

AMANDA L. SUBALUSKY

Department of Biology

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EDUCATION

- | | |
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| 2016 | Ph. D., Ecology and Evolutionary Biology, Yale University |
| 2007 | M. S., Wildlife and Fisheries Sciences, Texas A&M University |
| 1999 | B. S., Biology with Honors, Vanderbilt University |

RESEARCH POSITIONS

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|----------------|---|
| 2019 - present | Assistant Professor, Department of Biology, University of Florida |
| 2018 - 2019 | Postdoctoral Associate, Ecology and Evolutionary Biology, Yale University |
| 2016 - 2018 | Postdoctoral Scientist, Cary Institute of Ecosystem Studies |
| 2010 - 2016 | Doctoral Student, Ecology and Evolutionary Biology, Yale University |
| 2008 - 2010 | Research Coordinator, Global Water for Sustainability, Florida International University |
| 2007 | Research Associate, Wildlife and Fisheries Sciences, Texas A&M University |
| 2004 - 2007 | Masters Student, Wildlife and Fisheries Sciences, Texas A&M University |
| 2004 | DNA Lab Technician, Savannah River Ecology Laboratory |
| 2002 - 2004 | Wildlife and Herpetology Research Assistant, Joseph W. Jones Ecological Research Center |

FELLOWSHIPS AND AWARDS

- Society for Freshwater Science Hynes Award for New Investigators (2020)
- Switzer Fellowship in Environmental Leadership (2013)
- Yale University EEB Graduate Student Symposium, First place graduate oral presentation (2012)
- Society for the Study of Amphibians and Reptiles Henri Seibert Student Award in Ecology (2007)
- Texas A&M Ecological Integration Student Symposium, First place graduate oral presentation (2007)
- L. T. Jordan Institute Travel Fellowship (2004)
- Texas A&M University Regents' Fellowship (2004)

GRANTS

- *National Science Foundation, Department of Environmental Biology, Population and Community Ecology. Does the magnitude of wildlife subsidies influence production, stability, and trophic cascades in a large African river? Co-author and senior personnel. \$743,273 (2018-2021)

- National Geographic Society, Waitt Foundation Grant. Introduced hippos in Colombia: consequences for human and natural systems. Co-author and senior personnel. \$14,870 (2016-17)
- *Worldwide Fund for Nature (WWF), Grant for Research. Reading the historical context of the Mara using sediment cores from the Mara Wetland. Co-author. \$65,640 (2015-17)
- National Geographic Society, Waitt Foundation Grant. Reconstructing animal populations in east Africa using fecal sterol markers. Co-author and senior personnel. \$15,000 (2015-2016)
- *National Science Foundation, Department of Environmental Biology, Ecosystem Studies Award. Wildlife subsidies interact with discharge to influence ecosystem function of a large African river. Co-author. \$949,948 (2014-2018)
- *National Geographic Society, Center for Research and Exploration Grant: How do animal migrations interact with environmental variability to alter ecosystem function? Co-author. \$20,000 (2013-14)
- Ecology and Evolutionary Biology Chair's Fund. Wildlife subsidies and their influence on the Mara River. \$2,000 (2013)
- Lee S. Pierce ('82) Fund. Wildlife-mediated allochthonous subsidies and their impact on ecosystem function. \$5,000 (2012)
- Yale Institute for Biospheric Studies Center for Field Ecology Grant. Quantifying animal-mediated allochthonous nutrient subsidies in the Mara River Basin, Kenya/Tanzania. \$2,500 (2011)
- Yale Institute for Biospheric Studies ECOSAVE Grant. Developing international collaborations to study biodiversity research in the Mara River. \$4,000 (2011)
- Texas Herpetological Society Grant in Herpetology. The role of seasonal wetlands in the ecology of the American alligator. \$500 (2005)
- Chicago Herpetological Society Grant in Herpetology. Using radio telemetry to track American alligator movement patterns. \$500 (2005)
- Howard Hughes Medical Institute Undergraduate Research Grants. The influence of marine subsidies on plant population dynamics on desert islands in the Gulf of California. \$6,000 (1998)

*indicates grants on which I was not an official PI due to graduate student/post-doc status, but on which I played a key role in development and implementation

PUBLICATIONS

Subalusky, A. L., C. L. Dutton, E. J. Rosi, L. Puth, and D. M. Post. 2020. A river of bones: wildebeest skeletons leave a legacy of mass mortality in the Mara River, Kenya. *Frontiers in Ecology and Evolution* 8:31. doi: 10.3389/fevo.2020.00031.

