linkages at two seeps in the US Atlantic margin using stable isotope analysis and mixing models. *Deep Sea Research Part I: Oceanographic Research Papers* 148: 53-66. DOI: 10.1016/j.dsr.2019.04.002
- Hunter, M.E., Meigs-Friend, G., Ferrante, J.A., **Smith, B.J.**, & Hart, K.M. 2019. Efficacy of eDNA as an early detection indicator for Burmese pythons in the ARM Loxahatchee National Wildlife Refuge in the greater Everglades ecosystem. *Ecological Indicators* 102 (July): 617-622. DOI: 10.1016/j.ecolind.2019.02.058
- Mazzotti, F.J., **Smith, B.J.**, Squires, M.A., Cherkiss, M.S., Farris, S.C., Hackett, C., Hart, K.M., Briggs-Gonzalez, V., & Brandt, L.A. 2019. Influence of salinity on relative density of American crocodiles (*Crocodylus acutus*) in Everglades National Park: Implications for restoration of Everglades ecosystems. *Ecological Indicators* 102 (July): 608-616. DOI: 10.1016/j.ecolind.2019.03.002
- Denton, M.J., Demopoulos, A.W.J., Baldwin, J.D., **Smith, B.J.**, Hart, K.M. 2019. Stable isotopes enhance our understanding of the foraging ecology of a key estuarine species, the Diamondback Terrapin (*Malaclemys terrapin*), in the southernmost extant of their range. *Estuaries and Coasts* 42 (2): 596-611. DOI: 10.1007/s12237-018-0476-6
- Hunter, M.E., Johnson, N.A., **Smith, B.J.**, Davis, M.C., Butterfield, J.S.S., Snow, R.W., & Hart, K.M. 2018. Cytonuclear discordance in the Florida Everglades invasive Burmese python (*Python bivittatus*) population reveals possible hybridization with the Indian python (*P. molurus*). *Ecology and Evolution* 8 (17): 9034-9047. DOI: 10.1002/ece3.4423
- Smith, B.J.**, Hart, K.M., Mazzotti, F.J., Basille, M., & Romagosa, C.M. 2018. Evaluating GPS biologging technology for studying spatial ecology of large constricting snakes. *Animal Biotelemetry* 6: 1. DOI: 10.1186/s40317-018-0145-3
- Bonneau, M., Johnson, F.A., **Smith, B.J.**, Romagosa, C.M., Martin, J., & Mazzotti, F.J. 2017. Optimal control of an invasive species using a reaction-diffusion model and linear programming. *Ecosphere* 8 (10): e01979. DOI: 10.1002/ecs2.1979
- Johnson, F.A., **Smith, B.J.**, Bonneau, M., Martin, J., Romagosa, C., Mazzotti, F., Waddle, H., Reed, R.N., Ketterlin Eckles, J., & Vitt, L.J. 2017. Expert elicitation, uncertainty, and the value of information in controlling invasive species. *Ecological Economics* 137: 83-90. DOI: 10.1016/j.ecolecon.2017.03.004
- Mazzotti, F.J., Cherkiss, M.S., Parry, M., Beauchamp, J, Rochford, M., **Smith, B.**, Hart, K., & Brandt, L.A. 2016. Large reptiles and cold temperatures: Do extreme cold spells set distributional limits for tropical reptiles in Florida? *Ecosphere* 7 (8): e01439. DOI: 10.1002/ecs2.1439
- Smith, B.J.**, Cherkiss, M. S., Hart, K.M., Rochford, M.R., Selby, T. H., Snow, R. W. & Mazzotti, F.J. 2016. Betrayal: radio-tagged Burmese pythons reveal locations of conspecifics in Everglades National Park. *Biological Invasions* 18 (11): 3239-3250. DOI: 10.1007/s10530-016-1211-5