- Covered by Nature.

Subalusky, A. L., E. Anderson, G. Jiménez, D. M. Post, D. Echeverri Lopez, S. Garcia, L. F. Nova León, J. Reátiga Parrish, A. Rojas, S. Solari, L. F. Jiménez Segura. 2019. Potential ecological and socioeconomic impacts of a novel megaherbivore introduction of hippopotamus into Colombia's Magdalena River Basin. *Oryx*.

- Covered by Atlas Obscura, Phys.org, and others.

- Schoelynck, J., **A. L. Subalusky**, E. Struyf, C. L. Dutton, P. Frings, D. Unzué-Belmonte, B. Van de Vijver, D. M. Post, D. Conley, E. J. Rosi, P. Meire. 2019. Hippos (*Hippopotamus amphibius*): the animal silica pump. *Science Advances* 5: eaav0395.
- Covered by Science News, Phys.org, Science Daily, and others.
- Dutton, C. L., **A. L. Subalusky**, T. D. Hill, J. C. Aleman, E. J. Rosi, K. B. Onyango, K. Kanuni, J. A. Cousins, A. C. Staver, D. M. Post. 2019. A 2000-year old sediment record reveals rapidly changing sedimentation and land use since the 1960s in the Upper Mara-Serengeti Ecosystem. *Science of the Total Environment* 664: 148-160.
- Wenger, S., **A. L. Subalusky**, M. Freeman. 2019. The role of the missing dead in North American rivers. *Food Webs* 18: e00106.
- Subalusky, A. L.**, C. L. Dutton, L. Njoroge, E. J. Rosi, and D. M. Post. 2018. Organic matter and nutrient inputs from large wildlife influence ecosystem function in the Mara River, Africa. *Ecology* 99: 2558-2574.
- Subalusky, A. L.**, and D. M. Post. 2018. Context dependency of animal resource subsidies. *Biological Reviews* 94: 517-538.
- Smith, L. L., **A. L. Subalusky**, C. L. Atkinson, J. E. Earl, D. M. Mushet, D. E. Scott, S. L. Lance, and S. A. Johnson. 2018. Biological connectivity of seasonally ponded wetlands across spatial and temporal scales. *Journal of the American Water Resources Association* 1-20. doi: 10.1111/1752-1688.12682.
- Dutton, C. L., **A. L. Subalusky**, E. J. Rosi, and D. M. Post. 2018. Organic matter loading by hippopotami causes subsidy overload resulting in downstream hypoxia and fish kills. *Nature Communications* 9: 1951.
- Covered by Science Magazine, The Atlantic and others.
- Dutton, C. L., **A. L. Subalusky**, S. C. Anisfeld, L. Njoroge, E. J. Rosi, and D. M. Post. 2018. The influence of a semi-arid sub-catchment on suspended sediments in the Mara River, Kenya. *PLOS One* 13:e0192828.
- Subalusky, A. L.**, C. L. Dutton, E. J. Rosi, and D. M. Post. 2017. Annual mass drownings of the Serengeti wildebeest migration influence nutrient cycling and storage in the Mara River. *Proceedings of the National Academy of Sciences* 114: 7647-7652.
- Covered by Science Magazine, The Washington Post, Smithsonian Magazine, National Geographic, The Atlantic and others.
- Dudley, J. P., B. M. Hang'ombe, F. Leendertz, L. Dorward, J. de Castro, **A. L. Subalusky**, M. Clauss. 2015. Carnivory in *Hippopotamus amphibius*: implications for the ecology and epidemiology of anthrax in African landscapes. *Mammal Review* 46:191-203.
- 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 and post-translocation dispersal of a new population of the critically endangered St. Croix ground lizard (*Ameiva polops*). *Restoration Ecology* 23:776-786.
- Subalusky, A. L.**, C. L. Dutton, E. J. Rosi-Marshall, D. M. Post. 2015. The hippopotamus conveyor belt: vectors of carbon and nutrients from terrestrial grasslands to aquatic systems in sub-Saharan Africa. *Freshwater Biology* 60:512-525.
- Covered by Science Magazine.

McClain, M. E., **A. L. Subalusky**, E. P. Anderson, S. B. Dessu, A. M. Melesse, P. M. Ndomba, J. O. D. Mtamba, R. A. Tamatamah, and C. Mligo. 2014. Comparing flow regime, channel hydraulics and biological communities to infer flow-ecology relationships in the Mara River of Kenya and Tanzania. *Hydrological Sciences Journal* 59:801-819.

Subalusky, A. L., R. C. Garrick, N. A. Schable, J. Osborne, and T. C. Glenn. 2012. Development and characterization of tetranucleotide microsatellite loci in the American Alligator (*Alligator mississippiensis*). *Conservation Genetics Resources* 4:567-570.

Subalusky, A. L., L. A. Fitzgerald, and L. L. Smith. 2009b. Ontogenetic niche shifts in American Alligators establish functional connectivity between aquatic systems. *Biological Conservation* 142:1507-1514.

Subalusky, A. L., L. L. Smith, and L. A. Fitzgerald. 2009a. Detection of American Alligators in isolated, seasonal wetlands. *Applied Herpetology* 6:199-210.

MANUSCRIPTS IN FINAL STAGES OF PREPARATION OR REVIEW†

Masese, F. O., M. J. Kiplagat, C. Romero, **A. L. Subalusky**, C. L. Dutton, D. M. Post, and G. A. Singer. Wild mammalian herbivores are distinct from domestic livestock in their resource subsidies and ecosystem effects. *In press at Proceedings of the Royal Society-B*.

Dutton, C. L., **A. L. Subalusky**, S. K. Hamilton, E. C. Jourdain, L. Njoroge, E. J. Rosi, and D. M. Post. Alternative biogeochemical states of river pools mediated by hippo use. *In revision at Ecosystems*.

Handler, K., **A. L. Subalusky**, C. Kendall, C. L. Dutton, E. J. Rosi, and D. M. Post. Temporal niche partitioning of scavengers on wildebeest carcasses after mass mortality events. *In review at Ecosphere*.

†copies available upon request

BOOK CHAPTERS

Smith, L. L., **A. L. Subalusky**, C. L. Atkinson, and L. K. Kirkman. 2017. Geographically Isolated Wetlands: Embedded Habitats in Longleaf Pine Forests. *In: Ecological Restoration and Management of Longleaf Pine Forests*. Eds: L. K. Kirkman and S. B. Jack. CRC Press, Boca Raton, Florida, USA.

McClain, M., and **A. L. Subalusky**. 2013. Surface flows for people and wildlife in the transboundary Mara River Basin. *In Kenya: A Natural Outlook*. Elsevier, Chennai, India.

PUBLISHED REPORTS

Global Water for Sustainability. 2011. Refining reserve flow recommendations for the Mara River Basin. *GLOWS*, Florida International University, Miami, Florida, USA. **Served as primary author.**

Dutton, C. L., and **A. L. Subalusky**. 2011. Flesh-eating hippos sighted in the Maasai Mara. *SWARA, Journal of the East African Wildlife Society* 11:54-55.

Lake Victoria Basin Commission. 2010. Assessing Reserve flows for the Mara River, Kenya and Tanzania. Final Report. *Lake Victoria Basin Commission*, Kisumu, Kenya. **Served as primary author.**

INVITED PRESENTATIONS

Wildlife movements connect landscapes and influence ecosystem function. 2019. Department of Wildlife Ecology and Conservation, University of Florida.