- Selby, T.H., Hart, K.M., Fujisaki, I., **Smith, B.J.**, Pollock, C.J., Hillis-Starr, Z., Lundgren, I., & Oli, M.K. 2016. Can you hear me now? Range-testing a submerged passive acoustic receiver array in a Caribbean coral reef habitat. *Ecology and Evolution* 6 (14): 4823-4835. DOI: 10.1002/ece3.2228
- Hart, K.M., Cherkiss, M.S., **Smith, B.J.**, Mazzotti, F. J., Fujisaki, I., Snow, R.W., & Dorcas, M.E. 2015. Home range, habitat use, and movement patterns of non-native Burmese pythons in Everglades National Park, Florida, USA. *Animal Biotelemetry* 3: 8. DOI: 10.1186/s40317-015-0022-2
- Hunter, M.E., Oyler-McCance, S.J., Dorazio, R.M., Fike, J., **Smith, B.J.**, Hunter, C.T., III, Reed, R.N., & Hart, K.M. 2015. Environmental DNA (eDNA) sampling improves occurrence and detection estimates of invasive Burmese Pythons. *PLOS ONE* 10 (4): e0121655. DOI: 10.1371/journal.pone.0121655
- Smith, B.J.**, Rochford, M.R., Brien, M., Cherkiss, M.S., Mazzotti, F.J., Snow, R.W., & Hart, K.M. 2015. Largest breeding aggregation of Burmese Pythons (*Python bivittatus*) Kuhl 1820 (Squamata: Pythonidae) and Implications for Potential Development of a Control Tool. *IRCF Reptiles and Amphibians* 22 (1): 16-19.
- Pittman, S.E., Hart, K.M., Cherkiss, M.S., Snow, R.W., Fujisaki, I., **Smith, B.J.**, Mazzotti, F.J., & Dorcas, M.E. 2014. Homing of invasive Burmese pythons in South Florida: evidence for map and compass senses in snakes. *Biology Letters* 10 (3): 20140040. DOI: 10.1098/rsbl.2014.0040
- Krysko, K.L., Hart, K.M., **Smith, B.J.**, Selby, T.H., Cherkiss, M.S., Coutu, N.T., Reichart, R.M., Nuñez, L.P., Mazzotti, F.J., & Snow, R.W. 2012. Record length, mass, and clutch Size in the nonindigenous Burmese Python, *Python bivittatus* Kuhl 1820 (Squamata: Pythonidae), in Florida. *IRCF Reptiles and Amphibians* 19 (4): 267-270.

Selected Presentations

* = advised student

- Smith, B.J.**, Selby, T.H., Pollock, C., Hillis-Starr, Z., & Hart, K.M. "Optimizing Sea Turtle Monitoring: Analyzing Three Decades of Saturation Tagging to Make Decisions about Mark-Recapture Effort" The Wildlife Society Annual Conference. Oral Presentation. Reno, NV. October 2019.
- Smith, B.J.** "Linking individual movement behavior with demographic patterns in a multi-prey, multi-predator system" 2019 MacArthur Academy Meeting. Oral Presentation. Logan, UT. September 2019.
- Smith, B.J.**, Selby, T.H., Pollock, C., Hillis-Starr, Z., & Hart, K.M. "Optimizing monitoring: Analyzing three decades of saturation tagging to make decisions about mark-recapture effort" International Sea Turtle Symposium. Oral Presentation. Charleston, SC. February 2019.
- Smith, B.J.**, Hart, K.M., Demopoulos, A.W.J., & Romagosa, C.M. "Stable Isotopes Reveal Niche Plasticity of Invasive Burmese Pythons" Ecological Society of America Annual Meeting. Oral Presentation. New Orleans, LA. August 2018.
- Smith, B.J.** "Pythons and Beyond: Invasive Herps in Florida" The Everglades Foundation's Everglades Teacher Symposium. Oral Presentation. Davie, FL. July 2018.
- Smith, B.J.** & Hart, K.M. "Pythons in Space: Spatial Ecology of Burmese Pythons in Everglades National Park and Beyond" South Florida Natural Resources Center Seminar. Oral Presentation. Homestead, FL. May 2018.
- Smith, B.J.** "Burmese Pythons: The Problem and the Science" Zoo Miami Seminar Series. Oral Presentation. Miami, FL. December 2017.
- Smith, B.J.**, Hart, K.M., Mazzotti, F.J., Basille, M., Romagosa, C.M. "Using GPS Biologging Technology to Track Movements of Invasive Burmese Pythons." Greater Everglades Ecosystem Restoration Science Conference. Poster Presentation. Coral Springs, FL. April 2017.

Smith, B.J., Hart, K.M., Demopoulos, A.W.J., Romagosa, C.M. "Stable Isotopes Reveal Remarkable Niche Plasticity of Invasive Burmese Pythons." Greater Everglades Ecosystem Restoration Science Conference. Oral Presentation. Coral Springs, FL. April 2017.

*Quintiliani, M., **Smith, B.J.**, Romagosa, C.M., Carthy, R., Bishop, N. "Effects of Man-made Oyster Reefs on Sediment Composition in Estuaries." Ecological Society of America Annual Meeting. Poster Presentation. Fort Lauderdale, FL. August 2016.

*Brisbane, J., *Pedrozo, C., Romagosa, C.M., Bishop, N., Carthy, R., **Smith, B.J.** "Environmental Factors Influencing the Detection of Frog Species in Three Habitat Types of Everglades National Park." Ecological Society of America Annual Meeting. Poster Presentation. Fort Lauderdale, FL. August 2016.

*Pedrozo, C., *Brisbane, J., Romagosa, C.M., Bishop, N., Carthy, R., **Smith, B.J.** "Predicting Patterns of Native Snake Occurrence along Main Park Road in Everglades National Park, Florida." Ecological Society of America Annual Meeting. Poster Presentation. Fort Lauderdale, FL. August 2016.

*Ely, M., Romagosa, C.M., **Smith, B.J.**, Carthy, R., Bishop, N. "Monitoring Changes in Sea Turtle Nesting Beaches in St. Johns County, Florida." Ecological Society of America Annual Meeting. Poster Presentation. Fort Lauderdale, FL. August 2016.

*Siddiqui, S., **Smith, B.J.**, Romagosa, C.M., Carthy, R., Bishop, N. "Nutrient Influxes from *Caretta caretta* (Loggerhead Sea Turtle) Nesting." Ecological Society of America Annual Meeting. Poster Presentation. Fort Lauderdale, FL. August 2016.

Smith, B.J., Romagosa, C.M., Mazzotti, F.J., Basille, M., Hart, K.M. "Does GPS Technology Help Refine Our Understanding of Invasive Burmese Python Spatial Ecology?" Ecological Society of America Annual Meeting. Oral Presentation. Fort Lauderdale, FL. August 2016.

Smith, B.J., Romagosa, C.M., Mazzotti, F.J., Basille, M., Hart, K.M. "Does GPS Technology Help Refine Our Understanding of Invasive Burmese Python Spatial Ecology?" Joint Meeting of Ichthyologists and Herpetologists. Oral Presentation. New Orleans, LA. July 2016.

Smith, B.J., Romagosa, C.M., Mazzotti, F.J., Basille, M., Hart, K.M. "Does GPS Technology Help Refine Our Understanding of Invasive Burmese Python Spatial Ecology?" Florida Chapter of the Wildlife Society Annual Meeting. Oral Presentation. Gainesville, FL. April 2016.

Hart, K.M. and **Smith, B.J.** "Python Research." Aquatic Nuisance Species Task Force Meeting. Oral Presentation. Fort Lauderdale, FL. May 2015.

Smith, B.J., Hart, K.M., Cherkiss, M.S., Selby, T.H., Mazzotti, F.J., Rochford, M.R., Snow, R.W. "Betrayal: Judas Burmese Pythons Give Away Locations of Conspecifics in Everglades National Park." The 21st Annual Wildlife Society Conference. Oral Presentation. Pittsburgh, PA. October 2014.

Professional Memberships

The Wildlife Society
Ecological Society of America
Society for the Study of Amphibians and Reptiles

Journal Referee

Biological Invasions

Herpetological Review

Integrative Zoology

Journal of Applied Ecology

Journal of Herpetology

Neobiota

Perspectives in Ecology and Conservation

Population Ecology

Scientific Reports

Southeastern Naturalist

Axios Review

USGS Manuscript Internal Review Process