- Using experimental streams to understand animal effects on stream ecosystems. 2020. Water, Wetlands and Watersheds Seminar, Howard T. Odum Center for Wetlands, University of Florida. 2020.
- The influence of wildlife on landscape connectivity and aquatic ecosystem function. 2019. Invited Seminar, Jones Center at Ichauway, Newton, Georgia, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2019. Invited Seminar, Department of Biology, University of Oklahoma, Norman, Oklahoma, USA.
- Hippo and wildebeest migrations drive river ecosystem dynamics in the Serengeti-Mara Ecosystem. 2019. Invited Seminar, Department of Natural Resources and the Environment, University of Connecticut, Storrs, Connecticut, USA.
- A river of bones: wildebeest skeletons leave a legacy of mass mortality in the Mara River. 2018. Invited Speaker, Society for Freshwater Science Annual Conference, Detroit, Michigan, USA.
- Resource subsidies and discharge variability influence river ecosystem dynamics. 2018. Invited Seminar, Department of Biology, Utah State University, Logan, Utah, USA.
- Resource subsidies and discharge variability influence river ecosystem dynamics. 2018. Invited Seminar, Department of Wildlife and Fisheries Sciences, Texas A&M University, College Station, Texas, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2018. Invited Seminar, Department of Zoology and Physiology, University of Wyoming, Laramie, Wyoming, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2018. Invited Seminar, Department of Biology, University of Florida, Gainesville, Florida, USA.
- Resource subsidies and discharge variability influence river ecosystem dynamics. 2018. Invited Seminar, Department of Biological Sciences, University of Alabama, Tuscaloosa, Alabama, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2018. Invited Seminar, Department of Biology, University of Louisville, Louisville, Kentucky, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2017. Invited Seminar, Department of Wildlife and Fisheries Sciences, Mississippi State University, Starkville, Mississippi, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2017. Invited Seminar, Biogeochemistry and Environmental Science and Sustainability Seminar Series, Cornell University, Ithaca, New York, USA.
- Measuring biological connectivity at different scales. 2017. Invited Speaker, American Water Resources Association Spring Specialty Conference: Aquatic Systems Connectivity, Snowbird, Utah, USA.
- Hippos and wildebeest in the Mara River: impacts of large animal migrations on a river ecosystem. 2017. Invited Seminar, Yale Institute of Biospheric Studies, New Haven, Connecticut, USA.
- Animal migrations and resource subsidies influence river ecosystem dynamics. 2017. Invited Seminar, Odum School of Ecology, University of Georgia, Athens, Georgia, USA.
- Large wildlife movements connect savanna grasslands and rivers and drive changes in whole-river metabolism. 2017. Invited Speaker, Association for the Sciences of Limnology and Oceanography Annual Meeting, Honolulu, Hawaii, USA.
- Animal migrations and river ecosystem function in the Mara River, Kenya. 2016. Invited Seminar, Water in the World Seminar Series, University of Antwerp, Belgium.

From alligator scales to hippo tails: tales from an ecological journey. 2016. Keynote Speaker, Amity High School Science Research Program Symposium, Woodbridge, Connecticut, USA.

Migrating wildebeest, raging hippos and robotic boats on Kenya's Mara River. 2015. Invited Speaker, Peabody Museum of Natural History, New Haven, Connecticut, USA.

Wildebeest mass drownings affect nutrient dynamics and ecosystem metabolism in the Mara River. 2014. Invited Speaker, Joint Aquatic Sciences Meeting, Portland, Oregon, USA.

Feeding migrations by hippopotami alter nutrient cycling in a sub-Saharan African river. 2013. Invited Speaker, Society for Freshwater Science Annual Meeting, Jacksonville, Florida, USA.

CONTRIBUTED PRESENTATIONS

Large wildlife provide significant terrestrial resource subsidies to an African river food web. 2017. Society for Freshwater Sciences, Raleigh, North Carolina, USA.

Causes and consequences of wildebeest mass drownings in the Mara River, Kenya. 2015. Ecological Society of America, Baltimore, Maryland, USA.

Watershed loading and fate of large mammal carcasses from mass drownings in the Mara River. 2015. Graduate Student Symposium, Yale University, New Haven, Connecticut, USA.

Feeding migrations by hippopotami alter nutrient cycling in a sub-Saharan African river. 2013. Graduate Student Symposium, Yale University, New Haven, Connecticut, USA.

Influence of animal subsidies on the Mara River, Kenya. 2012. Graduate Student Symposium, Yale University, New Haven, Connecticut, USA.

Assessing reserve flows for the Mara River. 2009. Lake Victoria Basin Commission, East African Community, Kisumu, Kenya.

Ontogenetic shifts in habitat use in the American alligator: another case for the importance of seasonal wetlands. 2007. Ecological Society of America Annual Meeting, San Jose, California, USA.

Ontogenetic shifts in habitat use in the American alligator: another case for the importance of seasonal wetlands. 2007. American Society of Ichthyologists and Herpetologists Annual Joint Meeting, St. Louis, Missouri, USA.

The use of hydrogen isotopes to characterize aquatic ecosystems. 2007. Ecological Integration Student Symposium, Texas A&M University, College Station, Texas, USA.

Effects of hydroperiod and landscape connectivity on wetland use by alligators on an ecological reserve in southwest Georgia, USA. 2006. Society for Conservation GIS and Society for Conservation Biology Joint Annual Meeting, San Jose, California, USA.

Functional connectivity between wetlands and riverine systems through alligator movement patterns. 2006. Society for Conservation GIS and Society for Conservation Biology Joint Annual Meeting, San Jose, California, USA.

Integrated methods for studying animal movement across ecosystems. 2006. Ecological Integration Student Symposium, Texas A&M University, College Station, Texas, USA.

The role of isolated wetlands in the ecology of the American alligator. 2005. American Society of Ichthyologists and Herpetologists Annual Joint Meeting, Tampa, Florida, USA.

The role of isolated wetlands in the ecology of the American alligator. 2005. Conservation, Ecology, & Evolutionary Biology Student Research Symposium, Texas A&M University, College Station, Texas, USA.

Preliminary surveys of American alligators in ephemeral wetlands on Ichauway Ecological Preserve, Georgia, USA. 2002. Crocodile Specialist Group Meeting, Gainesville, Florida, USA.

Population dynamics of *Atriplex barclayana* on desert islands in the Gulf of California. 1999. Ecological Society of America, Baltimore, Maryland, USA.

TEACHING EXPERIENCE

Instructor of Record

- Zoogeochemistry: Animal Effects on Ecosystems, University of Florida (Spring 2020)

Short Course Instructor

- Fundamentals of Ecosystem Ecology, Cary Institute of Ecosystem Studies (2019)
- River Nutrient Uptake and Metabolism, Cary Institute of Ecosystem Studies (2017)
- Food Webs and Stable Isotope Ecology, Yale University (2016)

Teaching Assistant

- General Ecology – Discussion Section, Yale University (2012, 2014)
- Ecology, Evolution and the Diversity of Life – Laboratory, Yale University (2011)
- Ecology, Evolution and Behavior – Writing-Intensive Discussion Section, Yale University (2011)
- Herpetology – Lecture and Laboratory, Texas A&M University (2007)

Guest Lecturer

- Community Ecology, University of Florida (2020)
- Ecosystem Ecology, University of Florida (2019)
- Conservation Biology, Yale University (2014, 2016)
- General Ecology, Yale University (2014)
- Herpetology, Texas A&M University (2007)

MENTORSHIP EXPERIENCE

- Therese Frauendorf, Postdoctoral Associate, Yale University (2019-present)
- Jordan Chancellor, REU student on the Mara Project at Yale University (2017-2019)
- Women in Science at Yale participant; mentor for 4 participants (2015-2019)
- Sean Lee, Amity High School Science Research Program (2017-2018)
- Ella Jourdain, REU student on the Mara Project at Yale University (2016-17)
- James Landefeld, REU student on the Mara Project at Yale University (2016-17)
- Katherine Handler, Amity High School Science Research Program, Winner of American Museum of Natural History Young Naturalist Award and one of 100 International Finalists for the Google Science Fair (2014-2017)
- Erik Arndt, REU student on the Mara Project at the Cary Institute of Ecosystem Studies (2015-16)
- Undergraduate researchers in herpetology at Texas A&M University (2006-07)

DEPARTMENTAL SERVICE

- Member of the Mentorship Committee for the Department of Biology (2019-present)

PROFESSIONAL SERVICE

- Member of the Publications Committee for the Society for Freshwater Science (2018-present)
- Proposal reviewer for the General Research Office (Dirección General de Investigación - DGI) of the Universidad de las Americas - Ecuador (UDLA) (2018)
- Proposal reviewer for the National Fellowships Committee for Graduate Women in Science (2017)
- Proposal reviewer for the Yale Institute of Biospheric Studies Small Grants Panel (2016)
- Organized an oral session at the Ecological Society of America Annual Meeting, “Danse macabre: the role of migrations and mortality in shaping our planet” (2015)
- Organized the Ecology and Evolutionary Biology Graduate Student Symposium at Yale University (2013)
- Reviewer for Aquatic Conservation, Aquatic Sciences, Biological Conservation, Ecology, Ecology Letters, Ecological Monographs, Ecospheres, Estuaries and Coasts, Freshwater Biology, Herpetologica, Herpetological Review, Hydrobiologia, Integrative and Comparative Biology, Journal of Wildlife Management, Limnology and Oceanography, Marine and Coastal Fisheries, Oikos, Philosophical Transactions of the Royal Society B, PLOS One, Proceedings of the National Academy of Sciences, Proceedings of the Royal Society-B, Royal Society Open Science, Southeastern Naturalist, and The Southwestern Naturalist
- Member of the Ecological Society of America and the Society for Freshwater Science